

# Appendix J

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## Local Mobility Analysis

LOCAL MOBILITY ANALYSIS  
**LONGFELLOW ON LUSK**  
City of San Diego, California  
September 2024

PRJ-1068155

LLG Ref. 3-22-3544



*Prepared by:*  
Charlene Sadiarin, P.E.  
Senior Transportation Engineer

*Under the Supervision of:*  
Shankar Ramakrishnan, R.T.E.  
Principal

**Linscott, Law &  
Greenspan, Engineers**  
4542 Ruffner Street  
Suite 100  
San Diego, CA 92111  
**858.300.8800** T  
858.300.8810 F  
[www.llgengineers.com](http://www.llgengineers.com)

## EXECUTIVE SUMMARY

Linscott, Law & Greenspan, Engineers (LLG) has prepared this Local Mobility Analysis (LMA) for the Longfellow on Lusk Project (hereby referred to as the “Project”). The Project site is located at 6370, 6440, 6450, 6540, 6650, 6640 Lusk Blvd at the southwest corner of intersection of Pacific Center Boulevard / Lusk Boulevard in the Mira Mesa Community Planning Area in the City of San Diego.

### Project Description

The approximately 15.1-acre Project site currently includes 278,491 square feet (sf) of office and light industrial uses split among six (6) buildings. The Project proposes to demolish the existing buildings and construct four (4) Research and Development (R&D) buildings and one (1) tenant-serving amenity building totaling approximately 1,313,190 sf, which encompasses 1,283,190 sf of R&D use and 30,000 sf<sup>1</sup> of tenant-serving amenity uses (such as gym facilities, bike facilities, large conference hall, public art, information and welcoming hub, coffee shop, and restaurant) and two (2) parking structures, consistent with the requirements of the City’s General Plan, the Mira Mesa Community Plan, the IL-2-1 zone, the Coastal Overlay Zone, the Airport Land Use Compatibility Overlay Zone, the Coastal Parking Impact Overlay Zone, the 2035 Transit Priority Area, and the MCAS Miramar Airport Land Use Compatibility Plan, Airport Influence Area - Review Area 1. The Project requires approval of a Coastal Development Permit (CDP) with an anticipated Opening Year of 2027.

In conformance with Senate Bill 743 (SB 743), under a separate cover, a Transportation Impact Analysis was prepared that evaluates the Project’s transportation impacts using a Vehicle Miles Traveled (VMT) metric under CEQA, per the City of San Diego’s Transportation Study Manual (September 2020), pursuant to guidance from the Governor’s Office of Planning and Research (OPR) in December 2018. Consistent with SB 743 and CEQA Guidelines 15064.3, the CEQA significance determination for the Project will be based only on VMT and not on LOS. This report is a Local Mobility Analysis (LMA) conducted per City’s TSM that focuses on traffic operations and alternative mode of travel within the project’s study area within the Mira Mesa Community Planning Area and evaluates the effects of the Project on the local transportation system to determine if the Project triggers the need for improvements.

### Trip Generation

The Project is estimated to generate approximately 9,186 net new ADT with 1,579 net new AM peak hour trips (1,419 inbound / 160 outbound) and 1,340 net new PM peak hour trips (117 inbound / 1,223 outbound).

To determine the potential Opening Year 2027 traffic effects from the Project, traffic volumes for the Opening Year 2027 without Project and Opening Year 2027 with Project scenarios were developed and traffic operations were evaluated.

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<sup>1</sup> 30,000 sf of amenity use = 20,000 sf in the amenity building + 10,000 sf spread across the four (4) R&D buildings

## Project Improvements

Based on the analysis in the report, the Project will provide the following intersection and street segment improvements in the study area as listed below.

### Intersections

- #5: Roselle Street / Sorrento Valley Boulevard and #6: Roselle Street / I-5 Northbound Off-Ramp:

- The Roselle Street / Sorrento Valley Boulevard and Roselle Street / I-5 Northbound Off-Ramp intersections currently include an All-Way stop sign. The All-Way Stop at Roselle Street / I-5 Northbound Off-Ramp acts as a defacto ramp meter, which meters vehicular flow arriving from the I-5 Northbound Off-ramp to Roselle Street. In addition, there are several physical constraints that affect operations in the vicinity of these intersections, which include an at-grade rail crossing within 100 feet. Both these intersections are calculated to operate at LOS F under the Opening Year 2027 without Project condition and continue to operate at LOS F under the Opening Year 2027 with Project condition.

To help relieve congestion at the two intersections, the installation of a traffic signal was considered. A peak hour signal warrant analysis was conducted and concluded that the peak hour signal warrants are met at these intersections. While the traffic signal warrants are met, the installation of a traffic signal would potentially alter the metering of traffic that is afforded by the current All-Way Stop and may degrade operations further caused by traffic platooning. Furthermore, per coordination with Caltrans, there are no planned improvements at the Roselle Street / I-5 Northbound Off-Ramp intersection. Therefore, based on the above, the above improvement is not recommended.

- #8: Vista Sorrento Parkway / Lusk Boulevard:

- To accommodate an additional (second) westbound left-turn lane, two alternatives were developed. Alternative A would require the removal of the raised median. Alternative B would require narrowing the existing bike lane buffer and bike lane on Lusk Boulevard. Based on coordination with City staff, it was determined that both alternatives are infeasible.

- #12: Lusk Boulevard / Pacific Center Boulevard / Project Driveway #3:

- Remove the painted median and restripe the westbound approach to provide an additional (second) westbound left-turn lane.
- Widen the northbound (Project) approach to provide an exclusive left-turn lane, a shared left/through/right-turn lane, and an exclusive right-turn lane.
- These improvements will be permitted and bonded prior to the issuance of the first building permit and constructed and operational prior to first occupancy, satisfactory to the City Engineer.

- #14: Vista Sorrento Parkway / Mira Sorrento Place / I-805 Northbound Ramps:
  - The restriping of the southbound approach to provide an exclusive southbound right-turn lane was considered. However, based on coordination with City staff, it was determined that no improvements are feasible at this location.
  
- #16: Barnes Canyon Road / Lusk Boulevard:
  - Widen the eastbound approach to provide an additional (second) eastbound left-turn lane.
  - This improvement will be permitted and bonded prior to the issuance of the first building permit and constructed and operational prior to first occupancy, satisfactory to the City Engineer.
  
- #18: Sorrento Valley Road / Carroll Canyon Road / I-805 Southbound Ramps:
  - Caltrans confirmed that adaptive signal control is currently operational at this intersection. Therefore, the Project does not propose any additional improvements.
  
- #19: Mira Mesa Boulevard / Vista Sorrento Parkway / I-805 Northbound Off-Ramp:
  - Caltrans confirmed that adaptive signal control is currently operational at this intersection. Therefore, the Project does not propose any additional improvements.
  
- #20: Mira Mesa Boulevard / Scranton Road:
  - Provide right-turn overlap phasing for the eastbound right-turn movement.
  - This improvement will be permitted and bonded prior to the issuance of the first building permit and constructed and operational prior to first occupancy, satisfactory to the City Engineer.

## Segments

- Lusk Boulevard along the project frontage
  - As a part of implementing the ultimate classification of Lusk Boulevard as a 4-Lane Major Arterial, the Project will provide half-width improvements to include a raised median, a Class II buffered bike lane, and a 22 ft parkway consisting of an 8-ft non-contiguous sidewalk and a 14-ft landscape buffer along the Project frontage on the south side of Lusk Boulevard. This improvement will be permitted and bonded prior to the issuance of the first building permit and constructed and operational prior to first occupancy, satisfactory to the City Engineer.

- Barnes Canyon Road between Scranton Road and Lusk Boulevard
  - The ultimate classification of Barnes Canyon Road is a 4-lane Collector. Since the Project applicant owns properties (10070 to 10180 Barnes Canyon Road; 10225 Barnes Canyon Road) along this street segment, the applicant proposes to provide improvements to a 3-lane Collector to include a Class II buffered bike lane and a 14 ft parkway along property frontage on both the north and south side of Barnes Canyon Road. This improvement will be permitted and bonded prior to the issuance of the first building permit and constructed and operational prior to first occupancy, satisfactory to the City Engineer.
  
- Scranton Road between Mira Sorrento Place and Barnes Canyon Road
  - The San Diego Tech Center Project (PTS: 687635) is proposing to widen Scranton Road between Mira Sorrento Place and Barnes Canyon Road to a 2-lane Collector with a two-way left-turn lane and a buffered Class II bike lane. The widening is proposed on the east side by 9' to include a 53' curb-to-curb width in a 78' ROW section. As of writing this report, the San Diego Tech Center Project is under construction and is expected to construct these improvements by end of Year 2025.

### ITS Improvements

Currently, Lusk Blvd between Vista Sorrento Parkway and Mira Mesa Boulevard includes Adaptive Traffic Signal Control. The Project would provide communications upgrades, (which may include wireless, cellular modem, communication hub or other pertinent items as needed) between the traffic signals, detection upgrades and controller upgrades to the satisfaction of the City Engineer. In addition, as a part of the adaptive traffic signal system, Transit Signal Priority features will also be implemented along this corridor to the satisfaction of the City Engineer.

### **Active Transportation Improvements**

As a part of this report, in addition to vehicular LOS analyses, the multi-modal network in the influence area of the project was reviewed. This included active transportation modes such as Pedestrian, Bicycle, as well as Transit mobility. The following is a list of Active Transportation improvements that will be constructed by the project:

#### *Pedestrian:*

The Project will construct the following pedestrian improvements:

- As a part of implementing the ultimate classification of Lusk Boulevard as a 4-lane Major Arterial, the Project will provide half-width improvements to include a 22-foot parkway consisting of an 8-ft non-contiguous sidewalk and a 14-ft landscape buffer that will be constructed along the Project frontage on the south side of Lusk Boulevard. This improvement will be permitted and bonded prior to the issuance of the first building

- permit and constructed and operational prior to first occupancy, satisfactory to the City Engineer
- The Project also includes pedestrian connections within the site consisting of walkways, paths, and sidewalks to facilitate pedestrian circulation.
  - The Project will install a high visibility crosswalk at the following intersections:
    - Lusk Boulevard / Wateridge Circle (south leg)
    - Lusk Boulevard / Pacific Center Boulevard / Project Driveway #3 (north leg)
  - The Project will install pedestrian countdown timers at the following intersections for all legs with pedestrian crossings:
    - Lusk Boulevard / Wateridge Circle
    - Lusk Boulevard / Pacific Center Boulevard / Project Driveway #3
    - Barnes Canyon Road / Lusk Boulevard
  - The Project will implement lead pedestrian intervals at the following intersections:
    - Barnes Canyon Road / Lusk Boulevard
    - Mira Mesa Boulevard / Lusk Boulevard / Oberlin Drive

*Bicycle:*

To promote bicycle mobility, the Project proposes the following bicycle improvements:

- As a part of the Project, the Project will construct half-width improvements along its Lusk Boulevard frontage to implement the ultimate classification of a 4-lane Major with buffered Class II bicycle lanes per the Mira Mesa Community Plan. The Project will stripe the buffered bike lanes on the south side of Lusk Boulevard along the entire 2,200 feet of the Project frontage. This improvement will be permitted and bonded prior to the issuance of the first building permit and constructed and operational prior to first occupancy, satisfactory to the City Engineer
- The Project will install bicycle loop detectors at the following intersections:
  - Lusk Boulevard / Wateridge Circle (south leg)
  - Lusk Boulevard / Pacific Center Boulevard / Project Driveway #3 (north leg)
  - Barnes Canyon Road / Lusk Boulevard (east, west, and north legs)
  - Barnes Canyon Road / Pacific Heights Boulevard (all legs)

As a part of providing bicycle amenities within the site, the Project proposes to provide two (2) onsite bicycle repair stations as part of the proposed Mobility Hub and five (5) electric bicycle charging stations. The Project will also meet or exceed the City of San Diego Climate Action (CAP) requirements and Municipal Code requirements for short-term and long-term bicycle parking spaces.

*Transit:*

The following Transit improvements will be provided by the Project:

- To incentivize employees to use transit, the Project will offer discounts to be used at on-site amenities of \$30 a month to all transit riders redeemable after the first month of transit use.

**Parking**

The number of parking spaces for automobile, bicycle, and motorcycle parking shall comply with the Land Development Code (LDC) regulations. Based on the City of San Diego’s minimum parking rates, the Project is required to provide a minimum of 2,758 vehicular parking spaces. The project proposes to provide 3,301 parking spaces, exceeding the City of San Diego’s minimum parking requirement and less than the maximum allowed of 5,253 spaces at a rate of 4.0 spaces per 1,000 sf for R&D uses located within a transit priority area.

The Project is required to provide the following:

- 56 motorcycle parking spaces
- 138 short-term bicycle parking spaces
- 138 long-term bicycle parking spaces
- 53 accessible parking spaces including 9 van-accessible spaces
- 99 carpool/zero-emission parking spaces
- 661 EV charging spaces

The Project proposes to provide the following:

- 74 motorcycle parking spaces
- 168 short-term bicycle parking spaces
- 138 long-term bicycle parking spaces
- 65 accessible parking spaces including 13 van-accessible spaces
- 99 carpool/zero-emission parking spaces
- 661 EV charging spaces

**Transportation Demand Management (TDM)**

TDM measures were also evaluated, and several measures will be implemented to reduce reliance on automobile trips, which includes the following:

- provision of a mobility hub, which will provide for multi-modal connectivity with space for private vehicle drop-off, rideshare services, bikeshare/moped share docks, and two (2) bicycle repair stations
- parking cash out



- last mile transportation options
- flexible work hours
- on-site amenities
- marketing information on SANDAG iCommute program

### **Systemic Safety**

Based on an evaluation of the intersection footprints found in *Appendix C* of the *City of San Diego's Systemic Safety, The Data-Driven Path to Vision Zero Report (April 2019)*, study area intersections within the ½ mile buffer of the Project were identified as “hot spots” for pedestrians, bicycles, and vehicles. Based on the study intersections that were identified as “hot spots”, the following improvements will be provided by the Project, satisfactory to the City Engineer and shall be complete and operational prior to first occupancy:

- *#9. Lusk Boulevard / Wateridge Circle*: Prior to the issuance of the first building permit, the Project shall assure by permit and bond the installation of a high visibility crosswalk and loop detectors for bicycles on the south leg as well as pedestrian countdown timers at all the intersection legs with pedestrian crossings.
- *#12. Lusk Boulevard / Pacific Center Boulevard / Project Driveway #3*: Prior to the issuance of the first building permit, the Project shall assure by permit and bond the installation of a high visibility crosswalk and loop detectors for bicycles on the north leg as well as pedestrian countdown timers at all the intersection legs with pedestrian crossings. Additionally, the Project shall install backplates with retroreflective borders on the traffic signal heads.
- *#16. Barnes Canyon Road / Lusk Boulevard*: Prior to the issuance of the first building permit, the Project shall assure by permit and bond the implementation of lead pedestrian intervals and the installation of pedestrian countdown timers at all the intersection legs with pedestrian crossings as well as loop detectors for bicycles on the east, west, and north legs. Additionally, the Project shall install backplates with retroreflective borders on the traffic signal heads.
- *#17. Barnes Canyon Road / Pacific Heights Boulevard*: Prior to the issuance of the first building permit, the Project shall assure by permit and bond the installation of loop detectors for bicycles on all the intersection legs. Additionally, the Project shall install backplates with retroreflective borders on the traffic signal heads.
- *#21. Mira Mesa Boulevard / Lusk Boulevard / Oberlin Drive*: Prior to the issuance of the first building permit, the Project shall assure by permit and bond the implementation of lead pedestrian intervals and the installation of backplates with retroreflective borders on the traffic signal heads.

- #22. *Mira Mesa Boulevard / Pacific Heights Boulevard*: Prior to the issuance of the first building permit, the Project shall assure by permit and bond the installation of backplates with retroreflective borders on the traffic signal heads.

### **Complete Communities: Mobility Choices**

The San Diego Municipal Code (SDMC) Ordinance Number O-21274, adopted on December 9, 2020, provides the development regulations for the Mobility Choices portion of the Complete Communities program. According to the ordinance, the Project is located in Mobility Zone 2. Mobility Zone 2 means any premises located either partially or entirely within a Transit Priority Area (TPA). Therefore, the Project is required to provide VMT Reduction Measures totaling at least 8 points per the City of San Diego's Land Development Manual Appendix T, which is required of projects located within Mobility Zone 2 that provide more than the minimum parking requirement (2,758 spaces required, 3304 spaces provided) under the Complete Communities: Mobility Choices program and ordinance. The Project proposes to provide the following VMT Reduction Measures:

- The Project will install high visibility crosswalk striping on the south leg of the intersection of Lusk Boulevard and Wateridge Circle (1.5 points / 3 legs of intersection = 0.5 points).
- As a part of the project frontage improvements, the Project will widen Lusk Boulevard to 4-lane Major standards, which will include a 22-ft parkway, consisting of an 8-ft non-contiguous sidewalk and 14-ft landscape buffer, along its entire 2,200-ft frontage (3 points per mile of widening x 0.417 miles = 1.25 points).
- The Project will provide two (2) on-site bicycle repair stations (1.5 points per station x 2 stations = 3 points).
- The Project will install five (5) electric bicycle charging stations (2 points).
- The Project will provide short-term bicycle parking spaces, at least 10% beyond minimum requirements. Per Appendix T (Mobility Choices Regulations Implementation Guidelines) of the Land Development Code (LDC), each multiple of 10% beyond the minimum equates to 1.5 points. The Project is required to provide 138 spaces and the project will provide 168 spaces, which is approximately 20% beyond the minimum requirements (3 points)

The Project's proposed VMT Reduction Measures total to 9.75points, which exceeds the minimum 8 points requirement.

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## LOCAL MOBILITY ANALYSIS

# LONGFELLOW ON LUSK

San Diego, California  
September 2024

## 1.0 INTRODUCTION

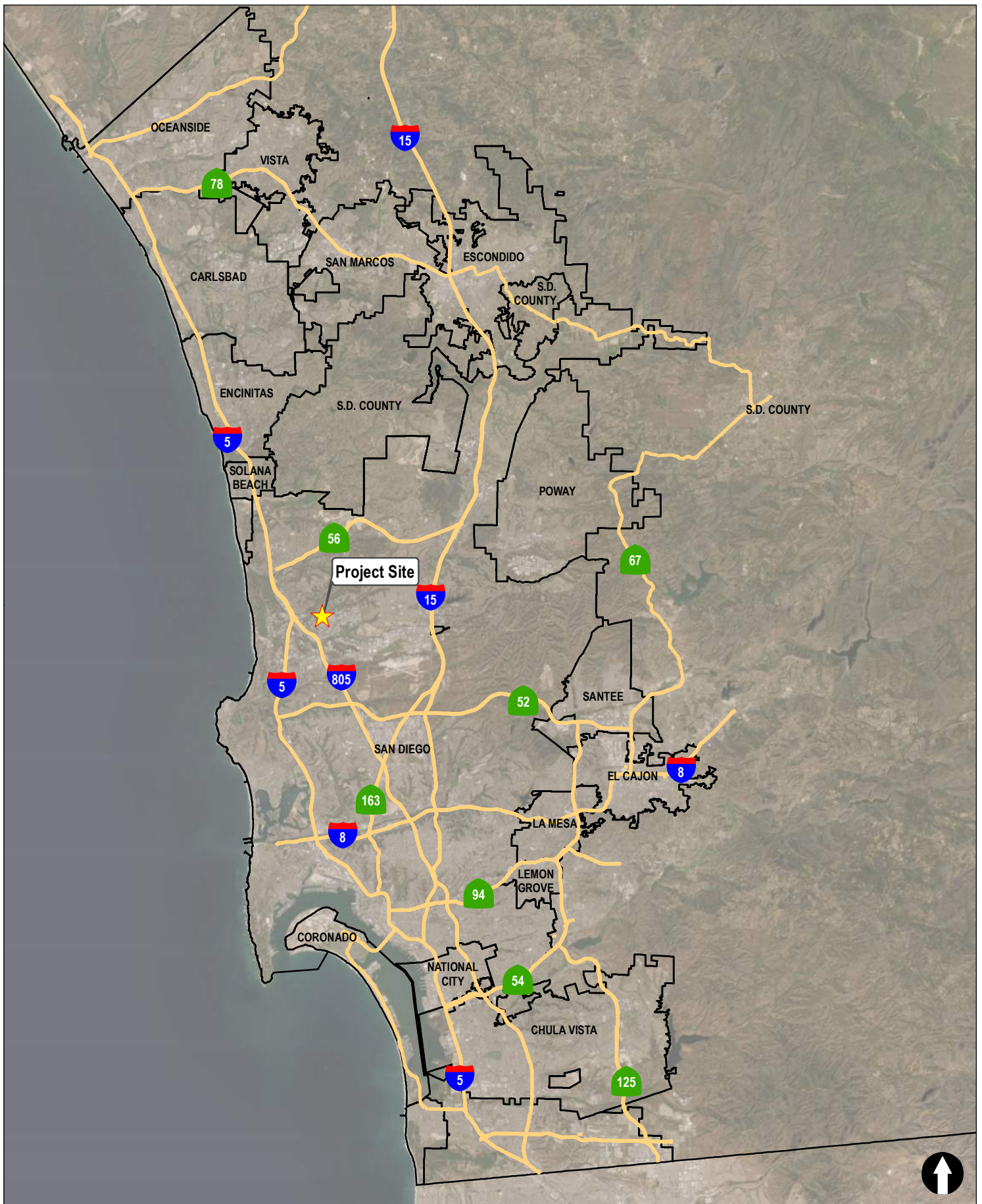
Linscott, Law & Greenspan, Engineers (LLG) has prepared this Local Mobility Analysis (LMA) for the Longfellow on Lusk Project (“Project”). The Project site is located at 6370, 6440, 6450, 6540, 6650, and 6640 Lusk Blvd at the southwest corner of intersection of Pacific Center Boulevard / Lusk Boulevard in the Mira Mesa Community Planning Area in the City of San Diego. The approximately 15.1-acre project site currently includes 278,491 square feet (sf) of office and light industrial uses split among six (6) buildings.

The Project proposes to demolish the existing buildings and construct four (4) Research and Development buildings and one (1) tenant-serving amenity building with a gross floor area totaling 1,313,190 sf, which includes 1,283,190 sf of R&D use and, 30,000 sf<sup>2</sup> of tenant-serving amenity uses (such as gym facilities, bike facilities, large conference hall, public art, information and welcoming hub, coffee shop, and restaurant) and two (2) parking structures. The Project will also construct landscaped pathways for enhanced pedestrian access on-site and to adjacent properties. The Project requires approval of a Coastal Development Permit (CDP). A detailed Project description is included in Section 2.0.

*Figure 1–1* includes a Project vicinity map.

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<sup>2</sup> 30,000 sf of amenity use = 20,000 sf in the amenity building + 10,000 sf spread across the four (4) R&D buildings



## 2.0 PROJECT DESCRIPTION

### 2.1 Project Location

The Project site is located at 6370, 6440, 6450, 6540, 6650, and 6640 Lusk Boulevard in the Mira Mesa Community Planning Area in the City of San Diego. Vehicular access to the site is proposed via four (4) driveways along Lusk Boulevard – three (3) full access driveways and one (1) right-in/right-out/left-in driveway. Two (2) dedicated truck right-in/right-out/left-in loading driveways are also proposed along Lusk Boulevard.

### 2.2 Project Description

The Project proposes the construction of approximately 1,283,190 sf of research and development (R&D) use and 30,000 sf of tenant-serving amenity space (such as gym facilities, bike facilities, large conference hall, public art, information and welcoming hub, coffee shop, and restaurant). The Project site is currently occupied by 278,491 square feet (sf) of office and light industrial uses split among six (6) buildings. All existing buildings will be demolished as a part of the Project.

*Figure 2–1* depicts the conceptual site plan.



### **3.0 STUDY OBJECTIVES, ANALYSIS APPROACH AND METHODOLOGY**

This section discusses the LMA study objectives, and the analysis approach and methodology used in the preparation of the study.

#### **3.1 Report Approach**

In conformance with Senate Bill 743 (SB 743), under a separate cover, a Transportation Impact Analysis was prepared that evaluates the Project's transportation impacts using a Vehicle Miles Traveled (VMT) metric under CEQA, per the City of San Diego's Transportation Study Manual (September 2020), pursuant to guidance from the Governor's Office of Planning and Research (OPR) in December 2018.

This report is a Local Mobility Analysis (LMA) conducted per the City's TSM that focuses on traffic operations and alternative mode of travel within the Project's study area within the Mira Mesa Community Planning Area. The LOS analysis was conducted to identify the Project traffic's effect in the Project study area and recommends improvements to ensure that the Project is consistent with the Mira Mesa Community Plan transportation improvements and that the Project proposes any improvements for which it triggers the need. Consistent with SB 743 and CEQA Guidelines 15064.3, the CEQA significance determination for the Project will be based only on VMT and not on LOS.

#### **3.2 Study Objectives**

This LMA evaluates the Longfellow on Lusk Project's traffic effect on mobility, access, and circulation in the study area. The LMA has the following objectives per the City of San Diego Transportation Study Manual (TSM, September 2020):

- Ensures that the project proposed improvements that will be implemented are consistent with those identified in the Community Plan and support multi-modal circulation and access are constructed at the time when the project triggers the need for them.
- Identifies improvements needed to support and promote active transportation and transit modes.
- Ensures the project provides connections to the active transportation network and transit system.

#### **3.3 Analysis Approach and Methodology**

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

### 3.4 Intersections

**Signalized intersections** were analyzed under weekday 7:00-9:00 AM and 4:00-6:00 PM peak hour conditions. Average vehicle delay was determined utilizing the methodology found in Chapter 18 of the *2016 Highway Capacity Manual (HCM 6<sup>th</sup> Edition)*, with the assistance of the *Synchro* (version 11) computer software. The delay values (represented in seconds) were qualified with a corresponding intersection LOS. A more detailed explanation of the methodology is attached in *Appendix A. Table 3-1* shows the signalized intersection delay categorized for each LOS.

**Unsignalized intersections** were analyzed under weekday 7:00-9:00 AM and 4:00-6:00 PM peak hour conditions. Average vehicle delay and LOS were determined based upon the procedures found in Chapters 19 and 20 of the *HCM 6*, with the assistance of the *Synchro* (version 11) computer software. A more detailed explanation of the methodology is attached in *Appendix A. Table 3-1* shows the unsignalized intersection delay categorized for each LOS.

**TABLE 3-1  
INTERSECTION LOS & DELAY RANGES**

LOS	Delay (seconds/vehicle)	
	Signalized Intersections	Unsignalized Intersections
A	≤ 10.0	≤ 10.0
B	10.1 to 20.0	10.1 to 15.0
C	20.1 to 35.0	15.1 to 25.0
D	35.1 to 55.0	25.1 to 35.0
E	55.1 to 80.0	35.1 to 50.0
F	≥ 80.1	≥ 50.1

*Source:* Highway Capacity Manual

The HCM 6th edition analysis methodology requires strict adherence to standard dual ring National Electrical Manufacturers Association (NEMA) phasing. Conflicting phase overlaps, clustered intersections or other non-compliant phasing sequences cannot be analyzed using this method. Based upon the geometry and phasing per their respective signal timing sheets, the following signalized intersection did not adhere to standard NEMA phasing and therefore, HCM 2000 was used:

18. Sorrento Valley Road / Carroll Canyon Road / I-805 Southbound Ramps (non-NEMA phasing)

The HCM 6th edition analysis methodology limits the procedures on atypical intersections, such as more than four legs or stop control on all but one leg. Based upon the geometry per their respective

existing conditions and operations, the following unsignalized intersection did not adhere to the standard procedures of a two-way stop control and therefore, HCM 2000 was used:

5. Sorrento Valley Boulevard / Roselle Street (this T-intersection did not adhere to the standard procedure as it has stop control on all but one leg)

Based on the TSM, signal timing improvements/signal modifications should be considered if the following criteria is met for study intersections:

- Within ½ mile path of travel of a Major Transit Stop: if the project causes an intersection to degrade to LOS F, or if the project adds traffic to a signal already operating at LOS F.
- Outside of a ½ mile path of travel a Major Transit Stop: if the project causes an intersection to degrade to LOS E or F, or if the project adds traffic to a signal already operating at LOS E or F.

Vehicular queuing was also evaluated using SimTraffic 11 for study intersection turning movements where queue storage is only provided for within a turn pocket or a dedicated turn lane and where the Project adds more than 50 during at least one peak hour. The 95<sup>th</sup> percentile queues are reported.

Per the City's TSM, a single left-turn lane, a second left-turn lane, a single right-turn lane or a second right-turn lane should be considered if a project adds traffic that causes the peak hour traffic volume to exceed the following:

- Single Left-Turn Lane: Over 100
- Second Left-Turn Lane: Over 300
- Single Right-Turn Lane: Over 500
- Second Right-Turn Lane: Over 800

### 3.5 Street Segments

Street segment analysis is based upon the comparison of daily traffic volumes (ADTs) to the City of San Diego's *Roadway Segment LOS by Classification and Average Daily Traffic (ADT)* table. This table provides segment capacities for different street classifications, based on traffic volumes and roadway characteristics.

The City of San Diego classifications table is shown in *Appendix B*.

### 3.6 Pedestrian Mobility

Per the City's TSM, the Project's pedestrian network connectivity was evaluated by reviewing the existing pedestrian network, which included documenting missing sidewalks, curb ramps, pedestrian barriers and pedestrian pathways within a ½-mile walking distance of the Project. In addition to documenting existing pedestrian activity, a walkshed analysis was performed to evaluate the pedestrian connectivity and activity levels in the vicinity of the Project site and to ensure the Project

provides the appropriate pedestrian facilities. Finally, pedestrian improvements that will be constructed by the Project are summarized as shown in *Section 11.0*.

### **3.7 Bicycle Mobility**

Per the City's TSM, the Project's bicycle network connectivity was evaluated by reviewing the existing bicycle network, documenting bicycle facility gaps, obstructions and bicycle facilities within a ½-mile bicycling distance from the Project. In addition to documenting existing bicycle activity, a bikeshed analysis was performed to evaluate the bicycle connectivity and activity levels in the vicinity of the Project site and to ensure the Project provides the appropriate bicycle facilities. Finally, bicycle improvements that will be constructed are summarized as shown in *Section 12.0*.

### **3.8 Transit Mobility**

Per the City's TSM, the Transit Mobility review included the existing transit network, existing routes and headways of the MTS buses with stops in the Project study area. Existing transit stop amenities within a ½ mile distance of the Project were also reviewed. Finally, transit mobility improvements that will be constructed by the Project are summarized in *Section 13.0*.



## 4.0 EXISTING VEHICULAR MOBILITY

This section presents the intersections, roadways, and freeway segments, and describes existing roadway conditions within the Project area. *Figure 4-1* shows the existing conditions diagram.

### 4.1 Project Study Area

The study area was based on the criteria identified in the City of San Diego *Transportation Study Manual* (September 2022), as well as collaboration with the City of San Diego staff. Based on the TSM guidelines, the study area for the Project includes the following 29 intersections and 19 street segments.

#### Study Intersections:

1. Carmel Mountain Road / I-5 Southbound Ramps
2. Carmel Mountain Road / I-5 Northbound Ramps
3. Carmel Mountain Road / Vista Sorrento Parkway / Torrey View Court
4. Roselle Street / I-5 Southbound On-Ramp
5. Roselle Street / Sorrento Valley Blvd
6. Roselle Street / I-5 Northbound Off-Ramp
7. Sorrento Valley Boulevard / Vista Sorrento Parkway
8. Lusk Boulevard / Vista Sorrento Parkway
9. Lusk Boulevard / Wateridge Circle
10. Lusk Boulevard / Project Driveway #1
11. Lusk Boulevard / Project Driveway #2 (*future*)
12. Lusk Boulevard / Pacific Center Boulevard / Project Driveway #3
13. Lusk Boulevard / Project Driveway #4 (*future*)
14. Vista Sorrento Parkway / Mira Sorrento Place / I-805 Northbound Ramps
15. Barnes Canyon Road / Scranton Road
16. Barnes Canyon Road / Lusk Boulevard
17. Barnes Canyon Road / Pacific Heights Boulevard
18. Sorrento Valley Road / Carroll Canyon Road / I-805 Southbound Ramps
19. Mira Mesa Boulevard / Vista Sorrento Parkway / I-805 Northbound Off-Ramp
20. Mira Mesa Boulevard / Scranton Road
21. Mira Mesa Boulevard / Lusk Boulevard / Oberlin Dr
22. Mira Mesa Boulevard / Pacific Heights Boulevard
23. Mira Mesa Boulevard / Camino Santa Fe
24. Mira Mesa Boulevard / Camino Ruiz
25. Mira Mesa Boulevard / Black Mountain Road
26. Mira Mesa Boulevard / I-15 Southbound Ramps
27. Mira Mesa Boulevard / I-15 Northbound Ramps
28. Carroll Canyon Road / I-805 Direct Access Ramp (DAR)
29. Carroll Canyon Road / Scranton Road

## **Study Street Segments:**

### Sorrento Valley Boulevard

- Roselle Street to Vista Sorrento Parkway

### Lusk Boulevard

- Vista Sorrento Parkway to Wateridge Circle (east)
- Wateridge Circle (east) to Pacific Center Boulevard
- Pacific Center Boulevard to Barnes Canyon Road
- Barnes Canyon Road to Mira Mesa Boulevard

### Barnes Canyon Road

- Scranton Road to Lusk Boulevard

### Scranton Road

- Barnes Canyon Road to Mira Sorrento Place

### Mira Sorrento Place

- Vista Sorrento Parkway to Scranton Road

### Pacific Heights Boulevard

- Barnes Canyon Road to Mira Mesa Boulevard

### Mira Mesa Boulevard

- Vista Sorrento Parkway to Scranton Road
- Scranton Road to Lusk Boulevard
- Pacific Heights Boulevard to Flanders Drive
- Flanders Drive to Camino Santa Fe
- Camino Santa Fe to Parkdale Avenue
- Parkdale Avenue to Reagan Road
- Reagan Road to Camino Ruiz
- Camino Ruiz to New Salem Street/Marauder Way
- New Salem Street/Marauder Way to Westonhill Drive
- Westonhill Drive to Greenford Drive

## **4.2 Existing Roadway Network**

The following is a description of the existing roadway network in the study area.

**Lusk Boulevard** is classified as a 4-Lane Major Arterial in both the *1992 Mira Mesa Community Plan* and the *2022 Mira Mesa Community Plan*. It is currently constructed as a four-lane roadway separated by a raised median between Vista Sorrento Parkway and Wateridge Circle (east) and between Morehouse Drive and Mira Mesa Boulevard. From Wateridge Circle (east) to Morehouse

Drive, Lusk Boulevard is built as a four-lane undivided roadway with a two-way left turn lane. The posted speed limit is 45-50 mph and parking is prohibited within the Project area. Class II bike lanes are provided on both sides of street between Vista Sorrento Parkway Morehouse Drive. A contiguous sidewalk is provided on both sides of the street except for a south side portion between Vista Sorrento Parkway and Wateridge Circle (west).

**Vista Sorrento Parkway** is classified as a 4-Lane Collector in the *1992 Mira Mesa Community Plan*. Vista Sorrento Parkway is classified as a 4-Lane Collector without Two-Way Left Turn Lane north of Lusk Boulevard, 3-Lane Collector with a Two-Way Left Turn Lane between Lusk Boulevard and Mira Sorrento Place, and as a 4-Lane Major Arterial between Mira Sorrento Place and Mira Mesa Boulevard in the *2022 Mira Mesa Community Plan*. It is currently constructed as a three-lane undivided roadway between Lusk Boulevard and Directors Place, providing one travel lane to the east and two travels lanes to the west. Between Directors Place and Mira Sorrento Place, Vista Sorrento Parkway is built as a three-lane undivided roadway, providing two travel lanes to the east and one travel lane to the west. From Mira Sorrento Place to Mira Mesa Boulevard, it is built as a four-lane roadway separated by a raised median. The posted speed limit is 50 mph and parking is prohibited. Class II bike lanes are provided on both sides of the street. A contiguous sidewalk is provided on the north side of the street.

**Mira Mesa Boulevard** is classified as an 8-Lane Primary Arterial between I-805 Northbound Off-Ramp and Scranton Road, a 6-Lane Primary Arterial between Scranton Road and Black Mountain Road, and an 8-Lane Primary Arterial between Black Mountain Road and I-15 Ramps in the *1992 Mira Mesa Community Plan*. Mira Mesa Boulevard is classified a 4-Lane Major Arterial between I-805 Northbound Off-Ramp and Vista Sorrento Parkway, as an 8-Lane Prime Arterial between Vista Sorrento Parkway and Scranton Road, and between Black Mountain Road and I-15 Southbound Ramps, and as a 6-Lane Prime Arterial between Scranton Road and Black Mountain Road in the *2022 Mira Mesa Community Plan*. It is currently constructed as an eight-lane roadway separated by a raised median between I-805 Northbound Off-Ramp and Scranton Road. From Scranton Road to Black Mountain Road, Mira Mesa Boulevard is built as a six-lane roadway separated by a raised median. Between Black Mountain Road and I-15 Ramps, it is constructed as a seven-lane roadway separated by a raised median, providing four travel lanes to the east and three travel lanes to the west. The posted speed limit is 25-50 mph and parking is prohibited. Class III bike routes are provided between I-805 Northbound Ramp and Scranton Road. Class II bike lanes are provided between Scranton Road and Parkdale Avenue, between Reagan Road and New Salem Street, on the north side between New Salem Street and Westonhill Drive, and on the south side between Greenford Drive and Black Mountain Road. Class III bike route with sharrows are provided between Parkdale Avenue and Reagan Road, on the south side between New Salem Street and Westonhill Drive, between Westonhill Drive and Greenford Drive, on the north side between Greenford Drive and Black Mountain Road, and on the south side between Black Mountain Road and Westview Parkway. A contiguous sidewalk is provided on both sides of the street except for a south side portion between Scranton Road and approximately 780 feet east of Lusk Boulevard.

**Wateridge Circle** is an unclassified roadway in both the *1992 Mira Mesa Community Plan* and the *2022 Mira Mesa Community Plan*. It is currently constructed as a two-lane roadway separated by a raised median. Sidewalks are provided on both sides of the street. Curbside parking is permitted on both sides of the street. There is no posted speed limit.

**Pacific Center Boulevard** is classified as a 4-Lane Major Arterial between Lusk Boulevard and Pacific Heights Boulevard, and a 4-Lane Collector east of Pacific Heights Boulevard in the *1992 Mira Mesa Community Plan*. Pacific Center Boulevard is classified as a 4-Lane Major Arterial between Lusk Boulevard and Pacific Heights, and as a 4-Lane Collector with a Two-Way Left Turn Lane east of Pacific Heights Boulevard in the *2022 Mira Mesa Community Plan*. It is currently constructed as a four-lane roadway separated by a raised median with intermittent turning lanes. Sidewalks are provided on both sides of the street. Curbside parking is permitted on both sides of the street. The posted speed limit is 40 mph.

**Barnes Canyon Road** is classified as a 4-Lane Collector between Scranton Road and Pacific Heights Boulevard in the *1992 Mira Mesa Community Plan*. Barnes Canyon Road is classified as a 4-Lane Collector without a Two-Way Left Turn Lane between Lusk Boulevard and Scranton Road, and as a 4-Lane Major Arterial between Lusk Boulevard and Pacific Heights Boulevard in the *2022 Mira Mesa Community Plan*. It is currently constructed as a two-lane undivided roadway between Scranton Road and Lusk Boulevard. From Lusk Boulevard to Pacific Heights Boulevard, Barnes Canyon Road is built as a four-lane roadway separated by a raised median. Sidewalks are provided on both sides of the street. Curbside parking is permitted on both sides of the street. The posted speed limit is 35 mph.

**Pacific Heights Boulevard** is classified as a 4-Lane Major Arterial in both the *1992 Mira Mesa Community Plan* and the *2022 Mira Mesa Community Plan*. It is currently constructed as a four-lane roadway separated by a raised median. Sidewalks are provided on both sides of the street. Curbside parking is permitted on both sides of the street. The posted speed limit is 30-40 mph.

**Mira Sorrento Place** is classified as a 4-Lane Collector in the *1992 Mira Mesa Community Plan* and is classified as a 4-Lane Collector with a Two-Way Left Turn Lane in the *2022 Mira Mesa Community Plan*. It is currently constructed as a four-lane undivided roadway with a two-way left turn lane. Sidewalks are provided on both sides of the street. Curbside parking is prohibited. Class II bike lanes are provided on both sides of the street. The posted speed limit is 45 mph.

**Carroll Canyon Road** is classified as a 4-Lane Collector between Mira Mesa Boulevard and Scranton Road, 4-Lane Major Arterial between Scranton Road and Camino Santa Fe, 6-Lane Primary Arterial between Camino Santa Fe and Camino Ruiz, 6-Lane Major between Camino Ruiz and Black Mountain Road, and as 4-Lane Major Arterial between Black Mountain Road to 1-15 Ramps in the *1992 Mira Mesa Community Plan*. Carroll Canyon Road is classified as a 4-Lane Collector without a Two-Way Left Turn Lane west of Scranton Road, 4-Lane Major Arterial between Scranton Road and Camino Santa Fe, 6-Lane Prime Arterial between Camino Santa Fe and Black Mountain Road, and as a 4-Lane Major Arterial between Black Mountain Road and 1-15

Ramp in the *2022 Mira Mesa Community Plan*. It is currently constructed as a four-lane roadway separated by a raised median between Sorrento Valley Road and I-805 HOV Ramps. East of I-805 HOV Ramps, Carroll Canyon Road is built as a four-lane undivided roadway with a two-way left turn lane. Sidewalks are provided on both sides of the street. Curbside parking is prohibited. Class II bike lanes are provided on both sides of the street. The posted speed limit is 45 mph.

**Scranton Road** is classified as a 4-Lane Major Arterial between Carroll Canyon Road and Mira Sorrento Place, and a 4-Lane Collector between Mira Sorrento Place and Barnes Canyon Road in the *1992 Mira Mesa Community Plan*. Scranton Road is classified as a 4-Lane Collector without a Two-Way Left Turn Lane between Barnes Canyon Road and Mira Sorrento Place, a 5-Lane Major Arterial between Mira Sorrento Place and Mira Mesa Boulevard, and as a 4-Lane Major Arterial between Mira Mesa Boulevard and Carroll Canyon Road in the *2022 Mira Mesa Community Plan*. It is currently constructed as a four-lane undivided roadway with intermittent turning lanes between Carroll Canyon Road and Mira Sorrento Place. From Mira Sorrento Place to Barnes Canyon Road, Scranton Road is built as a two-lane undivided roadway. Sidewalks are provided on both sides of the street. Curbside parking is permitted intermittently on the north of Mira Sorrento Place. Class II bike lane is provided on the east side of Scranton Road between Mira Sorrento Place and Morehouse Drive, and a Class III bike route with sharrows is provided on the west side of the street between Mira Sorrento Place and Morehouse Drive. The posted speed limit is 35 mph.

**Oberlin Drive** is an unclassified roadway in both the *1992 Mira Mesa Community Plan* and the *2022 Mira Mesa Community Plan*. It is currently constructed as a two-lane undivided roadway. Sidewalks are provided on both sides of the street. Curbside parking is permitted on both sides of the street. The posted speed limit is 40 mph.

**Camino Santa Fe** is classified as a 6-Lane Major Arterial between Top Gun Street and Flanders Drive, a 6-Lane Primary Arterial between Flanders Drive and Miramar Road, and as a 4-Lane Major Arterial between Sorrento Valley Boulevard and Top Gun Street in the *1992 Mira Mesa Community Plan*. Camino Santa Fe is classified as a 4-Lane Major Arterial between Sorrento Valley Boulevard and Mira Mesa Boulevard and between Carroll Canyon Road and Commerce Avenue, and as a 6-Lane Major Arterial between Mira Mesa Boulevard and Carroll Canyon Road and between Commerce Avenue and Miramar Road in the *2022 Mira Mesa Community Plan*. It is currently constructed as a six-lane roadway separated by a raised median within the project vicinity. The posted speed limit is 50 mph and parking is prohibited. Class II bike lanes and contiguous sidewalks are provided on both sides of the street.

**Camino Ruiz** is classified as a 4-Lane Major Arterial between Calle Cristobal and Gold Coast Drive, and as 6-Lane Major Arterial between Gold Coast and Miramar Road in the *1992 Mira Mesa Community Plan*. Camino Ruiz is classified as a 4-Lane Major Arterial between Calle Cristobal and Aquarius Drive and between Capricorn Way and Gold Coast Drive, 4-Lane Collector with Two-Way Left Turn between Aquarius Drive and Capricorn Way, and as a 6-Lane Major Arterial between Gold Coast Drive and Miramar Road in the *2022 Mira Mesa Community Plan*. It is currently constructed as a four-lane roadway separated by a raised median. The posted speed limit is 40 mph

and parking is provided intermittently on both sides of the street. Class II bike lanes and Class III bike routes are provided intermittently along the street. Contiguous sidewalks are provided on both sides of the street.

**Black Mountain Road** is classified as a 6-Lane Primary Arterial between Mercy Road and Kearny Villa Road and as a 4-Lane Major Arterial between Kearny Villa Road and Miramar Road in the *1992 Mira Mesa Community Plan*. Black Mountain Road is classified as a 6-Lane Prime Arterial between Mercy Road and Galvin Avenue, a 4-Lane Major Arterial between Galvin Avenue and Maya Linda Road and between Kearny Villa Road and Miramar Road, and as a 5-Lane Major Arterial between Maya Linda Road and Kearny Villa Road in the *2022 Mira Mesa Community Plan*. It is currently constructed as a 4-Lane roadway separated by a raised median. The posted speed limits are 35 and 40 mph and parking is provided on the west side of the street, south of Hillery Drive. Class II bike lanes are provided on both sides of the street. Contiguous sidewalks are provided on both sides of the street.

**Carmel Mountain Road** is classified as a 4-Lane Major Arterial in the *Torrey Pines Community Plan*. It is currently constructed as a four-lane roadway separated by a raised median between Sorrento Valley Road and I-5 Southbound Ramps. From I-5 Southbound Ramps to I-5 Northbound Ramps, Carmel Mountain Road is built as a five-lane undivided roadway. Between I-5 Northbound Ramps and Vista Sorrento Parkway, it is currently built as a six-lane roadway separated by a raised median. There is no posted speed limit within the project vicinity and parking is prohibited. Class II bike lanes and contiguous sidewalks are provided on both sides of the street.

**Sorrento Valley Road** is classified as a 4-Lane Major Arterial in the *Torrey Pines Community Plan* and *1992 Mira Mesa Community Plan*. It is currently constructed as a four-lane roadway separated by a raised median. The posted speed limit is 45 mph and parking is prohibited. Class II bike lanes and contiguous sidewalks are provided on both sides of the street.

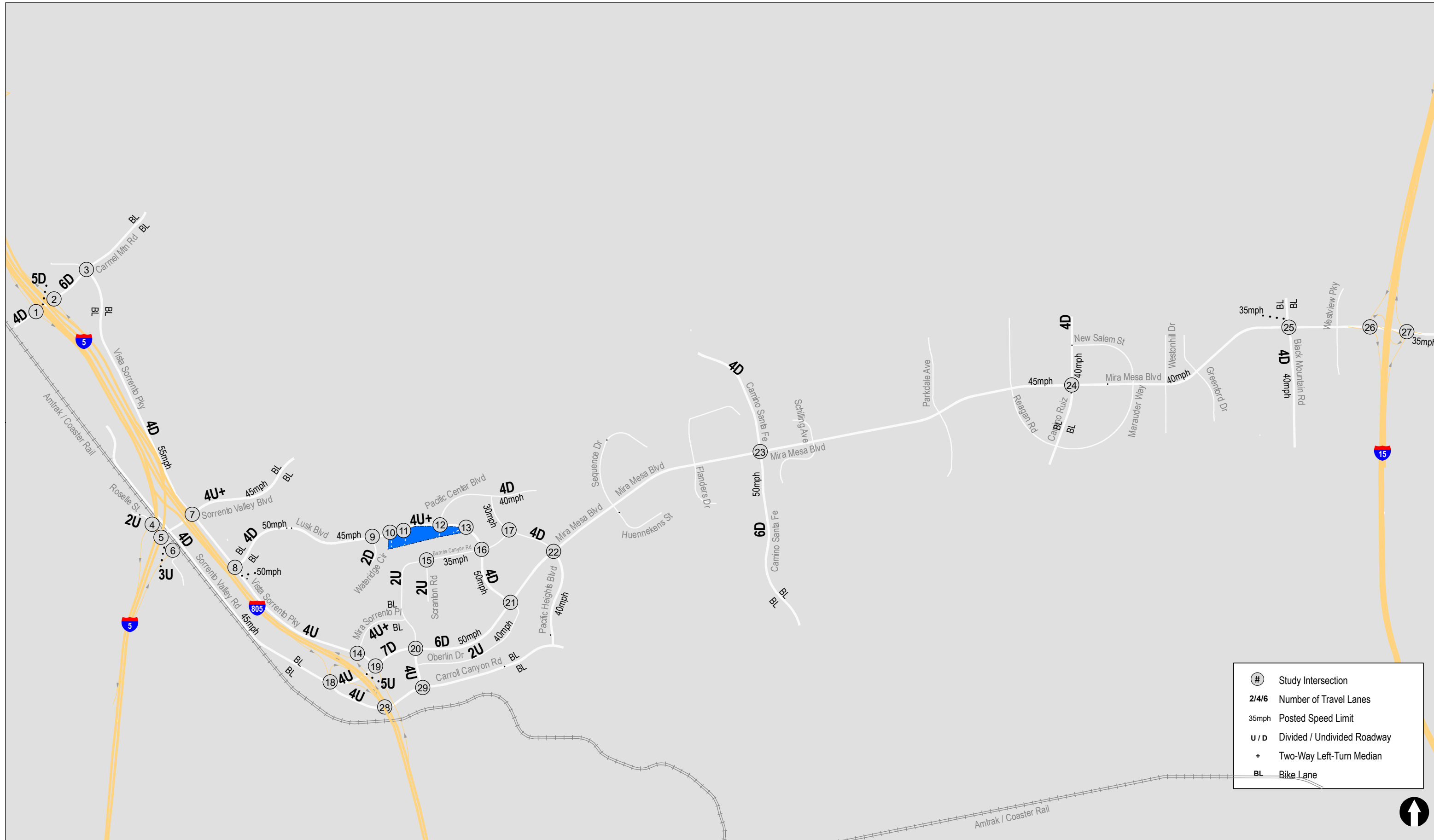
**Roselle Street** is classified as a 2-Lane Collector in the *Torrey Pines Community Plan*. It is currently constructed as a two-lane undivided roadway north of Sorrento Valley Boulevard. South of Sorrento Valley Boulevard, Roselle Street is built as a three-lane undivided roadway, providing two northbound lanes and one southbound lane. There is no posted speed limit within the project vicinity. Class II bike lane is provided on the east side of the street, south of Sorrento Valley Boulevard, and a Class III bike route is provided on the east side of the street, north of Sorrento Valley Boulevard. A contiguous sidewalk is provided on both sides of the street.

**Sorrento Valley Boulevard** is classified as a 4-Lane Major Arterial in both the *Torrey Pines Community Plan* and *1992 Mira Mesa Community Plan*. It is currently constructed as a four-lane roadway separated by a raised median between Roselle Street and Sorrento Valley Road. From Sorrento Valley Road to Vista Sorrento Parkway, it is built as a four-lane undivided roadway. East of Vista Sorrento Parkway, Sorrento Valley Boulevard is constructed as a four-lane undivided roadway with a two-way left turn lane. The posted speed limit is 45 mph and parking is prohibited. Class II bike lanes and contiguous sidewalks are provided on both sides of the street.

### 4.3 Existing Traffic Volumes

The Mira Community Plan Update was adopted by City Council on December 5, 2022, which contains traffic counts from October and November 2018. Given that these counts were conducted prior to the CoVid-19 pandemic and to ensure consistency with the Mira Mesa Community Plan Update, the Year 2018 traffic counts were used. At study locations not included in the Mira Mesa Community Plan, existing weekday daily street segment counts and AM and PM peak hour (7:00-9:00 AM and 4:00-6:00 PM) intersection counts (including bicycle and pedestrian counts) were conducted on Tuesday, May 10, 2022.

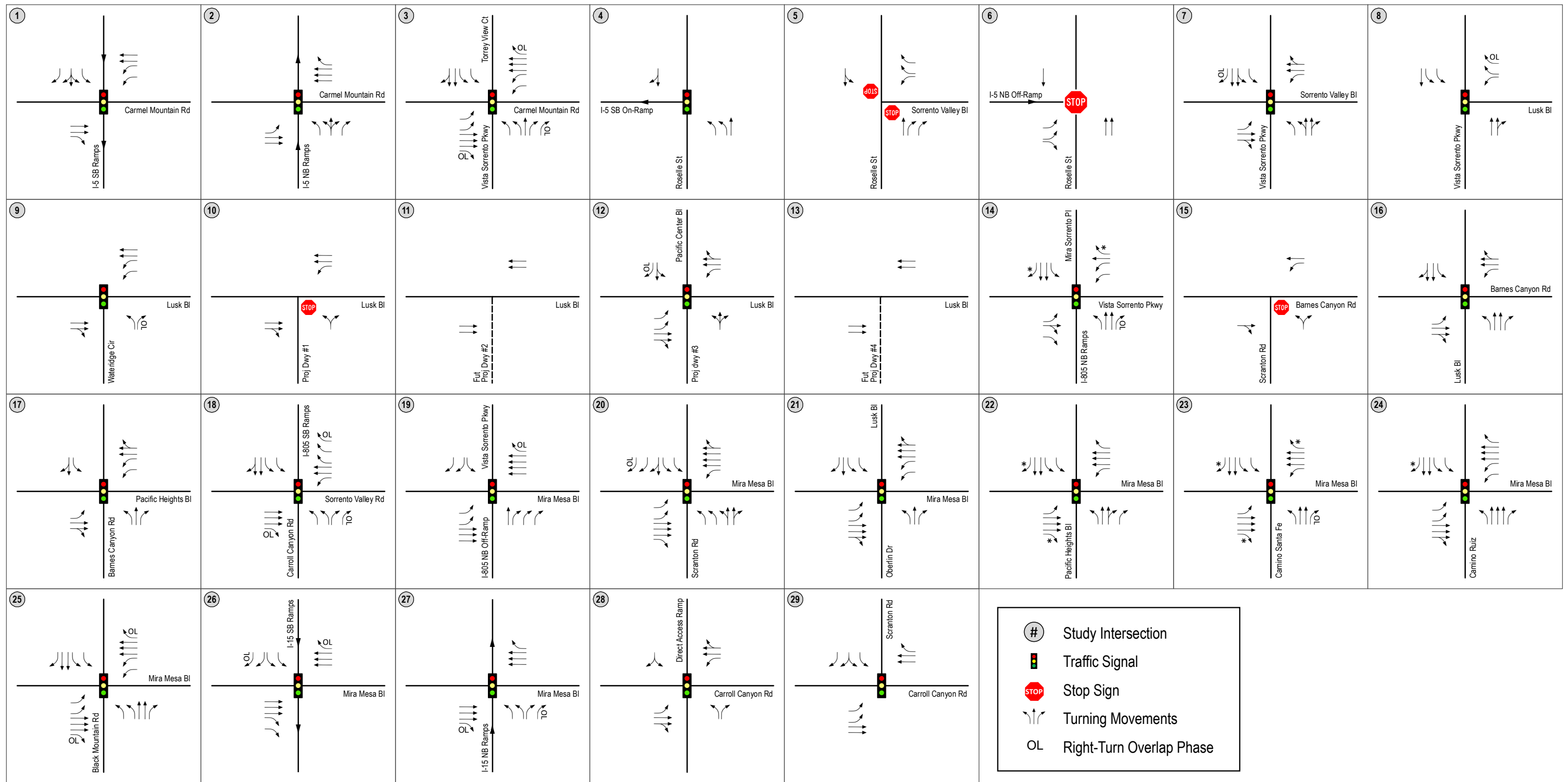
*Figure 4-2* shows the existing traffic volumes. *Appendix C* contains the traffic count sheets.

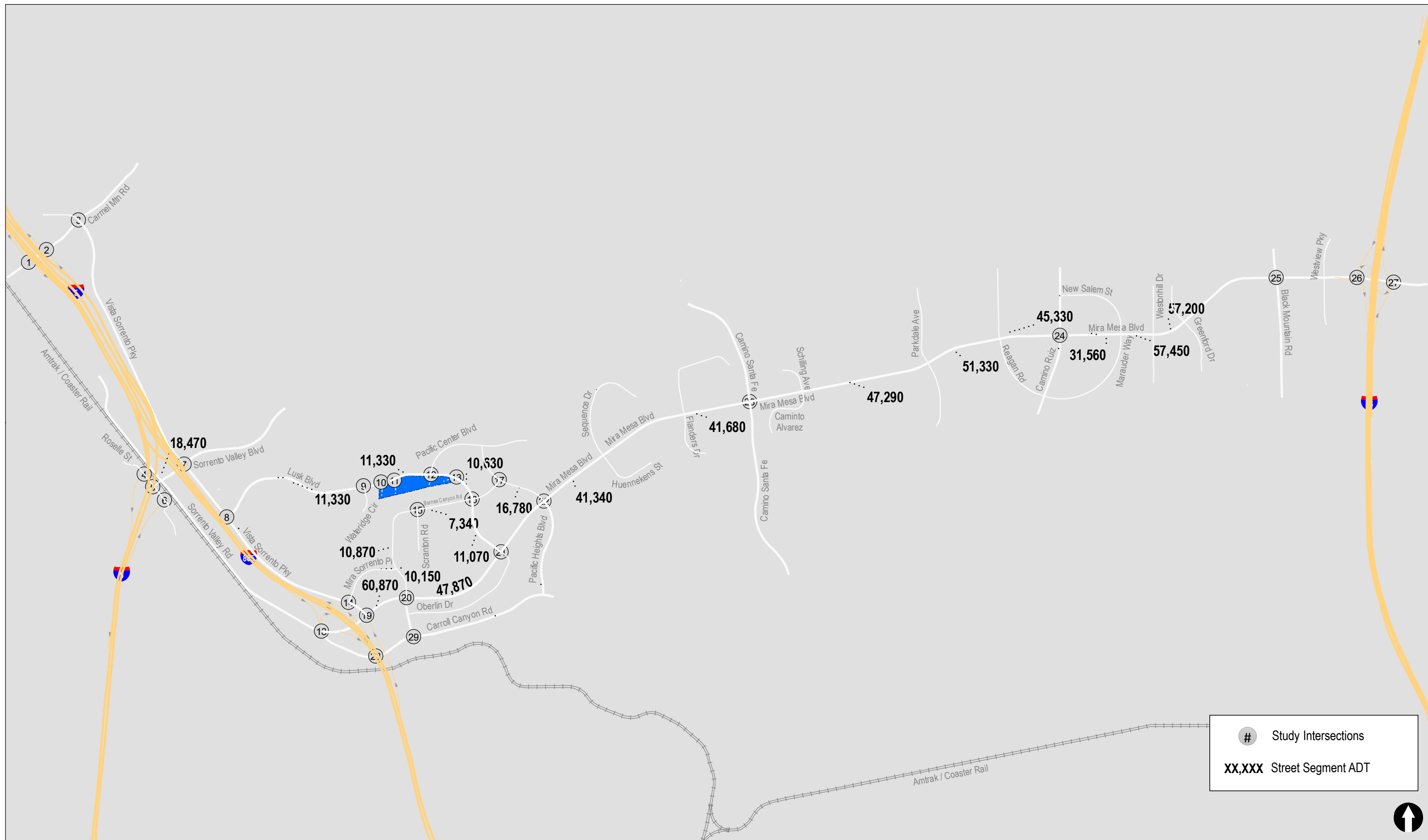


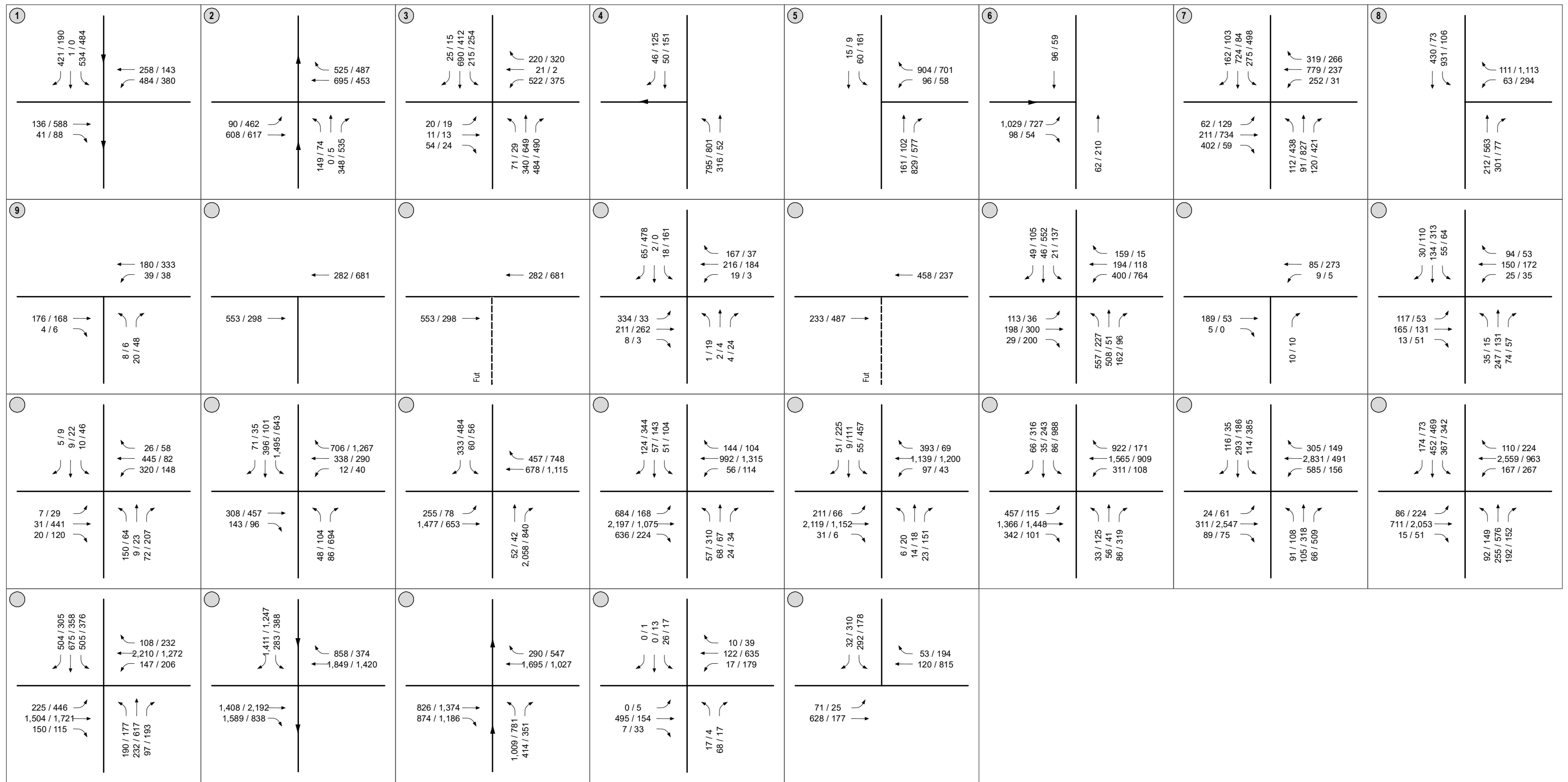
#	Study Intersection
2/4/6	Number of Travel Lanes
35mph	Posted Speed Limit
U / D	Divided / Undivided Roadway
+	Two-Way Left-Turn Median
BL	Bike Lane











# Study Intersections

↔ Intersection AM/PM Peak Hour Volumes



## 5.0 EXISTING ANALYSIS

The analysis of existing conditions includes the assessment of the study area intersections and street segments using the methodologies described in Section 3.0.

### 5.1 Peak Hour Intersection Operations

*Table 5–1* summarizes the existing peak hour intersection operations. As seen in *Table 5–1*, the following intersections are calculated to currently operate at LOS E or LOS F:

- #5: Roselle Street / Sorrento Valley Boulevard (LOS F during both the AM and PM peak hours)
- #7: Vista Sorrento Parkway / Sorrento Valley Boulevard (LOS E during both the AM and PM peak hours)
- #14: Vista Sorrento Parkway / Mira Sorrento Place / I-805 Northbound Ramps (LOS E during both the AM and PM peak hours)
- #19: Mira Mesa Boulevard / Vista Sorrento Parkway / I-805 Northbound Off-Ramp (LOS F during the AM peak hour and LOS E during the PM peak hour)
- #22: Mira Mesa Boulevard / Pacific Heights Boulevard (LOS E during the PM peak hour)
- #23: Mira Mesa Boulevard / Camino Santa Fe (LOS F during the PM peak hour)
- #24: Mira Mesa Boulevard / Camino Ruiz (LOS E during both the AM and PM peak hours)
- #25: Mira Mesa Boulevard / Black Mountain Road (LOS E during both the AM and PM peak hours)

*Table 5–2* summarizes the peak hour for the study intersection turning movements that meet the criteria discussed in Section 3.4 under the Existing condition. The queues at the following intersections are expected to exceed the storage capacity:

- #1: Carmel Mountain Road / I-5 Southbound Ramps (WBL – AM/PM peak; SBL – AM peak)
- #2: Carmel Mountain Road / I-5 Northbound Ramps (EBL – PM peak)
- #3: Carmel Mountain Road / Vista Sorrento Parkway / Torrey View Court (WBL – AM/PM peak; SBL – AM/PM peak; SBT/R – AM/PM peak)
- #5: Roselle Street / Sorrento Valley Boulevard (WBL – AM peak)
- #7: Sorrento Valley Boulevard / Vista Sorrento Parkway (EBL – PM peak; WBL – AM peak; NBL – PM peak; SBL – AM/PM peak; SBR – AM peak)
- #8: Lusk Boulevard / Vista Sorrento Parkway (WBR – PM peak; SBL – AM peak)
- #14: Vista Sorrento Parkway / Mira Sorrento Place / I-805 Northbound Ramps (NBL – AM/PM peak; NBR – AM peak; SBL – PM peak)
- #16: Lusk Boulevard / Barnes Canyon Road (SBL – PM peak)

- #18: Sorrento Valley Road / Carroll Canyon Road / I-805 Southbound Ramps (NBR – PM peak; SBL – AM/PM peak)
- #19: Mira Mesa Boulevard / Vista Sorrento Parkway / I-805 Northbound Off-Ramp (EBL – AM peak; NBR – AM peak)
- #20: Mira Mesa Boulevard / Scranton Road (SBL – PM peak)
- #21: Mira Mesa Boulevard / Lusk Boulevard / Oberlin Drive (EBL – AM peak; SBL – PM peak)
- #22: Mira Mesa Boulevard / Pacific Heights Boulevard (EBL – AM/PM peak; WBL – AM peak; NBL – PM peak; NBR – PM peak; SBL – PM peak)
- #23: Mira Mesa Boulevard / Camino Santa Fe (EBL – PM peak; WBL – AM/PM peak; NBL – AM peak; SBL – PM peak)
- #24: Mira Mesa Boulevard / Camino Ruiz (EBL – PM peak; WBL – AM/PM peak; WBR – AM/PM peak; NBL – PM peak; NBR – PM peak; SBL – AM/PM peak)
- #25: Mira Mesa Boulevard / Black Mountain Road (EBL – PM peak; EBR – AM/PM peak; WBL – AM/PM peak; NBL – PM peak; NBR – PM peak; SBL – AM/PM peak; SBR – AM peak)
- #26: Mira Mesa Boulevard / I-15 Southbound Ramps (SBR – AM peak)
- #27: Mira Mesa Boulevard / I-15 Northbound Ramps (WBR – AM/PM peak)
- #29: Carroll Canyon Road / Scranton Road (SBL – AM peak)

*Appendix D* contains the intersection analysis worksheets for the Existing scenario.

## 5.2 Daily Street Segment Operations

*Table 5–3* summarizes the existing daily street segment operations. As seen in *Table 5–3*, the following study area segments are calculated to currently operate at LOS E or LOS F:

- Barnes Canyon Road between Scranton Road and Lusk Boulevard (LOS E)
- Scranton Road between Barnes Canyon Road and Mira Sorrento Place (LOS F)
- Mira Mesa Boulevard between Camino Santa Fe and Parkdale Avenue (LOS E)
- Mira Mesa Boulevard between Parkdale Avenue and Reagan Road (LOS F)
- Mira Mesa Boulevard between Reagan Road and Camino Ruiz (LOS E)
- Mira Mesa Boulevard between New Salem Street / Marauder Way to Westhill Drive (LOS F)
- Mira Mesa Boulevard between Westhill Drive and Greenford Drive (LOS F)

**TABLE 5-1  
EXISTING INTERSECTION OPERATIONS**

Intersection	Control Type	Peak Hour	Existing	
			Delay <sup>a</sup>	LOS <sup>b</sup>
1. Carmel Mountain Road / I-5 Southbound Ramps	Signal	AM	35.1	D
		PM	31.0	C
2. Carmel Mountain Road / I-5 Northbound Ramps	Signal	AM	15.2	B
		PM	43.0	D
3. Carmel Mountain Road / Vista Sorrento Parkway / Torrey View Court	Signal	AM	34.6	C
		PM	35.9	D
4. Roselle Street / I-5 Southbound On-Ramp	Signal	AM	5.8	A
		PM	8.2	A
5. Roselle Street / Sorrento Valley Boulevard	TWSC <sup>c</sup>	AM	306.1	F
		PM	56.6	F
6. Roselle Street / I-5 Northbound Off-Ramp	AWSC <sup>d</sup>	AM	31.8	D
		PM	16.3	C
7. Vista Sorrento Parkway / Sorrento Valley Boulevard	Signal	AM	57.1	E
		PM	63.9	E
8. Vista Sorrento Parkway / Lusk Boulevard	Signal	AM	22.7	C
		PM	22.3	C
9. Lusk Boulevard / Wateridge Circle	Signal	AM	6.3	A
		PM	5.2	A
10. Lusk Boulevard / Project Driveway #1	OWSC <sup>e</sup>	AM	0.0	A
		PM	0.0	A
11. Lusk Boulevard / Project Driveway #2	OWSC	AM	0.0	A
		PM	0.0	A
12. Lusk Boulevard / Pacific Center Boulevard (Project Driveway #3)	Signal	AM	23.5	C
		PM	16.1	B
13. Lusk Boulevard / Project Driveway #4	OWSC	AM	0.0	A
		PM	0.0	A
14. Vista Sorrento Parkway / Mira Sorrento Place (I-805 Northbound Ramps)	Signal	AM	69.5	E
		PM	66.6	E
15. Barnes Canyon Road / Scranton Road	OWSC	AM	9.6	A
		PM	8.8	A
16. Barnes Canyon Road / Lusk Boulevard	Signal	AM	22.8	C
		PM	21.5	C
17. Barnes Canyon Road / Pacific Heights Boulevard	Signal	AM	20.3	C
		PM	17.9	B

**TABLE 5-1  
EXISTING INTERSECTION OPERATIONS**

Intersection	Control Type	Peak Hour	Existing	
			Delay <sup>a</sup>	LOS <sup>b</sup>
18. Sorrento Valley Road / Carroll Canyon Road (I-805 Southbound Ramps)	Signal	AM	28.6	C
		PM	32.1	C
19. Mira Mesa Boulevard / Vista Sorrento Parkway (I-805 Northbound Off-Ramp)	Signal	AM	147.1	F
		PM	69.9	E
20. Mira Mesa Boulevard / Scranton Road	Signal	AM	41.5	D
		PM	46.9	D
21. Mira Mesa Boulevard / Lusk Boulevard (Oberlin Drive)	Signal	AM	23.1	C
		PM	37.9	D
22. Mira Mesa Boulevard / Pacific Heights Boulevard	Signal	AM	37.1	D
		PM	56.1	E
23. Mira Mesa Boulevard / Camino Santa Fe	Signal	AM	52.9	D
		PM	105.8	F
24. Mira Mesa Boulevard / Camino Ruiz	Signal	AM	66.1	E
		PM	66.9	E
25. Mira Mesa Boulevard / Black Mountain Road	Signal	AM	74.0	E
		PM	68.0	E
26. Mira Mesa Boulevard / I-15 Southbound Ramps	Signal	AM	43.3	D
		PM	41.6	D
27. Mira Mesa Boulevard / I-15 Northbound Ramps	Signal	AM	23.2	C
		PM	18.5	B
28. Carroll Canyon Road / I-805 Direct Access Ramp (DAR)	Signal	AM	6.4	A
		PM	14.4	B
29. Carroll Canyon Road / Scranton Road	Signal	AM	11.5	B
		PM	12.9	B

**Footnotes:**

- a. Average delay expressed in seconds per vehicle.
- b. Level of Service.
- c. Two-Way Stop Control. Worst case movement delay is reported.
- d. All-Way Stop Control.
- e. One-Way Stop Control. Worst case movement delay is reported.

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

**TABLE 5-2  
EXISTING INTERSECTION QUEUE ANALYSIS**

<b>Intersection</b>	<b>Movement</b>	<b>Peak Hour</b>	<b>Storage</b>	<b>Queue Length</b>
1. Carmel Mountain Rd. / I-5 SB Ramps	EBR	AM	315'	40'
		PM		50'
	WBL	AM	190'	<b>220'</b>
		PM		<b>210'</b>
	SBL	AM	300'	<b>340'</b>
		PM		240'
	SBR	AM	390'	320'
		PM		180'
2. Carmel Mountain Rd. / I-5 NB Ramps	EBL	AM	190'	100'
		PM		<b>220'</b>
	WBR	AM	240'	120'
		PM		170'
	NBL	AM	265'	90'
		PM		90'
	NBR	AM	470'	90'
		PM		160'
3. Carmel Mountain Rd. / Vista Sorrento Pkwy. (Torrey View Ct.)	EBL	AM	245'	30'
		PM		40'
	EBR	AM	265'	60'
		PM		50'
	WBL	AM	250'	<b>320'</b>
		PM		<b>300'</b>
	WBR	AM	260'	80'
		PM		130'
	NBL	AM	305'	100'
		PM		170'
	NBR	AM	310'	70'
		PM		90'
	SBL	AM	115'	<b>170'</b>
		PM		<b>180'</b>
SBT/R	AM	220'	<b>310'</b>	
	PM		<b>290'</b>	
4. Roselle St. / I-5 SB On-Ramp	NBL	AM	400'	170'
		PM		160'
5. Roselle St. / Sorrento Valley Blvd.	WBL	AM	90'	<b>120'</b>
		PM		90'



**TABLE 5-2  
EXISTING INTERSECTION QUEUE ANALYSIS**

<b>Intersection</b>	<b>Movement</b>	<b>Peak Hour</b>	<b>Storage</b>	<b>Queue Length</b>
6. Roselle St. / I-5 NB Off-Ramp	EBR	AM	195'	180'
		PM		60'
7. Sorrento Valley Blvd. / Vista Sorrento Pkwy.	EBL	AM	265'	100'
		PM		<b>270'</b>
	WBL	AM	225'	<b>300'</b>
		PM		90'
	NBL	AM	250'	80'
		PM		<b>330'</b>
	SBL	AM	125'	<b>190'</b>
		PM		<b>160'</b>
	SBR	AM	125'	<b>200'</b>
		PM		110'
8. Lusk Blvd. / Vista Sorrento Pkwy.	WBR	AM	115'	40'
		PM		<b>170'</b>
	WBL	AM	275'	90'
		PM		250'
	SBL	AM	170'	<b>220'</b>
		PM		60'
9. Lusk Blvd. / Wateridge Cir.	WBL	AM	155'	50'
		PM		50'
	NBL	AM	100'	30'
		PM		20'
12. Lusk Blvd. / Pacific Center Blvd. (Project Dwy. #3)	EBL	AM	240'	150'
		PM		40'
	WBL	AM	150'	40'
		PM		20'
14. Vista Sorrento Pkwy. / Mira Sorrento Pl. (I-805 NB Ramps)	EBL	AM	245'	170'
		PM		120'
	NBL	AM	170'	<b>220'</b>
		PM		<b>220'</b>
	NBR	AM	160'	<b>190'</b>
		PM		80'
	SBL	AM	160'	70'
		PM		<b>240'</b>
15. Barnes Canyon Rd. / Scranton Rd.	WBL	AM	75'	20'
		PM		10'

**TABLE 5-2  
EXISTING INTERSECTION QUEUE ANALYSIS**

<b>Intersection</b>	<b>Movement</b>	<b>Peak Hour</b>	<b>Storage</b>	<b>Queue Length</b>
16. Barnes Canyon Rd. / Lusk Blvd.	EBL	AM	155'	120'
		PM		80'
16. Barnes Canyon Rd. / Lusk Blvd.	EBT/R	AM	155'	80'
		PM		110'
	WBL	AM	130'	70'
		PM		60'
	NBL	AM	100'	60'
		PM		40'
	NBR	AM	210'	30'
		PM		40'
	SBL	AM	95'	80'
		PM		<b>100'</b>
17. Barnes Canyon Rd. / Pacific Heights Blvd.	EBL	AM	115'	30'
		PM		60'
	WBL	AM	210'	130'
		PM		100'
	NBL	AM	150'	130'
		PM		80'
18. Sorrento Valley Rd. / Carroll Canyon Rd. (I-805 SB Ramps)	EBR	AM	180'	10'
		PM		10'
	WBL	AM	360'	30'
		PM		60'
	NBL	AM	245'	20'
		PM		110'
	NBR	AM	315'	20'
		PM		<b>470'</b>
	SBL	AM	155'	<b>210'</b>
		PM		<b>220'</b>
	SBT/R	AM	250'	160'
		PM		60'
19. Mira Mesa Blvd. / Vista Sorrento Pkwy. (I-805 NB Off-Ramp)	EBL	AM	160'	<b>220'</b>
		PM		80'
	NBR	AM	660'	<b>780'</b>
		PM		290'

**TABLE 5-2  
EXISTING INTERSECTION QUEUE ANALYSIS**

<b>Intersection</b>	<b>Movement</b>	<b>Peak Hour</b>	<b>Storage</b>	<b>Queue Length</b>	
20. Mira Mesa Blvd. / Scranton Rd.	EBL	AM	380'	360'	
		PM		130'	
	WBL	AM	340'	100'	
		PM		160'	
	SBL	AM	120'	110'	
		PM		<b>180'</b>	
21. Mira Mesa Blvd. / Lusk Blvd. (Oberlin Dr.)	EBL	AM	215'	<b>250'</b>	
		PM		170'	
	WBL	AM	235'	150'	
		PM		110'	
	NBL	AM	95'	30'	
		PM		60'	
	NBR	AM	95'	40'	
		PM		90'	
	SBL	AM	185'	80'	
		PM		<b>230'</b>	
	22. Mira Mesa Blvd. / Pacific Heights Blvd.	EBL	AM	285'	<b>340'</b>
			PM		<b>290'</b>
WBL		AM	250'	<b>330'</b>	
		PM		230'	
NBL		AM	95'	80'	
		PM		<b>140'</b>	
NBR		AM	95'	50'	
		PM		<b>170'</b>	
SBL		AM	480'	120'	
		PM		<b>570'</b>	
23. Mira Mesa Blvd. / Camino Santa Fe		EBL	AM	145'	60'
			PM		<b>160'</b>
	WBL	AM	130'	<b>200'</b>	
		PM		<b>180'</b>	
	NBL	AM	240'	<b>250'</b>	
		PM		200'	
	SBL	AM	250'	190'	
		PM		<b>300'</b>	

**TABLE 5-2  
EXISTING INTERSECTION QUEUE ANALYSIS**

<b>Intersection</b>	<b>Movement</b>	<b>Peak Hour</b>	<b>Storage</b>	<b>Queue Length</b>
24. Mira Mesa Blvd. / Camino Ruiz	EBL	AM	190'	120'
		PM		260'
	WBL	AM	200'	250'
		PM		250'
	WBR	AM	190'	220'
		PM		240'
	NBL	AM	230'	170'
		PM		300'
	NBR	AM	100'	100'
		PM		120'
	SBL	AM	225'	280'
		PM		280'
25. Mira Mesa Blvd. / Black Mountain Rd.	EBL	AM	250'	250'
		PM		340'
	EBR	AM	270'	420'
		PM		380'
	WBL	AM	215'	270'
		PM		280'
	NBL	AM	230'	230'
		PM		300'
	NBR	AM	260'	130'
		PM		300'
	SBL	AM	390'	520'
		PM		450'
SBR	AM	245'	290'	
	PM		240'	
26. Mira Mesa Blvd. / I-15 SB Ramps	SBL	AM	285'	130'
		PM		140'
	SBR	AM	570'	660'
		PM		510'
27. Mira Mesa Blvd. / I-15 NB Ramps	WBR	AM	100'	180'
		PM		120'
	NBR	AM	565'	170'
		PM		190'

**TABLE 5-2  
EXISTING INTERSECTION QUEUE ANALYSIS**

Intersection	Movement	Peak Hour	Storage	Queue Length
28. Carroll Canyon Rd. / I-805 Direct Access Ramps	EBL	AM	250'	0'
		PM		20'
	WBL	AM	400'	40'
		PM		220'
	NBL	AM	415'	60'
		PM		20'
29. Carroll Canyon Rd. / Scranton Rd.	EBL	AM	120'	90'
		PM		60'
	WBR	AM	190'	50'
		PM		60'
	SBL	AM	90'	<b>100'</b>
		PM		80'

*General Notes:*

1. 95th percentile queues reported. Queues are rounded up to the nearest 10 feet.
2. Bolded and shaded indicates that the 95<sup>th</sup> percentile queue exceeds the storage length.

**TABLE 5-3  
EXISTING STREET SEGMENT OPERATIONS**

<b>Street Segment</b>	<b>Functional Classification</b>	<b>Capacity (LOS E) <sup>a</sup></b>	<b>ADT <sup>b</sup></b>	<b>LOS <sup>c</sup></b>	<b>V/C <sup>d</sup></b>
<b>Sorrento Valley Boulevard</b> Roselle Street to Vista Sorrento Parkway	4-Lane Collector (with two-way left-turn)	30,000	18,470	C	0.616
<b>Lusk Boulevard</b> Vista Sorrento Parkway to Wateridge Circle	4-Lane Major Arterial	40,000	11,330	A	0.283
Wateridge Circle to Pacific Center Boulevard	4-Lane Major Arterial	40,000	11,330	A	0.283
Pacific Center Boulevard to Barnes Canyon Road	4-Lane Major Arterial	40,000	10,630	A	0.266
Barnes Canyon Road to Mira Mesa Boulevard	4-Lane Major Arterial	40,000	11,070	A	0.277
<b>Barnes Canyon Road</b> Scranton Road to Lusk Boulevard	2-Lane Collector (without two-way left-turn)	8,000	7,340	E	0.918
<b>Scranton Road</b> Barnes Canyon Road to Mira Sorrento Place	2-Lane Collector (without two-way left-turn)	8,000	10,870	F	1.359
<b>Mira Sorrento Place</b> Vista Sorrento Parkway to Scranton Road	4-Lane Collector (with two-way left-turn)	30,000	10,150	B	0.338
<b>Pacific Heights Boulevard</b> Barnes Canyon Road to Mira Mesa Boulevard	4-Lane Major Arterial	40,000	16,780	B	0.420
<b>Mira Mesa Boulevard</b> Vista Sorrento Parkway to Scranton Road	7-Lane Prime Arterial	87,000 <sup>e</sup>	60,870	C	0.700
Scranton Road to Lusk Boulevard	6-Lane Prime Arterial	60,000	47,870	C	0.798
Pacific Heights Boulevard to Flanders Drive	6-Lane Prime Arterial	60,000	41,340	C	0.689
Flanders Drive to Camino Santa Fe	6-Lane Prime Arterial	60,000	41,680	C	0.695
Camino Santa Fe to Parkdale Avenue	6-Lane Major Arterial	50,000	47,290	E	0.946
Parkdale Avenue to Reagan Road	6-Lane Major Arterial	50,000	51,330	F	1.027

**TABLE 5-3  
EXISTING STREET SEGMENT OPERATIONS**

Street Segment	Functional Classification	Capacity (LOS E) <sup>a</sup>	ADT <sup>b</sup>	LOS <sup>c</sup>	V/C <sup>d</sup>
<b>Mira Mesa Boulevard</b>					
Reagan Road to Camino Ruiz	6-Lane Major Arterial	50,000	45,330	E	0.907
Camino Ruiz to New Salem Street (Marauder Way)	6-Lane Major Arterial	50,000	31,560	C	0.631
New Salem Street (Marauder Way) to Westonhill Drive	6-Lane Major Arterial	50,000	57,450	F	1.149
Westonhill Drive to Greenford Drive	6-Lane Major Arterial	50,000	57,200	F	1.144

**Footnotes:**

- a. Capacities based on City of San Diego San Diego Roadway Classification Table.
- b. Average Daily Traffic Volumes.
- c. Level of Service.
- d. Volume to Capacity.
- e. Capacity per the City of San Diego Mira Mesa Community Plan Update: Existing Mobility Conditions Report, which accounts for auxiliary lanes on this segment.

## 6.0 TRIP GENERATION/DISTRIBUTION/ASSIGNMENT

The section below provides a detailed description of the Project's trip generation.

### 6.1 Trip Generation

The Project proposes the demolition of the six (6) existing buildings and construction of approximately 1,283,190 sf of R&D space and 30,000 sf of site-serving amenity space (such as gym facilities, bike facilities, large conference hall, public art, information and welcoming hub, coffee shop, and restaurant). The amenity space will be available for tenant use only and therefore is considered an ancillary use not generating additional trips. Based on the proposed land use type, the rates for "Research and Development" found in the City of San Diego *Trip Generation Manual (May 2003)* were used to calculate the trip generation for the proposed Project. Driveway counts were conducted at the existing driveways of the Project site on Wednesday, May 4, 2022, to calculate the trip credit taken for the existing land uses that will be replaced by the Project. *Appendix C* contains the driveway counts.

*Table 6-1* summarizes the Project's estimated trip generation. As shown in *Table 6-1*, the Project is estimated to generate approximately 9,186 net new ADT with 1,579 AM peak hour trips (1,419 inbound/ 160 outbound) and 1,340 PM peak hour trips (117 inbound/ 1,223 outbound).

### 6.2 Trip Distribution/Assignment

The Project trip distribution was developed based on a SANDAG Series 14 ABM 2+ Base Year 2016 Select Zone Assignment conducted for the Project site (see *Appendix E*). The existing roadway network and travel patterns, and the anticipated travel patterns to and from the Project site were also considered. *Figure 6-1* shows the Project trip distribution percentages. *Figure 6-2* shows the Project traffic volumes.



**TABLE 6-1  
PROJECT TRIP GENERATION**

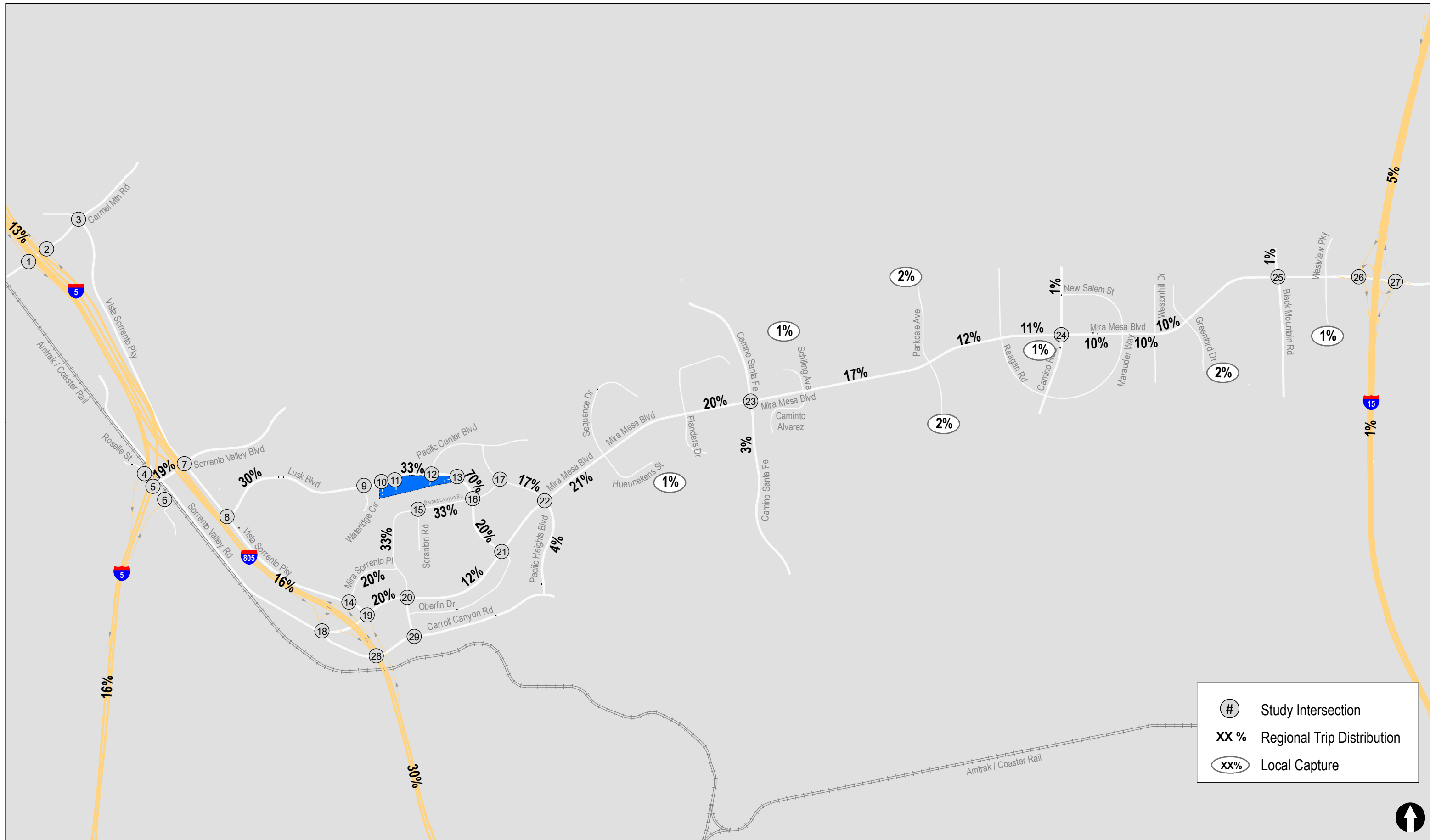
Land Use	Quantity		Daily Trip Ends (ADT)		AM Peak Hour					PM Peak Hour				
			Rate <sup>a</sup>	Volume	% of ADT	In:Out Split	Volume			% of ADT	In:Out Split	Volume		
							In	Out	Total			In	Out	Total
<b>Proposed Uses</b>														
Research and Development	1,283.190	KSF	8 /KSF	10,266	16%	90:10	1,479	164	1,643	14%	10:90	144	1,294	1,438
<b>Existing Uses to be removed</b>														
Existing Site <sup>b</sup>				1,080			60	4	64			27	71	98
<b>Net New Trips</b>				<b>9,186</b>			<b>1,419</b>	<b>160</b>	<b>1,579</b>			<b>117</b>	<b>1,223</b>	<b>1,340</b>

**Footnotes:**

- a. Trip rates from *Trip Generation Manual*, City of San Diego, May 2003.
- b. 24-hour counts were conducted at the existing driveways of the Project site to determine the existing trip credit. *Appendix C* includes the existing counts at the Project driveways.

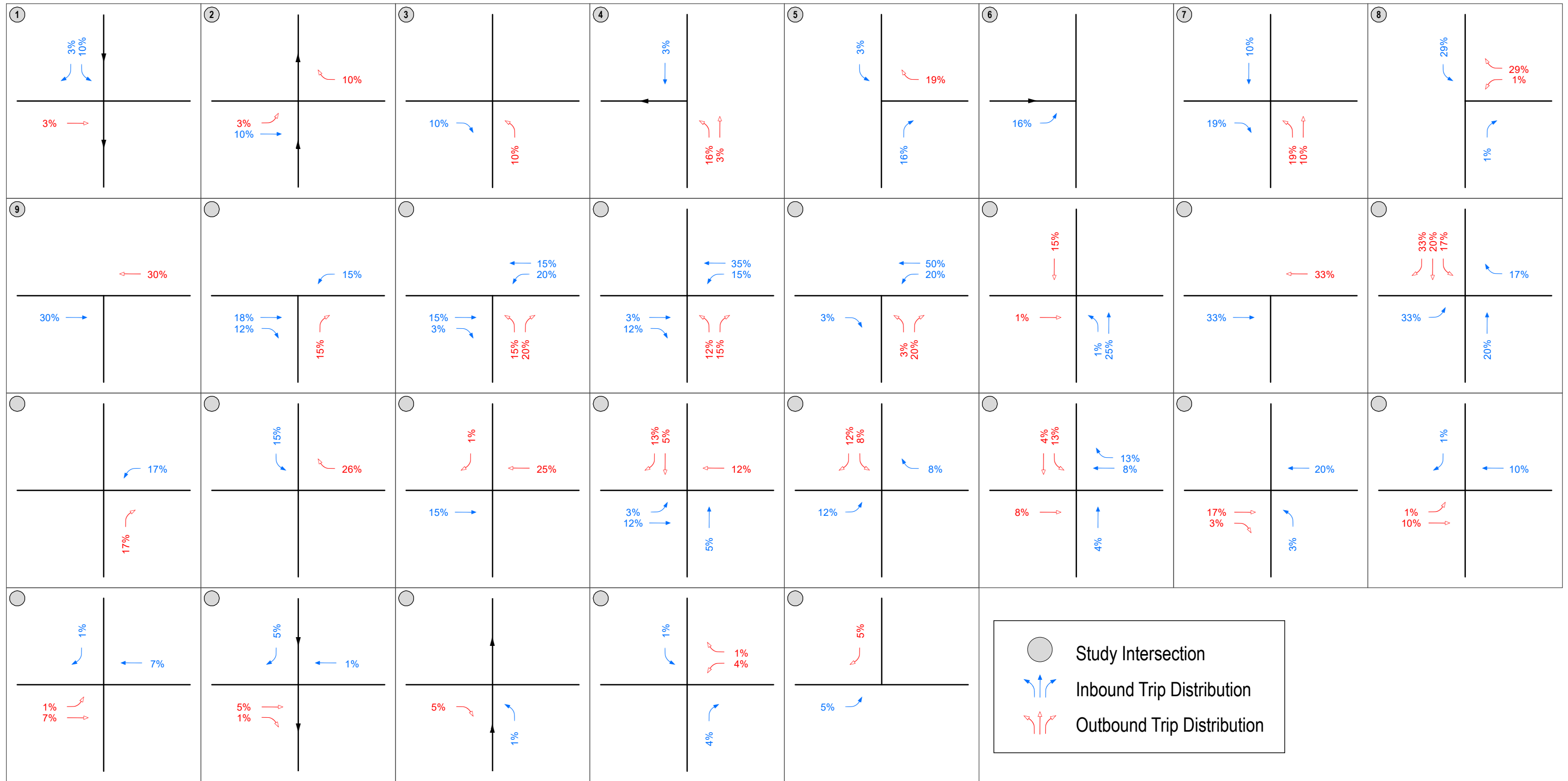
**General Notes:**

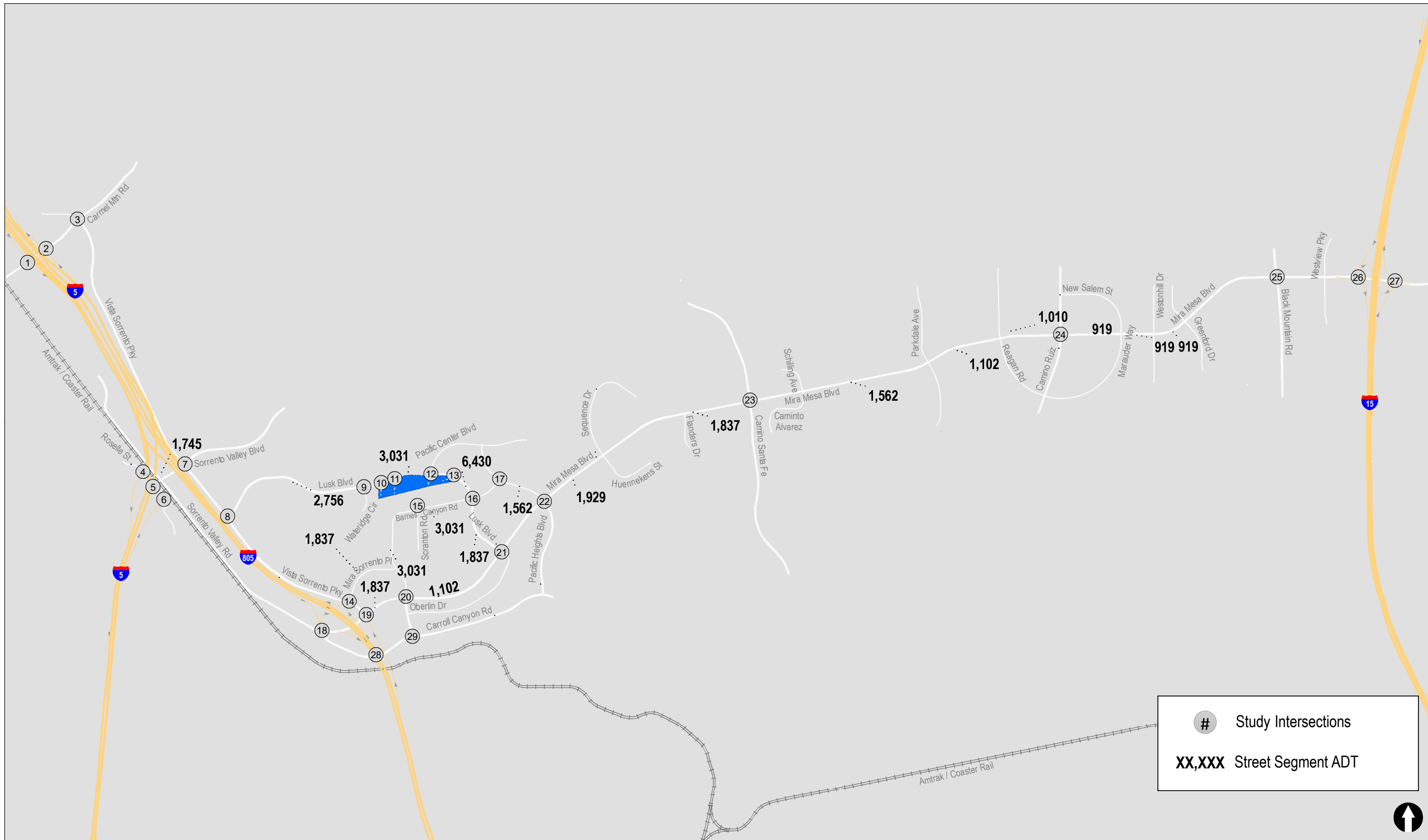
1. KSF - 1,000 Square Feet.
2. The site-serving amenity space of 30,000 SF is proposed for tenant use only and considered an ancillary use to the primary use (i.e., Research and Development). Therefore, the trip generation for the amenity space is not required or included.

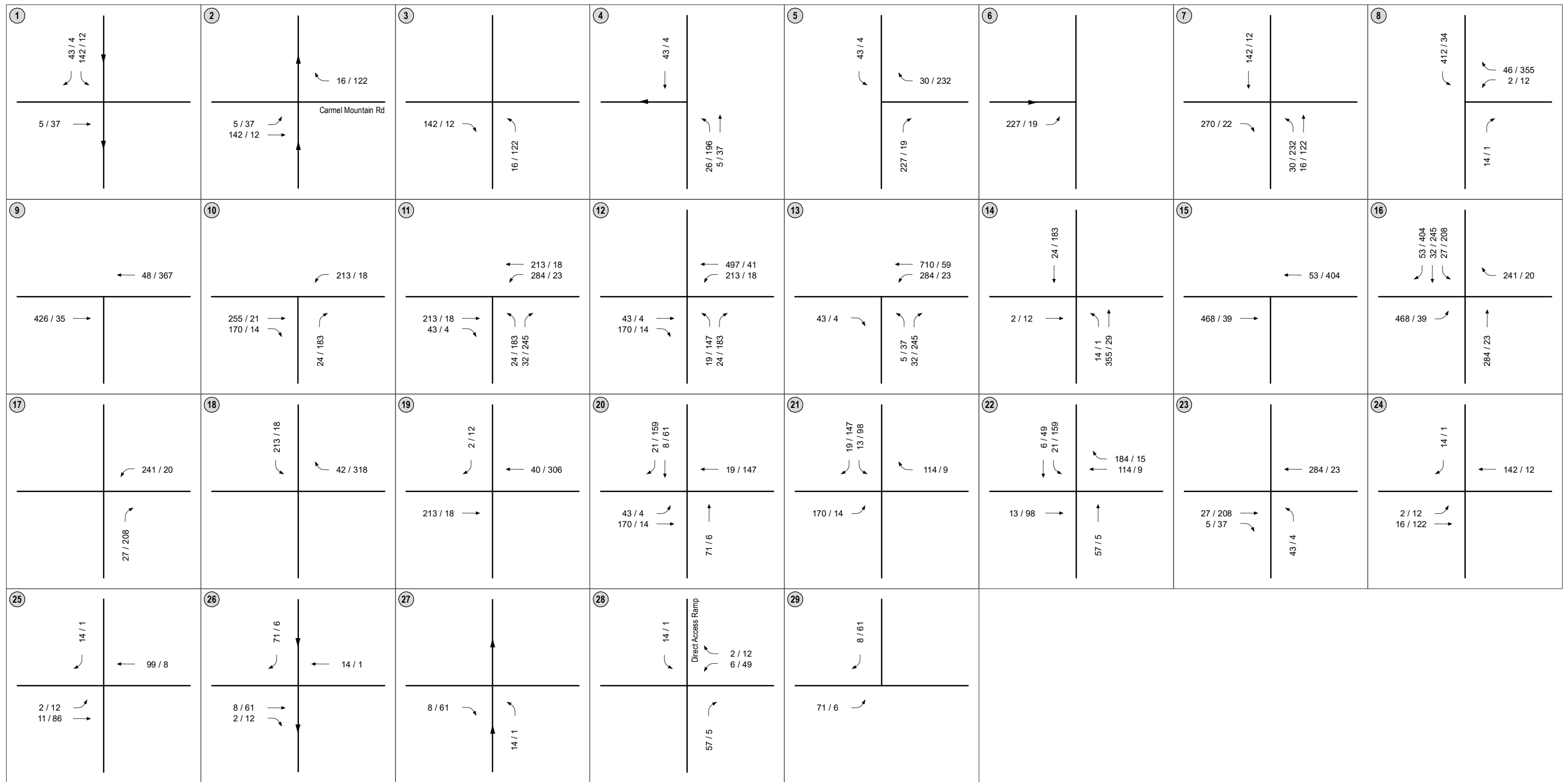


#	Study Intersection
XX %	Regional Trip Distribution
XX%	Local Capture









# Study Intersections  
 Intersection AM/PM Peak Hour Volumes



## 7.0 CUMULATIVE PROJECTS

“Cumulative” projects are other projects in the study area that are expected to be constructed and occupied by the Project’s expected Opening Year in Year 2027, thus adding traffic to the local circulation system. LLG researched ongoing cumulative projects in the study area that could be constructed and generating traffic in the study area vicinity by the expected Opening Year of the Project in Year 2027. Based on this research, 20 cumulative projects are planned nearby that could add to traffic to study area intersections and street segments in the Opening Year 2027) scenarios. *Table 7-1* contains the list of cumulative projects.

**TABLE 7-1  
CUMULATIVE PROJECTS – OPENING YEAR 2027**

Project Name	Type of Development	Project Size	ADT	AM		PM	
				In	Out	In	Out
1. 3 Roots PTS 587128	Condominiums	643 DU	5,144	83	329	360	154
	Apartments	609 DU	3,654	58	234	230	99
	Single-Family Detached Units	548 DU	5,480	88	350	384	164
	Ground Floor Retail	16,000 SF	576	10	7	26	26
	Food/Beverages	86,400 SF	8,986	359	360	431	288
	Retail - Neighborhood	20,700 SF	1,490	36	24	82	82
	Services - Specialty Retail	9,600 SF	346	6	4	16	16
	Office	23,460 SF	564	66	7	16	63
	Mobility Hub Commercial	4,000 SF	144	3	2	6	6
	Developed Park	25.4 acres	1,270	26	25	51	51
	Net Project Cumulative Trips		26,209	713	1,268	1,504	904
2. Stone Creek (Phase 1) <sup>a</sup> PTS 67943	Light Industrial	165,000 SF	2,475	245	27	59	238
3. Carroll Canyon Life Sciences Project	Research and Development	1,117,050 SF	8,936	1,287	143	125	1,126
4. Longfellow Barnes Canyon Road	Research and Development	479,160 SF	3,681	469	52	46	410
	(Commercial Office)	(113,466 SF)	(1,784)	(186)	(20)	(44)	(177)

**TABLE 7-1  
CUMULATIVE PROJECTS – OPENING YEAR 2027**

Project Name	Type of Development	Project Size	ADT	AM		PM	
				In	Out	In	Out
5. Longfellow Sorrento Tech	Research and Development	731,808 SF	5,621	716	80	70	627
	(Research and Development)	(93,483 SF)	(718)	(92)	(10)	(9)	(80)
6. Casa Mira View <sup>b</sup> Project # 91647, 264497, and 703832	Residential	2,167 DU	13,002	208	832	819	351
7. Carroll Canyon Commercial Center PTS 240716	Commercial	144,000 SF	7,056	127	85	353	353
8. Torrey Pines Business Park PRJ 1062427	Research and Development	370,000 SF	2,842	363	40	35	317
	(Business Park)	(112,976 SF)	(2,157)	(118)	(123)	(84)	(124)
9. Agora PTS 697314	Research and Development	492,419 SF	3,781	52	535	47	421
10. Bakery Sorrento Cannabis Outlet PTS 665588	Cannabis Outlet	5,412 SF	1,353	61	61	109	108
11. Headquarters Point PTS 669831	Research and Development	226,000 SF	1,808	260	29	25	228
12. Enclave Project PRJ 1070661	Research and Development	300,000 SF	2,400	346	38	34	302
13. 10509 Vista Sorrento Parkway PRJ 1062368	Research and Development	78,000 SF	624	90	10	9	78
14. San Diego Technology Center PTS 1689	Research and Development	1,204,253 SF	14,339	1,378	275	344	1,377
15. Sorrento Valley Road Storage PTS 653016	Storage	208,305 SF	417	13	13	19	19
16. Telesis	Research and Development	395,000 SF	3,160	455	51	44	398
17. Cannabis 21+ Amendment CUP CDP PTS 696758	Cannabis Outlet	5,480 SF	501	23	22	40	40

**TABLE 7-1  
CUMULATIVE PROJECTS – OPENING YEAR 2027**

Project Name	Type of Development	Project Size	ADT	AM		PM	
				In	Out	In	Out
18. Torrey Pines U-STOR-IT PTS 697502	Storage	166,313 SF	333	10	10	15	15
19. Torrey Holistics CO CUP PTS 678100	Cannabis Outlet	946 SF	237	11	10	19	19
20. Digit Vista Sorrento PTS 695725	Research and Development	116,000 SF	928	133	15	13	117

**Footnotes:**

- a. Stone Creek is still under review. If Stone Creek is approved in the near future, only Phase 1 is anticipated to be built by Year 2027.
- b. 1,620 DU were constructed and occupied in 2018 (when the existing traffic counts were conducted); a total of 1,848 DU were constructed and occupied as of 2023. At buildout, there will be a total of 2,167 DU. 1,620 DU are accounted for in the Existing (Oct/Nov 2018) counts. Although 547 DU (2,167 total DU at buildout minus 1,620 DU that are accounted for in the 2018 traffic counts) remain to be constructed, to be conservative, 1,848 DU were assumed in the Opening Year analysis.

**General Notes:**

1. ( ) – Demolition and reduction in trips.



## 8.0 OPENING YEAR 2027 ANALYSIS

The following section presents the analysis of study area locations under Opening Year 2027 conditions.

### 8.1 Opening Year 2027 Auto Conditions and Traffic Volumes

For the purposes of this study, consistent with the Mira Mesa Community Plan, no roadway network changes were assumed in the Opening Year 2027.

The Opening Year 2027 without Project forecast volumes were calculated by adding the volumes generated by the fifteen (15) cumulative projects discussed in Section 7.0 to the existing traffic volumes.

*Figure 8-1* shows the Opening Year 2027 traffic volumes. *Figure 8-2* shows the Opening Year 2027 + Project traffic volumes.

#### 8.1.1 Peak Hour Intersection Operations

*Table 8-1* summarizes the peak hour intersection operations for the Opening Year 2027 Without Project condition. As seen in *Table 8-1*, the following intersections are calculated to operate at LOS E or LOS F:

- #5: Roselle Street / Sorrento Valley Boulevard (LOS F during both the AM and PM peak hours)
- #6: Roselle Street / I-5 Northbound Off-Ramp (LOS F during the AM peak hour)
- #7: Vista Sorrento Parkway / Sorrento Valley Boulevard (LOS F during both the AM and PM peak hours)
- #14: Vista Sorrento Parkway / Mira Sorrento Place / I-805 Northbound Ramps (LOS F during both the AM and PM peak hours)
- #16: Lusk Boulevard / Barnes Canyon Road (LOS F during the PM peak hour)
- #19: Mira Mesa Boulevard / Vista Sorrento Parkway / I-805 Northbound Off-Ramp (LOS F during both the AM and PM peak hours)
- #20: Mira Mesa Boulevard / Scranton Road (LOS F during the AM peak hour and LOS E during the PM peak hour)
- #22: Mira Mesa Boulevard / Pacific Heights Boulevard (LOS F during the PM peak hour)
- #23: Mira Mesa Boulevard / Camino Santa Fe (LOS F during both the AM and PM peak hours)
- #24: Mira Mesa Boulevard / Camino Ruiz (LOS F during the AM peak hour and LOS E during the PM peak hour)
- #25: Mira Mesa Boulevard / Black Mountain Road (LOS F during the AM peak hour and LOS E during the PM peak hour)

- #26: Mira Mesa Boulevard / I-15 Southbound Ramps (LOS E during both the AM and PM peak hours)

**Table 8–2** summarizes the peak hour queuing for the study intersection turning movements that meet the criteria discussed in Section 3.4 under the Opening Year 2027 Without Project condition. The queues at the following intersections are expected to exceed the storage capacity:

- #1: Carmel Mountain Road / I-5 Southbound Ramps (WBL – AM/PM peak; SBL – AM/PM peak; SBR – AM/PM peak)
- #2: Carmel Mountain Road / I-5 Northbound Ramps (EBL – PM peak; WBR – PM peak)
- #3: Carmel Mountain Road / Vista Sorrento Parkway / Torrey View Court (EBR – AM peak; WBL – AM/PM peak; SBL – AM/PM peak; SBT/R – AM/PM peak)
- #5: Roselle Street / Sorrento Valley Boulevard (WBL – AM/PM peak)
- #6: Roselle Street / I-5 Northbound Off-Ramp (EBR – AM peak)
- #7: Sorrento Valley Boulevard / Vista Sorrento Parkway (EBL – PM peak; WBL – AM/PM peak; NBL – PM peak; SBL – AM/PM peak; SBR – AM/PM peak)
- #8: Lusk Boulevard / Vista Sorrento Parkway (WBR – PM peak; SBL – AM peak)
- #14: Vista Sorrento Parkway / Mira Sorrento Place / I-805 Northbound Ramps (EBL – PM peak; NBL – AM/PM peak; NBR – AM peak; SBL – PM peak)
- #16: Barnes Canyon Road / Lusk Boulevard (EBL – AM/PM peak; EBT/R – AM/PM peak; NBL – AM peak; SBL – AM/PM peak)
- #18: Sorrento Valley Road / Carroll Canyon Road / I-805 Southbound Ramps (NBR – PM peak; SBL – AM/PM peak)
- #19: Mira Mesa Boulevard / Vista Sorrento Parkway / I-805 Northbound Off-Ramp (EBL – AM peak; NBR – AM peak)
- #20: Mira Mesa Boulevard / Scranton Road (EBL – AM peak; WBL – PM peak; SBL – AM/PM peak)
- #21: Mira Mesa Boulevard / Lusk Boulevard / Oberlin Drive (EBL – AM peak; SBL – PM peak)
- #22: Mira Mesa Boulevard / Pacific Heights Boulevard (EBL – AM/PM peak; WBL – AM/PM peak; NBL – AM/PM peak; NBR – PM peak; SBL – PM peak)
- #23: Mira Mesa Boulevard / Camino Santa Fe (EBL – PM peak; WBL – AM/PM peak; NBL – AM/PM peak; SBL – PM peak)
- #24: Mira Mesa Boulevard / Camino Ruiz (EBL – PM peak; WBL – AM/PM peak; WBR – AM/PM peak; NBL – PM peak; NBR – AM/PM peak; SBL – AM/PM peak)
- #25: Mira Mesa Boulevard / Black Mountain Road (EBL – AM/PM peak; EBR – AM/PM peak; WBL – AM/PM peak; NBL – AM/PM peak; NBR – PM peak; SBL – AM/PM peak; SBR – AM/PM peak)
- #26: Mira Mesa Boulevard / I-15 Southbound Ramps (SBR – AM/PM peak)

- #27: Mira Mesa Boulevard / I-15 Northbound Ramps (WBR – AM/PM peak)
- #29: Carroll Canyon Road / Scranton Road (EBL – AM peak; SBL – AM/PM peak)

*Appendix F* contains the intersection analysis worksheets for the Opening Year 2027 scenario.

### 8.1.2 Daily Street Segment Operations

*Table 8–3* summarizes the daily street segment operations for the Opening Year 2027 Without Project. As seen in *Table 8–3*, the following street segments are calculated to operate at LOS E or LOS F:

- Barnes Canyon Road between Scranton Road and Lusk Boulevard (LOS F)
- Scranton Road between Barnes Canyon Road and Mira Sorrento Place (LOS F)
- Mira Mesa Boulevard between Camino Santa Fe and Parkdale Avenue (LOS F)
- Mira Mesa Boulevard between Parkdale Avenue and Reagan Road (LOS F)
- Mira Mesa Boulevard between Reagan Road and Camino Ruiz (LOS E)
- Mira Mesa Boulevard between New Salem Street / Marauder Way to Westonhill Drive (LOS F)
- Mira Mesa Boulevard between Westonhill Drive and Greenford Drive (LOS F)

## 8.2 Opening Year 2027 + Project

### 8.2.1 Peak Hour Intersection Operations

*Table 8–1* summarizes the peak hour intersection operations for the Opening Year 2027 With Project condition. As seen in *Table 8–1*, with the addition of Project traffic, the following intersections are calculated to continue to operate at LOS E or LOS F:

- #5: Roselle Street / Sorrento Valley Boulevard (LOS F during both the AM and PM peak hours)
- #6: Roselle Street / I-5 Northbound Off-Ramp (LOS F during the AM peak hour)
- #7: Vista Sorrento Parkway / Sorrento Valley Boulevard (LOS F during both the AM and PM peak hours)
- #8: Vista Sorrento Parkway / Lusk Boulevard (LOS E during the PM peak hour)
- #12: Lusk Boulevard / Pacific Center Boulevard / Project Driveway #3 (LOS E during the PM peak hour)
- #14: Vista Sorrento Parkway / Mira Sorrento Place / I-805 Northbound Ramps (LOS F during both the AM and PM peak hours)
- #16: Barnes Canyon Road / Lusk Boulevard (LOS F during both the AM and PM peak hours)

- #19: Mira Mesa Boulevard / Vista Sorrento Parkway / I-805 Northbound Off-Ramp (LOS F during both the AM and PM peak hours)
- #20: Mira Mesa Boulevard / Scranton Road (LOS F during the AM peak hour and LOS E during the PM peak hour)
- #22: Mira Mesa Boulevard / Pacific Heights Boulevard (LOS F during the PM peak hour)
- #23: Mira Mesa Boulevard / Camino Santa Fe (LOS F during both the AM and PM peak hours)
- #24: Mira Mesa Boulevard / Camino Ruiz (LOS F during the AM peak hour and LOS E during the PM peak hour)
- #25: Mira Mesa Boulevard / Black Mountain Road (LOS F during the AM peak hour and LOS E during the PM peak hour)
- #26: Mira Mesa Boulevard / I-15 Southbound Ramps (LOS E during both the AM and PM peak hours)

*Table 8–2* summarizes the peak hour queuing for the study intersection turning movements that meet the criteria discussed in Section 3.4 under the Opening Year 2027 + Project condition. The queues at the following intersections are expected to exceed the storage capacity:

- #1: Carmel Mountain Road / I-5 Southbound Ramps (WBL – AM/PM peak; SBL – AM/PM peak; SBR – AM/PM peak)
- #2: Carmel Mountain Road / I-5 Northbound Ramps (EBL – PM peak; WBR – PM peak)
- #3: Carmel Mountain Road / Vista Sorrento Parkway / Torrey View Court (EBR – AM peak; WBL – AM/PM peak; SBL – AM/PM peak; SBT/R – AM/PM peak)
- #5: Roselle Street / Sorrento Valley Boulevard (WBL – AM/PM peak)
- #6: Roselle Street / I-5 Northbound Off-Ramp (EBR – AM peak)
- #7: Sorrento Valley Boulevard / Vista Sorrento Parkway (EBL – PM peak; WBL – AM/PM peak; NBL – PM peak; SBL – AM/PM peak; SBR – AM/PM peak)
- #8: Lusk Boulevard / Vista Sorrento Parkway (WBR – PM peak; SBL – AM peak)
- #14: Vista Sorrento Parkway / Mira Sorrento Place / I-805 Northbound Ramps (EBL – PM peak; NBL – AM/PM peak; NBR – AM peak; SBL – PM peak)
- #16: Barnes Canyon Road / Lusk Boulevard (EBL – AM/PM peak; EBT/R – AM/PM peak; NBL – AM peak; SBL – AM/PM peak)
- #18: Sorrento Valley Road / Carroll Canyon Road / I-805 Southbound Ramps (NBR – PM peak; SBL – AM/PM peak)
- #19: Mira Mesa Boulevard / Vista Sorrento Parkway / I-805 Northbound Off-Ramp (EBL – AM peak; NBR – AM peak)
- #20: Mira Mesa Boulevard / Scranton Road (EBL – AM peak; WBL – PM peak; SBL – AM/PM peak)

- #21: Mira Mesa Boulevard / Lusk Boulevard / Oberlin Drive (EBL – AM peak; SBL – PM peak)
- #22: Mira Mesa Boulevard / Pacific Heights Boulevard (EBL – AM/PM peak; WBL – AM/PM peak; NBL – AM/PM peak; NBR – PM peak; SBL – PM peak)
- #23: Mira Mesa Boulevard / Camino Santa Fe (EBL – PM peak; WBL – AM/PM peak; NBL – AM/PM peak; SBL – PM peak)
- #24: Mira Mesa Boulevard / Camino Ruiz (EBL – PM peak; WBL – AM/PM peak; WBR – AM/PM peak; NBL – PM peak; NBR – AM/PM peak; SBL – AM/PM peak)
- #25: Mira Mesa Boulevard / Black Mountain Road (EBL – AM/PM peak; EBR – AM/PM peak; WBL – AM/PM peak; NBL – AM/PM peak; NBR – PM peak; SBL – AM/PM peak; SBR – AM/PM peak)
- #26: Mira Mesa Boulevard / I-15 Southbound Ramps (SBR – AM/PM peak)
- #27: Mira Mesa Boulevard / I-15 Northbound Ramps (WBR – AM/PM peak)
- #29: Carroll Canyon Road / Scranton Road (EBL – AM peak; SBL – AM/PM peak)

*Appendix G* contains the intersection analysis worksheets for the Opening Year 2027 + Project scenario.

### 8.2.2 Daily Street Segment Operations

*Table 8–3* summarizes the daily street segment operations for the Opening Year 2027 With Project. As seen in *Table 8–3*, with the addition of Project traffic, the following street segments are calculated to continue to operate at LOS E or LOS F:

- Barnes Canyon Road between Scranton Road and Lusk Boulevard (LOS F)
- Scranton Road between Barnes Canyon Road and Mira Sorrento Place (LOS F)
- Mira Mesa Boulevard between Camino Santa Fe and Parkdale Avenue (LOS F)
- Mira Mesa Boulevard between Parkdale Avenue and Reagan Road (LOS F)
- Mira Mesa Boulevard between Reagan Road and Camino Ruiz (LOS E)
- Mira Mesa Boulevard between New Salem Street / Marauder Way to Westonhill Drive (LOS F)
- Mira Mesa Boulevard between Westonhill Drive and Greenford Drive (LOS F)

### 8.2.3 Intersection Turn Lane Evaluation

The need for left-turn and right-turn lanes at the signalized study intersections were evaluated per the criteria identified in the *City of San Diego Transportation Study Manual (TSM)*, dated September 29, 2020. The turn lane evaluation was performed for the following signalized study area intersections:

1. Carmel Mountain Road / I-5 Southbound Ramps
2. Carmel Mountain Road / I-5 Northbound Ramps
3. Carmel Mountain Road / Vista Sorrento Parkway (Torrey View Court)
4. Roselle Street / I-5 Southbound On-Ramp
7. Vista Sorrento Parkway / Sorrento Valley Boulevard
8. Vista Sorrento Parkway / Lusk Boulevard
9. Lusk Boulevard / Wateridge Circle
12. Lusk Boulevard / Pacific Center Boulevard (Project Driveway #3)
14. Vista Sorrento Parkway / Mira Sorrento Place (I-805 Northbound Ramps)
16. Barnes Canyon Road / Lusk Boulevard
17. Barnes Canyon Road / Pacific Heights Boulevard
18. Sorrento Valley Road / Carroll Canyon Road (I-805 Southbound Ramps)
19. Mira Mesa Boulevard / Vista Sorrento Parkway (I-805 Northbound Off-Ramp)
20. Mira Mesa Boulevard / Scranton Road
21. Mira Mesa Boulevard / Lusk Boulevard (Oberlin Drive)
22. Mira Mesa Boulevard / Pacific Heights Boulevard
23. Mira Mesa Boulevard / Camino Santa Fe
24. Mira Mesa Boulevard / Camino Ruiz
25. Mira Mesa Boulevard / Black Mountain Road
26. Mira Mesa Boulevard / I-15 Southbound Ramps
27. Mira Mesa Boulevard / I-15 Northbound Ramps
28. Carroll Canyon Road / I-805 Direct Access Ramps (DAR)
29. Carroll Canyon Road / Scranton Road

**Table 8–4** summarizes the results of the turn lane evaluation for the signalized study area intersections listed above. As shown in **Table 8–4**, the addition of project traffic would result in the need to consider an additional dedicated left-turn or right-turn lane at the following signalized study area intersections:

- #1: Carmel Mountain Road / I-15 Southbound Ramps (SBL)
- #2: Carmel Mountain Road / I-15 Northbound Ramps (EBL and WBR)

- #7: Vista Sorrento Parkway / Sorrento Valley Boulevard (EBR, WBL, NBL, NBR and SBL)
- #8: Lusk Boulevard / Vista Sorrento Parkway (WBL)
- #12: Lusk Boulevard / Pacific Center Boulevard (NBL and SBL)
- #14: Vista Sorrento Parkway / Mira Sorrento Place (I-805 Northbound Ramps) (NBL and SBL)
- #16: Barnes Canyon Road / Lusk Boulevard (EBL, SBL and SBR)
- #19: Mira Mesa Boulevard / Vista Sorrento Parkway (I-805 Northbound Off-Ramp) (WBR)
- #20: Mira Mesa Boulevard / Scranton Road (EBR)
- #21: Mira Mesa Boulevard / Lusk Boulevard / Oberlin Drive (WBR)
- #22: Mira Mesa Boulevard / Pacific Heights Boulevard (EBL, WBL and WBR)
- #23: Mira Mesa Boulevard / Camino Santa Fe (WBL)
- #26: Mira Mesa Boulevard / I-15 Southbound Ramps (WBR)
- #27: Mira Mesa Boulevard / I-15 Northbound Ramps (EBR)
- #29: Carroll Canyon Road / Scranton Road (SBL)

**TABLE 8-1  
OPENING YEAR 2027 INTERSECTION OPERATIONS**

Intersection	Control Type	Peak Hour	Opening Year 2027		Opening Year 2027 + Project		Δ <sup>c</sup>
			Delay <sup>a</sup>	LOS <sup>b</sup>	Delay	LOS	
1. Carmel Mountain Road / I-5 Southbound Ramps	Signal	AM	44.9	D	45.1	D	0.2
		PM	42.3	D	42.6	D	0.3
2. Carmel Mountain Road / I-5 Northbound Ramps	Signal	AM	16.1	B	16.3	B	0.2
		PM	44.7	D	45.8	D	1.1
3. Carmel Mountain Road / Vista Sorrento Parkway (Torrey View Court)	Signal	AM	54.4	D	54.9	D	0.5
		PM	38.2	D	39.5	D	1.3
4. Roselle Street / I-5 Southbound On-Ramp	Signal	AM	6.0	A	6.1	A	0.1
		PM	11.0	B	12.9	B	1.9
5. Roselle Street / Sorrento Valley Boulevard	TWSC <sup>d</sup>	AM	>500.0	F	>500.0	F	>100.0
		PM	246.4	F	304.0	F	57.6
6. Roselle Street / I-5 Northbound Off-Ramp	AWSC <sup>e</sup>	AM	170.7	F	249.1	F	78.4
		PM	21.2	C	22.3	C	1.1
7. Vista Sorrento Parkway / Sorrento Valley Boulevard	Signal	AM	156.7	F	163.5	F	6.8
		PM	153.2	F	158.7	F	5.5
8. Vista Sorrento Parkway / Lusk Boulevard	Signal	AM	31.6	C	42.6	D	11.0
		PM	37.8	D	61.0	E	23.2
9. Lusk Boulevard / Wateridge Circle	Signal	AM	6.3	A	8.0	A	1.7
		PM	5.3	A	5.6	A	0.3
10. Lusk Boulevard / Project Driveway #1	OWSC <sup>f</sup>	AM	0.0	A	18.9	C	18.9
		PM	0.0	A	11.5	B	11.5
11. Lusk Boulevard / Project Driveway #2	OWSC	AM	0.0	A	34.8	D	34.8
		PM	0.0	A	30.3	D	30.3
12. Lusk Boulevard / Pacific Center Boulevard (Project Driveway #3)	Signal	AM	23.6	C	37.4	D	13.8
		PM	18.2	B	57.0	E	38.8
13. Lusk Boulevard / Project Driveway #4	OWSC	AM	0.0	A	27.2	D	27.2
		PM	0.0	A	21.1	C	21.1
14. Vista Sorrento Parkway / Mira Sorrento Place (I-805 Northbound Ramps)	Signal	AM	147.1	F	149.4	F	2.3
		PM	124.0	F	144.5	F	20.5



**TABLE 8-1  
OPENING YEAR 2027 INTERSECTION OPERATIONS**

Intersection	Control Type	Peak Hour	Opening Year 2027		Opening Year 2027 + Project		Δ <sup>c</sup>
			Delay <sup>a</sup>	LOS <sup>b</sup>	Delay	LOS	
15. Barnes Canyon Road / Scranton Road	OWSC	AM	12.5	B	20.8	C	8.3
		PM	10.3	B	10.7	B	0.4
16. Barnes Canyon Road / Lusk Boulevard	Signal	AM	41.2	D	129.4	F	88.2
		PM	113.7	F	117.6	F	3.9
17. Barnes Canyon Road / Pacific Heights Boulevard	Signal	AM	32.7	C	34.6	C	1.9
		PM	29.9	C	46.9	D	17.0
18. Sorrento Valley Road / Carroll Canyon Road (I-805 Southbound Ramps)	Signal	AM	35.3	D	40.2	D	4.9
		PM	44.2	D	45.7	D	1.5
19. Mira Mesa Boulevard / Vista Sorrento Parkway (I-805 Northbound Off-Ramp)	Signal	AM	153.7	F	154.3	F	0.6
		PM	87.4	F	89.6	F	2.2
20. Mira Mesa Boulevard / Scranton Road	Signal	AM	88.2	F	123.6	F	35.4
		PM	59.6	E	67.2	E	7.6
21. Mira Mesa Boulevard / Lusk Boulevard (Oberlin Drive)	Signal	AM	23.7	C	26.2	C	2.5
		PM	42.0	D	44.4	D	2.4
22. Mira Mesa Boulevard / Pacific Heights Boulevard	Signal	AM	47.2	D	52.7	D	5.5
		PM	81.1	F	89.6	F	8.5
23. Mira Mesa Boulevard / Camino Santa Fe	Signal	AM	110.2	F	147.9	F	37.7
		PM	144.8	F	165.2	F	20.4
24. Mira Mesa Boulevard / Camino Ruiz	Signal	AM	83.3	F	94.8	F	11.5
		PM	68.4	E	71.6	E	3.2
25. Mira Mesa Boulevard / Black Mountain Road	Signal	AM	91.6	F	100.8	F	9.2
		PM	68.9	E	69.0	E	0.1
26. Mira Mesa Boulevard / I-15 Southbound Ramps	Signal	AM	55.1	E	55.6	E	0.5
		PM	57.4	E	62.4	E	5.0
27. Mira Mesa Boulevard / I-15 Northbound Ramps	Signal	AM	23.9	C	24.2	C	0.3
		PM	20.3	C	21.6	C	1.3
28. Carroll Canyon Road / I-805 Direct Access Ramp (DAR)	Signal	AM	8.2	A	9.9	A	1.7
		PM	14.8	B	16.1	B	1.3

**TABLE 8-1  
OPENING YEAR 2027 INTERSECTION OPERATIONS**

Intersection	Control Type	Peak Hour	Opening Year 2027		Opening Year 2027 + Project		$\Delta^c$
			Delay <sup>a</sup>	LOS <sup>b</sup>	Delay	LOS	
29. Carroll Canyon Road / Scranton Road	Signal	AM	12.9	B	14.1	B	1.2
		PM	14.6	B	15.5	B	0.9

**Footnotes:**

- a. Average delay expressed in seconds per vehicle.
- b. Level of Service.
- c.  $\Delta$  denotes the project-induced increase in delay.
- d. Two-Way Stop Control. Worst case movement delay is reported.
- e. All-Way Stop Control.
- f. One-Way Stop Control. Worst case movement delay is reported.

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

**TABLE 8-2  
OPENING YEAR 2027 INTERSECTION QUEUE ANALYSIS**

Intersection	Movement	Peak Hour	Opening Year 2027		Opening Year 2027 + Project	
			Storage	Queue Length	Storage	Queue Length
1. Carmel Mountain Rd. / I-5 SB Ramps	EBR	AM	315'	40'	315'	110'
		PM		90'		130'
	WBL	AM	190'	<b>250'</b>	190'	<b>250'</b>
		PM		<b>230'</b>		<b>230'</b>
	SBL	AM	300'	<b>370'</b>	300'	<b>390'</b>
		PM		<b>360'</b>		<b>390'</b>
SBR	AM	390'	<b>480'</b>	390'	<b>550'</b>	
	PM		<b>400'</b>		<b>450'</b>	
2. Carmel Mountain Rd. / I-5 NB Ramps	EBL	AM	190'	170'	190'	180'
		PM		<b>220'</b>		<b>220'</b>
	WBR	AM	240'	140'	240'	140'
		PM		<b>320'</b>		<b>320'</b>
	NBL	AM	265'	100'	265'	220'
		PM		160'		170'
NBR	AM	470'	150'	470'	360'	
	PM		260'		270'	
3. Carmel Mountain Rd. / Vista Sorrento Pkwy. (Torrey View Ct.)	EBL	AM	245'	40'	245'	40'
		PM		40'		40'
	EBR	AM	265'	<b>300'</b>	265'	<b>340'</b>
		PM		60'		60'
	WBL	AM	250'	<b>320'</b>	250'	<b>320'</b>
		PM		<b>310'</b>		<b>310'</b>
	WBR	AM	260'	80'	260'	80'
		PM		130'		130'
	NBL	AM	305'	100'	305'	100'
		PM		250'		270'
	NBR	AM	310'	70'	310'	70'
		PM		90'		90'
SBL	AM	115'	<b>180'</b>	115'	<b>190'</b>	
	PM		<b>180'</b>		<b>180'</b>	
SBT/R	AM	220'	<b>310'</b>	220'	<b>310'</b>	
	PM		<b>290'</b>		<b>290'</b>	
4. Roselle St. / I-5 SB On-Ramp	NBL	AM	400'	170'	400'	170'
		PM		220'		220'
5. Roselle St. / Sorrento Valley Blvd.	WBL	AM	90'	<b>120'</b>	90'	<b>120'</b>
		PM		<b>150'</b>		<b>150'</b>
6. Roselle St. / I-5 NB Off-Ramp	EBR	AM	195'	<b>320'</b>	195'	<b>330'</b>
		PM		60'		90'

**TABLE 8-2  
OPENING YEAR 2027 INTERSECTION QUEUE ANALYSIS**

Intersection	Movement	Peak Hour	Opening Year 2027		Opening Year 2027 + Project	
			Storage	Queue Length	Storage	Queue Length
7. Sorrento Valley Blvd. / Vista Sorrento Pkwy.	EBL	AM	265'	180'	265'	180'
		PM		<b>350'</b>		<b>350'</b>
	WBL	AM	225'	<b>350'</b>	225'	<b>350'</b>
		PM		<b>310'</b>		<b>310'</b>
	NBL	AM	250'	160'	250'	160'
		PM		<b>330'</b>		<b>330'</b>
	SBL	AM	125'	<b>200'</b>	125'	<b>200'</b>
		PM		<b>160'</b>		<b>160'</b>
SBR	AM	125'	<b>210'</b>	125'	<b>210'</b>	
	PM		<b>150'</b>		<b>160'</b>	
8. Lusk Blvd. / Vista Sorrento Pkwy.	WBR	AM	115'	50'	115'	60'
		PM		<b>170'</b>		<b>170'</b>
	WBL	AM	275'	100'	275'	110'
		PM		<b>390'</b>		<b>400'</b>
	SBL	AM	170'	<b>250'</b>	170'	<b>250'</b>
		PM		70'		80'
9. Lusk Blvd. / Wateridge Cir.	WBL	AM	155'	50'	155'	60'
		PM		50'		50'
	NBL	AM	100'	30'	100'	30'
		PM		20'		30'
12. Lusk Blvd. / Pacific Center Blvd. (Project Dwy. #3)	EBL	AM	240'	150'	240'	150'
		PM		50'		50'
	WBL	AM	150'	150'	150'	150'
		PM		20'		50'
14. Vista Sorrento Pkwy. / Mira Sorrento Pl. (I-805 NB Ramps)	EBL	AM	245'	180'	245'	180'
		PM		<b>290'</b>		<b>290'</b>
	NBL	AM	170'	<b>220'</b>	170'	<b>220'</b>
		PM		<b>220'</b>		<b>220'</b>
	NBR	AM	160'	<b>190'</b>	160'	<b>190'</b>
		PM		120'		120'
	SBL	AM	160'	90'	160'	90'
		PM		<b>240'</b>		<b>250'</b>
15. Barnes Canyon Rd. / Scranton Rd.	WBL	AM	75'	50'	75'	70'
		PM		20'		30'

**TABLE 8-2  
OPENING YEAR 2027 INTERSECTION QUEUE ANALYSIS**

Intersection	Movement	Peak Hour	Opening Year 2027		Opening Year 2027 + Project	
			Storage	Queue Length	Storage	Queue Length
16. Barnes Canyon Rd. / Lusk Blvd.	EBL	AM	155'	<b>180'</b>	155'	<b>190'</b>
		PM		<b>180'</b>		<b>190'</b>
	EBT/R	AM	155'	<b>160'</b>	155'	<b>180'</b>
		PM		<b>170'</b>		<b>190'</b>
	WBL	AM	130'	110'	130'	110'
		PM		110'		110'
	NBL	AM	100'	<b>140'</b>	100'	<b>150'</b>
		PM		50'		60'
	NBR	AM	210'	30'	210'	80'
		PM		40'		40'
SBL	AM	95'	<b>100'</b>	95'	<b>130'</b>	
	PM		<b>140'</b>		<b>140'</b>	
17. Barnes Canyon Rd. / Pacific Heights Blvd.	EBL	AM	115'	30'	115'	30'
		PM		70'		80'
	WBL	AM	210'	180'	210'	210'
		PM		110'		110'
	NBL	AM	150'	130'	150'	130'
		PM		80'		80'
18. Sorrento Valley Rd. / Carroll Canyon Rd. (I-805 SB Ramps)	EBR	AM	180'	70'	180'	70'
		PM		40'		60'
	WBL	AM	360'	40'	360'	40'
		PM		80'		80'
	NBL	AM	245'	100'	245'	100'
		PM		200'		220'
	NBR	AM	315'	20'	315'	20'
		PM		<b>470'</b>		<b>470'</b>
	SBL	AM	155'	<b>220'</b>	155'	<b>220'</b>
		PM		<b>220'</b>		<b>220'</b>
	SBT/R	AM	250'	210'	250'	210'
		PM		130'		130'
19. Mira Mesa Blvd. / Vista Sorrento Pkwy. (I-805 NB Off-Ramp)	EBL	AM	160'	<b>230'</b>	160'	<b>230'</b>
		PM		120'		120'
	NBR	AM	660'	<b>780'</b>	660'	<b>780'</b>
		PM		320'		320'
20. Mira Mesa Blvd. / Scranton Rd.	EBL	AM	380'	<b>390'</b>	380'	<b>390'</b>
		PM		170'		230'
	WBL	AM	340'	280'	340'	280'
		PM		<b>350'</b>		<b>430'</b>
	SBL	AM	120'	<b>130'</b>	120'	<b>170'</b>
		PM		<b>200'</b>		<b>200'</b>

**TABLE 8-2  
OPENING YEAR 2027 INTERSECTION QUEUE ANALYSIS**

Intersection	Movement	Peak Hour	Opening Year 2027		Opening Year 2027 + Project	
			Storage	Queue Length	Storage	Queue Length
21. Mira Mesa Blvd. / Lusk Blvd. (Oberlin Dr.)	EBL	AM	215'	270'	215'	280'
		PM		200'		210'
	WBL	AM	235'	150'	235'	150'
		PM		210'		210'
	NBL	AM	95'	40'	95'	40'
		PM		80'		90'
	NBR	AM	95'	40'	95'	50'
		PM		90'		90'
21. Mira Mesa Blvd. / Lusk Blvd. (Oberlin Dr.)	SBL	AM	185'	80'	185'	100'
		PM		250'		250'
22. Mira Mesa Blvd. / Pacific Heights Blvd.	EBL	AM	285'	350'	285'	350'
		PM		330'		330'
	WBL	AM	250'	330'	250'	330'
		PM		280'		300'
	NBL	AM	95'	110'	95'	120'
		PM		140'		140'
	NBR	AM	95'	70'	95'	90'
		PM		170'		170'
	SBL	AM	480'	160'	480'	160'
		PM		570'		570'
23. Mira Mesa Blvd. / Camino Santa Fe	EBL	AM	145'	80'	145'	80'
		PM		200'		200'
	WBL	AM	130'	210'	130'	210'
		PM		180'		180'
	NBL	AM	240'	300'	240'	300'
		PM		280'		320'
	SBL	AM	250'	190'	250'	190'
		PM		300'		300'
24. Mira Mesa Blvd. / Camino Ruiz	EBL	AM	190'	120'	190'	120'
		PM		260'		260'
	WBL	AM	200'	250'	200'	250'
		PM		260'		260'
	WBR	AM	190'	220'	190'	220'
		PM		250'		260'
	NBL	AM	230'	190'	230'	190'
		PM		310'		310'
	NBR	AM	100'	110'	100'	110'
		PM		130'		130'
	SBL	AM	225'	280'	225'	280'
		PM		280'		280'

**TABLE 8-2  
OPENING YEAR 2027 INTERSECTION QUEUE ANALYSIS**

Intersection	Movement	Peak Hour	Opening Year 2027		Opening Year 2027 + Project	
			Storage	Queue Length	Storage	Queue Length
25. Mira Mesa Blvd. / Black Mountain Rd.	EBL	AM	250'	<b>320'</b>	250'	<b>320'</b>
		PM		<b>340'</b>		<b>340'</b>
	EBR	AM	270'	<b>420'</b>	270'	<b>420'</b>
		PM		<b>390'</b>		<b>390'</b>
	WBL	AM	215'	<b>280'</b>	215'	<b>290'</b>
		PM		<b>280'</b>		<b>280'</b>
	NBL	AM	230'	<b>290'</b>	230'	<b>290'</b>
		PM		<b>310'</b>		<b>310'</b>
25. Mira Mesa Blvd. / Black Mountain Rd.	NBR	AM	260'	160'	260'	160'
		PM		<b>340'</b>		<b>340'</b>
	SBL	AM	390'	<b>520'</b>	390'	<b>530'</b>
		PM		<b>470'</b>		<b>480'</b>
	SBR	AM	245'	<b>310'</b>	245'	<b>310'</b>
		PM		<b>280'</b>		<b>280'</b>
26. Mira Mesa Blvd. / I-15 SB Ramps	SBL	AM	285'	130'	285'	130'
		PM		140'		170'
	SBR	AM	570'	<b>660'</b>	570'	<b>660'</b>
		PM		<b>580'</b>		<b>590'</b>
27. Mira Mesa Blvd. / I-15 NB Ramps	WBR	AM	100'	<b>180'</b>	100'	<b>180'</b>
		PM		<b>120'</b>		<b>130'</b>
	NBR	AM	565'	170'	565'	270'
		PM		190'		190'
28. Carroll Canyon Rd. / I-805 Direct Access Ramps	EBL	AM	250'	0'	250'	0'
		PM		20'		20'
	WBL	AM	400'	60'	400'	70'
		PM		240'		260'
	NBL	AM	415'	60'	415'	60'
		PM		20'		20'
29. Carroll Canyon Rd. / Scranton Rd.	EBL	AM	120'	<b>150'</b>	120'	<b>290'</b>
		PM		70'		70'
	WBR	AM	190'	60'	190'	60'
		PM		80'		80'
	SBL	AM	90'	<b>100'</b>	90'	<b>100'</b>
		PM		<b>100'</b>		<b>110'</b>

**General Notes:**

1. 95th percentile queues reported. Queues are rounded up to the nearest 10 feet.
2. Bolded and shaded indicates that the 95<sup>th</sup> percentile queue exceeds the storage length.

**TABLE 8-3  
OPENING YEAR 2027 STREET SEGMENT OPERATIONS**

Street Segment	Opening Year Functional Classification	Capacity (LOS E) <sup>a</sup>	Opening Year 2027			Opening Year 2027 + Project			Δ <sup>e</sup>
			ADT <sup>b</sup>	LOS <sup>c</sup>	V/C <sup>d</sup>	ADT	LOS	V/C	
<b>Sorrento Valley Boulevard</b> Roselle Street to Vista Sorrento Parkway	4-Lane Collector (with two-way left-turn)	30,000	23,205	D	0.774	24,950	D	0.832	0.058
<b>Lusk Boulevard</b> Vista Sorrento Parkway to Wateridge Circle	4-Lane Major Arterial	40,000	15,406	B	0.385	18,162	B	0.454	0.069
Wateridge Circle to Pacific Center Boulevard	4-Lane Major Arterial	40,000	14,430	A	0.361	17,461	B	0.437	0.076
Pacific Center Boulevard to Barnes Canyon Road	4-Lane Major Arterial	40,000	16,406	B	0.410	22,836	C	0.571	0.161
Barnes Canyon Road to Mira Mesa Boulevard	4-Lane Major Arterial	40,000	12,846	A	0.321	14,683	A	0.367	0.046
<b>Barnes Canyon Road</b> Scranton Road to Lusk Boulevard	2-Lane Collector (without two-way left-turn)	8,000	11,248	F	1.406	14,279	F	1.785	0.379
<b>Scranton Road</b> Barnes Canyon Road to Mira Sorrento Place	2-Lane Collector (without two-way left-turn)	8,000	14,923	F	1.865	17,954	F	2.244	0.379
<b>Mira Sorrento Place</b> Vista Sorrento Parkway to Scranton Road	4-Lane Collector (with two-way left-turn)	30,000	15,105	C	0.504	16,942	C	0.565	0.061



**TABLE 8-3  
OPENING YEAR 2027 STREET SEGMENT OPERATIONS**

Street Segment	Opening Year Functional Classification	Capacity (LOS E) <sup>a</sup>	Opening Year 2027			Opening Year 2027 + Project			$\Delta^e$
			ADT <sup>b</sup>	LOS <sup>c</sup>	V/C <sup>d</sup>	ADT	LOS	V/C	
<b>Pacific Heights Boulevard</b> Barnes Canyon Road to Mira Mesa Boulevard	4-Lane Major Arterial	40,000	19,832	B	0.496	21,394	C	0.535	0.039
<b>Mira Mesa Boulevard</b> Vista Sorrento Parkway to Scranton Road	7-Lane Prime Arterial	87,000	65,457	C	0.752	67,294	C	0.773	0.021
Scranton Road to Lusk Boulevard	6-Lane Prime Arterial	60,000	51,626	D	0.860	52,728	D	0.879	0.019
Pacific Heights Boulevard to Flanders Drive	6-Lane Prime Arterial	60,000	48,090	C	0.802	50,019	D	0.834	0.032
Flanders Drive to Camino Santa Fe	6-Lane Prime Arterial	60,000	47,401	C	0.790	49,238	C	0.821	0.031
Camino Santa Fe to Parkdale Avenue	6-Lane Major Arterial	50,000	52,266	F	1.045	53,828	F	1.077	0.032
Parkdale Avenue to Reagan Road	6-Lane Major Arterial	50,000	54,725	F	1.095	55,827	F	1.117	0.022
Reagan Road to Camino Ruiz	6-Lane Major Arterial	50,000	48,595	E	0.972	49,605	E	0.992	0.020
Camino Ruiz to New Salem Street (Marauder Way)	6-Lane Major Arterial	50,000	35,190	C	0.704	36,109	C	0.722	0.018
New Salem Street (Marauder Way) to Westonhill Drive	6-Lane Major Arterial	50,000	61,080	F	1.222	61,999	F	1.240	0.018
Westonhill Drive to Greenford Drive	6-Lane Major Arterial	50,000	60,961	F	1.219	61,880	F	1.238	0.019

**Footnotes:**

- a. Capacities based on City of San Diego Roadway Classification Table.
- b. Average Daily Traffic Volumes.
- c. Level of Service.
- d. Volume to Capacity.
- e.  $\Delta$  denotes the project-induced increase in delay.

**TABLE 8-4  
INTERSECTION TURN LANE EVALUATION**

Intersection	Lane / Movement	# of Lanes	Threshold	AM Peak Hour Volume		Δ	PM Peak Hour Volume		Δ
				Opening Year 2027	Opening Year 2027 + Project		Opening Year 2027	Opening Year 2027 + Project	
1. Carmel Mountain Rd / I-5 SB Ramps	EB right	1	800	41	41	-	88	88	-
	SB left	1 + shared	300	<b>824</b>	<b>966</b>	142	<b>528</b>	<b>540</b>	12
	SB right	1 + shared	800	609	652	43	240	244	4
2. Carmel Mountain Rd / I-5 NB Ramps	EB left	1	300	128	133	5	<b>656</b>	<b>693</b>	37
	WB right	1	800	568	584	16	737	<b>859</b>	122
	NB left	1 + shared	300	149	149	-	74	74	-
	NB right	1 + shared	800	348	348	-	535	535	-
3. Carmel Mountain Rd / Vista Sorrento Pkwy (Torrey View Ct)	EB right	1	800	344	486	142	67	79	12
	WB right	1	800	220	220	-	320	320	-
	SB right	shared	500	25	25	-	15	15	-
4. Roselle St / I-5 SB On-Ramp	SB right	shared	500	46	46	-	125	125	-
7. Vista Sorrento Pkwy / Sorrento Valley Blvd	EB left	1	300	142	142	-	156	156	-
	EB right	shared	500	<b>707</b>	<b>977</b>	270	88	110	22
	WB left	1	300	<b>336</b>	<b>336</b>	-	156	156	-
	WB right	shared	500	332	332	-	377	377	-
	NB left	1 + shared	300	148	178	30	<b>723</b>	<b>955</b>	232
	NB right	shared	500	299	299	-	<b>514</b>	<b>514</b>	-
	SB left	1 + shared	300	<b>451</b>	<b>451</b>	-	<b>527</b>	<b>527</b>	-
	SB right	1	800	171	171	-	120	120	-

**TABLE 8-4  
INTERSECTION TURN LANE EVALUATION**

Intersection	Lane / Movement	# of Lanes	Threshold	AM Peak Hour Volume		Δ	PM Peak Hour Volume		Δ
				Opening Year 2027	Opening Year 2027 + Project		Opening Year 2027	Opening Year 2027 + Project	
8. Vista Sorrento Pkwy / Lusk Blvd	WB left	1	300	79	81	2	<b>377</b>	<b>389</b>	12
	NB right	shared	500	381	395	14	106	107	1
9. Lusk Blvd / Wateridge Cir	EB right	shared	500	4	4	-	6	6	-
	NB left	1	300	8	8	-	6	6	-
	NB right	1	800	20	20	-	48	48	-
12. Lusk Blvd / Pacific Center Blvd (Project Dwy #3)	EB right	shared	500	8	178	170	3	17	14
	WB left	1	300	19	232	213	3	21	18
	WB right	shared	500	172	172	-	58	58	-
	NB left	shared	100	1	20	19	19	<b>166</b>	147
	NB right	shared	500	4	28	24	24	207	183
	SB left	shared	100	39	39	-	<b>167</b>	<b>167</b>	-
	SB right	1	800	65	65	-	478	478	-
14. Vista Sorrento Pkwy / Mira Sorrento Pl (I-805 Northbound Ramps)	EB left	1	300	162	162	-	57	57	-
	EB right	1 + shared	800	29	29	-	200	200	-
	WB right	shared	500	159	159	-	15	15	-
	NB left	1	300	<b>860</b>	<b>874</b>	14	269	270	1
	NB right	1	800	180	180	-	117	117	-
	SB left	1	300	41	41	-	<b>303</b>	<b>303</b>	-
	SB right	shared	500	69	69	-	201	201	-

**TABLE 8-4  
INTERSECTION TURN LANE EVALUATION**

Intersection	Lane / Movement	# of Lanes	Threshold	AM Peak Hour Volume		Δ	PM Peak Hour Volume		Δ
				Opening Year 2027	Opening Year 2027 + Project		Opening Year 2027	Opening Year 2027 + Project	
16. Barnes Canyon Rd / Lusk Blvd	EB left	1	300	161	<b>629</b>	468	<b>330</b>	<b>369</b>	39
	EB right	shared	500	29	29	-	174	174	-
	WB left	1	300	25	25	-	35	35	-
	WB right	shared	500	165	406	241	60	80	20
	NB left	1	300	226	226	-	31	31	-
	NB right	1	800	74	74	-	57	57	-
	SB left	1	300	63	90	27	126	<b>334</b>	208
	SB right	shared	500	258	311	53	145	<b>549</b>	404
17. Barnes Canyon Rd / Pacific Heights Blvd	EB left	1	300	7	7	-	29	29	-
	EB right	shared	500	37	37	-	124	124	-
	WB right	shared	500	26	26	-	58	58	-
	NB left	1	300	150	150	-	93	93	-
	NB right	1	800	99	126	27	476	684	208
	SB left	1	300	10	10	-	46	46	-
	SB right	shared	500	5	5	-	9	9	-
18. Sorrento Valley Rd / Carroll Canyon Rd (I-805 Southbound Ramps)	EB right	1	800	366	366	-	154	154	-
	WB left	1	300	27	27	-	66	66	-
	SB right	shared	500	71	71	-	35	35	-

**TABLE 8-4  
INTERSECTION TURN LANE EVALUATION**

Intersection	Lane / Movement	# of Lanes	Threshold	AM Peak Hour Volume		Δ	PM Peak Hour Volume		Δ
				Opening Year 2027	Opening Year 2027 + Project		Opening Year 2027	Opening Year 2027 + Project	
19. Mira Mesa Blvd / Vista Sorrento Pkwy (I-805 Northbound Off-Ramp)	WB right	shared	500	<b>510</b>	<b>510</b>	-	<b>931</b>	<b>931</b>	-
	SB left	1	300	142	142	-	162	162	-
20. Mira Mesa Blvd / Scranton Rd	EB right	1	800	<b>967</b>	<b>967</b>	-	256	256	-
	WB left	1	300	227	227	-	131	131	-
	WB right	shared	500	153	153	-	110	110	-
	NB right	shared	500	30	30	-	84	84	-
21. Mira Mesa Blvd / Lusk Blvd (Oberlin Dr)	EB right	shared	500	31	31	-	6	6	-
	WB right	shared	500	495	<b>609</b>	114	78	87	9
	NB left	1	300	6	6	-	20	20	-
	NB right	1	800	25	25	-	160	160	-
	SB right	1	800	64	83	19	328	475	147
22. Mira Mesa Blvd / Pacific Heights Blvd	EB left	1	300	<b>457</b>	<b>457</b>	-	115	115	-
	EB right	shared	500	342	342	-	101	101	-
	WB left	1	300	<b>433</b>	<b>433</b>	-	123	123	-
	WB right	1	800	<b>1,182</b>	<b>1,366</b>	184	217	232	15
	NB left	1	300	34	34	-	126	126	-
	NB right	1 + shared	800	101	101	-	428	428	-
	SB right	shared	500	66	66	-	317	317	-

**TABLE 8-4  
INTERSECTION TURN LANE EVALUATION**

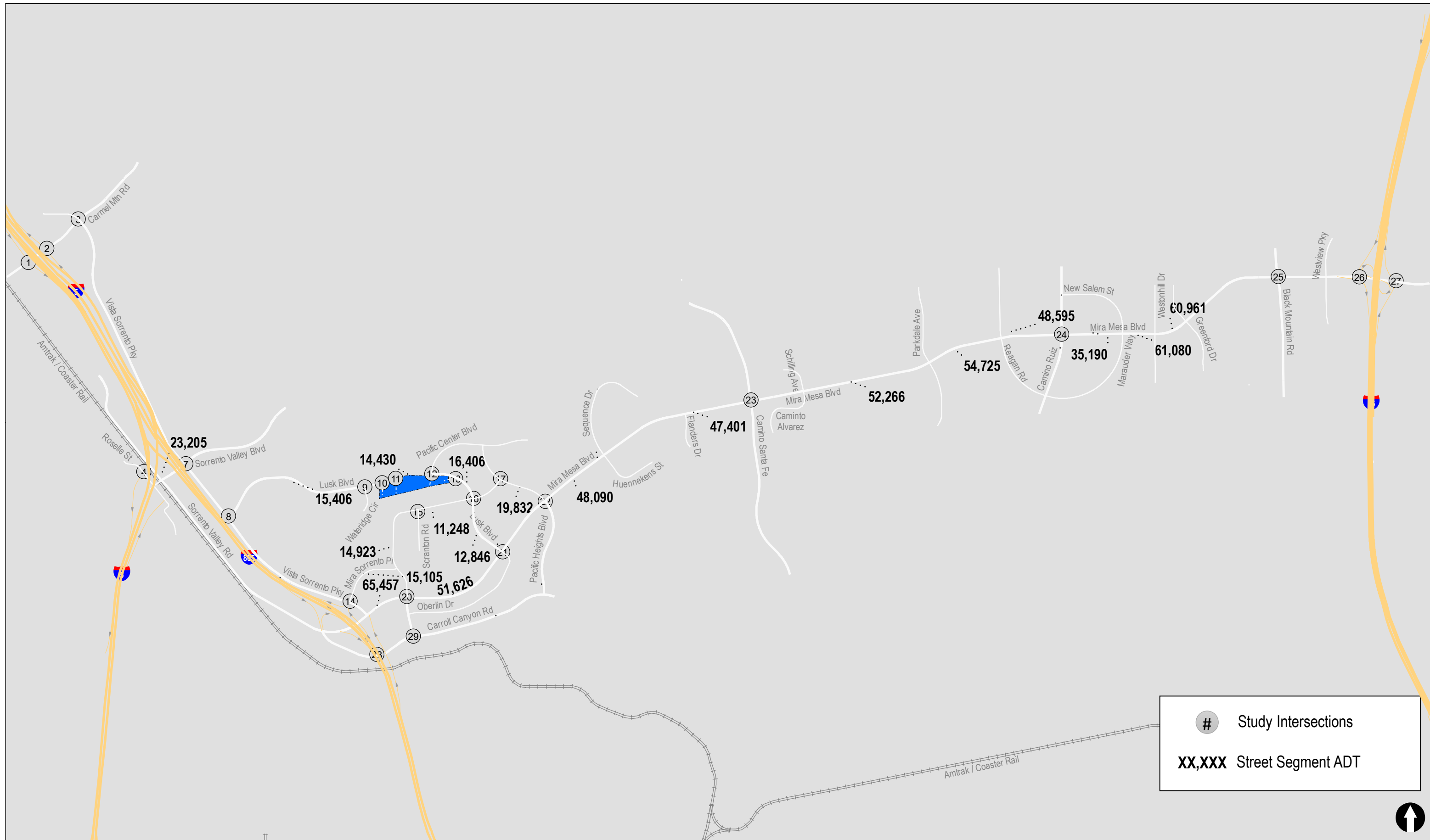
Intersection	Lane / Movement	# of Lanes	Threshold	AM Peak Hour Volume		Δ	PM Peak Hour Volume		Δ
				Opening Year 2027	Opening Year 2027 + Project		Opening Year 2027	Opening Year 2027 + Project	
23. Mira Mesa Blvd / Camino Santa Fe	EB left	1	300	30	30	-	111	111	-
	EB right	shared	500	120	125	5	201	238	37
	WB left	1	300	<b>605</b>	<b>605</b>	-	199	199	-
	WB right	shared	500	305	305	-	149	149	-
	NB left	1	300	218	261	43	147	151	4
	NB right	1	800	103	103	-	534	534	-
	SB right	shared	500	173	173	-	41	41	-
24. Mira Mesa / Camino Ruiz	EB right	shared	500	17	17	-	52	52	-
	WB right	1	800	117	117	-	227	227	-
	NB left	1	300	92	92	-	151	151	-
	NB right	1	800	227	227	-	185	185	-
	SB right	shared	500	192	206	14	75	76	1
25. Mira Mesa Blvd / Black Mountain Rd	EB right	1	800	152	152	-	116	116	-
	WB right	1	800	108	108	-	232	232	-
	NB right	1	800	118	118	-	284	284	-
	SB right	1	800	541	555	14	335	336	1
26. Mira Mesa Blvd / I-15 Southbound Ramps	WB right	1	800	<b>858</b>	<b>858</b>	-	374	374	-

**TABLE 8-4  
INTERSECTION TURN LANE EVALUATION**

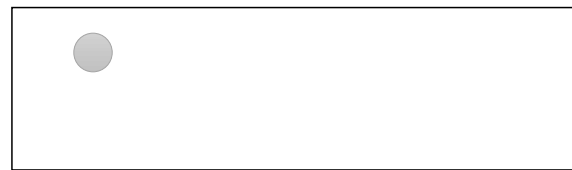
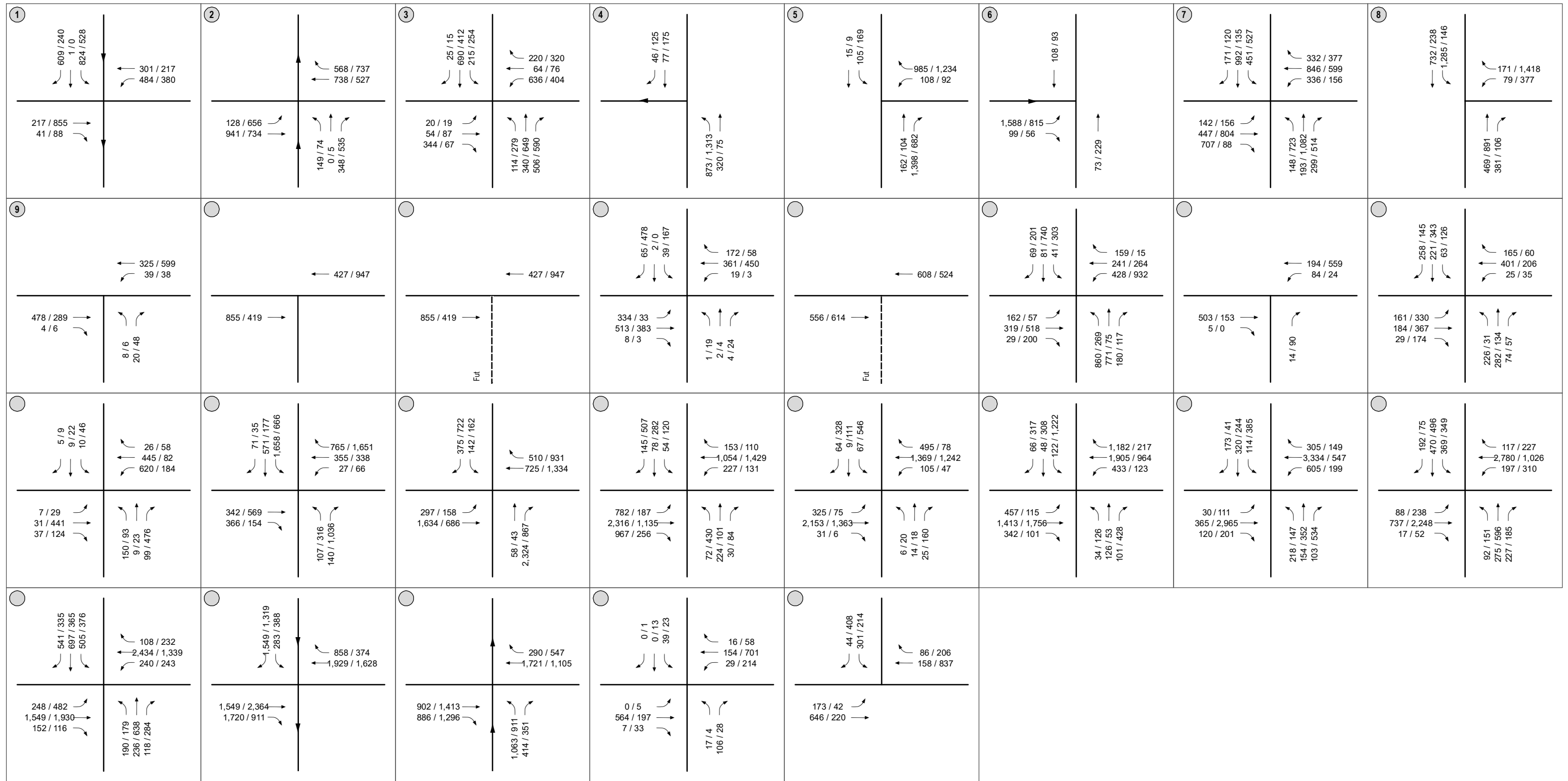
Intersection	Lane / Movement	# of Lanes	Threshold	AM Peak Hour Volume		Δ	PM Peak Hour Volume		Δ
				Opening Year 2027	Opening Year 2027 + Project		Opening Year 2027	Opening Year 2027 + Project	
27. Mira Mesa Blvd / I-15 Northbound Ramps	EB right	1	800	<b>886</b>	<b>894</b>	8	<b>1,296</b>	<b>1,357</b>	61
	WB right	1	800	290	290	-	547	547	-
28. Carroll Canyon Rd / I-805 Direct Access Ramps	EB left	1	300	0	0	-	5	5	-
	EB right	shared	500	7	7	-	33	33	-
	WB left	1	300	29	35	6	214	263	49
	WB right	shared	500	16	18	2	58	70	12
	NB left	1	300	17	17	-	4	4	-
	NB right	1	800	106	163	57	28	33	5
	SB left	shared	100	39	53	14	23	24	1
	SB right	shared	500	0	0	-	1	1	-
29. Carroll Canyon Rd / Scranton Rd	WB right	1	800	86	86	-	206	206	-
	SB left	1 + shared	300	<b>301</b>	<b>301</b>	-	214	214	-
	SB right	1 + shared	800	44	52	8	408	469	61

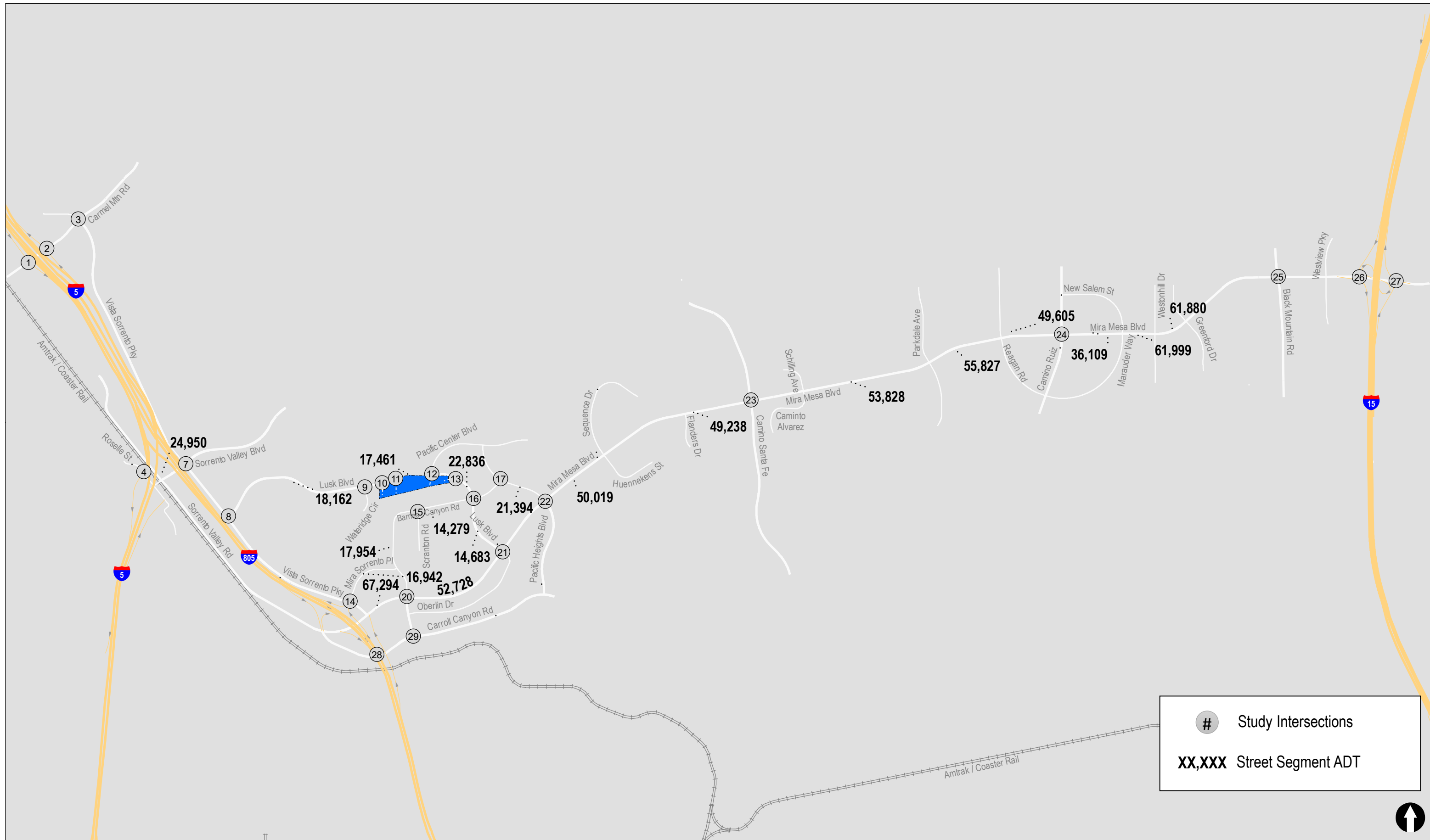
**General Note:**

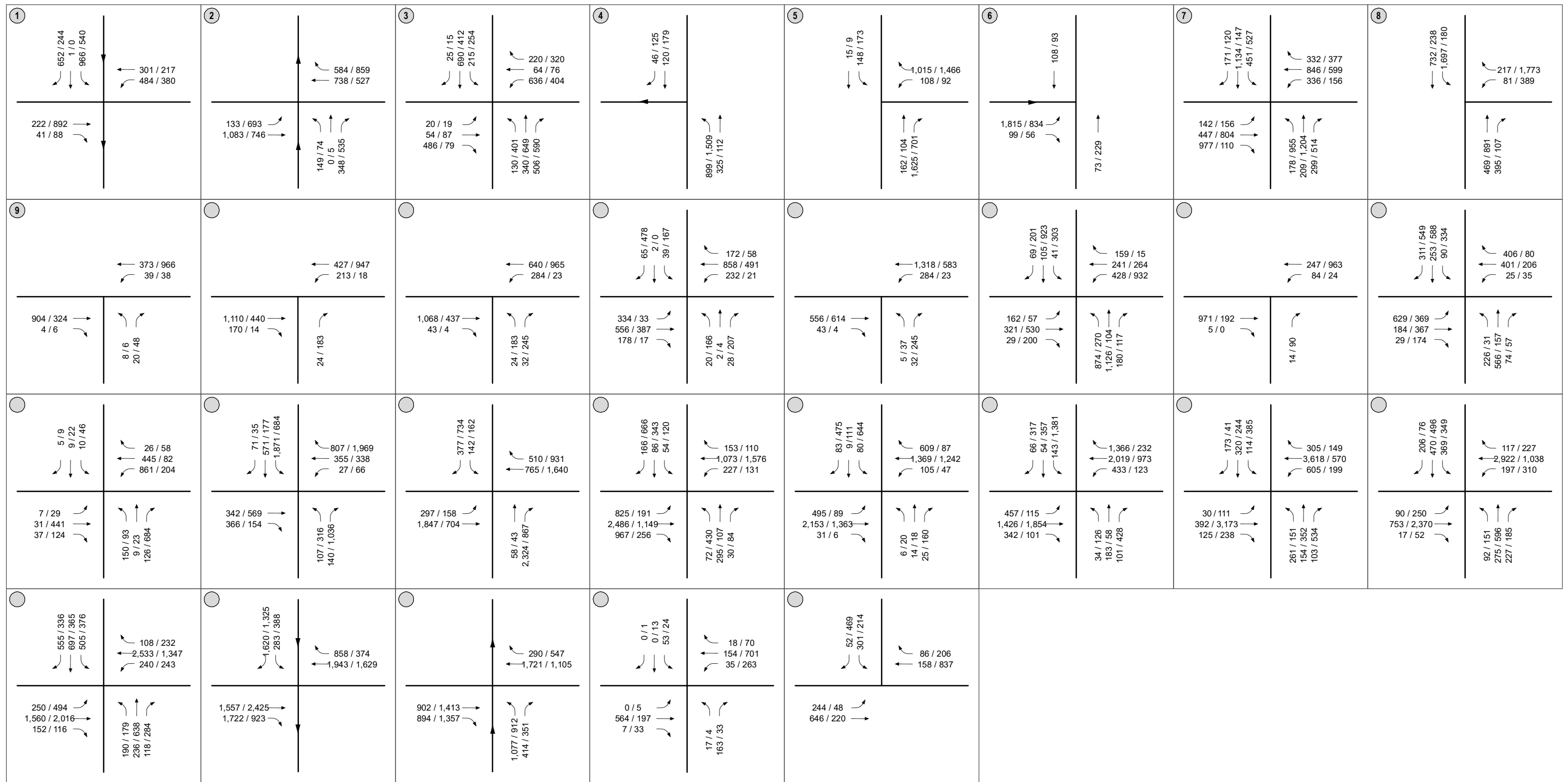
1. Shared – either a shared left-turn/through lane, a shared through/right-turn lane or a shared left-turn/through/right-turn lane.











# Study Intersections  
 ↕ Intersection AM/PM Peak Hour Volumes



## 9.0 PROJECT IMPROVEMENTS

This section identifies such intersection and street improvements that the Project would construct and provides the results of the LOS analysis for these locations with these improvements. *Figure 9-1* shows the proposed Project improvements.

### 9.1 Intersections

The Project will provide the following intersection improvements in the study area as listed below.

- #5: Roselle Street / Sorrento Valley Boulevard and #6: Roselle Street / I-5 Northbound Off-Ramp:
  - The Roselle Street / Sorrento Valley Boulevard and Roselle Street / I-5 Northbound Off-Ramp intersections currently include an All-Way stop sign. There are no future funded improvements planned at these intersections. The All-Way Stop at Roselle Street / I-5 Northbound Off-Ramp acts as a defacto ramp meter, which meters vehicular flow arriving from the I-5 Northbound Off-ramp to Roselle Street. In addition, there are several physical constraints that affect operations in the vicinity of these intersections, which include an at-grade rail crossing within 100 feet. Both these intersections are calculated to operate at LOS F under the Opening Year 2027 without Project condition and continue to operate at LOS F under the Opening Year 2027 with Project condition.

To help relieve congestion at this intersection, the installation of a traffic signal was considered. A peak hour signal warrant analysis was also conducted and concluded that the peak hour signal warrants are met at these intersections. While the traffic signal warrants are met, the installation of a traffic signal would alter the metering of traffic that is afforded by the current All-Way Stop sign and may degrade operations further caused by traffic platooning. Furthermore, per coordination with Caltrans, there are no planned improvements at the Roselle Street / I-5 Northbound Off-Ramp intersection. Therefore, based on the above, the above improvement is not recommended.

*Table 9-1* shows the results of the LOS analysis for this intersection including the Project improvements. *Appendix H* contains the peak hour signal warrant sheets.

- V-1 #8: Vista Sorrento Parkway / Lusk Boulevard:
  - To accommodate an additional (second) westbound left-turn lane, two alternatives were developed. Alternative A would require removal of the raised median. Alternative B would require narrowing the existing bike lane buffer and bike lane on Lusk Boulevard. Based on coordination with City staff, it was determined that both alternatives were infeasible.
  - *Table 9-1* shows the results of the LOS analysis for this intersection including the Project improvements. Concept plans are included in *Appendix I*.

- V-2 #12: Lusk Boulevard / Pacific Center Boulevard / Project Driveway #3:
  - Remove the painted median and restripe the westbound approach to provide an additional (second) westbound left-turn lane.
  - Widen the northbound approach to provide an exclusive left-turn lane, a shared left/through/right-turn lane, and an exclusive right-turn lane.
  - This improvement will be permitted and bonded prior to the issuance of the first building permit and constructed and operational prior to first occupancy, satisfactory to the City Engineer.
  - *Table 9-1* shows the results of the LOS analysis for this intersection including the Project improvements. Concept plans are included in *Appendix I*.
  
- V-3 #14: Vista Sorrento Parkway / Mira Sorrento Place / I-805 Northbound Ramps:
  - The restriping of the southbound approach to provide an exclusive southbound right-turn lane was considered. However, based on coordination with City staff, it was determined that no improvements are feasible at this location.
  - *Table 9-1* shows the results of the LOS analysis for this intersection including the Project improvements. Concept plans are included in *Appendix I*.
  
- V-4 #16: Barnes Canyon Road / Lusk Boulevard:
  - Widen the eastbound approach to provide an additional (second) eastbound left-turn lane.
  - This improvement will be permitted and bonded prior to the issuance of the first building permit and constructed and operational prior to first occupancy, satisfactory to the City Engineer.
  - *Table 9-1* shows the results of the LOS analysis for this intersection including the Project improvements. Concept plans are included in *Appendix I*.
  
- #18: Sorrento Valley Road / Carroll Canyon Road / I-805 Southbound Ramps:
  - Caltrans confirmed that an adaptive control is currently operational at this intersection. Therefore, the Project does not propose any additional improvements.
  
- #19: Mira Mesa Boulevard / Vista Sorrento Parkway / I-805 Northbound Off-Ramp:
  - Caltrans confirmed that an adaptive control is currently operational this intersection. Therefore, the Project does not propose any additional improvements.

- V-5 #20: Mira Mesa Boulevard / Scranton Road:
  - Provide a right-turn overlap phasing for the eastbound right-turn movement.
  - This improvement will be permitted and bonded prior to the issuance of the first building permit and constructed and operational prior to first occupancy, satisfactory to the City Engineer.
  - *Table 9-1* shows the results of the LOS analysis for this intersection including the Project improvements.

## 9.2 Street Segments

The Project will provide the following street segment improvements in the study area as listed below.

- V-6 Lusk Boulevard along the project frontage
  - As a part of implementing the ultimate classification of Lusk Boulevard as a 4-Lane Major Arterial, the Project will provide half-width improvements to include a raised median, a Class II buffered bike lane, and a 22 ft parkway consisting of an 8-ft non-contiguous sidewalk and a 14-ft landscape buffer along the Project frontage on the south side of Lusk Boulevard Concept plans are included in *Appendix I*.
  - This improvement will be permitted and bonded prior to the issuance of the first building permit and constructed and operational prior to first occupancy, satisfactory to the City Engineer
  
- V-7 Barnes Canyon Road between Scranton Road and Lusk Boulevard
  - The ultimate classification of Barnes Canyon Road is a 4-lane Collector. Since the Project applicant owns properties (10070 to 10180 Barnes Canyon Road; 10225 Barnes Canyon Road) along this street segment, the applicant proposes to provide half-width improvements to a 3-lane Collector to include a Class II buffered bike lane and a 14 ft parkway along property frontage on both the north and south side of Barnes Canyon Road. Concept plans are included in *Appendix I*.
  - This improvement will be permitted and bonded prior to the issuance of the first building permit and constructed and operational prior to first occupancy, satisfactory to the City Engineer
  
- V-8 Scranton Road between Mira Sorrento Place and Barnes Canyon Road
  - The San Diego Tech Center Project (PTS: 687635) is proposing to widen Scranton Road between Mira Sorrento Place and Barnes Canyon Road to a 2-lane Collector with a two-way left-turn lane and a buffered Class II bike lane. The widening is proposed on the east side by 9' to include a 53' curb-to-curb width in a 78' ROW section.

- As of writing this report, the San Diego Tech Center Project (PTS: 687635) is under construction and is expected to construct these improvements by end of Year 2025.

**Table 9–2** shows the results of the LOS analysis for the Scranton Road and Barnes Canyon Road street segments including the proposed Project improvements.

### **9.3 ITS Improvements**

V–9 Currently, Lusk Blvd between Vista Sorrento Parkway and Mira Mesa Boulevard includes Adaptive Traffic Signal Control. The Project would provide communications upgrades, (which may include wireless, cellular modem, communication hub or other pertinent items as needed) between the traffic signals, detection upgrades and controller upgrades to the satisfaction of the City Engineer. In addition, as a part of the adaptive traffic signal system, Transit Signal Priority features will also be implemented along this corridor to the satisfaction of the City Engineer.

**TABLE 9-1  
OPENING YEAR 2027 INTERSECTION IMPROVEMENTS OPERATIONS**

Intersection	Existing Control Type	Proposed Control Type	Peak Hour	Opening Year 2027		Opening Year 2027 + Project		Opening Year 2027 + Project + Improvements		Project Improvement
				Delay <sup>a</sup>	LOS <sup>b</sup>	Delay	LOS	Delay	LOS	
5. Roselle Street / Sorrento Valley Boulevard	TWSC <sup>c</sup>	Signal	AM PM	>500.0 246.4	F F	>500.0 304.0	F F	13.6 13.1	B B	Install a traffic signal. However, as discussed in Section 9.1, this improvement is not recommended.
6. Roselle Street / I-5 Northbound Off-Ramp	AWSC <sup>d</sup>	Signal	AM PM	170.7 21.2	F C	249.1 22.3	F C	8.3 7.7	A A	Install a traffic signal. However, as discussed in Section 9.1, this improvement is not recommended.
8. Vista Sorrento Parkway / Lusk Boulevard	Signal	Signal	AM PM	31.6 37.8	C D	42.6 61.0	D E	40.3 51.5	D D	Restripe the westbound approach to provide an additional (second) westbound left-turn lane. However, as discussed in Section 9.1, based on coordination with City staff, it was determined that this improvement is infeasible.
12. Lusk Boulevard / Pacific Center Boulevard (Project Driveway #3)	Signal	Signal	AM PM	23.6 18.2	C B	37.4 57.0	D E	33.1 24.6	C C	Remove the painted median and restripe the westbound approach to provide an additional (second) westbound left-turn lane. Widen the northbound approach to provide an exclusive left-turn lane, a shared left/through/right-turn lane, and an exclusive right-turn lane.



**TABLE 9-1  
OPENING YEAR 2027 INTERSECTION IMPROVEMENTS OPERATIONS**

Intersection	Existing Control Type	Proposed Control Type	Peak Hour	Opening Year 2027		Opening Year 2027 + Project		Opening Year 2027 + Project + Improvements		Project Improvement
				Delay <sup>a</sup>	LOS <sup>b</sup>	Delay	LOS	Delay	LOS	
14. Vista Sorrento Parkway / Mira Sorrento Place (I-805 Northbound Ramps)	Signal	Signal	AM PM	147.1 124.0	F F	149.4 144.5	F F	120.2 110.0	F F	Restripe the southbound approach to provide an exclusive southbound right-turn lane. However, as discussed in Section 9.1, based on coordination with City staff, it was determined that this improvement is infeasible.
16. Barnes Canyon Road / Lusk Boulevard	Signal	Signal	AM PM	41.2 113.7	D F	129.4 117.6	F F	53.6 52.0	D D	Widen the eastbound approach to provide an additional (second) eastbound left-turn lane.
20. Mira Mesa Boulevard / Scranton Road	Signal	Signal	AM PM	88.2 59.5	F E	123.6 67.2	F E	87.1 58.7	F E	Provide a right-turn overlap phasing for the eastbound right-turn movement

**Footnotes:**

- a. Average delay expressed in seconds per vehicle.
- b. Level of Service.
- c. Two-Way Stop Control. Worst case movement delay is reported.
- d. All-Way Stop Control.

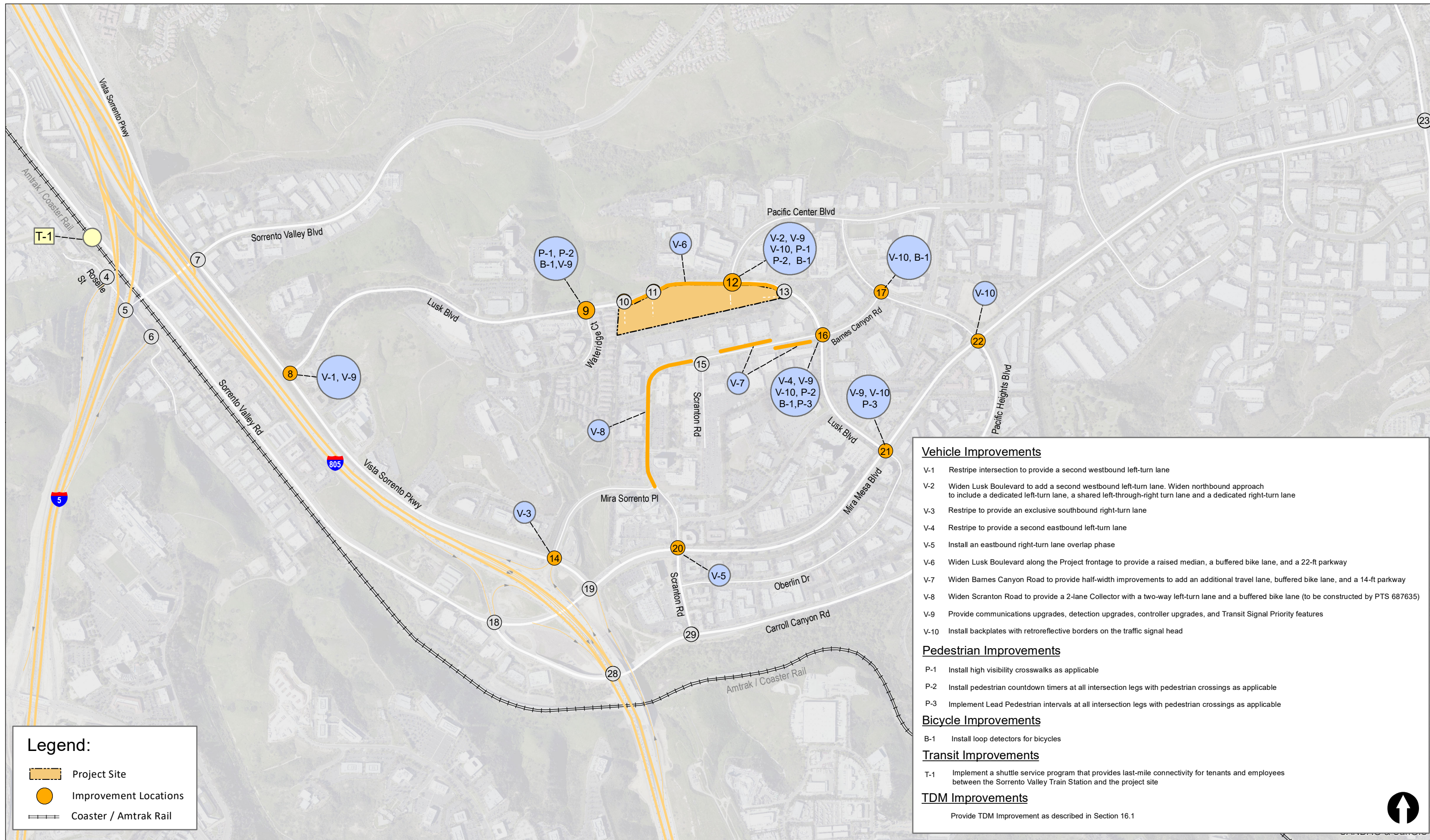
SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

**TABLE 9-2  
OPENING YEAR 2027 STREET SEGMENT OPERATIONS**

Street Segment	Functional Classification	Capacity (LOS E) <sup>a</sup>	Opening Year 2027			Opening Year 2027 + Project			Improvement Classification	Capacity (LOS E) <sup>a</sup>	Opening Year 2027 + Project + Improvement			Improvement
			ADT <sup>b</sup>	LOS <sup>c</sup>	V/C <sup>d</sup>	ADT	LOS	V/C			ADT	LOS	V/C	
<b>Barnes Canyon Road</b>														
Scranton Road to Lusk Boulevard	2-Lane Collector (without two-way left-turn)	8,000	11,248	F	1.406	14,279	F	1.785	3-Lane Collector	11,000	14,279	F	1.298	Provide half-width improvements to a 3-lane Collector along applicant owned properties (10070 to 10180 Barnes Canyon Road; 10225 Barnes Canyon Road)
<b>Scranton Road</b>														
Barnes Canyon Road to Mira Sorrento Place	2-Lane Collector (without two-way left-turn)	8,000	14,923	F	1.865	17,954	F	2.244	2-Lane Collector (with two-way left-turn) and Class II bike lanes	15,000	17,954	F	1.197	Widening proposed by the San Diego Tech Center project

**Footnotes:**

- a. Capacities based on City of San Diego Roadway Classification Table.
- b. Average Daily Traffic Volumes.
- c. Level of Service.
- d. Volume to Capacity.



**Legend:**

- Project Site
- Improvement Locations
- Coaster / Amtrak Rail

**Vehicle Improvements**

- V-1 Restripe intersection to provide a second westbound left-turn lane
- V-2 Widen Lusk Boulevard to add a second westbound left-turn lane. Widen northbound approach to include a dedicated left-turn lane, a shared left-through-right turn lane and a dedicated right-turn lane
- V-3 Restripe to provide an exclusive southbound right-turn lane
- V-4 Restripe to provide a second eastbound left-turn lane
- V-5 Install an eastbound right-turn lane overlap phase
- V-6 Widen Lusk Boulevard along the Project frontage to provide a raised median, a buffered bike lane, and a 22-ft parkway
- V-7 Widen Barnes Canyon Road to provide half-width improvements to add an additional travel lane, buffered bike lane, and a 14-ft parkway
- V-8 Widen Scranton Road to provide a 2-lane Collector with a two-way left-turn lane and a buffered bike lane (to be constructed by PTS 687635)
- V-9 Provide communications upgrades, detection upgrades, controller upgrades, and Transit Signal Priority features
- V-10 Install backplates with retroreflective borders on the traffic signal head

**Pedestrian Improvements**

- P-1 Install high visibility crosswalks as applicable
- P-2 Install pedestrian countdown timers at all intersection legs with pedestrian crossings as applicable
- P-3 Implement Lead Pedestrian intervals at all intersection legs with pedestrian crossings as applicable

**Bicycle Improvements**

- B-1 Install loop detectors for bicycles

**Transit Improvements**

- T-1 Implement a shuttle service program that provides last-mile connectivity for tenants and employees between the Sorrento Valley Train Station and the project site

**TDM Improvements**

- Provide TDM Improvement as described in Section 16.1

## 10.0 PARKING

This section discusses the City of San Diego's minimum required parking based on the Project's land use, the estimated parking demand of the Project and the proposed parking to be provided by the Project.

### 10.1 City of San Diego Minimum Required Parking Rates

The minimum required parking rates for the proposed project are based on the standards outlined in the City of San Diego Land Development Code (*LDC, Chapter 14, Article 2 and Division 5*). According to Table 142-05G in the *San Diego Municipal Code, Chapter 14: General Regulation, Article 2: General Development Regulation, Division 5: Parking Regulations*, a minimum of 2.1 parking spaces per 1,000 square feet is required and a maximum of 4.0 parking spaces per 1,000 square feet is allowed for R&D uses. Based on the City of San Diego R&D parking rate, the Project would be required to provide at least 2,758 parking spaces and allowed no more than 5,253 spaces.

### 10.2 Proposed Project Parking

The Project proposes a total of 3,301 spaces, which includes 1,347 parking spaces in LP1 garage and 1,954 parking spaces in the LP2 garage. The total parking supply exceeds the City of San Diego's minimum parking requirement by 543 parking spaces. **Table 10-1** shows a detailed breakdown of the minimum parking required and the parking supply proposed by the Project. The Project exceeds the minimum parking requirements for all user types.

**TABLE 10-1  
PARKING REQUIREMENTS**

<b>Parking Location</b>		<b>Number of Spaces</b>
LP1 Parking Garage		1,347
LP2 Parking Garage		1,954
<b><i>Total Parking Spaces Provided</i></b>		<b>3,301</b>
<b><i>Total Minimum Parking Required</i></b>		<b>2,758</b>
<b><i>Total Maximum Parking Required</i></b>		<b>5,253</b>
<b><i>Other Parking Breakdown</i></b>		
<i>Type</i>	<b>Required</b>	<b>Provided</b>
<i>Motorcycle Parking</i>	2% of automobile spaces = 56 spaces	74 spaces
<i>Short-Term Bicycle Parking</i>	5% of automobile spaces = 138 spaces	168 spaces
<i>Long-Term Bicycle Parking</i>	5% of automobile spaces = 138 spaces	138 spaces
<i>Accessible Parking</i>	For >1,000 total parking spaces, CBC requires 20 + 1 for each 100 over 1,000 with 1 van accessible parking for every 8 parking spaces = 53 spaces including 9 van accessible spaces	65 spaces including 13 van accessible spaces
<i>Carpool and zero emission</i>	8% of automobile spaces = 99 spaces	99 spaces
<i>Electric Vehicle Charging Stations</i>	20% of automobile spaces = 661 spaces	661 spaces

## 11.0 PEDESTRIAN MOBILITY

This section presents the pedestrian conditions in the Project study area and includes a walkshed analysis to ensure the Project provides the appropriate pedestrian facilities. The improvements to enhance pedestrian mobility that the Project will construct are also presented.

### 11.1 Existing Pedestrian Mobility

A pedestrian network inventory was conducted along street segments, within the ½ mile walking distance of the Project. This included documenting missing sidewalks, pedestrian barriers and pedestrian pathways. *Figure 11-1* shows the existing pedestrian network within the immediate vicinity of the Project.

#### 11.1.1 Existing Pedestrian Activity

Existing pedestrian counts were conducted at every intersection in the study area during the commuter AM/PM peak hours as shown in *Appendix C*. *Figure 11-2* shows the existing pedestrian counts within the Project study area.

### 11.2 Pedestrian Mobility Review

#### 11.2.1 Walkshed Analysis

As stated above, a walkshed analysis was performed to evaluate the pedestrian connectivity in the vicinity of the Project site and to ensure the Project provides the appropriate pedestrian facilities.

The walkshed analysis was performed by identifying all access points to/from the Project considering topography constraints. From each access point, areas outside the Project site that could be reached by walking ½-mile were identified. Selected walking routes from each access point consider the existence of sidewalks, crosswalks, pedestrian routes, etc. In this regard, while some areas are located within the ½-mile radius around the Project site, they may not be reached by walking due to lack of facilities. After creating the walkshed network, the area that could be captured by walking was measured. A larger walkshed area (walkshed network) means higher connectivity between the Project site and nearby areas.

*Figure 11-3* shows the Project's walkshed with the existing pedestrian network.

### 11.3 Pedestrian Improvements

The section below discusses the frontage pedestrian improvements that the Project will construct.

#### 11.3.1 Pedestrian Improvements Along Fronting Streets

The Project will construct the following improvements on the fronting streets:

- As a part of implementing the ultimate classification of Lusk Boulevard as a 4-lane Major Arterial, the Project will provide half-width improvements to include a 22' parkway consisting of an 8' non-contiguous sidewalk that will be constructed along the Project frontage on the south side of Lusk Boulevard. This improvement will be permitted and

bonded prior to the issuance of the first building permit and constructed and operational prior to first occupancy, satisfactory to the City Engineer.

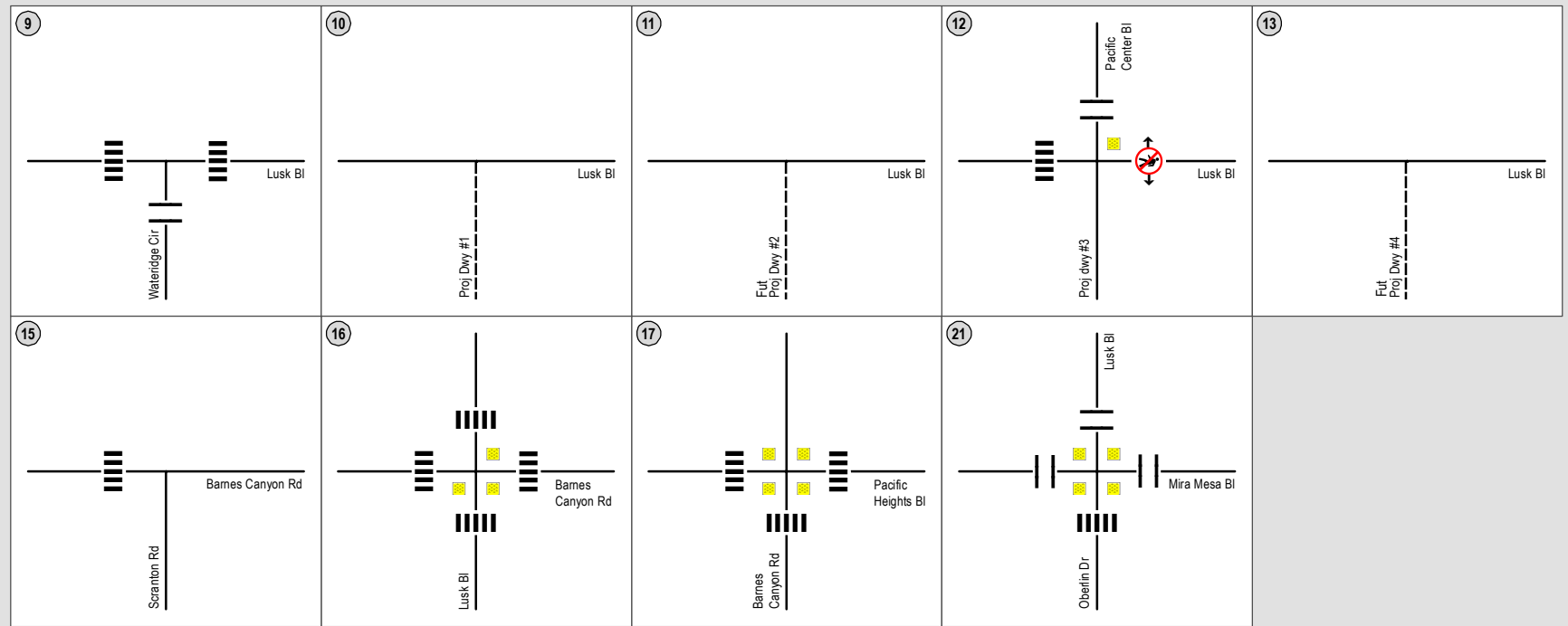
### **11.3.2 Off-Site Pedestrian Improvements**

Based on a systemic safety evaluation of pedestrian hot spots, the Project will construct the following improvements (see *Section 14.0* for further detail). These improvements will be permitted and bonded prior to the issuance of the first building permit and constructed and operational prior to first occupancy, satisfactory to the City Engineer:

- The Project will install a high visibility crosswalk at the following intersections:
  - Lusk Boulevard / Wateridge Circle (south leg)
  - Lusk Boulevard / Pacific Center Boulevard / Project Driveway #3 (north leg)
- The Project will install pedestrian countdown timers at the following intersections for all legs with pedestrian crossings:
  - Lusk Boulevard / Wateridge Circle
  - Lusk Boulevard / Pacific Center Boulevard / Project Driveway #3
  - Barnes Canyon Road / Lusk Boulevard
- The Project will implement lead pedestrian intervals at the following intersections:
  - Barnes Canyon Road / Lusk Boulevard
  - Mira Mesa Boulevard / Lusk Boulevard / Oberlin Drive

### **11.3.3 Pedestrian Improvements Within the Site**

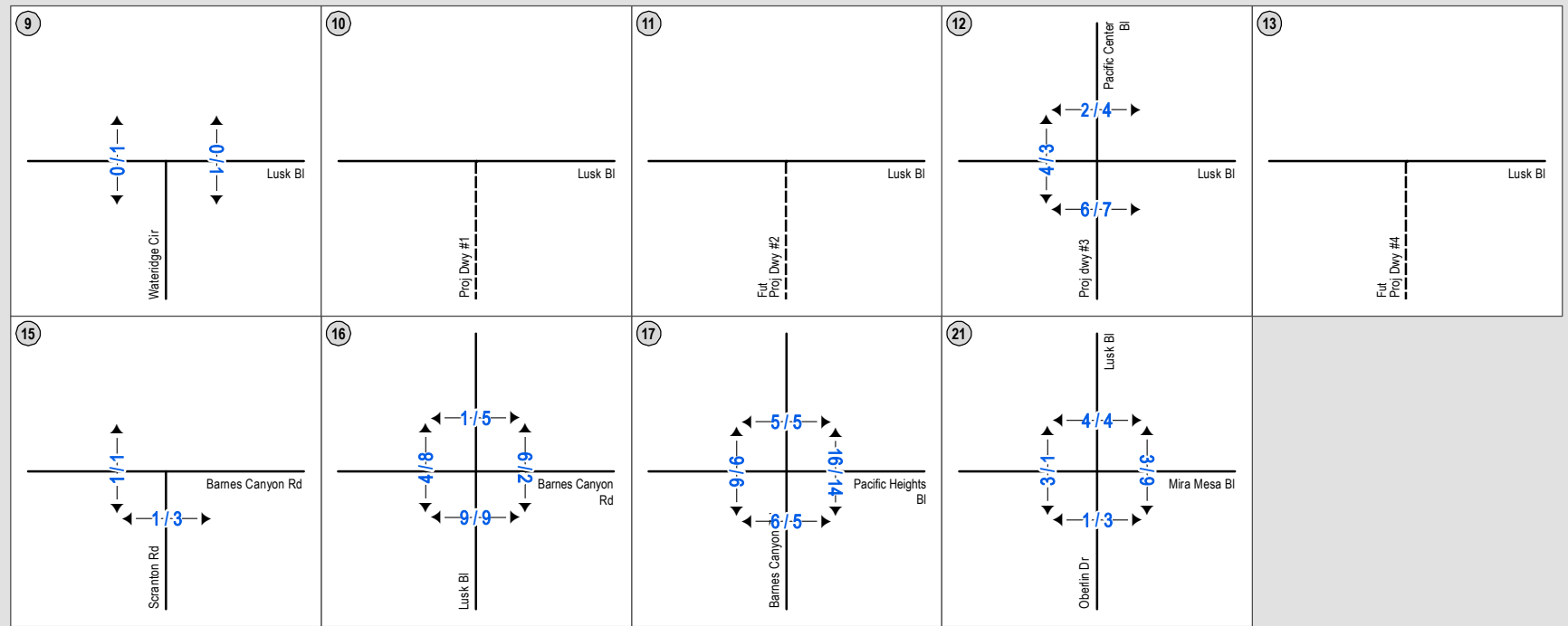
The Project also includes pedestrian connections within the site consisting of walkways, paths, and sidewalks to facilitate pedestrian circulation.

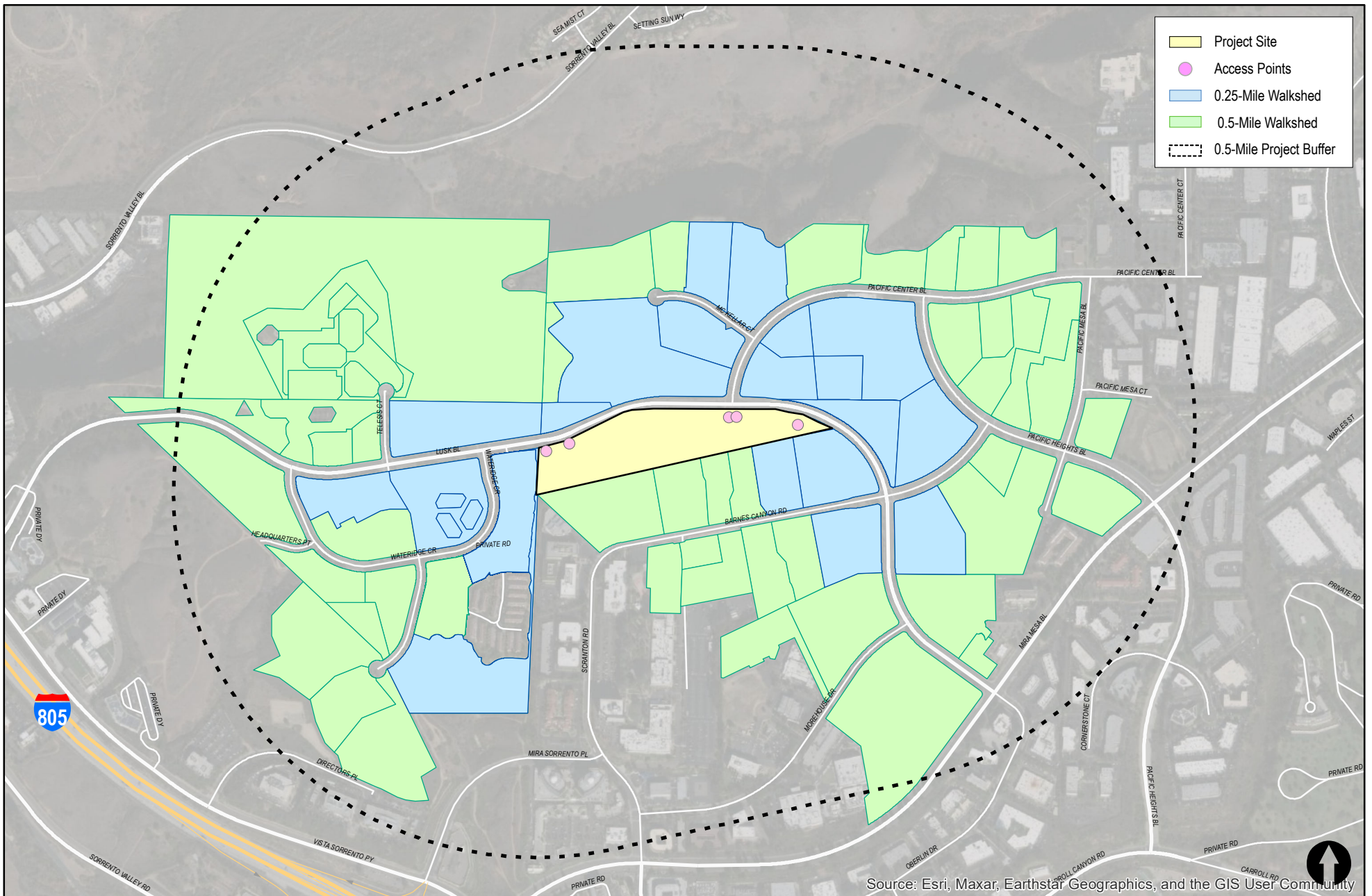


	Study Intersection		High Visibility Crosswalk
	Ped Crossing Prohibited		Missing Sidewalk
	ADA Tactile Paving		
	Standard Crosswalk		









## 12.0 BICYCLE MOBILITY

This section presents the bicycle network in the Project study area and includes a bikeshed analysis to ensure the Project provides the appropriate bicycle facilities. The improvements to enhance bicycle mobility that the Project will construct are also presented.

### 12.1 Bicycle Facility Classifications

There are four different existing and proposed bicycle facility classifications – Class I, Class II, Class III and Class IV as shown in *Table 12-1*.

**TABLE 12-1  
BICYCLE FACILITY CLASSIFICATIONS**

<p><b>Class I</b> refers to exclusive <b>bike paths</b>, also termed shared-use or multi-use paths, for exclusive use by bicyclists, pedestrians, and those using non-motorized modes of travel. They are physically separated from vehicular traffic and can be constructed in roadway right-of-way or exclusive right-of-way. Bike paths provide critical connections where roadways are absent or are not conducive to bicycle travel.</p> 	<p><b>Class II</b> refers to <b>bicycle lanes</b> defined by pavement striping and signage used to allocate a portion of a roadway for bicycle travel. Bike lanes are one-way facilities on either side of a roadway. A painted buffer can separate bikes from vehicles or parking lanes. Green paint can identify conflict zones.</p> 
<p><b>Class III</b> refers to bike routes that share use with motor vehicle traffic within the same travel lane. Bike routes are identified with signage and street markings known as “sharrows” or shared lane markings to delineate that the road is a shared-use facility.</p> 	<p><b>Class IV</b> refers to a <b>Cycle Track</b>, which is a hybrid type bicycle facility that combines the experience of a separated path with the on-street infrastructure of a conventional bike lane. Cycle tracks are bikeways located in roadway right-of-way but separated from vehicle lanes by physical barriers, flexible posts, on-street parking curbs, or other objects. Cycle tracks provide for one-way or two-way bicycle travel and are exclusively for bicycle use.</p> 

## 12.2 Existing Bicycle Mobility

A detailed bicycle network inventory was conducted for the surrounding study area. *Table 12-2* summarizes the existing and future bicycle classifications on the study street segments. *Figure 12-1* presents the existing bicycle network in the Project study area.

**TABLE 12-2  
BICYCLE FACILITY**

Street Segment	Existing Classification	Future Classification per Mira Mesa CP
<b>Lusk Boulevard</b> Vista Sorrento Parkway to Mira Mesa Boulevard	Class II	Class II
<b>Barnes Canyon Road</b> Scranton Road to Lusk Boulevard	None	Class II
<b>Scranton Road</b> Barnes Canyon Road to Mira Sorrento Place	None	Class II
<b>Mira Sorrento Road</b> Vista Sorrento Parkway to Scranton Road	Class II	Class II
<b>Pacific Heights Boulevard</b> Barnes Canyon Road to Mira Mesa Boulevard	None	Class II
<b>Mira Mesa Boulevard</b> Scranton Road to Aderman Avenue	Class II	Class IV
Aderman Avenue to Reagan Road	Class II	Class I
Reagan Road to New Salem Way / Marauder Way	Class II	Class I
New Salem Way / Marauder Way to Westonhill Drive	Class II	Class I / Class IV
Westonhill Drive to Greenford Drive	Class II	Class I / Class IV

### 12.2.1 Existing Bicycle Activity

Existing bicycle counts were conducted at every intersection in the study area during the commuter AM/PM peak hours as shown in *Appendix C*. *Figure 12-1* shows the existing bicycle counts within the Project study area.

## 12.3 Bicycle Mobility Review

### 12.3.1 Bikeshed Analysis

In this study, a bikeshed analysis was conducted to evaluate bicycle connectivity in the vicinity of the Project site. This analysis also identifies potential locations where providing bicycle access could improve Project connectivity to surrounding area.

The bikeshed analysis was performed by identifying all access points to / from the Project. From each access point, areas outside the Project site that could be reached by biking 1/2 mile were identified. Selected biking routes from each access point consider the presence of bike routes, lanes, and dedicated pathways. In this regard, while some areas are located within the 1/2-mile buffer

around the Project site, they may not be reached by bike due to lack of facilities. A larger bikeshed area (bikeshed network) means higher connectivity between the Project site and nearby areas.

*Figure 12–2* shows the Project’s bikeshed with the existing bicycle network.

## **12.4 Bicycle Improvements**

### **12.4.1 Bicycle Improvements Along Fronting Streets**

To promote bicycle mobility, the Project will construct the following bicycle improvements:

- As a part of the Project, the Project will construct half-width improvements along its Lusk Boulevard frontage to implement the ultimate classification of a 4-lane Major with buffered Class II bicycle lanes per the Mira Mesa Community Plan. As a part of this improvement, the Project will stripe the buffered bike lanes on the south side of Lusk Boulevard along the Project frontage. This improvement will be permitted and bonded prior to the issuance of the first building permit and constructed and operational prior to first occupancy, satisfactory to the City Engineer.

### **12.4.2 Off-Site Bicycle Improvements**

Based on a systemic safety evaluation of bicycle hot spots, the Project will construct the following improvements (see *Section 14.0* for further detail). These improvements will be permitted and bonded prior to the issuance of the first building permit and constructed and operational prior to first occupancy, satisfactory to the City Engineer:

- The Project will install bicycle loop detectors at the following intersections:
  - Lusk Boulevard / Wateridge Circle (south leg)
  - Lusk Boulevard / Pacific Center Boulevard / Project Driveway #3 (north leg)
  - Barnes Canyon Road / Lusk Boulevard (east, west, and north legs)
  - Barnes Canyon Road / Pacific Heights Boulevard (all legs)

### **12.4.3 Bicycle Improvements Within the Site**

As a part of providing bicycle amenities within the site, the Project proposes to provide two (2) onsite bicycle repair stations as part of the proposed Mobility Hub and five (5) electric bicycle charging stations. The Project will also meet or exceed the City of San Diego Climate Action (CAP) requirements and Municipal Code requirements for short-term and long-term bicycle parking spaces.

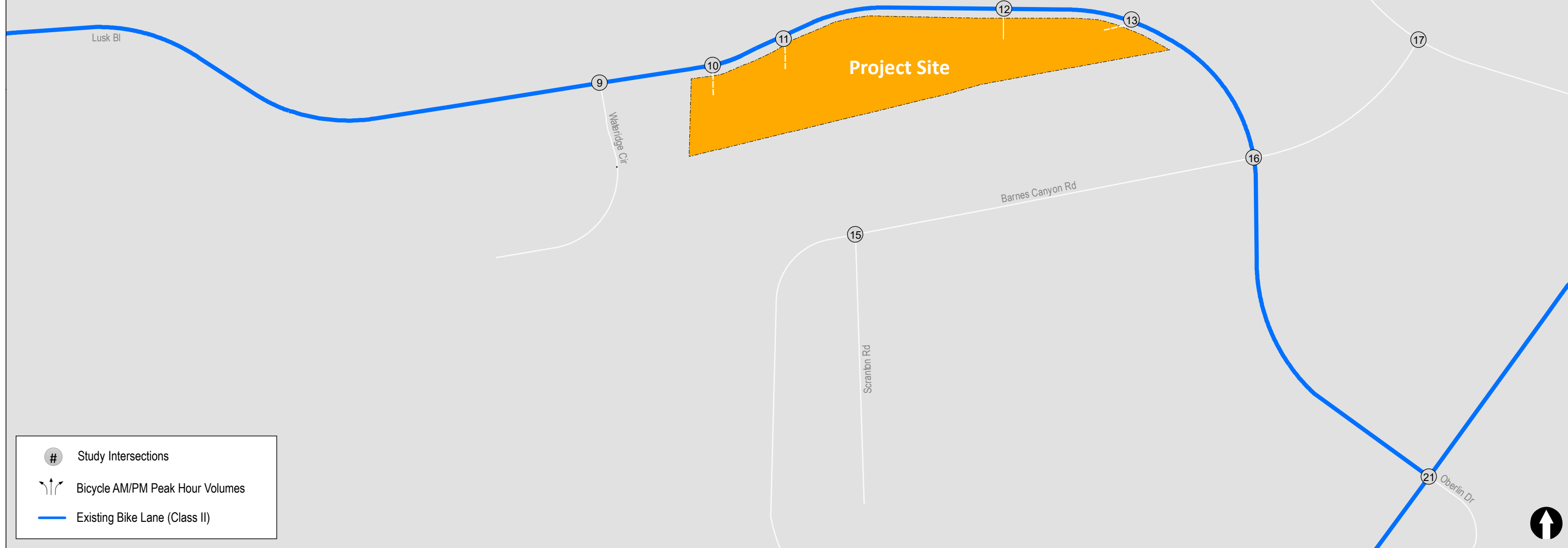
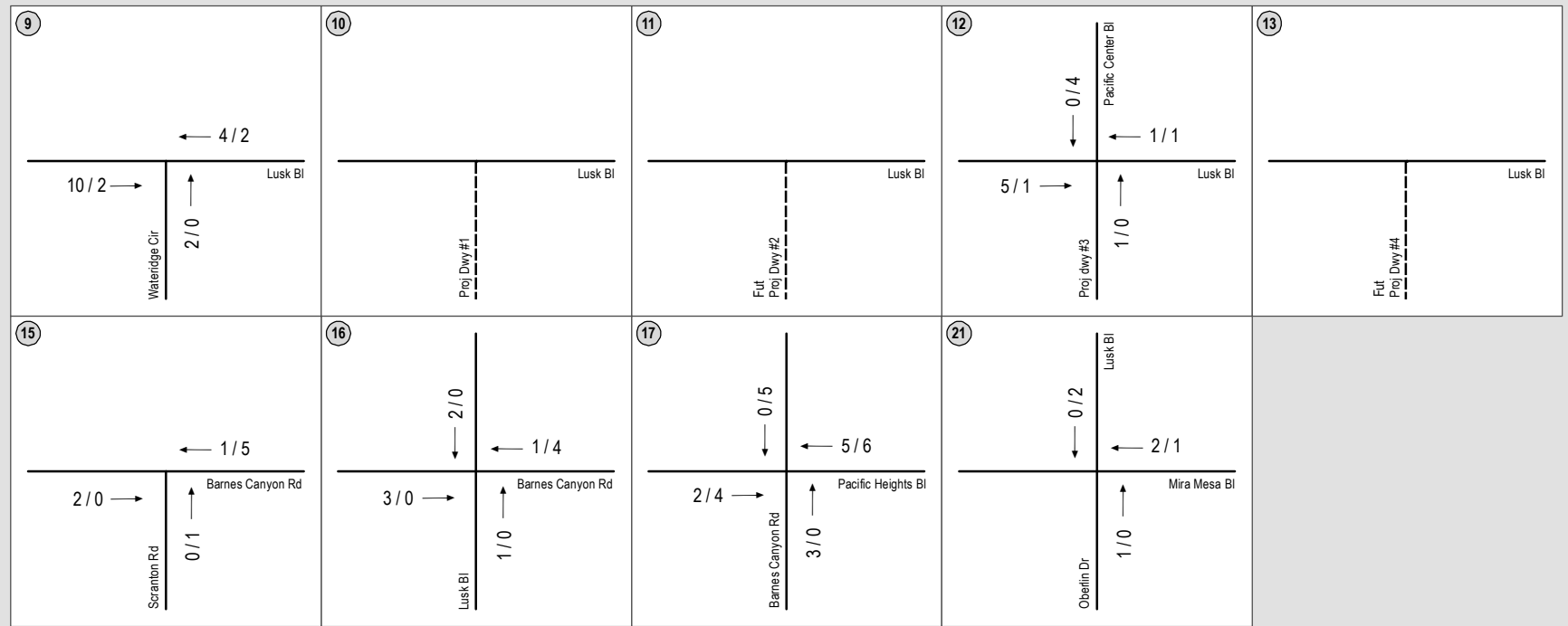


Figure 12-1  
Existing Bicycle Network & Activity



Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

## 13.0 TRANSIT MOBILITY

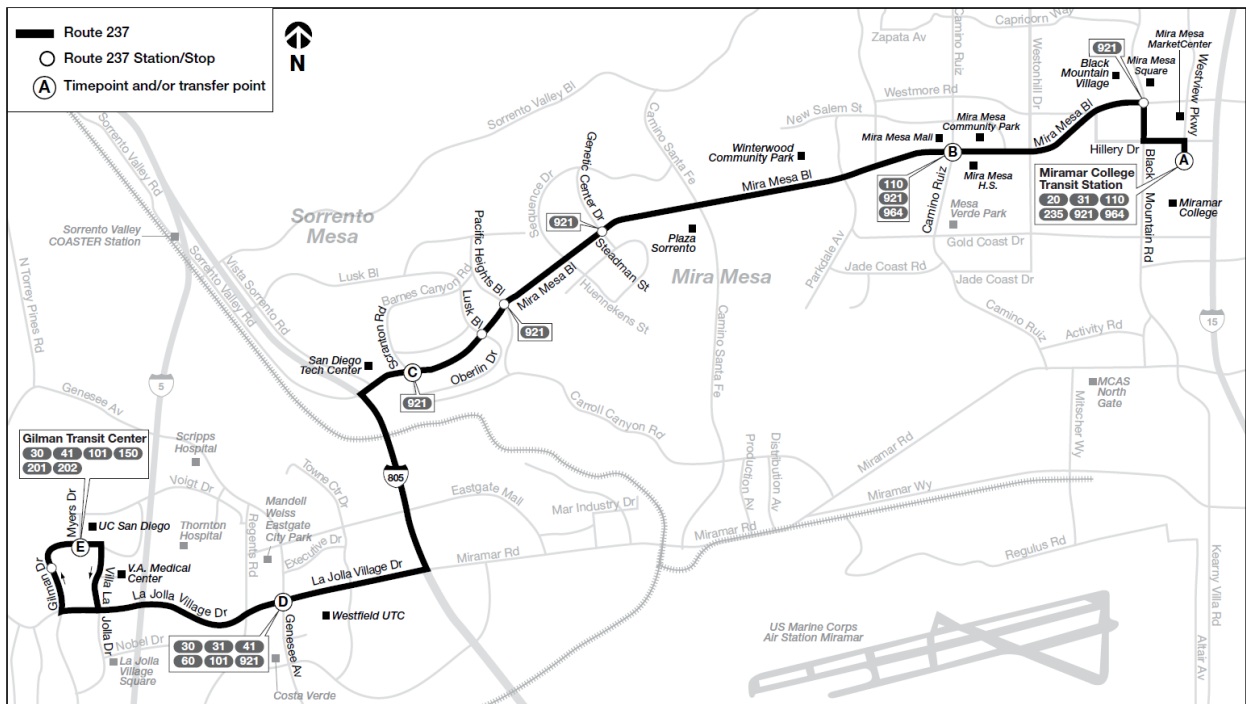
This section presents the existing and future transit conditions in the Project study area.

*Figure 13–1* shows the existing transit network.

### 13.1 Bus Service

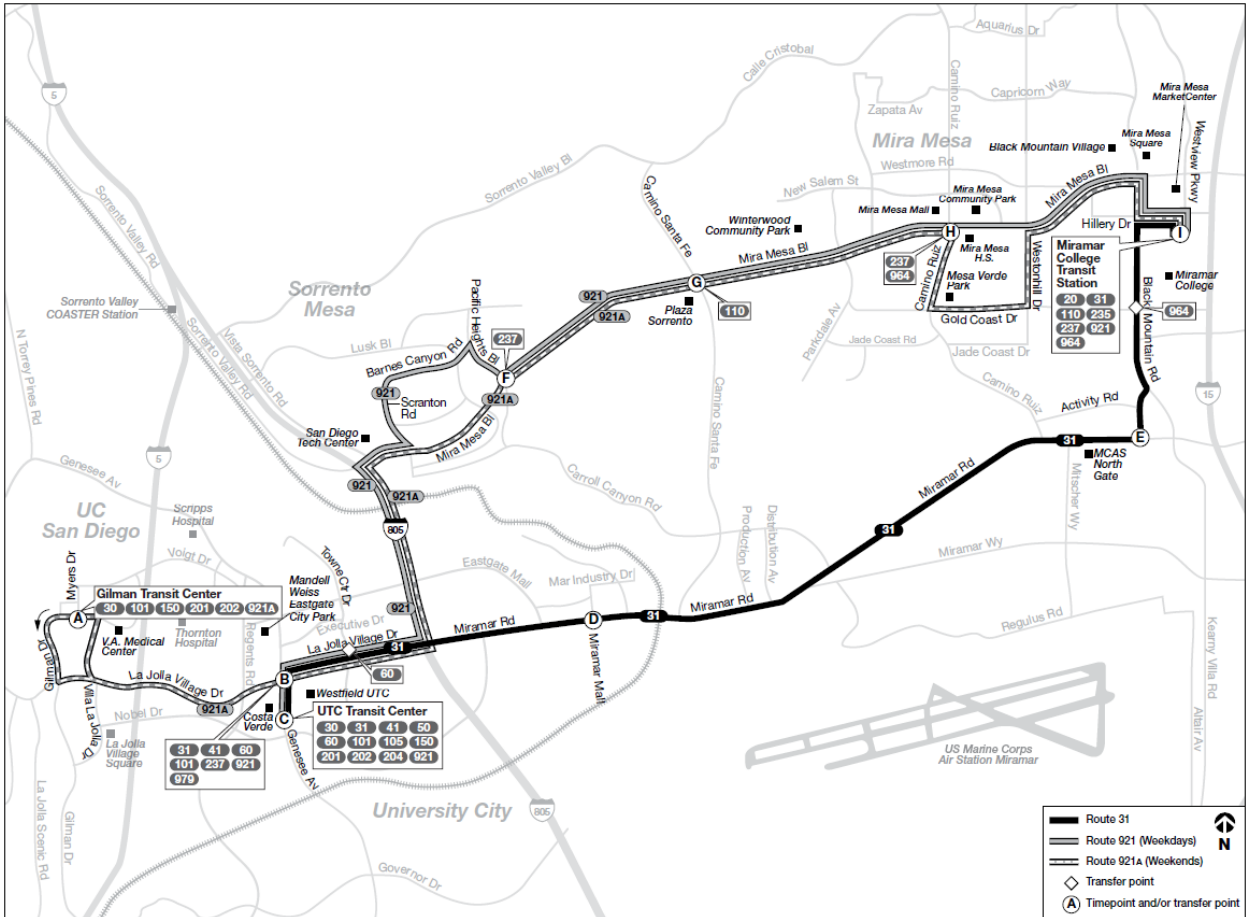
#### 13.1.1 Existing Bus Service

Bus service is provided by the Metropolitan Transit System (MTS). The bus routes serving in the immediate Project area include MTS Routes 237, 921, 972, 973, 974, 978, 979. A description of each route is provided below. *Appendix J* includes the timetable of these bus routes.

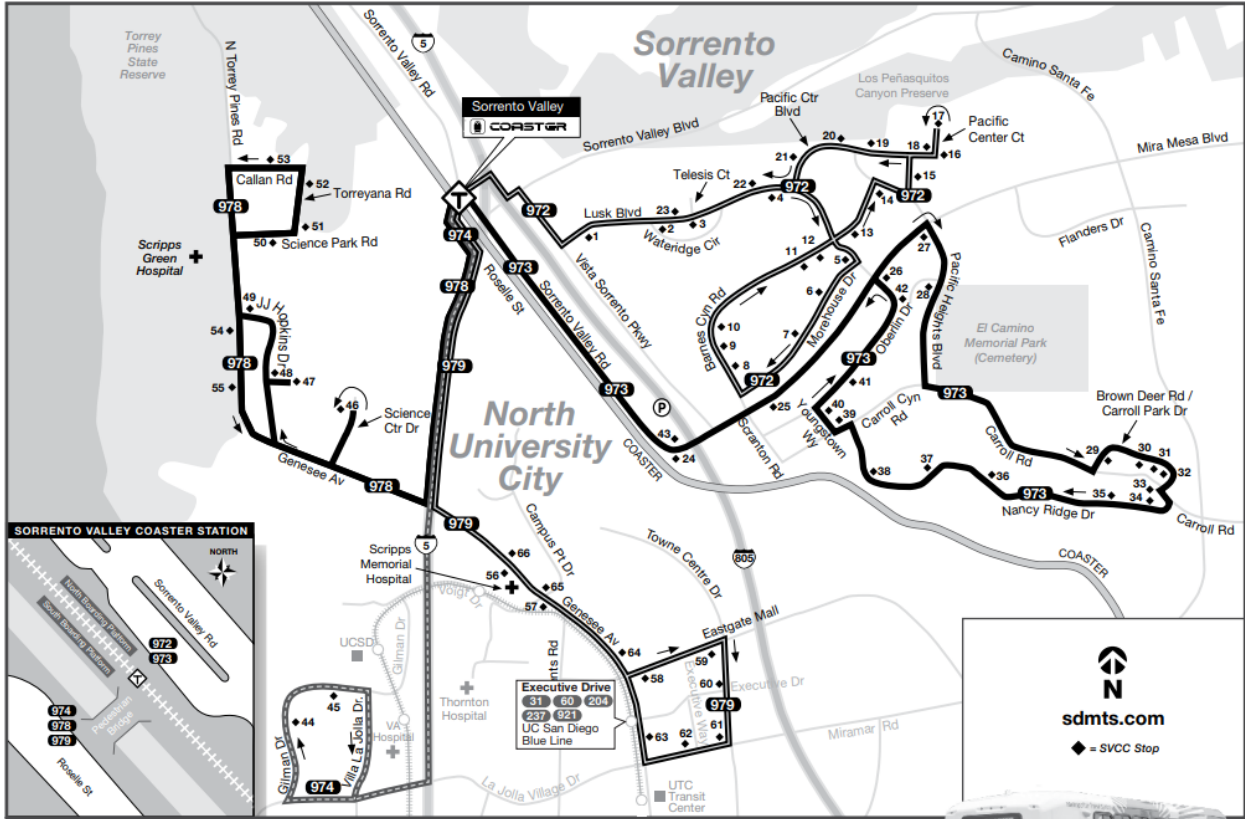


**Route 237** runs between Mira Mesa and UC San Diego. The route runs along Black Mountain Road, Mira Mesa Road, Interstate 805, La Jolla Village Drive, and Gilman Drive. There are a total of thirty-seven (37) stops along this route. Weekday service begins at 5:52 AM with 30-minute headways until 6:22 AM, 15-minute headways until 2:48 PM, 30-minute headways until 4:19 PM, 15-minute headways until 6:47 PM, and 30-minute headway until 7:17 PM, and ends at 7:51 PM. This route does not operate on the weekend.





**Route 921** runs between UTC and Mira Mesa. The route runs along Black Mountain Road, Mira Mesa Road, Interstate 805, Pacific Heights Boulevard, Barnes Canyon Road, Scranton Road, La Jolla Village Drive, and Genesee Avenue. There are a total of fifty-seven (57) stops along this route. Weekday service begins at 6:17 AM with 30-minute headways and ends at 7:46 PM. Weekend service begins at 7:19 AM with 60-minute headways and ends at 8:00 PM.



**Route 972** runs between Sorrento Valley Coaster Station and Sorrento Mesa. The route runs along Vista Sorrento Parkway, Lusk Boulevard, Barnes Canyon Road, Morehouse Drive, and Pacific Center Boulevard. There are a total of twenty-three (23) stops along this route. Weekday service begins at 6:30 AM with 40-minute headways until 7:50 AM, 30-minute headway until 8:16 AM, and 60-minute headways between 4:05 PM and 6:05 PM, and ends at 6:37 PM. This route does not operate on the weekend.

**Route 973** runs between Sorrento Valley Coaster Station and Carroll Canyon. The route runs along Sorrento Valley Road, Mira Mesa Boulevard, Pacific Heights Boulevard, Carroll Canyon Road, Nancy Ridge Drive, Youngstown Way, and Oberlin Drive. There are a total of twenty (20) stops along this route. Weekday service begins at 6:30 AM with 40-minute headways until 7:50 AM, 30-minute headways until 8:19 AM, and 60-minute headways between 4:06 PM and 6:06 PM, and ends at 6:37 PM. This route does not operate on the weekend.

**Route 974** runs between Sorrento Valley Coaster Station and UC San Diego. This route runs along Interstate 5, La Jolla Village Drive, and Gilman Drive. There are a total of three (3) stops along this route. Weekday service begins at 6:30 AM with 40-minute headways until 7:50 AM, 30-minute headways until 8:12 AM, and 60-minute headways between 5:11 PM and 6:12 PM, and ends at 6:37 PM. This route does not operate on the weekend.

**Route 978** runs between Sorrento Valley Coaster Station and Torrey Pines. This route runs along Interstate 5, Genesee Avenue, Science Center Drive, North Torrey Pines Road, John Hopkins Drive, Callan Road, Torreyana Road, and Science Park Road. There are a total of eleven (11) stops along this route. Weekday service begins at 6:30 AM with 40-minute headways until 7:50 AM, 30-minute headways until 8:19 AM, and 60-minute headways between 4:10 PM and 6:06 PM, and ends at 6:37 PM. This route does not operate on the weekend.

**Route 979** runs between Sorrento Valley Coaster Station and University City. This route runs along Interstate 5, Genesee Avenue, La Jolla Village Drive, Executive Drive, and Eastgate Mall. There are a total of twelve (12) stops along this route. Weekday service begins at 6:30 AM with 40-minute headways until 7:50 AM, 30-minute headways until 8:14 AM, and 60-minute headways between 4:08 PM and 6:10 PM, and ends at 6:37 PM. This route does not operate on the weekend.

## 13.2 Train Service

### 13.2.1 Existing Train Service

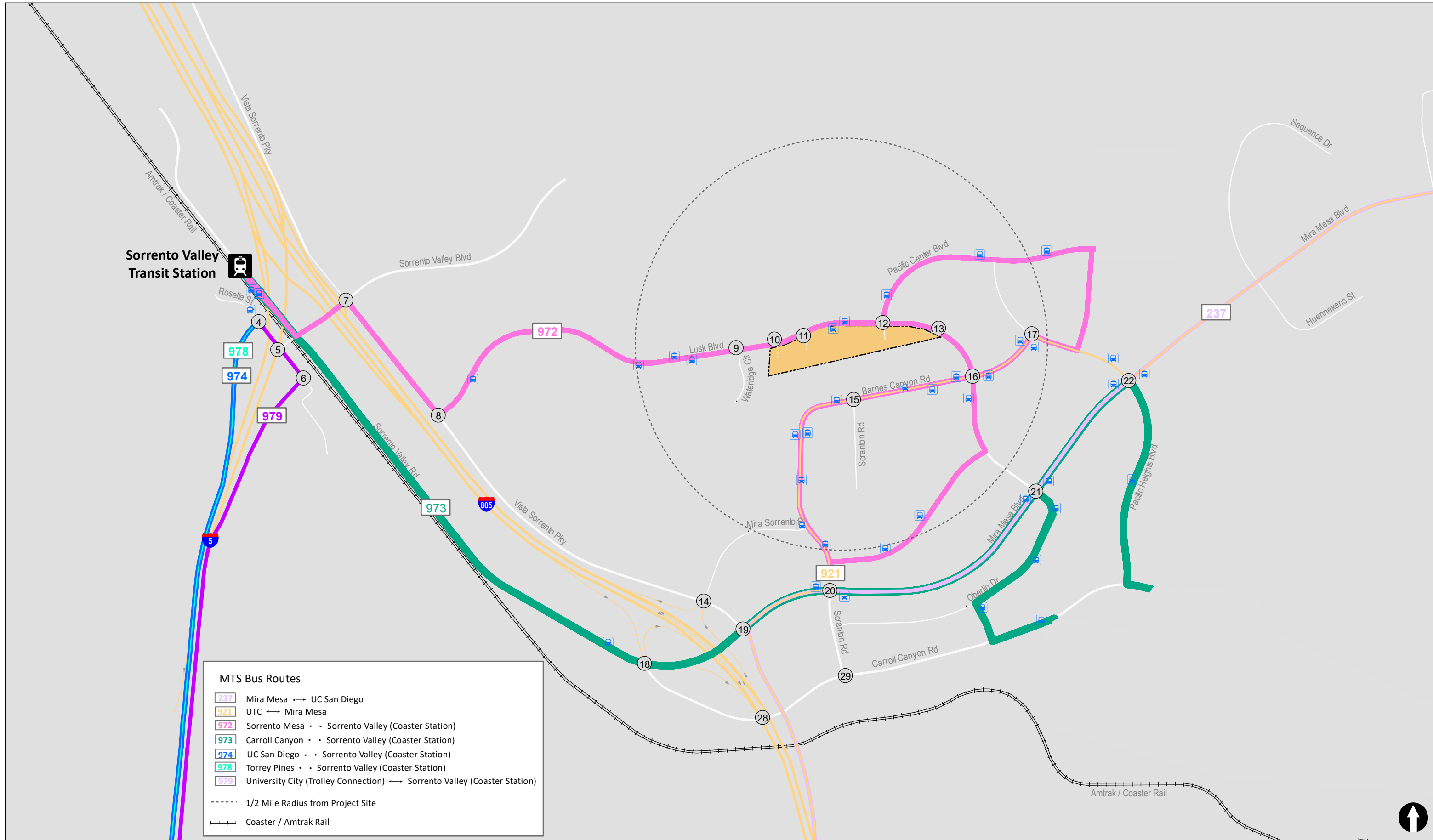
Trolley service is provided by the North County Transit District (NCTD). The COASTER serves in the immediate Project area. A description of the Coaster is provided below. *Appendix J* includes the timetable of this train service.

The **COASTER** runs between San Diego Santa Fe Depot and Oceanside. There are a total of eight (8) stops along this route. COASTER service provides thirty (30) daily trips on the weekdays with an additional two (2) trips on Fridays. It also provides twenty (20) daily weekend trips. Weekday service begins at 5:16 AM with 20 to 120-minute headways and ends at 8:37 PM with the exception on Friday which has one extra trip and ends at 10:17 PM. Weekend service begins at 7:36 AM with 80 to 100-minute headways and ends at 10:17 PM.

## 13.3 Transit Improvement Recommendations

The following transit improvements will be provided by the Project:

- To incentivize employees to use transit, the Project will provide transit subsidies by offering discounts to be used at on-site amenities up to \$30 a month.



## 14.0 SYSTEMIC SAFETY REVIEW

### 14.1 Pedestrian Hot Spots

Based on an evaluation of the intersection footprints found in *Appendix C* of the *City of San Diego's Systemic Safety, The Data-Driven Path to Vision Zero Report (April 2019)* summarized in **Table 14–1**, the following study area intersections within the ½ mile buffer of the Project are identified as “hot spots” for pedestrians necessitating further evaluation:

- #9: Lusk Boulevard / Wateridge Circle

### 14.2 Bicycle Hot Spots

Based on an evaluation of the intersection footprints found in *Appendix C* of the *City of San Diego's Systemic Safety, The Data-Driven Path to Vision Zero Report (April 2019)* summarized in *Table 14–1*, the following study area intersections within the ½ mile buffer of the Project are identified as “hot spots” for bicycles necessitating further evaluation:

- #9: Lusk Boulevard / Wateridge Circle
- #12: Lusk Boulevard / Pacific Center Boulevard / Project Driveway #3
- #15: Barnes Canyon Road / Scranton Road
- #16: Barnes Canyon Road / Lusk Boulevard
- #17: Barnes Canyon Road / Pacific Heights Boulevard

### 14.3 Vehicle Hot Spots

Based on an evaluation of the intersection footprints found in *Appendix C* of the *City of San Diego's Systemic Safety, The Data-Driven Path to Vision Zero Report (April 2019)* summarized in *Table 14–1*, the following study area intersections within the ½ mile buffer are identified as “hot spots” for vehicles necessitating further evaluation:

- #12: Lusk Boulevard / Pacific Center Boulevard / Project Driveway #3
- #16: Barnes Canyon Road / Lusk Boulevard
- #17: Barnes Canyon Road / Pacific Heights Boulevard
- #21: Mira Mesa Boulevard / Lusk Boulevard / Oberlin Drive

### 14.4 Recommended Improvements

The following improvements will be provided by the Project, satisfactory to the City Engineer and shall be complete and operational prior to first occupancy:

- *#9. Lusk Boulevard / Wateridge Circle*: Prior to the issuance of the first building permit, the Project shall assure by permit and bond the installation of a high visibility crosswalk and loop detectors for bicycles on the south leg as well as pedestrian countdown timers at all the intersection legs with pedestrian crossings.

- #12. *Lusk Boulevard / Pacific Center Boulevard / Project Driveway #3*: Prior to the issuance of the first building permit, the Project shall assure by permit and bond the installation of a high visibility crosswalk and loop detectors for bicycles on the north leg as well as pedestrian countdown timers at all the intersection legs with pedestrian crossings. Additionally, the Project shall install backplates with retroreflective borders on the traffic signal heads.
- #16. *Barnes Canyon Road / Lusk Boulevard*: Prior to the issuance of the first building permit, the Project shall assure by permit and bond the implementation of lead pedestrian intervals and installation of pedestrian countdown timers at all the intersection legs with pedestrian crossings as well as loop detectors for bicycles on the east, west, and north legs. Additionally, the Project shall install backplates with retroreflective borders on the traffic signal heads.
- #17. *Barnes Canyon Road / Pacific Heights Boulevard*: Prior to the issuance of the first building permit, the Project shall assure by permit and bond the installation of loop detectors for bicycles on all the intersection legs. Additionally, the Project shall install backplates with retroreflective borders on the traffic signal heads.
- #21. *Mira Mesa Boulevard / Lusk Boulevard / Oberlin Drive*: Prior to the issuance of the first building permit, the Project shall assure by permit and bond the implementation of lead pedestrian intervals and the installation of backplates with retroreflective borders on the traffic signal heads.
- #22. *Mira Mesa Boulevard / Pacific Heights Boulevard*: Prior to the issuance of the first building permit, the Project shall assure by permit and bond the installation of backplates with retroreflective borders on the traffic signal heads.

These improvements are categorized as follows on *Figure 9-1*.

V-10 Install backplates with retroreflective borders on the traffic signal head.

P-1 Install high visibility crosswalks as applicable.

P-2 Install pedestrian countdown timers at all intersection legs with pedestrian crossings as applicable.

P-3 Implement Lead Pedestrian Intervals at all intersections with pedestrian crossings as applicable.

B-1 Install loop detectors for bicycles.

**TABLE 14-1  
SYSTEMIC SAFETY REVIEW – HOTSPOT IDENTIFICATION**

<b>Intersection</b>	<b>Pedestrian Hotspot</b>	<b>Bicycle Hotspot</b>	<b>Vehicular Hotspot</b>
9. Lusk Boulevard / Wateridge Circle	<b>Yes (P-2)</b>	<b>Yes (B-1)</b>	–
10. Lusk Boulevard / Project Driveway #1	–	–	–
11. Lusk Boulevard / Project Driveway #2	–	–	–
12. Lusk Boulevard / Pacific Center Boulevard (Project Driveway #3)		<b>Yes (B-1)</b>	<b>Yes (V-3)</b>
13. Lusk Boulevard / Project Driveway #4	–	–	–
15. Barnes Canyon Road / Scranton Road	–	<b>Yes (B-2)</b>	–
16. Barnes Canyon Road / Lusk Boulevard	–	<b>Yes (B-1)</b>	<b>Yes (V-3)</b>
17. Barnes Canyon Road / Pacific Heights Boulevard	–	<b>Yes (B-1)</b>	<b>Yes (V-3)</b>
21. Mira Mesa Boulevard / Lusk Boulevard (Oberlin Drive)	–	–	<b>Yes (V-2)</b>
22. Mira Mesa Boulevard / Pacific Heights Boulevard	–	–	<b>Yes (V-2)</b>

**General Notes:**

1. Footprint criteria is based on the City of San Diego’s Systemic Safety, The Data-Driven Path to Vision Zero Report, April 2019, Appendix C: Identification of Systemic Hotspots.
2. Bold and shaded = intersection meets hotspot criteria

## 15.0 SITE ACCESS

The Project proposes access to the site via four (4) vehicular driveways on Lusk Boulevard. Site Access to the westside of the project is provided by Project Driveway #1 and Project Driveway #2, which provides connectivity to the westerly parking garage (LP1). Access to the eastside of the project is provided by the Lusk Boulevard / Pacific Center Boulevard / Project Driveway #3 intersection and Project Driveway #4, which would provide connectivity to the easterly parking garage (LP2). In addition to these driveways, there are two (2) loading/unloading driveways between buildings L1 and L2; and between L3 and L4 proposed. These two loading/unloading driveways would not serve employees. The loading/unloading driveways will be primarily used by pickups/drop-offs of employees using rideshare services as well as for trucks during the off-peak hours. **Table 15-1** summarizes the peak hour queuing for the westbound left-turning movement for the unsignalized driveways under the Opening Year 2027 + Project condition. As shown in **Table 15-1**, the westbound left-turn queuing is contained within the provided storage for all of the unsignalized driveways.

**TABLE 15-1**  
**OPENING YEAR 2027 + PROJECT INTERSECTION QUEUE ANALYSIS**

Intersection	Movement	Peak Hour	Storage	Queue Length
Lusk Boulevard / Project Driveway #1	WBL	AM	130'	116'
		PM		24'
Lusk Boulevard / Project Driveway #2	WBL	AM	130'	126'
		PM		33'
Lusk Boulevard / Service Driveway #5	WBL	AM	70'	58'
		PM		12'
Lusk Boulevard / Service Driveway #6	WBL	AM	70'	53'
		PM		13'
Lusk Boulevard / Project Driveway #4	WBL	AM	150'	113'
		PM		38'
Lusk Boulevard / 6455 Lusk Blvd Driveway	EBL	AM	60'	48'
		PM		26'

**General Notes:**

1. 95th percentile queues reported.



## 16.0 TRANSPORTATION DEMAND MANAGEMENT (TDM) PROGRAM

Transportation Demand Management (TDM) plans are comprised of measures, to encourage residents and employees to use alternative forms of transportation other than single occupancy vehicles. The goal of these plans is to reduce and/or remove single occupancy vehicle trips out of the peak hours, thereby relieving traffic congestion. A detailed description of the project's TDM measures is provided below.

### 16.1 Project TDM Measures

The Project TDM measures (as referenced in *Figure 9-1*) include the following:

#### *Mobility Hub*

- The project will construct a Mobility Hub at the main project entry. The hub will provide for multi-modal connectivity with space for private vehicle drop-off, rideshare services, and bikeshare/moped share docks. Two bike repair stations are also proposed as a part of Mobility Hub.

#### *Parking Cash Out*

- To ensure compliance as a part of the City of San Diego Climate Action Plan (CAP Checklist, Strategy 3, item 8) requirements to reduce Single Occupant Vehicle (SOV) travel and associated parking demand, the project will implement a Parking Cash Out Program to incentivize employees to carpool, vanpool, or use public transit. The Parking Cash Out program will include discount or subsidies to be used at on-site amenities up to \$30 a month.

#### *Carpool/Vanpool Parking*

- To ensure compliance as a part of the City of San Diego Climate Action Plan (CAP Checklist, Strategy 3, item 8) requirements to reduce Single Occupant Vehicle (SOV) travel and associated parking demand, the project will provide carpool preferred parking spaces (designated) for employees that self-select to carpool or vanpool with other employees.

#### *Last Mile Transportation Options:*

- If there are no public transit routes connecting the project site to the Sorrento Valley Coaster Station, the project will implement a private Shuttle Program that provides last-mile connectivity for tenants and employees between the Sorrento Valley Train Station and the owner life-science buildings in the area, including the proposed project.

#### *Flexible or Alternative Work Hours*

- To ensure compliance as a part of the City of San Diego Climate Action Plan (CAP Checklist, Strategy 3, item 8) requirements, the project will provide staggered employee

work hours and shift changes, which will reduce the trips accessing the campus at a given time.

*Access to Services that Reduce the Need to Drive*

- The project is a mixed-use development that will encompass site-serving amenities (such as gym facilities, bike facilities, large conference hall, public art, information and welcoming hub, coffee shop, and restaurant), which reduces the need for employees to drive to access such services.

*Marketing and Information*

- The project will participate in the SANDAG iCommute Program.

## 17.0 COMPLETE COMMUNITIES: MOBILITY CHOICES

In November 2020, the City of San Diego adopted the Complete Communities: Mobility Choices Program. Complete Communities includes planning strategies that work together to create incentives to build homes near transit, provide more mobility choices and enhance opportunities for places to walk, bike, relax and play. These efforts ensure that all residents have access to the resources and opportunities necessary to improve the quality of their lives.

The purpose of the Mobility Choices Regulations is to reduce Citywide vehicle miles traveled (VMT) to address the environmental impacts of development related to noise, air pollution, and greenhouse gas emissions, and to promote public health and enjoyment, by investing in active transportation infrastructure and amenities that will result in the greatest reductions to Citywide VMT.

The San Diego Municipal Code (SDMC) Ordinance Number O-21274, adopted on December 9, 2020, provides the development regulations for the Mobility Choices portion of the Complete Communities program. According to the ordinance, the Project is located in Mobility Zone 2. Mobility Zone 2 means any premises located either partially or entirely within a Transit Priority Area (TPA).

SDMC Section 143.1103(b) indicates the requirement for the application of VMT Reduction Measures for all development located within Mobility Zone 2 in accordance with the Land Development Manual Appendix T. The City of San Diego's Land Development Manual Appendix T provides a list of VMT Reduction Measures that are split into a series of categories, which include Pedestrian Measures, Bicycle Supportive Measures, Transit Supportive Measures, and Other Measures. Each of the individual measures is given an assigned point value per unit of measure. For development in Mobility Zone 2 that provides more than the minimum parking requirement, SDMC Section 143.1103(b)(6) identifies the requirement to provide VMT Reduction Measures totaling at least 8 points. The Project will provide measures as required by the ordinance that add up to at least 8 points as identified in the City of San Diego's Land Development Manual Appendix T. The Project will obtain at least 8 points through the following measures shown in **Table 17-1**.

**TABLE 17-1**  
**MOBILITY CHOICES VMT REDUCTION MEASURES**

Category	Measures	Points
<b>Pedestrian Measures</b>	The project will install high visibility crosswalk striping on the south leg of the intersection of Lusk Boulevard and Wateridge Circle. (=1.5 points / 3 legs of intersection)	0.5
	As a part of the project frontage improvements, the Project will widen the sidewalk along its entire 2,200-ft frontage on Lusk Boulevard. This will be provided within a 22-ft parkway, consisting of an 8-ft non-contiguous sidewalk and a 14-ft landscape buffer, as part of the Project's widening of Lusk Boulevard to 4-lane Major standards. (=3 points per mile of widening x 0.417 miles)	1.25
<b>Bicycle Supportive Measures</b>	The Project will provide two (2) on-site bicycle repair stations. (=1.5 points per station x 2 stations)	3
	The Project will install five (5) electric bicycle charging stations.	2
	The Project will provide short-term bicycle parking spaces, at least 10% beyond minimum requirements. The Project is required to provide 138 spaces, and the project will provide 168 spaces which is approximately 20% beyond the minimum requirements. Per Appendix T (Mobility Choices Regulations Implementation Guidelines) of the Land Development Code (LDC), each multiple of 10% beyond the minimum equates to 1.5 points.	3
<b>Total</b>		9.75

TECHNICAL APPENDICES TO THE  
LOCAL MOBILITY ANALYSIS  
**LONGFELLOW ON LUSK**  
City of San Diego, California  
September 2024

LLG Ref. 3-22-3544

**Linscott, Law &  
Greenspan, Engineers**

4542 Ruffner Street  
Suite 100

San Diego, CA 92111

**858.300.8800** T

858.300.8810 F

[www.llgengineers.com](http://www.llgengineers.com)

## APPENDICES

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### APPENDIX

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- A. Intersection Methodology
- B. City of San Diego Roadway Classification Table
- C. Intersection and Segment Manual Count Sheets
- D. Existing Intersection Analysis Calculation Sheets
- E. SANDAG Series 14 ABM 2+ Select Zone Assignment Model Run
- F. Opening Year 2027 Intersection Analysis Calculation Sheets
- G. Opening Year 2027 + Project Intersection Analysis Calculation Sheets
- H. Signal Warrant Analysis
- I. Project Improvement Conceptual Plans
- J. Bus Route Schedules

# APPENDIX A

## INTERSECTION METHODOLOGY

## SIGNALIZED INTERSECTIONS

For signalized intersections, level of service criteria are stated in terms of the average control delay per vehicle for a 15-minute analysis period. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. **Table 1** summarizes the delay thresholds for signalized intersections.

Level of service A describes operations with very low delay, (i.e. less than 10.0 seconds per vehicle). This occurs when progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.

Level of service B describes operations with delay in the range 10.1 seconds and 20.0 seconds per vehicle. This generally occurs with good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.

**TABLE 1**

**LEVEL OF SERVICE THRESHOLDS FOR SIGNALIZED INTERSECTIONS**

AVERAGE CONTROL DELAY PER VEHICLE (SECONDS/VEHICLE)				LEVEL OF SERVICE
0.0	≤	10.0		A
10.1	to	20.0		B
21.1	to	35.0		C
35.1	to	55.0		D
55.1	to	80.0		E
	≥	80.0		F

Source: Highway Capacity Manual, 2000.

Level of service C describes operations with delay in the range 20.1 seconds and 35.0 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.

Level of service D describes operations with delay in the range 35.1 seconds and 55.0 seconds per vehicle. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or higher v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are more frequent.



Level of service E describes operations with delay in the range of 55.1 seconds to 80.0 seconds per vehicle. This is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.

Level of service F describes operations with delay in excess of over 80.0 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with over-saturation (i.e., when arrival flow rates exceed the capacity of the intersection). It may also occur at high v/c ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

## UNIGNALIZED INTERSECTIONS

For unsignalized intersections, level of service is determined by the computed or measured control delay and is defined for each minor movement. Level of service is not defined for the intersection as a whole. **Table 2** depicts the criteria, which are based on the average control delay for any particular minor movement.

**TABLE 2**

**LEVEL OF SERVICE THRESHOLDS FOR UNSIGNALIZED INTERSECTIONS**

AVERAGE CONTROL DELAY PER VEHICLE (SECONDS/VEHICLE)			LEVEL OF SERVICE	EXPECTED DELAY TO MINOR STREET TRAFFIC
0.0	≤	10.0	A	Little or no delay
10.1	to	15.0	B	Short traffic delays
15.1	to	25.0	C	Average traffic delays
25.1	to	35.0	D	Long traffic delays
35.1	to	50.0	E	Very long traffic delays
	≥	50.0	F	Severe congestion

Source: Highway Capacity Manual, 2000.

Level of Service F exists when there are insufficient gaps of suitable size to allow a side street demand to safely cross through a major street traffic stream. This level of service is generally evident from extremely long control delays experienced by side-street traffic and by queuing on the minor-street approaches. The method, however, is based on a constant critical gap size; that is, the critical gap remains constant no matter how long the side-street motorist waits. LOS F may also appear in the form of side-street vehicles selecting smaller-than-usual gaps. In such cases, safety may be a problem, and some disruption to the major traffic stream may result. It is important to note that LOS F may not always result in long queues but may result in adjustments to normal gap acceptance behavior, which are more difficult to observe in the field than queuing.

## **APPENDIX B**

### **CITY OF SAN DIEGO ROADWAY CLASSIFICATION TABLE**

## Roadway Segment LOS by Classification and Average Daily Traffic (ADT)

**Table Appendix F-1** provides street classifications and associated LOS thresholds dependent on the roadway's average daily traffic (ADT).

**TABLE APPENDIX F-1**

### ROADWAY CLASSIFICATIONS, LOS, AND AVERAGE DAILY TRAFFIC (ADT)

STREET CLASSIFICATION	LANES	LEVEL OF SERVICE				
		A	B	C	D	E
Expressway	8 lanes	40,000	56,000	80,000	93,500	107,000
Expressway	7 lanes	35,000	49,000	70,000	82,000	93,500
Expressway	6 lanes	30,000	42,000	60,000	70,000	80,000
Prime Arterial <sup>1</sup>	8 lanes	35,000	50,000	70,000	75,000	80,000
Prime Arterial <sup>1</sup>	7 lanes	30,000	42,500	60,000	65,000	70,000
Prime Arterial	6 lanes	25,000	35,000	50,000	55,000	60,000
Prime Arterial <sup>10</sup>	5 lanes	20,000	28,000	40,000	45,000	50,000
Prime Arterial <sup>11</sup>	4 lanes	17,500	24,500	35,000	40,000	45,000
Major Arterial <sup>2</sup>	7 lanes	22,500	31,500	45,000	50,000	55,000
Major Arterial	6 lanes	20,000	28,000	40,000	45,000	50,000
Major Arterial <sup>3</sup>	5 lanes	17,500	24,500	35,000	40,000	45,000
Major Arterial	4 lanes	15,000	21,000	30,000	35,000	40,000
Major Arterial	3 lanes	11,250	15,750	22,500	26,250	30,000
Major Arterial	2 lanes	7,500	10,500	15,000	17,500	20,000
Major Arterial (one-way) <sup>4</sup>	3 lanes	12,500	16,500	22,500	25,000	27,500
Major Arterial (one-way) <sup>5</sup>	2 lanes	10,000	13,000	17,500	20,000	22,500

STREET CLASSIFICATION	LANES	LEVEL OF SERVICE				
		A	B	C	D	E
Collector <i>(with two-way left turn lane)</i>	5 lanes	12,500	17,500	25,000	30,750	37,500
Collector <i>(with two-way left turn lane)</i>	4 lanes	10,000	14,000	20,000	25,000	30,000
Collector <i>(with two-way left turn lane)</i>	3 lanes	7,500	10,500	15,000	18,750	22,500
Collector <i>(with two-way left turn lane)</i>	2 lanes	5,000	7,000	10,000	13,000	15,000
Collector <i>(without two-way left turn lane)</i>	4 lanes	5,000	7,000	10,000	13,000	15,000
Collector <i>(without two-way left turn lane)</i> <sup>6</sup>	3 lanes	4,000	5,000	7,500	10,000	11,000
Collector <i>(without two-way left turn lane)</i>	2 lanes	2,500	3,500	5,000	6,500	8,000
Collector <i>(with no fronting property)</i>	2 lanes	4,000	5,500	7,500	9,000	10,000
Collector <i>(one-way)</i> <sup>7</sup>	3 lanes	11,000	14,000	19,000	22,500	26,000
Collector <i>(one-way)</i> <sup>8</sup>	2 lanes	7,500	9,500	12,500	15,000	17,500
Collector <i>(one-way)</i> <sup>9</sup>	1 lane	2,500	3,500	5,000	6,500	7,500
Sub-Collector <i>(Single-family)</i>	2 lanes	--	--	2,200	--	--

Notes:

The volumes and the average daily level of service listed above are only intended as a general planning guideline. Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors.

<sup>1</sup>Calculated assuming that each additional lane above a 6-Ln Arterial adds 5,000 ADT for LOS A, 7,500 ADT for LOS B and 10,000 ADT for LOS C, D, and E

<sup>2</sup>Calculated assuming that ADT is 1/2 way between steps of a 6-Ln Major Arterial & 6 Ln Prime Arterial

<sup>3</sup>Calculated assuming that ADT is 1/2 way between steps of a 4-Ln Major Arterial & 6 Ln Major Arterial

<sup>4</sup>Calculated using: Capacity = 0.5 (6-Ln Major (2-way) + Added Capacity of 2,500 ADT)

<sup>5</sup>Calculated using: Capacity = 0.5 (4-Ln Major (2-way) + Added Capacity of 2,500 ADT)

<sup>6</sup>Calculated using: Capacity = 4-Ln Collector (no center lane) \* (3/4)

<sup>7</sup>Calculated using: Capacity = 2-Ln Collector (one-way) \* (3/2)

<sup>8</sup>Calculated using: Capacity = 0.5 (4-Ln Collector w/continuous left turn lane) + Added Capacity of 2,500 ADT)

<sup>9</sup>Calculated using: Capacity = 0.5 (2-Ln Collector w/ continuous left turn lane). Capacity took into account parking friction from both sides of roadway

<sup>10</sup> Calculated by applying same differences between 8-Ln Prime & 7-Ln Prime & 7-Ln Prime & 6-Ln Prime

<sup>11</sup> Calculated assuming ratio between 6-Ln Prime & 6-Ln Major applied to 4-Ln Major

**APPENDIX C**  
**INTERSECTION AND SEGMENT MANUAL COUNT SHEETS**

## Intersection Turning Movement - Peak Hour Vehicle Count

<b>LINSCOTT LAW &amp; GREENSPAN engineers</b>	Location: #02	File Name: ITM-22-035-02
	Intersection: Carmel Mountain Road & I-5 Southbound Ramps	Project: LLG Ref. 3-22-3544
	Date of Count: Tuesday, May 10, 2022	Lusk on Lusk

AM	I-5 SB Off Ramp Southbound			Carmel Mountain Road Westbound			I-5 SB On Ramp Northbound			Carmel Mountain Road Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	72	0	72	76	33	0	0	0	0	0	15	4	272
7:15	94	0	65	96	33	0	0	0	0	0	18	2	308
7:30	94	0	82	121	38	0	0	0	0	1	22	3	361
7:45	130	1	98	164	52	0	0	0	0	0	18	2	465
8:00	121	1	93	176	60	0	0	0	0	1	25	13	490
8:15	122	0	102	108	58	0	0	0	0	0	39	5	434
8:30	149	0	113	98	77	0	0	0	0	0	34	11	482
8:45	142	0	113	102	63	0	0	0	0	0	38	12	470
<b>Total</b>	<b>924</b>	<b>2</b>	<b>738</b>	<b>941</b>	<b>414</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>209</b>	<b>52</b>	<b>3282</b>
Approach%	55.5	0.1	44.4	69.4	30.6	-	-	-	-	0.8	79.5	19.8	
Total%	28.2	0.1	22.5	28.7	12.6	-	-	-	-	0.1	6.4	1.6	

**AM Intersection Peak Hour: 08:00 to 09:00**

Volume	534	1	421	484	258	-	-	-	-	1	136	41	1,876
Approach%	55.9	0.1	44.0	65.2	34.8	-	-	-	-	0.6	76.4	23.0	
Total%	28.5	0.1	22.4	25.8	13.8	-	-	-	-	0.1	7.2	2.2	
PHF			0.91			0.79			#DIV/0!			0.89	0.96

PM	I-5 SB Off Ramp Southbound			Carmel Mountain Road Westbound			I-5 SB On Ramp Northbound			Carmel Mountain Road Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	106	0	45	113	29	0	0	0	0	1	138	18	450
16:15	90	0	41	82	36	0	0	0	0	0	116	31	396
16:30	104	0	32	108	44	0	0	0	0	0	129	25	442
16:45	111	0	59	94	26	0	0	0	0	0	146	21	457
17:00	128	0	60	113	34	0	0	0	0	0	142	31	508
17:15	129	0	36	90	33	0	0	0	0	0	144	20	452
17:30	105	0	45	80	40	0	0	0	0	0	161	21	452
17:45	122	0	49	97	36	0	0	0	0	0	141	16	461
<b>Total</b>	<b>895</b>	<b>0</b>	<b>367</b>	<b>777</b>	<b>278</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1117</b>	<b>183</b>	<b>3618</b>
Approach%	70.9	-	29.1	73.6	26.4	-	-	-	-	0.1	85.9	14.1	
Total%	24.7	-	10.1	21.5	7.7	-	-	-	-	0.0	30.9	5.1	

**PM Intersection Peak Hour: 17:00 to 18:00**

Volume	484	-	190	380	143	-	-	-	-	-	588	88	1,873
Approach%	71.8	-	28.2	72.7	27.3	-	-	-	-	-	87.0	13.0	
Total%	25.8	-	10.1	20.3	7.6	-	-	-	-	-	31.4	4.7	
PHF			0.90			0.89			#DIV/0!			0.93	0.92

## Intersection Turning Movement - Bicycle & Pedestrian Count

<b>LINSCOTT LAW &amp; GREENSPAN</b> <i>engineers</i>	Location: #02	File Name: ITM-22-035-02
	Intersection: Carmel Mountain Road & I-5 Southbound Ramps	Project: LLG Ref. 3-22-3544
	Date of Count: Tuesday, May 10, 2022	Lusk on Lusk

AM	I-5 SB Off Ramp Southbound				Carmel Mountain Road Westbound				I-5 SB On Ramp Northbound				Carmel Mountain Road Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
7:15	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	7	0	0	0	0	0	3	0	0	0	0	0	0	0	1	0	7	4
8:00	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
8:15	12	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	12	1
8:30	9	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	9	1
8:45	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	1
Ped Total	30				0				0				0				30	
Bike Total		1	0	0		0	11	0		0	0	0		0	2	0		14

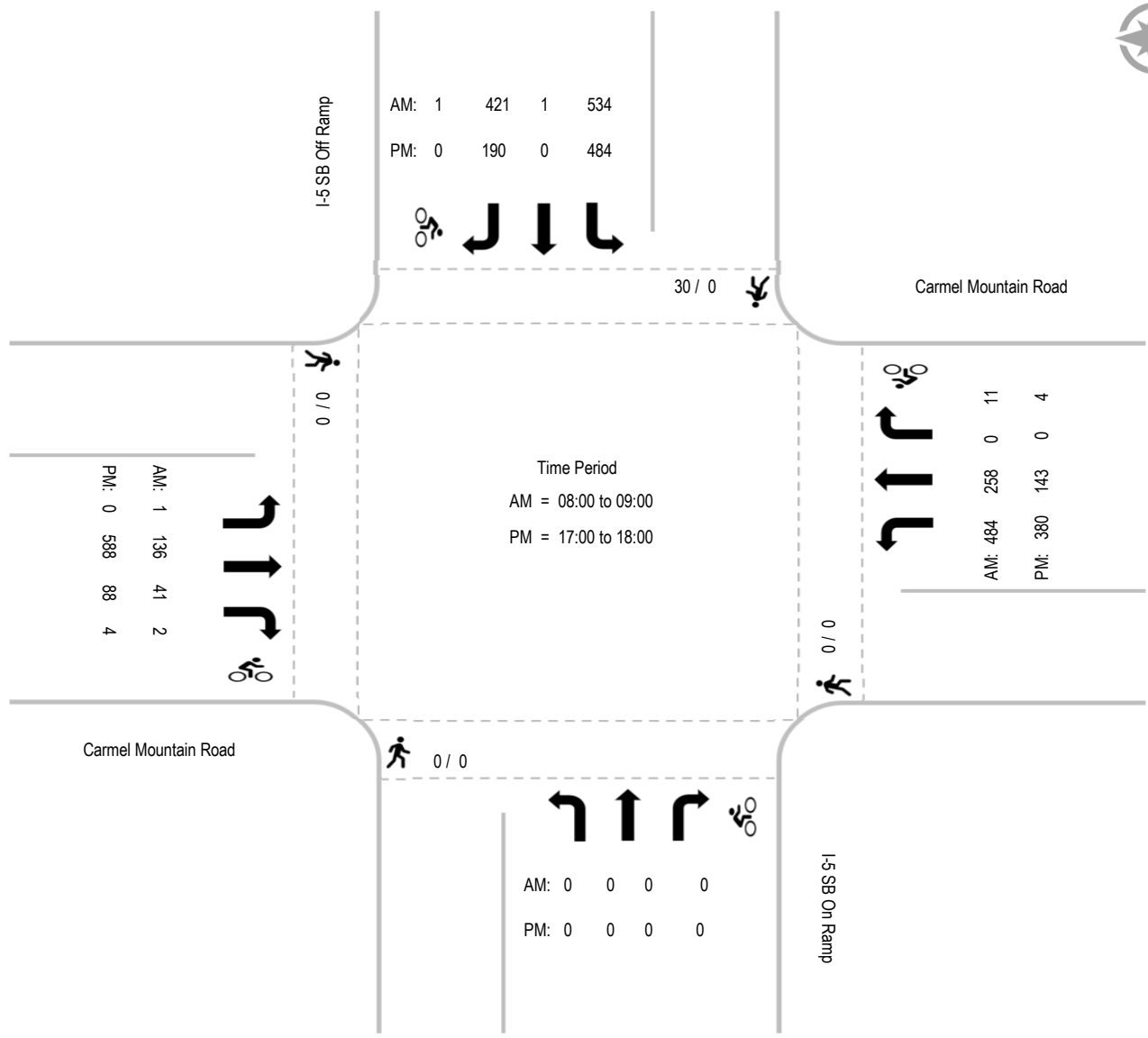
PM	I-5 SB Off Ramp Southbound				Carmel Mountain Road Westbound				I-5 SB On Ramp Northbound				Carmel Mountain Road Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	4
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2
Ped Total	0				0				0				0				0	
Bike Total		0	0	0		0	4	0		0	0	0		0	4	0		8

# Intersection Turning Movement - Peak Hour Summary



Location: #02  
 Intersection: Carmel Mountain Road & I-5 Southbound Ramps  
 Date of Count: Tuesday, May 10, 2022

File Name: ITM-22-035-02  
 Project: LLG Ref. 3-22-3544  
 Lusk on Lusk





## Intersection Turning Movement - Peak Hour Vehicle Count

<b>LINSCOTT LAW &amp; GREENSPAN</b> <i>engineers</i>	Location: #03	File Name: ITM-22-035-03
	Intersection: Carmel Mountain Road & I-5 Northbound Ramps	Project: LLG Ref. 3-22-3544
	Date of Count: Tuesday, May 10, 2022	Lusk on Lusk

AM	I-5 NB On Ramp Southbound			Carmel Mountain Road Westbound			I-5 NB Off Ramp Northbound			Carmel Mountain Road Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	0	0	0	0	92	100	19	1	69	18	71	0	370
7:15	0	0	0	0	139	149	24	1	67	20	100	1	501
7:30	0	0	0	0	150	148	25	0	83	18	127	0	551
7:45	0	0	0	0	189	150	29	0	100	18	169	0	655
8:00	0	0	0	0	202	153	48	0	80	22	140	0	645
8:15	0	0	0	0	146	129	34	0	86	25	143	0	563
8:30	0	0	0	0	158	93	38	0	82	25	156	0	552
8:45	0	0	0	0	152	80	38	0	114	30	140	0	554
Total	0	0	0	0	1228	1002	255	2	681	176	1046	1	4391
Approach%	-	-	-	-	55.1	44.9	27.2	0.2	72.6	14.4	85.5	0.1	
Total%	-	-	-	-	28.0	22.8	5.8	0.0	15.5	4.0	23.8	0.0	

**AM Intersection Peak Hour: 07:45 to 08:45**

Volume	-	-	-	-	695	525	149	-	348	90	608	-	2,415
Approach%	-	-	-	-	57.0	43.0	30.0	-	70.0	12.9	87.1	-	
Total%	-	-	-	-	28.8	21.7	6.2	-	14.4	3.7	25.2	-	
PHF			#DIV/0!			0.86			0.96			0.93	0.92

PM	I-5 NB On Ramp Southbound			Carmel Mountain Road Westbound			I-5 NB Off Ramp Northbound			Carmel Mountain Road Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	0	0	0	116	126	19	0	97	108	135	0	601
16:15	0	0	0	0	91	111	22	1	126	97	119	0	567
16:30	0	0	0	0	134	132	16	0	121	102	114	0	619
16:45	0	0	0	0	108	112	15	1	134	113	141	0	624
17:00	0	0	0	0	120	136	27	3	123	123	148	0	680
17:15	0	0	0	0	104	127	16	1	155	112	160	0	675
17:30	0	0	0	0	114	126	16	1	140	110	146	0	653
17:45	0	0	0	0	115	98	15	0	117	117	163	0	625
Total	0	0	0	0	902	968	146	7	1013	882	1126	0	5044
Approach%	-	-	-	-	48.2	51.8	12.5	0.6	86.9	43.9	56.1	-	
Total%	-	-	-	-	17.9	19.2	2.9	0.1	20.1	17.5	22.3	-	

**PM Intersection Peak Hour: 17:00 to 18:00**

Volume	-	-	-	-	453	487	74	5	535	462	617	-	2,633
Approach%	-	-	-	-	48.2	51.8	12.1	0.8	87.1	42.8	57.2	-	
Total%	-	-	-	-	17.2	18.5	2.8	0.2	20.3	17.5	23.4	-	
PHF			#DIV/0!			0.92			0.89			0.96	0.97

## Intersection Turning Movement - Bicycle & Pedestrian Count

<b>LINSCOTT LAW &amp; GREENSPAN</b> <i>engineers</i>	Location: #03	File Name: ITM-22-035-03
	Intersection: Carmel Mountain Road & I-5 Northbound Ramps	Project: LLG Ref. 3-22-3544
	Date of Count: Tuesday, May 10, 2022	Lusk on Lusk

AM	I-5 NB On Ramp Southbound				Carmel Mountain Road Westbound				I-5 NB Off Ramp Northbound				Carmel Mountain Road Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
7:15	0	0	0	0	0	0	3	0	0	1	0	0	0	0	1	0	0	5
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:00	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	0	0	3
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	4	0	0	0	0	0	0	1	0	0	0	5
8:45	0	0	0	0	0	0	2	0	0	0	0	0	0	1	0	0	0	3
Ped Total	1				0				0				0				1	
Bike Total		0	0	0		0	12	0		1	0	0		0	5	0		18

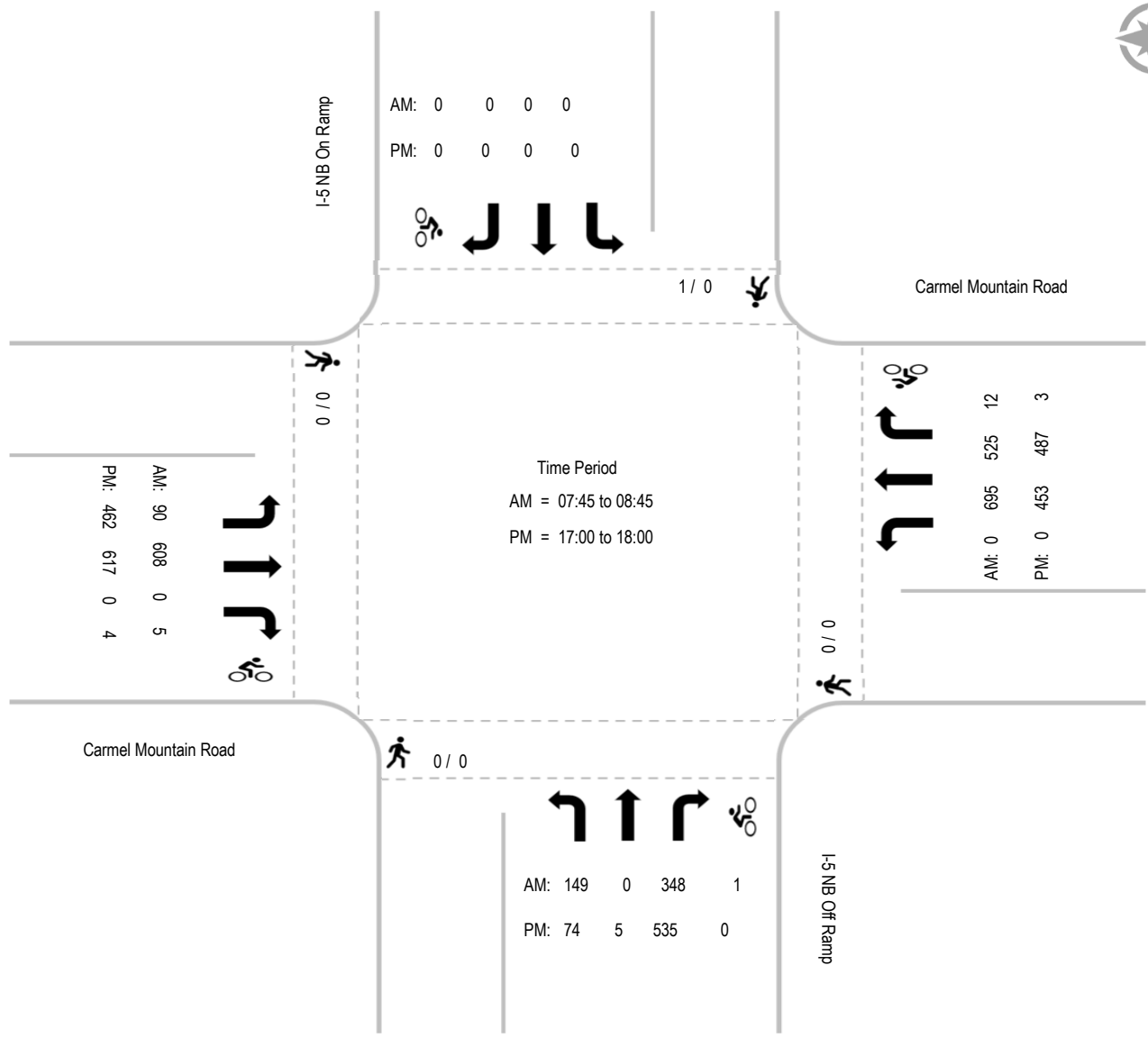
PM	I-5 NB On Ramp Southbound				Carmel Mountain Road Westbound				I-5 NB Off Ramp Northbound				Carmel Mountain Road Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	3
16:15	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
16:45	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	2
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				0				0				0	
Bike Total		0	0	0		0	3	0		0	0	0		0	4	0		7

# Intersection Turning Movement - Peak Hour Summary

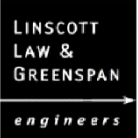


Location: #03  
 Intersection: Carmel Mountain Road & I-5 Northbound Ramps  
 Date of Count: Tuesday, May 10, 2022

File Name: ITM-22-035-03  
 Project: LLG Ref. 3-22-3544  
 Lusk on Lusk



## Intersection Turning Movement - Peak Hour Vehicle Count



<b>Location:</b>	#04	<b>File Name:</b>	ITM-22-035-04
<b>Intersection:</b>	Carmel Mountain Rd & Vista Sorrento Pkwy (Torrey View Ct)	<b>Project:</b>	LLG Ref. 3-22-3544
<b>Date of Count:</b>	Tuesday, May 10, 2022		Lusk on Lusk

AM	Torrey View Court Southbound			Carmel Mountain Road Westbound			Vista Sorrento Parkway Northbound			Carmel Mountain Road Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	19	94	3	89	4	39	12	63	58	2	6	6	395
7:15	36	117	8	161	4	43	22	79	71	2	2	10	555
7:30	46	156	8	134	5	39	16	103	109	5	4	14	639
7:45	63	203	7	142	8	65	27	109	132	6	1	19	782
8:00	60	169	4	139	6	57	12	62	116	3	3	12	643
8:15	46	162	6	107	2	59	16	66	127	6	3	9	609
8:30	80	134	6	84	4	41	5	85	146	1	2	6	594
8:45	66	116	2	93	3	54	16	100	109	2	4	6	571
<b>Total</b>	<b>416</b>	<b>1151</b>	<b>44</b>	<b>949</b>	<b>36</b>	<b>397</b>	<b>126</b>	<b>667</b>	<b>868</b>	<b>27</b>	<b>25</b>	<b>82</b>	<b>4788</b>
Approach%	25.8	71.4	2.7	68.7	2.6	28.7	7.6	40.2	52.3	20.1	18.7	61.2	
Total%	8.7	24.0	0.9	19.8	0.8	8.3	2.6	13.9	18.1	0.6	0.5	1.7	

**AM Intersection Peak Hour: 07:30 to 08:30**

Volume	215	690	25	522	21	220	71	340	484	20	11	54	2,673
Approach%	23.1	74.2	2.7	68.4	2.8	28.8	7.9	38.0	54.1	23.5	12.9	63.5	
Total%	8.0	25.8	0.9	19.5	0.8	8.2	2.7	12.7	18.1	0.7	0.4	2.0	
PHF			0.85			0.89			0.83			0.82	0.85

PM	Torrey View Court Southbound			Carmel Mountain Road Westbound			Vista Sorrento Parkway Northbound			Carmel Mountain Road Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	52	116	5	81	3	68	10	163	81	7	8	23	617
16:15	45	80	2	73	2	48	7	160	97	7	1	15	537
16:30	60	112	3	92	1	65	11	118	101	1	3	20	587
16:45	49	98	2	81	1	64	5	166	114	3	2	6	591
17:00	71	109	2	117	1	75	4	146	135	5	4	6	675
17:15	76	100	3	94	1	78	9	188	122	7	4	7	689
17:30	59	102	4	99	0	81	8	158	121	4	2	6	644
17:45	48	101	6	65	0	86	8	157	112	3	3	5	594
<b>Total</b>	<b>460</b>	<b>818</b>	<b>27</b>	<b>702</b>	<b>9</b>	<b>565</b>	<b>62</b>	<b>1256</b>	<b>883</b>	<b>37</b>	<b>27</b>	<b>88</b>	<b>4934</b>
Approach%	35.2	62.7	2.1	55.0	0.7	44.3	2.8	57.1	40.1	24.3	17.8	57.9	
Total%	9.3	16.6	0.5	14.2	0.2	11.5	1.3	25.5	17.9	0.7	0.5	1.8	

**PM Intersection Peak Hour: 17:00 to 18:00**

Volume	254	412	15	375	2	320	29	649	490	19	13	24	2,602
Approach%	37.3	60.5	2.2	53.8	0.3	45.9	2.5	55.6	42.0	33.9	23.2	42.9	
Total%	9.8	15.8	0.6	14.4	0.1	12.3	1.1	24.9	18.8	0.7	0.5	0.9	
PHF			0.94			0.90			0.92			0.78	0.94

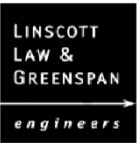
## Intersection Turning Movement - Bicycle & Pedestrian Count

<b>LINSCOTT LAW &amp; GREENSPAN</b> <i>engineers</i>	Location: #04	File Name: ITM-22-035-04
	Intersection: Carmel Mountain Rd & Vista Sorrento Pkwy (Torrey View Ct)	Project: LLG Ref. 3-22-3544
	Date of Count: Tuesday, May 10, 2022	Lusk on Lusk

AM	Torrey View Court Southbound				Carmel Mountain Road Westbound				Vista Sorrento Parkway Northbound				Carmel Mountain Road Eastbound				Totals		
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle	
7:00	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0	1	0	2	2
7:15	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3	0	0	4
7:30	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	3	0	2	4
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8:00	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	8	0
8:15	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	2	0	0	5
8:30	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Ped Total	1				0				11					0				12	
Bike Total		1	4	0		3	0	0		0	1	0		0	11	0			20

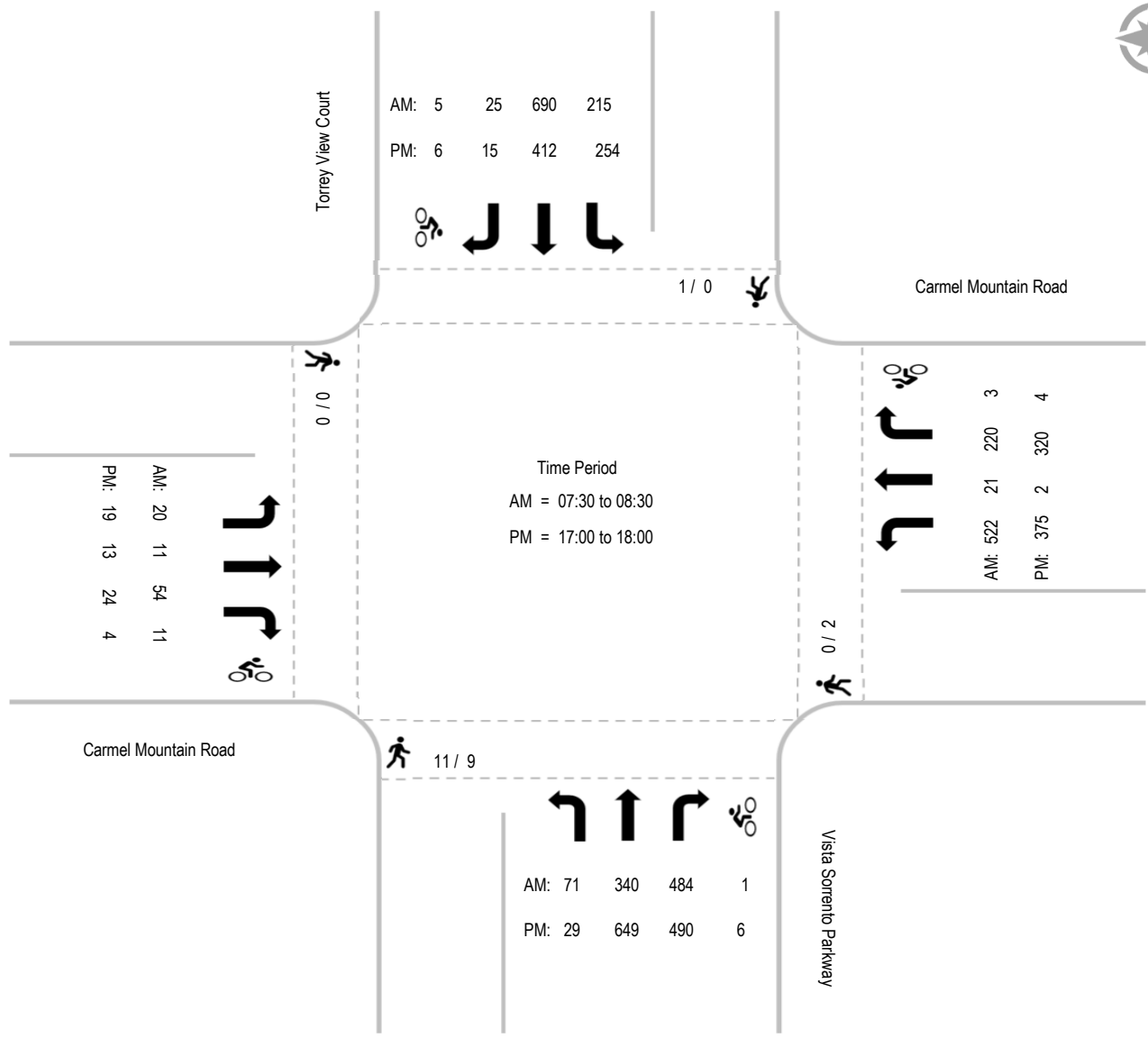
PM	Torrey View Court Southbound				Carmel Mountain Road Westbound				Vista Sorrento Parkway Northbound				Carmel Mountain Road Eastbound				Totals		
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle	
16:00	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	3
16:15	0	1	0	0	2	0	0	0	1	0	0	1	0	0	1	0	0	3	3
16:30	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	3
16:45	0	1	0	0	0	0	0	0	2	0	1	0	0	0	1	0	0	2	3
17:00	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2
17:15	0	0	1	0	0	0	0	0	2	0	1	0	0	0	1	0	0	2	3
17:30	0	0	1	0	0	0	0	1	3	0	1	0	0	0	0	0	0	3	3
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				2				9					0				11	
Bike Total		2	4	0		0	0	4		0	5	1		0	3	1			20

# Intersection Turning Movement - Peak Hour Summary

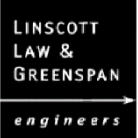


Location: #04  
 Intersection: Carmel Mountain Rd & Vista Sorrento Pkwy (Torrey View Ct)  
 Date of Count: Tuesday, May 10, 2022

File Name: ITM-22-035-04  
 Project: LLG Ref. 3-22-3544  
 Lusk on Lusk



## Intersection Turning Movement - Peak Hour Vehicle Count



Location: #01	File Name: ITM-22-036-01
Intersection: Roselle Street & I-5 Southbound On-Ramp	Project: LLG Ref. 3-22-3526
Date of Count: Tuesday, May 10, 2022	Torrey Pines Business Park

AM	Roselle Street Southbound			- Westbound			Roselle Street Northbound			I-5 SB On Ramp Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	0	17	7	0	0	0	97	58	0	0	0	0	179
7:15	0	10	9	0	0	0	177	67	0	0	0	0	263
7:30	0	19	9	0	0	0	171	69	0	0	0	0	268
7:45	0	7	10	0	0	0	213	74	0	0	0	0	304
8:00	0	15	12	0	0	0	170	74	0	0	0	0	271
8:15	0	7	14	0	0	0	225	87	0	0	0	0	333
8:30	0	14	9	0	0	0	197	65	0	0	0	0	285
8:45	0	14	11	0	0	0	203	90	0	0	0	0	318
<b>Total</b>	<b>0</b>	<b>103</b>	<b>81</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1453</b>	<b>584</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2221</b>
Approach%	-	56.0	44.0	-	-	-	71.3	28.7	-	-	-	-	-
Total%	-	4.6	3.6	-	-	-	65.4	26.3	-	-	-	-	-

**AM Intersection Peak Hour: 08:00 to 09:00**

Volume	-	50	46	-	-	-	795	316	-	-	-	-	1,207
Approach%	-	52.1	47.9	-	-	-	71.6	28.4	-	-	-	-	-
Total%	-	4.1	3.8	-	-	-	65.9	26.2	-	-	-	-	-
PHF			0.89			#DIV/0!			0.89			#DIV/0!	0.91

PM	Roselle Street Southbound			- Westbound			Roselle Street Northbound			I-5 SB On Ramp Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	41	34	0	0	0	176	8	0	0	0	0	259
16:15	0	42	38	0	0	0	239	15	0	0	0	0	334
16:30	0	28	25	0	0	0	219	14	0	0	0	0	286
16:45	0	40	28	0	0	0	167	15	0	0	0	0	250
17:00	0	45	26	0	0	0	157	8	0	0	0	0	236
17:15	0	39	21	0	0	0	217	12	0	0	0	0	289
17:30	0	30	22	0	0	0	223	15	0	0	0	0	290
17:45	0	29	36	0	0	0	187	12	0	0	0	0	264
<b>Total</b>	<b>0</b>	<b>294</b>	<b>230</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1585</b>	<b>99</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2208</b>
Approach%	-	56.1	43.9	-	-	-	94.1	5.9	-	-	-	-	-
Total%	-	13.3	10.4	-	-	-	71.8	4.5	-	-	-	-	-

**PM Intersection Peak Hour: 16:00 to 17:00**

Volume	-	151	125	-	-	-	801	52	-	-	-	-	1,129
Approach%	-	54.7	45.3	-	-	-	93.9	6.1	-	-	-	-	-
Total%	-	13.4	11.1	-	-	-	70.9	4.6	-	-	-	-	-
PHF			0.86			#DIV/0!			0.84			#DIV/0!	0.85

## Intersection Turning Movement - Bicycle & Pedestrian Count

<b>LINSCOTT LAW &amp; GREENSPAN</b> <i>engineers</i>	Location: #01	File Name: ITM-22-036-01
	Intersection: Roselle Street & I-5 Southbound On-Ramp	Project: LLG Ref. 3-22-3526
	Date of Count: Tuesday, May 10, 2022	Torrey Pines Business Park

AM	Roselle Street Southbound				- Westbound				Roselle Street Northbound				I-5 SB On Ramp Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	0	3	4	0	0	0	0	0	7	
7:15	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3	
7:30	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	4	
7:45	0	0	1	3	0	0	0	0	2	0	1	0	0	0	0	0	5	
8:00	0	0	0	3	0	0	0	0	0	2	0	0	0	0	0	0	5	
8:15	0	0	1	0	0	0	0	0	2	2	1	0	0	0	0	0	4	
8:30	0	0	1	2	0	0	0	0	1	4	1	0	0	0	0	0	8	
8:45	0	0	0	3	0	0	0	0	1	5	0	0	0	0	0	0	8	
<b>Ped Total</b>	<b>0</b>				<b>0</b>				<b>6</b>				<b>0</b>				<b>6</b>	
<b>Bike Total</b>		<b>0</b>	<b>5</b>	<b>12</b>		<b>0</b>	<b>0</b>	<b>0</b>		<b>19</b>	<b>8</b>	<b>0</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>44</b>	

PM	Roselle Street Southbound				- Westbound				Roselle Street Northbound				I-5 SB On Ramp Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
16:15	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	
16:30	0	0	1	1	0	0	0	0	0	3	3	0	0	0	0	0	8	
16:45	0	0	1	0	0	0	0	0	0	5	1	0	0	0	0	0	7	
17:00	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0	0	4	
17:15	0	0	2	1	0	0	0	0	0	5	2	0	0	0	0	0	10	
17:30	0	0	0	2	0	0	0	0	0	2	2	0	0	0	0	0	6	
17:45	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0	3	
<b>Ped Total</b>	<b>0</b>				<b>0</b>				<b>0</b>				<b>0</b>				<b>0</b>	
<b>Bike Total</b>		<b>0</b>	<b>6</b>	<b>6</b>		<b>0</b>	<b>0</b>	<b>0</b>		<b>17</b>	<b>11</b>	<b>0</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>40</b>	

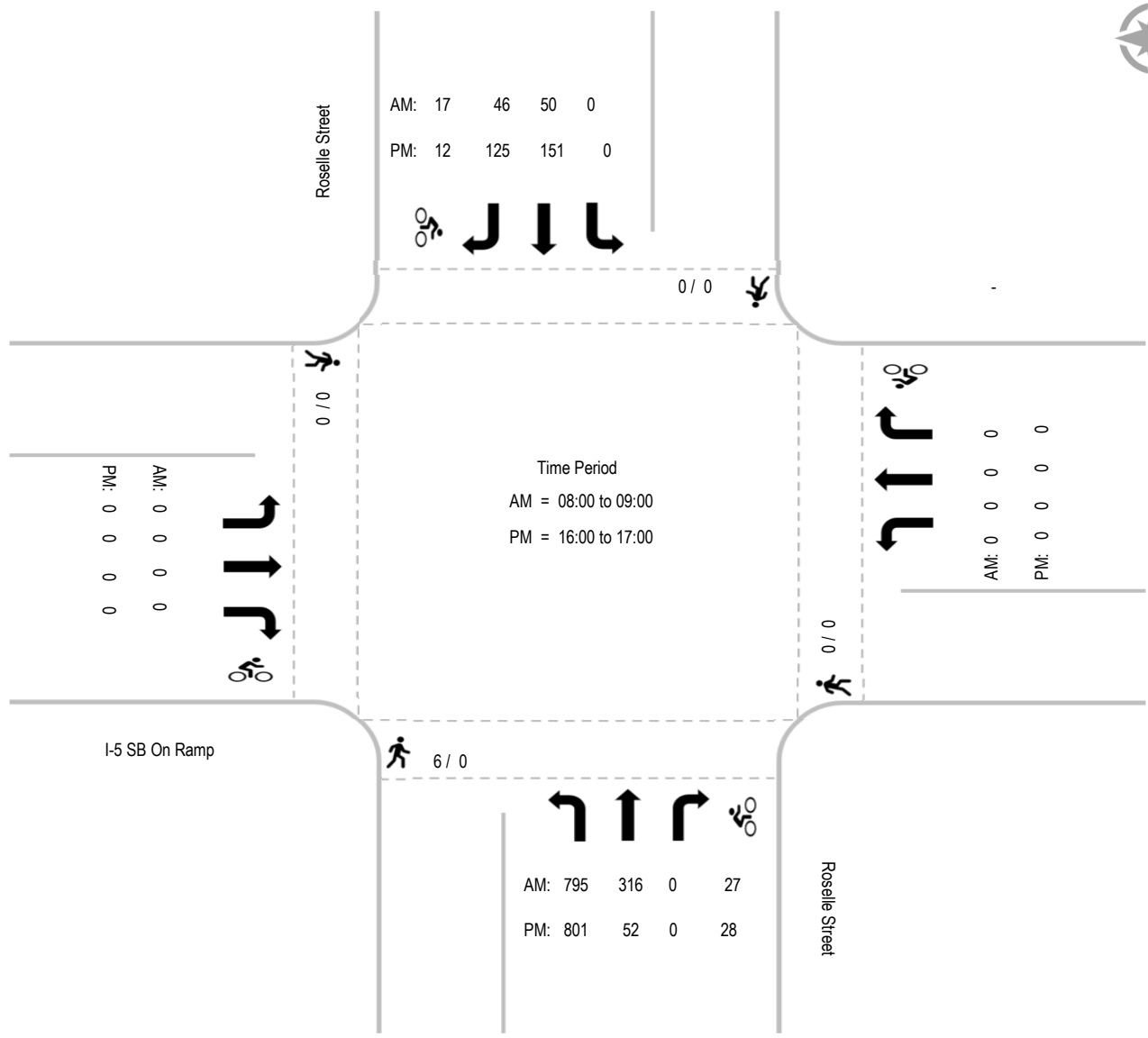


# Intersection Turning Movement - Peak Hour Summary



Location: #01  
 Intersection: Roselle Street & I-5 Southbound On-Ramp  
 Date of Count: Tuesday, May 10, 2022

File Name: ITM-22-036-01  
 Project: LLG Ref. 3-22-3526  
 Torrey Pines Business Park



## Intersection Turning Movement - Peak Hour Vehicle Count



<b>Location:</b>	#02	<b>File Name:</b>	ITM-22-036-02
<b>Intersection:</b>	Roselle Street & Sorrento Valley Boulevard	<b>Project:</b>	LLG Ref. 3-22-3526
<b>Date of Count:</b>	Tuesday, May 10, 2022	Torrey Pines Business Park	

AM	Roselle Street Southbound			Sorrento Valley Blvd Westbound			Roselle Street Northbound			- Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	15	6	0	20	0	111	0	33	102	0	0	0	287
7:15	6	8	0	16	0	214	0	26	131	0	0	0	401
7:30	17	4	0	16	0	198	0	30	164	0	0	0	429
7:45	8	1	0	13	0	253	0	37	205	0	0	0	517
8:00	20	7	0	24	0	209	0	41	169	0	0	0	470
8:15	11	4	0	20	0	249	0	35	230	0	0	0	549
8:30	15	3	0	20	0	214	0	36	228	0	0	0	516
8:45	14	1	0	32	0	232	0	49	202	0	0	0	530
<b>Total</b>	<b>106</b>	<b>34</b>	<b>0</b>	<b>161</b>	<b>0</b>	<b>1680</b>	<b>0</b>	<b>287</b>	<b>1431</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3699</b>
Approach%	75.7	24.3	-	8.7	-	91.3	-	16.7	83.3	-	-	-	
Total%	2.9	0.9	-	4.4	-	45.4	-	7.8	38.7	-	-	-	

**AM Intersection Peak Hour: 08:00 to 09:00**

Volume	60	15	-	96	-	904	-	161	829	-	-	-	2,065
Approach%	80.0	20.0	-	9.6	-	90.4	-	16.3	83.7	-	-	-	
Total%	2.9	0.7	-	4.6	-	43.8	-	7.8	40.1	-	-	-	
PHF			0.69			0.93			0.93			#DIV/0!	0.94

PM	Roselle Street Southbound			Sorrento Valley Blvd Westbound			Roselle Street Northbound			- Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	40	3	0	13	0	148	0	21	160	0	0	0	385
16:15	43	0	0	20	0	209	0	32	154	0	0	0	458
16:30	31	5	0	10	0	172	0	32	153	0	0	0	403
16:45	47	1	0	15	0	172	0	17	110	0	0	0	362
17:00	48	2	0	15	0	122	0	28	130	0	0	0	345
17:15	40	6	0	21	0	191	0	16	150	0	0	0	424
17:30	32	0	0	19	0	192	0	38	142	0	0	0	423
17:45	29	2	0	9	0	156	0	19	182	0	0	0	397
<b>Total</b>	<b>310</b>	<b>19</b>	<b>0</b>	<b>122</b>	<b>0</b>	<b>1362</b>	<b>0</b>	<b>203</b>	<b>1181</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3197</b>
Approach%	94.2	5.8	-	8.2	-	91.8	-	14.7	85.3	-	-	-	
Total%	9.7	0.6	-	3.8	-	42.6	-	6.3	36.9	-	-	-	

**PM Intersection Peak Hour: 16:00 to 17:00**

Volume	161	9	-	58	-	701	-	102	577	-	-	-	1,608
Approach%	94.7	5.3	-	7.6	-	92.4	-	15.0	85.0	-	-	-	
Total%	10.0	0.6	-	3.6	-	43.6	-	6.3	35.9	-	-	-	
PHF			0.89			0.83			0.91			#DIV/0!	0.88

## Intersection Turning Movement - Bicycle & Pedestrian Count

<b>LINSCOTT LAW &amp; GREENSPAN</b> <i>engineers</i>	Location: #02	File Name: ITM-22-036-02
	Intersection: Roselle Street & Sorrento Valley Boulevard	Project: LLG Ref. 3-22-3526
	Date of Count: Tuesday, May 10, 2022	Torrey Pines Business Park

AM	Roselle Street Southbound				Sorrento Valley Blvd Westbound				Roselle Street Northbound				- Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	1	0	0	6	0	0	0	0	0	0	0	0	1	6
7:15	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	3
7:30	0	1	1	0	0	1	0	4	0	0	0	1	0	0	0	0	0	8
7:45	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3
8:00	0	6	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	9
8:15	0	5	2	0	0	1	0	2	0	0	0	0	0	0	0	0	0	10
8:30	0	3	1	0	0	1	0	2	0	0	0	0	0	0	0	0	0	7
8:45	0	1	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	6
Ped Total	0				1				0				0				1	
Bike Total		18	6	0		4	0	21		0	0	3		0	0	0		52

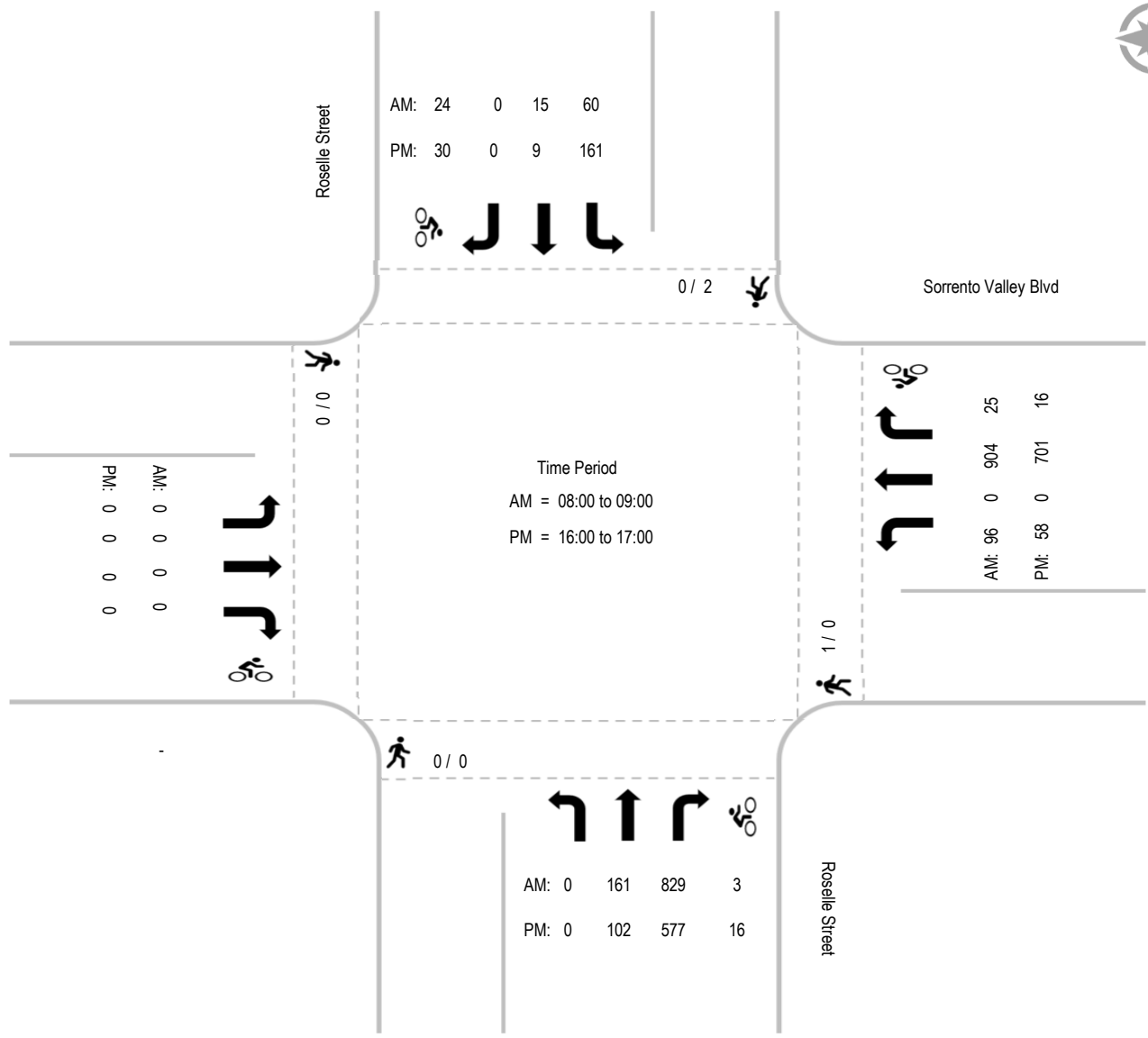
PM	Roselle Street Southbound				Sorrento Valley Blvd Westbound				Roselle Street Northbound				- Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	1	1	0	0	0	0	0	0	0	0	1	2	0	0	0	0	1	4
16:15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
16:30	0	2	0	0	0	0	0	5	0	0	1	1	0	0	0	0	0	9
16:45	1	4	0	0	0	0	0	0	0	0	0	3	0	0	0	0	1	7
17:00	0	6	1	0	0	0	0	1	0	0	0	3	0	0	0	0	0	11
17:15	0	9	2	0	0	0	0	4	0	0	1	3	0	0	0	0	0	19
17:30	0	2	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	5
17:45	0	2	0	0	0	1	0	2	0	0	0	1	0	0	0	0	0	6
Ped Total	2				0				0				0				2	
Bike Total		27	3	0		1	0	15		0	3	13		0	0	0		62

# Intersection Turning Movement - Peak Hour Summary

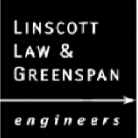


Location: #02  
 Intersection: Roselle Street & Sorrento Valley Boulevard  
 Date of Count: Tuesday, May 10, 2022

File Name: ITM-22-036-02  
 Project: LLG Ref. 3-22-3526  
 Torrey Pines Business Park



## Intersection Turning Movement - Peak Hour Vehicle Count



<b>Location:</b>	#05	<b>File Name:</b>	ITM-22-036-05
<b>Intersection:</b>	Roselle Street & I-5 Northbound Off-Ramp	<b>Project:</b>	LLG Ref. 3-22-3526
<b>Date of Count:</b>	Tuesday, May 10, 2022	Torrey Pines Business Park	

AM	Roselle Street Southbound			- Westbound			Roselle Street Northbound			I-5 NB Off Ramp Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	0	21	0	0	0	0	0	16	0	147	0	18	202
7:15	0	22	0	0	0	0	0	13	0	163	0	16	214
7:30	0	19	0	0	0	0	0	13	0	194	0	15	241
7:45	0	13	0	0	0	0	0	8	0	255	0	14	290
8:00	0	19	0	0	0	0	0	20	0	236	0	23	298
8:15	0	25	0	0	0	0	0	23	0	250	0	22	320
8:30	0	23	0	0	0	0	0	9	0	275	0	28	335
8:45	0	29	0	0	0	0	0	10	0	268	0	25	332
<b>Total</b>	0	171	0	0	0	0	0	112	0	1788	0	161	2232
Approach%	-	100.0	-	-	-	-	-	100.0	-	91.7	-	8.3	
Total%	-	7.7	-	-	-	-	-	5.0	-	80.1	-	7.2	

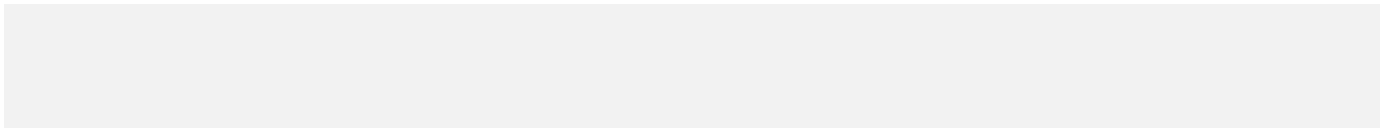
**AM Intersection Peak Hour: 08:00 to 09:00**

Volume	-	96	-	-	-	-	-	62	-	1,029	-	98	1,285
Approach%	-	100.0	-	-	-	-	-	100.0	-	91.3	-	8.7	
Total%	-	7.5	-	-	-	-	-	4.8	-	80.1	-	7.6	
PHF			0.83			#DIV/0!			0.67			0.93	0.92

PM	Roselle Street Southbound			- Westbound			Roselle Street Northbound			I-5 NB Off Ramp Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	13	0	0	0	0	0	61	0	172	0	15	261
16:15	0	19	0	0	0	0	0	47	0	189	0	11	266
16:30	0	9	0	0	0	0	0	66	0	174	0	13	262
16:45	0	18	0	0	0	0	0	36	0	192	0	15	261
17:00	0	16	0	0	0	0	0	61	0	144	0	11	232
17:15	0	30	0	0	0	0	0	67	0	185	0	12	294
17:30	0	20	0	0	0	0	0	71	0	160	0	9	260
17:45	0	10	0	0	0	0	0	54	0	178	0	8	250
<b>Total</b>	0	135	0	0	0	0	0	463	0	1394	0	94	2086
Approach%	-	100.0	-	-	-	-	-	100.0	-	93.7	-	6.3	
Total%	-	6.5	-	-	-	-	-	22.2	-	66.8	-	4.5	

**PM Intersection Peak Hour: 16:00 to 17:00**

Volume	-	59	-	-	-	-	-	210	-	727	-	54	1,050
Approach%	-	100.0	-	-	-	-	-	100.0	-	93.1	-	6.9	
Total%	-	5.6	-	-	-	-	-	20.0	-	69.2	-	5.1	
PHF			0.78			#DIV/0!			0.80			0.94	0.99



## Intersection Turning Movement - Bicycle & Pedestrian Count

<b>LINSCOTT LAW &amp; GREENSPAN</b> <i>engineers</i>	Location: #05	File Name: ITM-22-036-05
	Intersection: Roselle Street & I-5 Northbound Off-Ramp	Project: LLG Ref. 3-22-3526
	Date of Count: Tuesday, May 10, 2022	Torrey Pines Business Park

AM	Roselle Street Southbound				- Westbound				Roselle Street Northbound				I-5 NB Off Ramp Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3
7:45	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
8:15	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
8:30	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				0				0				0	
Bike Total		0	10	0		0	0	0		0	2	0		0	0	0		12

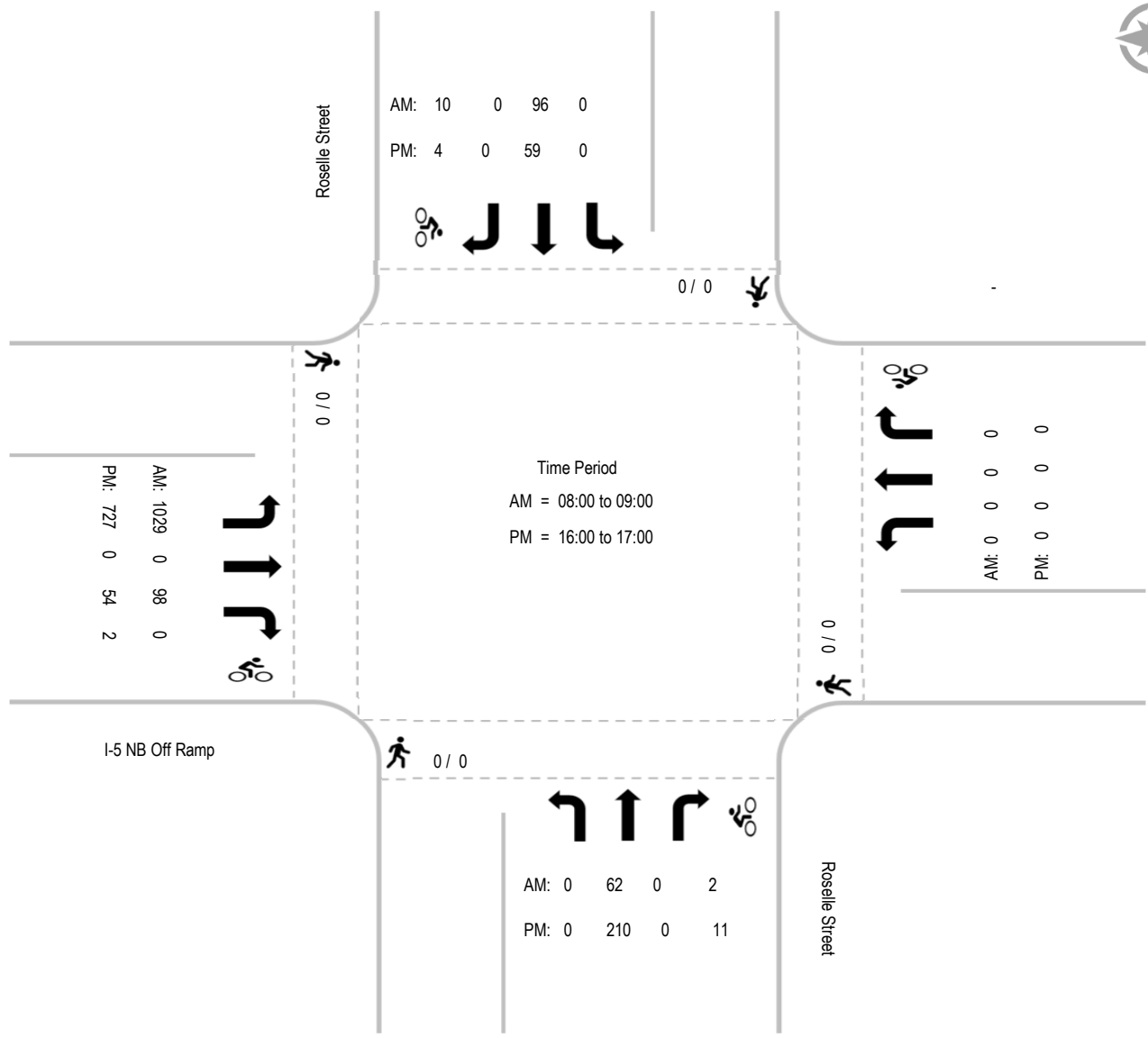
PM	Roselle Street Southbound				- Westbound				Roselle Street Northbound				I-5 NB Off Ramp Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	2
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
16:45	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
17:00	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
17:15	0	0	2	0	0	0	0	0	0	0	3	0	0	1	0	0	0	6
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	1	0	0	0	0	0	0	0	3	0	0	0	0	0	0	4
Ped Total	0				0				0				0				0	
Bike Total		0	4	0		0	0	0		0	11	0		2	0	0		17

# Intersection Turning Movement - Peak Hour Summary



Location: #05  
 Intersection: Roselle Street & I-5 Northbound Off-Ramp  
 Date of Count: Tuesday, May 10, 2022

File Name: ITM-22-036-05  
 Project: LLG Ref. 3-22-3526  
 Torrey Pines Business Park

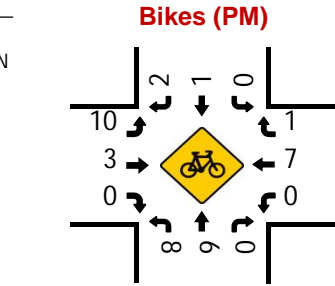
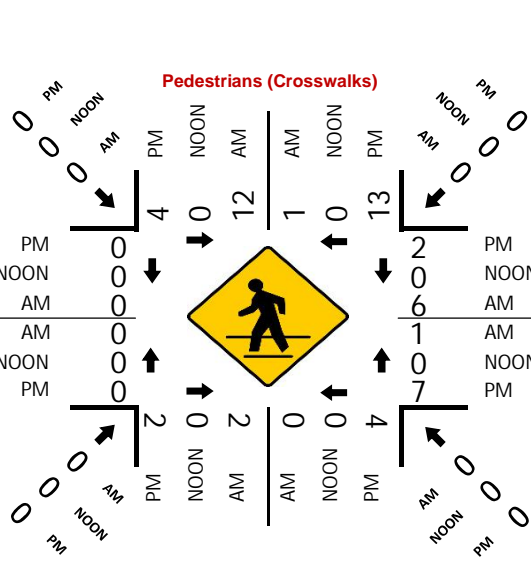
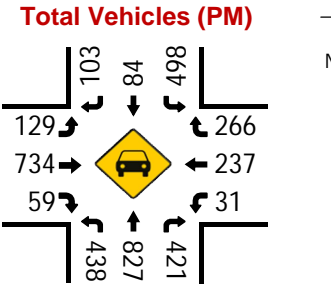
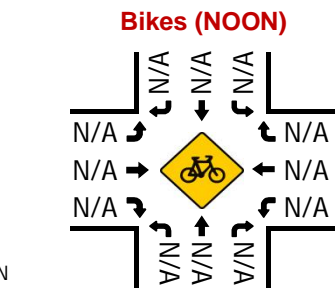
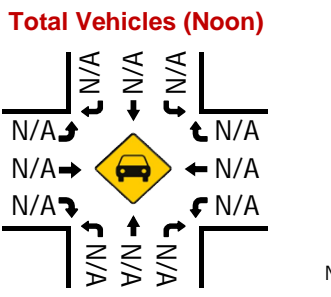
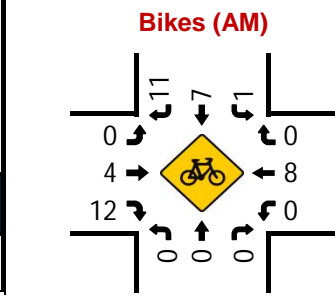
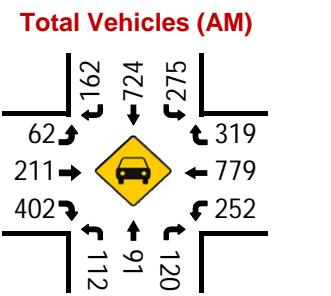
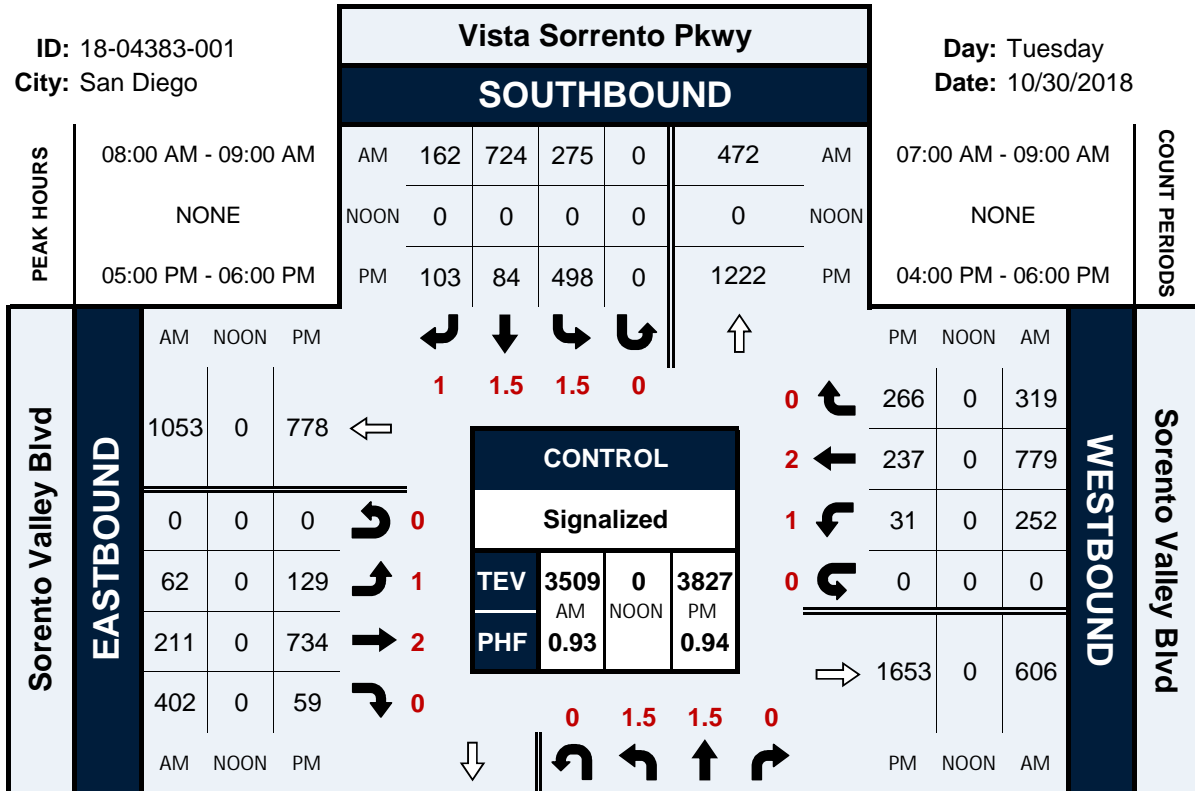


# Vista Sorrento Pkwy & Sorrento Valley Blvd

## Peak Hour Turning Movement Count

ID: 18-04383-001  
City: San Diego

Day: Tuesday  
Date: 10/30/2018



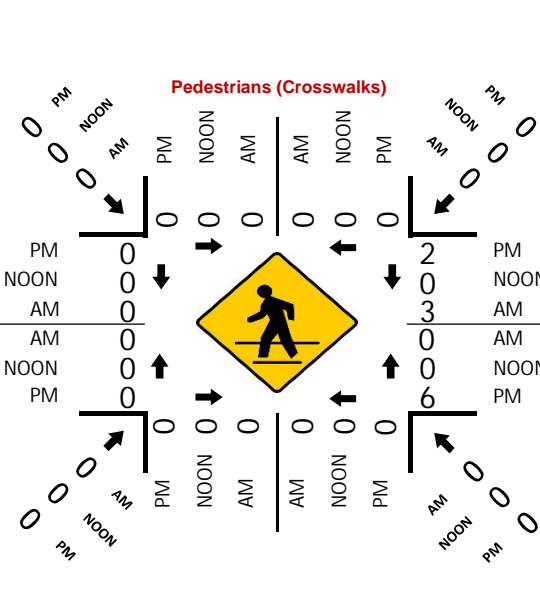
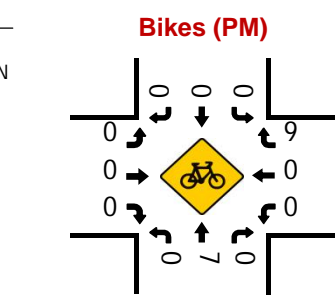
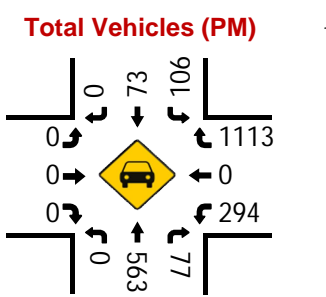
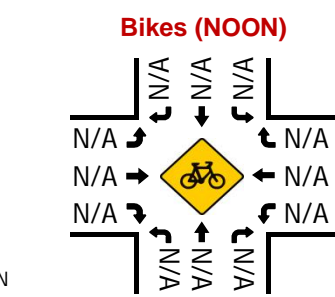
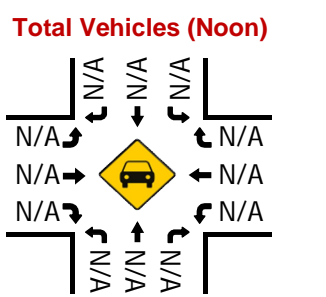
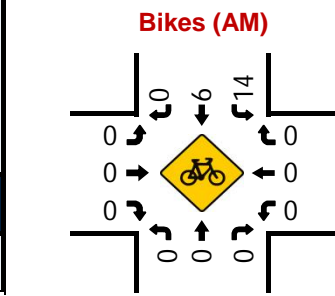
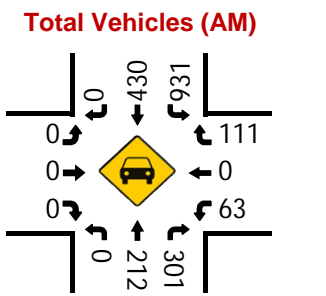
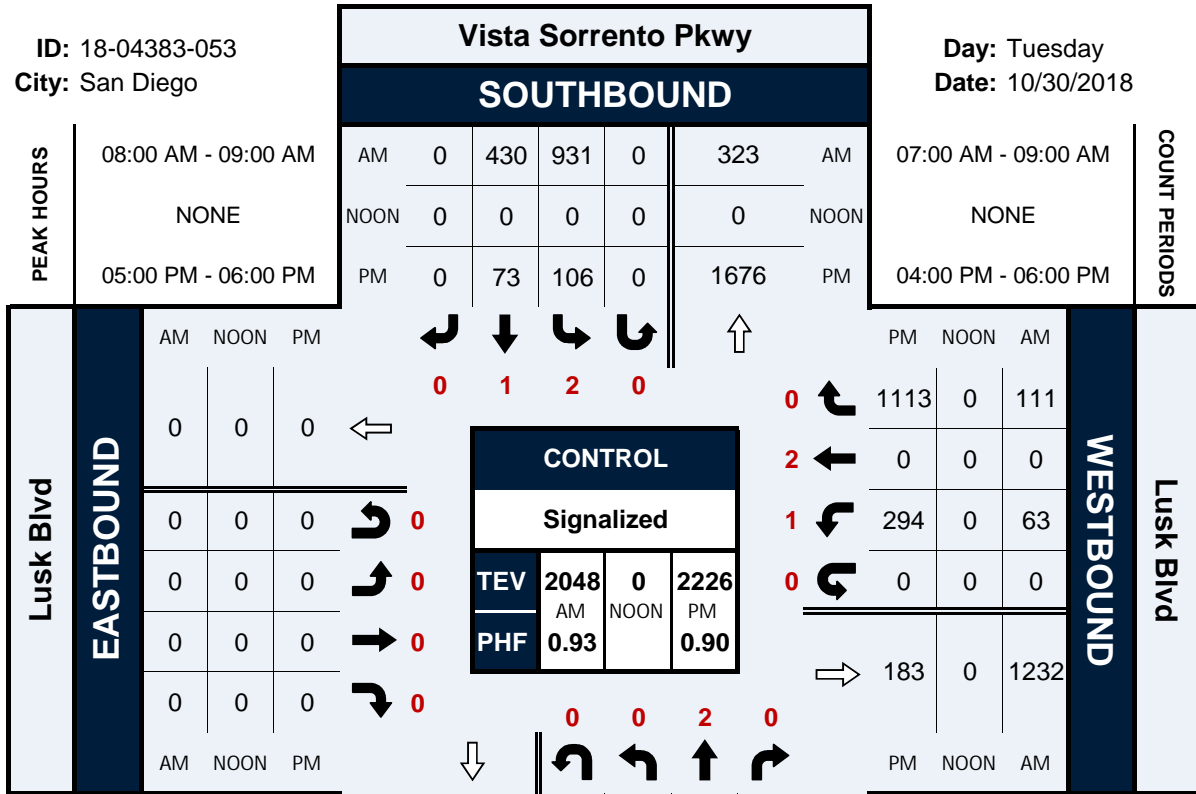


# Vista Sorrento Pkwy & Lusk Blvd

## Peak Hour Turning Movement Count

ID: 18-04383-053  
City: San Diego

Day: Tuesday  
Date: 10/30/2018



## Intersection Turning Movement - Peak Hour Vehicle Count

<b>LINSCOTT LAW &amp; GREENSPAN</b> <i>engineers</i>	Location: #05	File Name: ITM-22-035-05
	Intersection: Lusk Boulevard & Waterridge Circle (east)	Project: LLG Ref. 3-22-3544
	Date of Count: Tuesday, May 10, 2022	Lusk on Lusk

AM	-			Lusk Boulevard			Wateridge Circle (east)			Lusk Boulevard			Total
	Southbound			Westbound			Northbound			Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	0	0	0	6	21	0	1	0	2	0	26	0	56
7:15	0	0	0	10	27	0	3	0	5	0	42	1	88
7:30	0	0	0	3	28	0	3	0	7	0	44	0	85
7:45	0	0	0	8	39	0	1	0	6	0	64	3	121
8:00	0	0	0	5	49	0	1	0	2	0	26	0	83
8:15	0	0	0	11	40	0	3	0	5	0	42	1	102
8:30	0	0	0	6	48	0	3	0	7	0	44	0	108
8:45	0	0	0	17	43	0	1	0	6	0	64	3	134
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>66</b>	<b>295</b>	<b>0</b>	<b>16</b>	<b>0</b>	<b>40</b>	<b>0</b>	<b>352</b>	<b>8</b>	<b>777</b>
Approach%	-	-	-	18.3	81.7	-	28.6	-	71.4	-	97.8	2.2	
Total%	-	-	-	8.5	38.0	-	2.1	-	5.1	-	45.3	1.0	

**AM Intersection Peak Hour: 08:00 to 09:00**

Volume	-	-	-	39	180	-	8	-	20	-	176	4	427
Approach%	-	-	-	17.8	82.2	-	28.6	-	71.4	-	97.8	2.2	
Total%	-	-	-	9.1	42.2	-	1.9	-	4.7	-	41.2	0.9	
PHF	#DIV/0!						0.91						0.80

PM	-			Lusk Boulevard			Wateridge Circle (east)			Lusk Boulevard			Total
	Southbound			Westbound			Northbound			Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	0	0	10	60	0	4	0	8	0	35	0	117
16:15	0	0	0	8	82	0	3	0	14	0	50	2	159
16:30	0	0	0	11	76	0	1	0	14	0	39	2	143
16:45	0	0	0	9	63	0	1	0	11	0	42	0	126
17:00	0	0	0	10	112	0	1	0	9	0	37	2	171
17:15	0	0	0	9	104	0	0	0	6	0	38	0	157
17:30	0	0	0	12	82	0	0	0	10	0	31	1	136
17:45	0	0	0	8	79	0	4	0	4	0	32	0	127
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>77</b>	<b>658</b>	<b>0</b>	<b>14</b>	<b>0</b>	<b>76</b>	<b>0</b>	<b>304</b>	<b>7</b>	<b>1136</b>
Approach%	-	-	-	10.5	89.5	-	15.6	-	84.4	-	97.7	2.3	
Total%	-	-	-	6.8	57.9	-	1.2	-	6.7	-	26.8	0.6	

**PM Intersection Peak Hour: 16:15 to 17:15**

Volume	-	-	-	38	333	-	6	-	48	-	168	6	599
Approach%	-	-	-	10.2	89.8	-	11.1	-	88.9	-	96.6	3.4	
Total%	-	-	-	6.3	55.6	-	1.0	-	8.0	-	28.0	1.0	
PHF	#DIV/0!						0.76						0.88

## Intersection Turning Movement - Bicycle & Pedestrian Count

<b>LINSCOTT LAW &amp; GREENSPAN</b> <i>engineers</i>	Location: #05	File Name: ITM-22-035-05
	Intersection: Lusk Boulevard & Waterridge Circle (east)	Project: LLG Ref. 3-22-3544
	Date of Count: Tuesday, May 10, 2022	Lusk on Lusk

AM	- Southbound				Lusk Boulevard Westbound				Wateridge Circle (east) Northbound				Lusk Boulevard Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	
7:30	0	0	0	0	0	1	2	0	0	0	0	0	0	0	1	0	4	
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	
8:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	4	
Ped Total	0				0				0				0				0	
Bike Total		0	0	0		1	3	0		0	0	2		0	10	0	16	

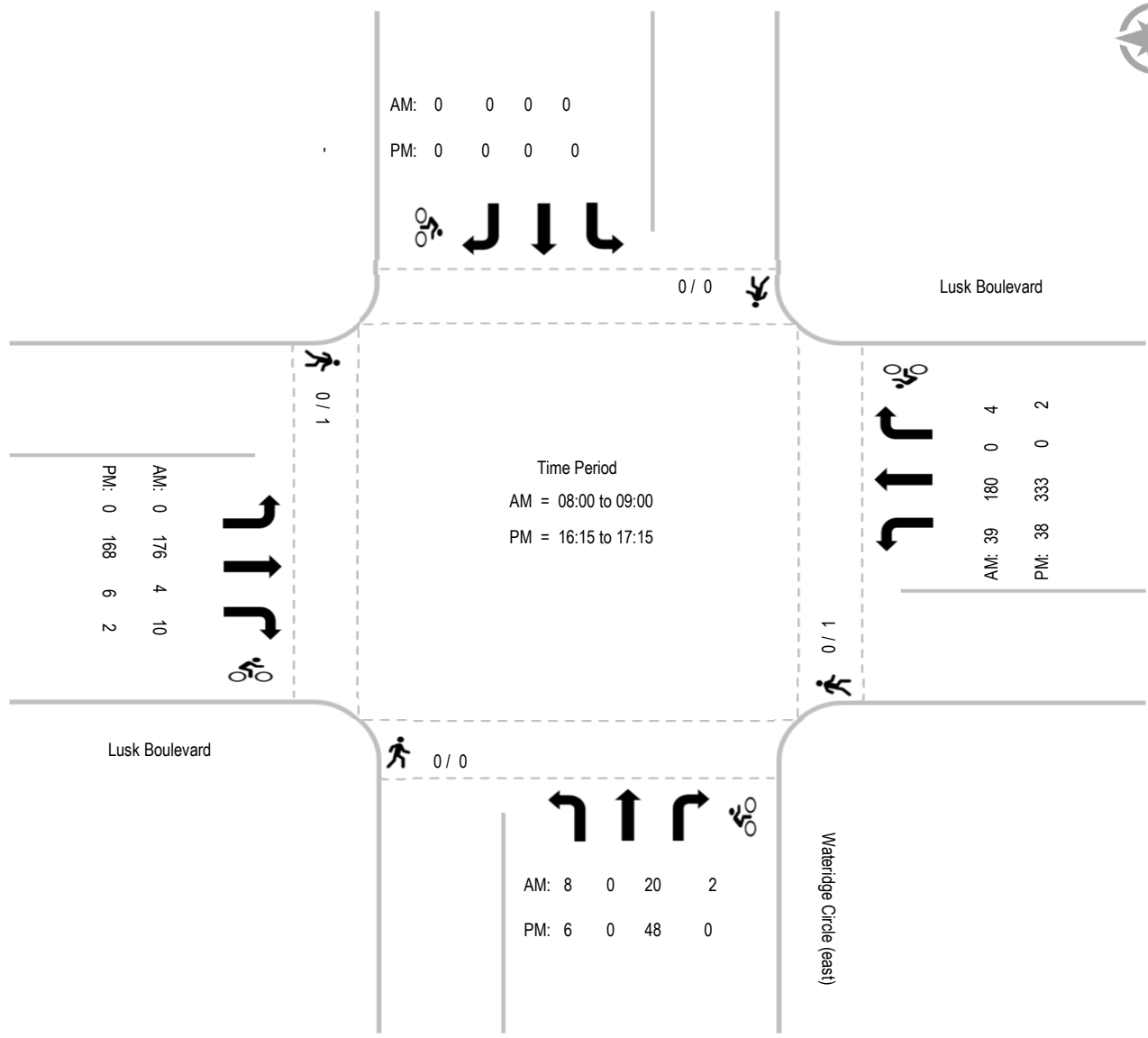
PM	- Southbound				Lusk Boulevard Westbound				Wateridge Circle (east) Northbound				Lusk Boulevard Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
16:15	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
16:30	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	1	
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	
Ped Total	0				1				0				1				2	
Bike Total		0	0	0		0	2	0		0	0	0		0	2	0	4	

# Intersection Turning Movement - Peak Hour Summary



Location: #05  
 Intersection: Lusk Boulevard & Waterridge Circle (east)  
 Date of Count: Tuesday, May 10, 2022

File Name: ITM-22-035-05  
 Project: LLG Ref. 3-22-3544  
 Lusk on Lusk

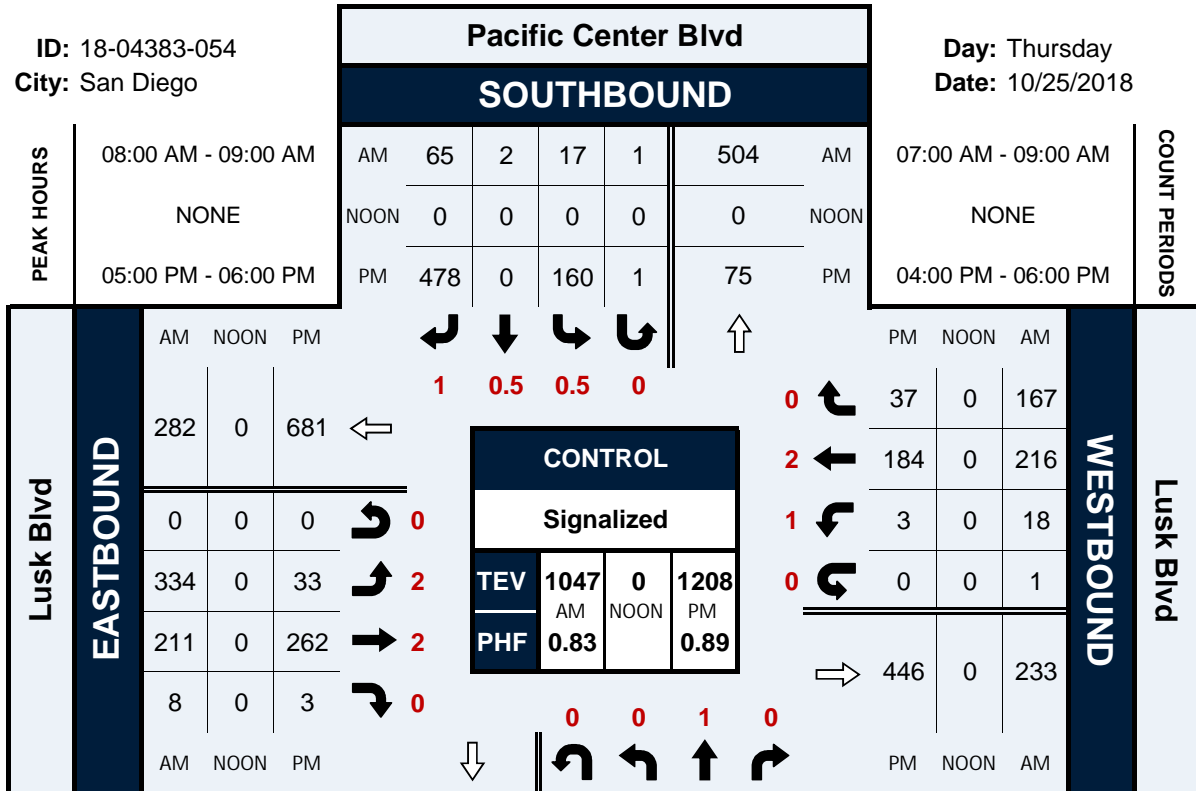


# Pacific Center Blvd & Lusk Blvd

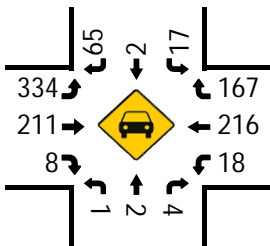
## Peak Hour Turning Movement Count

ID: 18-04383-054  
City: San Diego

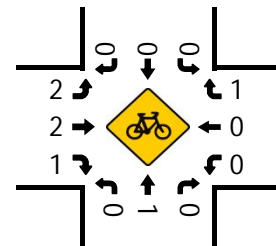
Day: Thursday  
Date: 10/25/2018



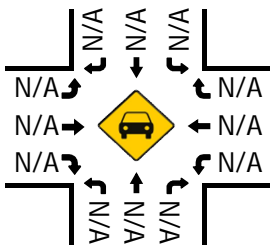
Total Vehicles (AM)



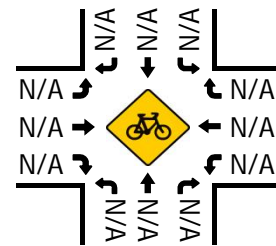
Bikes (AM)



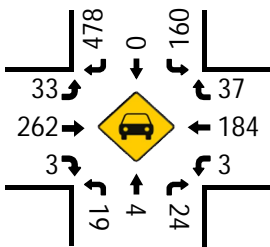
Total Vehicles (Noon)



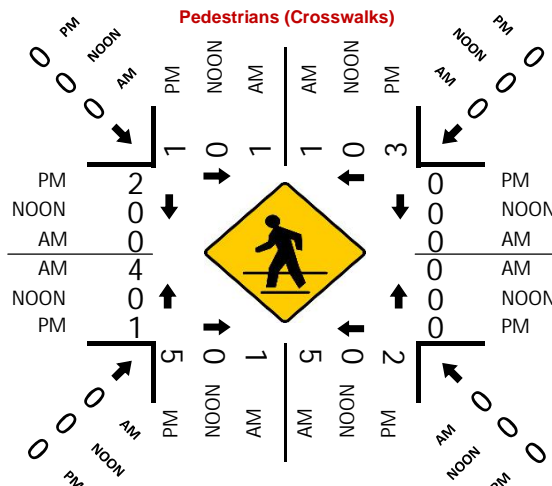
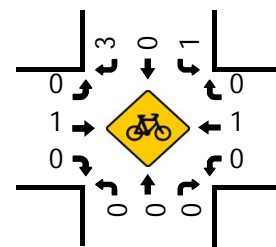
Bikes (NOON)



Total Vehicles (PM)



Bikes (PM)

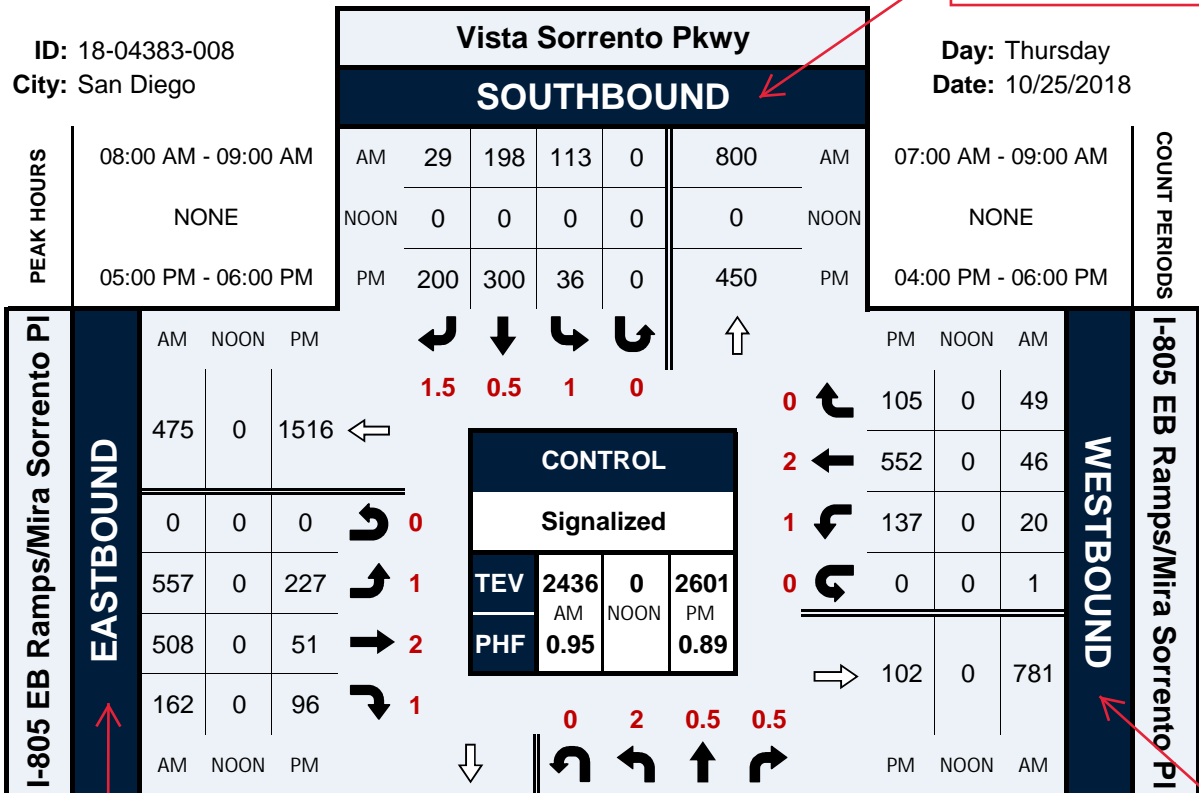


# Vista Sorrento Pkwy & I-805 EB Ramps/Mira Sorrento PI

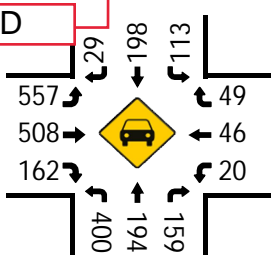
## Peak Hour Turning Movement Count

ID: 18-04383-008  
City: San Diego

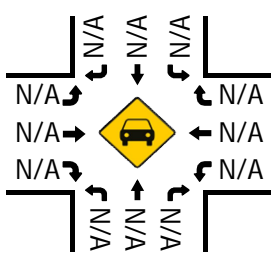
Day: Thursday  
Date: 10/25/2018



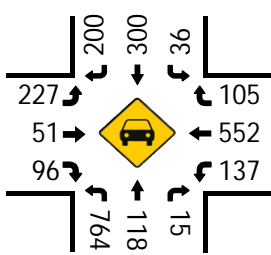
Total Vehicles (AM)



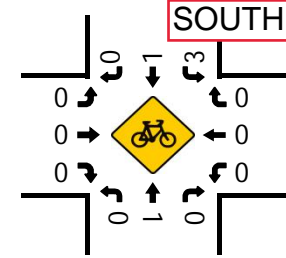
Total Vehicles (Noon)



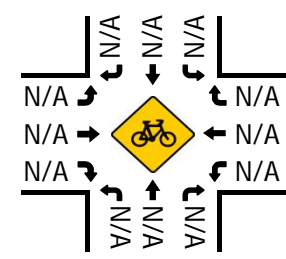
Total Vehicles (PM)



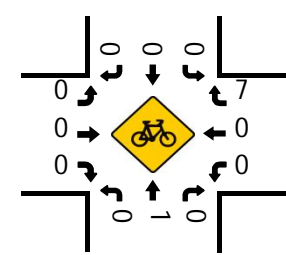
Bikes (AM)



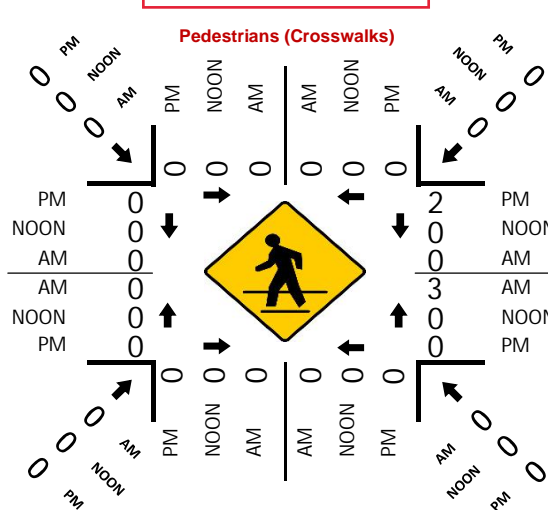
Bikes (Noon)



Bikes (PM)



Pedestrians (Crosswalks)



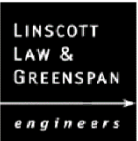
NORTHBOUND

SOUTHBOUND

EASTBOUND

WESTBOUND

## Intersection Turning Movement - Peak Hour Vehicle Count



<b>Location:</b>	#06	<b>File Name:</b>	ITM-22-035-06
<b>Intersection:</b>	Barnes Canyon Road & Scranton Road (east)	<b>Project:</b>	LLG Ref. 3-22-3544
<b>Date of Count:</b>	Tuesday, May 10, 2022		Lusk on Lusk

AM	-			Barnes Canyon Road			Scranton Road (east)			Barnes Canyon Road			Total
	Southbound			Westbound			Northbound			Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	0	0	0	0	15	0	0	0	2	0	42	0	59
7:15	0	0	0	4	22	0	0	0	3	0	40	1	70
7:30	0	0	0	2	13	0	0	0	4	0	44	0	63
7:45	0	0	0	0	16	0	0	0	0	0	47	0	63
8:00	0	0	0	0	19	0	0	0	2	0	43	1	65
8:15	0	0	0	3	23	0	0	0	2	0	54	1	83
8:30	0	0	0	4	18	0	0	0	3	0	43	0	68
8:45	0	0	0	2	25	0	0	0	3	0	49	3	82
<b>Total</b>	0	0	0	15	151	0	0	0	19	0	362	6	553
Approach%	-	-	-	9.0	91.0	-	-	-	100.0	-	98.4	1.6	
Total%	-	-	-	2.7	27.3	-	-	-	3.4	-	65.5	1.1	

**AM Intersection Peak Hour: 08:00 to 09:00**

Volume	-	-	-	9	85	-	-	-	10	-	189	5	298
Approach%	-	-	-	9.6	90.4	-	-	-	100.0	-	97.4	2.6	
Total%	-	-	-	3.0	28.5	-	-	-	3.4	-	63.4	1.7	
PHF			#DIV/0!			0.87			0.83			0.88	0.90

PM	-			Barnes Canyon Road			Scranton Road (east)			Barnes Canyon Road			Total
	Southbound			Westbound			Northbound			Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	0	0	0	52	0	0	0	3	0	13	0	68
16:15	0	0	0	4	54	0	0	0	4	0	19	0	81
16:30	0	0	0	2	64	0	0	0	2	0	9	0	77
16:45	0	0	0	2	51	0	0	0	4	0	15	0	72
17:00	0	0	0	0	88	0	0	0	0	0	13	0	101
17:15	0	0	0	1	70	0	0	0	4	0	16	0	91
17:30	0	0	0	3	57	0	0	0	0	0	14	0	74
17:45	0	0	0	1	54	0	0	0	1	0	11	1	68
<b>Total</b>	0	0	0	13	490	0	0	0	18	0	110	1	632
Approach%	-	-	-	2.6	97.4	-	-	-	100.0	-	99.1	0.9	
Total%	-	-	-	2.1	77.5	-	-	-	2.8	-	17.4	0.2	

**PM Intersection Peak Hour: 16:30 to 17:30**

Volume	-	-	-	5	273	-	-	-	10	-	53	-	341
Approach%	-	-	-	1.8	98.2	-	-	-	100.0	-	100.0	-	
Total%	-	-	-	1.5	80.1	-	-	-	2.9	-	15.5	-	
PHF			#DIV/0!			0.79			0.63			0.83	0.84

## Intersection Turning Movement - Bicycle & Pedestrian Count

<b>LINSCOTT LAW &amp; GREENSPAN</b> <i>engineers</i>	Location: #06	File Name: ITM-22-035-06
	Intersection: Barnes Canyon Road & Scranton Road (east)	Project: LLG Ref. 3-22-3544
	Date of Count: Tuesday, May 10, 2022	Lusk on Lusk

AM	- Southbound				Barnes Canyon Road Westbound				Scranton Road (east) Northbound				Barnes Canyon Road Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8:30	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	1
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Ped Total	0				0				1				1				2	
Bike Total		0	0	0		1	0	0		0	0	0		0	2	0		3

PM	- Southbound				Barnes Canyon Road Westbound				Scranton Road (east) Northbound				Barnes Canyon Road Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
16:45	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	2	1
17:00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
17:15	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
17:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
17:45	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Ped Total	0				0				3				1				4	
Bike Total		0	0	0		1	4	0		0	0	1		0	0	0		6

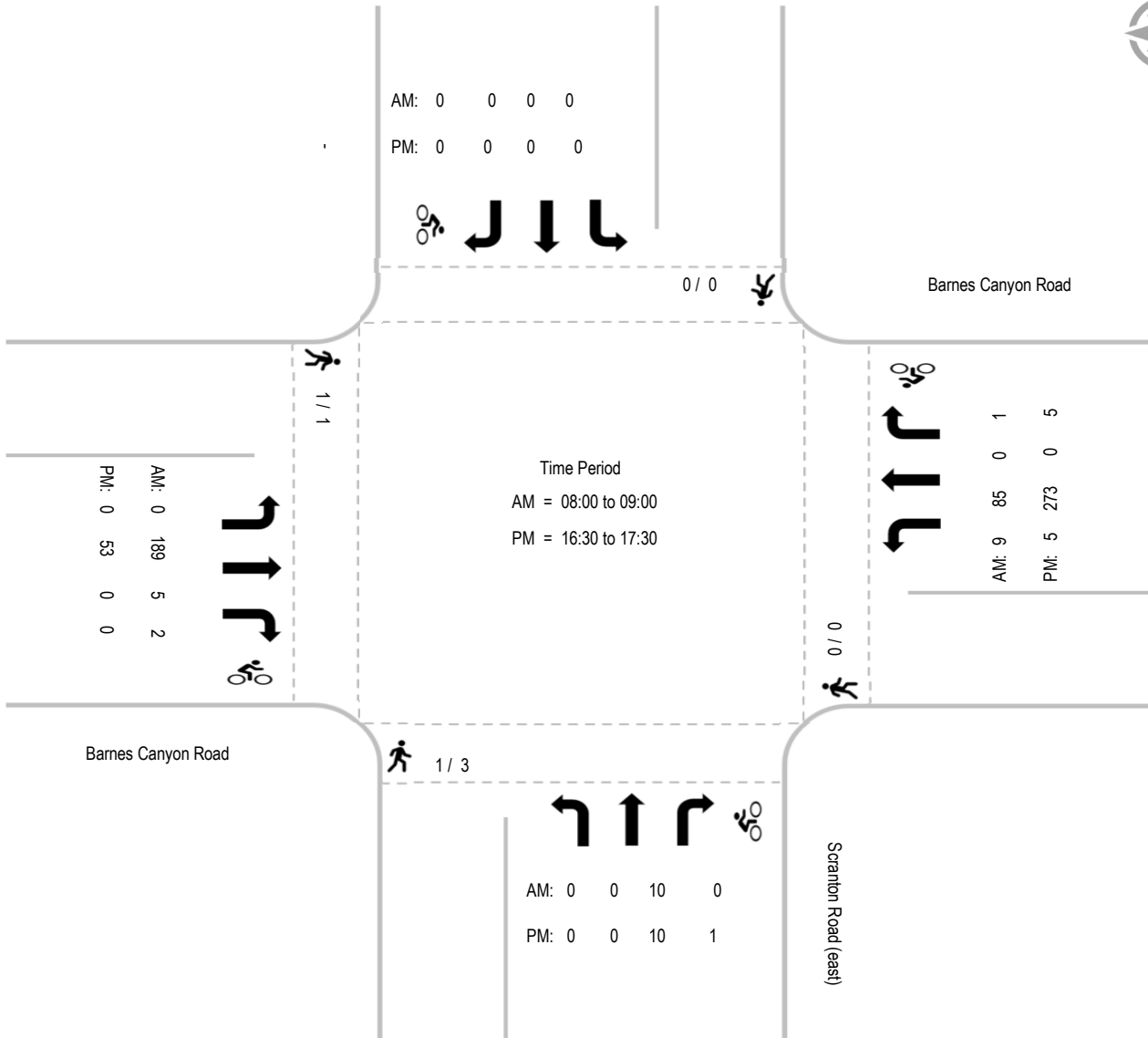


# Intersection Turning Movement - Peak Hour Summary



Location: #06  
 Intersection: Barnes Canyon Road & Scranton Road (east)  
 Date of Count: Tuesday, May 10, 2022

File Name: ITM-22-035-06  
 Project: LLG Ref. 3-22-3544  
 Lusk on Lusk

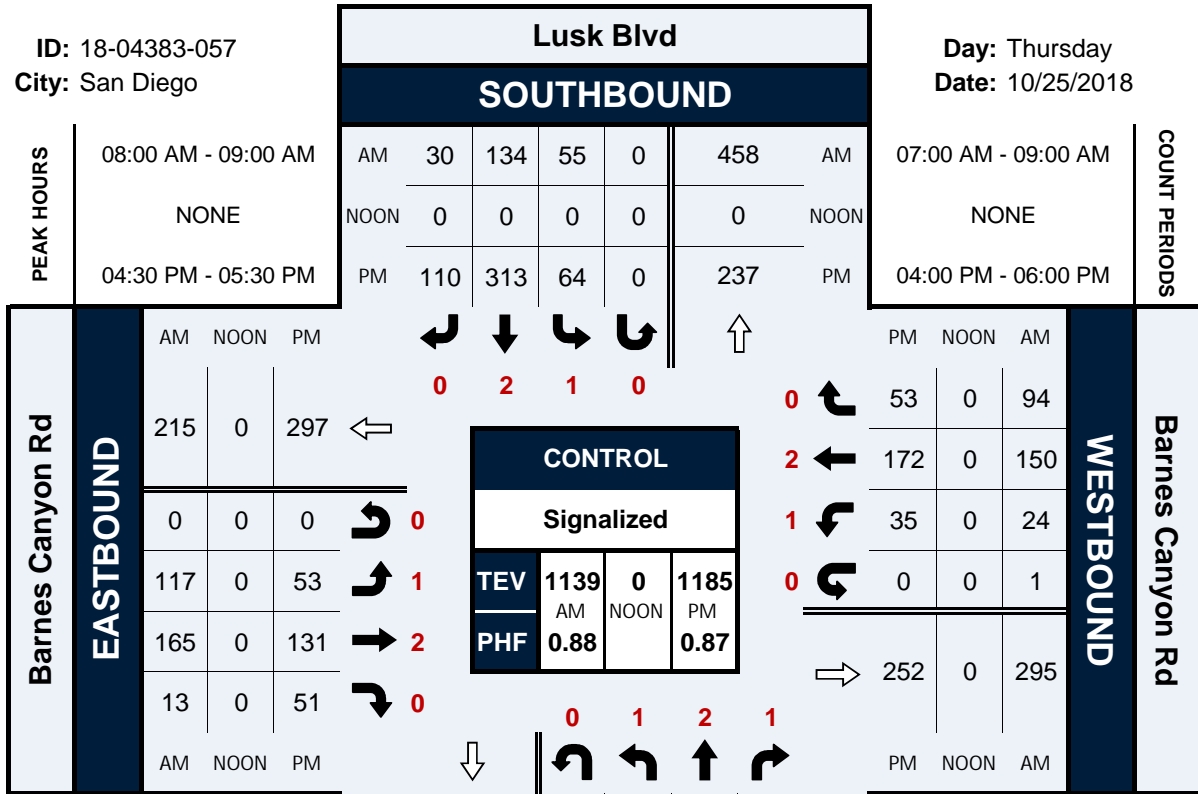


# Lusk Blvd & Barnes Canyon Rd

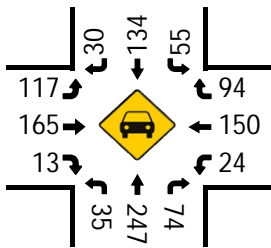
## Peak Hour Turning Movement Count

ID: 18-04383-057  
City: San Diego

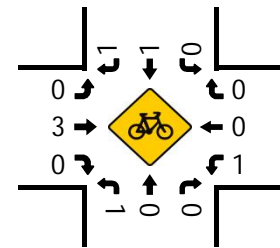
Day: Thursday  
Date: 10/25/2018



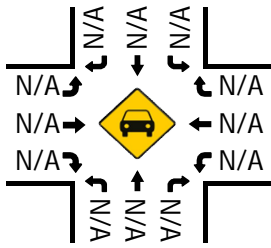
Total Vehicles (AM)



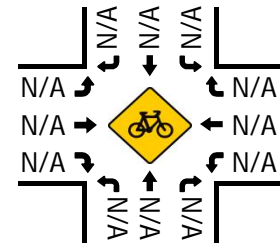
Bikes (AM)



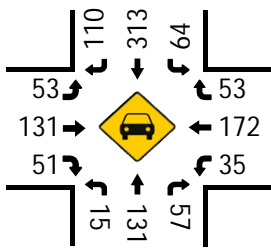
Total Vehicles (Noon)



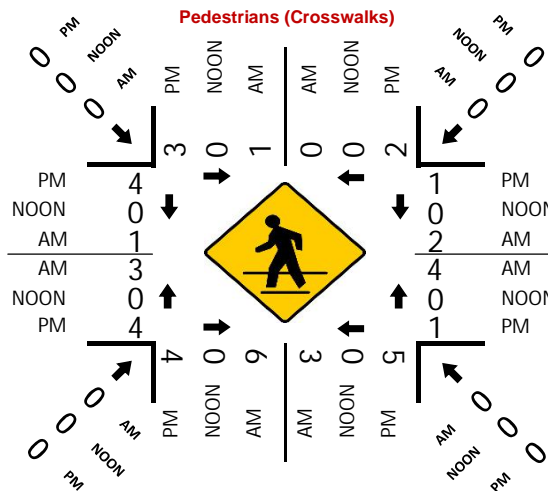
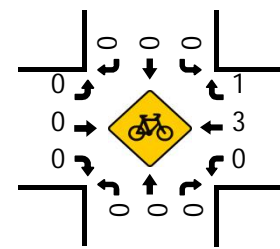
Bikes (NOON)



Total Vehicles (PM)



Bikes (PM)



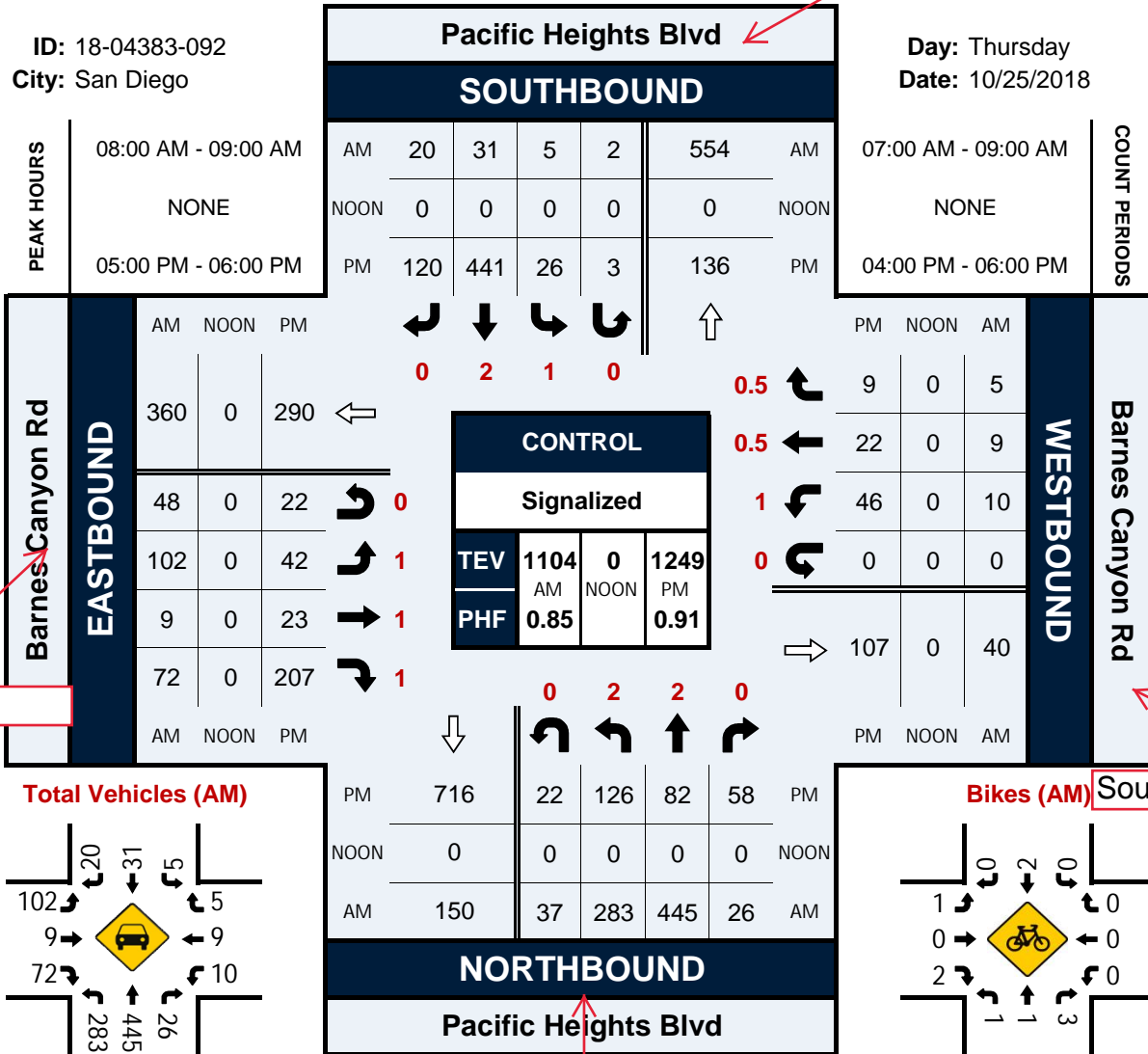
# Pacific Heights Blvd & Barnes Canyon Rd

## Peak Hour Turning Movement Count

Eastbound

ID: 18-04383-092  
City: San Diego

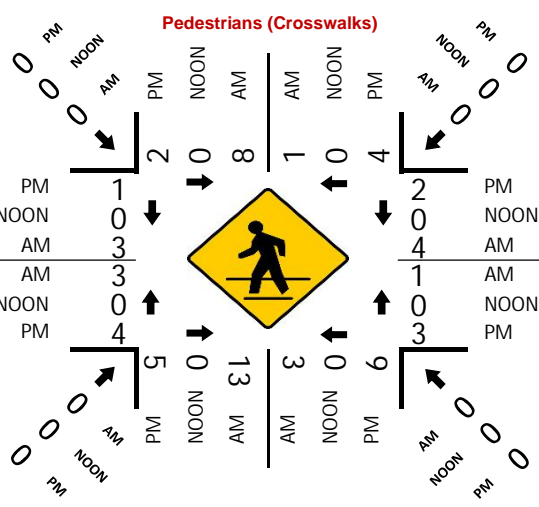
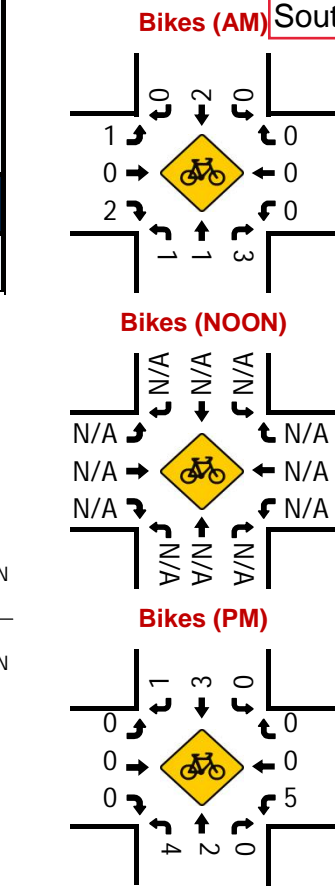
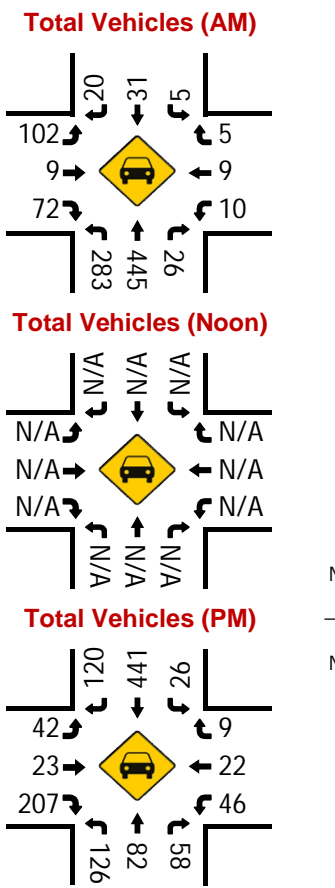
Day: Thursday  
Date: 10/25/2018



Northbound

Southbound

Westbound

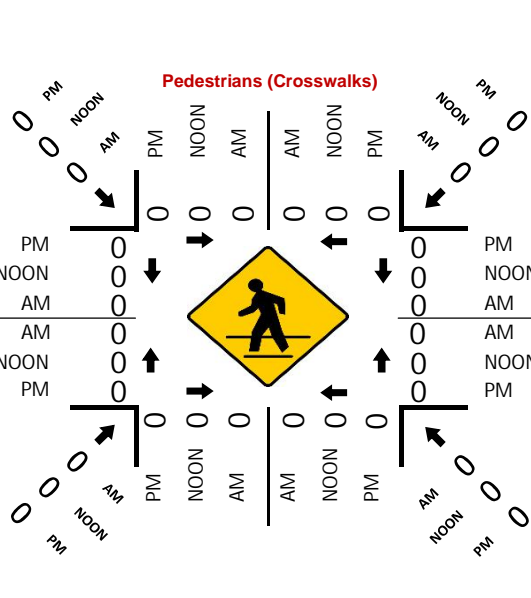
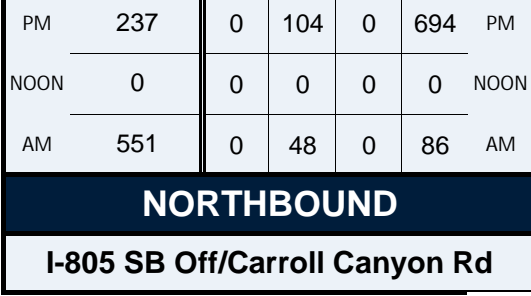
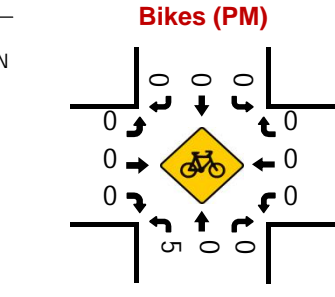
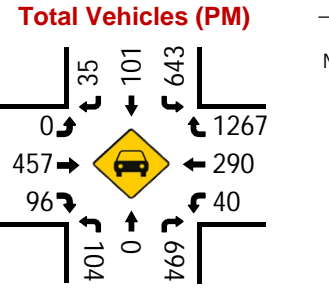
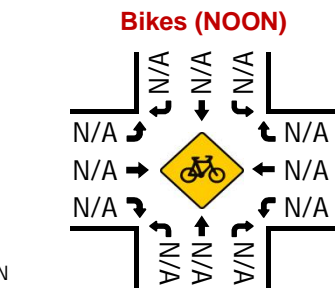
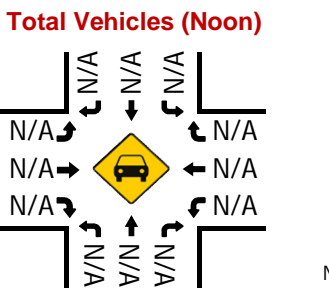
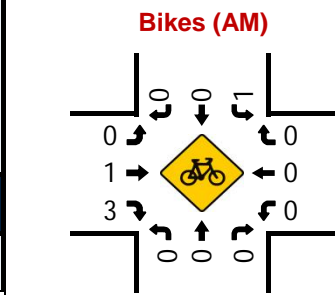
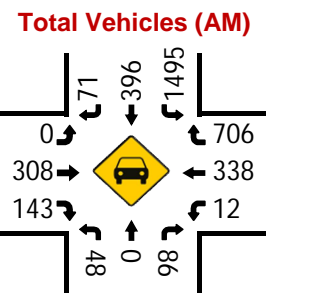
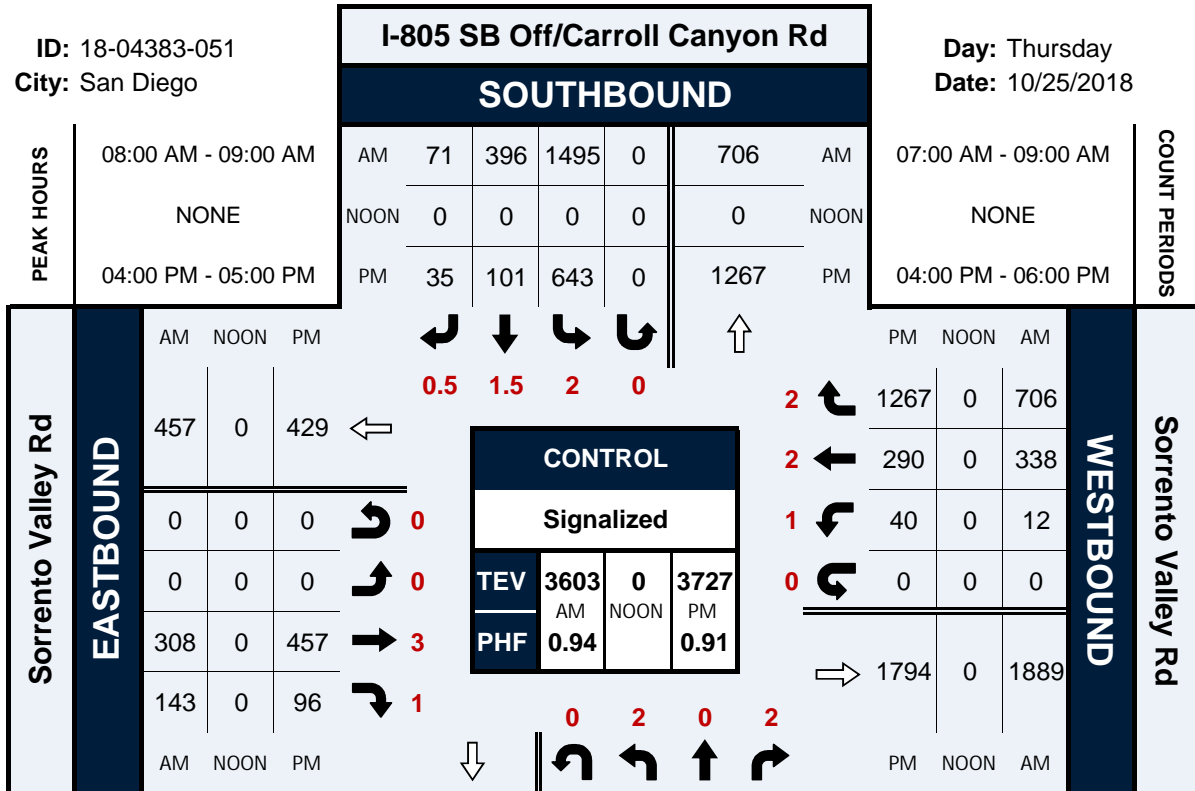


# I-805 SB Off/Carroll Canyon Rd & Sorrento Valley Rd

## Peak Hour Turning Movement Count

ID: 18-04383-051  
City: San Diego

Day: Thursday  
Date: 10/25/2018

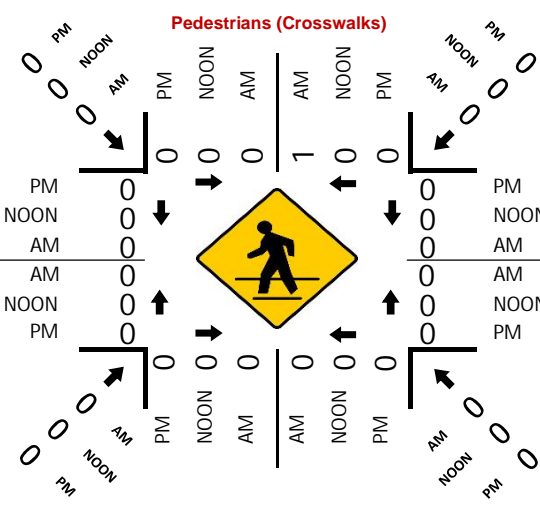
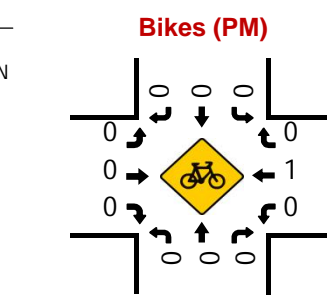
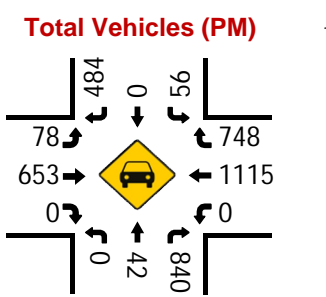
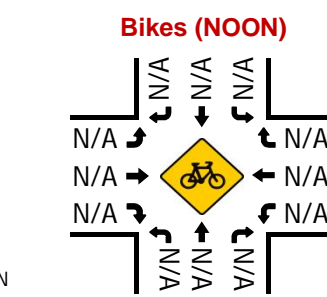
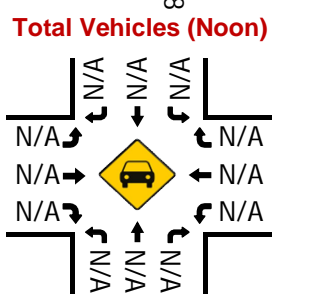
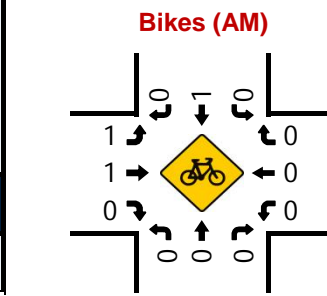
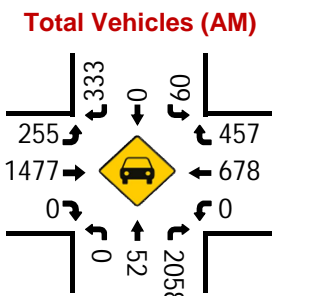
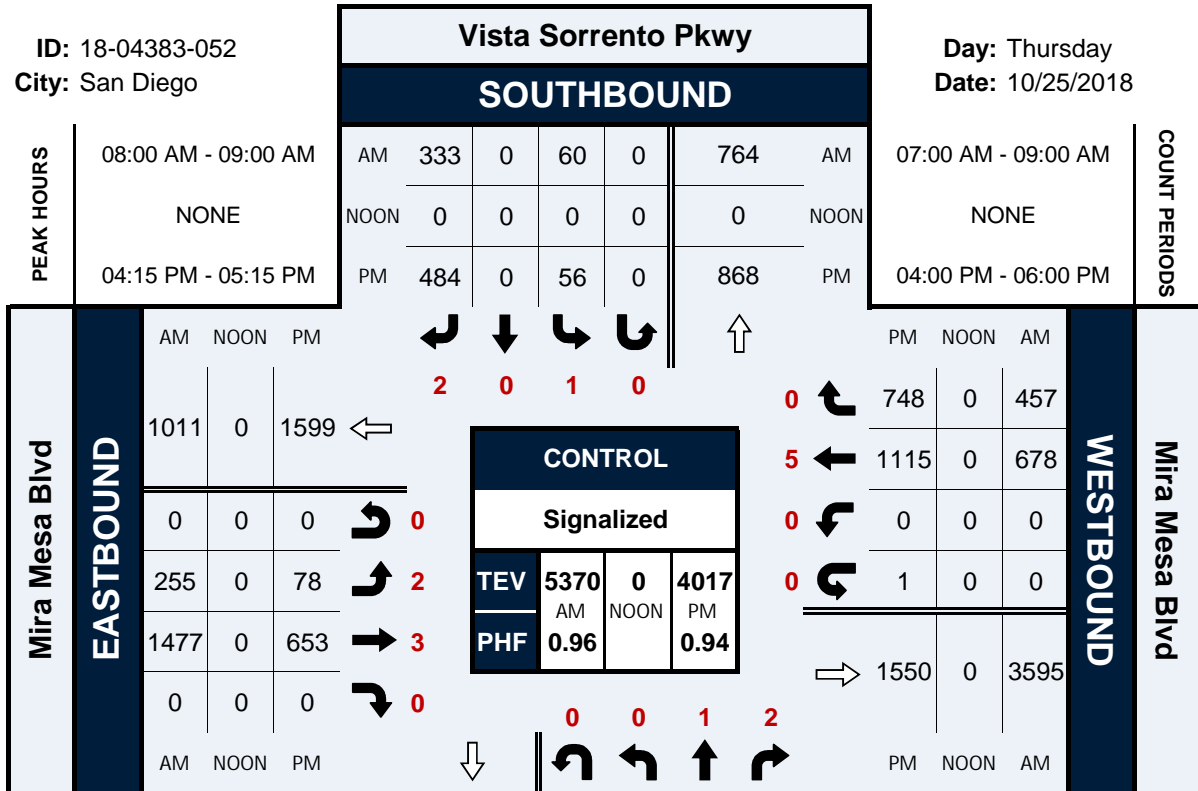


# Vista Sorrento Pkwy & Mira Mesa Blvd

## Peak Hour Turning Movement Count

ID: 18-04383-052  
City: San Diego

Day: Thursday  
Date: 10/25/2018

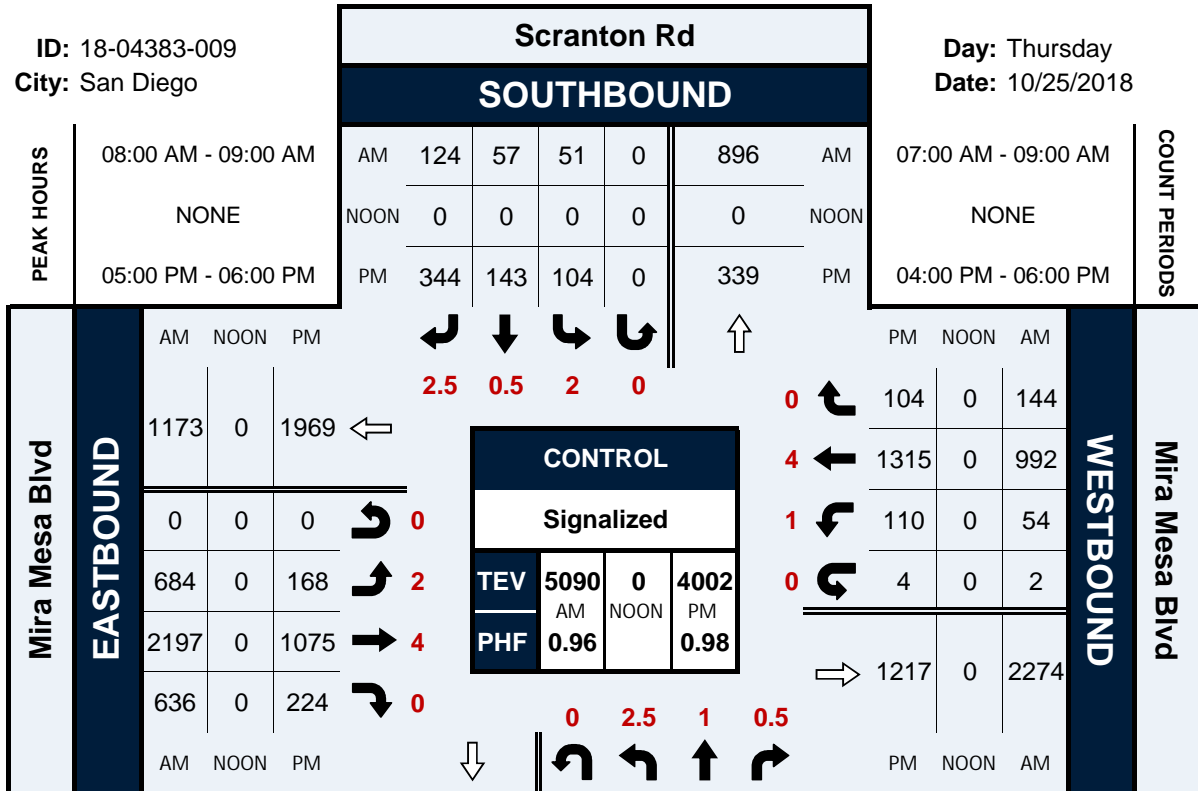


# Scranton Rd & Mira Mesa Blvd

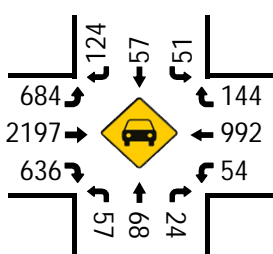
## Peak Hour Turning Movement Count

ID: 18-04383-009  
City: San Diego

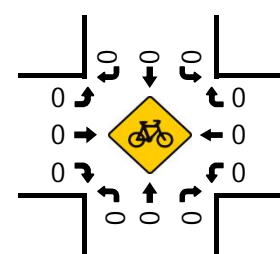
Day: Thursday  
Date: 10/25/2018



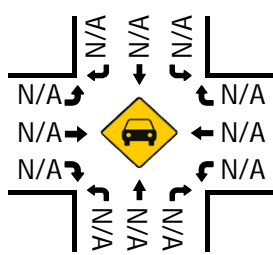
Total Vehicles (AM)



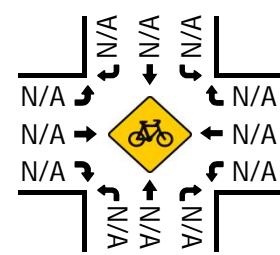
Bikes (AM)



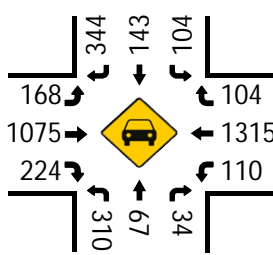
Total Vehicles (Noon)



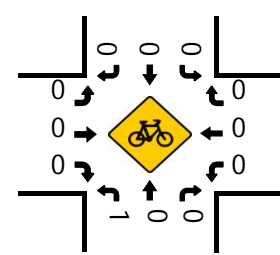
Bikes (NOON)



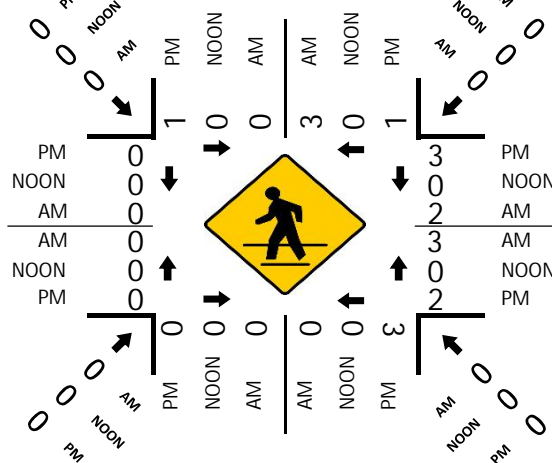
Total Vehicles (PM)



Bikes (PM)



Pedestrians (Crosswalks)

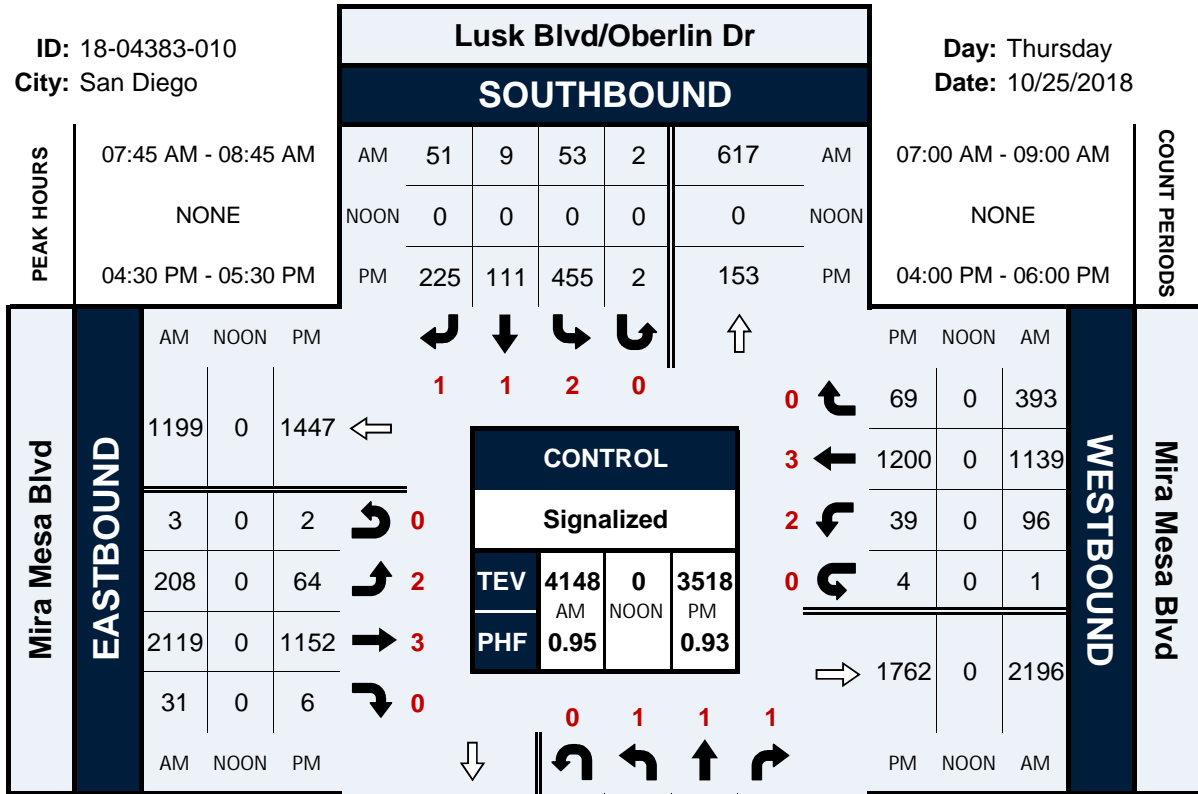


# Lusk Blvd/Oberlin Dr & Mira Mesa Blvd

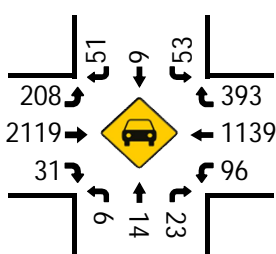
## Peak Hour Turning Movement Count

ID: 18-04383-010  
City: San Diego

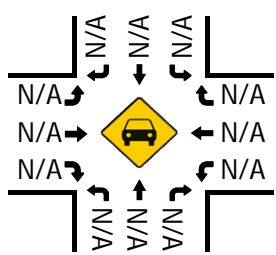
Day: Thursday  
Date: 10/25/2018



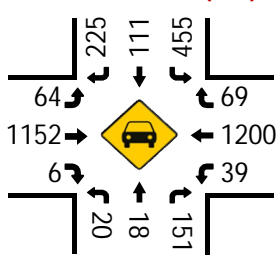
Total Vehicles (AM)



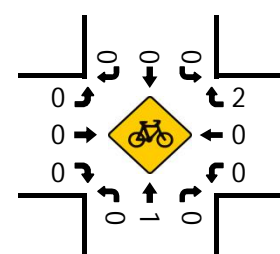
Total Vehicles (Noon)



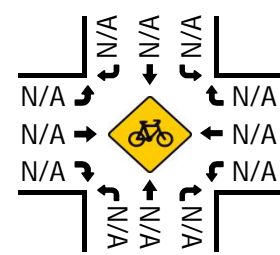
Total Vehicles (PM)



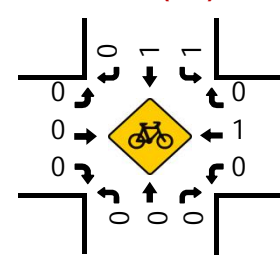
Bikes (AM)



Bikes (NOON)

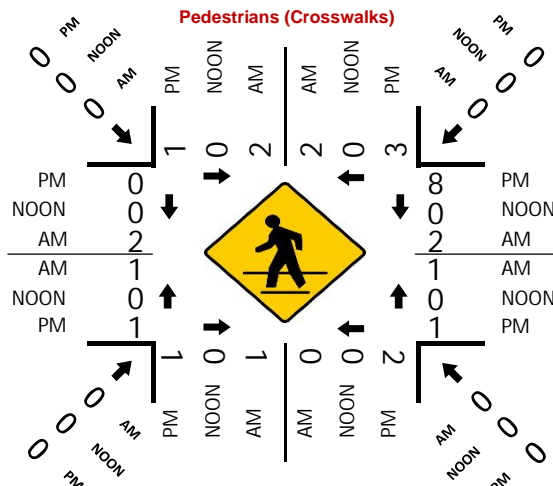


Bikes (PM)



### NORTHBOUND

### Lusk Blvd/Oberlin Dr

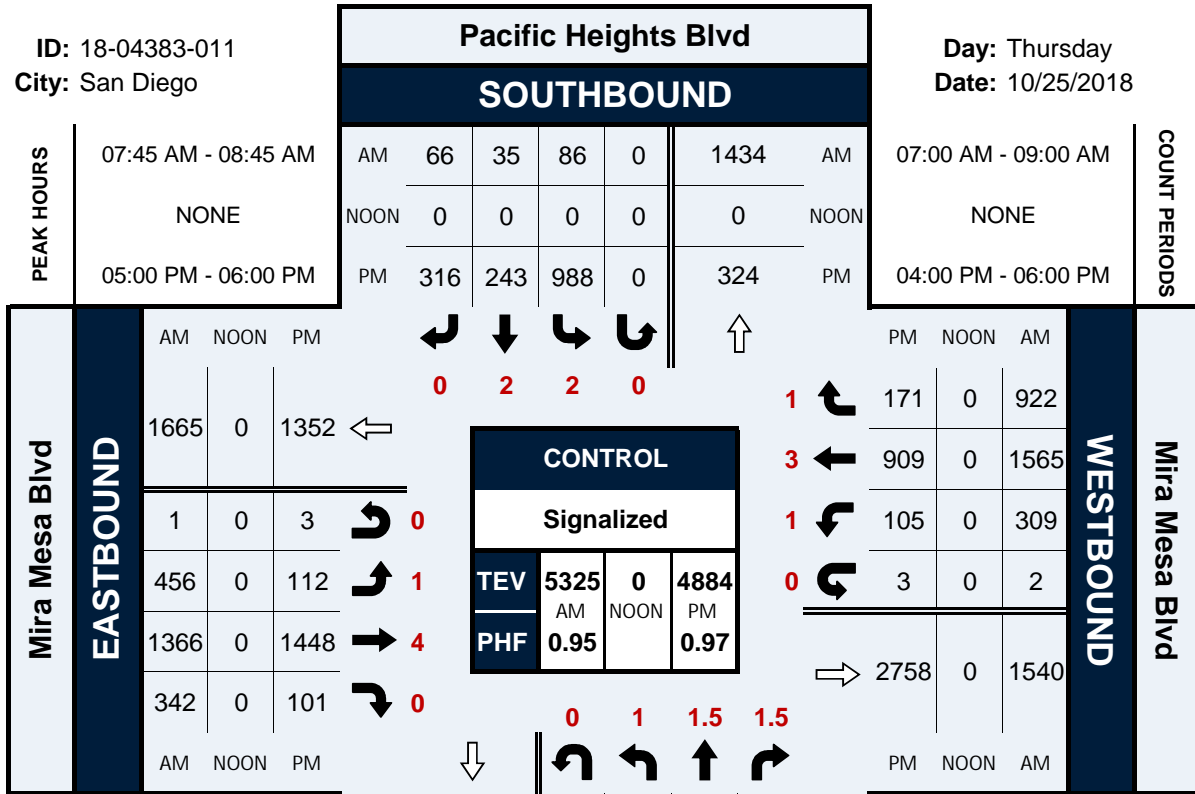


# Pacific Heights Blvd & Mira Mesa Blvd

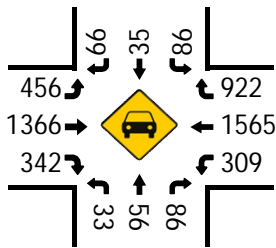
## Peak Hour Turning Movement Count

ID: 18-04383-011  
City: San Diego

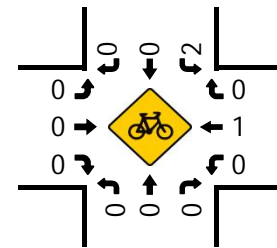
Day: Thursday  
Date: 10/25/2018



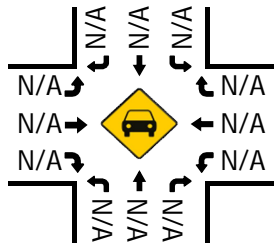
Total Vehicles (AM)



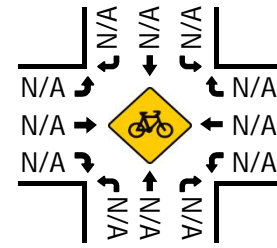
Bikes (AM)



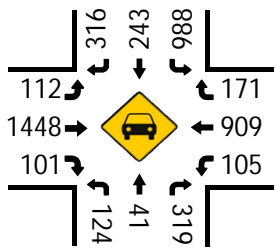
Total Vehicles (Noon)



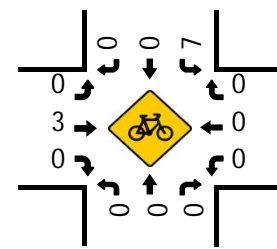
Bikes (NOON)



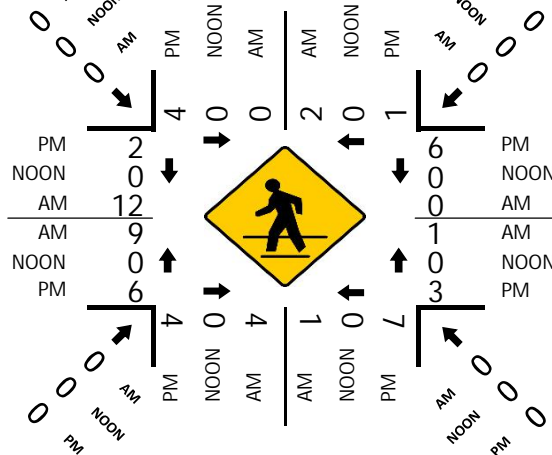
Total Vehicles (PM)



Bikes (PM)



Pedestrians (Crosswalks)



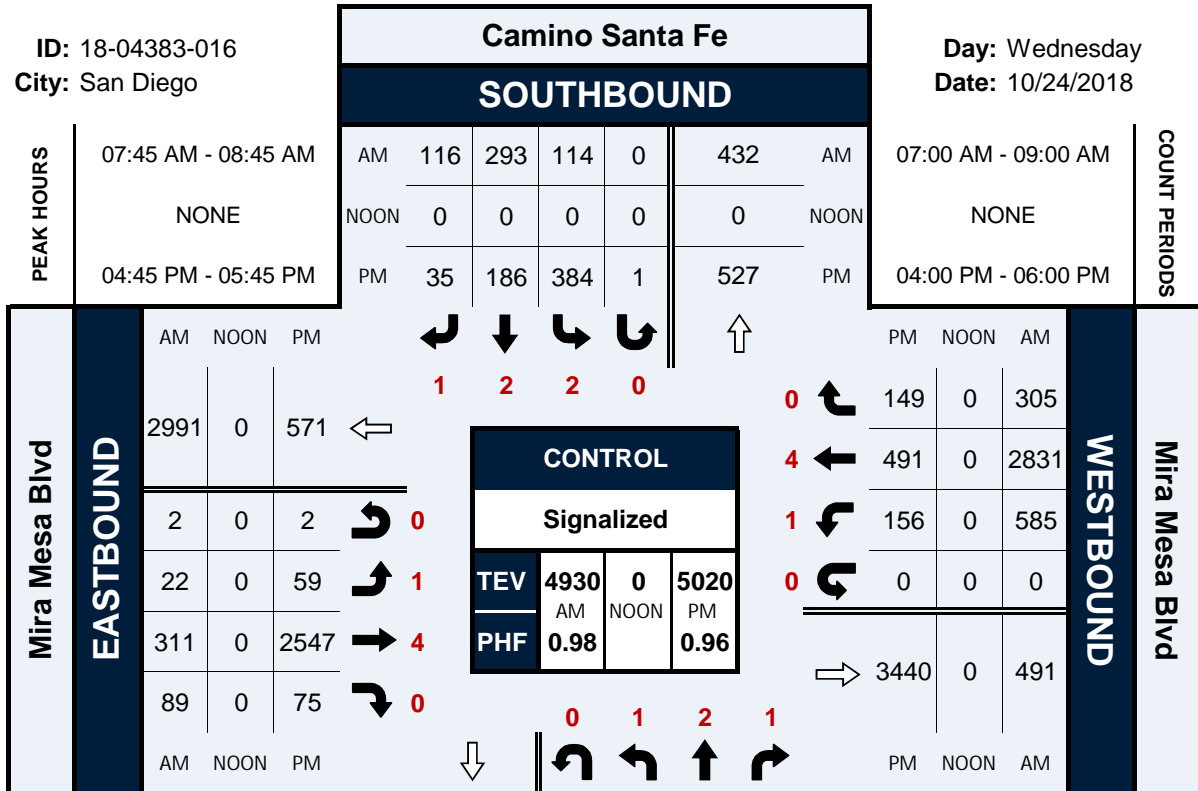


# Camino Santa Fe & Mira Mesa Blvd

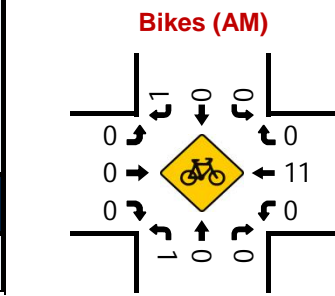
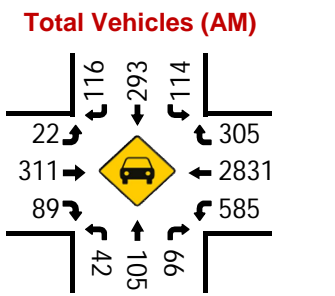
## Peak Hour Turning Movement Count

ID: 18-04383-016  
City: San Diego

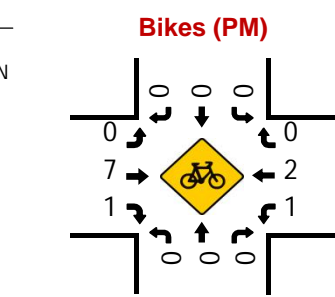
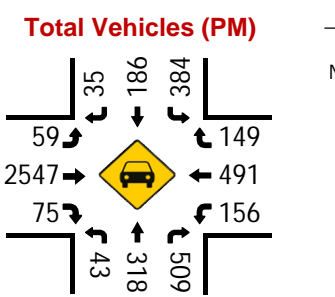
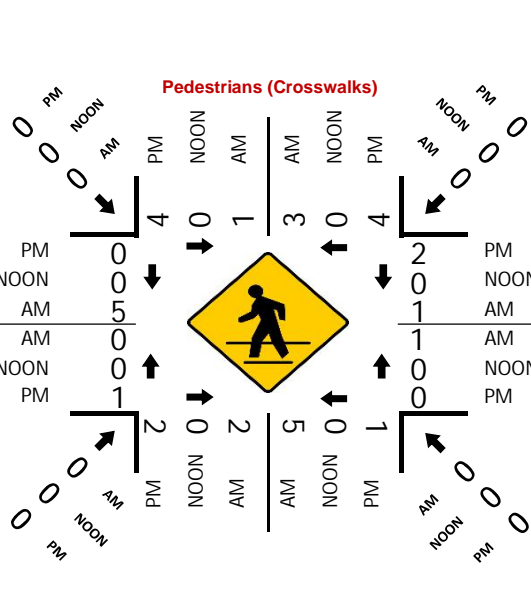
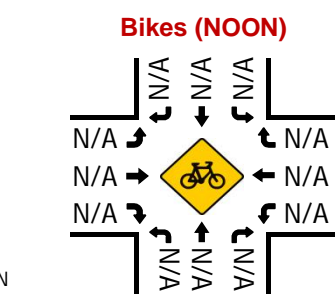
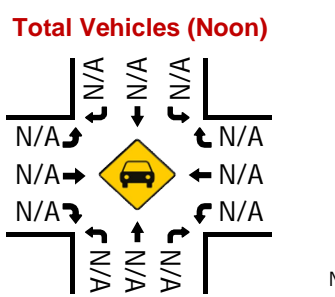
Day: Wednesday  
Date: 10/24/2018



CONTROL			
Signalized			
TEV	4930	0	5020
	AM	NOON	PM
PHF	0.98		0.96



Camino Santa Fe NORTHBOUND						
PM	482	65	43	318	509	PM
NOON	0	0	0	0	0	NOON
AM	1016	49	42	105	66	AM

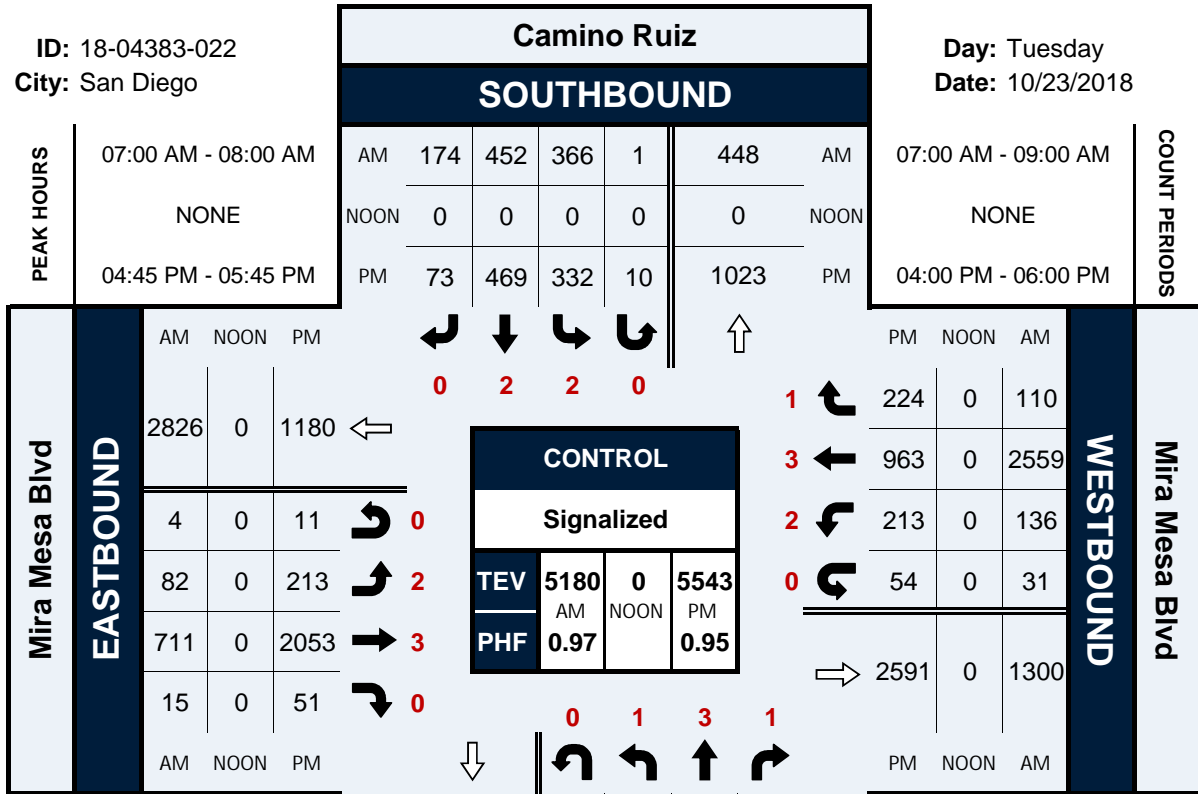


# Camino Ruiz & Mira Mesa Blvd

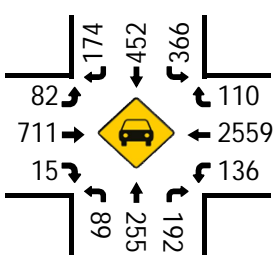
## Peak Hour Turning Movement Count

ID: 18-04383-022  
City: San Diego

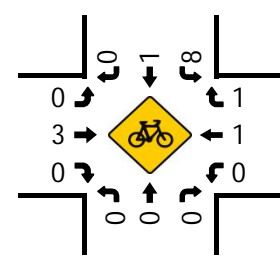
Day: Tuesday  
Date: 10/23/2018



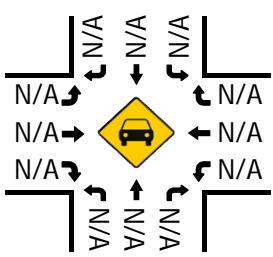
Total Vehicles (AM)



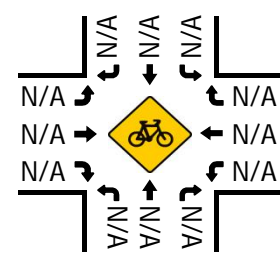
Bikes (AM)



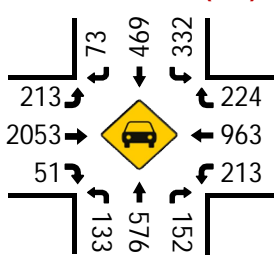
Total Vehicles (Noon)



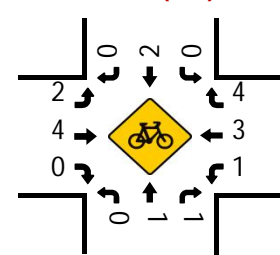
Bikes (NOON)



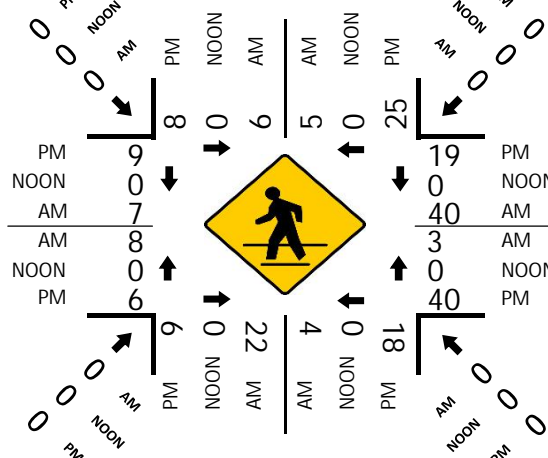
Total Vehicles (PM)



Bikes (PM)



Pedestrians (Crosswalks)

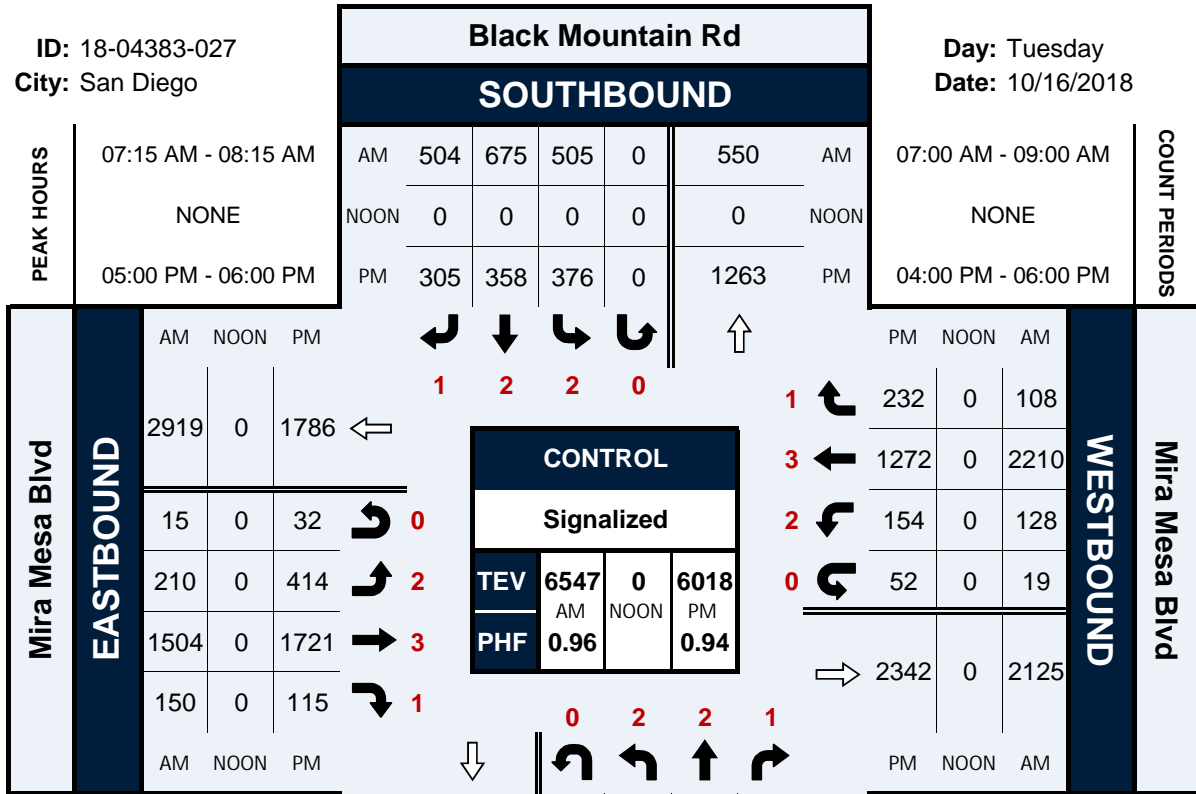


# Black Mountain Rd & Mira Mesa Blvd

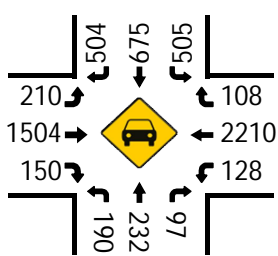
## Peak Hour Turning Movement Count

ID: 18-04383-027  
City: San Diego

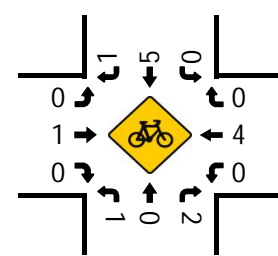
Day: Tuesday  
Date: 10/16/2018



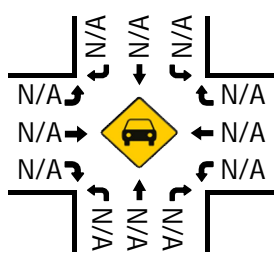
Total Vehicles (AM)



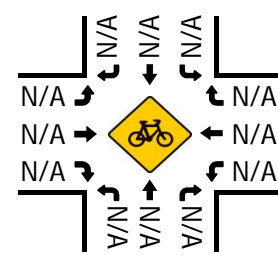
Bikes (AM)



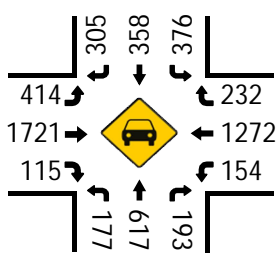
Total Vehicles (Noon)



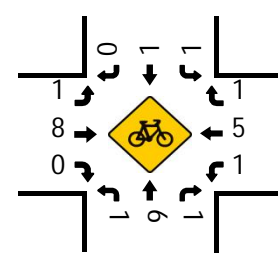
Bikes (NOON)



Total Vehicles (PM)



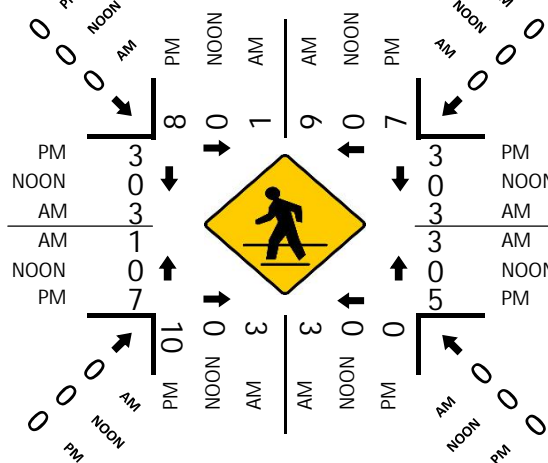
Bikes (PM)



### NORTHBOUND

Black Mountain Rd					
PM	627	0	177	617	193
NOON	0	0	0	0	0
AM	953	0	190	232	97

### Pedestrians (Crosswalks)







## Intersection Turning Movement - Peak Hour Vehicle Count

<b>LINSCOTT LAW &amp; GREENSPAN</b> <i>engineers</i>	Location: #07	File Name: ITM-22-035-07
	Intersection: Carroll Canyon Road / I-805 Direct Access Ramps (DAR)	Project: LLG Ref. 3-22-3544
	Date of Count: Tuesday, May 10, 2022	Lusk on Lusk

AM	I-805 Direct Access Ramp Southbound			Carroll Canyon Road Westbound			I-805 Direct Access Ramp Northbound			Carroll Canyon Road Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	4	0	2	2	20	3	1	0	22	0	80	1	135
7:15	4	0	0	6	23	3	1	0	22	0	98	3	160
7:30	4	0	0	8	26	4	5	1	18	0	99	1	166
7:45	4	0	0	7	36	2	2	1	20	0	108	1	181
8:00	4	0	0	6	31	3	5	1	25	0	125	0	200
8:15	8	0	0	2	29	2	1	0	11	0	127	1	181
8:30	7	0	0	6	30	2	7	2	14	0	122	4	194
8:45	7	0	0	3	32	3	4	0	18	0	121	2	190
<b>Total</b>	<b>42</b>	<b>0</b>	<b>2</b>	<b>40</b>	<b>227</b>	<b>22</b>	<b>26</b>	<b>5</b>	<b>150</b>	<b>0</b>	<b>880</b>	<b>13</b>	<b>1407</b>
Approach%	95.5	-	4.5	13.8	78.5	7.6	14.4	2.8	82.9	-	98.5	1.5	
Total%	3.0	-	0.1	2.8	16.1	1.6	1.8	0.4	10.7	-	62.5	0.9	

**AM Intersection Peak Hour: 08:00 to 09:00**

Volume	26	-	-	17	122	10	17	3	68	-	495	7	765
Approach%	100.0	-	-	11.4	81.9	6.7	19.3	3.4	77.3	-	98.6	1.4	
Total%	3.4	-	-	2.2	15.9	1.3	2.2	0.4	8.9	-	64.7	0.9	
PHF			0.81			0.93			0.71			0.98	0.96

PM	I-805 Direct Access Ramp Southbound			Carroll Canyon Road Westbound			I-805 Direct Access Ramp Northbound			Carroll Canyon Road Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	2	2	1	49	135	18	3	0	3	0	51	12	276
16:15	8	4	0	47	126	7	1	0	4	0	54	7	258
16:30	5	2	0	44	145	12	1	0	2	0	38	11	260
16:45	8	1	0	51	133	11	3	0	4	0	43	7	261
17:00	2	0	0	49	179	5	0	0	4	0	34	5	278
17:15	5	3	0	40	147	12	1	0	6	3	43	12	272
17:30	2	9	1	39	176	11	0	0	3	2	34	9	286
17:45	1	3	3	33	106	6	0	0	3	1	27	5	188
<b>Total</b>	<b>33</b>	<b>24</b>	<b>5</b>	<b>352</b>	<b>1147</b>	<b>82</b>	<b>9</b>	<b>0</b>	<b>29</b>	<b>6</b>	<b>324</b>	<b>68</b>	<b>2079</b>
Approach%	53.2	38.7	8.1	22.3	72.5	5.2	23.7	-	76.3	1.5	81.4	17.1	
Total%	1.6	1.2	0.2	16.9	55.2	3.9	0.4	-	1.4	0.3	15.6	3.3	

**PM Intersection Peak Hour: 16:45 to 17:45**

Volume	17	13	1	179	635	39	4	-	17	5	154	33	1,097
Approach%	54.8	41.9	3.2	21.0	74.4	4.6	19.0	-	81.0	2.6	80.2	17.2	
Total%	1.5	1.2	0.1	16.3	57.9	3.6	0.4	-	1.5	0.5	14.0	3.0	
PHF			0.65			0.92			0.75			0.83	0.96

## Intersection Turning Movement - Bicycle & Pedestrian Count

<b>LINSCOTT LAW &amp; GREENSPAN</b> <i>engineers</i>	Location: #07	File Name: ITM-22-035-07
	Intersection: Carroll Canyon Road / I-805 Direct Access Ramps (DAR)	Project: LLG Ref. 3-22-3544
	Date of Count: Tuesday, May 10, 2022	Lusk on Lusk

AM	I-805 Direct Access Ramp Southbound				Carroll Canyon Road Westbound				I-805 Direct Access Ramp Northbound				Carroll Canyon Road Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
7:45	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4
8:30	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				0				0				0	
Bike Total		0	0	0		0	0	0		0	0	3		0	0	9		12

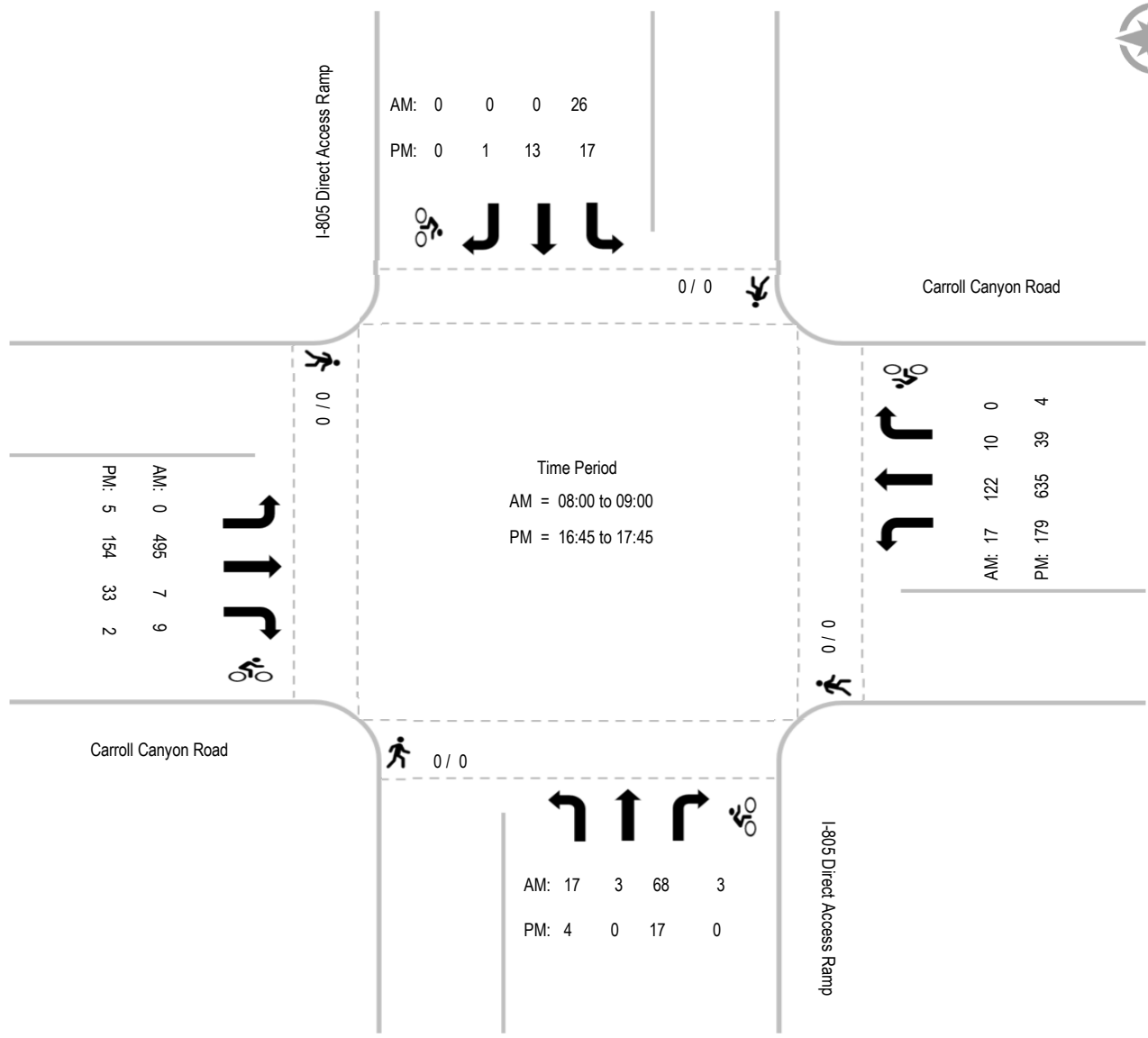
PM	I-805 Direct Access Ramp Southbound				Carroll Canyon Road Westbound				I-805 Direct Access Ramp Northbound				Carroll Canyon Road Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	2
17:15	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	2
Ped Total	0				0				0				0				0	
Bike Total		0	0	0		0	0	4		0	0	0		0	2	0		6

# Intersection Turning Movement - Peak Hour Summary



Location: #07  
 Intersection: Carroll Canyon Road / I-805 Direct Access Ramps (DAR)  
 Date of Count: Tuesday, May 10, 2022

File Name: ITM-22-035-07  
 Project: LLG Ref. 3-22-3544  
 Lusk on Lusk



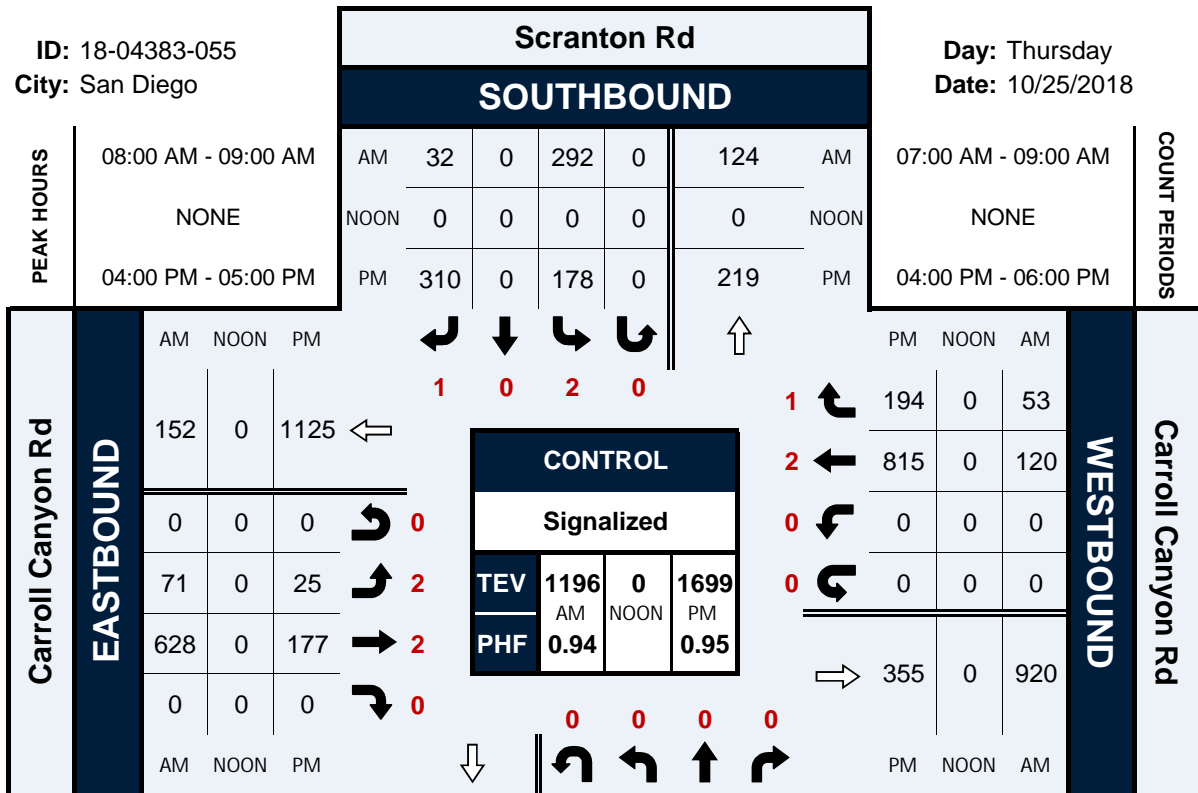


# Scranton Rd & Carroll Canyon Rd

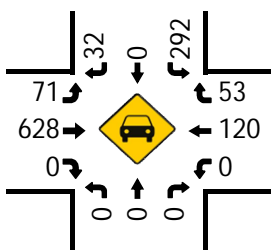
## Peak Hour Turning Movement Count

ID: 18-04383-055  
City: San Diego

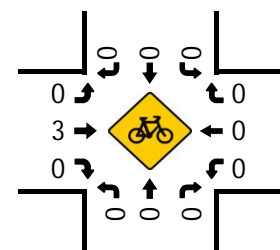
Day: Thursday  
Date: 10/25/2018



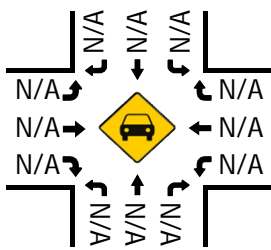
Total Vehicles (AM)



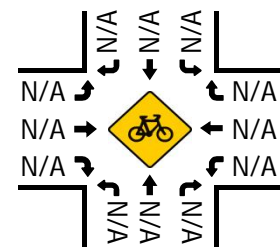
Bikes (AM)



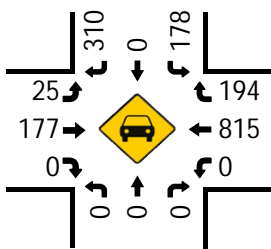
Total Vehicles (Noon)



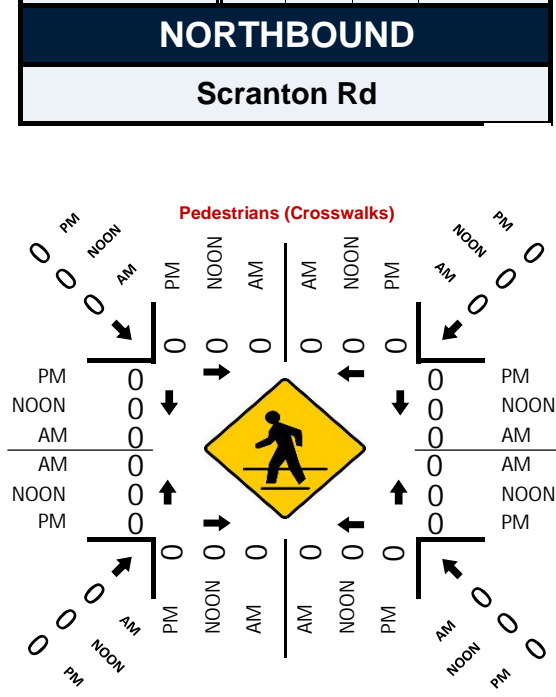
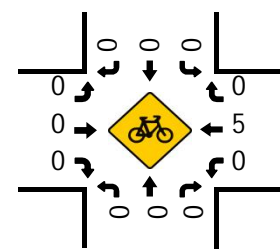
Bikes (NOON)



Total Vehicles (PM)



Bikes (PM)



# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **BC 22-035 # A Sorrento Valley Blvd, between Roselle St and Vista Sorrento Pkwy**

Date: <b>Tuesday, May 10, 2022</b>		Total Daily Volume: <b>18467</b>																			Description: <b>Total Volume</b>			
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	
71	32	28	33	86	274	627	1505	1937	1524	1005	1004	1034	1036	1245	1186	1405	1601	1067	677	441	307	209	133	
16	9	4	5	8	37	122	275	416	521	230	246	257	249	246	242	351	405	339	196	140	96	55	43	
17	7	6	6	23	59	124	312	471	390	269	269	251	238	248	313	343	421	285	174	119	74	62	33	
21	9	11	10	12	61	173	435	503	340	249	221	260	291	411	285	342	395	221	160	107	78	56	39	
17	7	7	12	43	117	208	483	547	273	257	268	266	258	340	346	369	380	222	147	75	59	36	18	

Date: <b>Tuesday, May 10, 2022</b>		Total Daily Volume: <b>7414</b>																			Description: <b>Eastbound Volume</b>			
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	
46	18	9	9	22	64	186	446	616	511	372	419	418	449	429	539	703	777	459	317	232	156	125	92	
12	7	1	2	3	9	35	88	136	140	80	112	107	97	95	87	155	172	144	81	76	49	32	31	
10	5	3	2	4	12	36	102	167	130	107	97	93	111	84	157	186	232	119	92	60	29	35	22	
15	4	3	3	4	11	43	140	156	130	85	103	110	123	135	138	180	213	84	73	55	48	38	27	
9	2	2	2	11	32	72	116	157	111	100	107	108	118	115	157	182	160	112	71	41	30	20	12	

Date: <b>Tuesday, May 10, 2022</b>		Total Daily Volume: <b>11053</b>																			Description: <b>Westbound Volume</b>			
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	
25	14	19	24	64	210	441	1059	1321	1013	633	585	616	587	816	647	702	824	608	360	209	151	84	41	
4	2	3	3	5	28	87	187	280	381	150	134	150	152	151	155	196	233	195	115	64	47	23	12	
7	2	3	4	19	47	88	210	304	260	162	172	158	127	164	156	157	189	166	82	59	45	27	11	
6	5	8	7	8	50	130	295	347	210	164	118	150	168	276	147	162	182	137	87	52	30	18	12	
8	5	5	10	32	85	136	367	390	162	157	161	158	140	225	189	187	220	110	76	34	29	16	6	

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Driveway #1, South Side of Lusk Boulevard**

Date: <b>Wednesday, May 4, 2022</b>		Total Daily Volume: <b>260</b>																				Description: <b>Total Volume</b>	
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
3	1	0	0	0	1	4	9	13	15	23	21	34	23	25	26	16	22	7	3	2	7	3	2
3	1	0	0	0	0	0	1	2	2	5	6	7	7	4	11	4	7	2	0	1	1	2	0
0	0	0	0	0	1	2	2	2	3	9	2	12	5	8	4	2	6	4	1	1	3	0	0
0	0	0	0	0	0	0	0	3	5	3	8	6	3	5	4	4	4	1	1	0	1	1	0
0	0	0	0	0	0	2	6	6	5	6	5	9	8	8	7	6	5	0	1	0	2	0	2

Date: <b>Wednesday, May 4, 2022</b>		Total Daily Volume: <b>145</b>																				Description: <b>Northbound Volume</b>	
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
2	1	0	0	0	0	1	1	1	4	11	10	24	10	11	19	12	18	6	2	1	6	3	2
2	1	0	0	0	0	0	0	0	1	3	2	4	1	2	10	2	6	2	0	1	0	2	0
0	0	0	0	0	0	0	0	0	0	5	1	8	3	2	1	2	5	3	1	0	3	0	0
0	0	0	0	0	0	0	0	0	3	1	6	4	0	1	2	3	2	1	0	0	1	1	0
0	0	0	0	0	0	1	1	1	0	2	1	8	6	6	6	5	5	0	1	0	2	0	2

Date: <b>Wednesday, May 4, 2022</b>		Total Daily Volume: <b>115</b>																				Description: <b>Southbound Volume</b>	
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
1	0	0	0	0	1	3	8	12	11	12	11	10	13	14	7	4	4	1	1	1	1	0	0
1	0	0	0	0	0	0	1	2	1	2	4	3	6	2	1	2	1	0	0	0	1	0	0
0	0	0	0	0	1	2	2	2	3	4	1	4	2	6	3	0	1	1	0	1	0	0	0
0	0	0	0	0	0	0	0	3	2	2	2	2	3	4	2	1	2	0	1	0	0	0	0
0	0	0	0	0	0	1	5	5	5	4	4	1	2	2	1	1	0	0	0	0	0	0	0

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Driveway #2, South Side of Lusk Boulevard**

Date: <b>Wednesday, May 4, 2022</b>																						Total Daily Volume: <b>417</b>		Description: <b>Total Volume</b>	
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00		
0	0	0	0	0	1	3	12	27	37	28	40	39	35	42	41	35	32	16	22	6	0	0	1		
0	0	0	0	0	1	0	3	4	10	4	13	13	9	9	11	9	12	5	6	3	0	0	1		
0	0	0	0	0	0	0	3	4	5	9	7	11	5	8	10	5	5	2	4	0	0	0	0		
0	0	0	0	0	0	1	2	3	6	9	6	8	12	9	5	13	7	7	9	0	0	0	0		
0	0	0	0	0	0	2	4	16	16	6	14	7	9	16	15	8	8	2	3	3	0	0	0		

Date: <b>Wednesday, May 4, 2022</b>																						Total Daily Volume: <b>212</b>		Description: <b>Northbound Volume</b>	
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00		
0	0	0	0	0	0	0	0	2	6	6	18	22	19	27	27	25	23	11	20	5	0	0	1		
0	0	0	0	0	0	0	0	0	1	2	5	7	6	6	9	9	12	5	6	2	0	0	1		
0	0	0	0	0	0	0	0	0	1	0	3	6	3	6	6	4	2	1	3	0	0	0	0		
0	0	0	0	0	0	0	0	0	1	3	4	6	6	6	4	8	6	4	8	0	0	0	0		
0	0	0	0	0	0	0	0	2	3	1	6	3	4	9	8	4	3	1	3	3	0	0	0		

Date: <b>Wednesday, May 4, 2022</b>																						Total Daily Volume: <b>205</b>		Description: <b>Southbound Volume</b>	
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00		
0	0	0	0	0	1	3	12	25	31	22	22	17	16	15	14	10	9	5	2	1	0	0	0		
0	0	0	0	0	1	0	3	4	9	2	8	6	3	3	2	0	0	0	0	1	0	0	0		
0	0	0	0	0	0	0	3	4	4	9	4	5	2	2	4	1	3	1	1	0	0	0	0		
0	0	0	0	0	0	1	2	3	5	6	2	2	6	3	1	5	1	3	1	0	0	0	0		
0	0	0	0	0	0	2	4	14	13	5	8	4	5	7	7	4	5	1	0	0	0	0	0		

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Driveway #3, South Side of Lusk Boulevard**

Date: <b>Wednesday, May 4, 2022</b>		Total Daily Volume: <b>138</b>										Description: <b>Total Volume</b>											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
0	0	0	0	0	0	1	3	7	17	9	15	15	14	14	12	10	15	4	1	0	0	1	0
0	0	0	0	0	0	0	0	2	7	2	5	5	3	0	5	3	7	2	0	0	0	0	0
0	0	0	0	0	0	1	2	2	3	2	3	2	1	4	2	4	3	1	0	0	0	0	1
0	0	0	0	0	0	0	0	0	1	3	7	3	6	2	4	1	3	1	0	0	0	0	0
0	0	0	0	0	0	0	1	3	6	2	0	5	4	8	1	2	2	0	1	0	0	0	0

Date: <b>Wednesday, May 4, 2022</b>		Total Daily Volume: <b>69</b>										Description: <b>Northbound Volume</b>											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
0	0	0	0	0	0	0	0	0	1	2	6	9	9	8	8	8	14	3	0	0	0	0	1
0	0	0	0	0	0	0	0	0	1	0	2	4	3	0	4	3	6	2	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	3	1	1	3	2	3	3	1	0	0	0	0	1
0	0	0	0	0	0	0	0	0	0	1	1	1	3	1	1	0	3	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	1	0	3	2	4	1	2	2	0	0	0	0	0	0

Date: <b>Wednesday, May 4, 2022</b>		Total Daily Volume: <b>69</b>										Description: <b>Southbound Volume</b>											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
0	0	0	0	0	0	1	3	7	16	7	9	6	5	6	4	2	1	1	1	0	0	0	0
0	0	0	0	0	0	0	0	2	6	2	3	1	0	0	1	0	1	0	0	0	0	0	0
0	0	0	0	0	0	1	2	2	3	2	0	1	0	1	0	1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	1	2	6	2	3	1	3	1	0	1	0	0	0	0	0
0	0	0	0	0	0	0	1	3	6	1	0	2	2	4	0	0	0	0	1	0	0	0	0

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Driveway #4, South Side of Lusk Boulevard**

Date: <b>Wednesday, May 4, 2022</b>		Total Daily Volume: <b>265</b>																				Description: <b>Total Volume</b>	
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
0	0	0	0	0	2	15	7	17	19	15	33	31	24	20	20	19	13	15	11	2	2	0	0
0	0	0	0	0	0	2	1	1	8	4	10	11	7	10	10	3	4	4	4	2	1	0	0
0	0	0	0	0	0	3	3	4	1	10	8	10	10	5	2	3	7	6	1	0	0	0	0
0	0	0	0	0	0	6	1	5	6	1	7	4	2	0	6	5	0	3	3	0	0	0	0
0	0	0	0	0	2	4	2	7	4	0	8	6	5	5	2	8	2	2	3	0	1	0	0

Date: <b>Wednesday, May 4, 2022</b>		Total Daily Volume: <b>122</b>																				Description: <b>Northbound Volume</b>	
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
0	0	0	0	0	0	3	0	1	4	6	11	12	11	13	12	12	9	14	10	2	2	0	0
0	0	0	0	0	0	0	0	0	1	0	4	4	3	6	7	2	3	4	3	2	1	0	0
0	0	0	0	0	0	0	0	1	0	5	2	3	6	3	1	2	4	5	1	0	0	0	0
0	0	0	0	0	0	1	0	0	2	1	2	2	1	0	3	2	0	3	3	0	0	0	0
0	0	0	0	0	0	2	0	0	1	0	3	3	1	4	1	6	2	2	3	0	1	0	0

Date: <b>Wednesday, May 4, 2022</b>		Total Daily Volume: <b>143</b>																				Description: <b>Southbound Volume</b>	
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
0	0	0	0	0	2	12	7	16	15	9	22	19	13	7	8	7	4	1	1	0	0	0	0
0	0	0	0	0	0	2	1	1	7	4	6	7	4	4	3	1	1	0	1	0	0	0	0
0	0	0	0	0	0	3	3	3	1	5	6	7	4	2	1	1	3	1	0	0	0	0	0
0	0	0	0	0	0	5	1	5	4	0	5	2	1	0	3	3	0	0	0	0	0	0	0
0	0	0	0	0	2	2	2	7	3	0	5	3	4	1	1	2	0	0	0	0	0	0	0

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**APPENDIX D**  
**EXISTING INTERSECTION ANALYSIS CALCULATION**  
**SHEETS**

HCM 6th Signalized Intersection Summary  
 1: I-5 SB On-Ramp/I-5 SB Off-Ramp & Carmel Mountain Rd

Existing AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↖↗	↑↑					↘	↕	↗
Traffic Volume (veh/h)	1	136	41	484	258	0	0	0	0	534	1	421
Future Volume (veh/h)	1	136	41	484	258	0	0	0	0	534	1	421
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	1.00		1.00				1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	1	153	46	613	327	0				663	0	162
Peak Hour Factor	0.89	0.89	0.89	0.79	0.79	0.79				0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	0				2	2	2
Cap, veh/h	37	1198	522	680	2125	0				965	0	416
Arrive On Green	0.34	0.34	0.34	0.20	0.60	0.00				0.27	0.00	0.27
Sat Flow, veh/h	3	3482	1516	3456	3647	0				3563	0	1536
Grp Volume(v), veh/h	83	71	46	613	327	0				663	0	162
Grp Sat Flow(s),veh/h/ln	1868	1617	1516	1728	1777	0				1781	0	1536
Q Serve(g_s), s	0.0	3.0	2.1	17.3	4.1	0.0				16.7	0.0	8.6
Cycle Q Clear(g_c), s	3.0	3.0	2.1	17.3	4.1	0.0				16.7	0.0	8.6
Prop In Lane	0.01		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	679	556	522	680	2125	0				965	0	416
V/C Ratio(X)	0.12	0.13	0.09	0.90	0.15	0.00				0.69	0.00	0.39
Avail Cap(c_a), veh/h	679	556	522	740	2125	0				965	0	416
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	22.5	22.5	22.2	39.2	8.9	0.0				32.6	0.0	29.7
Incr Delay (d2), s/veh	0.4	0.5	0.3	12.8	0.2	0.0				4.0	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.2	0.8	8.4	1.5	0.0				7.6	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.9	23.0	22.5	52.0	9.1	0.0				36.6	0.0	32.4
LnGrp LOS	C	C	C	D	A	A				D	A	C
Approach Vol, veh/h		200			940						825	
Approach Delay, s/veh		22.8			37.1						35.8	
Approach LOS		C			D						D	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	25.4	41.4		33.2		66.8						
Change Period (Y+Rc), s	* 5.7	7.0		6.1		7.0						
Max Green Setting (Gmax), s	* 21	32.7		27.1		59.8						
Max Q Clear Time (g_c+I1), s	19.3	5.0		18.7		6.1						
Green Ext Time (p_c), s	0.4	0.6		1.3		1.5						

Intersection Summary

HCM 6th Ctrl Delay	35.1
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



HCM 6th Signalized Intersection Summary  
 2: I-5 NB Off-Ramp/I-5 NB On-Ramp & Carmel Mountain Rd

Existing AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑↑	↗	↘	↔	↗			
Traffic Volume (veh/h)	90	608	0	0	695	525	149	0	348	0	0	0
Future Volume (veh/h)	90	608	0	0	695	525	149	0	348	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.96			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	97	654	0	0	808	610	103	0	417			
Peak Hour Factor	0.93	0.93	0.93	0.86	0.86	0.86	0.96	0.96	0.96			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	125	2229	0	0	2407	729	300	0	512			
Arrive On Green	0.07	0.63	0.00	0.00	0.47	0.47	0.17	0.00	0.17			
Sat Flow, veh/h	1781	3647	0	0	5274	1547	1781	0	3036			
Grp Volume(v), veh/h	97	654	0	0	808	610	103	0	417			
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1702	1547	1781	0	1518			
Q Serve(g_s), s	3.6	5.6	0.0	0.0	6.6	22.9	3.4	0.0	8.8			
Cycle Q Clear(g_c), s	3.6	5.6	0.0	0.0	6.6	22.9	3.4	0.0	8.8			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	125	2229	0	0	2407	729	300	0	512			
V/C Ratio(X)	0.77	0.29	0.00	0.00	0.34	0.84	0.34	0.00	0.82			
Avail Cap(c_a), veh/h	356	3547	0	0	3641	1103	532	0	907			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	30.4	5.7	0.0	0.0	11.1	15.4	24.4	0.0	26.7			
Incr Delay (d2), s/veh	3.8	0.0	0.0	0.0	0.0	2.2	0.3	0.0	1.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.6	1.6	0.0	0.0	2.2	7.4	1.4	0.0	3.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.2	5.7	0.0	0.0	11.1	17.5	24.7	0.0	27.9			
LnGrp LOS	C	A	A	A	B	B	C	A	C			
Approach Vol, veh/h		751			1418			520				
Approach Delay, s/veh		9.4			13.9			27.3				
Approach LOS		A			B			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		49.3			10.4	38.9		17.3				
Change Period (Y+Rc), s		7.5			* 5.7	7.5		6.1				
Max Green Setting (Gmax), s		66.5			* 13	47.5		19.9				
Max Q Clear Time (g_c+11), s		7.6			5.6	24.9		10.8				
Green Ext Time (p_c), s		3.3			0.1	5.5		0.4				

Intersection Summary

HCM 6th Ctrl Delay	15.2
HCM 6th LOS	B

Notes

- User approved volume balancing among the lanes for turning movement.
- \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 3: Vista Sorrento Pkwy/Torrey View Ct & Carmel Mountain Rd

Existing AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↗	↔↔	↑↑↑	↗	↔↔	↑	↗↗	↔↔	↑↑	↘
Traffic Volume (veh/h)	20	11	54	522	21	220	71	340	484	215	690	25
Future Volume (veh/h)	20	11	54	522	21	220	71	340	484	215	690	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	13	66	587	24	247	86	410	583	253	812	29
Peak Hour Factor	0.82	0.82	0.82	0.89	0.89	0.89	0.83	0.83	0.83	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	119	895	330	604	1611	634	141	649	1429	324	1398	50
Arrive On Green	0.03	0.18	0.18	0.17	0.32	0.32	0.04	0.35	0.35	0.09	0.40	0.40
Sat Flow, veh/h	3456	5106	1515	3456	5106	1539	3456	1870	2715	3456	3496	125
Grp Volume(v), veh/h	24	13	66	587	24	247	86	410	583	253	413	428
Grp Sat Flow(s),veh/h/ln	1728	1702	1515	1728	1702	1539	1728	1870	1357	1728	1777	1844
Q Serve(g_s), s	0.6	0.2	3.4	16.1	0.3	10.7	2.3	17.4	12.4	6.8	17.3	17.3
Cycle Q Clear(g_c), s	0.6	0.2	3.4	16.1	0.3	10.7	2.3	17.4	12.4	6.8	17.3	17.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	119	895	330	604	1611	634	141	649	1429	324	710	737
V/C Ratio(X)	0.20	0.01	0.20	0.97	0.01	0.39	0.61	0.63	0.41	0.78	0.58	0.58
Avail Cap(c_a), veh/h	255	1961	647	604	2487	898	145	649	1429	407	710	737
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.6	32.4	30.5	39.0	22.4	19.8	44.8	26.0	13.9	42.1	22.3	22.3
Incr Delay (d2), s/veh	0.3	0.0	0.4	29.6	0.0	0.6	4.8	4.6	0.9	5.7	3.4	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.1	1.2	9.2	0.1	3.5	1.0	7.8	3.4	3.1	7.6	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.9	32.4	30.9	68.6	22.4	20.4	49.7	30.6	14.7	47.8	25.7	25.6
LnGrp LOS	D	C	C	E	C	C	D	C	B	D	C	C
Approach Vol, veh/h		103			858			1079			1094	
Approach Delay, s/veh		34.4			53.4			23.5			30.8	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.0	22.5	8.3	43.3	7.7	35.8	13.3	38.3				
Change Period (Y+Rc), s	4.4	5.8	4.4	5.3	4.4	* 5.8	4.4	5.3				
Max Green Setting (Gmax), s	10.6	36.5	4.0	38.0	7.0	* 46	11.2	30.8				
Max Q Clear Time (g_c+110), s	11.0	5.4	4.3	19.3	2.6	12.7	8.8	19.4				
Green Ext Time (p_c), s	0.0	0.4	0.0	6.4	0.0	1.8	0.1	4.5				

Intersection Summary

HCM 6th Ctrl Delay	34.6
HCM 6th LOS	C

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
4: Roselle St & 1-5 SB On-Ramp

Existing AM  
08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑		↑↑	↑			↑	
Traffic Volume (veh/h)	0	0	0	0	0	0	795	316	0	0	50	46
Future Volume (veh/h)	0	0	0	0	0	0	795	316	0	0	50	46
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.94
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No	No		No		No	
Adj Sat Flow, veh/h/ln				0	1870	0	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				0	0	0	893	355	0	0	56	52
Peak Hour Factor				0.92	0.92	0.92	0.89	0.89	0.92	0.92	0.89	0.89
Percent Heavy Veh, %				0	2	0	2	2	0	0	2	2
Cap, veh/h				0	0	0	1244	1523	0	0	248	231
Arrive On Green				0.00	0.00	0.00	0.36	0.81	0.00	0.00	0.29	0.29
Sat Flow, veh/h				0			3456	1870	0	0	864	803
Grp Volume(v), veh/h				0.0			893	355	0	0	0	108
Grp Sat Flow(s),veh/h/ln							1728	1870	0	0	0	1667
Q Serve(g_s), s							5.9	1.1	0.0	0.0	0.0	1.3
Cycle Q Clear(g_c), s							5.9	1.1	0.0	0.0	0.0	1.3
Prop In Lane							1.00		0.00	0.00		0.48
Lane Grp Cap(c), veh/h							1244	1523	0	0	0	479
V/C Ratio(X)							0.72	0.23	0.00	0.00	0.00	0.23
Avail Cap(c_a), veh/h							2438	2710	0	0	0	961
HCM Platoon Ratio							1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)							1.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh							7.3	0.6	0.0	0.0	0.0	7.2
Incr Delay (d2), s/veh							0.3	0.1	0.0	0.0	0.0	0.3
Initial Q Delay(d3),s/veh							0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln							1.1	0.0	0.0	0.0	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh							7.6	0.6	0.0	0.0	0.0	7.4
LnGrp LOS							A	A	A	A	A	A
Approach Vol, veh/h								1248			108	
Approach Delay, s/veh								5.6			7.4	
Approach LOS								A			A	
Timer - Assigned Phs		2			5	6						
Phs Duration (G+Y+Rc), s		26.4			13.9	12.5						
Change Period (Y+Rc), s		4.9			4.4	4.9						
Max Green Setting (Gmax), s		38.2			18.6	15.2						
Max Q Clear Time (g_c+I1), s		3.1			7.9	3.3						
Green Ext Time (p_c), s		2.6			1.6	0.4						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay											5.8	
HCM 6th LOS											A	

HCM Unsignalized Intersection Capacity Analysis  
5: Roselle St & Sorrento Valley Blvd

Existing AM  
08/04/2023



Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	↙	↗↗	↑	↗↗		↘	
Traffic Volume (veh/h)	96	904	161	829	60	15	
Future Volume (Veh/h)	96	904	161	829	60	15	
Sign Control	Free		Stop		Stop		
Grade	0%		0%		0%		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.69	0.69	
Hourly flow rate (vph)	103	972	173	891	87	22	
Pedestrians	10		10		10		
Lane Width (ft)	12.0		12.0		12.0		
Walking Speed (ft/s)	4.0		4.0		4.0		
Percent Blockage	1		1		1		
Right turn flare (veh)							
Median type	None						
Median storage (veh)							
Upstream signal (ft)	1003						
pX, platoon unblocked							
vC, conflicting volume	10		226	20	312	226	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	10		226	20	312	226	
tC, single (s)	4.1		6.5	6.2	7.1	6.5	
tC, 2 stage (s)							
tF (s)	2.2		4.0	3.3	3.5	4.0	
p0 queue free %	94		72	14	0	96	
cM capacity (veh/h)	1596		619	1040	67	619	
Direction, Lane #	WB 1	WB 2	WB 3	NB 1	NB 2	NB 3	SB 1
Volume Total	103	486	486	173	446	446	109
Volume Left	103	0	0	0	0	0	87
Volume Right	0	486	486	0	446	446	0
cSH	1596	1700	1700	619	1040	1040	81
Volume to Capacity	0.06	0.29	0.29	0.28	0.43	0.43	1.34
Queue Length 95th (ft)	5	0	0	28	55	55	209
Control Delay (s)	7.4	0.0	0.0	13.1	11.0	11.0	306.1
Lane LOS	A		B		B	B	F
Approach Delay (s)	0.7		11.4				306.1
Approach LOS			B				F
Intersection Summary							
Average Delay			20.6				
Intersection Capacity Utilization			49.2%		ICU Level of Service		A
Analysis Period (min)			15				

**Intersection**

Intersection Delay, s/veh	31.8
Intersection LOS	D

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖↗	↗		↕↕	↕	
Traffic Vol, veh/h	1029	98	0	62	96	0
Future Vol, veh/h	1029	98	0	62	96	0
Peak Hour Factor	0.93	0.93	0.67	0.67	0.83	0.83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1106	105	0	93	116	0
Number of Lanes	2	1	0	2	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	SB		
Conflicting Lanes Left	1	3	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	3
HCM Control Delay	35.3	10.1	12.5
HCM LOS	E	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	SBLn1
Vol Left, %	0%	0%	100%	100%	0%	0%
Vol Thru, %	100%	100%	0%	0%	0%	100%
Vol Right, %	0%	0%	0%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	31	31	515	515	98	96
LT Vol	0	0	515	515	0	0
Through Vol	31	31	0	0	0	96
RT Vol	0	0	0	0	98	0
Lane Flow Rate	46	46	553	553	105	116
Geometry Grp	8	8	7	7	7	8
Degree of Util (X)	0.097	0.075	0.891	0.891	0.083	0.24
Departure Headway (Hd)	7.557	5.8	5.799	5.799	2.851	7.455
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	475	618	631	631	1265	482
Service Time	5.292	3.535	3.499	3.499	0.551	5.19
HCM Lane V/C Ratio	0.097	0.074	0.876	0.876	0.083	0.241
HCM Control Delay	11.1	9	38.1	38.1	5.8	12.5
HCM Lane LOS	B	A	E	E	A	B
HCM 95th-tile Q	0.3	0.2	10.8	10.8	0.3	0.9

HCM 6th Signalized Intersection Summary  
 7: Vista Sorrento Pkwy & Sorrento Valley Blvd

Existing AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗		↖	↖↗		↖	↖↗	↖
Traffic Volume (veh/h)	62	211	402	252	779	319	112	91	120	275	724	162
Future Volume (veh/h)	62	211	402	252	779	319	112	91	120	275	724	162
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	77	260	471	286	885	362	121	109	135	312	823	184
Peak Hour Factor	0.81	0.81	0.81	0.88	0.88	0.88	0.89	0.89	0.89	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	98	502	431	311	984	400	213	223	179	431	906	455
Arrive On Green	0.05	0.28	0.28	0.17	0.40	0.40	0.12	0.12	0.12	0.24	0.24	0.24
Sat Flow, veh/h	1781	1777	1525	1781	2444	993	1781	1870	1499	1781	3741	1520
Grp Volume(v), veh/h	77	260	471	286	642	605	121	109	135	312	823	184
Grp Sat Flow(s),veh/h/ln	1781	1777	1525	1781	1777	1660	1781	1870	1499	1781	1870	1520
Q Serve(g_s), s	5.2	15.0	34.5	19.3	41.2	41.8	7.8	6.7	10.6	19.6	26.1	11.8
Cycle Q Clear(g_c), s	5.2	15.0	34.5	19.3	41.2	41.8	7.8	6.7	10.6	19.6	26.1	11.8
Prop In Lane	1.00		1.00	1.00		0.60	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	98	502	431	311	716	669	213	223	179	431	906	455
V/C Ratio(X)	0.79	0.52	1.09	0.92	0.90	0.91	0.57	0.49	0.75	0.72	0.91	0.40
Avail Cap(c_a), veh/h	117	502	431	420	799	747	336	352	282	540	1134	547
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.0	36.8	43.8	49.5	34.1	34.3	50.8	50.3	52.0	42.5	45.0	34.3
Incr Delay (d2), s/veh	21.1	0.4	70.8	18.0	11.2	12.8	0.9	0.6	2.4	2.4	8.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	6.4	20.9	9.9	19.0	18.3	3.4	3.1	4.0	8.5	12.5	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.1	37.2	114.5	67.5	45.3	47.1	51.7	50.9	54.4	44.9	53.1	34.5
LnGrp LOS	E	D	F	E	D	D	D	D	D	D	D	C
Approach Vol, veh/h		808			1533			365			1319	
Approach Delay, s/veh		86.2			50.2			52.4			48.6	
Approach LOS		F			D			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	25.7	40.2		35.6	11.1	54.9		20.6				
Change Period (Y+Rc), s	4.4	* 5.7		6.0	4.4	5.7		6.0				
Max Green Setting (Gmax), s	23.8	* 35		37.0	8.0	54.9		23.0				
Max Q Clear Time (g_c+2), s	21.3	36.5		28.1	7.2	43.8		12.6				
Green Ext Time (p_c), s	0.1	0.0		1.5	0.0	2.2		0.3				

Intersection Summary

HCM 6th Ctrl Delay	57.1
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
8: Vista Sorrento Pkwy & Lusk Blvd

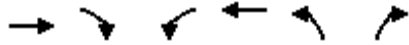
Existing AM  
08/04/2023



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	63	111	212	301	931	430
Future Volume (veh/h)	63	111	212	301	931	430
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.96	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	72	128	230	327	1034	478
Peak Hour Factor	0.87	0.87	0.92	0.92	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	119	1086	717	613	1115	1470
Arrive On Green	0.07	0.07	0.40	0.40	0.32	0.79
Sat Flow, veh/h	1781	2790	1870	1520	3456	1870
Grp Volume(v), veh/h	72	128	230	327	1034	478
Grp Sat Flow(s),veh/h/ln	1781	1395	1777	1520	1728	1870
Q Serve(g_s), s	2.9	2.2	6.6	12.1	21.4	5.4
Cycle Q Clear(g_c), s	2.9	2.2	6.6	12.1	21.4	5.4
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	119	1086	717	613	1115	1470
V/C Ratio(X)	0.61	0.12	0.32	0.53	0.93	0.33
Avail Cap(c_a), veh/h	506	1693	717	613	1290	1470
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.6	14.4	15.1	16.8	24.2	2.3
Incr Delay (d2), s/veh	1.8	0.0	1.2	3.3	10.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.6	2.5	4.1	9.0	0.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.4	14.5	16.3	20.1	34.2	2.9
LnGrp LOS	D	B	B	C	C	A
Approach Vol, veh/h	200		557			1512
Approach Delay, s/veh	22.0		18.5			24.3
Approach LOS	C		B			C
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	28.3	35.8			64.1	9.8
Change Period (Y+Rc), s	4.4	6.0			6.0	4.9
Max Green Setting (Gmax), s	27.6	26.1			58.1	21.0
Max Q Clear Time (g_c+Y), s	23.4	14.1			7.4	4.9
Green Ext Time (p_c), s	0.5	0.9			0.7	0.1
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			22.7			
HCM 6th LOS			C			

HCM 6th Signalized Intersection Summary  
 9: Wateridge Cir & Lusk Blvd

Existing AM  
 08/04/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵↵	↑↑	↵	↵
Traffic Volume (veh/h)	176	4	39	180	8	20
Future Volume (veh/h)	176	4	39	180	8	20
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	263	6	39	198	10	26
Peak Hour Factor	0.67	0.67	0.91	0.91	0.70	0.70
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2208	50	142	2644	69	126
Arrive On Green	0.62	0.62	0.04	0.74	0.04	0.04
Sat Flow, veh/h	3642	81	3456	3647	1781	1585
Grp Volume(v), veh/h	131	138	39	198	10	26
Grp Sat Flow(s),veh/h/ln	1777	1852	1728	1777	1781	1585
Q Serve(g_s), s	1.6	1.6	0.6	0.8	0.3	0.8
Cycle Q Clear(g_c), s	1.6	1.6	0.6	0.8	0.3	0.8
Prop In Lane		0.04	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1105	1152	142	2644	69	126
V/C Ratio(X)	0.12	0.12	0.28	0.07	0.15	0.21
Avail Cap(c_a), veh/h	1105	1152	420	2644	951	912
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	4.2	4.2	25.3	1.9	25.2	23.4
Incr Delay (d2), s/veh	0.2	0.2	0.4	0.1	0.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.4	0.2	0.1	0.1	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	4.4	4.4	25.6	1.9	25.6	23.7
LnGrp LOS	A	A	C	A	C	C
Approach Vol, veh/h	269			237	36	
Approach Delay, s/veh	4.4			5.8	24.2	
Approach LOS	A			A	C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	6.6	40.7			47.3	7.0
Change Period (Y+Rc), s	4.4	6.9			* 6.9	4.9
Max Green Setting (Gmax), s	6.6	28.2			* 40	29.0
Max Q Clear Time (g_c+1), s	12.6	3.6			2.8	2.8
Green Ext Time (p_c), s	0.0	0.4			0.4	0.0

Intersection Summary

HCM 6th Ctrl Delay	6.3
HCM 6th LOS	A

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	
Traffic Vol, veh/h	553	0	0	282	0	0
Future Vol, veh/h	553	0	0	282	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	601	0	0	307	0	0

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	601	0	755
Stage 1	-	-	-	-	601
Stage 2	-	-	-	-	154
Critical Hdwy	-	-	4.14	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	-	-	2.22	-	3.52
Pot Cap-1 Maneuver	-	-	972	-	345
Stage 1	-	-	-	-	510
Stage 2	-	-	-	-	858
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	972	-	345
Mov Cap-2 Maneuver	-	-	-	-	345
Stage 1	-	-	-	-	510
Stage 2	-	-	-	-	858

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	972	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	
Traffic Vol, veh/h	553	0	0	282	0	0
Future Vol, veh/h	553	0	0	282	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	601	0	0	307	0	0

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	601	0	755 301
Stage 1	-	-	-	-	601 -
Stage 2	-	-	-	-	154 -
Critical Hdwy	-	-	4.14	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	2.22	-	3.52 3.32
Pot Cap-1 Maneuver	-	-	972	-	345 695
Stage 1	-	-	-	-	510 -
Stage 2	-	-	-	-	858 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	972	-	345 695
Mov Cap-2 Maneuver	-	-	-	-	345 -
Stage 1	-	-	-	-	510 -
Stage 2	-	-	-	-	858 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	972	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

HCM 6th Signalized Intersection Summary  
 12: Project Dwy #3/Pacific Center Blvd & Lusk Blvd

Existing AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	334	211	8	19	216	167	1	2	4	18	2	65
Future Volume (veh/h)	334	211	8	19	216	167	1	2	4	18	2	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.96	0.99		0.98	0.99		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	423	267	10	23	260	81	1	2	5	20	2	73
Peak Hour Factor	0.79	0.79	0.79	0.83	0.83	0.83	0.88	0.88	0.88	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	521	1144	43	46	541	164	108	207	427	647	60	895
Arrive On Green	0.15	0.33	0.33	0.03	0.20	0.20	0.42	0.42	0.42	0.42	0.42	0.42
Sat Flow, veh/h	3456	3486	130	1781	2660	806	117	487	1007	1293	142	1547
Grp Volume(v), veh/h	423	136	141	23	171	170	8	0	0	22	0	73
Grp Sat Flow(s),veh/h/ln	1728	1777	1840	1781	1777	1689	1611	0	0	1435	0	1547
Q Serve(g_s), s	8.2	3.8	3.9	0.9	5.9	6.2	0.0	0.0	0.0	0.4	0.0	1.5
Cycle Q Clear(g_c), s	8.2	3.8	3.9	0.9	5.9	6.2	0.2	0.0	0.0	0.6	0.0	1.5
Prop In Lane	1.00		0.07	1.00		0.48	0.12		0.62	0.91		1.00
Lane Grp Cap(c), veh/h	521	583	604	46	361	343	741	0	0	707	0	895
V/C Ratio(X)	0.81	0.23	0.23	0.50	0.47	0.49	0.01	0.00	0.00	0.03	0.00	0.08
Avail Cap(c_a), veh/h	1027	1281	1326	144	897	852	741	0	0	707	0	895
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.5	16.9	17.0	33.3	24.4	24.5	11.6	0.0	0.0	11.7	0.0	6.6
Incr Delay (d2), s/veh	1.2	0.1	0.1	3.1	0.4	0.4	0.0	0.0	0.0	0.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	1.4	1.4	0.4	2.3	2.3	0.1	0.0	0.0	0.2	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.7	17.0	17.0	36.4	24.7	24.9	11.6	0.0	0.0	11.7	0.0	6.8
LnGrp LOS	C	B	B	D	C	C	B	A	A	B	A	A
Approach Vol, veh/h		700			364			8				95
Approach Delay, s/veh		24.7			25.5			11.6				7.9
Approach LOS		C			C			B				A
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.2	28.5		34.7	14.8	19.8		34.7				
Change Period (Y+Rc), s	4.4	5.7		5.3	4.4	5.7		* 5.3				
Max Green Setting (Gmax), s	5.6	50.0		29.0	20.6	35.0		* 29				
Max Q Clear Time (g_c+I1), s	2.9	5.9		3.5	10.2	8.2		2.2				
Green Ext Time (p_c), s	0.0	0.4		0.1	0.2	0.6		0.0				

Intersection Summary

HCM 6th Ctrl Delay	23.5
HCM 6th LOS	C

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	
Traffic Vol, veh/h	233	0	0	458	0	0
Future Vol, veh/h	233	0	0	458	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	253	0	0	498	0	0

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	253	0	502	127
Stage 1	-	-	-	-	253	-
Stage 2	-	-	-	-	249	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1309	-	499	900
Stage 1	-	-	-	-	766	-
Stage 2	-	-	-	-	769	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1309	-	499	900
Mov Cap-2 Maneuver	-	-	-	-	499	-
Stage 1	-	-	-	-	766	-
Stage 2	-	-	-	-	769	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1309	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

HCM 6th Signalized Intersection Summary  
 14: I-805 NB Ramps/Mira Sorrento PI & Vista Sorrento Pkwy

Existing AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	198	29	400	194	159	557	508	162	21	46	49
Future Volume (veh/h)	113	198	29	400	194	159	557	508	162	21	46	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	136	239	35	440	213	175	612	558	178	28	62	66
Peak Hour Factor	0.83	0.83	0.83	0.91	0.91	0.91	0.91	0.91	0.91	0.74	0.74	0.74
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	196	478	392	571	582	474	539	1484	908	65	269	222
Arrive On Green	0.11	0.26	0.26	0.05	0.10	0.10	0.30	0.42	0.42	0.04	0.15	0.15
Sat Flow, veh/h	1781	1870	1534	3456	1870	1540	1781	3554	1547	1781	1777	1463
Grp Volume(v), veh/h	136	239	35	440	213	175	612	558	178	28	62	66
Grp Sat Flow(s),veh/h/ln	1781	1870	1534	1728	1870	1540	1781	1777	1547	1781	1777	1463
Q Serve(g_s), s	11.0	16.4	2.6	18.8	15.9	15.9	45.4	16.3	8.1	2.3	4.6	6.0
Cycle Q Clear(g_c), s	11.0	16.4	2.6	18.8	15.9	15.9	45.4	16.3	8.1	2.3	4.6	6.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	196	478	392	571	582	474	539	1484	908	65	269	222
V/C Ratio(X)	0.69	0.50	0.09	0.77	0.37	0.37	1.14	0.38	0.20	0.43	0.23	0.30
Avail Cap(c_a), veh/h	196	478	392	571	582	474	539	1737	1018	78	409	336
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.78	0.78	0.78	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.3	47.6	42.5	68.1	53.5	53.8	52.3	30.2	14.7	70.7	55.9	56.8
Incr Delay (d2), s/veh	18.4	3.7	0.4	7.7	1.4	1.7	81.7	0.1	0.0	1.6	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	7.9	1.1	9.4	8.2	6.9	32.5	7.1	2.9	1.1	2.1	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.7	51.3	43.0	75.8	54.9	55.5	134.0	30.2	14.8	72.4	56.1	57.0
LnGrp LOS	F	D	D	E	D	E	F	C	B	E	E	E
Approach Vol, veh/h		410			828			1348				156
Approach Delay, s/veh		61.0			66.1			75.3				59.4
Approach LOS		E			E			E				E
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	29.0	43.7	50.0	27.3	20.7	52.0	10.1	67.2				
Change Period (Y+Rc), s	* 4.7	5.8	5.1	5.1	* 4.7	5.8	5.1	5.1				
Max Green Setting (Gmax), s	* 24	26.1	44.9	34.0	* 16	34.4	6.1	72.8				
Max Q Clear Time (g_c+I1), s	20.8	18.4	47.4	8.0	13.0	17.9	4.3	18.3				
Green Ext Time (p_c), s	0.2	0.1	0.0	0.1	0.0	0.3	0.0	0.9				

Intersection Summary

HCM 6th Ctrl Delay	69.5
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	189	5	9	85	0	10
Future Vol, veh/h	189	5	9	85	0	10
Conflicting Peds, #/hr	0	10	10	0	10	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	87	87	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	215	6	10	98	0	12

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	231	0	356 238
Stage 1	-	-	-	-	228 -
Stage 2	-	-	-	-	128 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1337	-	642 801
Stage 1	-	-	-	-	810 -
Stage 2	-	-	-	-	898 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1326	-	627 788
Mov Cap-2 Maneuver	-	-	-	-	627 -
Stage 1	-	-	-	-	804 -
Stage 2	-	-	-	-	884 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	788	-	-	1326	-
HCM Lane V/C Ratio	0.015	-	-	0.008	-
HCM Control Delay (s)	9.6	-	-	7.7	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

HCM 6th Signalized Intersection Summary  
 16: Lusk Blvd & Barnes Canyon Rd

Existing AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕	↗	↖	↕	↕
Traffic Volume (veh/h)	117	165	13	25	150	94	35	247	74	55	134	30
Future Volume (veh/h)	117	165	13	25	150	94	35	247	74	55	134	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.95	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	126	177	14	30	181	41	47	329	99	62	152	34
Peak Hour Factor	0.93	0.93	0.93	0.83	0.83	0.83	0.75	0.75	0.75	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	668	52	55	408	90	74	1621	706	86	1337	291
Arrive On Green	0.09	0.20	0.20	0.03	0.14	0.14	0.04	0.46	0.46	0.05	0.46	0.46
Sat Flow, veh/h	1781	3328	260	1781	2867	630	1781	3554	1548	1781	2889	628
Grp Volume(v), veh/h	126	94	97	30	110	112	47	329	99	62	92	94
Grp Sat Flow(s),veh/h/ln	1781	1777	1812	1781	1777	1720	1781	1777	1548	1781	1777	1740
Q Serve(g_s), s	5.3	3.4	3.5	1.3	4.3	4.5	2.0	4.2	2.8	2.6	2.2	2.3
Cycle Q Clear(g_c), s	5.3	3.4	3.5	1.3	4.3	4.5	2.0	4.2	2.8	2.6	2.2	2.3
Prop In Lane	1.00		0.14	1.00		0.37	1.00		1.00	1.00		0.36
Lane Grp Cap(c), veh/h	159	356	363	55	253	245	74	1621	706	86	822	805
V/C Ratio(X)	0.79	0.26	0.27	0.55	0.44	0.46	0.64	0.20	0.14	0.73	0.11	0.12
Avail Cap(c_a), veh/h	272	769	784	141	631	611	162	1621	706	155	822	805
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.9	25.7	25.7	36.3	29.8	29.9	35.9	12.4	12.0	35.7	11.6	11.6
Incr Delay (d2), s/veh	3.4	0.1	0.1	3.1	0.4	0.5	3.4	0.3	0.4	4.3	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	1.4	1.4	0.6	1.8	1.8	0.9	1.5	1.0	1.2	0.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.3	25.8	25.8	39.4	30.3	30.4	39.3	12.7	12.4	40.0	11.8	11.9
LnGrp LOS	D	C	C	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		317			252			475			248	
Approach Delay, s/veh		30.4			31.4			15.3			18.9	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.1	40.4	6.7	20.9	7.5	40.9	11.2	16.4				
Change Period (Y+Rc), s	4.4	5.7	4.4	* 5.6	4.4	5.7	4.4	5.6				
Max Green Setting (Gmax), s	6.6	34.7	6.0	* 33	6.9	34.4	11.6	27.0				
Max Q Clear Time (g_c+I1), s	4.6	6.2	3.3	5.5	4.0	4.3	7.3	6.5				
Green Ext Time (p_c), s	0.0	0.6	0.0	0.3	0.0	0.3	0.0	0.4				

Intersection Summary

HCM 6th Ctrl Delay	22.8
HCM 6th LOS	C

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 17: Barnes Canyon Rd/Commercial Dwy & Pacific Heights Blvd

Existing AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↖	↗	↖	↗
Traffic Volume (veh/h)	7	31	20	320	445	26	150	9	72	10	9	5
Future Volume (veh/h)	7	31	20	320	445	26	150	9	72	10	9	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.96	0.98		0.96	0.98		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	52	33	364	506	30	185	11	89	17	15	8
Peak Hour Factor	0.60	0.60	0.60	0.88	0.88	0.88	0.81	0.81	0.81	0.60	0.60	0.60
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	21	935	537	463	1892	112	407	447	363	394	270	144
Arrive On Green	0.01	0.43	0.43	0.13	0.56	0.56	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1781	2153	1236	3456	3401	201	1362	1870	1521	1272	1129	602
Grp Volume(v), veh/h	12	42	43	364	264	272	185	11	89	17	0	23
Grp Sat Flow(s),veh/h/ln	1781	1777	1612	1728	1777	1825	1362	1870	1521	1272	0	1732
Q Serve(g_s), s	0.5	1.0	1.2	7.7	5.8	5.8	9.1	0.3	3.6	0.8	0.0	0.8
Cycle Q Clear(g_c), s	0.5	1.0	1.2	7.7	5.8	5.8	9.9	0.3	3.6	1.1	0.0	0.8
Prop In Lane	1.00		0.77	1.00		0.11	1.00		1.00	1.00		0.35
Lane Grp Cap(c), veh/h	21	772	700	463	989	1016	407	447	363	394	0	413
V/C Ratio(X)	0.57	0.05	0.06	0.79	0.27	0.27	0.45	0.02	0.25	0.04	0.00	0.06
Avail Cap(c_a), veh/h	95	772	700	718	989	1016	626	747	607	598	0	692
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.9	12.3	12.4	31.5	8.7	8.7	25.9	21.9	23.1	22.3	0.0	22.1
Incr Delay (d2), s/veh	8.8	0.1	0.2	1.3	0.7	0.6	1.4	0.0	0.6	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.4	0.4	3.2	2.2	2.2	2.9	0.1	1.3	0.2	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.7	12.4	12.5	32.8	9.3	9.3	27.2	21.9	23.7	22.3	0.0	22.1
LnGrp LOS	D	B	B	C	A	A	C	C	C	C	A	C
Approach Vol, veh/h		97		900		285		40				
Approach Delay, s/veh		16.6		18.8		25.9		22.2				
Approach LOS		B		B		C		C				
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.5	37.8		22.8	5.3	47.0		22.8				
Change Period (Y+Rc), s	4.4	5.2		4.9	4.4	* 5.2		4.9				
Max Green Setting (Gmax), s	15.6	29.9		30.0	4.0	* 42		30.0				
Max Q Clear Time (g_c+1), s	19.7	3.2		3.1	2.5	7.8		11.9				
Green Ext Time (p_c), s	0.4	0.7		0.1	0.0	8.2		1.6				

Intersection Summary

HCM 6th Ctrl Delay	20.3
HCM 6th LOS	C

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



HCM Signalized Intersection Capacity Analysis  
 18: Carroll Canyon Rd/I-805 SB Ramps & Sorrento Valley Rd

Existing AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↑↑↑	↗	↘	↑↑	↗↗↗	↘↘		↗↗	↘↘	↑↑		
Traffic Volume (vph)	0	308	143	12	338	706	48	0	86	1495	396	71	
Future Volume (vph)	0	308	143	12	338	706	48	0	86	1495	396	71	
Ideal Flow (vphpl)	1800	1800	1900	1900	1800	1800	1900	1900	1900	1800	1900	1800	
Total Lost time (s)		8.0	4.5	6.1	8.0	7.5	4.5		6.1	7.0	7.5		
Lane Util. Factor		0.91	1.00	1.00	0.95	0.76	0.97		0.88	0.97	0.95		
Frbp, ped/bikes		1.00	0.97	1.00	1.00	0.99	1.00		0.98	1.00	1.00		
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		
Frt		1.00	0.85	1.00	1.00	0.85	1.00		0.85	1.00	0.98		
Flt Protected		1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00		
Satd. Flow (prot)		4818	1536	1770	3353	3373	3433		2737	3252	3445		
Flt Permitted		1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00		
Satd. Flow (perm)		4818	1536	1770	3353	3373	3433		2737	3252	3445		
Peak-hour factor, PHF	0.88	0.88	0.88	0.94	0.94	0.94	0.74	0.74	0.74	0.95	0.95	0.95	
Adj. Flow (vph)	0	350	162	13	360	751	65	0	116	1574	417	75	
RTOR Reduction (vph)	0	0	130	0	0	127	0	0	86	0	8	0	
Lane Group Flow (vph)	0	350	33	13	360	624	65	0	30	1574	484	0	
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10	
Confl. Bikes (#/hr)			10			10			10			10	
Turn Type		NA	pm+ov	Prot	NA	custom	Prot		pm+ov	Prot	NA		
Protected Phases		2	3	1	6	4	3		1	7	4		
Permitted Phases			2			6			3				
Actuated Green, G (s)		25.9	32.4	13.0	45.0	133.0	6.5		19.5	99.0	88.0		
Effective Green, g (s)		26.4	32.4	13.0	45.5	133.0	6.5		19.5	99.5	88.0		
Actuated g/C Ratio		0.16	0.20	0.08	0.28	0.83	0.04		0.12	0.62	0.55		
Clearance Time (s)		8.5	4.5	6.1	8.5	7.5	4.5		6.1	7.5	7.5		
Vehicle Extension (s)		1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0		
Lane Grp Cap (vph)		794	311	143	953	2961	139		333	2022	1894		
v/s Ratio Prot		c0.07	0.00	0.01	c0.11	0.12	0.02		0.01	c0.48	0.14		
v/s Ratio Perm			0.02			0.07			0.00				
v/c Ratio		0.44	0.11	0.09	0.38	0.21	0.47		0.09	0.78	0.26		
Uniform Delay, d1		60.2	52.0	68.0	45.9	2.8	75.1		62.4	22.2	18.8		
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		
Incremental Delay, d2		1.8	0.1	0.1	0.1	0.0	0.9		0.0	3.0	0.3		
Delay (s)		61.9	52.1	68.1	46.0	2.8	76.0		62.4	25.2	19.2		
Level of Service		E	D	E	D	A	E		E	C	B		
Approach Delay (s)		58.8			17.4			67.3			23.8		
Approach LOS		E			B			E			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			28.6		HCM 2000 Level of Service					C			
HCM 2000 Volume to Capacity ratio			0.71										
Actuated Cycle Length (s)			160.0		Sum of lost time (s)					26.1			
Intersection Capacity Utilization			90.1%		ICU Level of Service					E			
Analysis Period (min)			15										
c Critical Lane Group													

HCM 6th Signalized Intersection Summary

Existing AM

19: I-805 NB Off-Ramp/Vista Sorrento Pkwy & Sorrento Valley Rd/Mira Mesa Blvd

08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↑ ↑ ↑			↑ ↑ ↑	↖		↑	↖ ↗	↖		↖ ↗
Traffic Volume (veh/h)	255	1477	0	0	678	457	0	52	2058	60	0	333
Future Volume (veh/h)	255	1477	0	0	678	457	0	52	2058	60	0	333
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	0	1870	1870	1870	0	1870
Adj Flow Rate, veh/h	280	1623	0	0	779	525	0	54	1813	67	0	374
Peak Hour Factor	0.91	0.91	0.91	0.87	0.87	0.87	0.97	0.97	0.97	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	2	2	0	2
Cap, veh/h	403	2298	0	0	1965	654	0	591	1110	207	0	0
Arrive On Green	0.12	0.45	0.00	0.00	0.31	0.31	0.00	0.32	0.32	0.12	0.00	0.00
Sat Flow, veh/h	3456	5274	0	0	6696	1539	0	1870	3512	1781	67	
Grp Volume(v), veh/h	280	1623	0	0	779	525	0	54	1813	67	61.2	
Grp Sat Flow(s),veh/h/ln	1728	1702	0	0	1609	1539	0	1870	1171	1781	E	
Q Serve(g_s), s	11.7	38.4	0.0	0.0	14.4	44.9	0.0	3.1	47.4	5.2		
Cycle Q Clear(g_c), s	11.7	38.4	0.0	0.0	14.4	44.9	0.0	3.1	47.4	5.2		
Prop In Lane	1.00		0.00	0.00		1.00	0.00		1.00	1.00		
Lane Grp Cap(c), veh/h	403	2298	0	0	1965	654	0	591	1110	207		
V/C Ratio(X)	0.69	0.71	0.00	0.00	0.40	0.80	0.00	0.09	1.63	0.32		
Avail Cap(c_a), veh/h	403	2298	0	0	1965	654	0	591	1110	220		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.75	0.75	0.00	1.00	1.00	0.85		
Uniform Delay (d), s/veh	63.7	33.3	0.0	0.0	41.2	38.1	0.0	36.1	51.3	60.9		
Incr Delay (d2), s/veh	4.3	1.9	0.0	0.0	0.5	7.7	0.0	0.0	289.3	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	5.3	15.7	0.0	0.0	5.7	35.9	0.0	1.4	43.6	2.3		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.0	35.1	0.0	0.0	41.6	45.8	0.0	36.2	340.6	61.2		
LnGrp LOS	E	D	A	A	D	D	A	D	F	E		
Approach Vol, veh/h		1903			1304			1867				
Approach Delay, s/veh		40.0			43.3			331.8				
Approach LOS		D			D			F				
Timer - Assigned Phs		2			5	6	7	8				
Phs Duration (G+Y+Rc), s		74.0			21.7	52.3	23.0	53.0				
Change Period (Y+Rc), s		7.0			* 4.7	7.0	6.1	6.1				
Max Green Setting (Gmax), s		65.9			* 17	44.2	18.0	46.9				
Max Q Clear Time (g_c+11), s		40.4			13.7	46.9	7.2	49.4				
Green Ext Time (p_c), s		2.2			0.1	0.0	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	147.1
HCM 6th LOS	F

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 20: Scranton Rd & Mira Mesa Blvd

Existing AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔	↑↑↑		↔↔	↔↔		↔↔	↔	↔↔
Traffic Volume (veh/h)	684	2197	636	56	992	144	57	68	24	51	57	124
Future Volume (veh/h)	684	2197	636	56	992	144	57	68	24	51	57	124
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.97	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	712	2289	662	57	1012	0	70	84	30	55	65	133
Peak Hour Factor	0.96	0.96	0.96	0.98	0.98	0.98	0.81	0.81	0.81	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	782	2388	724	78	1834	0	903	672	226	517	271	1155
Arrive On Green	0.23	0.47	0.47	0.04	0.28	0.00	0.25	0.25	0.25	0.15	0.15	0.15
Sat Flow, veh/h	3456	5106	1549	1781	6696	0	3563	2652	893	3563	1870	3021
Grp Volume(v), veh/h	712	2289	662	57	1012	0	70	58	56	55	65	133
Grp Sat Flow(s),veh/h/ln	1728	1702	1549	1781	1609	0	1781	1870	1674	1781	1870	1510
Q Serve(g_s), s	28.1	60.5	55.6	4.4	18.7	0.0	2.1	3.3	3.6	1.9	4.3	4.1
Cycle Q Clear(g_c), s	28.1	60.5	55.6	4.4	18.7	0.0	2.1	3.3	3.6	1.9	4.3	4.1
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.53	1.00		1.00
Lane Grp Cap(c), veh/h	782	2388	724	78	1834	0	903	474	425	517	271	1155
V/C Ratio(X)	0.91	0.96	0.91	0.73	0.55	0.00	0.08	0.12	0.13	0.11	0.24	0.12
Avail Cap(c_a), veh/h	832	2389	725	78	1834	0	903	474	425	517	271	1155
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.79	0.79	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.8	35.9	34.6	66.1	42.5	0.0	39.8	40.2	40.5	52.0	53.0	28.9
Incr Delay (d2), s/veh	1.6	1.4	2.1	21.9	0.3	0.0	0.2	0.5	0.6	0.4	2.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.1	24.0	20.2	2.4	7.3	0.0	0.9	1.6	1.6	0.9	2.2	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.3	37.3	36.7	88.0	42.8	0.0	39.9	40.8	41.1	52.4	55.1	29.1
LnGrp LOS	D	D	D	F	D	A	D	D	D	D	E	C
Approach Vol, veh/h		3663			1069			184			253	
Approach Delay, s/veh		40.5			45.2			40.6			40.9	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	71.2		25.3	35.6	45.6		39.9				
Change Period (Y+Rc), s	4.4	* 6.2		5.3	4.4	6.2		4.9				
Max Green Setting (Gmax), s	5.6	* 65		13.8	33.2	37.2		35.0				
Max Q Clear Time (g_c+10), s	10.4	62.5		6.3	30.1	20.7		5.6				
Green Ext Time (p_c), s	0.0	2.4		0.9	1.1	5.1		1.7				

Intersection Summary

HCM 6th Ctrl Delay	41.5
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 21: Oberlin Dr/Lusk Blvd & Mira Mesa Blvd

Existing AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↔		↔↔	↑↑↔		↔	↑	↔	↔↔	↑	↔
Traffic Volume (veh/h)	211	2119	31	97	1139	393	6	14	23	55	9	51
Future Volume (veh/h)	211	2119	31	97	1139	393	6	14	23	55	9	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	224	2254	33	104	1225	423	10	22	37	67	11	62
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.63	0.63	0.63	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	260	3209	47	138	2176	750	19	375	306	100	409	334
Arrive On Green	0.08	0.62	0.62	0.08	1.00	1.00	0.01	0.20	0.20	0.03	0.22	0.22
Sat Flow, veh/h	3456	5183	76	3456	3727	1284	1781	1870	1526	3456	1870	1529
Grp Volume(v), veh/h	224	1479	808	104	1119	529	10	22	37	67	11	62
Grp Sat Flow(s),veh/h/ln	1728	1702	1855	1728	1702	1607	1781	1870	1526	1728	1870	1529
Q Serve(g_s), s	12.2	55.6	55.9	5.6	0.0	0.0	1.1	1.8	3.8	3.6	0.9	6.3
Cycle Q Clear(g_c), s	12.2	55.6	55.9	5.6	0.0	0.0	1.1	1.8	3.8	3.6	0.9	6.3
Prop In Lane	1.00		0.04	1.00		0.80	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	260	2107	1148	138	1988	938	19	375	306	100	409	334
V/C Ratio(X)	0.86	0.70	0.70	0.75	0.56	0.56	0.52	0.06	0.12	0.67	0.03	0.19
Avail Cap(c_a), veh/h	393	2107	1148	211	1988	938	56	375	306	160	409	334
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.21	0.21	0.21	0.63	0.63	0.63	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	86.9	24.4	24.4	86.5	0.0	0.0	93.5	61.4	62.2	91.4	58.3	60.5
Incr Delay (d2), s/veh	1.9	0.4	0.8	2.0	0.7	1.6	7.8	0.3	0.8	2.9	0.1	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	21.4	23.6	2.4	0.2	0.4	0.5	0.9	1.5	1.7	0.4	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.8	24.8	25.2	88.5	0.7	1.6	101.3	61.7	63.0	94.2	58.5	61.7
LnGrp LOS	F	C	C	F	A	A	F	E	E	F	E	E
Approach Vol, veh/h		2511			1752			69			140	
Approach Delay, s/veh		30.6			6.2			68.2			77.0	
Approach LOS		C			A			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	123.8	6.5	47.7	18.7	117.1	9.9	44.3				
Change Period (Y+Rc), s	4.4	* 6.2	4.4	6.2	4.4	6.2	4.4	* 6.2				
Max Green Setting (Gmax), s	1.0	1.1E2	6.0	39.6	21.6	101.6	8.8	* 38				
Max Q Clear Time (g_c+17), s	17.6	57.9	3.1	8.3	14.2	2.0	5.6	5.8				
Green Ext Time (p_c), s	0.0	6.2	0.0	0.0	0.1	4.0	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	23.1
HCM 6th LOS	C

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 22: Pacific Heights Blvd & Mira Mesa Blvd

Existing AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖	↑↑↑	↗	↖	↑↑	↗	↖↗	↑↑	↗
Traffic Volume (veh/h)	457	1366	342	311	1565	922	33	56	86	86	35	66
Future Volume (veh/h)	457	1366	342	311	1565	922	33	56	86	86	35	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.93	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	491	1469	368	353	1778	0	38	64	98	109	44	84
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.88	0.88	0.88	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	502	2596	784	374	2227		54	269	424	153	562	230
Arrive On Green	0.56	1.00	1.00	0.21	0.44	0.00	0.03	0.14	0.14	0.04	0.16	0.16
Sat Flow, veh/h	1781	5106	1550	1781	5106	1585	1781	1870	2951	3456	3554	1482
Grp Volume(v), veh/h	491	1469	368	353	1778	0	38	64	98	109	44	84
Grp Sat Flow(s),veh/h/ln	1781	1702	1550	1781	1702	1585	1781	1870	1475	1728	1777	1482
Q Serve(g_s), s	50.9	0.0	0.0	37.1	57.2	0.0	4.0	5.8	5.6	5.9	2.0	9.6
Cycle Q Clear(g_c), s	50.9	0.0	0.0	37.1	57.2	0.0	4.0	5.8	5.6	5.9	2.0	9.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	502	2596	784	374	2227		54	269	424	153	562	230
V/C Ratio(X)	0.98	0.57	0.47	0.95	0.80		0.71	0.24	0.23	0.71	0.08	0.36
Avail Cap(c_a), veh/h	535	2596	784	499	2227		57	351	554	155	720	296
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.61	0.61	0.61	0.23	0.23	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.8	0.0	0.0	74.0	46.3	0.0	91.3	72.1	72.0	89.6	68.2	71.8
Incr Delay (d2), s/veh	23.9	0.5	1.2	6.9	0.7	0.0	26.3	0.2	0.1	12.2	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh	20.3	0.1	0.3	17.4	23.8	0.0	2.2	2.8	2.1	2.9	0.9	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.7	0.5	1.2	80.9	47.1	0.0	117.6	72.3	72.1	101.8	68.2	72.2
LnGrp LOS	E	A	A	F	D		F	E	E	F	E	E
Approach Vol, veh/h		2328			2131			200			237	
Approach Delay, s/veh		14.2			52.7			80.8			85.0	
Approach LOS		B			D			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	43.7	101.8	9.6	34.8	57.5	88.1	12.3	32.1				
Change Period (Y+Rc), s	4.4	5.7	4.4	* 5.3	4.4	5.7	4.4	5.3				
Max Green Setting (Gmax), s	52.7	74.3	5.6	* 38	56.6	70.4	8.0	35.2				
Max Q Clear Time (g_c+Rc), s	89.1	2.0	6.0	11.6	52.9	59.2	7.9	7.8				
Green Ext Time (p_c), s	0.2	2.3	0.0	0.1	0.2	2.1	0.0	0.2				

Intersection Summary

HCM 6th Ctrl Delay	37.1
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.  
 Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary  
 23: Camino Santa Fe & Mira Mesa Blvd

Existing AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖	↑↑↑	↗	↖	↑↑	↗	↖↗	↑↑	↗
Traffic Volume (veh/h)	24	311	89	585	2831	305	91	105	66	114	293	116
Future Volume (veh/h)	24	311	89	585	2831	305	91	105	66	114	293	116
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.98	1.00		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	342	98	609	2949	318	93	107	67	134	345	136
Peak Hour Factor	0.91	0.91	0.91	0.96	0.96	0.96	0.98	0.98	0.98	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	40	653	188	861	3008	910	132	804	1113	219	759	322
Arrive On Green	0.02	0.13	0.13	0.48	0.59	0.59	0.07	0.23	0.23	0.06	0.21	0.21
Sat Flow, veh/h	1781	5106	1502	1781	5106	1552	1781	3554	1530	3456	3554	1528
Grp Volume(v), veh/h	26	342	98	609	2949	318	93	107	67	134	345	136
Grp Sat Flow(s),veh/h/ln	1781	1702	1502	1781	1702	1552	1781	1777	1530	1728	1777	1528
Q Serve(g_s), s	2.8	11.9	11.6	51.0	106.8	20.3	9.7	4.6	0.0	7.2	16.1	14.6
Cycle Q Clear(g_c), s	2.8	11.9	11.6	51.0	106.8	20.3	9.7	4.6	0.0	7.2	16.1	14.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	40	653	188	861	3008	910	132	804	1113	219	759	322
V/C Ratio(X)	0.66	0.52	0.52	0.71	0.98	0.35	0.71	0.13	0.06	0.61	0.45	0.42
Avail Cap(c_a), veh/h	53	1228	357	861	3050	923	132	804	1113	219	759	322
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.83	0.83	0.83	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	92.2	77.5	77.8	38.5	38.0	20.4	86.0	58.6	8.4	86.7	65.1	64.9
Incr Delay (d2), s/veh	5.5	0.2	0.7	2.3	12.0	0.1	13.6	0.3	0.1	3.6	2.0	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	5.2	4.5	22.3	45.0	7.2	4.9	2.1	0.8	3.3	7.4	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	97.7	77.7	78.5	40.8	50.0	20.5	99.6	59.0	8.5	90.3	67.0	68.9
LnGrp LOS	F	E	E	D	D	C	F	E	A	F	E	E
Approach Vol, veh/h		466			3876			267			615	
Approach Delay, s/veh		78.9			46.1			60.4			72.5	
Approach LOS		E			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	35.8	29.8	18.0	46.5	8.1	117.4	16.0	48.5				
Change Period (Y+Rc), s	4.4	6.0	4.4	6.4	4.4	6.0	4.4	6.0				
Max Green Setting (Gmax), s	72.9	45.2	10.6	40.1	5.1	113.0	8.6	42.5				
Max Q Clear Time (g_c+5), s	53.6	13.9	11.7	18.1	4.8	108.8	9.2	6.6				
Green Ext Time (p_c), s	0.4	0.5	0.0	0.5	0.0	2.7	0.0	0.2				

Intersection Summary

HCM 6th Ctrl Delay	52.9
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary  
 24: Camino Ruiz & Mira Mesa Blvd

Existing AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↑ ↑ ↑		↖ ↗	↑ ↑ ↑	↖	↖	↑ ↑ ↑	↖	↖ ↗	↑ ↑	↖
Traffic Volume (veh/h)	86	711	15	167	2559	110	92	255	192	367	452	174
Future Volume (veh/h)	86	711	15	167	2559	110	92	255	192	367	452	174
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.95	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	123	1016	21	188	2875	12	118	327	54	399	491	26
Peak Hour Factor	0.70	0.70	0.70	0.89	0.89	0.89	0.78	0.78	0.78	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	136	2676	55	232	2784	838	472	1868	549	402	748	302
Arrive On Green	0.04	0.52	0.52	0.07	0.55	0.55	0.26	0.37	0.37	0.12	0.21	0.21
Sat Flow, veh/h	3456	5145	106	3456	5106	1538	1781	5106	1502	3456	3554	1454
Grp Volume(v), veh/h	123	672	365	188	2875	12	118	327	54	399	491	26
Grp Sat Flow(s),veh/h/ln	1728	1702	1847	1728	1702	1538	1781	1702	1502	1728	1777	1454
Q Serve(g_s), s	6.7	22.4	22.5	10.2	103.6	0.7	9.9	8.2	4.5	21.9	24.0	2.7
Cycle Q Clear(g_c), s	6.7	22.4	22.5	10.2	103.6	0.7	9.9	8.2	4.5	21.9	24.0	2.7
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	136	1770	961	232	2784	838	472	1868	549	402	748	302
V/C Ratio(X)	0.90	0.38	0.38	0.81	1.03	0.01	0.25	0.18	0.10	0.99	0.66	0.09
Avail Cap(c_a), veh/h	136	1770	961	306	2784	838	472	1868	549	402	748	302
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	90.9	27.3	27.3	87.4	43.2	19.4	55.0	40.8	39.6	83.9	68.7	60.7
Incr Delay (d2), s/veh	47.7	0.0	0.1	8.7	26.2	0.0	0.1	0.2	0.4	42.8	4.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	9.1	9.9	4.8	48.9	0.3	4.5	3.5	1.7	12.2	11.4	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	138.6	27.3	27.4	96.1	69.4	19.4	55.1	41.0	40.0	126.7	73.2	61.3
LnGrp LOS	F	C	C	F	F	B	E	D	D	F	E	E
Approach Vol, veh/h		1160			3075			499			916	
Approach Delay, s/veh		39.1			70.8			44.2			96.1	
Approach LOS		D			E			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.7	103.6	56.0	45.2	12.3	108.0	26.0	75.2				
Change Period (Y+Rc), s	4.4	5.3	5.3	* 5.7	5.3	* 4.9	4.4	5.3				
Max Green Setting (Gmax), s	10.3	93.4	21.0	* 40	7.0	* 1E2	21.6	39.3				
Max Q Clear Time (g_c+1/2), s	11.2	24.5	11.9	26.0	8.7	105.6	23.9	10.2				
Green Ext Time (p_c), s	0.1	1.0	0.1	0.5	0.0	0.0	0.0	0.4				

Intersection Summary

HCM 6th Ctrl Delay	66.1
HCM 6th LOS	E

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
25: Black Mountain Rd & Mira Mesa Blvd

Existing AM  
08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖
Traffic Volume (veh/h)	225	1504	150	147	2210	108	190	232	97	505	675	504
Future Volume (veh/h)	225	1504	150	147	2210	108	190	232	97	505	675	504
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	247	1653	165	167	2511	123	221	270	113	574	767	573
Peak Hour Factor	0.91	0.91	0.91	0.88	0.88	0.88	0.86	0.86	0.86	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	242	2372	829	211	2327	957	238	1306	563	547	1623	707
Arrive On Green	0.07	0.46	0.46	0.06	0.46	0.46	0.07	0.37	0.36	0.16	0.46	0.46
Sat Flow, veh/h	3456	5106	1549	3456	5106	1548	3456	3554	1544	3456	3554	1548
Grp Volume(v), veh/h	247	1653	165	167	2511	123	221	270	113	574	767	573
Grp Sat Flow(s),veh/h/ln	1728	1702	1549	1728	1702	1548	1728	1777	1544	1728	1777	1548
Q Serve(g_s), s	13.3	48.7	10.6	9.1	86.6	6.3	12.1	9.9	9.5	30.1	28.4	60.6
Cycle Q Clear(g_c), s	13.3	48.7	10.6	9.1	86.6	6.3	12.1	9.9	9.5	30.1	28.4	60.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	242	2372	829	211	2327	957	238	1306	563	547	1623	707
V/C Ratio(X)	1.02	0.70	0.20	0.79	1.08	0.13	0.93	0.21	0.20	1.05	0.47	0.81
Avail Cap(c_a), veh/h	242	2372	829	278	2327	957	238	1306	563	547	1623	707
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	88.3	40.3	23.1	88.0	51.7	15.4	88.0	41.1	41.4	80.0	35.7	44.5
Incr Delay (d2), s/veh	63.4	0.8	0.0	7.8	44.0	0.0	38.5	0.4	0.8	51.8	1.0	9.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	20.5	3.9	4.3	45.7	2.3	6.7	4.4	3.8	17.4	12.7	24.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	151.8	41.0	23.2	95.8	95.7	15.4	126.4	41.5	42.2	131.7	36.7	54.2
LnGrp LOS	F	D	C	F	F	B	F	D	D	F	D	D
Approach Vol, veh/h		2065			2801			604			1914	
Approach Delay, s/veh		52.8			92.2			72.7			70.5	
Approach LOS		D			F			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.5	93.1	17.0	92.4	17.2	91.4	34.0	75.4				
Change Period (Y+Rc), s	4.4	5.3	4.4	* 5.3	4.4	* 5.3	4.4	5.3				
Max Green Setting (Gmax), s	11.8	83.7	12.6	* 60	12.8	* 86	29.6	42.5				
Max Q Clear Time (g_c+ll), s	11.8	50.7	14.1	62.6	15.3	88.6	32.1	11.9				
Green Ext Time (p_c), s	0.1	2.6	0.0	0.0	0.0	0.0	0.0	0.4				

Intersection Summary

HCM 6th Ctrl Delay	74.0
HCM 6th LOS	E

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



HCM 6th Signalized Intersection Summary  
 26: Mira Mesa Blvd & I-15 SB Ramps

Existing AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑↑		↑↑↑	↑				↑↑		↑↑
Traffic Volume (veh/h)	0	1408	1589	0	1849	858	0	0	0	283	0	1411
Future Volume (veh/h)	0	1408	1589	0	1849	858	0	0	0	283	0	1411
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	0	1870
Adj Flow Rate, veh/h	0	1564	0	0	1946	903				295	0	1470
Peak Hour Factor	0.90	0.90	0.90	0.95	0.95	0.95				0.96	0.96	0.96
Percent Heavy Veh, %	0	2	2	0	2	2				2	0	2
Cap, veh/h	0	2311		0	2311	1397				1558	0	1258
Arrive On Green	0.00	0.45	0.00	0.00	0.45	0.45				0.45	0.00	0.45
Sat Flow, veh/h	0	5274	2790	0	5274	1523				3456	0	2790
Grp Volume(v), veh/h	0	1564	0	0	1946	903				295	0	1470
Grp Sat Flow(s),veh/h/ln	0	1702	1395	0	1702	1523				1728	0	1395
Q Serve(g_s), s	0.0	26.6	0.0	0.0	37.1	16.2				5.6	0.0	49.6
Cycle Q Clear(g_c), s	0.0	26.6	0.0	0.0	37.1	16.2				5.6	0.0	49.6
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2311		0	2311	1397				1558	0	1258
V/C Ratio(X)	0.00	0.68		0.00	0.84	0.65				0.19	0.00	1.17
Avail Cap(c_a), veh/h	0	2669		0	2669	1504				1558	0	1258
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	0.53	0.53				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	23.8	0.0	0.0	26.6	1.4				18.1	0.0	30.2
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	1.1	0.3				0.3	0.0	84.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.2	0.0	0.0	14.3	24.7				2.3	0.0	30.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	24.1	0.0	0.0	27.7	1.7				18.4	0.0	114.9
LnGrp LOS		A	C		A	C				B	A	F
Approach Vol, veh/h		1564			2849						1765	
Approach Delay, s/veh		24.1			19.5						98.7	
Approach LOS		C			B						F	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		55.3		54.7		55.3						
Change Period (Y+Rc), s		6.0		5.1		6.0						
Max Green Setting (Gmax), s		57.0		41.9		57.0						
Max Q Clear Time (g_c+I1), s		28.6		51.6		39.1						
Green Ext Time (p_c), s		5.2		0.0		10.2						

Intersection Summary

HCM 6th Ctrl Delay	43.3
HCM 6th LOS	D

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary  
 27: I-15 NB Ramps & Mira Mesa Blvd

Existing AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑	↑	↑↑		↑↑			
Traffic Volume (veh/h)	0	826	874	0	1695	290	1009	0	414	0	0	0
Future Volume (veh/h)	0	826	874	0	1695	290	1009	0	414	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	0	1870			
Adj Flow Rate, veh/h	0	908	960	0	1863	0	1201	0	493			
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.84	0.84	0.84			
Percent Heavy Veh, %	0	2	2	0	2	2	2	0	2			
Cap, veh/h	0	2704	1408	0	2704		1306	0	1054			
Arrive On Green	0.00	0.53	0.53	0.00	0.53	0.00	0.38	0.00	0.38			
Sat Flow, veh/h	0	5274	1528	0	5274	1585	3456	0	2790			
Grp Volume(v), veh/h	0	908	960	0	1863	0	1201	0	493			
Grp Sat Flow(s),veh/h/ln	0	1702	1528	0	1702	1585	1728	0	1395			
Q Serve(g_s), s	0.0	12.2	18.8	0.0	32.4	0.0	39.8	0.0	16.0			
Cycle Q Clear(g_c), s	0.0	12.2	18.8	0.0	32.4	0.0	39.8	0.0	16.0			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2704	1408	0	2704		1306	0	1054			
V/C Ratio(X)	0.00	0.34	0.68	0.00	0.69		0.92	0.00	0.47			
Avail Cap(c_a), veh/h	0	2704	1408	0	2704		1552	0	1253			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.79	0.79	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	16.2	1.4	0.0	20.9	0.0	35.6	0.0	28.2			
Incr Delay (d2), s/veh	0.0	0.3	2.1	0.0	1.5	0.0	7.6	0.0	0.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	4.6	29.6	0.0	12.7	0.0	17.8	0.0	5.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	16.4	3.5	0.0	22.4	0.0	43.2	0.0	28.3			
LnGrp LOS		A	B	A	A	C	D	A	C			
Approach Vol, veh/h		1868			1863			1694				
Approach Delay, s/veh		9.8			22.4			38.8				
Approach LOS		A			C			D				
Timer - Assigned Phs		2			4			6				
Phs Duration (G+Y+Rc), s		69.5			50.5			69.5				
Change Period (Y+Rc), s		6.0			5.1			6.0				
Max Green Setting (Gmax), s		55.0			53.9			55.0				
Max Q Clear Time (g_c+I1), s		20.8			41.8			34.4				
Green Ext Time (p_c), s		7.8			3.6			10.3				

Intersection Summary

HCM 6th Ctrl Delay	23.2
HCM 6th LOS	C

Notes

User approved changes to right turn type.  
 Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary  
 28: I-805 Direct Access Ramps & Carroll Canyon Rd

Existing AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖		↗		↕	
Traffic Volume (veh/h)	0	495	7	17	122	10	17	0	68	26	0	0
Future Volume (veh/h)	0	495	7	17	122	10	17	0	68	26	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	0	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	505	7	18	131	11	24	0	96	32	0	0
Peak Hour Factor	0.98	0.98	0.98	0.93	0.93	0.93	0.71	0.71	0.71	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	0	2	2	2	2
Cap, veh/h	1	2964	41	33	2930	243	0	0	0	49	0	0
Arrive On Green	0.00	0.83	0.83	0.02	0.88	0.88	0.00	0.00	0.00	0.03	0.00	0.00
Sat Flow, veh/h	1781	3587	50	1781	3313	275		0		1781	0	0
Grp Volume(v), veh/h	0	250	262	18	69	73		0.0		32	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1860	1781	1777	1811				1781	0	0
Q Serve(g_s), s	0.0	3.4	3.4	1.2	0.6	0.6				2.1	0.0	0.0
Cycle Q Clear(g_c), s	0.0	3.4	3.4	1.2	0.6	0.6				2.1	0.0	0.0
Prop In Lane	1.00		0.03	1.00		0.15				1.00		0.00
Lane Grp Cap(c), veh/h	1	1468	1537	33	1571	1602				49	0	0
V/C Ratio(X)	0.00	0.17	0.17	0.54	0.04	0.05				0.66	0.00	0.00
Avail Cap(c_a), veh/h	74	1468	1537	183	1571	1602				215	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	2.1	2.1	58.4	0.8	0.8				57.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.2	4.9	0.1	0.1				5.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.7	0.8	0.6	0.0	0.0				1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	2.4	2.3	63.3	0.9	0.9				63.3	0.0	0.0
LnGrp LOS	A	A	A	E	A	A				E	A	A
Approach Vol, veh/h		512			160						32	
Approach Delay, s/veh		2.4			7.9						63.3	
Approach LOS		A			A						E	
Timer - Assigned Phs	1	2		4	5	6						
Phs Duration (G+Y+Rc), s	7.0	104.3		8.8	0.0	111.2						
Change Period (Y+Rc), s	4.7	5.1		5.5	* 4.7	5.1						
Max Green Setting (Gmax), s	48.9	48.9		14.5	* 5	56.2						
Max Q Clear Time (g_c+1), s	5.4	5.4		4.1	0.0	2.6						
Green Ext Time (p_c), s	0.0	1.7		0.0	0.0	0.4						

Intersection Summary

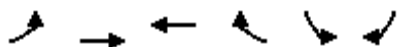
HCM 6th Ctrl Delay	6.4
HCM 6th LOS	A

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 29: Carroll Canyon Rd & Scranton Rd

Existing AM  
 08/04/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↗↘	↑↑	↑↑	↗	↗↘	↗
Traffic Volume (veh/h)	71	628	120	53	292	32
Future Volume (veh/h)	71	628	120	53	292	32
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	76	675	146	65	317	35
Peak Hour Factor	0.93	0.93	0.82	0.82	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	166	2440	2002	861	490	218
Arrive On Green	0.05	0.69	0.56	0.56	0.14	0.14
Sat Flow, veh/h	3456	3647	3647	1529	3563	1585
Grp Volume(v), veh/h	76	675	146	65	317	35
Grp Sat Flow(s),veh/h/ln	1728	1777	1777	1529	1781	1585
Q Serve(g_s), s	1.3	4.4	1.1	1.2	5.0	1.2
Cycle Q Clear(g_c), s	1.3	4.4	1.1	1.2	5.0	1.2
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	166	2440	2002	861	490	218
V/C Ratio(X)	0.46	0.28	0.07	0.08	0.65	0.16
Avail Cap(c_a), veh/h	318	2440	2002	861	1999	889
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.7	3.6	5.9	5.9	24.4	22.7
Incr Delay (d2), s/veh	2.0	0.3	0.1	0.2	1.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.8	0.3	0.3	2.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	29.6	3.9	6.0	6.1	25.8	23.0
LnGrp LOS	C	A	A	A	C	C
Approach Vol, veh/h		751	211		352	
Approach Delay, s/veh		6.5	6.0		25.5	
Approach LOS		A	A		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		47.0		12.7	7.4	39.6
Change Period (Y+Rc), s		6.0		4.5	4.5	6.0
Max Green Setting (Gmax), s		41.0		33.5	5.5	31.0
Max Q Clear Time (g_c+I1), s		6.4		7.0	3.3	3.2
Green Ext Time (p_c), s		4.6		1.2	0.0	1.0

Intersection Summary

HCM 6th Ctrl Delay	11.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary  
 1: I-5 SB On-Ramp/I-5 SB Off-Ramp & Carmel Mountain Rd

Existing PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↘↗	↑↑					↘	↔	↗
Traffic Volume (veh/h)	0	588	88	380	143	0	0	0	0	484	0	190
Future Volume (veh/h)	0	588	88	380	143	0	0	0	0	484	0	190
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	632	95	427	161	0				604	0	141
Peak Hour Factor	0.93	0.93	0.93	0.89	0.89	0.89				0.90	0.90	0.90
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1378	599	502	2097	0				994	0	429
Arrive On Green	0.00	0.39	0.39	0.15	0.59	0.00				0.28	0.00	0.28
Sat Flow, veh/h	0	3647	1545	3456	3647	0				3563	0	1537
Grp Volume(v), veh/h	0	632	95	427	161	0				604	0	141
Grp Sat Flow(s),veh/h/ln	0	1777	1545	1728	1777	0				1781	0	1537
Q Serve(g_s), s	0.0	13.2	4.0	12.1	1.9	0.0				14.7	0.0	7.3
Cycle Q Clear(g_c), s	0.0	13.2	4.0	12.1	1.9	0.0				14.7	0.0	7.3
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1378	599	502	2097	0				994	0	429
V/C Ratio(X)	0.00	0.46	0.16	0.85	0.08	0.00				0.61	0.00	0.33
Avail Cap(c_a), veh/h	0	1378	599	667	2097	0				994	0	429
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	22.8	20.0	41.7	8.8	0.0				31.3	0.0	28.6
Incr Delay (d2), s/veh	0.0	1.1	0.6	6.3	0.1	0.0				2.8	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.6	1.5	5.5	0.7	0.0				6.6	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	23.9	20.5	48.0	8.9	0.0				34.1	0.0	30.7
LnGrp LOS	A	C	C	D	A	A				C	A	C
Approach Vol, veh/h		727			588						745	
Approach Delay, s/veh		23.5			37.3						33.4	
Approach LOS		C			D						C	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	20.2	45.8		34.0		66.0						
Change Period (Y+Rc), s	* 5.7	7.0		6.1		7.0						
Max Green Setting (Gmax), s	* 19	34.0		27.9		59.0						
Max Q Clear Time (g_c+I1), s	14.1	15.2		16.7		3.9						
Green Ext Time (p_c), s	0.5	3.0		1.3		0.7						

Intersection Summary

HCM 6th Ctrl Delay	31.0
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 2: I-5 NB Off-Ramp/I-5 NB On-Ramp & Carmel Mountain Rd

Existing PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑↑	↗	↘	↕	↗			
Traffic Volume (veh/h)	462	617	0	0	453	487	74	5	535	0	0	0
Future Volume (veh/h)	462	617	0	0	453	487	74	5	535	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		0.96			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	481	643	0	0	492	529	57	0	571			
Peak Hour Factor	0.96	0.96	0.96	0.92	0.92	0.92	0.89	0.89	0.89			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	510	2445	0	0	1818	549	361	0	619			
Arrive On Green	0.29	0.69	0.00	0.00	0.36	0.36	0.20	0.00	0.20			
Sat Flow, veh/h	1781	3647	0	0	5274	1543	1781	0	3052			
Grp Volume(v), veh/h	481	643	0	0	492	529	57	0	571			
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1702	1543	1781	0	1526			
Q Serve(g_s), s	32.8	8.6	0.0	0.0	8.5	41.8	3.3	0.0	22.8			
Cycle Q Clear(g_c), s	32.8	8.6	0.0	0.0	8.5	41.8	3.3	0.0	22.8			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	510	2445	0	0	1818	549	361	0	619			
V/C Ratio(X)	0.94	0.26	0.00	0.00	0.27	0.96	0.16	0.00	0.92			
Avail Cap(c_a), veh/h	809	3060	0	0	1843	557	420	0	719			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	43.4	7.4	0.0	0.0	28.5	39.2	40.8	0.0	48.6			
Incr Delay (d2), s/veh	10.6	0.0	0.0	0.0	0.0	28.5	0.1	0.0	15.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	5.9	3.1	0.0	0.0	3.5	19.9	1.5	0.0	10.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.1	7.4	0.0	0.0	28.6	67.7	40.9	0.0	63.7			
LnGrp LOS	D	A	A	A	C	E	D	A	E			
Approach Vol, veh/h		1124			1021			628				
Approach Delay, s/veh		27.4			48.9			61.6				
Approach LOS		C			D			E				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		93.1			41.3	51.8		31.3				
Change Period (Y+Rc), s		7.5			* 5.7	7.5		6.1				
Max Green Setting (Gmax), s		107.1			* 57	44.9		29.3				
Max Q Clear Time (g_c+I1), s		10.6			34.8	43.8		24.8				
Green Ext Time (p_c), s		3.3			0.7	0.5		0.4				

Intersection Summary

HCM 6th Ctrl Delay	43.0
HCM 6th LOS	D

Notes

- User approved volume balancing among the lanes for turning movement.
- \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 3: Vista Sorrento Pkwy/Torrey View Ct & Carmel Mountain Rd

Existing PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑	↖↗	↖↗	↑↘	↖↗
Traffic Volume (veh/h)	19	13	24	375	2	320	29	649	490	254	412	15
Future Volume (veh/h)	19	13	24	375	2	320	29	649	490	254	412	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	17	31	417	2	356	32	705	533	270	438	16
Peak Hour Factor	0.78	0.78	0.78	0.90	0.90	0.90	0.92	0.92	0.92	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	113	774	265	475	1308	543	78	823	1582	328	1790	65
Arrive On Green	0.03	0.15	0.15	0.14	0.26	0.26	0.02	0.44	0.44	0.09	0.51	0.51
Sat Flow, veh/h	3456	5106	1513	3456	5106	1534	3456	1870	2724	3456	3494	127
Grp Volume(v), veh/h	24	17	31	417	2	356	32	705	533	270	222	232
Grp Sat Flow(s),veh/h/ln	1728	1702	1513	1728	1702	1534	1728	1870	1362	1728	1777	1844
Q Serve(g_s), s	0.8	0.3	2.0	13.4	0.0	22.1	1.0	38.3	11.6	8.7	7.9	7.9
Cycle Q Clear(g_c), s	0.8	0.3	2.0	13.4	0.0	22.1	1.0	38.3	11.6	8.7	7.9	7.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	113	774	265	475	1308	543	78	823	1582	328	911	945
V/C Ratio(X)	0.21	0.02	0.12	0.88	0.00	0.66	0.41	0.86	0.34	0.82	0.24	0.25
Avail Cap(c_a), veh/h	214	1691	537	508	2134	792	125	823	1582	349	911	945
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.2	40.8	39.3	47.8	31.3	31.0	54.5	28.4	12.5	50.2	15.3	15.4
Incr Delay (d2), s/veh	0.3	0.0	0.3	14.5	0.0	2.1	1.3	11.1	0.6	12.9	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.1	0.7	6.7	0.0	7.9	0.4	17.9	3.2	4.3	3.3	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.5	40.8	39.6	62.3	31.3	33.0	55.8	39.6	13.1	63.1	16.0	16.0
LnGrp LOS	D	D	D	E	C	C	E	D	B	E	B	B
Approach Vol, veh/h		72			775			1270			724	
Approach Delay, s/veh		44.5			48.8			28.9			33.6	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.9	22.9	6.9	63.2	8.1	34.7	15.1	55.0				
Change Period (Y+Rc), s	4.4	5.8	4.4	5.3	4.4	* 5.8	4.4	5.3				
Max Green Setting (Gmax), s	10.6	37.4	4.1	57.0	7.0	* 47	11.4	49.7				
Max Q Clear Time (g_c+1/5), s	11.4	4.0	3.0	9.9	2.8	24.1	10.7	40.3				
Green Ext Time (p_c), s	0.1	0.2	0.0	3.8	0.0	2.3	0.0	5.2				

Intersection Summary

HCM 6th Ctrl Delay	35.9
HCM 6th LOS	D

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
4: Roselle St & 1-5 SB On-Ramp

Existing PM  
08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑		↑↑	↑			↑	
Traffic Volume (veh/h)	0	0	0	0	0	0	801	52	0	0	151	125
Future Volume (veh/h)	0	0	0	0	0	0	801	52	0	0	151	125
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.95
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No	No		No		No	
Adj Sat Flow, veh/h/ln				0	1870	0	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				0	0	0	954	62	0	0	176	145
Peak Hour Factor				0.92	0.92	0.92	0.84	0.84	0.92	0.92	0.86	0.86
Percent Heavy Veh, %				0	2	0	2	2	0	0	2	2
Cap, veh/h				0	0	0	1292	1552	0	0	280	231
Arrive On Green				0.00	0.00	0.00	0.37	0.83	0.00	0.00	0.30	0.30
Sat Flow, veh/h				0		3456	1870	0	0	924	761	
Grp Volume(v), veh/h				0.0		954	62	0	0	0	321	
Grp Sat Flow(s),veh/h/ln						1728	1870	0	0	0	1685	
Q Serve(g_s), s						6.9	0.2	0.0	0.0	0.0	4.7	
Cycle Q Clear(g_c), s						6.9	0.2	0.0	0.0	0.0	4.7	
Prop In Lane						1.00		0.00	0.00		0.45	
Lane Grp Cap(c), veh/h						1292	1552	0	0	0	511	
V/C Ratio(X)						0.74	0.04	0.00	0.00	0.00	0.63	
Avail Cap(c_a), veh/h						2711	2805	0	0	0	948	
HCM Platoon Ratio						1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)						1.00	1.00	0.00	0.00	0.00	1.00	
Uniform Delay (d), s/veh						7.8	0.4	0.0	0.0	0.0	8.6	
Incr Delay (d2), s/veh						0.3	0.0	0.0	0.0	0.0	1.4	
Initial Q Delay(d3),s/veh						0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln						1.5	0.0	0.0	0.0	0.0	1.3	
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh						8.1	0.4	0.0	0.0	0.0	10.1	
LnGrp LOS						A	A	A	A	A	B	
Approach Vol, veh/h							1016				321	
Approach Delay, s/veh							7.6				10.1	
Approach LOS							A				B	
Timer - Assigned Phs		2			5	6						
Phs Duration (G+Y+Rc), s		28.8			15.2	13.6						
Change Period (Y+Rc), s		4.9			4.4	4.9						
Max Green Setting (Gmax), s		43.2			22.6	16.2						
Max Q Clear Time (g_c+I1), s		2.2			8.9	6.7						
Green Ext Time (p_c), s		0.4			1.9	1.5						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay											8.2	
HCM 6th LOS											A	



HCM Unsignalized Intersection Capacity Analysis  
5: Roselle St & Sorrento Valley Blvd

Existing PM  
08/04/2023



Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	↶	↶↶	↶	↶↶		↶	
Traffic Volume (veh/h)	58	701	102	577	161	9	
Future Volume (Veh/h)	58	701	102	577	161	9	
Sign Control	Free		Stop			Stop	
Grade	0%		0%			0%	
Peak Hour Factor	0.83	0.83	0.91	0.91	0.89	0.89	
Hourly flow rate (vph)	70	845	112	634	181	10	
Pedestrians	10		10			10	
Lane Width (ft)	12.0		12.0			12.0	
Walking Speed (ft/s)	4.0		4.0			4.0	
Percent Blockage	1		1			1	
Right turn flare (veh)							
Median type	None						
Median storage (veh)							
Upstream signal (ft)	1003						
pX, platoon unblocked							
vC, conflicting volume	10		160	20	216	160	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	10		160	20	216	160	
tC, single (s)	4.1		6.5	6.2	7.1	6.5	
tC, 2 stage (s)							
tF (s)	2.2		4.0	3.3	3.5	4.0	
p0 queue free %	96		84	39	24	99	
cM capacity (veh/h)	1596		688	1040	238	688	
Direction, Lane #	WB 1	WB 2	WB 3	NB 1	NB 2	NB 3	SB 1
Volume Total	70	422	422	112	317	317	191
Volume Left	70	0	0	0	0	0	181
Volume Right	0	422	422	0	317	317	0
cSH	1596	1700	1700	688	1040	1040	246
Volume to Capacity	0.04	0.25	0.25	0.16	0.30	0.30	0.78
Queue Length 95th (ft)	3	0	0	14	32	32	142
Control Delay (s)	7.4	0.0	0.0	11.2	10.0	10.0	56.6
Lane LOS	A			B	A	A	F
Approach Delay (s)	0.6			10.2			56.6
Approach LOS				B			F
Intersection Summary							
Average Delay	10.2						
Intersection Capacity Utilization	39.9%		ICU Level of Service			A	
Analysis Period (min)	15						

Intersection

Intersection Delay, s/veh 16.3

Intersection LOS C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖↗	↗		↖↖	↖	
Traffic Vol, veh/h	727	54	0	210	59	0
Future Vol, veh/h	727	54	0	210	59	0
Peak Hour Factor	0.94	0.94	0.80	0.80	0.78	0.78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	773	57	0	263	76	0
Number of Lanes	2	1	0	2	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left SB		EB	
Conflicting Lanes Left	1	3	0
Conflicting Approach Right NB			EB
Conflicting Lanes Right	2	0	3
HCM Control Delay	18.6	10.6	11.4
HCM LOS	C	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	SBLn1
Vol Left, %	0%	0%	100%	100%	0%	0%
Vol Thru, %	100%	100%	0%	0%	0%	100%
Vol Right, %	0%	0%	0%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	105	105	364	364	54	59
LT Vol	0	0	364	364	0	0
Through Vol	105	105	0	0	0	59
RT Vol	0	0	0	0	54	0
Lane Flow Rate	131	131	387	387	57	76
Geometry Grp	8	8	7	7	7	8
Degree of Util (X)	0.252	0.188	0.652	0.652	0.05	0.154
Departure Headway (Hd)	6.919	5.168	6.071	6.071	3.117	7.341
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	520	693	596	596	1149	489
Service Time	4.659	2.909	3.79	3.79	0.836	5.087
HCM Lane V/C Ratio	0.252	0.189	0.649	0.649	0.05	0.155
HCM Control Delay	12	9.1	19.5	19.5	6	11.4
HCM Lane LOS	B	A	C	C	A	B
HCM 95th-tile Q	1	0.7	4.7	4.7	0.2	0.5

HCM 6th Signalized Intersection Summary  
7: Vista Sorrento Pkwy & Sorrento Valley Blvd

Existing PM  
08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↘		↗	↗↘		↗	↗↘		↗	↗↘	↗
Traffic Volume (veh/h)	129	734	59	31	237	266	438	827	421	498	84	103
Future Volume (veh/h)	129	734	59	31	237	266	438	827	421	498	84	103
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	152	864	69	36	276	309	461	871	338	535	90	111
Peak Hour Factor	0.85	0.85	0.85	0.86	0.86	0.86	0.95	0.95	0.95	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	175	958	76	48	386	329	646	923	356	572	300	399
Arrive On Green	0.10	0.29	0.29	0.03	0.22	0.22	0.36	0.36	0.36	0.16	0.16	0.16
Sat Flow, veh/h	1781	3321	265	1781	1777	1514	1781	2546	983	3563	1870	1516
Grp Volume(v), veh/h	152	462	471	36	276	309	461	639	570	535	90	111
Grp Sat Flow(s),veh/h/ln	1781	1777	1810	1781	1777	1514	1781	1870	1659	1781	1870	1516
Q Serve(g_s), s	11.5	34.3	34.3	2.7	19.7	27.5	30.5	45.3	45.7	20.3	5.8	8.0
Cycle Q Clear(g_c), s	11.5	34.3	34.3	2.7	19.7	27.5	30.5	45.3	45.7	20.3	5.8	8.0
Prop In Lane	1.00		0.15	1.00		1.00	1.00		0.59	1.00		1.00
Lane Grp Cap(c), veh/h	175	512	522	48	386	329	646	678	601	572	300	399
V/C Ratio(X)	0.87	0.90	0.90	0.74	0.72	0.94	0.71	0.94	0.95	0.94	0.30	0.28
Avail Cap(c_a), veh/h	182	520	530	68	401	342	728	765	678	572	300	399
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.9	46.9	46.9	66.1	49.7	52.7	37.6	42.3	42.4	56.8	50.7	40.6
Incr Delay (d2), s/veh	30.8	18.2	18.0	13.4	4.8	32.2	2.2	17.8	20.6	22.5	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	17.3	17.6	1.4	9.1	13.1	13.1	23.2	21.2	10.6	2.7	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	91.6	65.1	64.8	79.5	54.5	85.0	39.8	60.1	63.0	79.3	50.9	40.7
LnGrp LOS	F	E	E	E	D	F	D	E	E	E	D	D
Approach Vol, veh/h		1085			621			1670			736	
Approach Delay, s/veh		68.7			71.1			55.5			70.0	
Approach LOS		E			E			E			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.1	45.2		28.0	17.9	35.4		55.7				
Change Period (Y+Rc), s	4.4	* 5.7		6.0	4.4	5.7		6.0				
Max Green Setting (Gmax), s	5.2	* 40		22.0	14.0	30.9		56.0				
Max Q Clear Time (g_c+1/4), s	14.7	36.3		22.3	13.5	29.5		47.7				
Green Ext Time (p_c), s	0.0	0.9		0.0	0.0	0.2		1.9				

Intersection Summary

HCM 6th Ctrl Delay	63.9
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.  
\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

# HCM 6th Signalized Intersection Summary

## 8: Vista Sorrento Pkwy & Lusk Blvd

Existing PM  
08/04/2023



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	294	1113	563	77	106	73
Future Volume (veh/h)	294	1113	563	77	106	73
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.96	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	323	344	626	86	118	81
Peak Hour Factor	0.91	0.91	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	362	716	1785	245	185	1261
Arrive On Green	0.20	0.20	0.57	0.57	0.05	0.67
Sat Flow, veh/h	1781	2790	3217	428	3456	1870
Grp Volume(v), veh/h	323	344	356	356	118	81
Grp Sat Flow(s),veh/h/ln	1781	1395	1777	1775	1728	1870
Q Serve(g_s), s	15.7	9.3	9.5	9.6	3.0	1.3
Cycle Q Clear(g_c), s	15.7	9.3	9.5	9.6	3.0	1.3
Prop In Lane	1.00	1.00		0.24	1.00	
Lane Grp Cap(c), veh/h	362	716	1015	1014	185	1261
V/C Ratio(X)	0.89	0.48	0.35	0.35	0.64	0.06
Avail Cap(c_a), veh/h	983	1689	1015	1014	1150	1261
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.5	28.0	10.2	10.2	41.3	4.9
Incr Delay (d2), s/veh	3.1	0.2	1.0	1.0	1.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	2.9	3.3	3.3	1.2	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	37.6	28.2	11.2	11.2	42.6	5.0
LnGrp LOS	D	C	B	B	D	A
Approach Vol, veh/h	667		712			199
Approach Delay, s/veh	32.8		11.2			27.3
Approach LOS	C		B			C
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	9.2	56.8			66.0	23.0
Change Period (Y+Rc), s	4.4	6.0			6.0	4.9
Max Green Setting (Gmax), s	29.6	26.0			60.0	49.1
Max Q Clear Time (g_c+1/3), s	15.0	11.6			3.3	17.7
Green Ext Time (p_c), s	0.1	1.1			0.1	0.4

### Intersection Summary

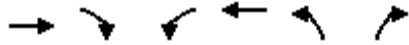
HCM 6th Ctrl Delay	22.3
HCM 6th LOS	C

### Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary  
 9: Wateridge Cir & Lusk Blvd

Existing PM  
 08/04/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↔	↑↑	↔	↔
Traffic Volume (veh/h)	168	6	38	333	6	48
Future Volume (veh/h)	168	6	38	333	6	48
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	200	7	32	438	5	39
Peak Hour Factor	0.84	0.84	0.76	0.76	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2182	76	122	2628	79	126
Arrive On Green	0.62	0.62	0.04	0.74	0.04	0.04
Sat Flow, veh/h	3592	122	3456	3647	1781	1585
Grp Volume(v), veh/h	101	106	32	438	5	39
Grp Sat Flow(s),veh/h/ln	1843	1728	1777	1781	1585	
Q Serve(g_s), s	1.2	1.3	0.5	2.0	0.1	1.3
Cycle Q Clear(g_c), s	1.2	1.3	0.5	2.0	0.1	1.3
Prop In Lane		0.07	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1108	1150	122	2628	79	126
V/C Ratio(X)	0.09	0.09	0.26	0.17	0.06	0.31
Avail Cap(c_a), veh/h	1108	1150	417	2628	945	897
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	4.1	4.1	25.7	2.1	25.0	23.7
Incr Delay (d2), s/veh	0.2	0.2	0.4	0.1	0.1	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.3	0.2	0.1	0.1	0.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	4.3	4.3	26.1	2.3	25.1	24.2
LnGrp LOS	A	A	C	A	C	C
Approach Vol, veh/h	207			470	44	
Approach Delay, s/veh	4.3			3.9	24.3	
Approach LOS	A			A	C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	6.3	41.0			47.3	7.3
Change Period (Y+Rc), s	4.4	6.9			* 6.9	4.9
Max Green Setting (Gmax), s	6.6	28.2			* 40	29.0
Max Q Clear Time (g_c+1), s	12.5	3.3			4.0	3.3
Green Ext Time (p_c), s	0.0	0.3			0.9	0.0

Intersection Summary

HCM 6th Ctrl Delay	5.2
HCM 6th LOS	A

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	
Traffic Vol, veh/h	298	0	0	681	0	0
Future Vol, veh/h	298	0	0	681	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	324	0	0	740	0	0

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	324	0	694	162
Stage 1	-	-	-	-	324	-
Stage 2	-	-	-	-	370	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1233	-	377	854
Stage 1	-	-	-	-	705	-
Stage 2	-	-	-	-	669	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1233	-	377	854
Mov Cap-2 Maneuver	-	-	-	-	377	-
Stage 1	-	-	-	-	705	-
Stage 2	-	-	-	-	669	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1233	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↘	
Traffic Vol, veh/h	298	0	0	681	0	0
Future Vol, veh/h	298	0	0	681	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	324	0	0	740	0	0

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	324	0	694	162
Stage 1	-	-	-	-	324	-
Stage 2	-	-	-	-	370	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1233	-	377	854
Stage 1	-	-	-	-	705	-
Stage 2	-	-	-	-	669	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1233	-	377	854
Mov Cap-2 Maneuver	-	-	-	-	377	-
Stage 1	-	-	-	-	705	-
Stage 2	-	-	-	-	669	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1233	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

HCM 6th Signalized Intersection Summary  
 12: Project Dwy #3/Pacific Center Blvd & Lusk Blvd

Existing PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↔		↔	↕↔			↕↔			↕	↕
Traffic Volume (veh/h)	33	262	3	3	184	37	19	4	24	161	0	478
Future Volume (veh/h)	33	262	3	3	184	37	19	4	24	161	0	478
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.97	1.00		0.98	0.99		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	391	4	3	207	42	36	8	45	173	0	514
Peak Hour Factor	0.67	0.67	0.67	0.89	0.89	0.89	0.53	0.53	0.53	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	955	10	7	655	130	288	86	298	786	0	816
Arrive On Green	0.05	0.27	0.27	0.00	0.22	0.22	0.48	0.48	0.48	0.48	0.00	0.48
Sat Flow, veh/h	3456	3601	37	1781	2936	582	429	179	622	1395	0	1549
Grp Volume(v), veh/h	49	193	202	3	123	126	89	0	0	173	0	514
Grp Sat Flow(s),veh/h/ln	1728	1777	1861	1781	1777	1741	1230	0	0	1395	0	1549
Q Serve(g_s), s	0.8	5.5	5.5	0.1	3.6	3.7	0.0	0.0	0.0	0.0	0.0	14.4
Cycle Q Clear(g_c), s	0.8	5.5	5.5	0.1	3.6	3.7	3.5	0.0	0.0	3.5	0.0	14.4
Prop In Lane	1.00		0.02	1.00		0.33	0.40		0.51	1.00		1.00
Lane Grp Cap(c), veh/h	159	471	493	7	396	388	673	0	0	786	0	816
V/C Ratio(X)	0.31	0.41	0.41	0.41	0.31	0.32	0.13	0.00	0.00	0.22	0.00	0.63
Avail Cap(c_a), veh/h	428	1032	1081	145	957	937	673	0	0	786	0	816
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.3	18.6	18.6	30.5	19.9	19.9	8.8	0.0	0.0	9.2	0.0	10.3
Incr Delay (d2), s/veh	0.4	0.2	0.2	13.4	0.2	0.2	0.4	0.0	0.0	0.6	0.0	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.0	2.1	0.1	1.3	1.3	0.6	0.0	0.0	1.2	0.0	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.7	18.8	18.8	43.9	20.0	20.1	9.2	0.0	0.0	9.8	0.0	14.0
LnGrp LOS	C	B	B	D	C	C	A	A	A	A	A	B
Approach Vol, veh/h		444			252			89				687
Approach Delay, s/veh		19.9			20.4			9.2				12.9
Approach LOS		B			C			A				B
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.6	21.9		34.7	7.2	19.4		34.7				
Change Period (Y+Rc), s	4.4	5.7		5.3	4.4	5.7		* 5.3				
Max Green Setting (Gmax), s	5.0	35.6		29.0	7.6	33.0		* 29				
Max Q Clear Time (g_c+I1), s	2.1	7.5		16.4	2.8	5.7		5.5				
Green Ext Time (p_c), s	0.0	0.6		0.6	0.0	0.4		0.2				

Intersection Summary

HCM 6th Ctrl Delay	16.1
HCM 6th LOS	B

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	
Traffic Vol, veh/h	487	0	0	237	0	0
Future Vol, veh/h	487	0	0	237	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	529	0	0	258	0	0

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	529	0	658
Stage 1	-	-	-	-	529
Stage 2	-	-	-	-	129
Critical Hdwy	-	-	4.14	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	-	-	2.22	-	3.52
Pot Cap-1 Maneuver	-	-	1034	-	397
Stage 1	-	-	-	-	555
Stage 2	-	-	-	-	883
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1034	-	397
Mov Cap-2 Maneuver	-	-	-	-	397
Stage 1	-	-	-	-	555
Stage 2	-	-	-	-	883

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1034	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

HCM 6th Signalized Intersection Summary  
 14: I-805 NB Ramps/Mira Sorrento PI & Vista Sorrento Pkwy

Existing PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖↗	↖	↗	↖	↖↗	↗	↖	↖↗	↖↗
Traffic Volume (veh/h)	36	300	200	764	118	15	227	51	96	137	552	105
Future Volume (veh/h)	36	300	200	764	118	15	227	51	96	137	552	105
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		0.87	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	47	395	0	822	127	16	247	55	104	149	600	60
Peak Hour Factor	0.76	0.76	0.76	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	502	425	857	722	591	266	151	452	564	680	68
Arrive On Green	0.12	0.27	0.00	0.25	0.39	0.38	0.15	0.04	0.04	0.32	0.21	0.21
Sat Flow, veh/h	1781	1870	1585	3456	1870	1545	1781	3554	1383	1781	3241	323
Grp Volume(v), veh/h	47	395	0	822	127	16	247	55	104	149	328	332
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1870	1545	1781	1777	1383	1781	1777	1787
Q Serve(g_s), s	3.6	29.4	0.0	35.2	6.7	1.0	20.5	2.3	3.7	9.4	26.9	27.0
Cycle Q Clear(g_c), s	3.6	29.4	0.0	35.2	6.7	1.0	20.5	2.3	3.7	9.4	26.9	27.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.18
Lane Grp Cap(c), veh/h	219	502	425	857	722	591	266	151	452	564	373	375
V/C Ratio(X)	0.21	0.79	0.00	0.96	0.18	0.03	0.93	0.36	0.23	0.26	0.88	0.88
Avail Cap(c_a), veh/h	219	502	425	857	722	591	266	841	720	564	409	411
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.51	0.51	0.51	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.3	50.9	0.0	55.7	30.3	28.9	63.0	69.8	16.8	38.2	57.5	57.6
Incr Delay (d2), s/veh	2.2	11.8	0.0	14.2	0.3	0.0	36.0	0.5	0.1	0.1	17.2	17.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	15.0	0.0	16.5	3.0	0.4	12.0	1.0	1.4	4.1	13.6	13.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.5	62.7	0.0	69.8	30.6	28.9	99.0	70.4	16.9	38.3	74.7	75.3
LnGrp LOS	E	E	A	E	C	C	F	E	B	D	E	E
Approach Vol, veh/h		442			965			406			809	
Approach Delay, s/veh		62.6			64.0			74.1			68.2	
Approach LOS		E			E			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	41.4	45.5	27.0	36.1	23.7	63.2	52.1	11.0				
Change Period (Y+Rc), s	* 4.7	5.8	5.1	5.1	5.8	* 5.8	5.1	5.1				
Max Green Setting (Gmax), s	* 37	36.7	21.9	34.0	16.0	* 57	20.9	35.0				
Max Q Clear Time (g_c+I1), s	37.2	31.4	22.5	29.0	5.6	8.7	11.4	5.7				
Green Ext Time (p_c), s	0.0	0.2	0.0	0.3	0.0	0.1	0.1	0.2				

Intersection Summary

HCM 6th Ctrl Delay	66.6
HCM 6th LOS	E

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.
- \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection						
Int Delay, s/veh	0.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↑	↔	
Traffic Vol, veh/h	53	0	5	273	0	10
Future Vol, veh/h	53	0	5	273	0	10
Conflicting Peds, #/hr	0	10	10	0	10	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	79	79	63	63
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	64	0	6	346	0	16

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	74	0	442	84
Stage 1	-	-	-	-	74	-
Stage 2	-	-	-	-	368	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1526	-	573	975
Stage 1	-	-	-	-	949	-
Stage 2	-	-	-	-	700	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1513	-	562	959
Mov Cap-2 Maneuver	-	-	-	-	562	-
Stage 1	-	-	-	-	941	-
Stage 2	-	-	-	-	692	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	959	-	-	1513	-
HCM Lane V/C Ratio	0.017	-	-	0.004	-
HCM Control Delay (s)	8.8	-	-	7.4	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 6th Signalized Intersection Summary  
 16: Lusk Blvd & Barnes Canyon Rd

Existing PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕		↖	↕	↗	↖	↕	↗
Traffic Volume (veh/h)	53	131	51	35	172	53	15	131	57	64	313	110
Future Volume (veh/h)	53	131	51	35	172	53	15	131	57	64	313	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.95	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	152	59	37	183	56	16	142	62	89	435	153
Peak Hour Factor	0.86	0.86	0.86	0.94	0.94	0.94	0.92	0.92	0.92	0.72	0.72	0.72
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	88	408	150	65	400	118	34	1632	711	114	1295	451
Arrive On Green	0.05	0.16	0.16	0.04	0.15	0.15	0.02	0.46	0.46	0.06	0.50	0.50
Sat Flow, veh/h	1781	2507	924	1781	2673	787	1781	3554	1548	1781	2569	894
Grp Volume(v), veh/h	62	105	106	37	119	120	16	142	62	89	299	289
Grp Sat Flow(s),veh/h/ln	1781	1777	1655	1781	1777	1684	1781	1777	1548	1781	1777	1686
Q Serve(g_s), s	2.5	3.8	4.1	1.5	4.4	4.7	0.6	1.6	1.6	3.6	7.3	7.4
Cycle Q Clear(g_c), s	2.5	3.8	4.1	1.5	4.4	4.7	0.6	1.6	1.6	3.6	7.3	7.4
Prop In Lane	1.00		0.56	1.00		0.47	1.00		1.00	1.00		0.53
Lane Grp Cap(c), veh/h	88	289	269	65	266	252	34	1632	711	114	896	850
V/C Ratio(X)	0.71	0.36	0.39	0.57	0.45	0.48	0.47	0.09	0.09	0.78	0.33	0.34
Avail Cap(c_a), veh/h	219	786	732	123	683	647	123	1632	711	123	896	850
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.9	27.0	27.1	34.3	28.0	28.1	35.1	11.0	11.0	33.3	10.7	10.7
Incr Delay (d2), s/veh	3.8	0.3	0.3	2.9	0.4	0.5	3.8	0.1	0.2	22.4	1.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	1.6	1.6	0.7	1.8	1.8	0.3	0.5	0.5	2.1	2.5	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.7	27.2	27.4	37.2	28.5	28.7	38.9	11.1	11.3	55.7	11.7	11.8
LnGrp LOS	D	C	C	D	C	C	D	B	B	E	B	B
Approach Vol, veh/h		273			276			220			677	
Approach Delay, s/veh		29.7			29.7			13.2			17.5	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.0	38.9	7.0	17.4	5.8	42.2	8.0	16.4				
Change Period (Y+Rc), s	4.4	5.7	4.4	* 5.6	4.4	5.7	4.4	5.6				
Max Green Setting (Gmax), s	5.0	33.2	5.0	* 32	5.0	33.2	8.9	27.8				
Max Q Clear Time (g_c+I1), s	5.6	3.6	3.5	6.1	2.6	9.4	4.5	6.7				
Green Ext Time (p_c), s	0.0	0.3	0.0	0.4	0.0	1.0	0.0	0.4				

Intersection Summary

HCM 6th Ctrl Delay	21.5
HCM 6th LOS	C

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 17: Barnes Canyon Rd/Commercial Dwy & Pacific Heights Blvd

Existing PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↖	↗	↖	↗
Traffic Volume (veh/h)	29	441	120	148	82	58	64	23	207	46	22	9
Future Volume (veh/h)	29	441	120	148	82	58	64	23	207	46	22	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.96	0.98		0.96	0.99		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	31	469	128	168	93	66	70	25	227	55	26	11
Peak Hour Factor	0.94	0.94	0.94	0.88	0.88	0.88	0.91	0.91	0.91	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	47	1233	334	260	1016	652	429	469	383	380	309	131
Arrive On Green	0.03	0.45	0.45	0.08	0.50	0.50	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1781	2748	744	3456	2042	1310	1350	1870	1526	1115	1232	521
Grp Volume(v), veh/h	31	302	295	168	80	79	70	25	227	55	0	37
Grp Sat Flow(s),veh/h/ln	1781	1777	1715	1728	1777	1575	1350	1870	1526	1115	0	1753
Q Serve(g_s), s	1.1	7.3	7.4	3.0	1.5	1.7	2.7	0.7	8.4	2.5	0.0	1.0
Cycle Q Clear(g_c), s	1.1	7.3	7.4	3.0	1.5	1.7	3.7	0.7	8.4	3.2	0.0	1.0
Prop In Lane	1.00		0.43	1.00		0.83	1.00		1.00	1.00		0.30
Lane Grp Cap(c), veh/h	47	797	770	260	884	783	429	469	383	380	0	440
V/C Ratio(X)	0.66	0.38	0.38	0.65	0.09	0.10	0.16	0.05	0.59	0.14	0.00	0.08
Avail Cap(c_a), veh/h	158	797	770	354	884	783	719	871	711	620	0	817
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.1	11.8	11.8	28.9	8.5	8.6	19.9	18.3	21.2	19.5	0.0	18.5
Incr Delay (d2), s/veh	5.7	1.4	1.4	1.0	0.2	0.3	0.3	0.1	2.5	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	2.8	2.8	1.2	0.6	0.6	0.8	0.3	3.0	0.6	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.8	13.2	13.3	30.0	8.7	8.8	20.2	18.4	23.7	19.6	0.0	18.5
LnGrp LOS	D	B	B	C	A	A	C	B	C	B	A	B
Approach Vol, veh/h		628		327		322		92				
Approach Delay, s/veh		14.4		19.7		22.5		19.1				
Approach LOS		B		B		C		B				
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.2	34.1		21.1	6.1	37.2		21.1				
Change Period (Y+Rc), s	4.4	5.2		4.9	4.4	* 5.2		4.9				
Max Green Setting (Gmax), s	6	28.9		30.0	5.7	* 30		30.0				
Max Q Clear Time (g_c+1/3), s	15.0	9.4		5.2	3.1	3.7		10.4				
Green Ext Time (p_c), s	0.0	5.8		0.2	0.0	1.9		2.0				

Intersection Summary

HCM 6th Ctrl Delay	17.9
HCM 6th LOS	B

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis  
 18: Carroll Canyon Rd/I-805 SB Ramps & Sorrento Valley Rd

Existing PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↑↑↑	↗	↘	↑↑	↗↗↗	↘↘		↗↗	↘↘	↑↔		
Traffic Volume (vph)	0	457	96	40	290	1267	104	0	694	643	101	35	
Future Volume (vph)	0	457	96	40	290	1267	104	0	694	643	101	35	
Ideal Flow (vphpl)	1800	1800	1900	1900	1800	1800	1900	1900	1900	1800	1900	1800	
Total Lost time (s)		8.0	4.5	6.1	8.0	7.5	4.5		6.1	7.0	7.5		
Lane Util. Factor		0.91	1.00	1.00	0.95	0.76	0.97		0.88	0.97	0.95		
Frbp, ped/bikes		1.00	0.97	1.00	1.00	0.98	1.00		0.99	1.00	0.99		
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		
Frt		1.00	0.85	1.00	1.00	0.85	1.00		0.85	1.00	0.96		
Flt Protected		1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00		
Satd. Flow (prot)		4818	1543	1770	3353	3345	3433		2770	3252	3380		
Flt Permitted		1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00		
Satd. Flow (perm)		4818	1543	1770	3353	3345	3433		2770	3252	3380		
Peak-hour factor, PHF	0.90	0.90	0.90	0.92	0.92	0.92	0.95	0.95	0.95	0.77	0.77	0.77	
Adj. Flow (vph)	0	508	107	43	315	1377	109	0	731	835	131	45	
RTOR Reduction (vph)	0	0	81	0	0	263	0	0	72	0	21	0	
Lane Group Flow (vph)	0	508	26	43	315	1114	109	0	659	835	155	0	
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10	
Confl. Bikes (#/hr)			10			10			10			10	
Turn Type		NA	pm+ov	Prot	NA	custom	Prot		pm+ov	Prot	NA		
Protected Phases		2	3	1	6	4	3		1	7	4		
Permitted Phases			2			6			3				
Actuated Green, G (s)		27.8	36.0	33.0	66.9	121.3	8.2		41.2	67.1	54.4		
Effective Green, g (s)		28.3	36.0	33.0	67.4	121.3	8.2		41.2	67.6	54.4		
Actuated g/C Ratio		0.19	0.24	0.22	0.45	0.81	0.05		0.27	0.45	0.36		
Clearance Time (s)		8.5	4.5	6.1	8.5	7.5	4.5		6.1	7.5	7.5		
Vehicle Extension (s)		1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0		
Lane Grp Cap (vph)		908	370	389	1506	2872	187		760	1465	1225		
v/s Ratio Prot		c0.11	0.00	0.02	0.09	0.14	0.03		c0.19	c0.26	0.05		
v/s Ratio Perm			0.01			0.19			0.05				
v/c Ratio		0.56	0.07	0.11	0.21	0.39	0.58		0.87	0.57	0.13		
Uniform Delay, d1		55.2	44.1	46.8	25.1	4.0	69.2		51.8	30.5	31.9		
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		
Incremental Delay, d2		2.5	0.0	0.0	0.0	0.0	3.0		9.9	1.6	0.2		
Delay (s)		57.7	44.1	46.8	25.1	4.0	72.2		61.7	32.1	32.1		
Level of Service		E	D	D	C	A	E		E	C	C		
Approach Delay (s)		55.3			8.9			63.1			32.1		
Approach LOS		E			A			E			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			32.1		HCM 2000 Level of Service					C			
HCM 2000 Volume to Capacity ratio			0.68										
Actuated Cycle Length (s)			150.0		Sum of lost time (s)					26.1			
Intersection Capacity Utilization			87.1%		ICU Level of Service					E			
Analysis Period (min)			15										
c Critical Lane Group													

HCM 6th Signalized Intersection Summary

Existing PM

19: I-805 NB Off-Ramp/Vista Sorrento Pkwy & Sorrento Valley Rd/Mira Mesa Blvd

08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑			↑↑↑	↗		↑	↗↗↗	↖		↗↗
Traffic Volume (veh/h)	78	653	0	0	1115	748	0	42	840	56	0	484
Future Volume (veh/h)	78	653	0	0	1115	748	0	42	840	56	0	484
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.91	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	0	1870	1870	1870	0	1870
Adj Flow Rate, veh/h	86	718	0	0	1199	804	0	47	377	76	0	654
Peak Hour Factor	0.91	0.91	0.91	0.93	0.93	0.93	0.90	0.90	0.90	0.74	0.74	0.74
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	2	2	0	2
Cap, veh/h	511	3164	0	0	2790	912	0	126	222	271	0	0
Arrive On Green	0.15	0.62	0.00	0.00	0.14	0.14	0.00	0.07	0.07	0.15	0.00	0.00
Sat Flow, veh/h	3456	5274	0	0	6696	1547	0	1870	3302	1781	76	
Grp Volume(v), veh/h	86	718	0	0	1199	804	0	47	377	76	41.4	
Grp Sat Flow(s),veh/h/ln	1728	1702	0	0	1609	1547	0	1870	1101	1781	D	
Q Serve(g_s), s	2.4	6.8	0.0	0.0	18.7	43.2	0.0	2.6	7.4	4.2		
Cycle Q Clear(g_c), s	2.4	6.8	0.0	0.0	18.7	43.2	0.0	2.6	7.4	4.2		
Prop In Lane	1.00		0.00	0.00		1.00	0.00		1.00	1.00		
Lane Grp Cap(c), veh/h	511	3164	0	0	2790	912	0	126	222	271		
V/C Ratio(X)	0.17	0.23	0.00	0.00	0.43	0.88	0.00	0.37	1.70	0.28		
Avail Cap(c_a), veh/h	550	3164	0	0	2790	912	0	126	222	300		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.62	0.62	0.00	1.00	1.00	0.66		
Uniform Delay (d), s/veh	41.0	9.3	0.0	0.0	34.7	27.8	0.0	49.1	51.3	41.3		
Incr Delay (d2), s/veh	0.1	0.2	0.0	0.0	0.3	7.9	0.0	0.7	332.3	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	2.3	0.0	0.0	8.1	41.9	0.0	1.3	8.9	1.8		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.0	9.4	0.0	0.0	35.0	35.8	0.0	49.8	383.6	41.4		
LnGrp LOS	D	A	A	A	D	D	A	D	F	D		
Approach Vol, veh/h		804			2003			424				
Approach Delay, s/veh		12.8			35.3			346.6				
Approach LOS		B			D			F				
Timer - Assigned Phs		2			5	6	7	8				
Phs Duration (G+Y+Rc), s		74.7			20.5	54.2	22.3	13.0				
Change Period (Y+Rc), s		7.0			* 4.7	7.0	6.1	6.1				
Max Green Setting (Gmax), s		65.9			* 17	44.2	18.0	6.9				
Max Q Clear Time (g_c+1), s		8.8			4.4	45.2	6.2	9.4				
Green Ext Time (p_c), s		0.8			0.1	0.0	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	69.9
HCM 6th LOS	E

Notes

- User approved pedestrian interval to be less than phase max green.
- \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 20: Scranton Rd & Mira Mesa Blvd

Existing PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔	↑↑↑		↔↔	↔↔		↔↔	↔	↔↔
Traffic Volume (veh/h)	168	1075	224	114	1315	104	310	67	34	104	143	344
Future Volume (veh/h)	168	1075	224	114	1315	104	310	67	34	104	143	344
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	179	1144	238	119	1370	108	277	150	37	114	173	367
Peak Hour Factor	0.94	0.94	0.94	0.96	0.96	0.96	0.93	0.93	0.93	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	255	1273	382	153	1598	126	1150	936	223	609	320	753
Arrive On Green	0.02	0.08	0.08	0.09	0.26	0.26	0.32	0.32	0.32	0.17	0.17	0.17
Sat Flow, veh/h	3456	5106	1533	1781	6110	480	3563	2901	692	3563	1870	3038
Grp Volume(v), veh/h	179	1144	238	119	1081	397	277	95	92	114	173	367
Grp Sat Flow(s),veh/h/ln	1728	1702	1533	1781	1609	1765	1781	1870	1722	1781	1870	1519
Q Serve(g_s), s	5.7	24.4	16.5	7.2	23.5	23.6	6.3	4.0	4.2	3.0	9.3	11.4
Cycle Q Clear(g_c), s	5.7	24.4	16.5	7.2	23.5	23.6	6.3	4.0	4.2	3.0	9.3	11.4
Prop In Lane	1.00		1.00	1.00		0.27	1.00		0.40	1.00		1.00
Lane Grp Cap(c), veh/h	255	1273	382	153	1262	462	1150	604	556	609	320	753
V/C Ratio(X)	0.70	0.90	0.62	0.78	0.86	0.86	0.24	0.16	0.17	0.19	0.54	0.49
Avail Cap(c_a), veh/h	261	1277	383	177	1312	480	1150	604	556	609	320	753
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.80	0.80	0.80	0.75	0.75	0.75	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.4	49.1	45.5	49.2	38.7	38.8	27.4	26.6	26.7	39.1	41.7	35.7
Incr Delay (d2), s/veh	6.4	7.7	3.9	11.0	4.4	11.3	0.5	0.6	0.6	0.7	6.4	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	12.0	7.2	3.5	9.2	11.1	2.7	1.8	1.8	1.4	4.8	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.9	56.8	49.4	60.2	43.1	50.0	27.9	27.1	27.4	39.7	48.1	37.9
LnGrp LOS	E	E	D	E	D	D	C	C	C	D	D	D
Approach Vol, veh/h		1561			1597			464			654	
Approach Delay, s/veh		55.9			46.1			27.6			40.9	
Approach LOS		E			D			C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.4	33.1		23.6	12.0	34.5		39.9				
Change Period (Y+Rc), s	4.4	* 6.2		5.3	4.4	6.2		4.9				
Max Green Setting (Gmax), s	10.4	* 27		17.0	7.8	29.4		35.0				
Max Q Clear Time (g_c+1), s	19.2	26.4		13.4	7.7	25.6		8.3				
Green Ext Time (p_c), s	0.0	0.5		1.5	0.0	2.6		4.8				

Intersection Summary

HCM 6th Ctrl Delay	46.9
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



HCM 6th Signalized Intersection Summary  
 21: Oberlin Dr/Lusk Blvd & Mira Mesa Blvd

Existing PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↑ ↑ ↑		↖ ↗	↑ ↑ ↑		↖	↑	↗	↖ ↗	↑	↗
Traffic Volume (veh/h)	66	1152	6	43	1200	69	20	18	151	457	111	225
Future Volume (veh/h)	66	1152	6	43	1200	69	20	18	151	457	111	225
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	74	1294	7	47	1304	75	21	19	157	502	122	137
Peak Hour Factor	0.89	0.89	0.89	0.92	0.92	0.92	0.96	0.96	0.96	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	108	2346	13	83	2173	125	31	488	400	538	746	617
Arrive On Green	0.03	0.45	0.45	0.05	0.88	0.88	0.02	0.26	0.26	0.16	0.40	0.40
Sat Flow, veh/h	3456	5240	28	3456	4932	284	1781	1870	1535	3456	1870	1546
Grp Volume(v), veh/h	74	841	460	47	900	479	21	19	157	502	122	137
Grp Sat Flow(s),veh/h/ln	1728	1702	1864	1728	1702	1811	1781	1870	1535	1728	1870	1546
Q Serve(g_s), s	4.0	34.4	34.4	2.5	12.6	12.6	2.2	1.4	16.0	27.3	8.0	11.1
Cycle Q Clear(g_c), s	4.0	34.4	34.4	2.5	12.6	12.6	2.2	1.4	16.0	27.3	8.0	11.1
Prop In Lane	1.00		0.02	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	108	1524	835	83	1500	798	31	488	400	538	746	617
V/C Ratio(X)	0.69	0.55	0.55	0.56	0.60	0.60	0.67	0.04	0.39	0.93	0.16	0.22
Avail Cap(c_a), veh/h	175	1524	835	120	1500	798	71	488	400	793	746	617
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.44	0.44	0.44	0.83	0.83	0.83	1.00	1.00	1.00	0.97	0.97	0.97
Uniform Delay (d), s/veh	91.1	38.5	38.5	89.4	7.1	7.1	92.8	52.4	57.8	79.2	36.7	37.7
Incr Delay (d2), s/veh	1.3	0.6	1.2	1.8	1.5	2.8	8.7	0.1	2.9	10.8	0.5	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	14.3	15.8	1.1	2.9	3.4	1.1	0.7	6.6	12.9	3.8	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	92.4	39.1	39.6	91.3	8.5	9.8	101.5	52.6	60.7	90.0	37.2	38.5
LnGrp LOS	F	D	D	F	A	A	F	D	E	F	D	D
Approach Vol, veh/h		1375			1426			197			761	
Approach Delay, s/veh		42.2			11.7			64.3			72.3	
Approach LOS		D			B			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.0	91.3	7.7	82.0	10.3	89.9	34.0	55.8				
Change Period (Y+Rc), s	4.4	* 6.2	4.4	6.2	4.4	6.2	4.4	* 6.2				
Max Green Setting (Gmax), s	6.6	* 79	7.6	75.8	9.6	75.8	43.6	* 41				
Max Q Clear Time (g_c+1/5), s	14.5	36.4	4.2	13.1	6.0	14.6	29.3	18.0				
Green Ext Time (p_c), s	0.0	2.6	0.0	0.3	0.0	2.9	0.3	0.1				

Intersection Summary

HCM 6th Ctrl Delay	37.9
HCM 6th LOS	D

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 22: Pacific Heights Blvd & Mira Mesa Blvd

Existing PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖	↑↑↑	↗	↖	↑↑	↗	↖↗	↑↑	↗
Traffic Volume (veh/h)	115	1448	101	108	909	171	125	41	319	988	243	316
Future Volume (veh/h)	115	1448	101	108	909	171	125	41	319	988	243	316
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.93	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	129	1627	113	116	977	0	154	51	24	1062	261	340
Peak Hour Factor	0.89	0.89	0.89	0.93	0.93	0.93	0.81	0.81	0.81	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	150	2161	650	132	2109		176	346	137	1093	1102	473
Arrive On Green	0.11	0.56	0.56	0.07	0.41	0.00	0.10	0.09	0.09	0.32	0.31	0.31
Sat Flow, veh/h	1781	5106	1546	1781	5106	1585	1781	3741	1480	3456	3554	1540
Grp Volume(v), veh/h	129	1627	113	116	977	0	154	51	24	1062	261	340
Grp Sat Flow(s),veh/h/ln	1781	1702	1546	1781	1702	1585	1781	1870	1480	1728	1777	1540
Q Serve(g_s), s	13.5	45.9	6.8	12.3	26.4	0.0	16.2	2.4	2.8	57.6	10.4	37.3
Cycle Q Clear(g_c), s	13.5	45.9	6.8	12.3	26.4	0.0	16.2	2.4	2.8	57.6	10.4	37.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	150	2161	650	132	2109		176	346	137	1093	1102	473
V/C Ratio(X)	0.86	0.75	0.17	0.88	0.46		0.88	0.15	0.18	0.97	0.24	0.72
Avail Cap(c_a), veh/h	218	2161	650	132	2109		250	679	269	1093	1277	549
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.72	0.72	0.72	0.96	0.96	0.00	1.00	1.00	1.00	0.93	0.93	0.93
Uniform Delay (d), s/veh	83.2	34.0	25.7	87.1	40.5	0.0	84.5	79.3	79.5	64.1	48.8	58.5
Incr Delay (d2), s/veh	10.9	1.8	0.4	41.4	0.7	0.0	16.2	0.1	0.2	19.6	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	17.3	2.6	7.1	11.1	0.0	8.2	1.2	1.1	28.4	4.7	14.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	94.1	35.8	26.2	128.5	41.2	0.0	100.7	79.4	79.8	83.7	48.9	61.1
LnGrp LOS	F	D	C	F	D		F	E	E	F	D	E
Approach Vol, veh/h		1869			1093			229			1663	
Approach Delay, s/veh		39.2			50.4			93.8			73.6	
Approach LOS		D			D			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.0	85.6	22.7	63.7	19.9	83.7	64.0	22.4				
Change Period (Y+Rc), s	4.4	5.7	4.4	* 5.3	4.4	5.7	4.4	5.3				
Max Green Setting (Gmax), s	13.6	63.0	26.2	* 68	22.8	53.8	59.6	34.0				
Max Q Clear Time (g_c+14), s	14.3	47.9	18.2	39.3	15.5	28.4	59.6	4.8				
Green Ext Time (p_c), s	0.0	2.1	0.1	0.8	0.0	1.1	0.0	0.1				

Intersection Summary

HCM 6th Ctrl Delay	56.1
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.  
 Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary  
 23: Camino Santa Fe & Mira Mesa Blvd

Existing PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖	↑↑↑	↗	↖	↑↑	↗	↖↗	↑↑	↗
Traffic Volume (veh/h)	61	2547	75	156	491	149	108	318	509	385	186	35
Future Volume (veh/h)	61	2547	75	156	491	149	108	318	509	385	186	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	66	2739	81	171	540	164	129	379	606	423	204	38
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.84	0.84	0.84	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	2325	701	188	2618	791	151	1079	635	366	1154	496
Arrive On Green	0.05	0.46	0.45	0.11	0.51	0.51	0.08	0.30	0.30	0.11	0.32	0.32
Sat Flow, veh/h	1781	5106	1548	1781	5106	1550	1781	3554	1539	3456	3554	1541
Grp Volume(v), veh/h	66	2739	81	171	540	164	129	379	606	423	204	38
Grp Sat Flow(s),veh/h/ln	1781	1702	1548	1781	1702	1550	1781	1777	1539	1728	1777	1541
Q Serve(g_s), s	7.0	86.5	5.7	18.0	11.0	11.0	13.6	15.8	57.7	20.1	7.8	3.3
Cycle Q Clear(g_c), s	7.0	86.5	5.7	18.0	11.0	11.0	13.6	15.8	57.7	20.1	7.8	3.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	86	2325	701	188	2618	791	151	1079	635	366	1154	496
V/C Ratio(X)	0.77	1.18	0.12	0.91	0.21	0.21	0.86	0.35	0.95	1.16	0.18	0.08
Avail Cap(c_a), veh/h	128	2325	701	188	2618	791	173	1079	635	366	1154	496
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.40	0.40	0.40	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	89.3	51.8	30.0	84.0	25.2	25.5	85.8	51.6	54.6	85.0	45.9	44.7
Incr Delay (d2), s/veh	2.8	82.2	0.0	39.8	0.0	0.0	26.8	0.9	26.1	97.1	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	53.2	2.1	10.3	4.4	4.1	7.3	7.1	31.9	13.8	3.5	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	92.1	134.0	30.0	123.8	25.2	25.6	112.7	52.5	80.7	182.0	46.3	45.0
LnGrp LOS	F	F	C	F	C	C	F	D	F	F	D	D
Approach Vol, veh/h		2886			875			1114			665	
Approach Delay, s/veh		130.1			44.6			74.8			132.6	
Approach LOS		F			D			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.0	92.0	20.0	68.0	13.1	102.9	24.0	64.0				
Change Period (Y+Rc), s	4.4	6.0	4.4	6.4	4.4	6.0	4.4	* 6.4				
Max Green Setting (Gmax), s	19.6	86.0	17.9	45.3	13.2	92.4	19.6	* 44				
Max Q Clear Time (g_c+Y), s	20.0	88.5	15.6	9.8	9.0	13.0	22.1	59.7				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.2	0.0	0.7	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	105.8
HCM 6th LOS	F

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 24: Camino Ruiz & Mira Mesa Blvd

Existing PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↑ ↑ ↑		↖ ↗	↑ ↑ ↑	↖	↖	↑ ↑ ↑	↖	↖ ↗	↑ ↑	↖
Traffic Volume (veh/h)	224	2053	51	267	963	224	149	576	152	342	469	73
Future Volume (veh/h)	224	2053	51	267	963	224	149	576	152	342	469	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.91	1.00		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	233	2139	53	322	1160	270	184	711	188	372	510	79
Peak Hour Factor	0.96	0.96	0.96	0.83	0.83	0.83	0.81	0.81	0.81	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	278	2210	55	364	2332	697	205	1273	360	415	903	363
Arrive On Green	0.08	0.43	0.43	0.11	0.46	0.46	0.12	0.25	0.25	0.12	0.25	0.25
Sat Flow, veh/h	3456	5119	127	3456	5106	1525	1781	5106	1443	3456	3554	1444
Grp Volume(v), veh/h	233	1421	771	322	1160	270	184	711	188	372	510	79
Grp Sat Flow(s),veh/h/ln	1728	1702	1841	1728	1702	1525	1781	1702	1443	1728	1777	1444
Q Serve(g_s), s	12.6	77.3	77.9	17.5	30.3	22.2	19.4	23.1	21.4	20.2	23.8	8.2
Cycle Q Clear(g_c), s	12.6	77.3	77.9	17.5	30.3	22.2	19.4	23.1	21.4	20.2	23.8	8.2
Prop In Lane	1.00		0.07	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	278	1469	795	364	2332	697	205	1273	360	415	903	363
V/C Ratio(X)	0.84	0.97	0.97	0.88	0.50	0.39	0.90	0.56	0.52	0.90	0.57	0.22
Avail Cap(c_a), veh/h	366	1526	826	384	2332	697	226	1273	360	449	903	363
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	86.2	52.7	52.8	83.8	36.3	34.1	82.9	62.2	61.6	82.4	61.7	56.3
Incr Delay (d2), s/veh	9.9	15.3	23.6	19.3	0.1	0.1	30.3	1.8	5.3	18.5	2.6	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	35.3	40.3	8.8	12.7	8.3	10.6	10.2	8.4	10.1	11.0	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	96.1	68.0	76.4	103.2	36.3	34.2	113.2	64.0	66.9	100.9	64.3	57.7
LnGrp LOS	F	E	E	F	D	C	F	E	E	F	E	E
Approach Vol, veh/h		2425			1752			1083			961	
Approach Delay, s/veh		73.4			48.3			72.8			77.9	
Approach LOS		E			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.9	86.8	25.8	53.5	19.2	91.6	26.7	52.6				
Change Period (Y+Rc), s	4.4	5.3	4.4	5.7	4.4	* 5.3	4.4	* 5.7				
Max Green Setting (Gmax), s	20.6	84.7	23.6	41.3	19.6	* 86	24.2	* 41				
Max Q Clear Time (g_c+19.5), s	19.5	79.9	21.4	25.8	14.6	32.3	22.2	25.1				
Green Ext Time (p_c), s	0.1	1.7	0.0	0.6	0.1	1.9	0.1	1.1				

Intersection Summary

HCM 6th Ctrl Delay	66.9
HCM 6th LOS	E

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 25: Black Mountain Rd & Mira Mesa Blvd

Existing PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖
Traffic Volume (veh/h)	446	1721	115	206	1272	232	177	617	193	376	358	305
Future Volume (veh/h)	446	1721	115	206	1272	232	177	617	193	376	358	305
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	474	1831	122	229	1413	258	203	709	222	384	365	311
Peak Hour Factor	0.94	0.94	0.94	0.90	0.90	0.90	0.87	0.87	0.87	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	519	1917	691	273	1554	663	247	1173	505	429	1359	591
Arrive On Green	0.15	0.38	0.38	0.08	0.30	0.30	0.07	0.33	0.33	0.12	0.38	0.38
Sat Flow, veh/h	3456	5106	1538	3456	5106	1532	3456	3554	1541	3456	3554	1545
Grp Volume(v), veh/h	474	1831	122	229	1413	258	203	709	222	384	365	311
Grp Sat Flow(s),veh/h/ln	1728	1702	1538	1728	1702	1532	1728	1777	1541	1728	1777	1545
Q Serve(g_s), s	25.7	66.4	9.1	12.4	50.6	22.0	11.0	31.7	21.5	20.8	13.4	29.6
Cycle Q Clear(g_c), s	25.7	66.4	9.1	12.4	50.6	22.0	11.0	31.7	21.5	20.8	13.4	29.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	519	1917	691	273	1554	663	247	1173	505	429	1359	591
V/C Ratio(X)	0.91	0.96	0.18	0.84	0.91	0.39	0.82	0.60	0.44	0.90	0.27	0.53
Avail Cap(c_a), veh/h	602	2102	747	329	1709	709	324	1173	505	511	1359	591
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	79.5	57.8	31.6	86.3	63.6	37.3	87.0	53.3	50.2	82.0	40.4	45.4
Incr Delay (d2), s/veh	15.9	10.2	0.0	12.8	6.8	0.1	9.3	2.3	2.8	14.9	0.5	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.5	30.0	3.4	6.0	22.7	8.3	5.2	14.6	8.7	10.2	6.1	11.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	95.5	68.0	31.6	99.1	70.4	37.5	96.3	55.6	53.0	96.9	40.9	48.7
LnGrp LOS	F	E	C	F	E	D	F	E	D	F	D	D
Approach Vol, veh/h		2427			1900			1134			1060	
Approach Delay, s/veh		71.5			69.4			62.4			63.4	
Approach LOS		E			E			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.9	76.1	17.5	77.5	32.4	62.6	27.5	67.5				
Change Period (Y+Rc), s	4.4	5.3	4.4	* 5.3	4.4	* 5.3	4.4	5.3				
Max Green Setting (Gmax), s	77.7	77.7	17.3	* 58	32.6	* 63	27.6	47.7				
Max Q Clear Time (g_c+1/4), s	68.4	68.4	13.0	31.6	27.7	52.6	22.8	33.7				
Green Ext Time (p_c), s	0.1	2.5	0.1	0.8	0.3	2.1	0.3	1.0				

Intersection Summary

HCM 6th Ctrl Delay	68.0
HCM 6th LOS	E

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 26: Mira Mesa Blvd & I-15 SB Ramps

Existing PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑↑		↑↑↑	↑				↑↑		↑↑
Traffic Volume (veh/h)	0	2192	838	0	1420	374	0	0	0	388	0	1247
Future Volume (veh/h)	0	2192	838	0	1420	374	0	0	0	388	0	1247
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	0	1870
Adj Flow Rate, veh/h	0	2260	0	0	1596	420				417	0	1341
Peak Hour Factor	0.97	0.97	0.97	0.89	0.89	0.89				0.93	0.93	0.93
Percent Heavy Veh, %	0	2	2	0	2	2				2	0	2
Cap, veh/h	0	2221		0	2221	1381				1586	0	1280
Arrive On Green	0.00	0.44	0.00	0.00	0.44	0.43				0.46	0.00	0.46
Sat Flow, veh/h	0	5274	2790	0	5274	1520				3456	0	2790
Grp Volume(v), veh/h	0	2260	0	0	1596	420				417	0	1341
Grp Sat Flow(s),veh/h/ln	0	1702	1395	0	1702	1520				1728	0	1395
Q Serve(g_s), s	0.0	43.5	0.0	0.0	25.7	4.2				7.4	0.0	45.9
Cycle Q Clear(g_c), s	0.0	43.5	0.0	0.0	25.7	4.2				7.4	0.0	45.9
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2221		0	2221	1381				1586	0	1280
V/C Ratio(X)	0.00	1.02		0.00	0.72	0.30				0.26	0.00	1.05
Avail Cap(c_a), veh/h	0	2221		0	2221	1381				1586	0	1280
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	0.79	0.79				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	28.2	0.0	0.0	23.2	0.9				16.6	0.0	27.1
Incr Delay (d2), s/veh	0.0	23.6	0.0	0.0	0.8	0.0				0.4	0.0	38.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	21.0	0.0	0.0	9.7	7.2				3.0	0.0	21.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	51.8	0.0	0.0	24.0	0.9				17.0	0.0	65.5
LnGrp LOS	A	F		A	C	A				B	A	F
Approach Vol, veh/h		2260			2016					1758		
Approach Delay, s/veh		51.8			19.2					54.0		
Approach LOS		D			B					D		
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		49.0		51.0		49.0						
Change Period (Y+Rc), s		6.0		5.1		6.0						
Max Green Setting (Gmax), s		43.0		45.9		43.0						
Max Q Clear Time (g_c+I1), s		45.5		47.9		27.7						
Green Ext Time (p_c), s		0.0		0.0		6.0						

Intersection Summary

HCM 6th Ctrl Delay	41.6
HCM 6th LOS	D

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary  
 27: I-15 NB Ramps & Mira Mesa Blvd

Existing PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑	↑	↑↑		↑↑			
Traffic Volume (veh/h)	0	1374	1186	0	1027	547	781	0	351	0	0	0
Future Volume (veh/h)	0	1374	1186	0	1027	547	781	0	351	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No		No		No		No				
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	0	1870			
Adj Flow Rate, veh/h	0	1388	1198	0	1194	0	858	0	386			
Peak Hour Factor	0.99	0.99	0.99	0.86	0.86	0.86	0.91	0.91	0.91			
Percent Heavy Veh, %	0	2	2	0	2	2	2	0	2			
Cap, veh/h	0	3244	1405	0	3244		941	0	759			
Arrive On Green	0.00	0.64	0.64	0.00	0.64	0.00	0.27	0.00	0.27			
Sat Flow, veh/h	0	5274	1532	0	5274	1585	3456	0	2790			
Grp Volume(v), veh/h	0	1388	1198	0	1194	0	858	0	386			
Grp Sat Flow(s),veh/h/ln	0	1702	1532	0	1702	1585	1728	0	1395			
Q Serve(g_s), s	0.0	16.3	39.8	0.0	13.4	0.0	28.8	0.0	14.0			
Cycle Q Clear(g_c), s	0.0	16.3	39.8	0.0	13.4	0.0	28.8	0.0	14.0			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	3244	1405	0	3244		941	0	759			
V/C Ratio(X)	0.00	0.43	0.85	0.00	0.37		0.91	0.00	0.51			
Avail Cap(c_a), veh/h	0	3244	1405	0	3244		1063	0	858			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.31	0.31	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	11.0	2.4	0.0	10.4	0.0	42.3	0.0	36.9			
Incr Delay (d2), s/veh	0.0	0.1	2.2	0.0	0.3	0.0	10.2	0.0	0.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	5.6	1.9	0.0	4.8	0.0	13.5	0.0	4.8			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	11.1	4.6	0.0	10.7	0.0	52.5	0.0	37.1			
LnGrp LOS		A	B	A	A	B	D	A	D			
Approach Vol, veh/h		2586			1194			1244				
Approach Delay, s/veh		8.1			10.7			47.7				
Approach LOS		A			B			D				
Timer - Assigned Phs		2			6			8				
Phs Duration (G+Y+Rc), s		82.2			82.2			37.8				
Change Period (Y+Rc), s		6.0			6.0			5.1				
Max Green Setting (Gmax), s		72.0			72.0			36.9				
Max Q Clear Time (g_c+I1), s		41.8			15.4			30.8				
Green Ext Time (p_c), s		13.6			6.8			1.8				

Intersection Summary

HCM 6th Ctrl Delay	18.5
HCM 6th LOS	B

Notes

User approved changes to right turn type.  
 Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary  
 28: I-805 Direct Access Ramps & Carroll Canyon Rd

Existing PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖		↗		↕	
Traffic Volume (veh/h)	5	154	33	179	635	39	4	0	17	17	13	1
Future Volume (veh/h)	5	154	33	179	635	39	4	0	17	17	13	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		1.00	1.00		0.87
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	0	1870	1870	1870	1870
Adj Flow Rate, veh/h	6	186	40	195	690	42	5	0	23	26	20	2
Peak Hour Factor	0.83	0.83	0.83	0.92	0.92	0.92	0.75	0.75	0.75	0.65	0.65	0.65
Percent Heavy Veh, %	2	2	2	2	2	2	2	0	2	2	2	2
Cap, veh/h	13	2068	433	224	2819	171	0	0	0	34	26	3
Arrive On Green	0.01	0.71	0.71	0.13	0.83	0.83	0.00	0.00	0.00	0.03	0.03	0.03
Sat Flow, veh/h	1781	2905	609	1781	3396	207		0		972	748	75
Grp Volume(v), veh/h	6	112	114	195	361	371		0.0		48	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1737	1781	1777	1826				1795	0	0
Q Serve(g_s), s	0.4	2.3	2.4	12.9	5.2	5.2				3.2	0.0	0.0
Cycle Q Clear(g_c), s	0.4	2.3	2.4	12.9	5.2	5.2				3.2	0.0	0.0
Prop In Lane	1.00		0.35	1.00		0.11				0.54		0.04
Lane Grp Cap(c), veh/h	13	1265	1236	224	1475	1515				63	0	0
V/C Ratio(X)	0.45	0.09	0.09	0.87	0.24	0.24				0.77	0.00	0.00
Avail Cap(c_a), veh/h	123	1265	1236	569	1475	1515				232	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.91	0.91	0.91				1.00	0.00	0.00
Uniform Delay (d), s/veh	59.3	5.3	5.3	51.5	2.2	2.2				57.4	0.0	0.0
Incr Delay (d2), s/veh	8.4	0.1	0.1	3.7	0.4	0.4				7.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.8	0.8	5.8	1.1	1.1				1.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.7	5.5	5.5	55.2	2.5	2.5				64.5	0.0	0.0
LnGrp LOS	E	A	A	E	A	A				E	A	A
Approach Vol, veh/h		232		927						48		
Approach Delay, s/veh		7.1		13.6						64.5		
Approach LOS		A		B						E		
Timer - Assigned Phs	1	2		4	5	6						
Phs Duration (G+Y+Rc), s	19.8	90.5		9.7	5.6	104.7						
Change Period (Y+Rc), s	4.7	5.1		5.5	* 4.7	5.1						
Max Green Setting (Gmax), s	33	35.9		15.5	* 8.3	65.9						
Max Q Clear Time (g_c+1/4), s	11.4	4.4		5.2	2.4	7.2						
Green Ext Time (p_c), s	0.2	0.7		0.1	0.0	2.6						

Intersection Summary

HCM 6th Ctrl Delay	14.4
HCM 6th LOS	B

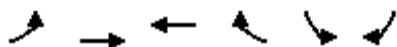
Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



HCM 6th Signalized Intersection Summary  
 29: Carroll Canyon Rd & Scranton Rd

Existing PM  
 08/04/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖↗	↑↑	↑↑	↖	↖↗	↖
Traffic Volume (veh/h)	25	177	815	194	178	310
Future Volume (veh/h)	25	177	815	194	178	310
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	197	876	209	169	340
Peak Hour Factor	0.90	0.90	0.93	0.93	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	85	2368	2020	869	291	517
Arrive On Green	0.02	0.67	0.57	0.57	0.16	0.16
Sat Flow, veh/h	3456	3647	3647	1529	1781	3170
Grp Volume(v), veh/h	28	197	876	209	169	340
Grp Sat Flow(s),veh/h/ln	1728	1777	1777	1529	1781	1585
Q Serve(g_s), s	0.5	1.2	8.7	4.2	5.4	6.2
Cycle Q Clear(g_c), s	0.5	1.2	8.7	4.2	5.4	6.2
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	85	2368	2020	869	291	517
V/C Ratio(X)	0.33	0.08	0.43	0.24	0.58	0.66
Avail Cap(c_a), veh/h	253	2368	2020	869	970	1726
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	3.6	7.6	6.6	23.8	24.1
Incr Delay (d2), s/veh	2.2	0.1	0.7	0.7	1.8	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.2	2.4	1.1	2.2	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	31.7	3.7	8.3	7.3	25.7	25.6
LnGrp LOS	C	A	A	A	C	C
Approach Vol, veh/h		225	1085		509	
Approach Delay, s/veh		7.2	8.1		25.6	
Approach LOS		A	A		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		47.0		14.5	6.0	41.0
Change Period (Y+Rc), s		6.0		4.5	4.5	6.0
Max Green Setting (Gmax), s		41.0		33.5	4.5	32.0
Max Q Clear Time (g_c+I1), s		3.2		8.2	2.5	10.7
Green Ext Time (p_c), s		1.2		1.9	0.0	6.5

Intersection Summary

HCM 6th Ctrl Delay	12.9
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection: 1: I-5 SB On-Ramp/I-5 SB Off-Ramp & Carmel Mountain Rd

Movement	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	LT	T	R	L	L	T	T	L	LTR	R
Maximum Queue (ft)	114	50	44	214	323	98	97	324	432	365
Average Queue (ft)	48	6	12	137	169	44	35	232	310	200
95th Queue (ft)	96	29	31	217	265	86	79	334	418	319
Link Distance (ft)	410	410			514	514	514		417	417
Upstream Blk Time (%)									1	0
Queuing Penalty (veh)									0	0
Storage Bay Dist (ft)			315	190				300		
Storage Blk Time (%)				0	4			0	9	
Queuing Penalty (veh)				1	9			1	23	

Intersection: 2: I-5 NB Off-Ramp/I-5 NB On-Ramp & Carmel Mountain Rd

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	T	R	L	LTR	R
Maximum Queue (ft)	104	148	159	190	158	65	162	111	187	132
Average Queue (ft)	53	62	64	95	57	9	61	37	93	40
95th Queue (ft)	94	129	141	164	119	41	119	81	158	87
Link Distance (ft)		514	514	1105	1105	1105			346	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	190						240	265		470
Storage Blk Time (%)							0			
Queuing Penalty (veh)							0			

Intersection: 3: Vista Sorrento Pkwy/Torrey View Ct & Carmel Mountain Rd

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	22	37	23	25	29	76	262	275	342	18	16	95
Average Queue (ft)	2	8	3	3	4	26	187	242	111	2	2	33
95th Queue (ft)	12	26	14	15	20	59	300	318	365	10	11	71
Link Distance (ft)			1105	1105	1105				316	316	316	
Upstream Blk Time (%)									7			
Queuing Penalty (veh)									0			
Storage Bay Dist (ft)	245	245				265	250	250				260
Storage Blk Time (%)							0	18	0			
Queuing Penalty (veh)							0	1	0			

Intersection: 3: Vista Sorrento Pkwy/Torrey View Ct & Carmel Mountain Rd

Movement	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	R	R	L	L	T	TR
Maximum Queue (ft)	49	132	292	96	96	127	140	502	245
Average Queue (ft)	14	40	126	35	27	49	121	273	168
95th Queue (ft)	38	92	231	73	66	139	168	474	305
Link Distance (ft)			1104	1104				503	
Upstream Blk Time (%)								3	
Queuing Penalty (veh)								0	
Storage Bay Dist (ft)	305	305			310	115	115		220
Storage Blk Time (%)			0			1	13	24	1
Queuing Penalty (veh)			0			4	94	141	4

Intersection: 4: Roselle St & 1-5 SB On-Ramp

Movement	NB	NB	NB	SB
Directions Served	L	L	T	TR
Maximum Queue (ft)	180	192	116	93
Average Queue (ft)	87	100	23	35
95th Queue (ft)	150	162	81	72
Link Distance (ft)	403	403	403	185
Upstream Blk Time (%)				0
Queuing Penalty (veh)				0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Roselle St & Sorrento Valley Blvd

Movement	WB	WB	WB	B75	B75	NB	NB	SB
Directions Served	L	R	R	T	T	T	R	LT
Maximum Queue (ft)	115	276	261	330	296	75	5	63
Average Queue (ft)	54	212	134	62	35	38	0	33
95th Queue (ft)	117	328	275	229	186	59	5	56
Link Distance (ft)		188	188	644	644	351	351	403
Upstream Blk Time (%)		26	6					
Queuing Penalty (veh)		137	33					
Storage Bay Dist (ft)	90							
Storage Blk Time (%)	0	34						
Queuing Penalty (veh)	0	32						

Intersection: 6: Roselle St & I-5 NB Off-Ramp

Movement	EB	EB	EB	NB	NB	SB
Directions Served	L	L	R	T	T	T
Maximum Queue (ft)	327	393	220	34	50	68
Average Queue (ft)	105	172	65	11	25	33
95th Queue (ft)	238	314	177	35	48	57
Link Distance (ft)	478	478		126	126	375
Upstream Blk Time (%)		0				
Queuing Penalty (veh)		0				
Storage Bay Dist (ft)			195			
Storage Blk Time (%)		8	0			
Queuing Penalty (veh)		8	0			

**Intersection: 7: Vista Sorrento Pkwy & Sorrento Valley Blvd**

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	LT	TR	L	LT	T
Maximum Queue (ft)	122	262	356	250	344	356	87	128	188	150	983	952
Average Queue (ft)	47	100	196	211	302	289	42	59	74	132	581	539
95th Queue (ft)	100	192	335	300	390	391	79	107	145	185	1099	1050
Link Distance (ft)		885	885		320	320		1759	1759		1975	1975
Upstream Blk Time (%)					13	9						
Queuing Penalty (veh)					0	0						
Storage Bay Dist (ft)	265			225			250			125		
Storage Blk Time (%)		0		11	17					4	59	52
Queuing Penalty (veh)		0		44	43					21	81	85

**Intersection: 7: Vista Sorrento Pkwy & Sorrento Valley Blvd**

Movement	SB
Directions Served	R
Maximum Queue (ft)	150
Average Queue (ft)	109
95th Queue (ft)	199
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	125
Storage Blk Time (%)	0
Queuing Penalty (veh)	1

**Intersection: 8: Vista Sorrento Pkwy & Lusk Blvd**

Movement	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	R	T	TR	L	L	T
Maximum Queue (ft)	101	45	50	138	212	195	524	222
Average Queue (ft)	37	15	13	45	113	181	276	43
95th Queue (ft)	82	38	37	104	194	220	456	135
Link Distance (ft)	2826	2826		2426	2426		1759	1759
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			115			170		
Storage Blk Time (%)						8	16	
Queuing Penalty (veh)						35	77	

**Intersection: 9: Wateridge Cir & Lusk Blvd**

Movement	EB	EB	WB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	L	T	T	L	R
Maximum Queue (ft)	92	66	24	60	46	56	33	35
Average Queue (ft)	20	8	1	20	8	8	7	11
95th Queue (ft)	60	35	12	46	31	34	29	35
Link Distance (ft)	1324	1324			384	384		289
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			155	155			100	
Storage Blk Time (%)								
Queuing Penalty (veh)								

**Intersection: 10: Project Dwy #1 & Lusk Blvd**

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

**Intersection: 11: Project Dwy #2 & Lusk Blvd**

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)



Intersection: 12: Project Dwy #3/Pacific Center Blvd & Lusk Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	141	159	107	82	51	152	214	35	51	51
Average Queue (ft)	73	100	33	26	12	33	110	4	9	15
95th Queue (ft)	126	149	75	63	36	93	189	21	32	40
Link Distance (ft)			962	962		386	386	131	846	846
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	240	240			150					
Storage Blk Time (%)						0				
Queuing Penalty (veh)						0				

Intersection: 13: Project Dwy #4 & Lusk Blvd

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 14: I-805 NB Ramps/Mira Sorrento PI & Vista Sorrento Pkwy

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	TR	R	L	L	T	R	L	T	T	R	L
Maximum Queue (ft)	237	302	46	152	169	225	98	195	253	246	185	76
Average Queue (ft)	82	159	14	79	99	95	35	191	236	112	54	27
95th Queue (ft)	168	261	37	139	156	190	70	215	246	274	181	67
Link Distance (ft)		1596	1596	463	463	463	463		220	220		
Upstream Blk Time (%)									65	12		
Queuing Penalty (veh)									0	0		
Storage Bay Dist (ft)	245							170			160	160
Storage Blk Time (%)	0	2						66	8	17	0	
Queuing Penalty (veh)	0	2						167	46	27	0	

Intersection: 14: I-805 NB Ramps/Mira Sorrento PI & Vista Sorrento Pkwy

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	84	101
Average Queue (ft)	36	28
95th Queue (ft)	76	70
Link Distance (ft)	598	598
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 15: Scranton Rd & Barnes Canyon Rd

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	LR
Maximum Queue (ft)	6	30	6	30
Average Queue (ft)	0	3	0	6
95th Queue (ft)	4	17	4	24
Link Distance (ft)	374		1191	362
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		75		
Storage Blk Time (%)				
Queuing Penalty (veh)				

**Intersection: 16: Lusk Blvd & Barnes Canyon Rd**

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	T	R	L	T
Maximum Queue (ft)	124	116	99	134	187	107	72	88	134	34	93	76
Average Queue (ft)	68	63	36	22	82	38	20	11	48	11	35	23
95th Queue (ft)	117	106	80	67	154	81	52	48	110	28	73	61
Link Distance (ft)		184			807	807		1636	1636			912
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	155		155	130			100			210	95	
Storage Blk Time (%)	0	0			3		0	0			1	0
Queuing Penalty (veh)	0	0			1		0	0			1	0

**Intersection: 16: Lusk Blvd & Barnes Canyon Rd**

Movement	SB
Directions Served	TR
Maximum Queue (ft)	102
Average Queue (ft)	30
95th Queue (ft)	76
Link Distance (ft)	912
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

**Intersection: 17: Barnes Canyon Rd/Commercial Dwy & Pacific Heights Blvd**

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	L	T	TR	L	T	R	L	TR
Maximum Queue (ft)	33	41	49	135	143	84	106	144	29	68	50	38
Average Queue (ft)	7	8	12	70	75	32	56	76	5	27	8	8
95th Queue (ft)	27	30	37	115	123	76	95	128	23	55	32	31
Link Distance (ft)		452	452				1240	1240		807	807	48
Upstream Blk Time (%)												1
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	115			210	210			150				
Storage Blk Time (%)								0				
Queuing Penalty (veh)								0				

Intersection: 18: Carroll Canyon Rd/I-805 SB Ramps & Sorrento Valley Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB	NB
Directions Served	T	T	T	R	L	T	T	R	R	R	L	L
Maximum Queue (ft)	213	177	91	22	39	193	219	52	53	40	41	106
Average Queue (ft)	132	77	14	1	6	93	106	7	6	4	2	34
95th Queue (ft)	196	175	53	10	24	174	188	32	30	21	20	81
Link Distance (ft)	552	552	552			318	318	318	318	318		523
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	180				360				245			
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 18: Carroll Canyon Rd/I-805 SB Ramps & Sorrento Valley Rd

Movement	NB	NB	SB	SB	SB	SB
Directions Served	R	R	L	L	T	TR
Maximum Queue (ft)	143	18	180	439	426	170
Average Queue (ft)	44	1	170	419	222	58
95th Queue (ft)	106	13	207	429	470	156
Link Distance (ft)	523			402	402	
Upstream Blk Time (%)			31		4	
Queuing Penalty (veh)			0		0	
Storage Bay Dist (ft)	315		155		250	
Storage Blk Time (%)			8		28	
Queuing Penalty (veh)			57		206	

**Intersection: 19: I-805 NB Off-Ramp/Vista Sorrento Pkwy & Sorrento Valley Rd/Mira Mesa Blvd**

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	T	T	T	T	T	R	T	R
Maximum Queue (ft)	171	185	554	441	397	172	204	250	269	252	835	839
Average Queue (ft)	97	163	327	262	274	76	114	134	139	127	675	805
95th Queue (ft)	180	218	483	398	390	152	191	226	234	236	1153	895
Link Distance (ft)			842	842	842	1044	1044	1044	1044	1044	799	799
Upstream Blk Time (%)											11	30
Queuing Penalty (veh)											0	0
Storage Bay Dist (ft)	160	160										
Storage Blk Time (%)	1	13	30									11
Queuing Penalty (veh)	3	65	77									151

**Intersection: 19: I-805 NB Off-Ramp/Vista Sorrento Pkwy & Sorrento Valley Rd/Mira Mesa Blvd**

Movement	NB	NB	SB	SB	SB
Directions Served	R	R	L	R	R
Maximum Queue (ft)	685	492	122	115	72
Average Queue (ft)	601	290	36	35	25
95th Queue (ft)	775	433	87	80	56
Link Distance (ft)			463	463	463
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	660	660			
Storage Blk Time (%)	0				
Queuing Penalty (veh)	3				

Intersection: 20: Scranton Rd & Mira Mesa Blvd

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	T	R	L	T	T	T	TR	L
Maximum Queue (ft)	327	389	495	485	501	241	118	205	964	1096	1173	27
Average Queue (ft)	206	239	272	302	315	82	43	76	324	548	691	3
95th Queue (ft)	301	351	420	435	445	175	95	161	860	1187	1298	16
Link Distance (ft)			1044	1044	1044	1044			3001	3001	3001	338
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	380	380					340	340				
Storage Blk Time (%)		0	1						0			
Queuing Penalty (veh)		0	6						0			

Intersection: 20: Scranton Rd & Mira Mesa Blvd

Movement	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	LT	TR	L	L	TR	R	R
Maximum Queue (ft)	47	107	79	55	143	203	145	62
Average Queue (ft)	12	51	33	8	39	84	20	19
95th Queue (ft)	36	90	72	34	104	161	84	46
Link Distance (ft)	338	338	338			610	610	610
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)				120	120			
Storage Blk Time (%)					0	6		
Queuing Penalty (veh)					0	3		

Intersection: 21: Oberlin Dr/Lusk Blvd & Mira Mesa Blvd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	TR	L	L	T	T	TR	L	T
Maximum Queue (ft)	166	240	570	594	626	94	232	324	486	579	40	55
Average Queue (ft)	85	141	246	253	288	33	67	170	255	333	6	13
95th Queue (ft)	148	245	522	531	566	76	146	304	435	521	26	41
Link Distance (ft)			3001	3001	3001			1722	1722	1722		770
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	215	215				235	235				95	
Storage Blk Time (%)		0	12				0	5				
Queuing Penalty (veh)		0	25				0	5				

Intersection: 21: Oberlin Dr/Lusk Blvd & Mira Mesa Blvd

Movement	NB	SB	SB	SB	SB
Directions Served	R	L	L	T	R
Maximum Queue (ft)	42	59	84	36	56
Average Queue (ft)	13	23	38	7	20
95th Queue (ft)	37	56	78	28	47
Link Distance (ft)				1636	1636
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	95	185	185		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 22: Pacific Heights Blvd & Mira Mesa Blvd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	T
Maximum Queue (ft)	310	711	554	221	90	275	552	570	700	315	97	110
Average Queue (ft)	299	420	125	87	32	244	311	275	334	232	35	44
95th Queue (ft)	333	778	365	190	78	327	536	473	587	423	79	94
Link Distance (ft)		1722	1722	1722	1722		6242	6242	6242			700
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	285					250				290	95	
Storage Blk Time (%)	50	0				23	7		8	8	1	3
Queuing Penalty (veh)	229	0				121	21		76	44	0	1

Intersection: 22: Pacific Heights Blvd & Mira Mesa Blvd

Movement	NB	NB	SB	SB	SB	SB	SB
Directions Served	TR	R	L	L	T	T	R
Maximum Queue (ft)	146	82	99	122	61	40	78
Average Queue (ft)	50	8	37	66	18	13	30
95th Queue (ft)	109	46	86	113	49	38	62
Link Distance (ft)	700				1240	1240	1240
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		95	480	480			
Storage Blk Time (%)	3	0					
Queuing Penalty (veh)	1	0					



Intersection: 23: Camino Santa Fe & Mira Mesa Blvd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	T
Maximum Queue (ft)	81	150	180	202	63	155	2933	2966	2980	2795	240	159
Average Queue (ft)	21	55	82	94	19	143	2028	2061	2053	1439	142	70
95th Queue (ft)	58	122	153	159	45	194	3341	3391	3420	3294	242	145
Link Distance (ft)		6242	6242	6242	6242		4844	4844	4844	4844		690
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	145					130					240	
Storage Blk Time (%)		0				24	35				3	
Queuing Penalty (veh)		0				226	202				2	

Intersection: 23: Camino Santa Fe & Mira Mesa Blvd

Movement	NB	NB	SB	SB	SB	SB	SB
Directions Served	T	R	L	L	T	T	R
Maximum Queue (ft)	126	55	177	198	248	219	193
Average Queue (ft)	26	11	61	120	131	102	65
95th Queue (ft)	92	35	162	188	209	191	143
Link Distance (ft)	690	690			731	731	731
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			250	250			
Storage Blk Time (%)					0		
Queuing Penalty (veh)					0		

Intersection: 24: Camino Ruiz & Mira Mesa Blvd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	B39
Directions Served	L	L	T	T	TR	L	L	T	T	T	R	T
Maximum Queue (ft)	128	139	146	136	127	168	225	518	531	581	215	220
Average Queue (ft)	37	68	72	58	39	79	137	288	319	347	64	13
95th Queue (ft)	98	120	132	118	91	148	248	511	533	545	212	196
Link Distance (ft)			3616	3616	3616			2423	2423	2423		2146
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	190	190				200	200					190
Storage Blk Time (%)	0		0			0	0	11		19		0
Queuing Penalty (veh)	0		0			0	4	19		21		0

Intersection: 24: Camino Ruiz & Mira Mesa Blvd

Movement	B39	B31	B31	B31	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	T	T	T	T	L	T	T	T	R	L	L	T
Maximum Queue (ft)	151	497	502	309	195	266	256	125	109	237	250	498
Average Queue (ft)	5	17	27	21	94	154	118	44	59	209	237	347
95th Queue (ft)	104	258	346	313	165	227	222	138	98	267	273	572
Link Distance (ft)	2146	1556	1556	1556		520	520					504
Upstream Blk Time (%)			0	0								8
Queuing Penalty (veh)			0	0								0
Storage Bay Dist (ft)					230			100	100	225	225	
Storage Blk Time (%)						1	9	0	2	9	36	9
Queuing Penalty (veh)						1	26	0	1	21	82	32

Intersection: 24: Camino Ruiz & Mira Mesa Blvd

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	467	111
Average Queue (ft)	263	56
95th Queue (ft)	462	95
Link Distance (ft)	504	504
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

**Intersection: 25: Black Mountain Rd & Mira Mesa Blvd**

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	240	274	984	1109	1193	295	136	240	589	583	607	159
Average Queue (ft)	127	153	535	764	870	202	71	137	559	562	564	18
95th Queue (ft)	214	249	1032	1190	1291	418	129	270	595	585	590	125
Link Distance (ft)			1556	1556	1556				489	489	489	489
Upstream Blk Time (%)									43	47	50	0
Queuing Penalty (veh)									350	384	406	3
Storage Bay Dist (ft)	250	250				270	215	215				
Storage Blk Time (%)	0	1	4		54	0		0	47			
Queuing Penalty (veh)	0	7	9		81	1		0	69			

**Intersection: 25: Black Mountain Rd & Mira Mesa Blvd**

Movement	B58	B58	B58	B58	B83	B83	B83	B83	NB	NB	NB	NB
Directions Served	T	T	T	T	T	T	T	T	L	L	T	T
Maximum Queue (ft)	1158	1186	1172	1156	22	57	45	22	213	232	209	174
Average Queue (ft)	625	677	695	603	1	3	5	1	126	165	121	90
95th Queue (ft)	1194	1246	1266	1240	16	32	30	22	222	230	192	164
Link Distance (ft)	1412	1412	1412	1412	90	90	90	90			560	560
Upstream Blk Time (%)	0	1	1	1	0	0	0	0				
Queuing Penalty (veh)	3	6	8	6	1	1	0	0				
Storage Bay Dist (ft)									230	230		
Storage Blk Time (%)									0	2	0	
Queuing Penalty (veh)									0	2	0	

**Intersection: 25: Black Mountain Rd & Mira Mesa Blvd**

Movement	NB	SB	SB	SB	SB	SB
Directions Served	R	L	L	T	T	R
Maximum Queue (ft)	167	402	415	633	593	270
Average Queue (ft)	64	363	413	602	440	140
95th Queue (ft)	130	512	420	617	734	284
Link Distance (ft)				584	584	
Upstream Blk Time (%)				78	1	
Queuing Penalty (veh)				0	0	
Storage Bay Dist (ft)	260	390	390			245
Storage Blk Time (%)		6	83	1	1	8
Queuing Penalty (veh)		19	279	3	7	27

**Intersection: 26: Mira Mesa Blvd & I-15 SB Ramps**

Movement	EB	EB	EB	EB	EB	B83	B83	B83	B83	B58	B58	WB
Directions Served	T	T	T	R	R	T	T	T	T	T	T	T
Maximum Queue (ft)	161	161	187	76	152	42	54	270	4	163	458	386
Average Queue (ft)	85	95	151	26	50	2	4	84	0	6	38	237
95th Queue (ft)	148	165	195	74	123	22	27	215	3	86	238	352
Link Distance (ft)	90	90	90	90	90	1412	1412	1412	1412	489	489	864
Upstream Blk Time (%)	8	12	31	0	1							0
Queuing Penalty (veh)	35	50	133	0	5							0
Storage Bay Dist (ft)												
Storage Blk Time (%)												
Queuing Penalty (veh)												

**Intersection: 26: Mira Mesa Blvd & I-15 SB Ramps**

Movement	WB	WB	WB	SB	SB	SB	SB
Directions Served	T	T	R	L	L	R	R
Maximum Queue (ft)	415	382	148	188	685	701	595
Average Queue (ft)	250	208	50	35	582	642	528
95th Queue (ft)	370	332	102	127	889	769	657
Link Distance (ft)	864	864	864		646	646	
Upstream Blk Time (%)					19	36	
Queuing Penalty (veh)					0	0	
Storage Bay Dist (ft)				285			570
Storage Blk Time (%)					0	22	1
Queuing Penalty (veh)					0	158	4

**Intersection: 27: I-15 NB Ramps & Mira Mesa Blvd**

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	T	T	T	R	T	T	T	R	L	L	R	R
Maximum Queue (ft)	206	208	208	232	414	555	635	125	386	391	198	170
Average Queue (ft)	89	87	89	73	237	231	342	87	269	284	96	34
95th Queue (ft)	178	174	169	160	356	429	595	180	365	378	165	114
Link Distance (ft)	864	864	864	864	603	603	603		670	670		
Upstream Blk Time (%)						0	2					
Queuing Penalty (veh)						0	0					
Storage Bay Dist (ft)								100			565	565
Storage Blk Time (%)							30	0				
Queuing Penalty (veh)							88	1				

**Intersection: 28: I-805 Direct Access Ramps & Carroll Canyon Rd**

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	T	TR	L	T	TR	L	R	LTR
Maximum Queue (ft)	110	43	58	35	29	70	66	67
Average Queue (ft)	27	4	13	5	2	19	32	24
95th Queue (ft)	77	23	39	24	15	53	56	58
Link Distance (ft)	564	564		958	958		351	269
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	400			415				
Storage Blk Time (%)								
Queuing Penalty (veh)								

**Intersection: 29: Carroll Canyon Rd & Scranton Rd**

Movement	EB	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	L	L	T	T	T	T	R	L	LR	R
Maximum Queue (ft)	63	95	153	138	80	35	54	113	144	33
Average Queue (ft)	4	47	66	46	28	5	15	46	73	12
95th Queue (ft)	30	89	124	105	64	23	41	94	115	32
Link Distance (ft)			958	958	414	414			570	570
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	120	120					190	90		
Storage Blk Time (%)	0	0	1					0	3	
Queuing Penalty (veh)	0	0	1					0	4	

**Network Summary**

Network wide Queuing Penalty: 4843
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Intersection: 1: I-5 SB On-Ramp/I-5 SB Off-Ramp & Carmel Mountain Rd

Movement	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	L	LTR	R
Maximum Queue (ft)	332	251	59	213	268	90	85	276	315	222
Average Queue (ft)	199	107	19	123	148	30	19	142	177	68
95th Queue (ft)	300	232	43	204	228	73	60	231	272	172
Link Distance (ft)	410	410			526	526	526		417	417
Upstream Blk Time (%)									0	
Queuing Penalty (veh)									0	
Storage Bay Dist (ft)			315	190				300		
Storage Blk Time (%)				0	3			0	0	
Queuing Penalty (veh)				1	5			0	1	

Intersection: 2: I-5 NB Off-Ramp/I-5 NB On-Ramp & Carmel Mountain Rd

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	T	R	L	LTR	R
Maximum Queue (ft)	214	453	392	243	203	117	220	146	280	186
Average Queue (ft)	189	194	88	127	72	13	85	31	128	74
95th Queue (ft)	217	430	240	210	157	64	167	87	226	155
Link Distance (ft)		526	526	1105	1105	1105			346	
Upstream Blk Time (%)		0	0						0	
Queuing Penalty (veh)		0	0						0	
Storage Bay Dist (ft)	190						240	265		470
Storage Blk Time (%)	17	0					0		0	
Queuing Penalty (veh)	52	0					0		1	

Intersection: 3: Vista Sorrento Pkwy/Torrey View Ct & Carmel Mountain Rd

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	T	R	L	L	T	T	R	L
Maximum Queue (ft)	26	43	17	25	28	43	251	274	265	5	154	32
Average Queue (ft)	3	11	2	3	5	15	154	212	30	0	65	5
95th Queue (ft)	15	32	10	14	21	41	263	297	182	2	129	21
Link Distance (ft)			1105	1105	1105				316	316		
Upstream Blk Time (%)									1			
Queuing Penalty (veh)									0			
Storage Bay Dist (ft)	245	245				265	250	250			260	305
Storage Blk Time (%)							0	6				
Queuing Penalty (veh)							0	0				

Intersection: 3: Vista Sorrento Pkwy/Torrey View Ct & Carmel Mountain Rd

Movement	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	R	R	L	L	T	TR
Maximum Queue (ft)	329	599	86	102	127	140	490	245
Average Queue (ft)	40	299	27	37	101	133	232	125
95th Queue (ft)	170	526	67	83	174	151	433	287
Link Distance (ft)		1104	1104				503	
Upstream Blk Time (%)							0	
Queuing Penalty (veh)							0	
Storage Bay Dist (ft)	305			310	115	115		220
Storage Blk Time (%)	0	12			4	38	6	0
Queuing Penalty (veh)	0	3			16	161	28	2

Intersection: 4: Roselle St & 1-5 SB On-Ramp

Movement	NB	NB	NB	SB
Directions Served	L	L	T	TR
Maximum Queue (ft)	174	181	50	191
Average Queue (ft)	90	98	5	93
95th Queue (ft)	149	157	25	161
Link Distance (ft)	403	403	403	185
Upstream Blk Time (%)				1
Queuing Penalty (veh)				0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				



Intersection: 5: Roselle St & Sorrento Valley Blvd

Movement	WB	WB	WB	B75	B75	NB	NB	SB
Directions Served	L	R	R	T	T	T	R	LT
Maximum Queue (ft)	106	266	189	123	59	73	4	103
Average Queue (ft)	16	121	13	7	2	34	0	53
95th Queue (ft)	81	252	89	53	25	54	4	84
Link Distance (ft)		182	182	650	650	351	351	403
Upstream Blk Time (%)		5	0					
Queuing Penalty (veh)		19	1					
Storage Bay Dist (ft)	90							
Storage Blk Time (%)	0	11						
Queuing Penalty (veh)	0	7						

Intersection: 6: Roselle St & I-5 NB Off-Ramp

Movement	EB	EB	EB	NB	NB	SB
Directions Served	L	L	R	T	T	T
Maximum Queue (ft)	107	154	53	68	77	48
Average Queue (ft)	45	78	26	33	40	28
95th Queue (ft)	78	128	51	51	65	47
Link Distance (ft)	478	478		126	126	375
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					0	
Storage Bay Dist (ft)			195			
Storage Blk Time (%)		0				
Queuing Penalty (veh)		0				

**Intersection: 7: Vista Sorrento Pkwy & Sorrento Valley Blvd**

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	LT	TR	L	LT	T
Maximum Queue (ft)	290	375	391	124	275	285	275	892	928	150	1485	1211
Average Queue (ft)	143	249	257	33	143	127	252	553	581	146	900	441
95th Queue (ft)	270	354	362	83	227	234	329	855	877	156	1575	1144
Link Distance (ft)		885	885		320	320		1759	1759		1975	1975
Upstream Blk Time (%)					0	0						0
Queuing Penalty (veh)					0	0						1
Storage Bay Dist (ft)	265			225			250			125		
Storage Blk Time (%)	0	6			1		3	36		70	72	3
Queuing Penalty (veh)	0	8			0		19	79		203	180	3

**Intersection: 7: Vista Sorrento Pkwy & Sorrento Valley Blvd**

Movement	SB
Directions Served	R
Maximum Queue (ft)	150
Average Queue (ft)	46
95th Queue (ft)	110
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	125
Storage Blk Time (%)	0
Queuing Penalty (veh)	0

**Intersection: 8: Vista Sorrento Pkwy & Lusk Blvd**

Movement	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	R	T	TR	L	L	T
Maximum Queue (ft)	277	786	140	259	264	77	90	78
Average Queue (ft)	159	204	127	121	139	21	43	13
95th Queue (ft)	245	479	165	216	232	56	84	44
Link Distance (ft)	2826	2826		2426	2426		1759	1759
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			115			170		
Storage Blk Time (%)		12	6					
Queuing Penalty (veh)		64	34					

**Intersection: 9: Wateridge Cir & Lusk Blvd**

Movement	EB	EB	WB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	L	T	T	L	R
Maximum Queue (ft)	62	54	17	57	74	84	29	60
Average Queue (ft)	15	11	1	17	12	15	3	19
95th Queue (ft)	47	41	10	46	48	56	16	46
Link Distance (ft)	1324	1324			384	384		289
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			155	155			100	
Storage Blk Time (%)								
Queuing Penalty (veh)								

**Intersection: 10: Project Dwy #1 & Lusk Blvd**

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

**Intersection: 11: Project Dwy #2 & Lusk Blvd**

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 12: Project Dwy #3/Pacific Center Blvd & Lusk Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	19	47	92	96	25	100	148	61	126	172
Average Queue (ft)	1	16	37	30	2	25	74	21	48	70
95th Queue (ft)	10	39	76	69	12	67	126	51	101	125
Link Distance (ft)			962	962		386	386	131	846	846
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	240	240			150					
Storage Blk Time (%)										
Queuing Penalty (veh)										

Intersection: 13: Project Dwy #4 & Lusk Blvd

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 14: I-805 NB Ramps/Mira Sorrento PI & Vista Sorrento Pkwy

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	TR	R	L	L	T	R	L	T	T	R	L
Maximum Queue (ft)	201	386	304	367	370	124	34	195	247	190	113	185
Average Queue (ft)	39	228	113	238	242	54	7	188	194	41	33	143
95th Queue (ft)	120	346	233	325	327	110	27	218	326	128	76	240
Link Distance (ft)		1596	1596	463	463	463	463		220	220		
Upstream Blk Time (%)									38	0		
Queuing Penalty (veh)									0	0		
Storage Bay Dist (ft)	245							170			160	160
Storage Blk Time (%)		10						59	0			4
Queuing Penalty (veh)		4						15	0			12

Intersection: 14: I-805 NB Ramps/Mira Sorrento PI & Vista Sorrento Pkwy

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	574	559
Average Queue (ft)	363	322
95th Queue (ft)	569	527
Link Distance (ft)	598	598
Upstream Blk Time (%)	2	1
Queuing Penalty (veh)	0	0
Storage Bay Dist (ft)		
Storage Blk Time (%)	47	
Queuing Penalty (veh)	65	

Intersection: 15: Scranton Rd & Barnes Canyon Rd

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	LR
Maximum Queue (ft)	11	12	6	26
Average Queue (ft)	0	0	0	6
95th Queue (ft)	7	6	4	23
Link Distance (ft)	374		1191	362
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		75		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 16: Lusk Blvd & Barnes Canyon Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	T	R	L	T
Maximum Queue (ft)	92	98	112	71	160	74	51	47	104	39	110	128
Average Queue (ft)	38	32	65	26	81	29	10	4	32	11	48	58
95th Queue (ft)	78	73	110	60	138	59	33	26	81	31	93	113
Link Distance (ft)		184			807	807		1636	1636			912
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	155		155	130			100			210	95	
Storage Blk Time (%)					2			0			2	3
Queuing Penalty (veh)					1			0			3	2

Intersection: 16: Lusk Blvd & Barnes Canyon Rd

Movement	SB
Directions Served	TR
Maximum Queue (ft)	150
Average Queue (ft)	51
95th Queue (ft)	109
Link Distance (ft)	912
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 17: Barnes Canyon Rd/Commercial Dwy & Pacific Heights Blvd

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	L	T	TR	L	T	R	L	TR
Maximum Queue (ft)	75	197	169	104	91	46	83	78	50	128	61	56
Average Queue (ft)	19	95	60	49	42	7	30	34	15	60	26	19
95th Queue (ft)	52	168	123	92	80	30	67	71	43	102	57	48
Link Distance (ft)		452	452				1240	1240		807	807	48
Upstream Blk Time (%)												4
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	115			210	210			150				
Storage Blk Time (%)			5									
Queuing Penalty (veh)			1									

Intersection: 18: Carroll Canyon Rd/I-805 SB Ramps & Sorrento Valley Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB	NB
Directions Served	T	T	T	R	L	T	T	R	R	R	L	L
Maximum Queue (ft)	286	275	166	12	83	113	136	102	110	108	140	545
Average Queue (ft)	192	149	55	1	19	41	54	25	25	22	27	340
95th Queue (ft)	264	233	146	5	58	95	114	67	71	68	101	709
Link Distance (ft)	552	552	552			318	318	318	318	318		523
Upstream Blk Time (%)												16
Queuing Penalty (veh)												0
Storage Bay Dist (ft)				180	360						245	
Storage Blk Time (%)			0									
Queuing Penalty (veh)			0									

Intersection: 18: Carroll Canyon Rd/I-805 SB Ramps & Sorrento Valley Rd

Movement	NB	NB	SB	SB	SB	SB
Directions Served	R	R	L	L	T	TR
Maximum Queue (ft)	568	340	180	426	233	94
Average Queue (ft)	486	300	159	288	61	21
95th Queue (ft)	664	465	219	429	145	60
Link Distance (ft)	523			402	402	
Upstream Blk Time (%)	53			3	0	
Queuing Penalty (veh)	0			0	0	
Storage Bay Dist (ft)		315	155			250
Storage Blk Time (%)	61	3	2	28		
Queuing Penalty (veh)	213	9	8	91		



**Intersection: 19: I-805 NB Off-Ramp/Vista Sorrento Pkwy & Sorrento Valley Rd/Mira Mesa Blvd**

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	T	T	T	T	T	R	T	R
Maximum Queue (ft)	65	84	143	132	182	136	173	218	263	230	134	347
Average Queue (ft)	20	36	62	63	91	52	91	126	156	90	27	201
95th Queue (ft)	49	72	124	116	152	106	153	198	242	174	88	312
Link Distance (ft)			842	842	842	1044	1044	1044	1044	1044	799	799
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	160	160										
Storage Blk Time (%)			0									
Queuing Penalty (veh)			0									

**Intersection: 19: I-805 NB Off-Ramp/Vista Sorrento Pkwy & Sorrento Valley Rd/Mira Mesa Blvd**

Movement	NB	NB	SB	SB	SB
Directions Served	R	R	L	R	R
Maximum Queue (ft)	326	169	94	179	179
Average Queue (ft)	157	45	31	67	61
95th Queue (ft)	282	107	73	136	131
Link Distance (ft)			463	463	463
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	660	660			
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 20: Scranton Rd & Mira Mesa Blvd

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	T	R	L	T	T	T	TR	L
Maximum Queue (ft)	116	134	250	284	300	101	192	295	3012	3027	3028	78
Average Queue (ft)	53	77	154	181	207	33	81	128	1790	1988	2059	20
95th Queue (ft)	103	126	226	252	278	74	157	248	3357	3436	3427	55
Link Distance (ft)			1044	1044	1044	1044			3001	3001	3001	338
Upstream Blk Time (%)									1	3	6	
Queuing Penalty (veh)									3	14	29	
Storage Bay Dist (ft)	380	380					340	340				
Storage Blk Time (%)								0	0			
Queuing Penalty (veh)								0	2			

Intersection: 20: Scranton Rd & Mira Mesa Blvd

Movement	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	LT	TR	L	L	TR	R	R
Maximum Queue (ft)	146	192	115	97	145	422	358	117
Average Queue (ft)	52	116	40	16	96	216	128	46
95th Queue (ft)	114	186	92	59	178	370	294	84
Link Distance (ft)	338	338	338			610	610	610
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)				120	120			
Storage Blk Time (%)				0	1	41		
Queuing Penalty (veh)				0	2	43		

Intersection: 21: Oberlin Dr/Lusk Blvd & Mira Mesa Blvd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	TR	L	L	T	T	TR	L	T
Maximum Queue (ft)	82	239	378	407	408	61	192	447	494	520	69	60
Average Queue (ft)	23	67	201	231	252	11	41	152	189	210	22	16
95th Queue (ft)	62	164	333	360	384	39	102	321	363	390	58	47
Link Distance (ft)			3001	3001	3001			1722	1722	1722		770
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	215	215				235	235					95
Storage Blk Time (%)			10					4				0
Queuing Penalty (veh)			7					2				0

Intersection: 21: Oberlin Dr/Lusk Blvd & Mira Mesa Blvd

Movement	NB	SB	SB	SB	SB
Directions Served	R	L	L	T	R
Maximum Queue (ft)	105	197	210	884	246
Average Queue (ft)	44	185	203	441	89
95th Queue (ft)	81	220	226	844	181
Link Distance (ft)				1636	1636
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	95	185	185		
Storage Blk Time (%)	1	15	44	1	
Queuing Penalty (veh)	0	17	49	4	

Intersection: 22: Pacific Heights Blvd & Mira Mesa Blvd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	T
Maximum Queue (ft)	310	449	482	488	72	266	284	314	316	261	119	255
Average Queue (ft)	149	305	336	351	29	133	167	178	174	13	95	95
95th Queue (ft)	284	446	469	490	57	229	259	276	275	107	139	229
Link Distance (ft)		1722	1722	1722	1722		6242	6242	6242			700
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	285					250				290	95	
Storage Blk Time (%)	0	18				1	1		0	0	34	2
Queuing Penalty (veh)	1	21				2	1		1	0	7	3

Intersection: 22: Pacific Heights Blvd & Mira Mesa Blvd

Movement	NB	NB	SB	SB	SB	SB	SB
Directions Served	TR	R	L	L	T	T	R
Maximum Queue (ft)	425	120	492	505	846	682	231
Average Queue (ft)	209	91	459	480	530	157	110
95th Queue (ft)	354	168	561	559	1023	469	194
Link Distance (ft)	700				1240	1240	1240
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		95	480	480			
Storage Blk Time (%)	50	1	4	26	0		
Queuing Penalty (veh)	80	2	5	31	2		

Intersection: 23: Camino Santa Fe & Mira Mesa Blvd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB		
Directions Served	L	T	T	T	R	L	T	T	T	R	L	T		
Maximum Queue (ft)	169	3148	3183	3202	2446	154	325	256	209	57	243	254		
Average Queue (ft)	71	1717	1758	1774	783	137	158	67	63	18	113	160		
95th Queue (ft)	152	3184	3226	3234	2317	180	354	181	151	47	200	241		
Link Distance (ft)		6242	6242	6242	6242		4844	4844	4844	4844		690		
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	145						130						240	
Storage Blk Time (%)	0	54					51	2					0	1
Queuing Penalty (veh)	4	33					83	3					1	1

Intersection: 23: Camino Santa Fe & Mira Mesa Blvd

Movement	NB	NB	SB	SB	SB	SB	SB
Directions Served	T	R	L	L	T	T	R
Maximum Queue (ft)	542	684	262	275	766	690	36
Average Queue (ft)	193	454	249	266	517	272	7
95th Queue (ft)	519	734	294	297	915	670	22
Link Distance (ft)	690	690			731	731	731
Upstream Blk Time (%)	2	11			22	0	
Queuing Penalty (veh)	0	0			0	0	
Storage Bay Dist (ft)			250	250			
Storage Blk Time (%)			13	60	1		
Queuing Penalty (veh)			12	56	3		

Intersection: 24: Camino Ruiz & Mira Mesa Blvd

Movement	EB	EB	EB	EB	EB	B32	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	TR	T	L	L	T	T	T	R
Maximum Queue (ft)	196	214	745	819	806	937	210	225	777	791	404	215
Average Queue (ft)	115	168	563	604	619	31	152	174	200	211	219	105
95th Queue (ft)	190	254	731	778	773	660	226	242	535	538	353	238
Link Distance (ft)			3616	3616	3616	4844			2423	2423	2423	
Upstream Blk Time (%)									0	0		
Queuing Penalty (veh)									0	0		
Storage Bay Dist (ft)	190	190					200	200				190
Storage Blk Time (%)	0	2	39				4	11	8		21	0
Queuing Penalty (veh)	3	16	87				14	37	21		46	1

Intersection: 24: Camino Ruiz & Mira Mesa Blvd

Movement	B39	B39	B39	B31	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	T	T	T	T	L	T	T	T	R	L	L	T
Maximum Queue (ft)	159	166	12	71	255	494	446	125	112	237	250	475
Average Queue (ft)	5	6	0	2	182	302	264	101	65	186	222	229
95th Queue (ft)	112	117	6	50	294	466	425	178	116	259	273	402
Link Distance (ft)	2146	2146	2146	1556		520	520					504
Upstream Blk Time (%)						1	0					0
Queuing Penalty (veh)						0	0					0
Storage Bay Dist (ft)					230			100	100	225	225	
Storage Blk Time (%)					2	22	39	2	4	2	16	6
Queuing Penalty (veh)					5	33	134	4	8	5	37	19

Intersection: 24: Camino Ruiz & Mira Mesa Blvd

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	407	53
Average Queue (ft)	182	24
95th Queue (ft)	311	48
Link Distance (ft)	504	504
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 25: Black Mountain Rd & Mira Mesa Blvd

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	262	275	874	1030	1160	295	196	240	560	562	564	240
Average Queue (ft)	210	251	574	705	821	146	102	163	323	372	394	64
95th Queue (ft)	303	331	856	1017	1114	375	171	272	516	557	575	169
Link Distance (ft)			1556	1556	1556				489	489	489	489
Upstream Blk Time (%)									2	2	3	0
Queuing Penalty (veh)									10	16	23	0
Storage Bay Dist (ft)	250	250				270	215	215				
Storage Blk Time (%)	5	14	19		54	0	0	0	21			
Queuing Penalty (veh)	26	79	86		62	0	1	2	43			

Intersection: 25: Black Mountain Rd & Mira Mesa Blvd

Movement	B58	B58	B58	B58	B83	NB	NB	NB	NB	NB	SB	SB
Directions Served	T	T	T	T	T	L	L	T	T	R	L	L
Maximum Queue (ft)	64	84	108	57	20	192	255	562	511	285	402	414
Average Queue (ft)	2	5	8	2	1	94	192	309	258	153	281	328
95th Queue (ft)	23	38	50	29	10	185	291	473	410	295	433	449
Link Distance (ft)	1412	1412	1412	1412	93			560	560			
Upstream Blk Time (%)								0	0			
Queuing Penalty (veh)								0	0			
Storage Bay Dist (ft)						230	230			260	390	390
Storage Blk Time (%)						0	0	22	8	0	0	10
Queuing Penalty (veh)						0	1	40	15	0	1	18

Intersection: 25: Black Mountain Rd & Mira Mesa Blvd

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	540	426	261
Average Queue (ft)	215	140	135
95th Queue (ft)	472	309	233
Link Distance (ft)	584	584	
Upstream Blk Time (%)	1		
Queuing Penalty (veh)	0		
Storage Bay Dist (ft)			245
Storage Blk Time (%)	0	0	1
Queuing Penalty (veh)	0	1	2

Intersection: 26: Mira Mesa Blvd & I-15 SB Ramps

Movement	EB	EB	EB	EB	EB	B83	B83	B83	B83	B83	B58	WB
Directions Served	T	T	T	R	R	T	T	T	T	T	T	T
Maximum Queue (ft)	183	181	190	65	85	663	836	944	608	402	131	345
Average Queue (ft)	131	142	164	11	7	145	361	581	180	26	5	197
95th Queue (ft)	199	200	188	47	43	574	915	1092	809	281	64	304
Link Distance (ft)	93	93	93	93	93	1412	1412	1412	1412	1412	489	864
Upstream Blk Time (%)	19	24	56	0	0							
Queuing Penalty (veh)	89	112	256	0	0							
Storage Bay Dist (ft)												
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 26: Mira Mesa Blvd & I-15 SB Ramps

Movement	WB	WB	WB	SB	SB	SB	SB
Directions Served	T	T	R	L	L	R	R
Maximum Queue (ft)	337	339	64	186	661	666	585
Average Queue (ft)	196	161	19	39	234	403	325
95th Queue (ft)	303	275	51	132	565	630	506
Link Distance (ft)	864	864	864		646	646	
Upstream Blk Time (%)					1	2	
Queuing Penalty (veh)					0	0	
Storage Bay Dist (ft)				285			570
Storage Blk Time (%)					0	1	0
Queuing Penalty (veh)					0	7	0

Intersection: 27: I-15 NB Ramps & Mira Mesa Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	T	T	T	R	T	T	T	R	L	L	R	R
Maximum Queue (ft)	267	284	305	210	226	171	239	123	386	360	229	219
Average Queue (ft)	123	133	148	75	136	88	88	33	249	229	103	49
95th Queue (ft)	235	250	262	155	208	165	191	113	350	331	182	144
Link Distance (ft)	864	864	864	864	603	603	603		670	670		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)								100			565	565
Storage Blk Time (%)							2	0				
Queuing Penalty (veh)							13	0				



**Intersection: 28: I-805 Direct Access Ramps & Carroll Canyon Rd**

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	R	LTR
Maximum Queue (ft)	27	66	28	255	90	94	34	31	85
Average Queue (ft)	3	15	4	128	16	19	3	13	28
95th Queue (ft)	14	47	17	218	55	62	19	37	63
Link Distance (ft)		564	564		958	958		351	269
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	250			400			415		
Storage Blk Time (%)									
Queuing Penalty (veh)									

**Intersection: 29: Carroll Canyon Rd & Scranton Rd**

Movement	EB	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	L	L	T	T	T	T	R	L	LR	R
Maximum Queue (ft)	23	69	70	60	275	223	68	109	137	91
Average Queue (ft)	1	21	30	12	137	77	32	34	75	50
95th Queue (ft)	11	54	65	41	231	178	59	78	114	84
Link Distance (ft)			958	958	414	414			570	570
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	120	120					190	90		
Storage Blk Time (%)		0				0		0	4	
Queuing Penalty (veh)		0				0		0	4	

**Network Summary**

Network wide Queuing Penalty: 3200
------------------------------------

## **APPENDIX E**

### **SANDAG SERIES 14 ABM 2+ SELECT ZONE ASSIGNMENT MODEL RUN**

**SANDAG  
ABM2+ 2016  
Scenario ID 458  
Version 14.2.2**

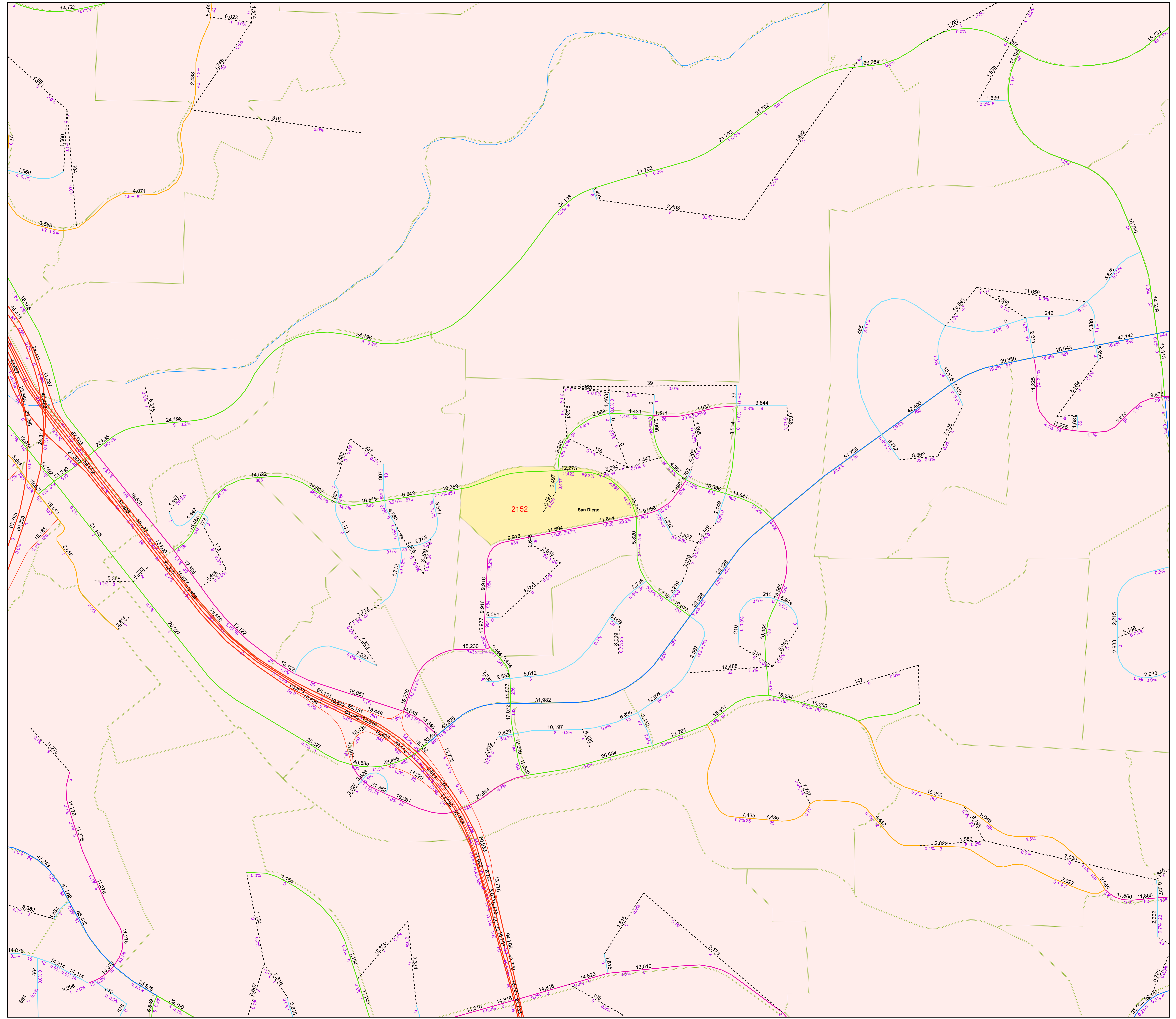
**Select Zone Assignment  
TAZ 2152**

**Functional Classifications**

- Freeway
- Prime
- Major
- Collector
- Local Collector
- Rural Collector
- Local Road
- Freeway Ramp
- Local Ramp
- - - Zone Connectors

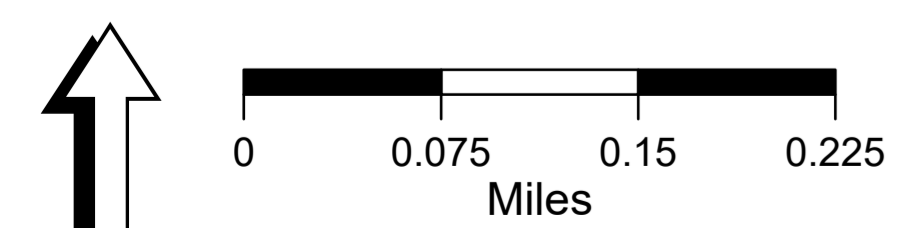
**Average Daily Traffic**

- #** Daily Forecasted Volume
- #** Select Zone Volume
- %** Select Zone Percentage



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SAN DIEGO ASSOCIATION OF GOVERNMENTS  
401 B STREET, SUITE 800  
SAN DIEGO, CALIFORNIA 92101 USA  
(619) 699-1900  
E-mail: sandag@sandag.org  
Web site: www.sandag.org



servicebureau

4/7/2022

## **APPENDIX F**

### **OPENING YEAR 2027 INTERSECTION ANALYSIS CALCULATION SHEETS**

HCM 6th Signalized Intersection Summary  
 1: I-5 SB On-Ramp/I-5 SB Off-Ramp & Carmel Mountain Rd

Opening Year 2027 AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↘↗	↑↑					↘	↔	↗
Traffic Volume (veh/h)	0	217	41	484	301	0	0	0	0	824	1	609
Future Volume (veh/h)	0	217	41	484	301	0	0	0	0	824	1	609
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	244	46	613	381	0				1114	0	446
Peak Hour Factor	0.89	0.89	0.89	0.79	0.79	0.79				0.91	0.91	0.91
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	909	393	666	1729	0				1518	0	659
Arrive On Green	0.00	0.26	0.26	0.19	0.49	0.00				0.43	0.00	0.43
Sat Flow, veh/h	0	3647	1534	3456	3647	0				3563	0	1547
Grp Volume(v), veh/h	0	244	46	613	381	0				1114	0	446
Grp Sat Flow(s),veh/h/ln	0	1777	1534	1728	1777	0				1781	0	1547
Q Serve(g_s), s	0.0	8.2	3.4	26.1	9.2	0.0				39.2	0.0	34.9
Cycle Q Clear(g_c), s	0.0	8.2	3.4	26.1	9.2	0.0				39.2	0.0	34.9
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	909	393	666	1729	0				1518	0	659
V/C Ratio(X)	0.00	0.27	0.12	0.92	0.22	0.00				0.73	0.00	0.68
Avail Cap(c_a), veh/h	0	909	393	790	1729	0				1518	0	659
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	44.6	42.8	59.4	22.1	0.0				36.0	0.0	34.7
Incr Delay (d2), s/veh	0.0	0.7	0.6	13.3	0.3	0.0				3.2	0.0	5.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.8	1.4	12.7	4.0	0.0				17.7	0.0	14.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	45.3	43.4	72.7	22.4	0.0				39.1	0.0	40.2
LnGrp LOS	A	D	D	E	C	A				D	A	D
Approach Vol, veh/h		290			994						1560	
Approach Delay, s/veh		45.0			53.5						39.5	
Approach LOS		D			D						D	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	34.6	45.4		70.0		80.0						
Change Period (Y+Rc), s	* 5.7	7.0		6.1		7.0						
Max Green Setting (Gmax), s	* 34	33.0		63.9		73.0						
Max Q Clear Time (g_c+l1), s	28.1	10.2		41.2		11.2						
Green Ext Time (p_c), s	0.8	1.1		3.6		1.8						

Intersection Summary

HCM 6th Ctrl Delay	44.9
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 2: I-5 NB Off-Ramp/I-5 NB On-Ramp & Carmel Mountain Rd

Opening Year 2027 AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑↑	↗	↘	↕	↗			
Traffic Volume (veh/h)	128	941	0	0	738	568	149	0	348	0	0	0
Future Volume (veh/h)	128	941	0	0	738	568	149	0	348	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.96			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	138	1012	0	0	858	660	103	0	417			
Peak Hour Factor	0.93	0.93	0.93	0.86	0.86	0.86	0.96	0.96	0.96			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	175	2349	0	0	2500	758	293	0	500			
Arrive On Green	0.10	0.66	0.00	0.00	0.49	0.49	0.16	0.00	0.16			
Sat Flow, veh/h	1781	3647	0	0	5274	1548	1781	0	3034			
Grp Volume(v), veh/h	138	1012	0	0	858	660	103	0	417			
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1702	1548	1781	0	1517			
Q Serve(g_s), s	5.9	10.5	0.0	0.0	8.0	29.6	4.0	0.0	10.4			
Cycle Q Clear(g_c), s	5.9	10.5	0.0	0.0	8.0	29.6	4.0	0.0	10.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	175	2349	0	0	2500	758	293	0	500			
V/C Ratio(X)	0.79	0.43	0.00	0.00	0.34	0.87	0.35	0.00	0.83			
Avail Cap(c_a), veh/h	578	4898	0	0	5008	1518	660	0	1124			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	34.4	6.3	0.0	0.0	12.2	17.7	28.9	0.0	31.5			
Incr Delay (d2), s/veh	3.0	0.0	0.0	0.0	0.0	1.3	0.3	0.0	1.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	2.6	3.2	0.0	0.0	2.8	9.7	1.7	0.0	3.8			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.4	6.3	0.0	0.0	12.2	19.0	29.1	0.0	33.0			
LnGrp LOS	D	A	A	A	B	B	C	A	C			
Approach Vol, veh/h		1150			1518			520				
Approach Delay, s/veh		10.0			15.2			32.2				
Approach LOS		B			B			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		59.0			13.4	45.7		18.9				
Change Period (Y+Rc), s		7.5			* 5.7	7.5		6.1				
Max Green Setting (Gmax), s		107.5			* 25	76.5		28.9				
Max Q Clear Time (g_c+11), s		12.5			7.9	31.6		12.4				
Green Ext Time (p_c), s		5.9			0.2	6.6		0.5				

Intersection Summary

HCM 6th Ctrl Delay	16.1
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 3: Vista Sorrento Pkwy/Torrey View Ct & Carmel Mountain Rd

Opening Year 2027 AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑	↖↗	↖↗	↖↗	↑↘
Traffic Volume (veh/h)	20	54	344	636	64	220	114	340	506	215	690	25
Future Volume (veh/h)	20	54	344	636	64	220	114	340	506	215	690	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	66	420	715	72	247	137	410	610	253	812	29
Peak Hour Factor	0.82	0.82	0.82	0.89	0.89	0.89	0.83	0.83	0.83	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	110	1443	511	677	2280	825	169	513	1288	293	1084	39
Arrive On Green	0.03	0.28	0.28	0.20	0.45	0.45	0.05	0.27	0.27	0.08	0.31	0.31
Sat Flow, veh/h	3456	5106	1534	3456	5106	1547	3456	1870	2704	3456	3496	125
Grp Volume(v), veh/h	24	66	420	715	72	247	137	410	610	253	413	428
Grp Sat Flow(s),veh/h/ln	1728	1702	1534	1728	1702	1547	1728	1870	1352	1728	1777	1844
Q Serve(g_s), s	0.8	1.2	30.9	24.0	1.0	10.9	4.8	25.0	18.9	8.9	25.6	25.6
Cycle Q Clear(g_c), s	0.8	1.2	30.9	24.0	1.0	10.9	4.8	25.0	18.9	8.9	25.6	25.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	110	1443	511	677	2280	825	169	513	1288	293	551	572
V/C Ratio(X)	0.22	0.05	0.82	1.06	0.03	0.30	0.81	0.80	0.47	0.86	0.75	0.75
Avail Cap(c_a), veh/h	197	1546	542	677	2280	825	169	513	1288	293	551	572
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.8	31.9	37.7	49.3	19.0	16.0	57.7	41.3	22.2	55.4	38.0	38.0
Incr Delay (d2), s/veh	0.4	0.0	9.8	50.4	0.0	0.3	23.1	12.3	1.3	21.4	9.0	8.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.5	12.2	15.0	0.4	3.6	2.6	12.6	5.7	4.7	12.5	12.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.2	32.0	47.5	99.7	19.0	16.3	80.8	53.6	23.5	76.7	47.0	46.7
LnGrp LOS	E	C	D	F	B	B	F	D	C	E	D	D
Approach Vol, veh/h		510		1034		1157		1094				
Approach Delay, s/veh		46.0		74.1		40.9		53.8				
Approach LOS		D		E		D		D				
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	38.4	40.4	10.4	43.3	8.3	60.5	14.8	38.9				
Change Period (Y+Rc), s	4.4	5.8	4.4	5.3	4.4	* 5.8	4.4	5.3				
Max Green Setting (Gmax), s	24.0	37.1	6.0	38.0	7.0	* 54	10.4	33.6				
Max Q Clear Time (g_c+Y), s	20.0	32.9	6.8	27.6	2.8	12.9	10.9	27.0				
Green Ext Time (p_c), s	0.0	1.1	0.0	4.6	0.0	2.4	0.0	3.2				

Intersection Summary

HCM 6th Ctrl Delay	54.4
HCM 6th LOS	D

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 4: Roselle St & 1-5 SB On-Ramp

Opening Year 2027 AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑		↑↑	↑			↑	
Traffic Volume (veh/h)	0	0	0	0	0	0	873	320	0	0	77	46
Future Volume (veh/h)	0	0	0	0	0	0	873	320	0	0	77	46
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.94
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				0	1870	0	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				0	0	0	981	360	0	0	87	52
Peak Hour Factor				0.92	0.92	0.92	0.89	0.89	0.92	0.92	0.89	0.89
Percent Heavy Veh, %				0	2	0	2	2	0	0	2	2
Cap, veh/h				0	0	0	1322	1535	0	0	297	177
Arrive On Green				0.00	0.00	0.00	0.38	0.82	0.00	0.00	0.28	0.28
Sat Flow, veh/h				0			3456	1870	0	0	1069	639
Grp Volume(v), veh/h				0.0			981	360	0	0	0	139
Grp Sat Flow(s),veh/h/ln							1728	1870	0	0	0	1707
Q Serve(g_s), s							6.7	1.2	0.0	0.0	0.0	1.8
Cycle Q Clear(g_c), s							6.7	1.2	0.0	0.0	0.0	1.8
Prop In Lane							1.00		0.00	0.00		0.37
Lane Grp Cap(c), veh/h							1322	1535	0	0	0	474
V/C Ratio(X)							0.74	0.23	0.00	0.00	0.00	0.29
Avail Cap(c_a), veh/h							2349	2611	0	0	0	949
HCM Platoon Ratio							1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)							1.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh							7.3	0.5	0.0	0.0	0.0	7.8
Incr Delay (d2), s/veh							0.3	0.1	0.0	0.0	0.0	0.4
Initial Q Delay(d3),s/veh							0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln							1.3	0.0	0.0	0.0	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh							7.6	0.6	0.0	0.0	0.0	8.2
LnGrp LOS							A	A	A	A	A	A
Approach Vol, veh/h								1341			139	
Approach Delay, s/veh								5.7			8.2	
Approach LOS								A			A	
Timer - Assigned Phs		2			5	6						
Phs Duration (G+Y+Rc), s		27.4			14.9	12.5						
Change Period (Y+Rc), s		4.9			4.4	4.9						
Max Green Setting (Gmax), s		38.2			18.6	15.2						
Max Q Clear Time (g_c+I1), s		3.2			8.7	3.8						
Green Ext Time (p_c), s		2.7			1.8	0.6						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay											6.0	
HCM 6th LOS											A	



HCM Unsignalized Intersection Capacity Analysis  
5: Roselle St & Sorrento Valley Blvd

Opening Year 2027 AM  
08/04/2023



Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations							
Traffic Volume (veh/h)	108	985	162	1398	105	15	
Future Volume (Veh/h)	108	985	162	1398	105	15	
Sign Control	Free		Stop		Stop		
Grade	0%		0%		0%		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.69	0.69	
Hourly flow rate (vph)	116	1059	174	1503	152	22	
Pedestrians	10		10		10		
Lane Width (ft)	12.0		12.0		12.0		
Walking Speed (ft/s)	4.0		4.0		4.0		
Percent Blockage	1		1		1		
Right turn flare (veh)							
Median type	None						
Median storage (veh)							
Upstream signal (ft)	1002						
pX, platoon unblocked							
vC, conflicting volume	10		252	20	339	252	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	10		252	20	339	252	
tC, single (s)	4.1		6.5	6.2	7.1	6.5	
tC, 2 stage (s)							
tF (s)	2.2		4.0	3.3	3.5	4.0	
p0 queue free %	93		71	0	0	96	
cM capacity (veh/h)	1596		594	1040	0	594	
Direction, Lane #	WB 1	WB 2	WB 3	NB 1	NB 2	NB 3	SB 1
Volume Total	116	530	530	174	752	752	174
Volume Left	116	0	0	0	0	0	152
Volume Right	0	530	530	0	752	752	0
cSH	1596	1700	1700	594	1040	1040	0
Volume to Capacity	0.07	0.31	0.31	0.29	0.72	0.72	Err
Queue Length 95th (ft)	6	0	0	30	165	165	Err
Control Delay (s)	7.4	0.0	0.0	13.6	16.9	16.9	Err
Lane LOS	A		B		C	C	F
Approach Delay (s)	0.7		16.6				Err
Approach LOS			C				F
Intersection Summary							
Average Delay			Err				
Intersection Capacity Utilization			63.2%		ICU Level of Service		B
Analysis Period (min)			15				

**Intersection**

Intersection Delay, s/veh	170.7
Intersection LOS	F

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔↔	↔		↑↑	↑	
Traffic Vol, veh/h	1588	99	0	73	108	0
Future Vol, veh/h	1588	99	0	73	108	0
Peak Hour Factor	0.93	0.93	0.67	0.67	0.83	0.83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1708	106	0	109	130	0
Number of Lanes	2	1	0	2	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left SB		EB	
Conflicting Lanes Left	1	3	0
Conflicting Approach Right NB			EB
Conflicting Lanes Right	2	0	3
HCM Control Delay	191.6	10.8	13.8
HCM LOS	F	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	SBLn1
Vol Left, %	0%	0%	100%	100%	0%	0%
Vol Thru, %	100%	100%	0%	0%	0%	100%
Vol Right, %	0%	0%	0%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	37	37	794	794	99	108
LT Vol	0	0	794	794	0	0
Through Vol	37	37	0	0	0	108
RT Vol	0	0	0	0	99	0
Lane Flow Rate	54	54	854	854	106	130
Geometry Grp	8	8	7	7	7	8
Degree of Util (X)	0.117	0.091	1.39	1.39	0.086	0.275
Departure Headway (Hd)	8.128	6.372	5.863	5.863	2.913	8.034
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	444	566	623	623	1212	450
Service Time	5.828	4.072	3.623	3.623	0.672	5.734
HCM Lane V/C Ratio	0.122	0.095	1.371	1.371	0.087	0.289
HCM Control Delay	11.9	9.7	203.2	203.2	6	13.8
HCM Lane LOS	B	A	F	F	A	B
HCM 95th-tile Q	0.4	0.3	38	38	0.3	1.1

HCM 6th Signalized Intersection Summary  
 7: Vista Sorrento Pkwy & Sorrento Valley Blvd

Opening Year 2027 AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	↖
Traffic Volume (veh/h)	142	447	707	336	846	332	148	193	299	451	992	171
Future Volume (veh/h)	142	447	707	336	846	332	148	193	299	451	992	171
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	175	552	626	382	961	377	166	217	336	512	1127	194
Peak Hour Factor	0.81	0.81	0.81	0.88	0.88	0.88	0.89	0.89	0.89	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	130	546	470	265	950	369	282	296	240	417	875	471
Arrive On Green	0.07	0.31	0.31	0.15	0.38	0.38	0.16	0.16	0.16	0.23	0.23	0.23
Sat Flow, veh/h	1781	1777	1528	1781	2481	962	1781	1870	1515	1781	3741	1518
Grp Volume(v), veh/h	175	552	626	382	685	653	166	217	336	512	1127	194
Grp Sat Flow(s),veh/h/ln	1781	1777	1528	1781	1777	1666	1781	1870	1515	1781	1870	1518
Q Serve(g_s), s	10.6	44.7	44.7	21.6	55.7	55.7	12.6	16.1	23.0	34.0	34.0	14.8
Cycle Q Clear(g_c), s	10.6	44.7	44.7	21.6	55.7	55.7	12.6	16.1	23.0	34.0	34.0	14.8
Prop In Lane	1.00		1.00	1.00		0.58	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	130	546	470	265	681	638	282	296	240	417	875	471
V/C Ratio(X)	1.35	1.01	1.33	1.44	1.01	1.02	0.59	0.73	1.40	1.23	1.29	0.41
Avail Cap(c_a), veh/h	130	546	470	265	681	638	282	296	240	417	875	471
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.4	50.3	50.4	61.9	44.8	44.9	56.8	58.3	61.2	55.7	55.7	40.1
Incr Delay (d2), s/veh	198.7	41.2	163.6	219.7	36.2	41.5	2.2	8.0	204.1	122.6	138.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	25.5	37.9	25.7	30.4	29.4	5.7	8.1	22.2	28.8	32.2	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	266.1	91.5	213.9	281.6	81.0	86.3	59.0	66.3	265.3	178.3	194.1	40.3
LnGrp LOS	F	F	F	F	F	F	E	E	F	F	F	D
Approach Vol, veh/h		1353			1720			719			1833	
Approach Delay, s/veh		170.7			127.6			157.6			173.4	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	36.0	50.4		40.0	15.0	61.4		29.0				
Change Period (Y+Rc), s	4.4	* 5.7		6.0	4.4	5.7		6.0				
Max Green Setting (Gmax), s	21.6	* 45		34.0	10.6	55.3		23.0				
Max Q Clear Time (g_c+Q), s	23.6	46.7		36.0	12.6	57.7		25.0				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	156.7
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 8: Vista Sorrento Pkwy & Lusk Blvd

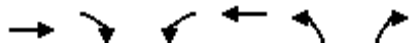
Opening Year 2027 AM  
 08/04/2023



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	79	171	469	381	1285	732
Future Volume (veh/h)	79	171	469	381	1285	732
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.96	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	91	197	510	414	1428	813
Peak Hour Factor	0.87	0.87	0.92	0.92	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	125	1393	650	528	1483	1547
Arrive On Green	0.07	0.07	0.36	0.36	0.43	0.83
Sat Flow, veh/h	1781	2790	1916	1479	3456	1870
Grp Volume(v), veh/h	91	197	497	427	1428	813
Grp Sat Flow(s),veh/h/ln	1781	1395	1777	1524	1728	1870
Q Serve(g_s), s	5.3	4.0	26.6	26.6	42.8	14.1
Cycle Q Clear(g_c), s	5.3	4.0	26.6	26.6	42.8	14.1
Prop In Lane	1.00	1.00		0.97	1.00	
Lane Grp Cap(c), veh/h	125	1393	634	544	1483	1547
V/C Ratio(X)	0.73	0.14	0.78	0.78	0.96	0.53
Avail Cap(c_a), veh/h	351	1747	634	544	1681	1547
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.5	14.4	30.6	30.6	29.6	2.8
Incr Delay (d2), s/veh	3.0	0.0	9.4	10.9	12.9	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	1.2	12.2	10.7	18.6	2.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	51.5	14.4	40.0	41.4	42.4	4.1
LnGrp LOS	D	B	D	D	D	A
Approach Vol, veh/h	288		924		2241	
Approach Delay, s/veh	26.1		40.7		28.5	
Approach LOS	C		D		C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	50.1	44.0			94.1	12.4
Change Period (Y+Rc), s	4.4	6.0			6.0	4.9
Max Green Setting (Gmax), s	51.8	31.9			88.1	21.0
Max Q Clear Time (g_c+Rc), s	44.8	28.6			16.1	7.3
Green Ext Time (p_c), s	0.9	0.8			1.5	0.2
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			31.6			
HCM 6th LOS			C			

HCM 6th Signalized Intersection Summary  
 9: Wateridge Cir & Lusk Blvd

Opening Year 2027 AM  
 08/04/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↔	↑↑	↔	↔
Traffic Volume (veh/h)	478	4	39	325	8	20
Future Volume (veh/h)	478	4	39	325	8	20
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	820	6	43	357	11	31
Peak Hour Factor	0.67	0.67	0.91	0.91	0.70	0.70
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2227	16	152	2632	77	138
Arrive On Green	0.62	0.62	0.04	0.74	0.04	0.04
Sat Flow, veh/h	3708	26	3456	3647	1781	1585
Grp Volume(v), veh/h	403	423	43	357	11	31
Grp Sat Flow(s),veh/h/ln	1865	1728	1777	1781	1585	
Q Serve(g_s), s	6.1	6.1	0.7	1.6	0.3	1.0
Cycle Q Clear(g_c), s	6.1	6.1	0.7	1.6	0.3	1.0
Prop In Lane		0.01	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1095	1149	152	2632	77	138
V/C Ratio(X)	0.37	0.37	0.28	0.14	0.14	0.22
Avail Cap(c_a), veh/h	1095	1149	317	2632	947	912
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	5.2	5.2	25.2	2.0	25.1	23.2
Incr Delay (d2), s/veh	1.0	0.9	0.4	0.1	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	1.5	0.2	0.1	0.1	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	6.2	6.1	25.6	2.1	25.4	23.5
LnGrp LOS	A	A	C	A	C	C
Approach Vol, veh/h	826			400	42	
Approach Delay, s/veh	6.1			4.7	24.0	
Approach LOS	A			A	C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	6.8	40.5			47.3	7.3
Change Period (Y+Rc), s	4.4	6.9			* 6.9	4.9
Max Green Setting (Gmax), s	5.0	29.8			* 40	29.0
Max Q Clear Time (g_c+1/2), s	12.5	8.1			3.6	3.0
Green Ext Time (p_c), s	0.0	1.4			0.7	0.0

Intersection Summary

HCM 6th Ctrl Delay	6.3
HCM 6th LOS	A

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	
Traffic Vol, veh/h	855	0	0	427	0	0
Future Vol, veh/h	855	0	0	427	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	929	0	0	464	0	0

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	929	0	1161 465
Stage 1	-	-	-	-	929 -
Stage 2	-	-	-	-	232 -
Critical Hdwy	-	-	4.14	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	2.22	-	3.52 3.32
Pot Cap-1 Maneuver	-	-	732	-	188 544
Stage 1	-	-	-	-	345 -
Stage 2	-	-	-	-	785 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	732	-	188 544
Mov Cap-2 Maneuver	-	-	-	-	188 -
Stage 1	-	-	-	-	345 -
Stage 2	-	-	-	-	785 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	732	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	
Traffic Vol, veh/h	855	0	0	427	0	0
Future Vol, veh/h	855	0	0	427	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	929	0	0	464	0	0

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	929	0	1161
Stage 1	-	-	-	-	929
Stage 2	-	-	-	-	232
Critical Hdwy	-	-	4.14	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	-	-	2.22	-	3.52
Pot Cap-1 Maneuver	-	-	732	-	188
Stage 1	-	-	-	-	345
Stage 2	-	-	-	-	785
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	732	-	188
Mov Cap-2 Maneuver	-	-	-	-	188
Stage 1	-	-	-	-	345
Stage 2	-	-	-	-	785

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	732	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

HCM 6th Signalized Intersection Summary  
 12: Project Dwy #3/Pacific Center Blvd & Lusk Blvd

Opening Year 2027 AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	334	513	8	19	361	172	1	2	4	39	2	65
Future Volume (veh/h)	334	513	8	19	361	172	1	2	4	39	2	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	0.99		0.98	0.99		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	423	649	10	23	435	87	1	2	5	44	2	73
Peak Hour Factor	0.79	0.79	0.79	0.83	0.83	0.83	0.88	0.88	0.88	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	515	1258	19	46	669	133	104	199	411	650	27	868
Arrive On Green	0.15	0.35	0.35	0.03	0.23	0.23	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	3456	3579	55	1781	2936	582	117	487	1006	1350	67	1546
Grp Volume(v), veh/h	423	322	337	23	262	260	8	0	0	46	0	73
Grp Sat Flow(s),veh/h/ln	1728	1777	1857	1781	1777	1741	1610	0	0	1417	0	1546
Q Serve(g_s), s	8.5	10.3	10.3	0.9	9.6	9.8	0.0	0.0	0.0	1.2	0.0	1.6
Cycle Q Clear(g_c), s	8.5	10.3	10.3	0.9	9.6	9.8	0.2	0.0	0.0	1.4	0.0	1.6
Prop In Lane	1.00		0.03	1.00		0.33	0.12		0.62	0.96		1.00
Lane Grp Cap(c), veh/h	515	624	653	46	405	397	715	0	0	677	0	868
V/C Ratio(X)	0.82	0.52	0.52	0.50	0.65	0.66	0.01	0.00	0.00	0.07	0.00	0.08
Avail Cap(c_a), veh/h	798	1236	1292	139	964	944	715	0	0	677	0	868
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.7	18.5	18.5	34.6	25.1	25.2	12.6	0.0	0.0	13.0	0.0	7.4
Incr Delay (d2), s/veh	2.1	0.2	0.2	3.2	0.6	0.7	0.0	0.0	0.0	0.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	3.7	3.9	0.4	3.7	3.7	0.1	0.0	0.0	0.4	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.8	18.7	18.7	37.7	25.8	25.9	12.7	0.0	0.0	13.1	0.0	7.6
LnGrp LOS	C	B	B	D	C	C	B	A	A	B	A	A
Approach Vol, veh/h		1082			545			8				119
Approach Delay, s/veh		23.8			26.3			12.7				9.7
Approach LOS		C			C			B				A
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.2	31.0		34.7	15.1	22.1		34.7				
Change Period (Y+Rc), s	4.4	5.7		5.3	4.4	5.7		* 5.3				
Max Green Setting (Gmax), s	5.6	50.0		29.0	16.6	39.0		* 29				
Max Q Clear Time (g_c+I1), s	2.9	12.3		3.6	10.5	11.8		2.2				
Green Ext Time (p_c), s	0.0	1.1		0.1	0.2	0.9		0.0				

Intersection Summary

HCM 6th Ctrl Delay	23.6
HCM 6th LOS	C

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	
Traffic Vol, veh/h	556	0	0	608	0	0
Future Vol, veh/h	556	0	0	608	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	604	0	0	661	0	0

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	604	0	935 302
Stage 1	-	-	-	-	604 -
Stage 2	-	-	-	-	331 -
Critical Hdwy	-	-	4.14	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	2.22	-	3.52 3.32
Pot Cap-1 Maneuver	-	-	970	-	264 694
Stage 1	-	-	-	-	508 -
Stage 2	-	-	-	-	700 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	970	-	264 694
Mov Cap-2 Maneuver	-	-	-	-	264 -
Stage 1	-	-	-	-	508 -
Stage 2	-	-	-	-	700 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	970	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

HCM 6th Signalized Intersection Summary  
 14: I-805 NB Ramps/Mira Sorrento PI & Vista Sorrento Pkwy

Opening Year 2027 AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↘	↖	↗↘	↖	↗	↗	↖↖	↗	↖	↖↘	↖
Traffic Volume (veh/h)	162	319	29	428	241	159	860	771	180	41	81	69
Future Volume (veh/h)	162	319	29	428	241	159	860	771	180	41	81	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	195	384	35	470	265	175	945	847	198	55	109	93
Peak Hour Factor	0.83	0.83	0.83	0.91	0.91	0.91	0.91	0.91	0.91	0.74	0.74	0.74
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	196	544	448	449	582	474	539	1447	836	84	283	211
Arrive On Green	0.11	0.29	0.29	0.04	0.10	0.10	0.30	0.41	0.41	0.05	0.15	0.15
Sat Flow, veh/h	1781	1870	1538	3456	1870	1540	1781	3554	1546	1781	1865	1394
Grp Volume(v), veh/h	195	384	35	470	265	175	945	847	198	55	103	99
Grp Sat Flow(s),veh/h/ln	1781	1870	1538	1728	1870	1540	1781	1777	1546	1781	1777	1482
Q Serve(g_s), s	16.4	27.5	2.5	19.5	20.0	15.9	45.4	27.8	10.2	4.6	7.8	9.1
Cycle Q Clear(g_c), s	16.4	27.5	2.5	19.5	20.0	15.9	45.4	27.8	10.2	4.6	7.8	9.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.94
Lane Grp Cap(c), veh/h	196	544	448	449	582	474	539	1447	836	84	269	225
V/C Ratio(X)	1.00	0.71	0.08	1.05	0.46	0.37	1.75	0.59	0.24	0.66	0.38	0.44
Avail Cap(c_a), veh/h	196	544	448	449	582	474	539	1651	924	121	409	341
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.72	0.72	0.72	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	66.7	47.4	38.6	71.8	55.3	53.8	52.3	34.6	18.4	70.3	57.3	58.1
Incr Delay (d2), s/veh	63.1	7.5	0.3	48.7	1.8	1.6	346.4	0.2	0.1	3.2	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	13.6	1.0	12.1	10.3	6.8	72.1	12.2	3.7	2.1	3.5	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	129.8	54.9	38.9	120.5	57.2	55.4	398.7	34.8	18.5	73.5	57.6	58.6
LnGrp LOS	F	D	D	F	E	E	F	C	B	E	E	E
Approach Vol, veh/h		614			910			1990				257
Approach Delay, s/veh		77.8			89.5			206.0				61.4
Approach LOS		E			F			F				E
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.7	49.0	50.0	27.3	20.7	52.0	11.7	65.7				
Change Period (Y+Rc), s	* 4.7	5.8	5.1	5.1	* 4.7	5.8	5.1	5.1				
Max Green Setting (Gmax), s	* 19	31.4	44.9	34.0	* 16	34.4	9.7	69.2				
Max Q Clear Time (g_c+I1), s	21.5	29.5	47.4	11.1	18.4	22.0	6.6	29.8				
Green Ext Time (p_c), s	0.0	0.1	0.0	0.2	0.0	0.3	0.0	1.4				

Intersection Summary

HCM 6th Ctrl Delay	147.1
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection						
Int Delay, s/veh	1.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	503	5	84	194	0	14
Future Vol, veh/h	503	5	84	194	0	14
Conflicting Peds, #/hr	0	10	10	0	10	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	87	87	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	572	6	97	223	0	17

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	588	0	1012
Stage 1	-	-	-	-	585
Stage 2	-	-	-	-	427
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	987	-	265
Stage 1	-	-	-	-	557
Stage 2	-	-	-	-	658
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	979	-	235
Mov Cap-2 Maneuver	-	-	-	-	235
Stage 1	-	-	-	-	553
Stage 2	-	-	-	-	588

Approach	EB	WB	NB
HCM Control Delay, s	0	2.7	12.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	496	-	-	979	-
HCM Lane V/C Ratio	0.034	-	-	0.099	-
HCM Control Delay (s)	12.5	-	-	9.1	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	-

HCM 6th Signalized Intersection Summary  
 16: Lusk Blvd & Barnes Canyon Rd

Opening Year 2027 AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↗	↖	↗	
Traffic Volume (veh/h)	161	184	29	25	401	165	226	282	74	63	221	258
Future Volume (veh/h)	161	184	29	25	401	165	226	282	74	63	221	258
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	173	198	31	30	483	127	301	376	99	72	251	293
Peak Hour Factor	0.93	0.93	0.93	0.83	0.83	0.83	0.75	0.75	0.75	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	187	908	140	52	608	159	316	1453	632	93	503	435
Arrive On Green	0.10	0.30	0.30	0.03	0.22	0.22	0.18	0.41	0.41	0.05	0.28	0.28
Sat Flow, veh/h	1781	3073	472	1781	2765	721	1781	3554	1546	1781	1777	1537
Grp Volume(v), veh/h	173	113	116	30	309	301	301	376	99	72	251	293
Grp Sat Flow(s),veh/h/ln	1781	1777	1769	1781	1777	1709	1781	1777	1546	1781	1777	1537
Q Serve(g_s), s	9.0	4.5	4.6	1.6	15.4	15.6	15.6	6.5	3.8	3.7	11.0	15.8
Cycle Q Clear(g_c), s	9.0	4.5	4.6	1.6	15.4	15.6	15.6	6.5	3.8	3.7	11.0	15.8
Prop In Lane	1.00		0.27	1.00		0.42	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	187	525	523	52	390	376	316	1453	632	93	503	435
V/C Ratio(X)	0.93	0.22	0.22	0.58	0.79	0.80	0.95	0.26	0.16	0.78	0.50	0.67
Avail Cap(c_a), veh/h	187	610	607	95	513	493	316	1453	632	183	503	435
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.5	24.8	24.8	44.9	34.5	34.6	38.1	18.3	17.5	43.8	28.0	29.7
Incr Delay (d2), s/veh	44.9	0.1	0.1	3.8	4.5	5.2	37.7	0.4	0.5	5.2	3.5	8.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	1.8	1.9	0.7	6.9	6.8	9.7	2.5	1.4	1.7	4.9	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.4	24.9	24.9	48.7	39.0	39.7	75.8	18.7	18.0	49.0	31.5	37.8
LnGrp LOS	F	C	C	D	D	D	E	B	B	D	C	D
Approach Vol, veh/h		402			640			776			616	
Approach Delay, s/veh		51.4			39.8			40.8			36.5	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.3	43.9	7.1	33.3	21.0	32.2	14.2	26.2				
Change Period (Y+Rc), s	4.4	5.7	4.4	* 5.6	4.4	5.7	4.4	5.6				
Max Green Setting (Gmax), s	9.6	33.5	5.0	* 32	16.6	26.5	9.8	27.0				
Max Q Clear Time (g_c+I1), s	5.7	8.5	3.6	6.6	17.6	17.8	11.0	17.6				
Green Ext Time (p_c), s	0.0	0.7	0.0	0.4	0.0	0.8	0.0	1.0				

Intersection Summary

HCM 6th Ctrl Delay	41.2
HCM 6th LOS	D

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 17: Barnes Canyon Rd/Commercial Dwy & Pacific Heights Blvd

Opening Year 2027 AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↖	↗	↖	↗
Traffic Volume (veh/h)	7	31	37	620	445	26	150	9	99	10	9	5
Future Volume (veh/h)	7	31	37	620	445	26	150	9	99	10	9	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	0.98		0.96	0.98		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	52	62	705	506	30	185	11	122	17	15	8
Peak Hour Factor	0.60	0.60	0.60	0.88	0.88	0.88	0.81	0.81	0.81	0.60	0.60	0.60
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	21	653	568	730	1929	114	400	443	360	378	267	143
Arrive On Green	0.01	0.37	0.37	0.21	0.57	0.57	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1781	1777	1544	3456	3401	201	1362	1870	1520	1236	1129	602
Grp Volume(v), veh/h	12	52	62	705	264	272	185	11	122	17	0	23
Grp Sat Flow(s),veh/h/ln	1781	1777	1544	1728	1777	1826	1362	1870	1520	1236	0	1732
Q Serve(g_s), s	0.5	1.5	2.1	15.9	5.9	6.0	9.6	0.4	5.2	0.8	0.0	0.8
Cycle Q Clear(g_c), s	0.5	1.5	2.1	15.9	5.9	6.0	10.4	0.4	5.2	1.2	0.0	0.8
Prop In Lane	1.00		1.00	1.00		0.11	1.00		1.00	1.00		0.35
Lane Grp Cap(c), veh/h	21	653	568	730	1008	1035	400	443	360	378	0	410
V/C Ratio(X)	0.57	0.08	0.11	0.97	0.26	0.26	0.46	0.02	0.34	0.04	0.00	0.06
Avail Cap(c_a), veh/h	91	653	568	730	1008	1035	597	714	580	558	0	661
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.6	16.2	16.4	30.7	8.6	8.7	27.2	23.0	24.9	23.5	0.0	23.2
Incr Delay (d2), s/veh	8.9	0.2	0.4	25.0	0.6	0.6	1.4	0.0	0.9	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.6	0.8	8.9	2.2	2.3	3.1	0.2	1.9	0.2	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.6	16.4	16.8	55.7	9.3	9.3	28.6	23.1	25.8	23.5	0.0	23.2
LnGrp LOS	D	B	B	E	A	A	C	C	C	C	A	C
Approach Vol, veh/h		126			1241			318				40
Approach Delay, s/veh		19.6			35.6			27.4				23.4
Approach LOS		B			D			C				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	31.0	34.1		23.5	5.3	49.8		23.5				
Change Period (Y+Rc), s	4.4	5.2		4.9	4.4	* 5.2		4.9				
Max Green Setting (Gmax), s	10.6	28.9		30.0	4.0	* 42		30.0				
Max Q Clear Time (g_c+117), s	11.9	4.1		3.2	2.5	8.0		12.4				
Green Ext Time (p_c), s	0.0	1.0		0.1	0.0	8.2		1.8				

Intersection Summary

HCM 6th Ctrl Delay	32.7
HCM 6th LOS	C

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis  
 18: Carroll Canyon Rd/I-805 SB Ramps & Sorrento Valley Rd

Opening Year 2027 AM

08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↑↑↑	↗	↘	↑↑	↗↗↗	↘↘		↗↗	↘↘	↑↑		
Traffic Volume (vph)	0	342	366	27	355	765	107	0	140	1658	571	71	
Future Volume (vph)	0	342	366	27	355	765	107	0	140	1658	571	71	
Ideal Flow (vphpl)	1800	1800	1900	1900	1800	1800	1900	1900	1900	1800	1900	1800	
Total Lost time (s)		8.0	4.5	6.1	8.0	7.5	4.5		6.1	7.0	7.5		
Lane Util. Factor		0.91	1.00	1.00	0.95	0.76	0.97		0.88	0.97	0.95		
Frbp, ped/bikes		1.00	0.98	1.00	1.00	0.99	1.00		0.98	1.00	1.00		
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		
Frt		1.00	0.85	1.00	1.00	0.85	1.00		0.85	1.00	0.98		
Flt Protected		1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00		
Satd. Flow (prot)		4818	1544	1770	3353	3371	3433		2729	3252	3470		
Flt Permitted		1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00		
Satd. Flow (perm)		4818	1544	1770	3353	3371	3433		2729	3252	3470		
Peak-hour factor, PHF	0.88	0.88	0.88	0.94	0.94	0.94	0.74	0.74	0.74	0.95	0.95	0.95	
Adj. Flow (vph)	0	389	416	29	378	814	145	0	189	1745	601	75	
RTOR Reduction (vph)	0	0	123	0	0	156	0	0	76	0	4	0	
Lane Group Flow (vph)	0	389	293	29	378	658	145	0	113	1745	672	0	
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10	
Confl. Bikes (#/hr)			10			10			10			10	
Turn Type		NA	pm+ov	Prot	NA	custom	Prot		pm+ov	Prot	NA		
Protected Phases		2	3	1	6	4	3		1	7	4		
Permitted Phases			2			6			3				
Actuated Green, G (s)		26.0	36.2	13.0	45.1	129.3	10.2		23.2	98.9	84.2		
Effective Green, g (s)		26.5	36.2	13.0	45.6	129.3	10.2		23.2	99.4	84.2		
Actuated g/C Ratio		0.17	0.23	0.08	0.29	0.81	0.06		0.14	0.62	0.53		
Clearance Time (s)		8.5	4.5	6.1	8.5	7.5	4.5		6.1	7.5	7.5		
Vehicle Extension (s)		1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0		
Lane Grp Cap (vph)		797	349	143	955	2882	218		395	2020	1826		
v/s Ratio Prot		0.08	c0.05	0.02	c0.11	0.12	0.04		0.02	c0.54	0.19		
v/s Ratio Perm			0.14			0.08			0.02				
v/c Ratio		0.49	0.84	0.20	0.40	0.23	0.67		0.29	0.86	0.37		
Uniform Delay, d1		60.6	59.1	68.7	46.1	3.6	73.2		61.0	24.8	22.3		
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		
Incremental Delay, d2		2.1	15.4	0.3	0.1	0.0	5.8		0.1	5.2	0.6		
Delay (s)		62.7	74.5	68.9	46.2	3.6	79.0		61.2	30.0	22.8		
Level of Service		E	E	E	D	A	E		E	C	C		
Approach Delay (s)		68.8			18.4			68.9			28.0		
Approach LOS		E			B			E			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			35.3		HCM 2000 Level of Service					D			
HCM 2000 Volume to Capacity ratio			0.85										
Actuated Cycle Length (s)			160.0		Sum of lost time (s)					26.1			
Intersection Capacity Utilization			95.0%		ICU Level of Service					F			
Analysis Period (min)			15										

c Critical Lane Group

HCM 6th Signalized Intersection Summary

Opening Year 2027 AM

19: I-805 NB Off-Ramp/Vista Sorrento Pkwy & Sorrento Valley Rd/Mira Mesa Blvd

08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↑ ↑ ↑			↑ ↑ ↑	↖		↑	↖ ↗	↖		↖ ↗
Traffic Volume (veh/h)	297	1634	0	0	725	510	0	58	2324	142	0	375
Future Volume (veh/h)	297	1634	0	0	725	510	0	58	2324	142	0	375
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	0	1870	1870	1870	0	1870
Adj Flow Rate, veh/h	326	1796	0	0	833	586	0	60	1881	160	0	421
Peak Hour Factor	0.91	0.91	0.91	0.87	0.87	0.87	0.97	0.97	0.97	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	2	2	0	2
Cap, veh/h	403	2261	0	0	1918	654	0	591	1110	219	0	0
Arrive On Green	0.12	0.44	0.00	0.00	0.30	0.30	0.00	0.32	0.32	0.12	0.00	0.00
Sat Flow, veh/h	3456	5274	0	0	6696	1539	0	1870	3512	1781	160	
Grp Volume(v), veh/h	326	1796	0	0	833	586	0	60	1881	160	69.7	
Grp Sat Flow(s),veh/h/ln	1728	1702	0	0	1609	1539	0	1870	1171	1781	E	
Q Serve(g_s), s	13.8	45.3	0.0	0.0	15.7	44.7	0.0	3.4	47.4	13.0		
Cycle Q Clear(g_c), s	13.8	45.3	0.0	0.0	15.7	44.7	0.0	3.4	47.4	13.0		
Prop In Lane	1.00		0.00	0.00		1.00	0.00		1.00	1.00		
Lane Grp Cap(c), veh/h	403	2261	0	0	1918	654	0	591	1110	219		
V/C Ratio(X)	0.81	0.79	0.00	0.00	0.43	0.90	0.00	0.10	1.69	0.73		
Avail Cap(c_a), veh/h	403	2261	0	0	1918	654	0	591	1110	220		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.69	0.69	0.00	1.00	1.00	0.60		
Uniform Delay (d), s/veh	64.6	35.9	0.0	0.0	42.4	40.5	0.0	36.3	51.3	63.4		
Incr Delay (d2), s/veh	10.9	3.0	0.0	0.0	0.5	12.8	0.0	0.0	316.6	6.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	6.6	18.8	0.0	0.0	6.3	40.9	0.0	1.6	46.4	6.1		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.5	38.9	0.0	0.0	42.9	53.4	0.0	36.3	367.9	69.7		
LnGrp LOS	E	D	A	A	D	D	A	D	F	E		
Approach Vol, veh/h		2122			1419			1941				
Approach Delay, s/veh		44.5			47.2			357.7				
Approach LOS		D			D			F				
Timer - Assigned Phs		2			5	6	7	8				
Phs Duration (G+Y+Rc), s		72.9			21.7	51.2	24.1	53.0				
Change Period (Y+Rc), s		7.0			* 4.7	7.0	6.1	6.1				
Max Green Setting (Gmax), s		65.9			* 17	44.2	18.0	46.9				
Max Q Clear Time (g_c+11), s		47.3			15.8	46.7	15.0	49.4				
Green Ext Time (p_c), s		2.5			0.1	0.0	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	153.7
HCM 6th LOS	F

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 20: Scranton Rd & Mira Mesa Blvd

Opening Year 2027 AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔	↑↑↑		↔↔	↔↔		↔↔	↔	↔↔
Traffic Volume (veh/h)	782	2316	967	227	1054	153	72	224	30	54	78	145
Future Volume (veh/h)	782	2316	967	227	1054	153	72	224	30	54	78	145
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	815	2412	382	232	1076	13	89	277	37	59	85	158
Peak Hour Factor	0.96	0.96	0.96	0.98	0.98	0.98	0.81	0.81	0.81	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	888	1988	601	230	1726	21	903	817	108	506	266	1244
Arrive On Green	0.26	0.39	0.39	0.13	0.26	0.26	0.25	0.25	0.25	0.14	0.14	0.14
Sat Flow, veh/h	3456	5106	1545	1781	6599	80	3563	3223	425	3563	1870	3019
Grp Volume(v), veh/h	815	2412	382	232	786	303	89	159	155	59	85	158
Grp Sat Flow(s),veh/h/ln	1728	1702	1545	1781	1609	1853	1781	1870	1777	1781	1870	1509
Q Serve(g_s), s	32.1	54.5	28.1	18.1	20.1	20.2	2.7	9.7	10.0	2.0	5.7	4.6
Cycle Q Clear(g_c), s	32.1	54.5	28.1	18.1	20.1	20.2	2.7	9.7	10.0	2.0	5.7	4.6
Prop In Lane	1.00		1.00	1.00		0.04	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	888	1988	601	230	1262	485	903	474	451	506	266	1244
V/C Ratio(X)	0.92	1.21	0.64	1.01	0.62	0.62	0.10	0.34	0.34	0.12	0.32	0.13
Avail Cap(c_a), veh/h	940	1988	601	230	1262	485	903	474	451	506	266	1244
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.57	0.57	0.57	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.6	42.8	34.7	61.0	45.6	45.6	40.0	42.6	42.8	52.4	54.0	26.7
Incr Delay (d2), s/veh	1.5	96.5	0.3	46.6	0.6	1.5	0.2	1.9	2.1	0.5	3.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.7	39.6	10.3	10.9	7.9	9.2	1.2	4.8	4.7	0.9	2.9	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.1	139.3	35.0	107.6	46.2	47.1	40.2	44.5	44.9	52.9	57.1	26.9
LnGrp LOS	D	F	C	F	D	D	D	D	D	D	E	C
Approach Vol, veh/h		3609			1321			403			302	
Approach Delay, s/veh		108.5			57.2			43.7			40.5	
Approach LOS		F			E			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	32.0	60.2		24.9	39.9	42.3		39.9				
Change Period (Y+Rc), s	4.4	* 6.2		5.3	4.4	6.2		4.9				
Max Green Setting (Gmax), s	17.6	* 54		12.8	37.6	33.8		35.0				
Max Q Clear Time (g_c+20), s	17.6	56.5		7.7	34.1	22.2		12.0				
Green Ext Time (p_c), s	0.0	0.0		0.8	1.4	4.4		3.8				

Intersection Summary

HCM 6th Ctrl Delay	88.2
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



HCM 6th Signalized Intersection Summary  
 21: Oberlin Dr/Lusk Blvd & Mira Mesa Blvd

Opening Year 2027 AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑		↔↔	↑↑↑		↔	↑	↔	↔↔	↑	↔
Traffic Volume (veh/h)	325	2153	31	105	1369	495	6	14	25	67	9	64
Future Volume (veh/h)	325	2153	31	105	1369	495	6	14	25	67	9	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	346	2290	33	113	1472	532	10	22	40	82	11	78
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.63	0.63	0.63	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	381	3172	46	147	2009	713	19	375	306	116	418	342
Arrive On Green	0.11	0.61	0.61	0.09	1.00	1.00	0.01	0.20	0.20	0.03	0.22	0.22
Sat Flow, veh/h	3456	5185	75	3456	3694	1310	1781	1870	1526	3456	1870	1530
Grp Volume(v), veh/h	346	1502	821	113	1354	650	10	22	40	82	11	78
Grp Sat Flow(s),veh/h/ln	1728	1702	1855	1728	1702	1601	1781	1870	1526	1728	1870	1530
Q Serve(g_s), s	18.8	58.3	58.6	6.1	0.0	0.0	1.1	1.8	4.1	4.5	0.9	7.9
Cycle Q Clear(g_c), s	18.8	58.3	58.6	6.1	0.0	0.0	1.1	1.8	4.1	4.5	0.9	7.9
Prop In Lane	1.00		0.04	1.00		0.82	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	381	2082	1135	147	1852	871	19	375	306	116	418	342
V/C Ratio(X)	0.91	0.72	0.72	0.77	0.73	0.75	0.52	0.06	0.13	0.71	0.03	0.23
Avail Cap(c_a), veh/h	509	2082	1135	215	1852	871	53	375	306	175	418	342
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.24	0.24	0.24	1.00	1.00	1.00	0.85	0.85	0.85
Uniform Delay (d), s/veh	83.6	25.6	25.7	86.0	0.0	0.0	93.5	61.4	62.4	90.9	57.6	60.4
Incr Delay (d2), s/veh	1.6	0.2	0.4	1.2	0.6	1.4	7.8	0.3	0.9	2.5	0.1	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	22.5	24.7	2.6	0.2	0.3	0.5	0.9	1.7	2.0	0.4	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.2	25.8	26.1	87.2	0.6	1.4	101.3	61.7	63.2	93.4	57.7	61.7
LnGrp LOS	F	C	C	F	A	A	F	E	E	F	E	E
Approach Vol, veh/h		2669			2117			72			171	
Approach Delay, s/veh		33.6			5.5			68.1			76.6	
Approach LOS		C			A			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.5	122.4	6.5	48.6	25.4	109.6	10.8	44.3				
Change Period (Y+Rc), s	4.4	* 6.2	4.4	6.2	4.4	6.2	4.4	* 6.2				
Max Green Setting (Gmax), s	1.1E2	* 1.1E2	5.6	40.8	28.0	94.4	9.6	* 38				
Max Q Clear Time (g_c+10), s	60.6	60.6	3.1	9.9	20.8	2.0	6.5	6.1				
Green Ext Time (p_c), s	0.0	6.4	0.0	0.1	0.2	5.5	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	23.7
HCM 6th LOS	C

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 22: Pacific Heights Blvd & Mira Mesa Blvd

Opening Year 2027 AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖	↑↑↑	↗	↖	↑↑	↗	↖↗	↑↑	↗
Traffic Volume (veh/h)	457	1413	342	433	1905	1182	34	126	101	122	48	66
Future Volume (veh/h)	457	1413	342	433	1905	1182	34	126	101	122	48	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.93	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	491	1519	368	492	2165	0	39	186	86	154	61	84
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.88	0.88	0.88	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	470	2180	656	511	2298		52	542	214	166	582	239
Arrive On Green	0.53	0.85	0.85	0.29	0.45	0.00	0.03	0.14	0.14	0.05	0.16	0.16
Sat Flow, veh/h	1781	5106	1547	1781	5106	1585	1781	3741	1476	3456	3554	1485
Grp Volume(v), veh/h	491	1519	368	492	2165	0	39	186	86	154	61	84
Grp Sat Flow(s),veh/h/ln	1781	1702	1547	1781	1702	1585	1781	1870	1476	1728	1777	1485
Q Serve(g_s), s	50.1	20.4	13.1	51.7	76.9	0.0	4.1	8.5	10.1	8.4	2.8	9.6
Cycle Q Clear(g_c), s	50.1	20.4	13.1	51.7	76.9	0.0	4.1	8.5	10.1	8.4	2.8	9.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	470	2180	656	511	2298		52	542	214	166	582	239
V/C Ratio(X)	1.05	0.70	0.56	0.96	0.94		0.76	0.34	0.40	0.93	0.10	0.35
Avail Cap(c_a), veh/h	470	2180	656	563	2298		52	679	268	166	720	297
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.58	0.58	0.58	0.09	0.09	0.00	1.00	1.00	1.00	0.99	0.99	0.99
Uniform Delay (d), s/veh	44.9	9.4	9.3	66.8	49.9	0.0	91.6	73.1	73.8	90.1	67.6	70.9
Incr Delay (d2), s/veh	44.1	1.1	2.0	4.9	1.1	0.0	43.0	0.1	0.5	49.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh	23.0	3.9	3.2	23.7	31.9	0.0	2.5	4.1	3.8	4.9	1.3	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	89.0	10.5	11.3	71.7	51.0	0.0	134.5	73.3	74.2	139.1	67.6	71.2
LnGrp LOS	F	B	B	E	D		F	E	E	F	E	E
Approach Vol, veh/h		2378			2657			311			299	
Approach Delay, s/veh		26.9			54.8			81.2			105.4	
Approach LOS		C			D			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	58.4	86.3	9.4	35.9	54.0	90.7	13.0	32.3				
Change Period (Y+Rc), s	4.4	5.7	4.4	* 5.3	4.4	5.7	4.4	5.3				
Max Green Setting (Gmax), s	59.5	68.1	5.0	* 38	49.6	78.0	8.6	34.0				
Max Q Clear Time (g_c+5), s	53.7	22.4	6.1	11.6	52.1	78.9	10.4	12.1				
Green Ext Time (p_c), s	0.3	2.3	0.0	0.2	0.0	0.0	0.0	0.3				

Intersection Summary

HCM 6th Ctrl Delay	47.2
HCM 6th LOS	D

Notes

- User approved volume balancing among the lanes for turning movement.
- \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
- Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary  
 23: Camino Santa Fe & Mira Mesa Blvd

Opening Year 2027 AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘	↑↑	↗	↘↗	↑↑	↗
Traffic Volume (veh/h)	30	365	120	605	3334	305	218	154	103	114	320	173
Future Volume (veh/h)	30	365	120	605	3334	305	218	154	103	114	320	173
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.98	1.00		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	401	132	630	3473	318	222	157	105	134	376	204
Peak Hour Factor	0.91	0.91	0.91	0.96	0.96	0.96	0.98	0.98	0.98	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	47	714	207	796	2862	865	194	866	1082	243	722	306
Arrive On Green	0.03	0.14	0.14	0.45	0.56	0.56	0.11	0.24	0.24	0.07	0.20	0.20
Sat Flow, veh/h	1781	5106	1507	1781	5106	1551	1781	3554	1533	3456	3554	1526
Grp Volume(v), veh/h	33	401	132	630	3473	318	222	157	105	134	376	204
Grp Sat Flow(s),veh/h/ln	1781	1702	1507	1781	1702	1551	1781	1777	1533	1728	1777	1526
Q Serve(g_s), s	3.5	13.9	15.7	57.5	106.5	21.7	20.7	6.6	0.0	7.1	17.9	23.4
Cycle Q Clear(g_c), s	3.5	13.9	15.7	57.5	106.5	21.7	20.7	6.6	0.0	7.1	17.9	23.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	47	714	207	796	2862	865	194	866	1082	243	722	306
V/C Ratio(X)	0.70	0.56	0.64	0.79	1.21	0.37	1.15	0.18	0.10	0.55	0.52	0.67
Avail Cap(c_a), veh/h	53	1169	341	796	2862	865	194	866	1082	243	722	306
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.70	0.70	0.70	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	91.7	76.3	77.5	44.9	41.8	23.4	84.7	56.9	9.7	85.4	67.5	70.1
Incr Delay (d2), s/veh	17.5	0.2	0.9	5.0	99.5	0.1	109.3	0.5	0.2	1.6	2.7	11.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	6.0	6.1	25.9	68.5	7.8	15.3	3.0	1.5	3.2	8.3	10.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	109.2	76.4	78.3	49.9	141.3	23.5	194.0	57.3	9.9	87.0	70.1	81.1
LnGrp LOS	F	E	E	D	F	C	F	E	A	F	E	F
Approach Vol, veh/h		566		4421		484		714				
Approach Delay, s/veh		78.8		119.8		109.7		76.4				
Approach LOS		E		F		F		E				
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	38.8	32.1	24.6	44.5	8.9	112.0	17.3	51.8				
Change Period (Y+Rc), s	4.4	6.0	4.4	6.4	4.4	6.0	4.4	6.0				
Max Green Setting (Gmax), s	60.1	43.0	19.6	38.1	5.1	106.0	12.3	45.8				
Max Q Clear Time (g_c+5), s	59.5	17.7	22.7	25.4	5.5	108.5	9.1	8.6				
Green Ext Time (p_c), s	0.4	0.6	0.0	0.5	0.0	0.0	0.0	0.2				

Intersection Summary

HCM 6th Ctrl Delay	110.2
HCM 6th LOS	F

HCM 6th Signalized Intersection Summary  
 24: Camino Ruiz & Mira Mesa Blvd

Opening Year 2027 AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↑ ↑ ↑		↖ ↗	↑ ↑ ↑	↖	↖	↑ ↑ ↑	↖	↖ ↗	↑ ↑	↖
Traffic Volume (veh/h)	88	737	17	197	2780	117	92	275	227	369	470	192
Future Volume (veh/h)	88	737	17	197	2780	117	92	275	227	369	470	192
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.95	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	126	1053	24	221	3124	19	118	353	99	401	511	46
Peak Hour Factor	0.70	0.70	0.70	0.89	0.89	0.89	0.78	0.78	0.78	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	129	2636	60	266	2811	847	426	1905	561	366	829	338
Arrive On Green	0.04	0.51	0.51	0.08	0.55	0.55	0.24	0.37	0.37	0.11	0.23	0.23
Sat Flow, veh/h	3456	5132	117	3456	5106	1538	1781	5106	1503	3456	3554	1465
Grp Volume(v), veh/h	126	698	379	221	3124	19	118	353	99	401	511	46
Grp Sat Flow(s),veh/h/ln	1728	1702	1845	1728	1702	1538	1781	1702	1503	1728	1777	1465
Q Serve(g_s), s	6.9	23.8	23.9	12.0	104.6	1.1	10.3	8.8	8.4	20.1	24.5	4.7
Cycle Q Clear(g_c), s	6.9	23.8	23.9	12.0	104.6	1.1	10.3	8.8	8.4	20.1	24.5	4.7
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	129	1749	948	266	2811	847	426	1905	561	366	829	338
V/C Ratio(X)	0.98	0.40	0.40	0.83	1.11	0.02	0.28	0.19	0.18	1.10	0.62	0.14
Avail Cap(c_a), veh/h	129	1749	948	347	2811	847	426	1905	561	366	829	338
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	91.4	28.3	28.3	86.5	42.7	20.0	58.9	40.1	40.0	85.0	65.2	58.1
Incr Delay (d2), s/veh	71.2	0.1	0.1	9.8	55.8	0.0	0.1	0.2	0.7	75.7	3.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	9.7	10.6	5.7	57.0	0.4	4.7	3.8	3.3	12.8	11.5	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	162.6	28.3	28.4	96.3	98.5	20.0	59.1	40.3	40.6	160.7	68.7	58.9
LnGrp LOS	F	C	C	F	F	B	E	D	D	F	E	E
Approach Vol, veh/h		1203			3364			570			958	
Approach Delay, s/veh		42.4			97.9			44.3			106.7	
Approach LOS		D			F			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.5	102.4	51.1	49.5	11.9	109.0	24.0	76.6				
Change Period (Y+Rc), s	4.4	5.3	5.3	* 5.7	5.3	* 4.9	4.4	5.3				
Max Green Setting (Gmax), s	10.6	91.7	16.1	* 44	6.6	* 1E2	19.6	40.7				
Max Q Clear Time (g_c+1/4), s	11.0	25.9	12.3	26.5	8.9	106.6	22.1	10.8				
Green Ext Time (p_c), s	0.1	1.0	0.0	0.6	0.0	0.0	0.0	0.5				

Intersection Summary

HCM 6th Ctrl Delay	83.3
HCM 6th LOS	F

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 25: Black Mountain Rd & Mira Mesa Blvd

Opening Year 2027 AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖
Traffic Volume (veh/h)	248	1549	152	240	2434	108	190	236	118	505	697	541
Future Volume (veh/h)	248	1549	152	240	2434	108	190	236	118	505	697	541
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	273	1702	167	273	2766	123	221	274	137	574	792	615
Peak Hour Factor	0.91	0.91	0.91	0.88	0.88	0.88	0.86	0.86	0.86	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	238	2291	787	318	2408	956	202	1309	565	493	1609	701
Arrive On Green	0.07	0.45	0.45	0.09	0.47	0.47	0.06	0.37	0.37	0.14	0.45	0.45
Sat Flow, veh/h	3456	5106	1548	3456	5106	1549	3456	3554	1544	3456	3554	1548
Grp Volume(v), veh/h	273	1702	167	273	2766	123	221	274	137	574	792	615
Grp Sat Flow(s),veh/h/ln	1728	1702	1548	1728	1702	1549	1728	1777	1544	1728	1777	1548
Q Serve(g_s), s	13.1	52.4	11.3	14.8	89.6	6.3	11.1	10.0	11.7	27.1	29.8	68.5
Cycle Q Clear(g_c), s	13.1	52.4	11.3	14.8	89.6	6.3	11.1	10.0	11.7	27.1	29.8	68.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	238	2291	787	318	2408	956	202	1309	565	493	1609	701
V/C Ratio(X)	1.15	0.74	0.21	0.86	1.15	0.13	1.09	0.21	0.24	1.16	0.49	0.88
Avail Cap(c_a), veh/h	238	2291	787	406	2408	956	202	1309	565	493	1609	701
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	88.5	43.3	25.9	85.1	50.2	15.4	89.4	41.1	41.9	81.5	36.6	47.2
Incr Delay (d2), s/veh	103.3	1.2	0.0	11.7	72.3	0.0	90.9	0.4	1.0	94.3	1.1	14.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.3	22.2	4.3	7.1	53.4	2.3	7.5	4.5	4.7	18.6	13.4	28.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	191.8	44.5	25.9	96.7	122.5	15.4	180.4	41.4	43.0	175.8	37.7	61.8
LnGrp LOS	F	D	C	F	F	B	F	D	D	F	D	E
Approach Vol, veh/h		2142			3162			632			1981	
Approach Delay, s/veh		61.8			116.1			90.3			85.2	
Approach LOS		E			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	31.4	90.0	15.0	91.6	17.0	94.4	31.0	75.6				
Change Period (Y+Rc), s	4.4	5.3	4.4	* 5.3	4.4	* 5.3	4.4	5.3				
Max Green Setting (Gmax), s	21.8	79.5	10.6	* 59	12.6	* 89	26.6	42.7				
Max Q Clear Time (g_c+1/0.8), s	110.8	54.4	13.1	70.5	15.1	91.6	29.1	13.7				
Green Ext Time (p_c), s	0.2	2.7	0.0	0.0	0.0	0.0	0.0	0.4				

Intersection Summary

HCM 6th Ctrl Delay	91.6
HCM 6th LOS	F

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 26: Mira Mesa Blvd & I-15 SB Ramps

Opening Year 2027 AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑↑		↑↑↑	↑				↑↑		↑↑
Traffic Volume (veh/h)	0	1549	1720	0	1929	858	0	0	0	283	0	1549
Future Volume (veh/h)	0	1549	1720	0	1929	858	0	0	0	283	0	1549
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	0	1870
Adj Flow Rate, veh/h	0	1738	0	0	2051	903				295	0	1678
Peak Hour Factor	0.90	0.90	0.90	0.95	0.95	0.95				0.96	0.96	0.96
Percent Heavy Veh, %	0	2	2	0	2	2				2	0	2
Cap, veh/h	0	2019		0	2019	1399				1756	0	1418
Arrive On Green	0.00	0.40	0.00	0.00	0.40	0.39				0.51	0.00	0.51
Sat Flow, veh/h	0	5274	2790	0	5274	1519				3456	0	2790
Grp Volume(v), veh/h	0	1738	0	0	2051	903				295	0	1678
Grp Sat Flow(s),veh/h/ln	0	1702	1395	0	1702	1519				1728	0	1395
Q Serve(g_s), s	0.0	34.3	0.0	0.0	43.5	16.3				5.0	0.0	55.9
Cycle Q Clear(g_c), s	0.0	34.3	0.0	0.0	43.5	16.3				5.0	0.0	55.9
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2019		0	2019	1399				1756	0	1418
V/C Ratio(X)	0.00	0.86		0.00	1.02	0.65				0.17	0.00	1.18
Avail Cap(c_a), veh/h	0	2019		0	2019	1399				1756	0	1418
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	0.48	0.48				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	30.5	0.0	0.0	33.3	1.4				14.5	0.0	27.0
Incr Delay (d2), s/veh	0.0	3.9	0.0	0.0	18.0	0.4				0.2	0.0	90.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	14.0	0.0	0.0	20.2	24.7				2.0	0.0	35.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	34.3	0.0	0.0	51.2	1.8				14.8	0.0	117.2
LnGrp LOS	A	C		A	F	A				B	A	F
Approach Vol, veh/h		1738			2954						1973	
Approach Delay, s/veh		34.3			36.1						101.9	
Approach LOS		C			D						F	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		49.0		61.0		49.0						
Change Period (Y+Rc), s		6.0		5.1		6.0						
Max Green Setting (Gmax), s		43.0		55.9		43.0						
Max Q Clear Time (g_c+I1), s		36.3		57.9		45.5						
Green Ext Time (p_c), s		3.3		0.0		0.0						

Intersection Summary

HCM 6th Ctrl Delay	55.1
HCM 6th LOS	E

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary  
 27: I-15 NB Ramps & Mira Mesa Blvd

Opening Year 2027 AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗	↘↘		↗↗			
Traffic Volume (veh/h)	0	902	886	0	1721	290	1063	0	414	0	0	0
Future Volume (veh/h)	0	902	886	0	1721	290	1063	0	414	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No		No		No		No				
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	0	1870			
Adj Flow Rate, veh/h	0	991	974	0	1891	0	1265	0	493			
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.84	0.84	0.84			
Percent Heavy Veh, %	0	2	2	0	2	2	2	0	2			
Cap, veh/h	0	2613	1409	0	2613		1368	0	1104			
Arrive On Green	0.00	0.51	0.51	0.00	0.51	0.00	0.40	0.00	0.40			
Sat Flow, veh/h	0	5274	1527	0	5274	1585	3456	0	2790			
Grp Volume(v), veh/h	0	991	974	0	1891	0	1265	0	493			
Grp Sat Flow(s),veh/h/ln	0	1702	1527	0	1702	1585	1728	0	1395			
Q Serve(g_s), s	0.0	14.1	19.6	0.0	34.5	0.0	41.9	0.0	15.6			
Cycle Q Clear(g_c), s	0.0	14.1	19.6	0.0	34.5	0.0	41.9	0.0	15.6			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2613	1409	0	2613		1368	0	1104			
V/C Ratio(X)	0.00	0.38	0.69	0.00	0.72		0.92	0.00	0.45			
Avail Cap(c_a), veh/h	0	2613	1409	0	2613		1581	0	1276			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.56	0.56	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	17.8	1.4	0.0	22.7	0.0	34.6	0.0	26.6			
Incr Delay (d2), s/veh	0.0	0.2	1.6	0.0	1.8	0.0	8.2	0.0	0.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	5.4	29.8	0.0	13.6	0.0	18.8	0.0	5.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	18.0	3.0	0.0	24.5	0.0	42.8	0.0	26.7			
LnGrp LOS		A	B	A	A	C	D	A	C			
Approach Vol, veh/h		1965			1891			1758				
Approach Delay, s/veh		10.6			24.5			38.3				
Approach LOS		B			C			D				
Timer - Assigned Phs		2			4			6				
Phs Duration (G+Y+Rc), s		67.4			52.6			67.4				
Change Period (Y+Rc), s		6.0			5.1			6.0				
Max Green Setting (Gmax), s		54.0			54.9			54.0				
Max Q Clear Time (g_c+I1), s		21.6			43.9			36.5				
Green Ext Time (p_c), s		8.5			3.6			9.5				

Intersection Summary

HCM 6th Ctrl Delay	23.9
HCM 6th LOS	C

Notes

User approved changes to right turn type.  
 Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary  
 28: I-805 Direct Access Ramps & Carroll Canyon Rd

Opening Year 2027 AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖		↗		↕	
Traffic Volume (veh/h)	0	564	7	29	154	16	17	0	106	39	0	0
Future Volume (veh/h)	0	564	7	29	154	16	17	0	106	39	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	0	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	576	7	31	166	17	24	0	149	48	0	0
Peak Hour Factor	0.98	0.98	0.98	0.93	0.93	0.93	0.71	0.71	0.71	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	0	2	2	2	2
Cap, veh/h	1	2913	35	48	2847	288	0	0	0	62	0	0
Arrive On Green	0.00	0.81	0.81	0.03	0.88	0.88	0.00	0.00	0.00	0.04	0.00	0.00
Sat Flow, veh/h	1781	3594	44	1781	3248	328		0		1781	0	0
Grp Volume(v), veh/h	0	285	298	31	90	93		0.0		48	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1861	1781	1777	1799				1781	0	0
Q Serve(g_s), s	0.0	4.3	4.3	2.1	0.8	0.8				3.2	0.0	0.0
Cycle Q Clear(g_c), s	0.0	4.3	4.3	2.1	0.8	0.8				3.2	0.0	0.0
Prop In Lane	1.00		0.02	1.00		0.18				1.00		0.00
Lane Grp Cap(c), veh/h	1	1440	1508	48	1558	1577				62	0	0
V/C Ratio(X)	0.00	0.20	0.20	0.65	0.06	0.06				0.77	0.00	0.00
Avail Cap(c_a), veh/h	74	1440	1508	168	1558	1577				230	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	2.6	2.6	57.8	1.0	1.0				57.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.3	5.4	0.1	0.1				7.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.1	1.1	1.0	0.1	0.1				1.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	2.9	2.9	63.2	1.0	1.0				64.6	0.0	0.0
LnGrp LOS	A	A	A	E	A	A				E	A	A
Approach Vol, veh/h		583			214						48	
Approach Delay, s/veh		2.9			10.0						64.6	
Approach LOS		A			B						E	
Timer - Assigned Phs	1	2		4	5	6						
Phs Duration (G+Y+Rc), s	7.9	102.4		9.7	0.0	110.3						
Change Period (Y+Rc), s	4.7	5.1		5.5	* 4.7	5.1						
Max Green Setting (Gmax), s	45.9			15.5	* 5	52.2						
Max Q Clear Time (g_c+1/4), s	6.3			5.2	0.0	2.8						
Green Ext Time (p_c), s	0.0	2.0		0.1	0.0	0.6						

Intersection Summary

HCM 6th Ctrl Delay	8.2
HCM 6th LOS	A

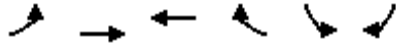
Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



HCM 6th Signalized Intersection Summary  
 29: Carroll Canyon Rd & Scranton Rd

Opening Year 2027 AM  
 08/04/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖↗	↑↑	↑↑	↖	↖↗	↖
Traffic Volume (veh/h)	173	646	158	86	301	44
Future Volume (veh/h)	173	646	158	86	301	44
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	186	695	193	105	327	48
Peak Hour Factor	0.93	0.93	0.82	0.82	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	288	2436	1876	806	502	223
Arrive On Green	0.08	0.69	0.53	0.53	0.14	0.14
Sat Flow, veh/h	3456	3647	3647	1528	3563	1585
Grp Volume(v), veh/h	186	695	193	105	327	48
Grp Sat Flow(s),veh/h/ln	1728	1777	1777	1528	1781	1585
Q Serve(g_s), s	3.2	4.6	1.6	2.1	5.3	1.6
Cycle Q Clear(g_c), s	3.2	4.6	1.6	2.1	5.3	1.6
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	288	2436	1876	806	502	223
V/C Ratio(X)	0.65	0.29	0.10	0.13	0.65	0.21
Avail Cap(c_a), veh/h	428	2436	1876	806	1942	864
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.9	3.7	7.1	7.2	24.6	23.0
Incr Delay (d2), s/veh	2.4	0.3	0.1	0.3	1.4	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.8	0.5	0.6	2.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	29.3	4.0	7.2	7.6	26.0	23.5
LnGrp LOS	C	A	A	A	C	C
Approach Vol, veh/h		881	298		375	
Approach Delay, s/veh		9.3	7.4		25.7	
Approach LOS		A	A		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		47.5		13.0	9.5	38.0
Change Period (Y+Rc), s		6.0		4.5	4.5	6.0
Max Green Setting (Gmax), s		41.5		33.0	7.5	29.5
Max Q Clear Time (g_c+I1), s		6.6		7.3	5.2	4.1
Green Ext Time (p_c), s		4.8		1.3	0.1	1.4

Intersection Summary

HCM 6th Ctrl Delay	12.9
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary  
 1: I-5 SB On-Ramp/I-5 SB Off-Ramp & Carmel Mountain Rd

Opening Year 2027 PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↘↗	↑↑					↘	↔	↗
Traffic Volume (veh/h)	0	855	88	380	217	0	0	0	0	528	0	240
Future Volume (veh/h)	0	855	88	380	217	0	0	0	0	528	0	240
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00				1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	919	95	427	244	0				670	0	178
Peak Hour Factor	0.93	0.93	0.93	0.89	0.89	0.89				0.90	0.90	0.90
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1551	675	480	2180	0				1066	0	461
Arrive On Green	0.00	0.44	0.44	0.14	0.61	0.00				0.30	0.00	0.30
Sat Flow, veh/h	0	3647	1547	3456	3647	0				3563	0	1539
Grp Volume(v), veh/h	0	919	95	427	244	0				670	0	178
Grp Sat Flow(s),veh/h/ln	0	1777	1547	1728	1777	0				1781	0	1539
Q Serve(g_s), s	0.0	29.5	5.5	18.2	4.3	0.0				24.3	0.0	13.7
Cycle Q Clear(g_c), s	0.0	29.5	5.5	18.2	4.3	0.0				24.3	0.0	13.7
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1551	675	480	2180	0				1066	0	461
V/C Ratio(X)	0.00	0.59	0.14	0.89	0.11	0.00				0.63	0.00	0.39
Avail Cap(c_a), veh/h	0	1551	675	675	2180	0				1066	0	461
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	32.1	25.4	63.4	12.0	0.0				45.3	0.0	41.6
Incr Delay (d2), s/veh	0.0	1.7	0.4	8.4	0.1	0.0				2.8	0.0	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	13.1	2.2	8.6	1.8	0.0				11.3	0.0	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	33.8	25.8	71.8	12.1	0.0				48.2	0.0	44.1
LnGrp LOS	A	C	C	E	B	A				D	A	D
Approach Vol, veh/h		1014			671						848	
Approach Delay, s/veh		33.1			50.1						47.3	
Approach LOS		C			D						D	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	26.5	72.5		51.0		99.0						
Change Period (Y+Rc), s	* 5.7	7.0		6.1		7.0						
Max Green Setting (Gmax), s	* 29	57.0		44.9		92.0						
Max Q Clear Time (g_c+I1), s	20.2	31.5		26.3		6.3						
Green Ext Time (p_c), s	0.6	5.0		1.7		1.1						

Intersection Summary

HCM 6th Ctrl Delay	42.3
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 2: I-5 NB Off-Ramp/I-5 NB On-Ramp & Carmel Mountain Rd

Opening Year 2027 PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑↑	↗	↘	↕	↗			
Traffic Volume (veh/h)	656	734	0	0	527	737	74	5	535	0	0	0
Future Volume (veh/h)	656	734	0	0	527	737	74	5	535	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		0.95			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	683	765	0	0	573	366	57	0	425			
Peak Hour Factor	0.96	0.96	0.96	0.92	0.92	0.92	0.89	0.89	0.89			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	716	2660	0	0	1493	450	216	0	364			
Arrive On Green	0.40	0.75	0.00	0.00	0.29	0.29	0.12	0.00	0.12			
Sat Flow, veh/h	1781	3647	0	0	5274	1538	1781	0	3000			
Grp Volume(v), veh/h	683	765	0	0	573	366	57	0	425			
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1702	1538	1781	0	1500			
Q Serve(g_s), s	38.9	7.2	0.0	0.0	9.4	23.1	3.0	0.0	12.7			
Cycle Q Clear(g_c), s	38.9	7.2	0.0	0.0	9.4	23.1	3.0	0.0	12.7			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	716	2660	0	0	1493	450	216	0	364			
V/C Ratio(X)	0.95	0.29	0.00	0.00	0.38	0.81	0.26	0.00	1.17			
Avail Cap(c_a), veh/h	976	4203	0	0	2963	893	216	0	364			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	30.4	4.2	0.0	0.0	29.5	34.4	41.7	0.0	46.0			
Incr Delay (d2), s/veh	14.0	0.0	0.0	0.0	0.1	1.4	0.2	0.0	100.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	18.8	2.2	0.0	0.0	3.8	8.7	1.3	0.0	9.8			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.4	4.2	0.0	0.0	29.6	35.7	41.9	0.0	146.8			
LnGrp LOS	D	A	A	A	C	D	D	A	F			
Approach Vol, veh/h		1448			939			482				
Approach Delay, s/veh		23.2			32.0			134.4				
Approach LOS		C			C			F				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		85.8			47.7	38.1		18.8				
Change Period (Y+Rc), s		7.5			* 5.7	7.5		6.1				
Max Green Setting (Gmax), s		123.7			* 57	60.7		12.7				
Max Q Clear Time (g_c+l1), s		9.2			40.9	25.1		14.7				
Green Ext Time (p_c), s		4.0			1.1	3.6		0.0				

Intersection Summary

HCM 6th Ctrl Delay	44.7
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 3: Vista Sorrento Pkwy/Torrey View Ct & Carmel Mountain Rd

Opening Year 2027 PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑	↖↗	↖↗	↑↑	↖↗
Traffic Volume (veh/h)	19	87	67	404	76	320	279	649	590	254	412	15
Future Volume (veh/h)	19	87	67	404	76	320	279	649	590	254	412	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	112	86	449	84	356	303	705	641	270	438	16
Peak Hour Factor	0.78	0.78	0.78	0.90	0.90	0.90	0.92	0.92	0.92	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	113	770	396	506	1351	556	367	810	1588	327	1473	54
Arrive On Green	0.03	0.15	0.15	0.15	0.26	0.26	0.11	0.43	0.43	0.09	0.42	0.42
Sat Flow, veh/h	3456	5106	1513	3456	5106	1535	3456	1870	2723	3456	3493	127
Grp Volume(v), veh/h	24	112	86	449	84	356	303	705	641	270	222	232
Grp Sat Flow(s),veh/h/ln	1728	1702	1513	1728	1702	1535	1728	1870	1362	1728	1777	1844
Q Serve(g_s), s	0.8	2.2	5.1	14.5	1.4	22.0	9.8	39.0	14.7	8.7	9.4	9.5
Cycle Q Clear(g_c), s	0.8	2.2	5.1	14.5	1.4	22.0	9.8	39.0	14.7	8.7	9.4	9.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	113	770	396	506	1351	556	367	810	1588	327	749	777
V/C Ratio(X)	0.21	0.15	0.22	0.89	0.06	0.64	0.83	0.87	0.40	0.83	0.30	0.30
Avail Cap(c_a), veh/h	213	1642	655	540	2136	792	562	810	1588	346	749	777
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.6	42.0	33.3	47.6	31.3	30.4	49.8	29.3	13.2	50.6	21.8	21.8
Incr Delay (d2), s/veh	0.3	0.1	0.4	14.9	0.0	1.9	3.4	12.3	0.8	13.3	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.9	1.8	7.3	0.6	7.8	4.2	18.5	4.1	4.4	4.1	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.0	42.1	33.7	62.5	31.3	32.3	53.2	41.6	13.9	63.8	22.8	22.7
LnGrp LOS	D	D	C	E	C	C	D	D	B	E	C	C
Approach Vol, veh/h		222			889			1649			724	
Approach Delay, s/veh		40.1			47.5			33.0			38.1	
Approach LOS		D			D			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.1	23.0	16.5	53.3	8.1	35.9	15.2	54.6				
Change Period (Y+Rc), s	4.4	5.8	4.4	5.3	4.4	* 5.8	4.4	5.3				
Max Green Setting (Gmax), s	17.8	36.6	18.5	42.2	7.0	* 48	11.4	49.3				
Max Q Clear Time (g_c+110), s	11.0	7.1	11.8	11.5	2.8	24.0	10.7	41.0				
Green Ext Time (p_c), s	0.2	1.4	0.3	3.6	0.0	3.1	0.0	5.0				

Intersection Summary

HCM 6th Ctrl Delay	38.2
HCM 6th LOS	D

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
4: Roselle St & 1-5 SB On-Ramp

Opening Year 2027 PM  
08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑		↑↑	↑			↑	
Traffic Volume (veh/h)	0	0	0	0	0	0	1313	75	0	0	175	125
Future Volume (veh/h)	0	0	0	0	0	0	1313	75	0	0	175	125
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.95
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				0	1870	0	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				0	0	0	1563	89	0	0	203	145
Peak Hour Factor				0.92	0.92	0.92	0.84	0.84	0.92	0.92	0.86	0.86
Percent Heavy Veh, %				0	2	0	2	2	0	0	2	2
Cap, veh/h				0	0	0	1810	1669	0	0	268	192
Arrive On Green				0.00	0.00	0.00	0.52	0.89	0.00	0.00	0.27	0.27
Sat Flow, veh/h				0			3456	1870	0	0	989	706
Grp Volume(v), veh/h				0.0			1563	89	0	0	0	348
Grp Sat Flow(s),veh/h/ln							1728	1870	0	0	0	1695
Q Serve(g_s), s							17.9	0.2	0.0	0.0	0.0	8.5
Cycle Q Clear(g_c), s							17.9	0.2	0.0	0.0	0.0	8.5
Prop In Lane							1.00		0.00	0.00		0.42
Lane Grp Cap(c), veh/h							1810	1669	0	0	0	460
V/C Ratio(X)							0.86	0.05	0.00	0.00	0.00	0.76
Avail Cap(c_a), veh/h							3088	2601	0	0	0	679
HCM Platoon Ratio							1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)							1.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh							9.4	0.3	0.0	0.0	0.0	15.2
Incr Delay (d2), s/veh							0.6	0.0	0.0	0.0	0.0	3.1
Initial Q Delay(d3),s/veh							0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln							4.6	0.0	0.0	0.0	0.0	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh							10.0	0.3	0.0	0.0	0.0	18.3
LnGrp LOS							A	A	A	A	A	B
Approach Vol, veh/h								1652			348	
Approach Delay, s/veh								9.5			18.3	
Approach LOS								A			B	
Timer - Assigned Phs		2			5	6						
Phs Duration (G+Y+Rc), s		45.4			28.2	17.2						
Change Period (Y+Rc), s		4.9			4.4	4.9						
Max Green Setting (Gmax), s		63.2			40.6	18.2						
Max Q Clear Time (g_c+I1), s		2.2			19.9	10.5						
Green Ext Time (p_c), s		0.6			3.9	1.4						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay											11.0	
HCM 6th LOS											B	

HCM Unsignalized Intersection Capacity Analysis  
5: Roselle St & Sorrento Valley Blvd

Opening Year 2027 PM  
08/04/2023



Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	↶	↶↶	↶	↶↶		↶	
Traffic Volume (veh/h)	92	1234	104	682	169	9	
Future Volume (Veh/h)	92	1234	104	682	169	9	
Sign Control	Free		Stop			Stop	
Grade	0%		0%			0%	
Peak Hour Factor	0.83	0.83	0.91	0.91	0.89	0.89	
Hourly flow rate (vph)	111	1487	114	749	190	10	
Pedestrians	10		10			10	
Lane Width (ft)	12.0		12.0			12.0	
Walking Speed (ft/s)	4.0		4.0			4.0	
Percent Blockage	1		1			1	
Right turn flare (veh)							
Median type	None						
Median storage (veh)							
Upstream signal (ft)	1003						
pX, platoon unblocked							
vC, conflicting volume	10		242	20	299	242	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	10		242	20	299	242	
tC, single (s)	4.1		6.5	6.2	7.1	6.5	
tC, 2 stage (s)							
tF (s)	2.2		4.0	3.3	3.5	4.0	
p0 queue free %	93		81	28	0	98	
cM capacity (veh/h)	1596		604	1040	144	604	
Direction, Lane #	WB 1	WB 2	WB 3	NB 1	NB 2	NB 3	SB 1
Volume Total	111	744	744	114	374	374	200
Volume Left	111	0	0	0	0	0	190
Volume Right	0	744	744	0	374	374	0
cSH	1596	1700	1700	604	1040	1040	150
Volume to Capacity	0.07	0.44	0.44	0.19	0.36	0.36	1.34
Queue Length 95th (ft)	6	0	0	17	41	41	309
Control Delay (s)	7.4	0.0	0.0	12.3	10.4	10.4	246.4
Lane LOS	A			B	B	B	F
Approach Delay (s)	0.5			10.7			246.4
Approach LOS				B			F
Intersection Summary							
Average Delay			22.3				
Intersection Capacity Utilization			58.6%	ICU Level of Service		B	
Analysis Period (min)			15				

Intersection						
Intersection Delay, s/veh	21.2					
Intersection LOS	C					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖↗	↗		↕↕	↕	
Traffic Vol, veh/h	815	56	0	229	93	0
Future Vol, veh/h	815	56	0	229	93	0
Peak Hour Factor	0.94	0.94	0.80	0.80	0.78	0.78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	867	60	0	286	119	0
Number of Lanes	2	1	0	2	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	SB		
Conflicting Lanes Left	1	3	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	3
HCM Control Delay	25.3	11.5	13
HCM LOS	D	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	SBLn1
Vol Left, %	0%	0%	100%	100%	0%	0%
Vol Thru, %	100%	100%	0%	0%	0%	100%
Vol Right, %	0%	0%	0%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	115	115	408	408	56	93
LT Vol	0	0	408	408	0	0
Through Vol	115	115	0	0	0	93
RT Vol	0	0	0	0	56	0
Lane Flow Rate	143	143	434	434	60	119
Geometry Grp	8	8	7	7	7	8
Degree of Util (X)	0.291	0.221	0.762	0.762	0.056	0.254
Departure Headway (Hd)	7.307	5.551	6.331	6.331	3.371	7.669
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	491	644	572	572	1058	467
Service Time	5.063	3.306	4.066	4.066	1.106	5.433
HCM Lane V/C Ratio	0.291	0.222	0.759	0.759	0.057	0.255
HCM Control Delay	13.1	9.9	26.6	26.6	6.3	13
HCM Lane LOS	B	A	D	D	A	B
HCM 95th-tile Q	1.2	0.8	6.8	6.8	0.2	1

HCM 6th Signalized Intersection Summary  
 7: Vista Sorrento Pkwy & Sorrento Valley Blvd

Opening Year 2027 PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗		↖	↖↗		↖	↖↗	↖
Traffic Volume (veh/h)	156	804	88	156	599	377	723	1082	514	527	135	120
Future Volume (veh/h)	156	804	88	156	599	377	723	1082	514	527	135	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.97	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	184	946	104	181	697	438	761	1139	436	567	145	129
Peak Hour Factor	0.85	0.85	0.85	0.86	0.86	0.86	0.95	0.95	0.95	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	130	877	96	130	563	353	674	975	362	441	232	301
Arrive On Green	0.07	0.27	0.27	0.07	0.27	0.27	0.38	0.38	0.38	0.12	0.12	0.12
Sat Flow, veh/h	1781	3213	353	1781	2063	1291	1781	2579	957	3563	1870	1501
Grp Volume(v), veh/h	184	523	527	181	600	535	761	816	759	567	145	129
Grp Sat Flow(s),veh/h/ln	1781	1777	1789	1781	1777	1577	1781	1870	1666	1781	1870	1501
Q Serve(g_s), s	10.6	39.7	39.7	10.6	39.7	39.7	55.0	55.0	55.0	18.0	10.7	11.0
Cycle Q Clear(g_c), s	10.6	39.7	39.7	10.6	39.7	39.7	55.0	55.0	55.0	18.0	10.7	11.0
Prop In Lane	1.00		0.20	1.00		0.82	1.00		0.57	1.00		1.00
Lane Grp Cap(c), veh/h	130	485	489	130	485	431	674	707	630	441	232	301
V/C Ratio(X)	1.42	1.08	1.08	1.39	1.24	1.24	1.13	1.15	1.20	1.29	0.63	0.43
Avail Cap(c_a), veh/h	130	485	489	130	485	431	674	707	630	441	232	301
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.4	52.9	52.9	67.4	52.9	52.9	45.2	45.2	45.2	63.7	60.5	51.3
Incr Delay (d2), s/veh	226.6	63.5	63.5	217.2	123.3	127.3	76.1	84.8	106.4	144.8	4.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.9	25.8	25.9	12.6	33.8	30.5	37.4	40.9	40.2	16.8	5.2	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	294.0	116.4	116.4	284.6	176.1	180.2	121.3	130.0	151.6	208.5	64.5	51.7
LnGrp LOS	F	F	F	F	F	F	F	F	F	F	E	D
Approach Vol, veh/h		1234			1316			2336			841	
Approach Delay, s/veh		142.9			192.7			134.2			159.6	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.0	45.4		24.0	15.0	45.4		61.0				
Change Period (Y+Rc), s	4.4	* 5.7		6.0	4.4	5.7		6.0				
Max Green Setting (Gmax), s	10.6	* 40		18.0	10.6	39.3		55.0				
Max Q Clear Time (g_c+1/2g), s	10.6	41.7		20.0	12.6	41.7		57.0				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	153.2
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



HCM 6th Signalized Intersection Summary  
 8: Vista Sorrento Pkwy & Lusk Blvd

Opening Year 2027 PM  
 08/04/2023



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	377	1418	891	106	146	238
Future Volume (veh/h)	377	1418	891	106	146	238
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.97	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	414	679	990	118	162	264
Peak Hour Factor	0.91	0.91	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	429	845	1845	220	214	1263
Arrive On Green	0.24	0.24	0.58	0.58	0.06	0.68
Sat Flow, veh/h	1781	2790	3277	379	3456	1870
Grp Volume(v), veh/h	414	679	552	556	162	264
Grp Sat Flow(s),veh/h/ln	1781	1395	1777	1786	1728	1870
Q Serve(g_s), s	29.9	29.2	24.7	24.7	6.0	6.9
Cycle Q Clear(g_c), s	29.9	29.2	24.7	24.7	6.0	6.9
Prop In Lane	1.00	1.00		0.21	1.00	
Lane Grp Cap(c), veh/h	429	845	1030	1035	214	1263
V/C Ratio(X)	0.97	0.80	0.54	0.54	0.76	0.21
Avail Cap(c_a), veh/h	429	845	1030	1035	1106	1263
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.8	41.8	16.7	16.7	60.0	8.0
Incr Delay (d2), s/veh	34.2	5.3	2.0	2.0	2.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.8	10.2	9.7	9.8	2.6	2.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	83.0	47.0	18.7	18.7	62.0	8.4
LnGrp LOS	F	D	B	B	E	A
Approach Vol, veh/h	1093		1108			426
Approach Delay, s/veh	60.7		18.7			28.8
Approach LOS	E		B			C
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	22.5	81.3			93.8	36.2
Change Period (Y+Rc), s	4.4	6.0			6.0	4.9
Max Green Setting (Gmax), s	41.6	41.8			87.8	31.3
Max Q Clear Time (g_c+10), s	19.0	26.7			8.9	31.9
Green Ext Time (p_c), s	0.1	1.8			0.4	0.0

Intersection Summary

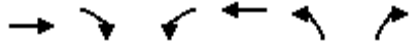
HCM 6th Ctrl Delay	37.8
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary  
 9: Wateridge Cir & Lusk Blvd

Opening Year 2027 PM  
 08/04/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖↗	↑↑	↖	↗
Traffic Volume (veh/h)	289	6	38	599	6	48
Future Volume (veh/h)	289	6	38	599	6	48
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	344	7	50	788	8	48
Peak Hour Factor	0.84	0.84	0.76	0.76	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2153	44	168	2607	93	160
Arrive On Green	0.61	0.61	0.05	0.73	0.05	0.05
Sat Flow, veh/h	3652	72	3456	3647	1781	1585
Grp Volume(v), veh/h	171	180	50	788	8	48
Grp Sat Flow(s),veh/h/ln	1777	1854	1728	1777	1781	1585
Q Serve(g_s), s	2.3	2.3	0.8	4.2	0.2	1.5
Cycle Q Clear(g_c), s	2.3	2.3	0.8	4.2	0.2	1.5
Prop In Lane		0.04	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1075	1122	168	2607	93	160
V/C Ratio(X)	0.16	0.16	0.30	0.30	0.09	0.30
Avail Cap(c_a), veh/h	1075	1122	351	2607	938	912
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	4.8	4.8	25.3	2.5	24.8	23.0
Incr Delay (d2), s/veh	0.3	0.3	0.4	0.3	0.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.6	0.3	0.4	0.1	0.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	5.1	5.1	25.7	2.8	25.0	23.3
LnGrp LOS	A	A	C	A	C	C
Approach Vol, veh/h	351			838	56	
Approach Delay, s/veh	5.1			4.2	23.6	
Approach LOS	A			A	C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	7.1	40.2			47.3	7.8
Change Period (Y+Rc), s	4.4	6.9			* 6.9	4.9
Max Green Setting (Gmax), s	5.6	29.2			* 40	29.0
Max Q Clear Time (g_c+1), s	12.8	4.3			6.2	3.5
Green Ext Time (p_c), s	0.0	0.5			1.8	0.0

Intersection Summary

HCM 6th Ctrl Delay	5.3
HCM 6th LOS	A

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↘	
Traffic Vol, veh/h	419	0	0	947	0	0
Future Vol, veh/h	419	0	0	947	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	455	0	0	1029	0	0

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	455	0	970
Stage 1	-	-	-	-	455
Stage 2	-	-	-	-	515
Critical Hdwy	-	-	4.14	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	-	-	2.22	-	3.52
Pot Cap-1 Maneuver	-	-	1102	-	251
Stage 1	-	-	-	-	606
Stage 2	-	-	-	-	565
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1102	-	251
Mov Cap-2 Maneuver	-	-	-	-	251
Stage 1	-	-	-	-	606
Stage 2	-	-	-	-	565

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1102	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↘	
Traffic Vol, veh/h	419	0	0	947	0	0
Future Vol, veh/h	419	0	0	947	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	455	0	0	1029	0	0

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	455	0	970 228
Stage 1	-	-	-	-	455 -
Stage 2	-	-	-	-	515 -
Critical Hdwy	-	-	4.14	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	2.22	-	3.52 3.32
Pot Cap-1 Maneuver	-	-	1102	-	251 775
Stage 1	-	-	-	-	606 -
Stage 2	-	-	-	-	565 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1102	-	251 775
Mov Cap-2 Maneuver	-	-	-	-	251 -
Stage 1	-	-	-	-	606 -
Stage 2	-	-	-	-	565 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1102	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

HCM 6th Signalized Intersection Summary  
 12: Project Dwy #3/Pacific Center Blvd & Lusk Blvd

Opening Year 2027 PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↔		↔	↕↔			↕↔			↕	↔
Traffic Volume (veh/h)	33	383	3	3	450	58	19	4	24	167	0	478
Future Volume (veh/h)	33	383	3	3	450	58	19	4	24	167	0	478
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.97	1.00		0.98	0.99		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	572	4	3	506	65	36	8	45	180	0	514
Peak Hour Factor	0.67	0.67	0.67	0.89	0.89	0.89	0.53	0.53	0.53	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	158	1038	7	7	775	99	270	81	277	749	0	793
Arrive On Green	0.05	0.29	0.29	0.00	0.25	0.25	0.47	0.47	0.47	0.47	0.00	0.47
Sat Flow, veh/h	3456	3616	25	1781	3155	403	407	174	595	1366	0	1549
Grp Volume(v), veh/h	49	281	295	3	284	287	89	0	0	180	0	514
Grp Sat Flow(s),veh/h/ln	1728	1777	1864	1781	1777	1782	1177	0	0	1366	0	1549
Q Serve(g_s), s	0.9	8.5	8.5	0.1	9.1	9.2	0.1	0.0	0.0	0.0	0.0	15.4
Cycle Q Clear(g_c), s	0.9	8.5	8.5	0.1	9.1	9.2	4.9	0.0	0.0	4.7	0.0	15.4
Prop In Lane	1.00		0.01	1.00		0.23	0.40		0.51	1.00		1.00
Lane Grp Cap(c), veh/h	158	510	535	7	436	437	627	0	0	749	0	793
V/C Ratio(X)	0.31	0.55	0.55	0.41	0.65	0.66	0.14	0.00	0.00	0.24	0.00	0.65
Avail Cap(c_a), veh/h	416	1001	1050	141	928	930	627	0	0	749	0	793
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.2	19.1	19.1	31.4	21.4	21.4	9.6	0.0	0.0	10.3	0.0	11.3
Incr Delay (d2), s/veh	0.4	0.3	0.3	13.4	0.6	0.6	0.5	0.0	0.0	0.8	0.0	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	3.0	3.2	0.1	3.3	3.4	0.7	0.0	0.0	1.4	0.0	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.6	19.4	19.4	44.8	22.0	22.1	10.0	0.0	0.0	11.1	0.0	15.4
LnGrp LOS	C	B	B	D	C	C	B	A	A	B	A	B
Approach Vol, veh/h		625			574			89				694
Approach Delay, s/veh		20.2			22.2			10.0				14.3
Approach LOS		C			C			B				B
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	23.8		34.7	7.3	21.2		34.7				
Change Period (Y+Rc), s	4.4	5.7		5.3	4.4	5.7		* 5.3				
Max Green Setting (Gmax), s	5.0	35.6		29.0	7.6	33.0		* 29				
Max Q Clear Time (g_c+I1), s	2.1	10.5		17.4	2.9	11.2		6.9				
Green Ext Time (p_c), s	0.0	0.9		0.6	0.0	0.9		0.2				

Intersection Summary

HCM 6th Ctrl Delay	18.2
HCM 6th LOS	B

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	
Traffic Vol, veh/h	614	0	0	524	0	0
Future Vol, veh/h	614	0	0	524	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	667	0	0	570	0	0

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	667	0	952 334
Stage 1	-	-	-	-	667 -
Stage 2	-	-	-	-	285 -
Critical Hdwy	-	-	4.14	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	2.22	-	3.52 3.32
Pot Cap-1 Maneuver	-	-	919	-	257 662
Stage 1	-	-	-	-	472 -
Stage 2	-	-	-	-	738 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	919	-	257 662
Mov Cap-2 Maneuver	-	-	-	-	257 -
Stage 1	-	-	-	-	472 -
Stage 2	-	-	-	-	738 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	919	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

HCM 6th Signalized Intersection Summary  
 14: I-805 NB Ramps/Mira Sorrento PI & Vista Sorrento Pkwy

Opening Year 2027 PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖↗	↖	↗	↖	↖↗	↗	↖	↖↗	↖↗
Traffic Volume (veh/h)	57	518	200	932	264	15	269	75	117	303	740	201
Future Volume (veh/h)	57	518	200	932	264	15	269	75	117	303	740	201
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		0.92	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	75	682	0	1002	284	16	292	82	127	329	804	164
Peak Hour Factor	0.76	0.76	0.76	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	688	961	815	687	597	487	230	244	414	612	822	168
Arrive On Green	0.39	0.51	0.00	0.20	0.32	0.32	0.13	0.07	0.07	0.34	0.28	0.28
Sat Flow, veh/h	1781	1870	1585	3456	1870	1540	1781	3554	1451	1781	2910	593
Grp Volume(v), veh/h	75	682	0	1002	284	16	292	82	127	329	491	477
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1870	1540	1781	1777	1451	1781	1777	1726
Q Serve(g_s), s	4.0	41.8	0.0	29.8	18.3	1.1	19.4	3.3	7.9	22.3	41.1	41.1
Cycle Q Clear(g_c), s	4.0	41.8	0.0	29.8	18.3	1.1	19.4	3.3	7.9	22.3	41.1	41.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.34
Lane Grp Cap(c), veh/h	688	961	815	687	597	487	230	244	414	612	502	488
V/C Ratio(X)	0.11	0.71	0.00	1.46	0.48	0.03	1.27	0.34	0.31	0.54	0.98	0.98
Avail Cap(c_a), veh/h	688	961	815	687	597	487	230	374	468	612	502	488
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.35	0.35	0.35	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	27.9	0.0	60.1	41.0	35.5	65.3	66.6	35.7	39.7	53.3	53.4
Incr Delay (d2), s/veh	0.3	4.4	0.0	209.7	1.0	0.0	150.1	0.3	0.2	0.5	34.2	34.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	18.8	0.0	32.7	8.4	0.4	18.4	1.5	2.8	9.7	22.6	22.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.8	32.3	0.0	269.8	41.9	35.5	215.4	66.9	35.9	40.2	87.5	88.1
LnGrp LOS	C	C	A	F	D	D	F	E	D	D	F	F
Approach Vol, veh/h		757			1302			501			1297	
Approach Delay, s/veh		32.1			217.2			145.6			75.7	
Approach LOS		C			F			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	34.0	83.5	24.0	47.0	64.3	53.2	56.0	15.0				
Change Period (Y+Rc), s	* 4.7	5.8	5.1	5.1	5.8	* 5.8	5.1	5.1				
Max Green Setting (Gmax), s	* 29	39.2	18.9	41.9	21.1	* 47	45.5	15.3				
Max Q Clear Time (g_c+I1), s	31.8	43.8	21.4	43.1	6.0	20.3	24.3	9.9				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1				

Intersection Summary

HCM 6th Ctrl Delay	124.0
HCM 6th LOS	F

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.
- \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection						
Int Delay, s/veh	1.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	153	0	24	559	0	90
Future Vol, veh/h	153	0	24	559	0	90
Conflicting Peds, #/hr	0	10	10	0	10	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	79	79	63	63
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	184	0	30	708	0	143

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	194	0	972
Stage 1	-	-	-	-	194
Stage 2	-	-	-	-	778
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1379	-	280
Stage 1	-	-	-	-	839
Stage 2	-	-	-	-	453
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1368	-	269
Mov Cap-2 Maneuver	-	-	-	-	269
Stage 1	-	-	-	-	832
Stage 2	-	-	-	-	439

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	823	-	-	1368	-
HCM Lane V/C Ratio	0.174	-	-	0.022	-
HCM Control Delay (s)	10.3	-	-	7.7	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.6	-	-	0.1	-



HCM 6th Signalized Intersection Summary  
 16: Lusk Blvd & Barnes Canyon Rd

Opening Year 2027 PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗		↖	↖↗	↖	↖	↖↗	
Traffic Volume (veh/h)	330	367	174	35	206	60	31	134	57	126	343	145
Future Volume (veh/h)	330	367	174	35	206	60	31	134	57	126	343	145
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	384	427	202	37	219	64	34	146	62	175	476	201
Peak Hour Factor	0.86	0.86	0.86	0.94	0.94	0.94	0.92	0.92	0.92	0.72	0.72	0.72
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	195	567	265	60	455	129	57	1484	646	134	1116	467
Arrive On Green	0.11	0.24	0.24	0.03	0.17	0.17	0.03	0.42	0.42	0.08	0.46	0.46
Sat Flow, veh/h	1781	2323	1085	1781	2704	765	1781	3554	1547	1781	2421	1015
Grp Volume(v), veh/h	384	325	304	37	141	142	34	146	62	175	348	329
Grp Sat Flow(s),veh/h/ln	1781	1777	1631	1781	1777	1693	1781	1777	1547	1781	1777	1659
Q Serve(g_s), s	9.6	14.9	15.2	1.8	6.3	6.7	1.7	2.2	2.1	6.6	11.5	11.7
Cycle Q Clear(g_c), s	9.6	14.9	15.2	1.8	6.3	6.7	1.7	2.2	2.1	6.6	11.5	11.7
Prop In Lane	1.00		0.67	1.00		0.45	1.00		1.00	1.00		0.61
Lane Grp Cap(c), veh/h	195	434	398	60	299	285	57	1484	646	134	819	764
V/C Ratio(X)	1.97	0.75	0.76	0.61	0.47	0.50	0.59	0.10	0.10	1.30	0.43	0.43
Avail Cap(c_a), veh/h	195	649	596	102	549	523	126	1484	646	134	819	764
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.0	30.7	30.8	41.8	32.9	33.1	41.9	15.5	15.5	40.5	15.9	15.9
Incr Delay (d2), s/veh	453.8	1.0	1.4	3.7	0.4	0.5	3.6	0.1	0.3	180.8	1.6	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	28.7	6.2	5.9	0.8	2.7	2.7	0.7	0.8	0.8	9.5	4.5	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	492.8	31.7	32.2	45.5	33.4	33.6	45.5	15.6	15.8	221.3	17.5	17.7
LnGrp LOS	F	C	C	D	C	C	D	B	B	F	B	B
Approach Vol, veh/h		1013			320			242				852
Approach Delay, s/veh		206.6			34.9			19.9				59.4
Approach LOS		F			C			B				E
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	42.3	7.4	27.0	7.2	46.1	14.0	20.4				
Change Period (Y+Rc), s	4.4	5.7	4.4	* 5.6	4.4	5.7	4.4	5.6				
Max Green Setting (Gmax), s	6.6	36.6	5.0	* 32	6.2	37.0	9.6	27.1				
Max Q Clear Time (g_c+I1), s	8.6	4.2	3.8	17.2	3.7	13.7	11.6	8.7				
Green Ext Time (p_c), s	0.0	0.3	0.0	1.2	0.0	1.2	0.0	0.5				

Intersection Summary

HCM 6th Ctrl Delay	113.7
HCM 6th LOS	F

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 17: Barnes Canyon Rd/Commercial Dwy & Pacific Heights Blvd

Opening Year 2027 PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↖	↗	↖	↗
Traffic Volume (veh/h)	29	441	124	184	82	58	93	23	476	46	22	9
Future Volume (veh/h)	29	441	124	184	82	58	93	23	476	46	22	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	0.99		0.97	0.99		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	31	469	132	209	93	66	102	25	523	55	26	11
Peak Hour Factor	0.94	0.94	0.94	0.88	0.88	0.88	0.91	0.91	0.91	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	45	989	276	290	860	551	572	687	565	399	454	192
Arrive On Green	0.03	0.36	0.36	0.08	0.42	0.42	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1781	2725	761	3456	2041	1307	1356	1870	1539	855	1235	523
Grp Volume(v), veh/h	31	304	297	209	80	79	102	25	523	55	0	37
Grp Sat Flow(s),veh/h/ln	1781	1777	1709	1728	1777	1570	1356	1870	1539	855	0	1758
Q Serve(g_s), s	1.3	10.3	10.4	4.6	2.1	2.4	4.1	0.7	25.4	3.4	0.0	1.1
Cycle Q Clear(g_c), s	1.3	10.3	10.4	4.6	2.1	2.4	5.2	0.7	25.4	4.1	0.0	1.1
Prop In Lane	1.00		0.45	1.00		0.83	1.00		1.00	1.00		0.30
Lane Grp Cap(c), veh/h	45	645	620	290	749	662	572	687	565	399	0	646
V/C Ratio(X)	0.69	0.47	0.48	0.72	0.11	0.12	0.18	0.04	0.93	0.14	0.00	0.06
Avail Cap(c_a), veh/h	130	645	620	319	749	662	595	719	592	414	0	676
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.7	19.1	19.2	34.8	13.7	13.7	17.6	15.8	23.6	17.1	0.0	15.9
Incr Delay (d2), s/veh	7.0	2.5	2.6	5.6	0.3	0.4	0.3	0.0	20.8	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	4.5	4.4	2.1	0.9	0.9	1.2	0.3	11.7	0.7	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.7	21.6	21.8	40.4	13.9	14.1	17.9	15.9	44.4	17.2	0.0	16.0
LnGrp LOS	D	C	C	D	B	B	B	B	D	B	A	B
Approach Vol, veh/h		632			368			650				92
Approach Delay, s/veh		22.8			29.0			39.2				16.7
Approach LOS		C			C			D				B
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	1.0	33.5		33.6	6.4	38.1		33.6				
Change Period (Y+Rc), s	4.4	5.2		4.9	4.4	* 5.2		4.9				
Max Green Setting (Gmax), s	28.3			30.0	5.7	* 30		30.0				
Max Q Clear Time (g_c+10), s	10.6	12.4		6.1	3.3	4.4		27.4				
Green Ext Time (p_c), s	0.0	5.2		0.3	0.0	1.9		1.1				

Intersection Summary

HCM 6th Ctrl Delay	29.9
HCM 6th LOS	C

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis  
 18: Carroll Canyon Rd/I-805 SB Ramps & Sorrento Valley Rd

Opening Year 2027 PM

08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↑↑↑	↗	↘	↑↑	↗↗↗	↘↘		↗↗	↘↘	↑↗		
Traffic Volume (vph)	0	569	154	66	338	1651	316	0	1036	666	177	35	
Future Volume (vph)	0	569	154	66	338	1651	316	0	1036	666	177	35	
Ideal Flow (vphpl)	1800	1800	1900	1900	1800	1800	1900	1900	1900	1800	1900	1800	
Total Lost time (s)		8.0	4.5	6.1	8.0	7.5	4.5		6.1	7.0	7.5		
Lane Util. Factor		0.91	1.00	1.00	0.95	0.76	0.97		0.88	0.97	0.95		
Frbp, ped/bikes		1.00	0.98	1.00	1.00	0.98	1.00		0.99	1.00	1.00		
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		
Frt		1.00	0.85	1.00	1.00	0.85	1.00		0.85	1.00	0.98		
Flt Protected		1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00		
Satd. Flow (prot)		4818	1553	1770	3353	3341	3433		2766	3252	3437		
Flt Permitted		1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00		
Satd. Flow (perm)		4818	1553	1770	3353	3341	3433		2766	3252	3437		
Peak-hour factor, PHF	0.90	0.90	0.90	0.92	0.92	0.92	0.95	0.95	0.95	0.77	0.77	0.77	
Adj. Flow (vph)	0	632	171	72	367	1795	333	0	1091	865	230	45	
RTOR Reduction (vph)	0	0	130	0	0	427	0	0	68	0	11	0	
Lane Group Flow (vph)	0	632	41	72	367	1368	333	0	1023	865	264	0	
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10	
Confl. Bikes (#/hr)			10			10			10			10	
Turn Type		NA	pm+ov	Prot	NA	custom	Prot		pm+ov	Prot	NA		
Protected Phases		2	3	1	6	4	3		1	7	4		
Permitted Phases			2			6			3				
Actuated Green, G (s)		21.1	36.3	38.9	66.1	114.3	15.2		54.1	67.9	48.2		
Effective Green, g (s)		21.6	36.3	38.9	66.6	114.3	15.2		54.1	68.4	48.2		
Actuated g/C Ratio		0.14	0.24	0.26	0.44	0.76	0.10		0.36	0.46	0.32		
Clearance Time (s)		8.5	4.5	6.1	8.5	7.5	4.5		6.1	7.5	7.5		
Vehicle Extension (s)		1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0		
Lane Grp Cap (vph)		693	375	459	1488	2712	347		997	1482	1104		
v/s Ratio Prot		c0.13	0.01	0.04	0.11	0.16	0.10		c0.27	c0.27	0.08		
v/s Ratio Perm			0.02			0.25			0.10				
v/c Ratio		0.91	0.11	0.16	0.25	0.50	0.96		1.03	0.58	0.24		
Uniform Delay, d1		63.3	44.3	42.9	26.0	6.9	67.1		48.0	30.2	37.4		
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		
Incremental Delay, d2		18.4	0.0	0.1	0.0	0.1	37.0		35.2	1.7	0.5		
Delay (s)		81.6	44.3	42.9	26.1	7.0	104.1		83.2	31.9	37.9		
Level of Service		F	D	D	C	A	F		F	C	D		
Approach Delay (s)		73.7			11.3			88.1			33.4		
Approach LOS		E			B			F			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			44.2		HCM 2000 Level of Service					D			
HCM 2000 Volume to Capacity ratio			0.85										
Actuated Cycle Length (s)			150.0		Sum of lost time (s)					26.1			
Intersection Capacity Utilization			98.3%		ICU Level of Service					F			
Analysis Period (min)			15										
c Critical Lane Group													

HCM 6th Signalized Intersection Summary

Opening Year 2027 PM

19: I-805 NB Off-Ramp/Vista Sorrento Pkwy & Sorrento Valley Rd/Mira Mesa Blvd

08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑			↑↑↑	↖		↑	↖↗	↖		↖↗
Traffic Volume (veh/h)	158	686	0	0	1334	931	0	43	867	162	0	722
Future Volume (veh/h)	158	686	0	0	1334	931	0	43	867	162	0	722
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.91	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	0	1870	1870	1870	0	1870
Adj Flow Rate, veh/h	174	754	0	0	1434	1001	0	48	407	219	0	976
Peak Hour Factor	0.91	0.91	0.91	0.93	0.93	0.93	0.90	0.90	0.90	0.74	0.74	0.74
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	2	2	0	2
Cap, veh/h	547	3083	0	0	2621	896	0	126	222	299	0	0
Arrive On Green	0.16	0.60	0.00	0.00	0.13	0.13	0.00	0.07	0.07	0.17	0.00	0.00
Sat Flow, veh/h	3456	5274	0	0	6696	1546	0	1870	3302	1781	219	
Grp Volume(v), veh/h	174	754	0	0	1434	1001	0	48	407	219	44.2	
Grp Sat Flow(s),veh/h/ln	1728	1702	0	0	1609	1546	0	1870	1101	1781	D	
Q Serve(g_s), s	4.9	7.5	0.0	0.0	22.9	44.8	0.0	2.7	7.4	12.8		
Cycle Q Clear(g_c), s	4.9	7.5	0.0	0.0	22.9	44.8	0.0	2.7	7.4	12.8		
Prop In Lane	1.00		0.00	0.00		1.00	0.00		1.00	1.00		
Lane Grp Cap(c), veh/h	547	3083	0	0	2621	896	0	126	222	299		
V/C Ratio(X)	0.32	0.24	0.00	0.00	0.55	1.12	0.00	0.38	1.83	0.73		
Avail Cap(c_a), veh/h	550	3083	0	0	2621	896	0	126	222	300		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.44	0.44	0.00	1.00	1.00	0.09		
Uniform Delay (d), s/veh	41.0	10.1	0.0	0.0	38.1	30.0	0.0	49.1	51.3	43.4		
Incr Delay (d2), s/veh	0.1	0.2	0.0	0.0	0.4	60.1	0.0	0.7	391.5	0.7		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.0	2.6	0.0	0.0	9.9	59.3	0.0	1.3	10.1	5.5		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.2	10.3	0.0	0.0	38.5	90.1	0.0	49.8	442.8	44.2		
LnGrp LOS	D	B	A	A	D	F	A	D	F	D		
Approach Vol, veh/h		928			2435			455				
Approach Delay, s/veh		16.1			59.7			401.4				
Approach LOS		B			E			F				
Timer - Assigned Phs		2			5	6	7	8				
Phs Duration (G+Y+Rc), s		72.9			21.6	51.3	24.1	13.0				
Change Period (Y+Rc), s		7.0			* 4.7	7.0	6.1	6.1				
Max Green Setting (Gmax), s		65.9			* 17	44.2	18.0	6.9				
Max Q Clear Time (g_c+1), s		9.5			6.9	46.8	14.8	9.4				
Green Ext Time (p_c), s		0.9			0.1	0.0	0.1	0.0				

Intersection Summary

HCM 6th Ctrl Delay	87.4
HCM 6th LOS	F

Notes

- User approved pedestrian interval to be less than phase max green.
- \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 20: Scranton Rd & Mira Mesa Blvd

Opening Year 2027 PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔	↑↑↑		↔↔	↔↔		↔↔	↔	↔↔
Traffic Volume (veh/h)	187	1135	256	131	1429	110	430	101	84	120	282	507
Future Volume (veh/h)	187	1135	256	131	1429	110	430	101	84	120	282	507
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	199	1207	272	136	1489	115	396	201	90	132	310	557
Peak Hour Factor	0.94	0.94	0.94	0.96	0.96	0.96	0.93	0.93	0.93	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	160	1239	372	99	1541	119	1244	860	368	868	456	894
Arrive On Green	0.02	0.08	0.08	0.06	0.25	0.25	0.35	0.35	0.34	0.24	0.24	0.24
Sat Flow, veh/h	3456	5106	1533	1781	6120	472	3563	2463	1054	3563	1870	3065
Grp Volume(v), veh/h	199	1207	272	136	1174	430	396	150	141	132	310	557
Grp Sat Flow(s),veh/h/ln	1728	1702	1533	1781	1609	1767	1781	1870	1646	1781	1870	1533
Q Serve(g_s), s	5.1	25.9	19.1	6.1	26.4	26.5	9.0	6.3	6.7	3.2	16.5	17.3
Cycle Q Clear(g_c), s	5.1	25.9	19.1	6.1	26.4	26.5	9.0	6.3	6.7	3.2	16.5	17.3
Prop In Lane	1.00		1.00	1.00		0.27	1.00		0.64	1.00		1.00
Lane Grp Cap(c), veh/h	160	1239	372	99	1215	445	1244	653	575	868	456	894
V/C Ratio(X)	1.24	0.97	0.73	1.38	0.97	0.97	0.32	0.23	0.24	0.15	0.68	0.62
Avail Cap(c_a), veh/h	160	1239	372	99	1215	445	1244	653	575	868	456	894
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.24	0.24	0.24	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.2	50.2	47.1	52.0	40.7	40.8	26.2	25.3	25.6	32.7	37.7	33.9
Incr Delay (d2), s/veh	121.3	7.7	2.3	206.2	14.0	27.0	0.7	0.8	1.0	0.4	8.0	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	12.6	8.0	8.3	11.4	14.2	3.9	2.9	2.8	1.4	8.4	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	175.5	57.9	49.4	258.2	54.6	67.8	26.9	26.2	26.6	33.0	45.7	37.1
LnGrp LOS	F	E	D	F	D	E	C	C	C	C	D	D
Approach Vol, veh/h		1678			1740			687			999	
Approach Delay, s/veh		70.5			73.8			26.7			39.3	
Approach LOS		E			E			C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	30.0	32.4		31.8	9.0	33.4		42.8				
Change Period (Y+Rc), s	4.4	* 6.2		5.3	4.4	6.2		4.9				
Max Green Setting (Gmax), s	5.6	* 26		19.7	4.6	27.0		37.9				
Max Q Clear Time (g_c+1), s	10.1	27.9		19.3	7.1	28.5		11.0				
Green Ext Time (p_c), s	0.0	0.0		0.2	0.0	0.0		7.5				

Intersection Summary

HCM 6th Ctrl Delay	59.6
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 21: Oberlin Dr/Lusk Blvd & Mira Mesa Blvd

Opening Year 2027 PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔ ↑↑↔			↔↔ ↑↑↔			↔	↑	↔	↔↔	↑	↔
Traffic Volume (veh/h)	75	1363	6	47	1242	78	20	18	160	546	111	328
Future Volume (veh/h)	75	1363	6	47	1242	78	20	18	160	546	111	328
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	84	1531	7	51	1350	85	21	19	167	600	122	250
Peak Hour Factor	0.89	0.89	0.89	0.92	0.92	0.92	0.96	0.96	0.96	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	118	2264	10	85	2067	130	31	465	381	636	776	641
Arrive On Green	0.03	0.43	0.43	0.05	0.84	0.84	0.02	0.25	0.25	0.18	0.41	0.41
Sat Flow, veh/h	3456	5245	24	3456	4901	309	1781	1870	1533	3456	1870	1546
Grp Volume(v), veh/h	84	994	544	51	938	497	21	19	167	600	122	250
Grp Sat Flow(s),veh/h/ln	1728	1702	1865	1728	1702	1806	1781	1870	1533	1728	1870	1546
Q Serve(g_s), s	4.6	44.5	44.5	2.7	18.2	18.2	2.2	1.5	17.5	32.6	7.8	21.4
Cycle Q Clear(g_c), s	4.6	44.5	44.5	2.7	18.2	18.2	2.2	1.5	17.5	32.6	7.8	21.4
Prop In Lane	1.00		0.01	1.00		0.17	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	118	1469	805	85	1436	762	31	465	381	636	776	641
V/C Ratio(X)	0.71	0.68	0.68	0.60	0.65	0.65	0.67	0.04	0.44	0.94	0.16	0.39
Avail Cap(c_a), veh/h	193	1469	805	138	1436	762	90	465	381	884	776	641
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.31	0.31	0.31	0.81	0.81	0.81	1.00	1.00	1.00	0.92	0.92	0.92
Uniform Delay (d), s/veh	90.8	43.4	43.4	89.4	10.0	10.0	92.8	54.2	60.2	76.5	34.8	38.8
Incr Delay (d2), s/veh	0.9	0.8	1.4	2.1	1.9	3.5	8.7	0.2	3.6	12.1	0.4	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	18.6	20.5	1.2	4.0	4.6	1.1	0.7	7.2	15.5	3.7	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	91.7	44.1	44.8	91.5	11.9	13.5	101.5	54.4	63.9	88.6	35.2	40.5
LnGrp LOS	F	D	D	F	B	B	F	D	E	F	D	D
Approach Vol, veh/h		1622			1486			207			972	
Approach Delay, s/veh		46.8			15.2			66.8			69.5	
Approach LOS		D			B			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	88.2	7.7	85.0	10.9	86.3	39.4	53.4				
Change Period (Y+Rc), s	4.4	* 6.2	4.4	6.2	4.4	6.2	4.4	* 6.2				
Max Green Setting (Gmax), s	6.6	* 73	9.6	78.8	10.6	69.8	48.6	* 41				
Max Q Clear Time (g_c+1/4), s	14.7	46.5	4.2	23.4	6.6	20.2	34.6	19.5				
Green Ext Time (p_c), s	0.0	3.2	0.0	0.3	0.0	3.0	0.4	0.1				

Intersection Summary

HCM 6th Ctrl Delay	42.0
HCM 6th LOS	D

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 22: Pacific Heights Blvd & Mira Mesa Blvd

Opening Year 2027 PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖	↑↑↑	↗	↖	↑↑	↗	↖↗	↑↑	↗
Traffic Volume (veh/h)	115	1756	101	123	964	217	126	53	428	1222	308	317
Future Volume (veh/h)	115	1756	101	123	964	217	126	53	428	1222	308	317
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.94	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	129	1973	113	132	1037	0	140	65	158	1183	331	341
Peak Hour Factor	0.89	0.89	0.89	0.93	0.93	0.93	0.81	0.81	0.81	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	152	2164	651	123	2082		162	211	338	1039	1146	493
Arrive On Green	0.06	0.28	0.28	0.07	0.41	0.00	0.09	0.11	0.11	0.30	0.32	0.32
Sat Flow, veh/h	1781	5106	1546	1781	5106	1585	1781	1870	2990	3456	3554	1541
Grp Volume(v), veh/h	129	1973	113	132	1037	0	140	65	158	1183	331	341
Grp Sat Flow(s),veh/h/ln	1781	1702	1546	1781	1702	1585	1781	1870	1495	1728	1777	1541
Q Serve(g_s), s	13.6	70.9	10.5	13.1	28.7	0.0	14.7	6.1	9.4	57.1	13.2	36.7
Cycle Q Clear(g_c), s	13.6	70.9	10.5	13.1	28.7	0.0	14.7	6.1	9.4	57.1	13.2	36.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	152	2164	651	123	2082		162	211	338	1039	1146	493
V/C Ratio(X)	0.85	0.91	0.17	1.07	0.50		0.86	0.31	0.47	1.14	0.29	0.69
Avail Cap(c_a), veh/h	218	2164	651	123	2082		230	340	543	1039	1262	543
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.56	0.56	0.56	0.92	0.92	0.00	1.00	1.00	1.00	0.79	0.79	0.79
Uniform Delay (d), s/veh	88.4	64.6	43.2	88.5	41.8	0.0	85.2	77.4	78.9	66.4	48.1	56.4
Incr Delay (d2), s/veh	8.3	4.3	0.3	99.3	0.8	0.0	15.8	0.3	0.4	72.3	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	32.2	4.2	9.4	12.1	0.0	7.5	2.9	3.6	35.7	6.0	14.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	96.7	68.9	43.6	187.8	42.6	0.0	101.0	77.7	79.3	138.8	48.1	58.4
LnGrp LOS	F	E	D	F	D		F	E	E	F	D	E
Approach Vol, veh/h		2215			1169			363			1855	
Approach Delay, s/veh		69.2			59.0			87.4			107.8	
Approach LOS		E			E			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.0	85.7	21.2	66.1	20.1	82.7	61.0	26.3				
Change Period (Y+Rc), s	4.4	5.7	4.4	* 5.3	4.4	5.7	4.4	5.3				
Max Green Setting (Gmax), s	12.6	67.0	24.0	* 67	22.8	56.8	56.6	34.0				
Max Q Clear Time (g_c+11.5), s	11.5	72.9	16.7	38.7	15.6	30.7	59.1	11.4				
Green Ext Time (p_c), s	0.0	0.0	0.1	0.9	0.0	1.2	0.0	0.3				

Intersection Summary

HCM 6th Ctrl Delay	81.1
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.  
 Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary  
 23: Camino Santa Fe & Mira Mesa Blvd

Opening Year 2027 PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖	↑↑↑	↗	↖	↑↑	↗	↖↗	↑↑	↗
Traffic Volume (veh/h)	111	2965	201	199	547	149	147	352	534	385	244	41
Future Volume (veh/h)	111	2965	201	199	547	149	147	352	534	385	244	41
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	119	3188	216	219	601	164	175	419	636	423	268	45
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.84	0.84	0.84	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	141	2432	734	170	2514	759	179	1098	627	311	1060	455
Arrive On Green	0.08	0.48	0.47	0.10	0.49	0.49	0.10	0.31	0.31	0.09	0.30	0.30
Sat Flow, veh/h	1781	5106	1549	1781	5106	1549	1781	3554	1540	3456	3554	1539
Grp Volume(v), veh/h	119	3188	216	219	601	164	175	419	636	423	268	45
Grp Sat Flow(s),veh/h/ln	1781	1702	1549	1781	1702	1549	1781	1777	1540	1728	1777	1539
Q Serve(g_s), s	12.5	90.5	16.2	18.1	12.9	11.5	18.6	17.6	58.7	17.1	10.9	4.0
Cycle Q Clear(g_c), s	12.5	90.5	16.2	18.1	12.9	11.5	18.6	17.6	58.7	17.1	10.9	4.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	141	2432	734	170	2514	759	179	1098	627	311	1060	455
V/C Ratio(X)	0.84	1.31	0.29	1.29	0.24	0.22	0.98	0.38	1.01	1.36	0.25	0.10
Avail Cap(c_a), veh/h	203	2432	734	170	2514	759	179	1098	627	311	1060	455
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	86.3	49.8	30.6	85.9	27.7	27.7	85.2	51.4	56.8	86.4	50.6	48.5
Incr Delay (d2), s/veh	1.5	140.1	0.0	167.5	0.0	0.1	60.2	1.0	39.7	181.5	0.6	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	68.5	6.0	16.1	5.2	4.3	11.5	7.9	36.1	15.4	4.9	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	87.8	189.9	30.6	253.5	27.8	27.7	145.4	52.4	96.5	268.0	51.1	49.0
LnGrp LOS	F	F	C	F	C	C	F	D	F	F	D	D
Approach Vol, veh/h		3523			984			1230			736	
Approach Delay, s/veh		176.7			78.0			88.5			175.6	
Approach LOS		F			E			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.0	96.0	23.0	63.0	18.9	99.1	21.0	65.0				
Change Period (Y+Rc), s	4.4	6.0	4.4	6.4	4.4	6.0	4.4	* 6.4				
Max Green Setting (Gmax), s	17.6	90.0	18.6	42.6	21.1	86.5	16.6	* 45				
Max Q Clear Time (g_c+20), s	20.1	92.5	20.6	12.9	14.5	14.9	19.1	60.7				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.3	0.0	0.8	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	144.8
HCM 6th LOS	F

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



HCM 6th Signalized Intersection Summary  
 24: Camino Ruiz & Mira Mesa Blvd

Opening Year 2027 PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↑ ↑ ↑		↖ ↗	↑ ↑ ↑	↖	↖	↑ ↑ ↑	↖	↖ ↗	↑ ↑	↖
Traffic Volume (veh/h)	238	2248	52	310	1026	227	151	596	185	349	496	75
Future Volume (veh/h)	238	2248	52	310	1026	227	151	596	185	349	496	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.92	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	248	2342	54	373	1236	273	186	736	228	379	539	82
Peak Hour Factor	0.96	0.96	0.96	0.83	0.83	0.83	0.81	0.81	0.81	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	292	2354	54	387	2484	743	202	1483	424	402	1044	425
Arrive On Green	0.08	0.46	0.46	0.11	0.49	0.49	0.11	0.29	0.29	0.12	0.29	0.29
Sat Flow, veh/h	3456	5130	118	3456	5106	1527	1781	5106	1461	3456	3554	1461
Grp Volume(v), veh/h	248	1551	845	373	1236	273	186	736	228	379	539	82
Grp Sat Flow(s),veh/h/ln	1728	1702	1844	1728	1702	1527	1781	1702	1461	1728	1777	1461
Q Serve(g_s), s	13.4	86.0	87.0	20.4	31.2	21.2	19.6	22.7	24.9	20.7	24.0	8.0
Cycle Q Clear(g_c), s	13.4	86.0	87.0	20.4	31.2	21.2	19.6	22.7	24.9	20.7	24.0	8.0
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	292	1562	846	387	2484	743	202	1483	424	402	1044	425
V/C Ratio(X)	0.85	0.99	1.00	0.96	0.50	0.37	0.92	0.50	0.54	0.94	0.52	0.19
Avail Cap(c_a), veh/h	380	1562	846	387	2484	743	202	1483	424	402	1044	425
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	85.8	51.1	51.4	84.0	33.1	30.5	83.4	55.9	56.7	83.3	55.9	50.6
Incr Delay (d2), s/veh	10.7	21.0	30.6	35.7	0.1	0.1	41.6	1.2	4.8	30.3	1.8	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	40.1	46.2	11.0	12.9	7.9	11.4	9.9	9.8	10.9	11.1	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	96.4	72.1	81.9	119.7	33.1	30.6	125.1	57.1	61.5	113.7	57.7	51.6
LnGrp LOS	F	E	F	F	C	C	F	E	E	F	E	D
Approach Vol, veh/h		2644			1882			1150			1000	
Approach Delay, s/veh		77.5			49.9			68.9			78.4	
Approach LOS		E			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	35.2	92.0	25.4	61.4	20.0	97.2	26.0	60.8				
Change Period (Y+Rc), s	4.4	5.3	4.4	5.7	4.4	* 5.3	4.4	* 5.7				
Max Green Setting (Gmax), s	20.8	86.7	21.0	41.7	20.4	* 88	21.6	* 42				
Max Q Clear Time (g_c+20.4), s	20.4	89.0	21.6	26.0	15.4	33.2	22.7	26.9				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.7	0.1	2.0	0.0	1.2				

Intersection Summary

HCM 6th Ctrl Delay	68.4
HCM 6th LOS	E

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 25: Black Mountain Rd & Mira Mesa Blvd

Opening Year 2027 PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖
Traffic Volume (veh/h)	482	1930	116	243	1339	232	179	638	284	376	365	335
Future Volume (veh/h)	482	1930	116	243	1339	232	179	638	284	376	365	335
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	513	2053	123	270	1488	258	206	733	326	384	372	342
Peak Hour Factor	0.94	0.94	0.94	0.90	0.90	0.90	0.87	0.87	0.87	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	556	2127	757	313	1768	727	250	988	423	426	1169	507
Arrive On Green	0.16	0.42	0.42	0.09	0.35	0.35	0.07	0.28	0.28	0.12	0.33	0.33
Sat Flow, veh/h	3456	5106	1541	3456	5106	1536	3456	3554	1537	3456	3554	1541
Grp Volume(v), veh/h	513	2053	123	270	1488	258	206	733	326	384	372	342
Grp Sat Flow(s),veh/h/ln	1728	1702	1541	1728	1702	1536	1728	1777	1537	1728	1777	1541
Q Serve(g_s), s	27.8	74.5	8.4	14.6	51.1	20.3	11.2	35.7	37.1	20.8	14.9	36.4
Cycle Q Clear(g_c), s	27.8	74.5	8.4	14.6	51.1	20.3	11.2	35.7	37.1	20.8	14.9	36.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	556	2127	757	313	1768	727	250	988	423	426	1169	507
V/C Ratio(X)	0.92	0.97	0.16	0.86	0.84	0.35	0.82	0.74	0.77	0.90	0.32	0.67
Avail Cap(c_a), veh/h	602	2209	782	333	1822	744	326	988	423	457	1169	507
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	78.6	54.1	27.0	85.2	57.3	32.1	86.9	62.4	63.3	82.1	47.8	55.0
Incr Delay (d2), s/veh	18.5	11.7	0.0	18.3	3.4	0.1	9.6	5.0	12.7	19.0	0.7	7.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.8	33.7	3.2	7.3	22.4	7.7	5.3	16.7	15.9	10.4	6.8	15.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	97.0	65.8	27.0	103.5	60.7	32.2	96.6	67.4	76.1	101.1	48.5	62.0
LnGrp LOS	F	E	C	F	E	C	F	E	E	F	D	E
Approach Vol, veh/h		2689			2016			1265			1098	
Approach Delay, s/veh		70.0			62.8			74.4			71.1	
Approach LOS		E			E			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	31.1	84.0	17.7	67.3	34.5	70.6	27.3	57.6				
Change Period (Y+Rc), s	4.4	5.3	4.4	* 5.3	4.4	* 5.3	4.4	5.3				
Max Green Setting (Gmax), s	77.8	81.7	17.4	* 54	32.6	* 67	24.6	46.5				
Max Q Clear Time (g_c+110), s	110.6	76.5	13.2	38.4	29.8	53.1	22.8	39.1				
Green Ext Time (p_c), s	0.0	2.1	0.1	0.8	0.3	2.3	0.1	1.0				

Intersection Summary

HCM 6th Ctrl Delay	68.9
HCM 6th LOS	E

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 26: Mira Mesa Blvd & I-15 SB Ramps

Opening Year 2027 PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑↑		↑↑↑	↑				↑↑		↑↑
Traffic Volume (veh/h)	0	2364	911	0	1628	374	0	0	0	388	0	1319
Future Volume (veh/h)	0	2364	911	0	1628	374	0	0	0	388	0	1319
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	0	1870
Adj Flow Rate, veh/h	0	2437	0	0	1829	420				417	0	1418
Peak Hour Factor	0.97	0.97	0.97	0.89	0.89	0.89				0.93	0.93	0.93
Percent Heavy Veh, %	0	2	2	0	2	2				2	0	2
Cap, veh/h	0	2221		0	2221	1381				1586	0	1280
Arrive On Green	0.00	0.44	0.00	0.00	0.44	0.43				0.46	0.00	0.46
Sat Flow, veh/h	0	5274	2790	0	5274	1520				3456	0	2790
Grp Volume(v), veh/h	0	2437	0	0	1829	420				417	0	1418
Grp Sat Flow(s),veh/h/ln	0	1702	1395	0	1702	1520				1728	0	1395
Q Serve(g_s), s	0.0	43.5	0.0	0.0	31.5	4.2				7.4	0.0	45.9
Cycle Q Clear(g_c), s	0.0	43.5	0.0	0.0	31.5	4.2				7.4	0.0	45.9
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2221		0	2221	1381				1586	0	1280
V/C Ratio(X)	0.00	1.10		0.00	0.82	0.30				0.26	0.00	1.11
Avail Cap(c_a), veh/h	0	2221		0	2221	1381				1586	0	1280
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	0.73	0.73				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	28.2	0.0	0.0	24.9	0.9				16.6	0.0	27.1
Incr Delay (d2), s/veh	0.0	51.5	0.0	0.0	1.8	0.0				0.4	0.0	60.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	26.8	0.0	0.0	12.1	7.2				3.0	0.0	25.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	79.8	0.0	0.0	26.7	0.9				17.0	0.0	87.1
LnGrp LOS		A	F		A	C				B	A	F
Approach Vol, veh/h		2437			2249					1835		
Approach Delay, s/veh		79.8			21.9					71.1		
Approach LOS		E			C					E		
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		49.0		51.0		49.0						
Change Period (Y+Rc), s		6.0		5.1		6.0						
Max Green Setting (Gmax), s		43.0		45.9		43.0						
Max Q Clear Time (g_c+I1), s		45.5		47.9		33.5						
Green Ext Time (p_c), s		0.0		0.0		5.3						

Intersection Summary

HCM 6th Ctrl Delay	57.4
HCM 6th LOS	E

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary  
 27: I-15 NB Ramps & Mira Mesa Blvd

Opening Year 2027 PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑	↑	↑↑		↑↑			
Traffic Volume (veh/h)	0	1413	1296	0	1105	547	911	0	351	0	0	0
Future Volume (veh/h)	0	1413	1296	0	1105	547	911	0	351	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No		No		No		No				
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	0	1870			
Adj Flow Rate, veh/h	0	1427	1309	0	1285	0	1001	0	386			
Peak Hour Factor	0.99	0.99	0.99	0.86	0.86	0.86	0.91	0.91	0.91			
Percent Heavy Veh, %	0	2	2	0	2	2	2	0	2			
Cap, veh/h	0	3045	1406	0	3045		1075	0	868			
Arrive On Green	0.00	0.60	0.60	0.00	0.60	0.00	0.31	0.00	0.31			
Sat Flow, veh/h	0	5274	1531	0	5274	1585	3456	0	2790			
Grp Volume(v), veh/h	0	1427	1309	0	1285	0	1001	0	386			
Grp Sat Flow(s),veh/h/ln	0	1702	1531	0	1702	1585	1728	0	1395			
Q Serve(g_s), s	0.0	18.8	65.6	0.0	16.3	0.0	33.7	0.0	13.3			
Cycle Q Clear(g_c), s	0.0	18.8	65.6	0.0	16.3	0.0	33.7	0.0	13.3			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	3045	1406	0	3045		1075	0	868			
V/C Ratio(X)	0.00	0.47	0.93	0.00	0.42		0.93	0.00	0.44			
Avail Cap(c_a), veh/h	0	3045	1406	0	3045		1149	0	928			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.14	0.14	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	13.6	3.5	0.0	13.1	0.0	40.1	0.0	33.1			
Incr Delay (d2), s/veh	0.0	0.1	2.3	0.0	0.4	0.0	12.4	0.0	0.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	6.7	2.6	0.0	6.0	0.0	16.0	0.0	4.5			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	13.6	5.8	0.0	13.5	0.0	52.5	0.0	33.2			
LnGrp LOS		A	B	A	A	B	D	A	C			
Approach Vol, veh/h		2736			1285			1387				
Approach Delay, s/veh		9.9			13.5			47.1				
Approach LOS		A			B			D				
Timer - Assigned Phs		2			6			8				
Phs Duration (G+Y+Rc), s		77.6			77.6			42.4				
Change Period (Y+Rc), s		6.0			6.0			5.1				
Max Green Setting (Gmax), s		69.0			69.0			39.9				
Max Q Clear Time (g_c+I1), s		67.6			18.3			35.7				
Green Ext Time (p_c), s		1.3			7.6			1.6				

Intersection Summary

HCM 6th Ctrl Delay	20.3
HCM 6th LOS	C

Notes

User approved changes to right turn type.  
 Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary  
 28: I-805 Direct Access Ramps & Carroll Canyon Rd

Opening Year 2027 PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖		↗		↕	
Traffic Volume (veh/h)	5	197	33	214	701	58	4	0	28	23	13	1
Future Volume (veh/h)	5	197	33	214	701	58	4	0	28	23	13	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		1.00	1.00		0.87
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	0	1870	1870	1870	1870
Adj Flow Rate, veh/h	6	237	40	233	762	63	5	0	37	35	20	2
Peak Hour Factor	0.83	0.83	0.83	0.92	0.92	0.92	0.75	0.75	0.75	0.65	0.65	0.65
Percent Heavy Veh, %	2	2	2	2	2	2	2	0	2	2	2	2
Cap, veh/h	13	2074	344	262	2729	226	0	0	0	46	26	3
Arrive On Green	0.01	0.68	0.68	0.15	0.82	0.82	0.00	0.00	0.00	0.04	0.04	0.04
Sat Flow, veh/h	1781	3034	503	1781	3314	274		0		1101	629	63
Grp Volume(v), veh/h	6	137	140	233	408	417		0.0		57	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1760	1781	1777	1811				1793	0	0
Q Serve(g_s), s	0.4	3.2	3.3	15.4	6.3	6.3				3.8	0.0	0.0
Cycle Q Clear(g_c), s	0.4	3.2	3.3	15.4	6.3	6.3				3.8	0.0	0.0
Prop In Lane	1.00		0.29	1.00		0.15				0.61		0.04
Lane Grp Cap(c), veh/h	13	1215	1203	262	1463	1491				74	0	0
V/C Ratio(X)	0.45	0.11	0.12	0.89	0.28	0.28				0.77	0.00	0.00
Avail Cap(c_a), veh/h	108	1215	1203	583	1463	1491				217	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.88	0.88	0.88				1.00	0.00	0.00
Uniform Delay (d), s/veh	59.3	6.5	6.5	50.2	2.4	2.4				56.9	0.0	0.0
Incr Delay (d2), s/veh	8.4	0.2	0.2	3.6	0.4	0.4				6.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.1	1.1	6.9	1.4	1.4				1.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.7	6.7	6.7	53.8	2.8	2.8				63.0	0.0	0.0
LnGrp LOS	E	A	A	D	A	A				E	A	A
Approach Vol, veh/h		283			1058						57	
Approach Delay, s/veh		8.0			14.1						63.0	
Approach LOS		A			B						E	
Timer - Assigned Phs	1	2		4	5	6						
Phs Duration (G+Y+Rc), s	22.4	87.2		10.5	5.6	103.9						
Change Period (Y+Rc), s	4.7	5.1		5.5	* 4.7	5.1						
Max Green Setting (Gmax), s	33.9	33.9		14.5	* 7.3	65.9						
Max Q Clear Time (g_c+117), s	117.4	5.3		5.8	2.4	8.3						
Green Ext Time (p_c), s	0.3	0.9		0.1	0.0	3.1						

Intersection Summary

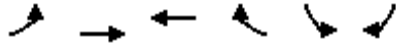
HCM 6th Ctrl Delay	14.8
HCM 6th LOS	B

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 29: Carroll Canyon Rd & Scranton Rd

Opening Year 2027 PM  
 08/04/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↗↘	↑↑	↑↑	↗	↗↘	↗
Traffic Volume (veh/h)	42	220	837	206	214	408
Future Volume (veh/h)	42	220	837	206	214	408
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	47	244	900	222	216	432
Peak Hour Factor	0.90	0.90	0.93	0.93	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	122	2276	1900	817	348	620
Arrive On Green	0.04	0.64	0.53	0.53	0.20	0.20
Sat Flow, veh/h	3456	3647	3647	1528	1781	3170
Grp Volume(v), veh/h	47	244	900	222	216	432
Grp Sat Flow(s),veh/h/ln1728	1777	1777	1777	1528	1781	1585
Q Serve(g_s), s	0.9	1.7	10.1	5.1	7.1	8.1
Cycle Q Clear(g_c), s	0.9	1.7	10.1	5.1	7.1	8.1
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	122	2276	1900	817	348	620
V/C Ratio(X)	0.38	0.11	0.47	0.27	0.62	0.70
Avail Cap(c_a), veh/h	216	2276	1900	817	932	1659
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.2	4.4	9.3	8.1	23.6	24.0
Incr Delay (d2), s/veh	2.0	0.1	0.8	0.8	1.8	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.4	3.0	1.4	2.9	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.2	4.5	10.1	8.9	25.4	25.4
LnGrp LOS	C	A	B	A	C	C
Approach Vol, veh/h		291	1122		648	
Approach Delay, s/veh		9.0	9.9		25.4	
Approach LOS		A	A		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		47.0		17.0	6.8	40.2
Change Period (Y+Rc), s		6.0		4.5	4.5	6.0
Max Green Setting (Gmax), s		41.0		33.5	4.0	32.5
Max Q Clear Time (g_c+I1), s		3.7		10.1	2.9	12.1
Green Ext Time (p_c), s		1.5		2.4	0.0	6.6

Intersection Summary

HCM 6th Ctrl Delay	14.6
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

**Intersection: 1: I-5 SB On-Ramp/I-5 SB Off-Ramp & Carmel Mountain Rd**

Movement	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	L	LTR	R
Maximum Queue (ft)	208	185	51	215	452	177	176	325	464	437
Average Queue (ft)	102	61	14	179	240	82	74	305	424	313
95th Queue (ft)	198	166	36	247	390	153	149	361	481	475
Link Distance (ft)	410	410			526	526	526		417	417
Upstream Blk Time (%)	1	1			0				26	5
Queuing Penalty (veh)	0	0			0				0	0
Storage Bay Dist (ft)			315	190				300		
Storage Blk Time (%)		1		2	16			1	33	
Queuing Penalty (veh)		1		6	39			8	136	

**Intersection: 2: I-5 NB Off-Ramp/I-5 NB On-Ramp & Carmel Mountain Rd**

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	T	R	L	LTR	R
Maximum Queue (ft)	199	303	320	255	202	83	171	139	222	181
Average Queue (ft)	87	109	136	116	63	18	69	42	109	63
95th Queue (ft)	161	278	311	209	137	59	137	95	205	149
Link Distance (ft)		526	526	1105	1105	1105			346	
Upstream Blk Time (%)		3	3						2	
Queuing Penalty (veh)		14	14						0	
Storage Bay Dist (ft)	190						240	265		470
Storage Blk Time (%)	0	1					0		2	
Queuing Penalty (veh)	1	1					0		5	

**Intersection: 3: Vista Sorrento Pkwy/Torrey View Ct & Carmel Mountain Rd**

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	16	37	43	48	512	290	262	275	358	32	38	83
Average Queue (ft)	1	10	11	12	96	179	236	268	274	5	6	25
95th Queue (ft)	8	40	32	37	481	297	294	316	479	22	23	73
Link Distance (ft)			1105	1105	1105				316	316	316	
Upstream Blk Time (%)					3				41			
Queuing Penalty (veh)					15				0			
Storage Bay Dist (ft)	245	245				265	250	250				260
Storage Blk Time (%)						11	3	50	1			
Queuing Penalty (veh)						2	1	11	5			

**Intersection: 3: Vista Sorrento Pkwy/Torrey View Ct & Carmel Mountain Rd**

Movement	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	R	R	L	L	T	TR
Maximum Queue (ft)	76	108	257	75	62	127	140	534	245
Average Queue (ft)	20	45	118	28	22	70	125	366	208
95th Queue (ft)	55	100	222	60	61	157	180	586	305
Link Distance (ft)			1104	1104				503	
Upstream Blk Time (%)								17	
Queuing Penalty (veh)								0	
Storage Bay Dist (ft)	305	305			310	115	115		220
Storage Blk Time (%)			0			2	18	43	6
Queuing Penalty (veh)			0			15	128	252	34

**Intersection: 4: Roselle St & 1-5 SB On-Ramp**

Movement	NB	NB	NB	SB
Directions Served	L	L	T	TR
Maximum Queue (ft)	174	177	87	112
Average Queue (ft)	74	86	17	54
95th Queue (ft)	145	162	63	125
Link Distance (ft)	404	404	404	185
Upstream Blk Time (%)				8
Queuing Penalty (veh)				0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				



Intersection: 5: Roselle St & Sorrento Valley Blvd

Movement	WB	WB	WB	B75	B75	NB	NB	SB
Directions Served	L	R	R	T	T	T	R	LT
Maximum Queue (ft)	113	264	246	262	219	59	43	121
Average Queue (ft)	34	155	85	83	70	31	2	74
95th Queue (ft)	117	307	242	399	380	56	21	245
Link Distance (ft)		185	185	646	646	351	351	404
Upstream Blk Time (%)		18	11	9	9			8
Queuing Penalty (veh)		103	66	52	52			6
Storage Bay Dist (ft)	90							
Storage Blk Time (%)	10	12						
Queuing Penalty (veh)	47	13						

Intersection: 6: Roselle St & I-5 NB Off-Ramp

Movement	EB	EB	EB	NB	NB	SB
Directions Served	L	L	R	T	T	T
Maximum Queue (ft)	524	529	198	35	69	90
Average Queue (ft)	496	498	181	10	38	66
95th Queue (ft)	515	520	319	32	82	224
Link Distance (ft)	478	478		126	126	351
Upstream Blk Time (%)	71	94				10
Queuing Penalty (veh)	0	0				12
Storage Bay Dist (ft)			195			
Storage Blk Time (%)		97	0			
Queuing Penalty (veh)		96	1			

**Intersection: 7: Vista Sorrento Pkwy & Sorrento Valley Blvd**

Movement	EB	EB	EB	B75	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	T	L	T	TR	L	LT	TR	L	LT
Maximum Queue (ft)	187	252	386	10	250	354	347	129	318	373	150	2080
Average Queue (ft)	80	146	247	0	226	334	281	65	147	167	133	2023
95th Queue (ft)	176	257	430	10	342	360	433	153	518	402	191	2203
Link Distance (ft)		646	646	185		320	320		1759	1759		1975
Upstream Blk Time (%)						63	23					89
Queuing Penalty (veh)						0	0					742
Storage Bay Dist (ft)	265				225			250			125	
Storage Blk Time (%)	0	0			56	21		6	6		20	68
Queuing Penalty (veh)	1	0			239	69		11	5		142	154

**Intersection: 7: Vista Sorrento Pkwy & Sorrento Valley Blvd**

Movement	SB	SB	B50	B50	B49	B49	B47	B47
Directions Served	T	R	T	T	T	T	T	T
Maximum Queue (ft)	2080	150	2485	2488	1735	1742	1117	1132
Average Queue (ft)	2019	104	1861	1864	838	840	353	358
95th Queue (ft)	2216	202	3325	3327	2150	2151	1156	1168
Link Distance (ft)	1975		2379	2379	1636	1636	1104	1104
Upstream Blk Time (%)	86		59	59	38	38	6	7
Queuing Penalty (veh)	721		491	492	317	318	48	58
Storage Bay Dist (ft)		125						
Storage Blk Time (%)	63	9						
Queuing Penalty (veh)	108	42						

**Intersection: 8: Vista Sorrento Pkwy & Lusk Blvd**

Movement	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	R	T	TR	L	L	T
Maximum Queue (ft)	116	53	47	189	286	195	812	470
Average Queue (ft)	50	22	23	69	135	179	422	73
95th Queue (ft)	98	45	45	154	252	245	804	312
Link Distance (ft)	2826	2826		2426	2426		1759	1759
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			115			170		
Storage Blk Time (%)						20	31	
Queuing Penalty (veh)						131	201	

**Intersection: 9: Wateridge Cir & Lusk Blvd**

Movement	EB	EB	WB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	L	T	T	L	R
Maximum Queue (ft)	116	113	21	59	75	85	33	35
Average Queue (ft)	29	24	1	21	11	14	8	13
95th Queue (ft)	84	76	12	49	44	56	29	38
Link Distance (ft)	1324	1324			384	384		289
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			155	155			100	
Storage Blk Time (%)								
Queuing Penalty (veh)								

**Intersection: 10: Project Dwy #1 & Lusk Blvd**

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

**Intersection: 11: Project Dwy #2 & Lusk Blvd**

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 12: Project Dwy #3/Pacific Center Blvd & Lusk Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	119	143	128	154	56	187	263	30	59	49
Average Queue (ft)	58	82	53	71	12	64	149	3	16	17
95th Queue (ft)	104	146	106	129	148	146	232	16	45	43
Link Distance (ft)			962	962		386	386	131	846	846
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	240	240			150					
Storage Blk Time (%)							0			
Queuing Penalty (veh)							0			

Intersection: 13: Project Dwy #4 & Lusk Blvd

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 14: I-805 NB Ramps/Mira Sorrento PI & Vista Sorrento Pkwy

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	TR	R	L	L	T	R	L	T	T	R	L
Maximum Queue (ft)	212	299	45	172	188	258	95	195	256	247	185	106
Average Queue (ft)	85	161	10	91	111	113	39	193	236	141	55	36
95th Queue (ft)	178	275	32	150	166	206	75	214	250	301	184	86
Link Distance (ft)		1596	1596	463	463	463	463		220	220		
Upstream Blk Time (%)									66	16		
Queuing Penalty (veh)									0	0		
Storage Bay Dist (ft)	245							170			160	160
Storage Blk Time (%)		2						65	12	24	0	0
Queuing Penalty (veh)		3						251	105	42	0	0

Intersection: 14: I-805 NB Ramps/Mira Sorrento PI & Vista Sorrento Pkwy

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	124	133
Average Queue (ft)	56	46
95th Queue (ft)	109	99
Link Distance (ft)	598	598
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 15: Scranton Rd & Barnes Canyon Rd

Movement	EB	WB	WB	B65	NB
Directions Served	TR	L	T	T	LR
Maximum Queue (ft)	43	56	15	20	30
Average Queue (ft)	3	21	1	1	9
95th Queue (ft)	22	50	10	20	29
Link Distance (ft)	374		1191	184	362
Upstream Blk Time (%)				0	
Queuing Penalty (veh)				0	
Storage Bay Dist (ft)		75			
Storage Blk Time (%)		0			
Queuing Penalty (veh)		0			

**Intersection: 16: Lusk Blvd & Barnes Canyon Rd**

Movement	EB	EB	EB	B65	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	T	L	T	TR	L	T	T	R	L
Maximum Queue (ft)	176	247	179	114	154	313	246	124	204	161	43	98
Average Queue (ft)	108	84	52	7	32	174	72	88	37	56	11	37
95th Queue (ft)	174	194	154	67	107	279	170	135	137	122	30	95
Link Distance (ft)		184		1191		807	807		1636	1636		
Upstream Blk Time (%)	1	2	0									
Queuing Penalty (veh)	0	13	0									
Storage Bay Dist (ft)	155		155		130			100			210	95
Storage Blk Time (%)	6	3	0			25		12	0	0		1
Queuing Penalty (veh)	12	9	0			6		16	0	0		1

**Intersection: 16: Lusk Blvd & Barnes Canyon Rd**

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	128	221
Average Queue (ft)	47	95
95th Queue (ft)	101	178
Link Distance (ft)	912	912
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)	2	
Queuing Penalty (veh)	1	

**Intersection: 17: Barnes Canyon Rd/Commercial Dwy & Pacific Heights Blvd**

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	L	T	TR	L	T	R	L	TR
Maximum Queue (ft)	33	45	63	195	195	102	111	142	35	80	39	41
Average Queue (ft)	7	10	21	114	113	25	53	69	6	34	8	12
95th Queue (ft)	26	34	50	170	171	71	94	124	25	64	29	38
Link Distance (ft)		452	452			1240	1240		807	807	48	48
Upstream Blk Time (%)											0	0
Queuing Penalty (veh)											0	0
Storage Bay Dist (ft)	115			210	210			150				
Storage Blk Time (%)				0	0			0				
Queuing Penalty (veh)				0	0			0				

Intersection: 18: Carroll Canyon Rd/I-805 SB Ramps & Sorrento Valley Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB	NB	
Directions Served	T	T	T	R	L	T	T	R	R	R	L	L	
Maximum Queue (ft)	239	205	99	104	60	183	203	47	56	59	135	162	
Average Queue (ft)	136	76	23	22	14	78	91	8	9	7	24	84	
95th Queue (ft)	214	181	71	68	33	155	176	30	34	32	97	151	
Link Distance (ft)	552	552	552			318	318	318	318	318		523	
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)					180	360						245	
Storage Blk Time (%)													
Queuing Penalty (veh)													

Intersection: 18: Carroll Canyon Rd/I-805 SB Ramps & Sorrento Valley Rd

Movement	NB	NB	SB	SB	SB	SB
Directions Served	R	R	L	L	T	TR
Maximum Queue (ft)	151	28	180	446	418	236
Average Queue (ft)	60	1	167	419	248	100
95th Queue (ft)	118	14	220	432	469	209
Link Distance (ft)	523			402	402	
Upstream Blk Time (%)				31	4	
Queuing Penalty (veh)				0	0	
Storage Bay Dist (ft)		315	155			250
Storage Blk Time (%)			9	29	1	0
Queuing Penalty (veh)			76	237	3	0



Intersection: 19: I-805 NB Off-Ramp/Vista Sorrento Pkwy & Sorrento Valley Rd/Mira Mesa Blvd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	T	T	T	T	T	R	T	R
Maximum Queue (ft)	171	185	551	487	440	172	196	244	237	254	834	844
Average Queue (ft)	98	160	328	264	285	76	106	132	138	134	710	795
95th Queue (ft)	181	228	514	412	398	148	178	217	224	239	1114	925
Link Distance (ft)			842	842	842	1044	1044	1044	1044	1044	799	799
Upstream Blk Time (%)											10	30
Queuing Penalty (veh)											0	0
Storage Bay Dist (ft)	160	160										
Storage Blk Time (%)	1	14	27									13
Queuing Penalty (veh)	6	76	81									209

Intersection: 19: I-805 NB Off-Ramp/Vista Sorrento Pkwy & Sorrento Valley Rd/Mira Mesa Blvd

Movement	NB	NB	SB	SB	SB
Directions Served	R	R	L	R	R
Maximum Queue (ft)	685	590	172	87	78
Average Queue (ft)	623	315	61	28	20
95th Queue (ft)	777	489	136	68	52
Link Distance (ft)			463	463	463
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	660	660			
Storage Blk Time (%)	1	0			
Queuing Penalty (veh)	6	0			

Intersection: 20: Scranton Rd & Mira Mesa Blvd

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	T	R	L	T	T	T	TR	L
Maximum Queue (ft)	343	404	540	496	500	466	300	276	788	984	1029	38
Average Queue (ft)	214	255	313	325	339	194	159	73	224	417	605	7
95th Queue (ft)	316	381	469	466	466	391	277	180	653	959	1092	27
Link Distance (ft)			1044	1044	1044	1044			3001	3001	3001	338
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	380	380					340	340				
Storage Blk Time (%)	0	0	2				1	0	0			
Queuing Penalty (veh)	2	3	16				1	0	1			

Intersection: 20: Scranton Rd & Mira Mesa Blvd

Movement	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	LT	TR	L	L	TR	R	R
Maximum Queue (ft)	94	182	179	56	144	259	191	63
Average Queue (ft)	19	105	100	12	48	120	39	23
95th Queue (ft)	59	161	158	38	129	219	141	53
Link Distance (ft)	338	338	338			610	610	610
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)				120	120			
Storage Blk Time (%)					0	18		
Queuing Penalty (veh)					0	10		

Intersection: 21: Oberlin Dr/Lusk Blvd & Mira Mesa Blvd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	TR	L	L	T	T	TR	L	T
Maximum Queue (ft)	225	240	554	537	569	83	106	309	264	317	44	51
Average Queue (ft)	137	169	238	236	268	33	60	48	85	145	8	12
95th Queue (ft)	215	267	519	504	537	72	142	224	197	269	31	39
Link Distance (ft)			3001	3001	3001			1722	1722	1722		770
Upstream Blk Time (%)								0				
Queuing Penalty (veh)								0				
Storage Bay Dist (ft)	215	215				235	235				95	
Storage Blk Time (%)	0	2	10									
Queuing Penalty (veh)	3	16	34									

Intersection: 21: Oberlin Dr/Lusk Blvd & Mira Mesa Blvd

Movement	NB	SB	SB	SB	SB
Directions Served	R	L	L	T	R
Maximum Queue (ft)	45	75	86	36	78
Average Queue (ft)	14	22	38	5	23
95th Queue (ft)	38	58	78	24	53
Link Distance (ft)				1636	1636
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	95	185	185		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 22: Pacific Heights Blvd & Mira Mesa Blvd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	T
Maximum Queue (ft)	310	650	502	303	138	275	614	603	785	315	120	225
Average Queue (ft)	290	358	173	151	45	259	385	329	418	266	48	105
95th Queue (ft)	349	675	387	290	102	326	614	549	716	412	110	190
Link Distance (ft)		1722	1722	1722	1722		6242	6242	6242			700
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	285					250				290	95	
Storage Blk Time (%)	35	0				30	7		9	13	6	23
Queuing Penalty (veh)	165	0				190	32		103	82	4	8

Intersection: 22: Pacific Heights Blvd & Mira Mesa Blvd

Movement	NB	NB	SB	SB	SB	SB	SB
Directions Served	TR	R	L	L	T	T	R
Maximum Queue (ft)	213	110	137	155	73	80	83
Average Queue (ft)	72	12	66	94	22	22	32
95th Queue (ft)	155	64	133	153	58	58	62
Link Distance (ft)	700				1240	1240	1240
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		95	480	480			
Storage Blk Time (%)	6	0					
Queuing Penalty (veh)	3	0					

Intersection: 23: Camino Santa Fe & Mira Mesa Blvd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	T
Maximum Queue (ft)	96	144	165	172	71	155	3152	3201	3196	3000	265	723
Average Queue (ft)	30	60	87	98	27	137	2746	2797	2802	2336	256	592
95th Queue (ft)	76	126	153	157	55	204	3453	3499	3515	3353	293	896
Link Distance (ft)		6242	6242	6242	6242		4844	4844	4844	4844		690
Upstream Blk Time (%)												51
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	145					130					240	
Storage Blk Time (%)	0	0				16	39				84	1
Queuing Penalty (veh)	0	0				183	235				65	3

Intersection: 23: Camino Santa Fe & Mira Mesa Blvd

Movement	NB	NB	SB	SB	SB	SB	SB
Directions Served	T	R	L	L	T	T	R
Maximum Queue (ft)	654	97	144	245	284	228	258
Average Queue (ft)	316	21	37	101	154	121	107
95th Queue (ft)	712	63	115	186	239	209	205
Link Distance (ft)	690	690			731	731	731
Upstream Blk Time (%)	0						
Queuing Penalty (veh)	0						
Storage Bay Dist (ft)			250	250			
Storage Blk Time (%)				0	1		
Queuing Penalty (veh)				0	1		

Intersection: 24: Camino Ruiz & Mira Mesa Blvd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	B39
Directions Served	L	L	T	T	TR	L	L	T	T	T	R	T
Maximum Queue (ft)	110	122	133	124	107	180	225	490	520	533	215	638
Average Queue (ft)	31	59	64	56	32	90	140	291	329	349	61	25
95th Queue (ft)	84	118	120	112	82	155	250	504	529	539	218	361
Link Distance (ft)			3616	3616	3616			2423	2423	2423		2146
Upstream Blk Time (%)												0
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	190	190				200	200				190	
Storage Blk Time (%)						0	0	11		19	0	
Queuing Penalty (veh)						0	1	22		23	0	

Intersection: 24: Camino Ruiz & Mira Mesa Blvd

Movement	B39	B39	B31	B31	B31	NB	NB	NB	NB	NB	SB	SB
Directions Served	T	T	T	T	T	L	T	T	T	R	L	L
Maximum Queue (ft)	905	117	613	602	60	224	268	284	125	111	237	250
Average Queue (ft)	42	4	23	20	2	102	163	129	65	67	221	243
95th Queue (ft)	486	106	293	267	59	187	239	249	160	108	280	269
Link Distance (ft)	2146	2146	1556	1556	1556		520	520				
Upstream Blk Time (%)	0											
Queuing Penalty (veh)	0											
Storage Bay Dist (ft)						230			100	100	225	225
Storage Blk Time (%)						0	1	12	1	3	19	56
Queuing Penalty (veh)						0	1	39	0	2	45	131

Intersection: 24: Camino Ruiz & Mira Mesa Blvd

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	541	488	137
Average Queue (ft)	425	313	64
95th Queue (ft)	637	518	120
Link Distance (ft)	504	504	504
Upstream Blk Time (%)	26	0	
Queuing Penalty (veh)	0	0	
Storage Bay Dist (ft)			
Storage Blk Time (%)	6		
Queuing Penalty (veh)	21		

Intersection: 25: Black Mountain Rd & Mira Mesa Blvd

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	246	275	1014	1220	1305	295	215	240	592	592	595	79
Average Queue (ft)	179	207	682	920	1022	192	121	172	564	564	565	15
95th Queue (ft)	291	315	1082	1196	1304	413	197	278	578	576	578	49
Link Distance (ft)			1556	1556	1556				489	489	489	489
Upstream Blk Time (%)									47	50	52	
Queuing Penalty (veh)									419	444	460	
Storage Bay Dist (ft)	250	250				270	215	215				
Storage Blk Time (%)	4	16	7		61	0	1	2	46			
Queuing Penalty (veh)	19	83	16		92	1	9	19	111			

Intersection: 25: Black Mountain Rd & Mira Mesa Blvd

Movement	B58	B58	B58	B58	B83	B83	B83	B83	NB	NB	NB	NB
Directions Served	T	T	T	T	T	T	T	T	L	L	T	T
Maximum Queue (ft)	1447	1458	1474	1450	150	176	162	133	241	253	446	390
Average Queue (ft)	1096	1138	1155	1105	32	48	49	39	186	210	233	168
95th Queue (ft)	1711	1722	1731	1757	128	163	153	131	281	288	516	424
Link Distance (ft)	1412	1412	1412	1412	90	90	90	90			560	560
Upstream Blk Time (%)	9	16	21	17	2	4	5	4			5	0
Queuing Penalty (veh)	81	142	187	148	22	36	46	33			0	0
Storage Bay Dist (ft)									230	230		
Storage Blk Time (%)									5	29	0	0
Queuing Penalty (veh)									6	34	0	0

Intersection: 25: Black Mountain Rd & Mira Mesa Blvd

Movement	NB	SB	SB	SB	SB	SB
Directions Served	R	L	L	T	T	R
Maximum Queue (ft)	191	402	415	629	599	270
Average Queue (ft)	80	371	413	601	442	152
95th Queue (ft)	158	511	419	615	732	302
Link Distance (ft)				584	584	
Upstream Blk Time (%)				79	2	
Queuing Penalty (veh)				0	0	
Storage Bay Dist (ft)	260	390	390			245
Storage Blk Time (%)		6	84	1	3	11
Queuing Penalty (veh)		19	291	3	16	37

Intersection: 26: Mira Mesa Blvd & I-15 SB Ramps

Movement	EB	EB	EB	EB	EB	B83	B83	B83	B83	B58	B58	WB
Directions Served	T	T	T	R	R	T	T	T	T	T	T	T
Maximum Queue (ft)	161	167	187	89	151	76	121	335	12	307	361	638
Average Queue (ft)	100	117	158	25	55	6	18	144	0	10	21	402
95th Queue (ft)	172	183	184	76	137	36	75	298	6	121	160	642
Link Distance (ft)	90	90	90	90	90	1412	1412	1412	1412	489	489	864
Upstream Blk Time (%)	16	20	45	0	2					0	0	0
Queuing Penalty (veh)	71	87	195	0	8					0	0	1
Storage Bay Dist (ft)												
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 26: Mira Mesa Blvd & I-15 SB Ramps

Movement	WB	WB	WB	SB	SB	SB	SB
Directions Served	T	T	R	L	L	R	R
Maximum Queue (ft)	641	606	280	134	689	699	595
Average Queue (ft)	406	367	67	18	660	664	549
95th Queue (ft)	643	609	174	126	719	687	658
Link Distance (ft)	864	864	864		646	646	
Upstream Blk Time (%)	0	0			26	51	
Queuing Penalty (veh)	1	1			0	0	
Storage Bay Dist (ft)				285			570
Storage Blk Time (%)						30	1
Queuing Penalty (veh)						240	4

Intersection: 27: I-15 NB Ramps & Mira Mesa Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	T	T	T	R	T	T	T	R	L	L	R	R
Maximum Queue (ft)	215	206	218	184	447	568	634	125	440	451	195	161
Average Queue (ft)	89	92	96	62	260	298	402	87	296	299	100	36
95th Queue (ft)	192	189	195	134	398	560	683	179	404	407	170	111
Link Distance (ft)	864	864	864	864	603	603	603		670	670		
Upstream Blk Time (%)					0	1	10					
Queuing Penalty (veh)					0	0	0					
Storage Bay Dist (ft)								100			565	565
Storage Blk Time (%)							35	0		0		
Queuing Penalty (veh)							100	1		0		



**Intersection: 28: I-805 Direct Access Ramps & Carroll Canyon Rd**

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	T	TR	L	T	TR	L	R	LTR
Maximum Queue (ft)	169	125	72	46	47	62	75	106
Average Queue (ft)	48	13	22	8	7	18	39	39
95th Queue (ft)	120	61	56	31	29	51	62	86
Link Distance (ft)	564	564		958	958		351	269
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			400				415	
Storage Blk Time (%)	0							
Queuing Penalty (veh)	0							

**Intersection: 29: Carroll Canyon Rd & Scranton Rd**

Movement	EB	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	L	L	T	T	T	T	R	L	LR	R
Maximum Queue (ft)	122	144	275	256	116	54	64	110	128	39
Average Queue (ft)	12	94	84	65	43	9	25	44	68	12
95th Queue (ft)	64	150	199	163	89	36	51	100	107	34
Link Distance (ft)			958	958	414	414			570	570
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	120	120					190	90		
Storage Blk Time (%)	0	13	1					0	3	
Queuing Penalty (veh)	0	41	1					1	4	

**Network Summary**

Network wide Queuing Penalty: 11785
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**Intersection: 1: I-5 SB On-Ramp/I-5 SB Off-Ramp & Carmel Mountain Rd**

Movement	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	L	LTR	R
Maximum Queue (ft)	435	414	117	215	351	127	112	323	431	378
Average Queue (ft)	373	272	23	153	187	37	33	243	285	143
95th Queue (ft)	478	431	82	230	302	95	91	356	447	395
Link Distance (ft)	410	410			526	526	526		417	417
Upstream Blk Time (%)	15	2							10	0
Queuing Penalty (veh)	0	0							0	0
Storage Bay Dist (ft)			315	190				300		
Storage Blk Time (%)		1		2	12			14	4	
Queuing Penalty (veh)		1		4	23			54	10	

**Intersection: 2: I-5 NB Off-Ramp/I-5 NB On-Ramp & Carmel Mountain Rd**

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	T	R	L	LTR	R
Maximum Queue (ft)	215	546	534	277	302	549	265	262	337	279
Average Queue (ft)	212	461	268	155	90	200	222	50	196	143
95th Queue (ft)	217	665	583	255	209	523	318	152	313	259
Link Distance (ft)		526	526	1105	1105	1105			346	
Upstream Blk Time (%)		8	0						0	0
Queuing Penalty (veh)		58	1						0	0
Storage Bay Dist (ft)	190						240	265		470
Storage Blk Time (%)	44	0				0	18	0	4	0
Queuing Penalty (veh)	161	0				1	31	0	11	0

**Intersection: 3: Vista Sorrento Pkwy/Torrey View Ct & Carmel Mountain Rd**

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	20	41	54	64	79	64	262	274	340	21	73	146
Average Queue (ft)	2	10	12	22	33	28	189	235	99	4	16	56
95th Queue (ft)	12	40	37	52	68	57	274	303	336	16	47	125
Link Distance (ft)			1105	1105	1105				316	316	316	
Upstream Blk Time (%)									6			
Queuing Penalty (veh)									0			
Storage Bay Dist (ft)	245	245				265	250	250				260
Storage Blk Time (%)							1	15	0			
Queuing Penalty (veh)							0	4	0			

**Intersection: 3: Vista Sorrento Pkwy/Torrey View Ct & Carmel Mountain Rd**

Movement	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	R	R	L	L	T	TR
Maximum Queue (ft)	115	316	473	74	89	127	140	516	245
Average Queue (ft)	47	128	209	26	34	97	132	247	142
95th Queue (ft)	94	244	381	58	82	174	156	444	288
Link Distance (ft)			1104	1104				503	
Upstream Blk Time (%)								1	
Queuing Penalty (veh)								0	
Storage Bay Dist (ft)	305	305			310	115	115		220
Storage Blk Time (%)		0	3			4	36	10	0
Queuing Penalty (veh)		0	8			17	154	48	2

**Intersection: 4: Roselle St & 1-5 SB On-Ramp**

Movement	NB	NB	NB	SB
Directions Served	L	L	T	TR
Maximum Queue (ft)	239	248	49	212
Average Queue (ft)	122	130	6	129
95th Queue (ft)	200	215	27	214
Link Distance (ft)	403	403	403	185
Upstream Blk Time (%)				6
Queuing Penalty (veh)				0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Roselle St & Sorrento Valley Blvd

Movement	WB	WB	WB	B75	B75	NB	SB
Directions Served	L	R	R	T	T	T	LT
Maximum Queue (ft)	114	294	258	506	486	57	110
Average Queue (ft)	56	244	120	201	145	32	56
95th Queue (ft)	149	320	276	505	448	47	89
Link Distance (ft)		186	186	646	646	351	403
Upstream Blk Time (%)		45	5	0	0		
Queuing Penalty (veh)		324	35	1	1		
Storage Bay Dist (ft)	90						
Storage Blk Time (%)	0	39					
Queuing Penalty (veh)	0	36					

Intersection: 6: Roselle St & I-5 NB Off-Ramp

Movement	EB	EB	EB	NB	NB	SB
Directions Served	L	L	R	T	T	T
Maximum Queue (ft)	157	190	60	63	86	68
Average Queue (ft)	55	99	28	33	45	32
95th Queue (ft)	109	161	51	51	71	56
Link Distance (ft)	478	478		126	126	351
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					0	
Storage Bay Dist (ft)			195			
Storage Blk Time (%)		0				
Queuing Penalty (veh)		0				

**Intersection: 7: Vista Sorrento Pkwy & Sorrento Valley Blvd**

Movement	EB	EB	EB	B75	B75	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	TR	T	T	L	T	TR	L	LT	TR	L
Maximum Queue (ft)	290	577	569	20	6	250	359	355	275	1800	1796	150
Average Queue (ft)	259	419	381	2	0	222	333	329	268	1740	1742	146
95th Queue (ft)	348	618	558	21	5	305	361	383	328	1914	1909	156
Link Distance (ft)		646	646	186	186		320	320		1759	1759	
Upstream Blk Time (%)		4	0				56	55		10	12	
Queuing Penalty (veh)		19	0				0	0		121	135	
Storage Bay Dist (ft)	265					225			250			125
Storage Blk Time (%)	39	21				23	55		15	52		76
Queuing Penalty (veh)	157	33				70	86		134	189		251

**Intersection: 7: Vista Sorrento Pkwy & Sorrento Valley Blvd**

Movement	SB	SB	SB	B50	B50
Directions Served	LT	T	R	T	T
Maximum Queue (ft)	2072	2063	150	1208	1194
Average Queue (ft)	1778	1555	67	334	320
95th Queue (ft)	2452	2611	150	1073	1055
Link Distance (ft)	1975	1975		2379	2379
Upstream Blk Time (%)	54	34			
Queuing Penalty (veh)	237	150			
Storage Bay Dist (ft)			125		
Storage Blk Time (%)	80	12	0		
Queuing Penalty (veh)	210	15	0		

**Intersection: 8: Vista Sorrento Pkwy & Lusk Blvd**

Movement	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	R	T	TR	L	L	T
Maximum Queue (ft)	339	1828	140	1309	1326	89	115	151
Average Queue (ft)	225	1578	139	764	773	25	45	35
95th Queue (ft)	383	1901	167	1422	1436	67	91	101
Link Distance (ft)	2826	2826		2426	2426		1759	1759
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			115			170		
Storage Blk Time (%)		50	36				0	
Queuing Penalty (veh)		356	253				0	

**Intersection: 9: Wateridge Cir & Lusk Blvd**

Movement	EB	EB	WB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	L	T	T	L	R
Maximum Queue (ft)	86	81	21	58	102	122	28	56
Average Queue (ft)	21	19	1	21	19	24	4	24
95th Queue (ft)	64	58	10	47	68	86	20	48
Link Distance (ft)	1324	1324			384	384		289
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			155	155			100	
Storage Blk Time (%)								
Queuing Penalty (veh)								

**Intersection: 10: Project Dwy #1 & Lusk Blvd**

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

**Intersection: 11: Project Dwy #2 & Lusk Blvd**

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 12: Project Dwy #3/Pacific Center Blvd & Lusk Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	21	50	130	112	25	157	184	62	113	182
Average Queue (ft)	2	17	56	41	2	56	112	19	49	86
95th Queue (ft)	11	42	108	84	12	122	166	49	98	150
Link Distance (ft)			962	962		386	386	131	846	846
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	240	240			150					
Storage Blk Time (%)							0			
Queuing Penalty (veh)							0			

Intersection: 13: Project Dwy #4 & Lusk Blvd

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 14: I-805 NB Ramps/Mira Sorrento PI & Vista Sorrento Pkwy

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	TR	R	L	L	T	R	L	T	T	R	L
Maximum Queue (ft)	270	947	746	485	499	508	117	195	256	197	164	185
Average Queue (ft)	100	610	261	406	419	221	10	192	236	59	59	163
95th Queue (ft)	281	1009	693	528	542	487	75	219	247	132	116	234
Link Distance (ft)		1596	1596	463	463	463	463		220	220		
Upstream Blk Time (%)				5	15	5	0		87	0		
Queuing Penalty (veh)				13	42	15	0		0	0		
Storage Bay Dist (ft)	245							170			160	160
Storage Blk Time (%)	0	58						89	0	0	0	19
Queuing Penalty (veh)	0	33						33	1	0	0	72

Intersection: 14: I-805 NB Ramps/Mira Sorrento PI & Vista Sorrento Pkwy

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	633	634
Average Queue (ft)	606	595
95th Queue (ft)	672	689
Link Distance (ft)	598	598
Upstream Blk Time (%)	54	46
Queuing Penalty (veh)	0	0
Storage Bay Dist (ft)		
Storage Blk Time (%)	62	
Queuing Penalty (veh)	186	



Intersection: 15: Scranton Rd & Barnes Canyon Rd

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	LR
Maximum Queue (ft)	28	35	42	66
Average Queue (ft)	1	3	2	28
95th Queue (ft)	13	18	19	49
Link Distance (ft)	374		1191	362
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		75		
Storage Blk Time (%)			0	
Queuing Penalty (veh)			0	

**Intersection: 16: Lusk Blvd & Barnes Canyon Rd**

Movement	EB	EB	EB	B65	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	T	L	T	TR	L	T	T	R	L
Maximum Queue (ft)	177	237	179	13	154	245	126	63	45	94	47	119
Average Queue (ft)	138	82	94	0	38	114	36	18	6	32	10	90
95th Queue (ft)	174	198	170	7	103	199	89	48	28	77	31	139
Link Distance (ft)		184		1191		807	807		1636	1636		
Upstream Blk Time (%)	1	2	0									
Queuing Penalty (veh)	0	4	0									
Storage Bay Dist (ft)	155		155		130			100			210	95
Storage Blk Time (%)	10	3	1			8			0			30
Queuing Penalty (veh)	52	21	5			3			0			52

**Intersection: 16: Lusk Blvd & Barnes Canyon Rd**

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	352	285
Average Queue (ft)	124	84
95th Queue (ft)	307	210
Link Distance (ft)	912	912
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)	5	
Queuing Penalty (veh)	6	

**Intersection: 17: Barnes Canyon Rd/Commercial Dwy & Pacific Heights Blvd**

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	L	T	TR	L	T	R	L	TR
Maximum Queue (ft)	103	219	190	119	115	39	92	94	44	272	68	55
Average Queue (ft)	26	109	73	59	49	8	35	37	11	115	29	20
95th Queue (ft)	65	183	146	105	94	30	74	77	36	215	62	49
Link Distance (ft)		452	452			1240	1240		807	807	48	48
Upstream Blk Time (%)											6	2
Queuing Penalty (veh)											0	0
Storage Bay Dist (ft)	115			210	210			150				
Storage Blk Time (%)		7										
Queuing Penalty (veh)		2										

Intersection: 18: Carroll Canyon Rd/I-805 SB Ramps & Sorrento Valley Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	B86	NB
Directions Served	T	T	T	R	L	T	T	R	R	R	T	L
Maximum Queue (ft)	366	310	219	47	103	130	149	106	113	109	4	216
Average Queue (ft)	233	190	97	3	28	47	62	32	37	31	0	83
95th Queue (ft)	327	279	200	32	75	107	126	79	89	80	3	191
Link Distance (ft)	552	552	552			318	318	318	318	318	842	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)				180	360							245
Storage Blk Time (%)			0	0								0
Queuing Penalty (veh)			0	0								0

Intersection: 18: Carroll Canyon Rd/I-805 SB Ramps & Sorrento Valley Rd

Movement	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	R	R	L	L	T	TR
Maximum Queue (ft)	558	571	340	180	428	342	159
Average Queue (ft)	525	543	333	162	295	113	48
95th Queue (ft)	628	558	470	217	437	225	122
Link Distance (ft)	523	523			402	402	
Upstream Blk Time (%)	29	86			4	0	
Queuing Penalty (veh)	0	0			0	0	
Storage Bay Dist (ft)			315	155			250
Storage Blk Time (%)	0	80	3	2	29	0	
Queuing Penalty (veh)	1	415	16	8	97	0	

**Intersection: 19: I-805 NB Off-Ramp/Vista Sorrento Pkwy & Sorrento Valley Rd/Mira Mesa Blvd**

Movement	EB	EB	EB	EB	EB	B86	WB	WB	WB	WB	WB	NB	
Directions Served	L	L	T	T	T	T	T	T	T	T	T	R	T
Maximum Queue (ft)	125	139	158	137	170	3	124	200	268	415	638	121	
Average Queue (ft)	41	61	55	61	84	0	53	99	143	187	345	31	
95th Queue (ft)	90	113	120	120	144	3	103	171	219	324	885	81	
Link Distance (ft)			842	842	842	318	1044	1044	1044	1044	1044	799	
Upstream Blk Time (%)													1
Queuing Penalty (veh)													4
Storage Bay Dist (ft)	160	160											
Storage Blk Time (%)	0	0	0										
Queuing Penalty (veh)	0	1	0										

**Intersection: 19: I-805 NB Off-Ramp/Vista Sorrento Pkwy & Sorrento Valley Rd/Mira Mesa Blvd**

Movement	NB	NB	NB	SB	SB	SB
Directions Served	R	R	R	L	R	R
Maximum Queue (ft)	366	337	202	166	177	169
Average Queue (ft)	237	197	61	77	87	79
95th Queue (ft)	345	316	142	141	156	145
Link Distance (ft)	799			463	463	463
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		660	660			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 20: Scranton Rd & Mira Mesa Blvd

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	T	R	L	T	T	T	TR	L
Maximum Queue (ft)	153	175	308	322	340	92	290	343	3053	3044	3044	95
Average Queue (ft)	75	98	182	211	230	38	154	136	2342	2476	2513	31
95th Queue (ft)	146	167	270	299	317	75	348	296	3627	3636	3610	75
Link Distance (ft)			1044	1044	1044	1044			3001	3001	3001	338
Upstream Blk Time (%)									4	21	32	
Queuing Penalty (veh)									20	109	172	
Storage Bay Dist (ft)	380	380					340	340				
Storage Blk Time (%)			0				3	2	1			
Queuing Penalty (veh)			0				10	9	2			

Intersection: 20: Scranton Rd & Mira Mesa Blvd

Movement	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	LT	TR	L	L	TR	R	R
Maximum Queue (ft)	181	237	165	77	145	657	638	617
Average Queue (ft)	80	167	72	20	114	609	547	259
95th Queue (ft)	163	229	137	57	196	716	784	646
Link Distance (ft)	338	338	338			610	610	610
Upstream Blk Time (%)						78	24	1
Queuing Penalty (veh)						0	0	0
Storage Bay Dist (ft)				120	120			
Storage Blk Time (%)				0	1	82		
Queuing Penalty (veh)				0	2	99		

Intersection: 21: Oberlin Dr/Lusk Blvd & Mira Mesa Blvd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	TR	L	L	T	T	TR	L	T
Maximum Queue (ft)	82	239	382	390	400	75	259	1482	1499	1497	86	126
Average Queue (ft)	23	74	248	271	293	15	74	487	521	542	31	18
95th Queue (ft)	62	191	376	396	410	50	208	1389	1417	1432	78	75
Link Distance (ft)			3001	3001	3001			1722	1722	1722		770
Upstream Blk Time (%)								1	1	3		
Queuing Penalty (veh)								5	7	14		
Storage Bay Dist (ft)	215	215				235	235					95
Storage Blk Time (%)		0	19				0	29			6	0
Queuing Penalty (veh)		0	14				0	13			11	0

Intersection: 21: Oberlin Dr/Lusk Blvd & Mira Mesa Blvd

Movement	NB	SB	SB	SB	SB
Directions Served	R	L	L	T	R
Maximum Queue (ft)	109	197	210	1211	1186
Average Queue (ft)	45	187	202	783	410
95th Queue (ft)	83	229	247	1267	1096
Link Distance (ft)				1636	1636
Upstream Blk Time (%)				1	0
Queuing Penalty (veh)				2	1
Storage Bay Dist (ft)	95	185	185		
Storage Blk Time (%)	1	22	59	0	
Queuing Penalty (veh)	0	24	66	0	

Intersection: 22: Pacific Heights Blvd & Mira Mesa Blvd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	T
Maximum Queue (ft)	310	566	588	602	69	273	606	601	587	312	120	337
Average Queue (ft)	169	396	421	438	25	158	222	225	218	25	97	103
95th Queue (ft)	321	559	581	601	55	271	466	464	460	160	138	254
Link Distance (ft)		1722	1722	1722	1722		6242	6242	6242			700
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	285					250				290	95	
Storage Blk Time (%)	0	32				6	6		6	0	35	3
Queuing Penalty (veh)	1	37				19	7		12	0	9	3

Intersection: 22: Pacific Heights Blvd & Mira Mesa Blvd

Movement	NB	NB	SB	SB	SB	SB	SB
Directions Served	TR	R	L	L	T	T	R
Maximum Queue (ft)	536	120	492	505	1087	926	293
Average Queue (ft)	284	112	489	503	825	306	120
95th Queue (ft)	461	166	507	570	1078	809	239
Link Distance (ft)	700				1240	1240	1240
Upstream Blk Time (%)	0				0		
Queuing Penalty (veh)	0				0		
Storage Bay Dist (ft)		95	480	480			
Storage Blk Time (%)	62	3	9	44	1		
Queuing Penalty (veh)	132	8	14	67	11		

Intersection: 23: Camino Santa Fe & Mira Mesa Blvd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	T
Maximum Queue (ft)	169	4791	4838	4847	3828	155	1023	827	249	63	258	481
Average Queue (ft)	116	2790	2828	2843	1795	150	630	170	66	21	174	189
95th Queue (ft)	191	4899	4940	4956	3712	180	1160	605	162	51	278	368
Link Distance (ft)		6242	6242	6242	6242		4844	4844	4844	4844		690
Upstream Blk Time (%)												0
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	145					130					240	
Storage Blk Time (%)	11	51				89	1				10	1
Queuing Penalty (veh)	104	57				162	1				18	1

Intersection: 23: Camino Santa Fe & Mira Mesa Blvd

Movement	NB	NB	SB	SB	SB	SB	SB
Directions Served	T	R	L	L	T	T	R
Maximum Queue (ft)	668	730	262	275	782	723	34
Average Queue (ft)	386	615	254	273	729	242	5
95th Queue (ft)	840	853	278	298	858	689	19
Link Distance (ft)	690	690			731	731	731
Upstream Blk Time (%)	12	45			78	0	
Queuing Penalty (veh)	0	0			0	0	
Storage Bay Dist (ft)			250	250			
Storage Blk Time (%)			16	82	1		
Queuing Penalty (veh)			19	100	3		



Intersection: 24: Camino Ruiz & Mira Mesa Blvd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	B39
Directions Served	L	L	T	T	TR	L	L	T	T	T	R	T
Maximum Queue (ft)	189	214	706	748	739	212	225	434	398	416	215	125
Average Queue (ft)	108	168	528	566	582	179	195	234	211	231	113	4
95th Queue (ft)	187	255	685	717	717	239	252	429	348	367	249	123
Link Distance (ft)			3616	3616	3616			2423	2423	2423		2146
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	190	190				200	200					190
Storage Blk Time (%)	0	2	38			8	24	7		23		0
Queuing Penalty (veh)	3	18	90			26	80	21		51		1

Intersection: 24: Camino Ruiz & Mira Mesa Blvd

Movement	B39	B31	B31	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	T	T	L	T	T	T	R	L	L	T	T
Maximum Queue (ft)	8	409	563	255	541	506	125	112	236	250	497	404
Average Queue (ft)	0	14	19	195	346	303	107	73	188	225	270	211
95th Queue (ft)	6	238	286	307	536	487	175	125	263	277	449	337
Link Distance (ft)	2146	1556	1556		520	520						504
Upstream Blk Time (%)			0		3	2						1
Queuing Penalty (veh)			0		0	0						0
Storage Bay Dist (ft)				230			100	100	225	225		
Storage Blk Time (%)				8	25	39	4	9	3	16		9
Queuing Penalty (veh)				15	38	151	8	19	6	39		30

Intersection: 24: Camino Ruiz & Mira Mesa Blvd

Movement	SB
Directions Served	R
Maximum Queue (ft)	67
Average Queue (ft)	26
95th Queue (ft)	55
Link Distance (ft)	504
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 25: Black Mountain Rd & Mira Mesa Blvd

Movement	EB	EB	EB	EB	EB	EB	B31	B39	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	T	T	L	L	T	T
Maximum Queue (ft)	262	275	885	1013	1103	295	4	4	221	240	543	556
Average Queue (ft)	212	254	583	722	827	157	0	0	130	180	312	355
95th Queue (ft)	297	339	823	988	1077	390	3	4	207	273	509	540
Link Distance (ft)			1556	1556	1556		2146	2423			489	489
Upstream Blk Time (%)											2	2
Queuing Penalty (veh)											11	17
Storage Bay Dist (ft)	250	250				270			215	215		
Storage Blk Time (%)	3	13	22		56	0			1	2	17	
Queuing Penalty (veh)	18	84	108		64	1			4	9	42	

Intersection: 25: Black Mountain Rd & Mira Mesa Blvd

Movement	WB	WB	B58	B58	B58	B58	B83	B83	B83	NB	NB	NB
Directions Served	T	R	T	T	T	T	T	T	T	L	L	T
Maximum Queue (ft)	564	205	96	118	138	65	6	13	14	207	255	570
Average Queue (ft)	372	70	7	8	11	4	0	0	1	101	202	361
95th Queue (ft)	557	155	83	87	101	61	7	9	10	196	304	552
Link Distance (ft)	489	489	1412	1412	1412	1412	93	93	93			560
Upstream Blk Time (%)	3											1
Queuing Penalty (veh)	25											0
Storage Bay Dist (ft)										230	230	
Storage Blk Time (%)										0	0	29
Queuing Penalty (veh)										0	1	51

Intersection: 25: Black Mountain Rd & Mira Mesa Blvd

Movement	NB	NB	SB	SB	SB	SB	SB
Directions Served	T	R	L	L	T	T	R
Maximum Queue (ft)	556	285	402	415	593	538	269
Average Queue (ft)	331	223	312	354	315	217	155
95th Queue (ft)	527	339	452	463	666	496	272
Link Distance (ft)	560				584	584	
Upstream Blk Time (%)	1				15	0	
Queuing Penalty (veh)	0				0	0	
Storage Bay Dist (ft)		260	390	390			245
Storage Blk Time (%)	11	8	3	26	0	0	3
Queuing Penalty (veh)	31	27	6	47	1	1	6

**Intersection: 26: Mira Mesa Blvd & I-15 SB Ramps**

Movement	EB	EB	EB	EB	EB	B83	B83	B83	B83	B83	B58	B58
Directions Served	T	T	T	R	R	T	T	T	T	T	T	T
Maximum Queue (ft)	176	174	194	64	55	1267	1346	1395	1330	1158	186	306
Average Queue (ft)	140	146	166	8	5	526	823	978	648	163	11	26
95th Queue (ft)	200	195	179	40	32	1351	1565	1555	1633	839	116	189
Link Distance (ft)	93	93	93	93	93	1412	1412	1412	1412	1412	489	489
Upstream Blk Time (%)	23	27	58	0	0	0	2	5	1	0	0	0
Queuing Penalty (veh)	117	142	301	0	0	1	12	27	4	0	0	1
Storage Bay Dist (ft)												
Storage Blk Time (%)												
Queuing Penalty (veh)												

**Intersection: 26: Mira Mesa Blvd & I-15 SB Ramps**

Movement	B58	WB	WB	WB	WB	SB	SB	SB	SB
Directions Served	T	T	T	T	R	L	L	R	R
Maximum Queue (ft)	328	360	382	347	85	193	670	664	571
Average Queue (ft)	43	220	224	187	24	39	272	464	366
95th Queue (ft)	243	319	321	294	60	134	656	709	576
Link Distance (ft)	489	864	864	864	864		646	646	
Upstream Blk Time (%)	1						3	5	
Queuing Penalty (veh)	4						0	0	
Storage Bay Dist (ft)						285			570
Storage Blk Time (%)							0	3	0
Queuing Penalty (veh)							0	17	0

**Intersection: 27: I-15 NB Ramps & Mira Mesa Blvd**

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	T	T	T	R	T	T	T	R	L	L	R	R
Maximum Queue (ft)	272	292	278	213	243	190	274	125	423	414	204	165
Average Queue (ft)	127	134	142	82	160	104	98	36	282	265	98	39
95th Queue (ft)	239	251	246	168	225	182	203	120	396	375	190	116
Link Distance (ft)	864	864	864	864	603	603	603		670	670		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)								100			565	565
Storage Blk Time (%)							3	0				
Queuing Penalty (veh)							15	0				

**Intersection: 28: I-805 Direct Access Ramps & Carroll Canyon Rd**

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	R	LTR
Maximum Queue (ft)	24	93	49	267	98	117	32	55	85
Average Queue (ft)	3	23	5	145	20	25	5	21	32
95th Queue (ft)	14	64	23	234	67	76	12	50	69
Link Distance (ft)		564	564		958	958		351	269
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	250			400			415		
Storage Blk Time (%)									
Queuing Penalty (veh)									

**Intersection: 29: Carroll Canyon Rd & Scranton Rd**

Movement	EB	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	L	L	T	T	T	T	R	L	LR	R
Maximum Queue (ft)	39	79	81	70	285	214	98	112	156	112
Average Queue (ft)	4	32	32	20	149	84	39	43	81	61
95th Queue (ft)	21	67	70	54	248	183	73	97	127	98
Link Distance (ft)			958	958	414	414			570	570
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	120	120					190	90		
Storage Blk Time (%)		0				0	0	0	5	
Queuing Penalty (veh)		0				0	0	0	6	

**Network Summary**

Network wide Queuing Penalty: 7788
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# **APPENDIX G**

## **OPENING YEAR 2027 + PROJECT INTERSECTION ANALYSIS CALCULATION SHEETS**

HCM 6th Signalized Intersection Summary  
 1: I-5 SB On-Ramp/I-5 SB Off-Ramp & Carmel Mountain Rd

Opening Year 2027 + Project AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↘↗	↑↑					↘	↔	↗
Traffic Volume (veh/h)	0	222	41	484	301	0	0	0	0	966	1	652
Future Volume (veh/h)	0	222	41	484	301	0	0	0	0	966	1	652
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	249	46	613	381	0				1148	0	185
Peak Hour Factor	0.89	0.89	0.89	0.79	0.79	0.79				0.91	0.91	0.91
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	868	374	661	1682	0				1565	0	680
Arrive On Green	0.00	0.24	0.24	0.19	0.47	0.00				0.44	0.00	0.44
Sat Flow, veh/h	0	3647	1533	3456	3647	0				3563	0	1547
Grp Volume(v), veh/h	0	249	46	613	381	0				1148	0	185
Grp Sat Flow(s),veh/h/ln	0	1777	1533	1728	1777	0				1781	0	1547
Q Serve(g_s), s	0.0	8.5	3.5	26.2	9.5	0.0				40.0	0.0	11.4
Cycle Q Clear(g_c), s	0.0	8.5	3.5	26.2	9.5	0.0				40.0	0.0	11.4
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	868	374	661	1682	0				1565	0	680
V/C Ratio(X)	0.00	0.29	0.12	0.93	0.23	0.00				0.73	0.00	0.27
Avail Cap(c_a), veh/h	0	868	374	721	1682	0				1565	0	680
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	46.1	44.2	59.6	23.3	0.0				34.8	0.0	26.8
Incr Delay (d2), s/veh	0.0	0.8	0.7	16.7	0.3	0.0				3.1	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.9	1.4	13.0	4.1	0.0				18.0	0.0	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	46.9	44.8	76.4	23.6	0.0				37.9	0.0	27.8
LnGrp LOS	A	D	D	E	C	A				D	A	C
Approach Vol, veh/h		295			994						1333	
Approach Delay, s/veh		46.6			56.2						36.5	
Approach LOS		D			E						D	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	34.4	43.6		72.0		78.0						
Change Period (Y+Rc), s	* 5.7	7.0		6.1		7.0						
Max Green Setting (Gmax), s	* 31	34.0		65.9		71.0						
Max Q Clear Time (g_c+I1), s	28.2	10.5		42.0		11.5						
Green Ext Time (p_c), s	0.5	1.1		3.0		1.8						

Intersection Summary

HCM 6th Ctrl Delay	45.1
HCM 6th LOS	D

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.
- \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 2: I-5 NB Off-Ramp/I-5 NB On-Ramp & Carmel Mountain Rd

Opening Year 2027 + Project AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑↑	↗	↘	↕	↗			
Traffic Volume (veh/h)	133	1083	0	0	738	584	149	0	348	0	0	0
Future Volume (veh/h)	133	1083	0	0	738	584	149	0	348	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.96			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No				No				No			
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	143	1165	0	0	858	679	103	0	417			
Peak Hour Factor	0.93	0.93	0.93	0.86	0.86	0.86	0.96	0.96	0.96			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	180	2378	0	0	2545	772	291	0	496			
Arrive On Green	0.10	0.67	0.00	0.00	0.50	0.50	0.16	0.00	0.16			
Sat Flow, veh/h	1781	3647	0	0	5274	1548	1781	0	3033			
Grp Volume(v), veh/h	143	1165	0	0	858	679	103	0	417			
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1702	1548	1781	0	1517			
Q Serve(g_s), s	6.4	13.1	0.0	0.0	8.2	31.9	4.2	0.0	10.8			
Cycle Q Clear(g_c), s	6.4	13.1	0.0	0.0	8.2	31.9	4.2	0.0	10.8			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	180	2378	0	0	2545	772	291	0	496			
V/C Ratio(X)	0.80	0.49	0.00	0.00	0.34	0.88	0.35	0.00	0.84			
Avail Cap(c_a), veh/h	532	4607	0	0	4737	1436	676	0	1152			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	35.8	6.6	0.0	0.0	12.3	18.2	30.2	0.0	33.0			
Incr Delay (d2), s/veh	3.0	0.1	0.0	0.0	0.0	1.3	0.3	0.0	1.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	2.9	4.0	0.0	0.0	2.9	10.5	1.8	0.0	4.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.8	6.7	0.0	0.0	12.3	19.6	30.5	0.0	34.5			
LnGrp LOS	D	A	A	A	B	B	C	A	C			
Approach Vol, veh/h	1308				1537				520			
Approach Delay, s/veh	10.2				15.5				33.7			
Approach LOS	B				B				C			
Timer - Assigned Phs	2				5		6		8			
Phs Duration (G+Y+Rc), s	62.0				13.9		48.1		19.4			
Change Period (Y+Rc), s	7.5				* 5.7		7.5		6.1			
Max Green Setting (Gmax), s	105.5				* 24		75.5		30.9			
Max Q Clear Time (g_c+11), s	15.1				8.4		33.9		12.8			
Green Ext Time (p_c), s	7.3				0.2		6.7		0.5			

Intersection Summary

HCM 6th Ctrl Delay	16.3
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 3: Vista Sorrento Pkwy/Torrey View Ct & Carmel Mountain Rd

Opening Year 2027 + Project AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑	↖↗	↖↗	↑↑	↖↗
Traffic Volume (veh/h)	20	54	486	636	64	220	130	340	506	215	690	25
Future Volume (veh/h)	20	54	486	636	64	220	130	340	506	215	690	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	66	441	715	72	247	157	410	610	253	812	29
Peak Hour Factor	0.82	0.82	0.82	0.89	0.89	0.89	0.83	0.83	0.83	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	107	1408	519	687	2265	825	208	541	1337	303	1106	39
Arrive On Green	0.03	0.28	0.28	0.20	0.44	0.44	0.06	0.29	0.29	0.09	0.32	0.32
Sat Flow, veh/h	3456	5106	1534	3456	5106	1547	3456	1870	2707	3456	3496	125
Grp Volume(v), veh/h	24	66	441	715	72	247	157	410	610	253	413	428
Grp Sat Flow(s),veh/h/ln	1728	1702	1534	1728	1702	1547	1728	1870	1353	1728	1777	1844
Q Serve(g_s), s	0.9	1.3	35.9	26.6	1.1	11.9	6.0	26.7	19.9	9.6	27.7	27.7
Cycle Q Clear(g_c), s	0.9	1.3	35.9	26.6	1.1	11.9	6.0	26.7	19.9	9.6	27.7	27.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	107	1408	519	687	2265	825	208	541	1337	303	562	583
V/C Ratio(X)	0.22	0.05	0.85	1.04	0.03	0.30	0.75	0.76	0.46	0.84	0.73	0.73
Avail Cap(c_a), veh/h	181	1408	519	687	2265	825	351	541	1337	333	562	583
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.3	35.6	41.4	53.6	21.0	17.5	61.9	43.3	22.6	60.1	40.7	40.7
Incr Delay (d2), s/veh	0.4	0.0	13.0	45.4	0.0	0.3	2.1	9.6	1.1	14.2	8.3	8.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.5	14.7	15.9	0.4	4.0	2.6	13.2	6.1	4.8	13.4	13.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.7	35.6	54.4	99.0	21.0	17.8	64.0	52.9	23.8	74.3	49.0	48.7
LnGrp LOS	E	D	D	F	C	B	E	D	C	E	D	D
Approach Vol, veh/h		531		1034		1177		1094				
Approach Delay, s/veh		52.5		74.2		39.3		54.7				
Approach LOS		D		E		D		D				
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	31.0	42.7	12.5	47.6	8.5	65.2	16.1	44.0				
Change Period (Y+Rc), s	4.4	5.8	4.4	5.3	4.4	* 5.8	4.4	5.3				
Max Green Setting (Gmax), s	26.6	36.9	13.6	38.0	7.0	* 57	12.9	38.7				
Max Q Clear Time (g_c+20.6), s	20.6	37.9	8.0	29.7	2.9	13.9	11.6	28.7				
Green Ext Time (p_c), s	0.0	0.0	0.1	3.9	0.0	2.4	0.1	4.2				

Intersection Summary

HCM 6th Ctrl Delay	54.9
HCM 6th LOS	D

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



HCM 6th Signalized Intersection Summary  
 4: Roselle St & 1-5 SB On-Ramp

Opening Year 2027 + Project AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑		↑↑	↑			↑	
Traffic Volume (veh/h)	0	0	0	0	0	0	899	325	0	0	120	46
Future Volume (veh/h)	0	0	0	0	0	0	899	325	0	0	120	46
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.94
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				0	1870	0	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				0	0	0	1010	365	0	0	135	52
Peak Hour Factor				0.92	0.92	0.92	0.89	0.89	0.92	0.92	0.89	0.89
Percent Heavy Veh, %				0	2	0	2	2	0	0	2	2
Cap, veh/h				0	0	0	1365	1542	0	0	343	132
Arrive On Green				0.00	0.00	0.00	0.39	0.82	0.00	0.00	0.27	0.27
Sat Flow, veh/h				0			3456	1870	0	0	1260	486
Grp Volume(v), veh/h				0.0			1010	365	0	0	0	187
Grp Sat Flow(s),veh/h/ln							1728	1870	0	0	0	1746
Q Serve(g_s), s							7.0	1.2	0.0	0.0	0.0	2.4
Cycle Q Clear(g_c), s							7.0	1.2	0.0	0.0	0.0	2.4
Prop In Lane							1.00		0.00	0.00		0.28
Lane Grp Cap(c), veh/h							1365	1542	0	0	0	475
V/C Ratio(X)							0.74	0.24	0.00	0.00	0.00	0.39
Avail Cap(c_a), veh/h							2918	2891	0	0	0	950
HCM Platoon Ratio							1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)							1.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh							7.2	0.5	0.0	0.0	0.0	8.3
Incr Delay (d2), s/veh							0.3	0.1	0.0	0.0	0.0	0.6
Initial Q Delay(d3),s/veh							0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln							1.4	0.0	0.0	0.0	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh							7.5	0.6	0.0	0.0	0.0	8.9
LnGrp LOS							A	A	A	A	A	A
Approach Vol, veh/h								1375			187	
Approach Delay, s/veh								5.7			8.9	
Approach LOS								A			A	
Timer - Assigned Phs		2			5	6						
Phs Duration (G+Y+Rc), s		27.9			15.4	12.5						
Change Period (Y+Rc), s		4.9			4.4	4.9						
Max Green Setting (Gmax), s		43.2			23.6	15.2						
Max Q Clear Time (g_c+I1), s		3.2			9.0	4.4						
Green Ext Time (p_c), s		2.8			2.1	0.8						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay											6.1	
HCM 6th LOS											A	

HCM Unsignalized Intersection Capacity Analysis  
5: Roselle St & Sorrento Valley Blvd

Opening Year 2027 + Project AM  
08/04/2023



Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations							
Traffic Volume (veh/h)	108	1015	162	1625	148	15	
Future Volume (Veh/h)	108	1015	162	1625	148	15	
Sign Control	Free		Stop			Stop	
Grade	0%		0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.69	0.69	
Hourly flow rate (vph)	116	1091	174	1747	214	22	
Pedestrians	10		10			10	
Lane Width (ft)	12.0		12.0			12.0	
Walking Speed (ft/s)	4.0		4.0			4.0	
Percent Blockage	1		1			1	
Right turn flare (veh)							
Median type	None						
Median storage (veh)							
Upstream signal (ft)	1003						
pX, platoon unblocked							
vC, conflicting volume	10		252	20	339	252	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	10		252	20	339	252	
tC, single (s)	4.1		6.5	6.2	7.1	6.5	
tC, 2 stage (s)							
tF (s)	2.2		4.0	3.3	3.5	4.0	
p0 queue free %	93		71	0	0	96	
cM capacity (veh/h)	1596		594	1040	0	594	
Direction, Lane #	WB 1	WB 2	WB 3	NB 1	NB 2	NB 3	SB 1
Volume Total	116	546	546	174	874	874	236
Volume Left	116	0	0	0	0	0	214
Volume Right	0	546	546	0	874	874	0
cSH	1596	1700	1700	594	1040	1040	0
Volume to Capacity	0.07	0.32	0.32	0.29	0.84	0.84	Err
Queue Length 95th (ft)	6	0	0	30	262	262	Err
Control Delay (s)	7.4	0.0	0.0	13.6	23.5	23.5	Err
Lane LOS	A			B	C	C	F
Approach Delay (s)	0.7			22.6			Err
Approach LOS				C			F
Intersection Summary							
Average Delay			Err				
Intersection Capacity Utilization			73.5%		ICU Level of Service		D
Analysis Period (min)			15				

Intersection						
Intersection Delay, s/veh	249.1					
Intersection LOS	F					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖↗	↗		↕↕	↕	
Traffic Vol, veh/h	1815	99	0	73	108	0
Future Vol, veh/h	1815	99	0	73	108	0
Peak Hour Factor	0.93	0.93	0.67	0.67	0.83	0.83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1952	106	0	109	130	0
Number of Lanes	2	1	0	2	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left SB		EB	
Conflicting Lanes Left	1	3	0
Conflicting Approach Right NB			EB
Conflicting Lanes Right	2	0	3
HCM Control Delay	276.6	10.8	13.8
HCM LOS	F	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	SBLn1
Vol Left, %	0%	0%	100%	100%	0%	0%
Vol Thru, %	100%	100%	0%	0%	0%	100%
Vol Right, %	0%	0%	0%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	37	37	908	908	99	108
LT Vol	0	0	908	908	0	0
Through Vol	37	37	0	0	0	108
RT Vol	0	0	0	0	99	0
Lane Flow Rate	54	54	976	976	106	130
Geometry Grp	8	8	7	7	7	8
Degree of Util (X)	0.117	0.091	1.595	1.595	0.087	0.275
Departure Headway (Hd)	8.133	6.381	5.885	5.885	2.935	8.044
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	443	565	625	625	1212	449
Service Time	5.833	4.081	3.623	3.623	0.672	5.744
HCM Lane V/C Ratio	0.122	0.096	1.562	1.562	0.087	0.29
HCM Control Delay	11.9	9.7	291.4	291.4	6	13.8
HCM Lane LOS	B	A	F	F	A	B
HCM 95th-tile Q	0.4	0.3	52.2	52.2	0.3	1.1

HCM 6th Signalized Intersection Summary  
 7: Vista Sorrento Pkwy & Sorrento Valley Blvd

Opening Year 2027 + Project AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	447	977	336	846	332	178	209	299	451	1134	171
Future Volume (veh/h)	142	447	977	336	846	332	178	209	299	451	1134	171
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	175	552	558	382	961	150	200	235	224	512	1289	194
Peak Hour Factor	0.81	0.81	0.81	0.88	0.88	0.88	0.89	0.89	0.89	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	118	583	502	240	1217	190	282	296	240	404	849	449
Arrive On Green	0.07	0.33	0.33	0.13	0.40	0.40	0.16	0.16	0.16	0.23	0.23	0.23
Sat Flow, veh/h	1781	1777	1531	1781	3067	478	1781	1870	1515	1781	3741	1517
Grp Volume(v), veh/h	175	552	558	382	556	555	200	235	224	512	1289	194
Grp Sat Flow(s),veh/h/ln	1781	1777	1531	1781	1777	1769	1781	1870	1515	1781	1870	1517
Q Serve(g_s), s	9.6	44.0	47.7	19.6	40.0	40.0	15.5	17.6	21.2	33.0	33.0	15.1
Cycle Q Clear(g_c), s	9.6	44.0	47.7	19.6	40.0	40.0	15.5	17.6	21.2	33.0	33.0	15.1
Prop In Lane	1.00		1.00	1.00		0.27	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	118	583	502	240	705	702	282	296	240	404	849	449
V/C Ratio(X)	1.49	0.95	1.11	1.59	0.79	0.79	0.71	0.79	0.93	1.27	1.52	0.43
Avail Cap(c_a), veh/h	118	583	502	240	705	702	282	296	240	404	849	449
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.9	47.6	48.9	62.9	38.5	38.5	58.0	58.9	60.5	56.2	56.2	41.7
Incr Delay (d2), s/veh	259.1	24.5	74.2	284.7	5.5	5.6	6.9	12.8	40.0	138.3	239.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.8	22.8	28.0	27.7	17.9	17.9	7.3	9.2	10.6	29.8	43.1	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	327.0	72.2	123.0	347.6	44.0	44.1	65.0	71.7	100.5	194.5	295.5	41.9
LnGrp LOS	F	E	F	F	D	D	E	E	F	F	F	D
Approach Vol, veh/h		1285			1493			659			1995	
Approach Delay, s/veh		129.0			121.7			79.5			244.9	
Approach LOS		F			F			E			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	34.0	53.4		39.0	14.0	63.4		29.0				
Change Period (Y+Rc), s	4.4	* 5.7		6.0	4.4	5.7		6.0				
Max Green Setting (Gmax), s	19.6	* 48		33.0	9.6	57.3		23.0				
Max Q Clear Time (g_c+2), s	21.6	49.7		35.0	11.6	42.0		23.2				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	2.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	163.5
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
8: Vista Sorrento Pkwy & Lusk Blvd

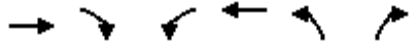
Opening Year 2027 + Project AM  
08/04/2023



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	81	217	469	395	1697	732
Future Volume (veh/h)	81	217	469	395	1697	732
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.95	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	93	249	510	320	1886	813
Peak Hour Factor	0.87	0.87	0.92	0.92	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	120	1733	550	344	1915	1597
Arrive On Green	0.07	0.07	0.27	0.27	0.55	0.85
Sat Flow, veh/h	1781	2790	2144	1283	3456	1870
Grp Volume(v), veh/h	93	249	442	388	1886	813
Grp Sat Flow(s),veh/h/ln	1781	1395	1777	1557	1728	1870
Q Serve(g_s), s	7.1	5.1	33.5	33.6	74.1	15.5
Cycle Q Clear(g_c), s	7.1	5.1	33.5	33.6	74.1	15.5
Prop In Lane	1.00	1.00		0.82	1.00	
Lane Grp Cap(c), veh/h	120	1733	476	417	1915	1597
V/C Ratio(X)	0.78	0.14	0.93	0.93	0.99	0.51
Avail Cap(c_a), veh/h	270	1969	476	417	1939	1597
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.5	10.9	49.3	49.4	30.3	2.6
Incr Delay (d2), s/veh	4.0	0.0	26.6	29.7	16.8	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	1.5	17.8	16.0	32.2	3.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	67.5	10.9	75.9	79.0	47.1	3.8
LnGrp LOS	E	B	E	E	D	A
Approach Vol, veh/h	342		830		2699	
Approach Delay, s/veh	26.3		77.4		34.0	
Approach LOS	C		E		C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	11.0	43.1			124.1	14.2
Change Period (Y+Rc), s	4.4	6.0			6.0	4.9
Max Green Setting (Gmax), s	7.6	36.1			118.1	21.0
Max Q Clear Time (g_c+Y), s	17.6	35.6			17.5	9.1
Green Ext Time (p_c), s	0.5	0.1			1.5	0.2
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			42.6			
HCM 6th LOS			D			

HCM 6th Signalized Intersection Summary  
 9: Wateridge Cir & Lusk Blvd

Opening Year 2027 + Project AM  
 08/04/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖↗	↑↑	↖	↗
Traffic Volume (veh/h)	904	4	39	373	8	20
Future Volume (veh/h)	904	4	39	373	8	20
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1349	6	43	410	11	29
Peak Hour Factor	0.67	0.67	0.91	0.91	0.70	0.70
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2238	10	152	2636	74	136
Arrive On Green	0.62	0.62	0.04	0.74	0.04	0.04
Sat Flow, veh/h	3721	16	3456	3647	1781	1585
Grp Volume(v), veh/h	661	694	43	410	11	29
Grp Sat Flow(s),veh/h/ln	1867	1728	1777	1781	1585	
Q Serve(g_s), s	12.3	12.4	0.7	1.8	0.3	0.9
Cycle Q Clear(g_c), s	12.3	12.4	0.7	1.8	0.3	0.9
Prop In Lane		0.01	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1096	1152	152	2636	74	136
V/C Ratio(X)	0.60	0.60	0.28	0.16	0.15	0.21
Avail Cap(c_a), veh/h	1096	1152	317	2636	948	913
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.4	6.4	25.2	2.1	25.2	23.2
Incr Delay (d2), s/veh	2.5	2.3	0.4	0.1	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	3.2	0.2	0.1	0.1	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.8	8.7	25.6	2.2	25.5	23.5
LnGrp LOS	A	A	C	A	C	C
Approach Vol, veh/h	1355			453	40	
Approach Delay, s/veh	8.8			4.4	24.0	
Approach LOS	A			A	C	
Timer - Assigned Phs	1	2		6	8	
Phs Duration (G+Y+Rc), s	6.8	40.5		47.3	7.2	
Change Period (Y+Rc), s	4.4	6.9		* 6.9	4.9	
Max Green Setting (Gmax), s	5.0	29.8		* 40	29.0	
Max Q Clear Time (g_c+1/2), s	12.7	14.4		3.8	2.9	
Green Ext Time (p_c), s	0.0	2.5		0.8	0.0	

Intersection Summary

HCM 6th Ctrl Delay	8.0
HCM 6th LOS	A

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection						
Int Delay, s/veh	2.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑		↑
Traffic Vol, veh/h	1110	170	213	427	0	24
Future Vol, veh/h	1110	170	213	427	0	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1207	185	232	464	0	26

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	1392	0	696
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	4.14	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	2.22	-	3.32
Pot Cap-1 Maneuver	-	-	487	-	384
Stage 1	-	-	-	0	-
Stage 2	-	-	-	0	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	487	-	384
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.3	15.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	384	-	-	487	-
HCM Lane V/C Ratio	0.068	-	-	0.475	-
HCM Control Delay (s)	15.1	-	-	18.9	-
HCM Lane LOS	C	-	-	C	-
HCM 95th %tile Q(veh)	0.2	-	-	2.5	-

Intersection						
Int Delay, s/veh	3.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	
Traffic Vol, veh/h	1068	43	284	640	24	32
Future Vol, veh/h	1068	43	284	640	24	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	673	47	309	348	13	17

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	720	0	1489
Stage 1	-	-	-	-	697
Stage 2	-	-	-	-	792
Critical Hdwy	-	-	4.14	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	-	-	2.22	-	3.52
Pot Cap-1 Maneuver	-	-	877	-	115
Stage 1	-	-	-	-	455
Stage 2	-	-	-	-	407
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	877	-	75
Mov Cap-2 Maneuver	-	-	-	-	75
Stage 1	-	-	-	-	455
Stage 2	-	-	-	-	264

Approach	EB	WB	NB
HCM Control Delay, s	0	5.3	34.8
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	151	-	-	877	-
HCM Lane V/C Ratio	0.202	-	-	0.352	-
HCM Control Delay (s)	34.8	-	-	11.3	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	0.7	-	-	1.6	-



HCM 6th Signalized Intersection Summary  
 12: Project Dwy #3/Pacific Center Blvd & Lusk Blvd

Opening Year 2027 + Project AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	334	556	178	232	858	172	20	2	28	39	2	65
Future Volume (veh/h)	334	556	178	232	858	172	20	2	28	39	2	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.97	0.99		0.97	0.99		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	423	704	225	280	1034	87	23	2	32	44	2	73
Peak Hour Factor	0.79	0.79	0.79	0.83	0.83	0.83	0.88	0.88	0.88	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	495	822	263	315	1152	97	233	40	276	527	22	742
Arrive On Green	0.14	0.31	0.31	0.18	0.35	0.35	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	3456	2613	835	1781	3310	278	526	119	826	1341	67	1542
Grp Volume(v), veh/h	423	479	450	280	555	566	57	0	0	46	0	73
Grp Sat Flow(s),veh/h/ln	1728	1777	1671	1781	1777	1811	1472	0	0	1407	0	1542
Q Serve(g_s), s	10.5	22.3	22.3	13.5	26.1	26.1	0.0	0.0	0.0	0.0	0.0	2.3
Cycle Q Clear(g_c), s	10.5	22.3	22.3	13.5	26.1	26.1	2.1	0.0	0.0	1.6	0.0	2.3
Prop In Lane	1.00		0.50	1.00		0.15	0.40		0.56	0.96		1.00
Lane Grp Cap(c), veh/h	495	559	526	315	619	631	548	0	0	550	0	742
V/C Ratio(X)	0.85	0.86	0.86	0.89	0.90	0.90	0.10	0.00	0.00	0.08	0.00	0.10
Avail Cap(c_a), veh/h	573	706	664	417	827	843	548	0	0	550	0	742
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.8	28.3	28.3	35.4	27.2	27.2	20.2	0.0	0.0	20.1	0.0	12.6
Incr Delay (d2), s/veh	9.7	7.0	7.5	14.2	8.5	8.4	0.4	0.0	0.0	0.3	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	9.7	9.2	6.8	11.5	11.7	0.8	0.0	0.0	0.7	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.5	35.3	35.8	49.6	35.7	35.6	20.6	0.0	0.0	20.4	0.0	12.9
LnGrp LOS	D	D	D	D	D	D	C	A	A	C	A	B
Approach Vol, veh/h		1352			1401			57				119
Approach Delay, s/veh		39.0			38.4			20.6				15.8
Approach LOS		D			D			C				B
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	20.0	33.4		34.7	17.0	36.4		34.7				
Change Period (Y+Rc), s	4.4	5.7		5.3	4.4	5.7		* 5.3				
Max Green Setting (Gmax), s	20.6	35.0		29.0	14.6	41.0		* 29				
Max Q Clear Time (g_c+I1), s	15.5	24.3		4.3	12.5	28.1		4.1				
Green Ext Time (p_c), s	0.1	1.5		0.1	0.1	1.9		0.1				

Intersection Summary

HCM 6th Ctrl Delay	37.4
HCM 6th LOS	D

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection						
Int Delay, s/veh	1.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↘	
Traffic Vol, veh/h	556	43	284	1318	5	32
Future Vol, veh/h	556	43	284	1318	5	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	604	47	309	1433	5	35

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	651	0	1963
Stage 1	-	-	-	-	628
Stage 2	-	-	-	-	1335
Critical Hdwy	-	-	4.14	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	-	-	2.22	-	3.52
Pot Cap-1 Maneuver	-	-	931	-	55
Stage 1	-	-	-	-	494
Stage 2	-	-	-	-	210
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	931	-	37
Mov Cap-2 Maneuver	-	-	-	-	37
Stage 1	-	-	-	-	494
Stage 2	-	-	-	-	140

Approach	EB	WB	NB
HCM Control Delay, s	0	1.9	27.2
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	202	-	-	931	-
HCM Lane V/C Ratio	0.199	-	-	0.332	-
HCM Control Delay (s)	27.2	-	-	10.8	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	0.7	-	-	1.5	-

HCM 6th Signalized Intersection Summary  
 14: I-805 NB Ramps/Mira Sorrento PI & Vista Sorrento Pkwy

Opening Year 2027 + Project AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↘	↖	↗↘	↖	↗	↗	↖↖	↗	↖	↖↘	
Traffic Volume (veh/h)	162	321	29	428	241	159	874	1126	180	41	105	69
Future Volume (veh/h)	162	321	29	428	241	159	874	1126	180	41	105	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	195	387	35	470	265	175	960	1237	198	55	142	93
Peak Hour Factor	0.83	0.83	0.83	0.91	0.91	0.91	0.91	0.91	0.91	0.74	0.74	0.74
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	196	578	476	387	582	474	539	1447	807	84	314	187
Arrive On Green	0.11	0.31	0.31	0.04	0.10	0.10	0.30	0.41	0.41	0.05	0.15	0.15
Sat Flow, veh/h	1781	1870	1540	3456	1870	1540	1781	3554	1546	1781	2071	1233
Grp Volume(v), veh/h	195	387	35	470	265	175	960	1237	198	55	120	115
Grp Sat Flow(s),veh/h/ln	1781	1870	1540	1728	1870	1540	1781	1777	1546	1781	1777	1527
Q Serve(g_s), s	16.4	27.0	2.4	16.8	20.0	15.9	45.4	47.5	10.6	4.6	9.2	10.4
Cycle Q Clear(g_c), s	16.4	27.0	2.4	16.8	20.0	15.9	45.4	47.5	10.6	4.6	9.2	10.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.81
Lane Grp Cap(c), veh/h	196	578	476	387	582	474	539	1447	807	84	269	231
V/C Ratio(X)	1.00	0.67	0.07	1.21	0.46	0.37	1.78	0.85	0.25	0.66	0.45	0.50
Avail Cap(c_a), veh/h	196	578	476	387	582	474	539	1651	896	121	409	351
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.72	0.72	0.72	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	66.7	45.1	36.6	72.2	55.3	53.8	52.3	40.4	19.9	70.3	57.9	58.6
Incr Delay (d2), s/veh	63.1	6.1	0.3	112.7	1.8	1.6	358.7	3.7	0.1	3.2	0.4	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	13.2	1.0	13.9	10.3	6.8	73.9	21.5	3.9	2.1	4.1	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	129.8	51.2	36.9	184.9	57.2	55.4	411.0	44.2	19.9	73.5	58.3	59.2
LnGrp LOS	F	D	D	F	E	E	F	D	B	E	E	E
Approach Vol, veh/h		617			910			2395			290	
Approach Delay, s/veh		75.2			122.8			189.2			61.5	
Approach LOS		E			F			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.0	51.7	50.0	27.3	20.7	52.0	11.7	65.7				
Change Period (Y+Rc), s	* 4.7	5.8	5.1	5.1	* 4.7	5.8	5.1	5.1				
Max Green Setting (Gmax), s	* 16	34.1	44.9	34.0	* 16	34.4	9.7	69.2				
Max Q Clear Time (g_c+I1), s	18.8	29.0	47.4	12.4	18.4	22.0	6.6	49.5				
Green Ext Time (p_c), s	0.0	0.2	0.0	0.2	0.0	0.3	0.0	2.1				

Intersection Summary

HCM 6th Ctrl Delay	149.4
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection						
Int Delay, s/veh	1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶		↷	↶	↷	
Traffic Vol, veh/h	971	5	84	247	0	14
Future Vol, veh/h	971	5	84	247	0	14
Conflicting Peds, #/hr	0	10	10	0	10	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	87	87	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1103	6	97	284	0	17























Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	1119	0	1604 1126
Stage 1	-	-	-	-	1116 -
Stage 2	-	-	-	-	488 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	624	-	116 249
Stage 1	-	-	-	-	313 -
Stage 2	-	-	-	-	617 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	619	-	96 245
Mov Cap-2 Maneuver	-	-	-	-	96 -
Stage 1	-	-	-	-	310 -
Stage 2	-	-	-	-	516 -

Approach	EB	WB	NB
HCM Control Delay, s	0	3	20.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	245	-	-	619	-
HCM Lane V/C Ratio	0.069	-	-	0.156	-
HCM Control Delay (s)	20.8	-	-	11.9	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	0.2	-	-	0.6	-

HCM 6th Signalized Intersection Summary  
 16: Lusk Blvd & Barnes Canyon Rd

Opening Year 2027 + Project AM  
 08/04/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	629	184	29	25	401	406	226	566	74	90	253	311
Future Volume (veh/h)	629	184	29	25	401	406	226	566	74	90	253	311
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	676	198	31	30	483	417	301	755	99	102	288	353
Peak Hour Factor	0.93	0.93	0.93	0.83	0.83	0.83	0.75	0.75	0.75	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	536	1538	237	43	397	342	241	953	412	123	359	308
Arrive On Green	0.30	0.50	0.50	0.02	0.22	0.22	0.14	0.27	0.27	0.07	0.20	0.20
Sat Flow, veh/h	1781	3076	473	1781	1777	1530	1781	3554	1536	1781	1777	1526
Grp Volume(v), veh/h	676	113	116	30	483	417	301	755	99	102	288	353
Grp Sat Flow(s),veh/h/ln	1781	1777	1772	1781	1777	1530	1781	1777	1536	1781	1777	1526
Q Serve(g_s), s	43.6	4.9	5.1	2.4	32.4	32.4	19.6	28.6	7.3	8.2	22.4	29.3
Cycle Q Clear(g_c), s	43.6	4.9	5.1	2.4	32.4	32.4	19.6	28.6	7.3	8.2	22.4	29.3
Prop In Lane	1.00		0.27	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	536	888	886	43	397	342	241	953	412	123	359	308
V/C Ratio(X)	1.26	0.13	0.13	0.70	1.22	1.22	1.25	0.79	0.24	0.83	0.80	1.14
Avail Cap(c_a), veh/h	536	888	886	91	397	342	241	953	412	127	359	308
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.7	19.4	19.4	70.2	56.3	56.3	62.7	49.3	41.5	66.6	55.1	57.9
Incr Delay (d2), s/veh	132.4	0.0	0.0	7.3	118.4	122.6	142.1	6.7	1.4	32.0	17.1	96.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	38.9	2.1	2.1	1.2	27.5	24.0	18.1	13.2	2.9	4.8	11.5	19.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	183.1	19.4	19.4	77.5	174.7	178.9	204.8	56.1	42.9	98.6	72.1	154.2
LnGrp LOS	F	B	B	E	F	F	F	E	D	F	E	F
Approach Vol, veh/h		905			930			1155			743	
Approach Delay, s/veh		141.7			173.4			93.7			114.8	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.4	44.6	7.9	78.1	24.0	35.0	48.0	38.0				
Change Period (Y+Rc), s	4.4	5.7	4.4	* 5.6	4.4	5.7	4.4	5.6				
Max Green Setting (Gmax), s	10.3	38.6	7.4	* 69	19.6	29.3	43.6	32.4				
Max Q Clear Time (g_c+I1), s	10.2	30.6	4.4	7.1	21.6	31.3	45.6	34.4				
Green Ext Time (p_c), s	0.0	1.2	0.0	0.4	0.0	0.0	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay	129.4											
HCM 6th LOS	F											
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary  
 17: Barnes Canyon Rd/Commercial Dwy & Pacific Heights Blvd

Opening Year 2027 + Project AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↗	↖	↗	
Traffic Volume (veh/h)	7	31	37	861	445	26	150	9	126	10	9	5
Future Volume (veh/h)	7	31	37	861	445	26	150	9	126	10	9	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	0.98		0.96	0.98		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	52	62	978	506	30	185	11	156	17	15	8
Peak Hour Factor	0.60	0.60	0.60	0.88	0.88	0.88	0.81	0.81	0.81	0.60	0.60	0.60
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	21	568	493	1017	2049	121	372	422	343	345	255	136
Arrive On Green	0.01	0.32	0.32	0.29	0.60	0.60	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1781	1777	1541	3456	3401	201	1360	1870	1518	1198	1129	602
Grp Volume(v), veh/h	12	52	62	978	264	272	185	11	156	17	0	23
Grp Sat Flow(s),veh/h/ln	1781	1777	1541	1728	1777	1826	1360	1870	1518	1198	0	1731
Q Serve(g_s), s	0.6	1.9	2.6	25.2	6.3	6.3	11.2	0.4	8.0	1.0	0.0	0.9
Cycle Q Clear(g_c), s	0.6	1.9	2.6	25.2	6.3	6.3	12.1	0.4	8.0	1.4	0.0	0.9
Prop In Lane	1.00		1.00	1.00		0.11	1.00		1.00	1.00		0.35
Lane Grp Cap(c), veh/h	21	568	493	1017	1070	1100	372	422	343	345	0	390
V/C Ratio(X)	0.59	0.09	0.13	0.96	0.25	0.25	0.50	0.03	0.46	0.05	0.00	0.06
Avail Cap(c_a), veh/h	79	568	493	1017	1070	1100	517	621	504	472	0	574
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.5	21.5	21.8	31.4	8.4	8.4	32.2	27.3	30.2	27.8	0.0	27.5
Incr Delay (d2), s/veh	9.5	0.3	0.5	19.4	0.5	0.5	1.8	0.0	1.6	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.8	1.0	12.9	2.4	2.4	3.7	0.2	3.0	0.3	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.9	21.9	22.3	50.8	8.9	8.9	34.0	27.3	31.8	27.8	0.0	27.5
LnGrp LOS	D	C	C	D	A	A	C	C	C	C	A	C
Approach Vol, veh/h		126		1514			352			40		
Approach Delay, s/veh		25.1		36.0			32.8			27.6		
Approach LOS		C		D			C			C		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	31.0	34.1		25.3	5.4	59.7		25.3				
Change Period (Y+Rc), s	4.4	5.2		4.9	4.4	* 5.2		4.9				
Max Green Setting (Gmax), s	26.6	28.9		30.0	4.0	* 52		30.0				
Max Q Clear Time (g_c+27.2), s	27.2	4.6		3.4	2.6	8.3		14.1				
Green Ext Time (p_c), s	0.0	1.0		0.1	0.0	8.8		1.9				

Intersection Summary

HCM 6th Ctrl Delay	34.6
HCM 6th LOS	C

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis  
 18: Carroll Canyon Rd/I-805 SB Ramps & Sorrento Valley Rd

Opening Year 2027 + Project AM

08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↑↑↑	↗	↘	↑↑	↗↗↗	↘↘		↗↗	↘↘	↑↑		
Traffic Volume (vph)	0	342	366	27	355	807	107	0	140	1871	571	71	
Future Volume (vph)	0	342	366	27	355	807	107	0	140	1871	571	71	
Ideal Flow (vphpl)	1800	1800	1900	1900	1800	1800	1900	1900	1900	1800	1900	1800	
Total Lost time (s)		8.0	4.5	6.1	8.0	7.5	4.5		6.1	7.0	7.5		
Lane Util. Factor		0.91	1.00	1.00	0.95	0.76	0.97		0.88	0.97	0.95		
Frbp, ped/bikes		1.00	0.98	1.00	1.00	0.99	1.00		0.98	1.00	1.00		
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		
Frt		1.00	0.85	1.00	1.00	0.85	1.00		0.85	1.00	0.98		
Flt Protected		1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00		
Satd. Flow (prot)		4818	1544	1770	3353	3371	3433		2729	3252	3470		
Flt Permitted		1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00		
Satd. Flow (perm)		4818	1544	1770	3353	3371	3433		2729	3252	3470		
Peak-hour factor, PHF	0.88	0.88	0.88	0.94	0.94	0.94	0.74	0.74	0.74	0.95	0.95	0.95	
Adj. Flow (vph)	0	389	416	29	378	859	145	0	189	1969	601	75	
RTOR Reduction (vph)	0	0	123	0	0	165	0	0	76	0	4	0	
Lane Group Flow (vph)	0	389	293	29	378	694	145	0	113	1969	672	0	
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10	
Confl. Bikes (#/hr)			10			10			10			10	
Turn Type		NA	pm+ov	Prot	NA	custom	Prot		pm+ov	Prot	NA		
Protected Phases		2	3	1	6	4	3		1	7	4		
Permitted Phases			2			6			3				
Actuated Green, G (s)		26.0	36.2	13.0	45.1	129.3	10.2		23.2	98.9	84.2		
Effective Green, g (s)		26.5	36.2	13.0	45.6	129.3	10.2		23.2	99.4	84.2		
Actuated g/C Ratio		0.17	0.23	0.08	0.29	0.81	0.06		0.14	0.62	0.53		
Clearance Time (s)		8.5	4.5	6.1	8.5	7.5	4.5		6.1	7.5	7.5		
Vehicle Extension (s)		1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0		
Lane Grp Cap (vph)		797	349	143	955	2882	218		395	2020	1826		
v/s Ratio Prot		0.08	c0.05	0.02	c0.11	0.13	0.04		0.02	c0.61	0.19		
v/s Ratio Perm			0.14			0.08			0.02				
v/c Ratio		0.49	0.84	0.20	0.40	0.24	0.67		0.29	0.97	0.37		
Uniform Delay, d1		60.6	59.1	68.7	46.1	3.7	73.2		61.0	29.1	22.3		
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		
Incremental Delay, d2		2.1	15.4	0.3	0.1	0.0	5.8		0.1	14.9	0.6		
Delay (s)		62.7	74.5	68.9	46.2	3.7	79.0		61.2	44.0	22.8		
Level of Service		E	E	E	D	A	E		E	D	C		
Approach Delay (s)		68.8			17.9			68.9			38.6		
Approach LOS		E			B			E			D		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			40.2		HCM 2000 Level of Service					D			
HCM 2000 Volume to Capacity ratio			0.94										
Actuated Cycle Length (s)			160.0		Sum of lost time (s)					26.1			
Intersection Capacity Utilization			101.4%		ICU Level of Service					G			
Analysis Period (min)			15										

c Critical Lane Group

HCM 6th Signalized Intersection Summary

Opening Year 2027 + Project AM

19: I-805 NB Off-Ramp/Vista Sorrento Pkwy & Sorrento Valley Rd/Mira Mesa Blvd

08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑			↑↑↑	↖		↑	↖↗	↖		↖↗
Traffic Volume (veh/h)	297	1847	0	0	765	510	0	58	2324	142	0	377
Future Volume (veh/h)	297	1847	0	0	765	510	0	58	2324	142	0	377
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	0	1870	1870	1870	0	1870
Adj Flow Rate, veh/h	326	2030	0	0	879	586	0	60	1881	160	0	424
Peak Hour Factor	0.91	0.91	0.91	0.87	0.87	0.87	0.97	0.97	0.97	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	2	2	0	2
Cap, veh/h	403	2292	0	0	1957	663	0	580	1088	219	0	0
Arrive On Green	0.12	0.45	0.00	0.00	0.30	0.30	0.00	0.31	0.31	0.12	0.00	0.00
Sat Flow, veh/h	3456	5274	0	0	6696	1539	0	1870	3511	1781	160	
Grp Volume(v), veh/h	326	2030	0	0	879	586	0	60	1881	160	69.4	
Grp Sat Flow(s),veh/h/ln	1728	1702	0	0	1609	1539	0	1870	1170	1781	E	
Q Serve(g_s), s	13.8	54.6	0.0	0.0	16.5	45.6	0.0	3.4	46.5	13.0		
Cycle Q Clear(g_c), s	13.8	54.6	0.0	0.0	16.5	45.6	0.0	3.4	46.5	13.0		
Prop In Lane	1.00		0.00	0.00		1.00	0.00		1.00	1.00		
Lane Grp Cap(c), veh/h	403	2292	0	0	1957	663	0	580	1088	219		
V/C Ratio(X)	0.81	0.89	0.00	0.00	0.45	0.88	0.00	0.10	1.73	0.73		
Avail Cap(c_a), veh/h	403	2292	0	0	1957	663	0	580	1088	230		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.64	0.64	0.00	1.00	1.00	0.66		
Uniform Delay (d), s/veh	64.6	37.8	0.0	0.0	42.1	39.7	0.0	36.9	51.7	63.4		
Incr Delay (d2), s/veh	10.9	5.5	0.0	0.0	0.5	10.9	0.0	0.0	331.6	6.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	6.6	23.0	0.0	0.0	6.6	40.4	0.0	1.6	47.0	6.1		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.5	43.3	0.0	0.0	42.5	50.6	0.0	36.9	383.4	69.4		
LnGrp LOS	E	D	A	A	D	D	A	D	F	E		
Approach Vol, veh/h		2356			1465			1941				
Approach Delay, s/veh		47.8			45.8			372.7				
Approach LOS		D			D			F				
Timer - Assigned Phs		2			5	6	7	8				
Phs Duration (G+Y+Rc), s		73.8			21.7	52.1	24.1	52.1				
Change Period (Y+Rc), s		7.0			* 4.7	7.0	6.1	6.1				
Max Green Setting (Gmax), s		65.9			* 17	44.2	18.9	46.0				
Max Q Clear Time (g_c+11), s		56.6			15.8	47.6	15.0	48.5				
Green Ext Time (p_c), s		2.5			0.1	0.0	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	154.3
HCM 6th LOS	F

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



HCM 6th Signalized Intersection Summary  
 20: Scranton Rd & Mira Mesa Blvd

Opening Year 2027 + Project AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶↷	↶↷↶↷	↶	↶	↶↷↶↷		↶↷	↶↷		↶↷	↶	↶↷
Traffic Volume (veh/h)	825	2486	967	227	1073	153	72	295	30	54	86	166
Future Volume (veh/h)	825	2486	967	227	1073	153	72	295	30	54	86	166
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	859	2590	955	232	1095	13	89	364	37	59	93	180
Peak Hour Factor	0.96	0.96	0.96	0.98	0.98	0.98	0.81	0.81	0.81	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	931	2097	635	192	1645	20	903	845	85	506	266	1283
Arrive On Green	0.27	0.41	0.41	0.11	0.25	0.25	0.25	0.25	0.25	0.14	0.14	0.14
Sat Flow, veh/h	3456	5106	1546	1781	6600	78	3563	3331	336	3563	1870	3019
Grp Volume(v), veh/h	859	2590	955	232	800	308	89	203	198	59	93	180
Grp Sat Flow(s),veh/h/ln	1728	1702	1546	1781	1609	1853	1781	1870	1797	1781	1870	1509
Q Serve(g_s), s	33.8	57.5	57.5	15.1	20.9	20.9	2.7	12.7	12.9	2.0	6.3	5.2
Cycle Q Clear(g_c), s	33.8	57.5	57.5	15.1	20.9	20.9	2.7	12.7	12.9	2.0	6.3	5.2
Prop In Lane	1.00		1.00	1.00		0.04	1.00		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	931	2097	635	192	1203	462	903	474	456	506	266	1283
V/C Ratio(X)	0.92	1.24	1.50	1.21	0.67	0.67	0.10	0.43	0.43	0.12	0.35	0.14
Avail Cap(c_a), veh/h	977	2097	635	192	1203	462	903	474	456	506	266	1283
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.38	0.38	0.38	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.7	41.2	41.3	62.5	47.3	47.3	40.0	43.8	43.9	52.4	54.2	25.8
Incr Delay (d2), s/veh	1.6	106.2	227.5	110.8	0.6	1.5	0.2	2.8	3.0	0.5	3.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.4	43.6	61.0	12.6	8.2	9.6	1.2	6.3	6.1	0.9	3.2	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.3	147.4	268.7	173.3	47.9	48.8	40.2	46.6	46.9	52.9	57.8	26.0
LnGrp LOS	D	F	F	F	D	D	D	D	D	D	E	C
Approach Vol, veh/h		4404			1340			490			332	
Approach Delay, s/veh		155.0			69.8			45.5			39.7	
Approach LOS		F			E			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.0	63.2		24.9	41.6	40.6		39.9				
Change Period (Y+Rc), s	4.4	* 6.2		5.3	4.4	6.2		4.9				
Max Green Setting (Gmax), s	14.6	* 57		12.8	39.1	32.3		35.0				
Max Q Clear Time (g_c+117), s	117	59.5		8.3	35.8	22.9		14.9				
Green Ext Time (p_c), s	0.0	0.0		0.9	1.4	3.9		4.5				

Intersection Summary

HCM 6th Ctrl Delay	123.6
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 21: Oberlin Dr/Lusk Blvd & Mira Mesa Blvd

Opening Year 2027 + Project AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑		↔↔	↑↑↑		↔	↑	↔	↔↔	↑	↔
Traffic Volume (veh/h)	495	2153	31	105	1369	609	6	14	25	80	9	83
Future Volume (veh/h)	495	2153	31	105	1369	609	6	14	25	80	9	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	527	2290	33	113	1472	655	10	22	40	98	11	101
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.63	0.63	0.63	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	561	3147	45	147	1692	727	19	375	306	133	427	349
Arrive On Green	0.16	0.61	0.61	0.09	0.97	0.97	0.01	0.20	0.20	0.04	0.23	0.23
Sat Flow, veh/h	3456	5185	75	3456	3472	1493	1781	1870	1526	3456	1870	1531
Grp Volume(v), veh/h	527	1502	821	113	1442	685	10	22	40	98	11	101
Grp Sat Flow(s),veh/h/ln	1728	1702	1855	1728	1702	1561	1781	1870	1526	1728	1870	1531
Q Serve(g_s), s	28.6	59.0	59.3	6.1	13.5	17.4	1.1	1.8	4.1	5.3	0.9	10.4
Cycle Q Clear(g_c), s	28.6	59.0	59.3	6.1	13.5	17.4	1.1	1.8	4.1	5.3	0.9	10.4
Prop In Lane	1.00		0.04	1.00		0.96	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	561	2066	1126	147	1658	761	19	375	306	133	427	349
V/C Ratio(X)	0.94	0.73	0.73	0.77	0.87	0.90	0.52	0.06	0.13	0.74	0.03	0.29
Avail Cap(c_a), veh/h	629	2066	1126	211	1658	761	51	375	306	149	427	349
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.09	0.09	0.09	1.00	1.00	1.00	0.52	0.52	0.52
Uniform Delay (d), s/veh	78.7	26.3	26.3	86.0	1.4	1.5	93.5	61.4	62.4	90.4	56.9	60.6
Incr Delay (d2), s/veh	2.9	0.2	0.4	0.5	0.6	1.9	7.8	0.3	0.9	6.9	0.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	22.9	25.1	2.6	1.0	1.2	0.5	0.9	1.7	2.5	0.4	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.5	26.5	26.7	86.5	2.1	3.3	101.3	61.7	63.2	97.4	57.0	61.7
LnGrp LOS	F	C	C	F	A	A	F	E	E	F	E	E
Approach Vol, veh/h		2850			2240			72			210	
Approach Delay, s/veh		36.7			6.7			68.1			78.1	
Approach LOS		D			A			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.5	121.5	6.5	49.5	35.2	98.8	11.7	44.3				
Change Period (Y+Rc), s	4.4	* 6.2	4.4	6.2	4.4	6.2	4.4	* 6.2				
Max Green Setting (Gmax), s	1.0	1.1E2	5.4	39.6	34.6	89.2	8.2	* 38				
Max Q Clear Time (g_c+1/3), s	1.0	61.3	3.1	12.4	30.6	19.4	7.3	6.1				
Green Ext Time (p_c), s	0.0	6.4	0.0	0.1	0.2	6.2	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	26.2
HCM 6th LOS	C

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 22: Pacific Heights Blvd & Mira Mesa Blvd

Opening Year 2027 + Project AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖	↑↑↑	↗	↖	↑↑	↗	↖↗	↑↑	↗
Traffic Volume (veh/h)	457	1426	342	433	2019	1366	34	183	101	143	54	66
Future Volume (veh/h)	457	1426	342	433	2019	1366	34	183	101	143	54	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.93	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	491	1533	368	492	2294	0	39	219	108	181	68	84
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.88	0.88	0.88	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	454	2132	642	511	2295		52	559	221	182	615	254
Arrive On Green	0.51	0.84	0.83	0.29	0.45	0.00	0.03	0.15	0.15	0.05	0.17	0.17
Sat Flow, veh/h	1781	5106	1546	1781	5106	1585	1781	3741	1479	3456	3554	1489
Grp Volume(v), veh/h	491	1533	368	492	2294	0	39	219	108	181	68	84
Grp Sat Flow(s),veh/h/ln	1781	1702	1546	1781	1702	1585	1781	1870	1479	1728	1777	1489
Q Serve(g_s), s	48.4	23.5	14.7	51.7	85.3	0.0	4.1	10.0	12.7	9.9	3.1	9.4
Cycle Q Clear(g_c), s	48.4	23.5	14.7	51.7	85.3	0.0	4.1	10.0	12.7	9.9	3.1	9.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	454	2132	642	511	2295		52	559	221	182	615	254
V/C Ratio(X)	1.08	0.72	0.57	0.96	1.00		0.76	0.39	0.49	1.00	0.11	0.33
Avail Cap(c_a), veh/h	454	2132	642	563	2295		52	679	268	182	737	305
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.59	0.59	0.59	0.09	0.09	0.00	1.00	1.00	1.00	0.98	0.98	0.98
Uniform Delay (d), s/veh	46.6	11.1	10.7	66.8	52.3	0.0	91.6	73.0	74.1	90.0	66.2	69.3
Incr Delay (d2), s/veh	56.9	1.3	2.2	4.9	5.5	0.0	43.0	0.2	0.6	64.5	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	24.1	4.5	3.6	23.7	36.2	0.0	2.5	4.8	4.9	6.1	1.4	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	103.5	12.3	12.9	71.7	57.8	0.0	134.5	73.2	74.8	154.5	66.3	69.6
LnGrp LOS	F	B	B	E	E		F	E	E	F	E	E
Approach Vol, veh/h		2392			2786			366			333	
Approach Delay, s/veh		31.1			60.2			80.2			115.1	
Approach LOS		C			E			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	58.4	84.5	9.4	37.7	52.3	90.6	13.9	33.2				
Change Period (Y+Rc), s	4.4	5.7	4.4	* 5.3	4.4	5.7	4.4	5.3				
Max Green Setting (Gmax), s	59.5	67.2	5.0	* 39	47.9	78.8	9.5	34.0				
Max Q Clear Time (g_c+5), s	53.7	25.5	6.1	11.4	50.4	87.3	11.9	14.7				
Green Ext Time (p_c), s	0.3	2.4	0.0	0.2	0.0	0.0	0.0	0.3				

Intersection Summary

HCM 6th Ctrl Delay	52.7
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.  
 Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary  
 23: Camino Santa Fe & Mira Mesa Blvd

Opening Year 2027 + Project AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖	↑↑↑	↗	↖	↑↑	↗	↖↗	↑↑	↗
Traffic Volume (veh/h)	30	392	125	605	3618	305	261	154	103	114	320	173
Future Volume (veh/h)	30	392	125	605	3618	305	261	154	103	114	320	173
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.98	1.00		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	431	137	630	3769	318	266	157	105	134	376	204
Peak Hour Factor	0.91	0.91	0.91	0.96	0.96	0.96	0.98	0.98	0.98	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	47	724	210	774	2808	849	203	903	1079	243	741	314
Arrive On Green	0.03	0.14	0.14	0.43	0.55	0.55	0.11	0.25	0.25	0.07	0.21	0.21
Sat Flow, veh/h	1781	5106	1508	1781	5106	1551	1781	3554	1534	3456	3554	1527
Grp Volume(v), veh/h	33	431	137	630	3769	318	266	157	105	134	376	204
Grp Sat Flow(s),veh/h/ln	1781	1702	1508	1781	1702	1551	1781	1777	1534	1728	1777	1527
Q Serve(g_s), s	3.5	15.0	16.3	58.8	104.5	22.2	21.7	6.5	0.0	7.1	17.8	23.3
Cycle Q Clear(g_c), s	3.5	15.0	16.3	58.8	104.5	22.2	21.7	6.5	0.0	7.1	17.8	23.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	47	724	210	774	2808	849	203	903	1079	243	741	314
V/C Ratio(X)	0.70	0.59	0.65	0.81	1.34	0.37	1.31	0.17	0.10	0.55	0.51	0.65
Avail Cap(c_a), veh/h	53	1115	325	774	2808	849	203	903	1079	243	741	314
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.66	0.66	0.66	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	91.7	76.4	77.4	47.0	42.8	24.5	84.2	55.3	9.9	85.4	66.6	69.2
Incr Delay (d2), s/veh	16.6	0.2	0.8	6.2	156.4	0.1	169.9	0.4	0.2	1.6	2.5	10.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	6.5	6.3	26.7	82.2	8.1	19.4	3.0	1.5	3.2	8.2	9.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	108.3	76.6	78.3	53.2	199.2	24.6	254.1	55.7	10.0	87.0	69.0	79.1
LnGrp LOS	F	E	E	D	F	C	F	E	B	F	E	E
Approach Vol, veh/h		601			4717			528			714	
Approach Delay, s/veh		78.7			167.9			146.5			75.3	
Approach LOS		E			F			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	36.5	32.5	25.6	45.5	8.9	110.0	17.3	53.8				
Change Period (Y+Rc), s	4.4	6.0	4.4	6.4	4.4	6.0	4.4	6.0				
Max Green Setting (Gmax), s	60.1	41.0	20.6	39.1	5.1	104.0	12.3	47.8				
Max Q Clear Time (g_c+Q), s	60.8	18.3	23.7	25.3	5.5	106.5	9.1	8.5				
Green Ext Time (p_c), s	0.4	0.6	0.0	0.5	0.0	0.0	0.0	0.2				

Intersection Summary

HCM 6th Ctrl Delay	147.9
HCM 6th LOS	F

HCM 6th Signalized Intersection Summary  
 24: Camino Ruiz & Mira Mesa Blvd

Opening Year 2027 + Project AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↑ ↑ ↑		↖ ↗	↑ ↑ ↑	↖	↖	↑ ↑ ↑	↖	↖ ↗	↑ ↑	↖
Traffic Volume (veh/h)	90	753	17	197	2922	117	92	275	227	369	470	206
Future Volume (veh/h)	90	753	17	197	2922	117	92	275	227	369	470	206
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.95	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	129	1076	24	221	3283	19	118	353	99	401	511	61
Peak Hour Factor	0.70	0.70	0.70	0.89	0.89	0.89	0.78	0.78	0.78	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	129	2665	59	266	2838	855	426	1905	561	347	810	330
Arrive On Green	0.04	0.52	0.52	0.08	0.56	0.56	0.24	0.37	0.37	0.10	0.23	0.23
Sat Flow, veh/h	3456	5135	114	3456	5106	1538	1781	5106	1503	3456	3554	1463
Grp Volume(v), veh/h	129	713	387	221	3283	19	118	353	99	401	511	61
Grp Sat Flow(s),veh/h/ln	1728	1702	1845	1728	1702	1538	1781	1702	1503	1728	1777	1463
Q Serve(g_s), s	7.1	24.2	24.3	12.0	105.6	1.1	10.3	8.8	8.4	19.1	24.6	6.4
Cycle Q Clear(g_c), s	7.1	24.2	24.3	12.0	105.6	1.1	10.3	8.8	8.4	19.1	24.6	6.4
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	129	1767	958	266	2838	855	426	1905	561	347	810	330
V/C Ratio(X)	1.00	0.40	0.40	0.83	1.16	0.02	0.28	0.19	0.18	1.15	0.63	0.19
Avail Cap(c_a), veh/h	129	1767	958	347	2838	855	426	1905	561	347	810	330
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	91.4	27.8	27.8	86.5	42.2	20.0	58.9	40.1	40.0	85.4	66.1	59.5
Incr Delay (d2), s/veh	78.8	0.1	0.1	9.8	75.0	0.0	0.1	0.2	0.7	97.1	3.7	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	9.8	10.7	5.7	62.5	0.4	4.7	3.8	3.3	13.2	11.6	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	170.3	27.9	27.9	96.3	117.2	20.0	59.1	40.3	40.6	182.6	69.9	60.7
LnGrp LOS	F	C	C	F	F	B	E	D	D	F	E	E
Approach Vol, veh/h		1229			3523			570			973	
Approach Delay, s/veh		42.8			115.3			44.3			115.8	
Approach LOS		D			F			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.5	103.4	51.1	48.5	11.9	110.0	23.0	76.6				
Change Period (Y+Rc), s	4.4	5.3	5.3	* 5.7	5.3	* 4.9	4.4	5.3				
Max Green Setting (Gmax), s	10.6	92.7	16.1	* 43	6.6	* 1.1E2	18.6	40.7				
Max Q Clear Time (g_c+1.0), s	11.0	26.3	12.3	26.6	9.1	107.6	21.1	10.8				
Green Ext Time (p_c), s	0.1	1.0	0.0	0.6	0.0	0.0	0.0	0.5				

Intersection Summary

HCM 6th Ctrl Delay	94.8
HCM 6th LOS	F

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 25: Black Mountain Rd & Mira Mesa Blvd

Opening Year 2027 + Project AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↗	↔↔	↑↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑	↗
Traffic Volume (veh/h)	250	1560	152	240	2533	108	190	236	118	505	697	555
Future Volume (veh/h)	250	1560	152	240	2533	108	190	236	118	505	697	555
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	275	1714	167	273	2878	123	221	274	137	574	792	631
Peak Hour Factor	0.91	0.91	0.91	0.88	0.88	0.88	0.86	0.86	0.86	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	238	2291	787	318	2408	948	202	1328	573	475	1609	701
Arrive On Green	0.07	0.45	0.45	0.09	0.47	0.47	0.06	0.37	0.37	0.14	0.45	0.45
Sat Flow, veh/h	3456	5106	1548	3456	5106	1549	3456	3554	1544	3456	3554	1548
Grp Volume(v), veh/h	275	1714	167	273	2878	123	221	274	137	574	792	631
Grp Sat Flow(s),veh/h/ln	1728	1702	1548	1728	1702	1549	1728	1777	1544	1728	1777	1548
Q Serve(g_s), s	13.1	52.9	11.3	14.8	89.6	6.4	11.1	9.9	11.6	26.1	29.8	71.6
Cycle Q Clear(g_c), s	13.1	52.9	11.3	14.8	89.6	6.4	11.1	9.9	11.6	26.1	29.8	71.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	238	2291	787	318	2408	948	202	1328	573	475	1609	701
V/C Ratio(X)	1.15	0.75	0.21	0.86	1.20	0.13	1.09	0.21	0.24	1.21	0.49	0.90
Avail Cap(c_a), veh/h	238	2291	787	406	2408	948	202	1328	573	475	1609	701
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	88.5	43.5	25.9	85.1	50.2	15.8	89.4	40.4	41.2	81.9	36.6	48.0
Incr Delay (d2), s/veh	106.3	1.2	0.0	11.7	92.2	0.0	90.9	0.4	1.0	112.5	1.1	16.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.4	22.4	4.3	7.1	57.8	2.3	7.5	4.5	4.6	19.1	13.4	30.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	194.7	44.7	25.9	96.7	142.4	15.8	180.4	40.7	42.2	194.4	37.7	64.9
LnGrp LOS	F	D	C	F	F	B	F	D	D	F	D	E
Approach Vol, veh/h		2156			3274			632			1997	
Approach Delay, s/veh		62.4			133.8			89.9			91.4	
Approach LOS		E			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	31.4	90.0	15.0	91.6	17.0	94.4	30.0	76.6				
Change Period (Y+Rc), s	4.4	5.3	4.4	* 5.3	4.4	* 5.3	4.4	5.3				
Max Green Setting (Gmax), s	21.8	79.5	10.6	* 59	12.6	* 89	25.6	43.7				
Max Q Clear Time (g_c+10), s	110.8	54.9	13.1	73.6	15.1	91.6	28.1	13.6				
Green Ext Time (p_c), s	0.2	2.7	0.0	0.0	0.0	0.0	0.0	0.4				

Intersection Summary

HCM 6th Ctrl Delay	100.8
HCM 6th LOS	F

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 26: Mira Mesa Blvd & I-15 SB Ramps

Opening Year 2027 + Project AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑↑		↑↑↑	↑				↑↑		↑↑
Traffic Volume (veh/h)	0	1557	1722	0	1943	858	0	0	0	283	0	1620
Future Volume (veh/h)	0	1557	1722	0	1943	858	0	0	0	283	0	1620
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	0	1870
Adj Flow Rate, veh/h	0	1730	0	0	2045	903				295	0	1688
Peak Hour Factor	0.90	0.90	0.90	0.95	0.95	0.95				0.96	0.96	0.96
Percent Heavy Veh, %	0	2	2	0	2	2				2	0	2
Cap, veh/h	0	2019		0	2019	1399				1756	0	1418
Arrive On Green	0.00	0.40	0.00	0.00	0.40	0.39				0.51	0.00	0.51
Sat Flow, veh/h	0	5274	2790	0	5274	1519				3456	0	2790
Grp Volume(v), veh/h	0	1730	0	0	2045	903				295	0	1688
Grp Sat Flow(s),veh/h/ln	0	1702	1395	0	1702	1519				1728	0	1395
Q Serve(g_s), s	0.0	34.1	0.0	0.0	43.5	16.3				5.0	0.0	55.9
Cycle Q Clear(g_c), s	0.0	34.1	0.0	0.0	43.5	16.3				5.0	0.0	55.9
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2019		0	2019	1399				1756	0	1418
V/C Ratio(X)	0.00	0.86		0.00	1.01	0.65				0.17	0.00	1.19
Avail Cap(c_a), veh/h	0	2019		0	2019	1399				1756	0	1418
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	0.47	0.47				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	30.4	0.0	0.0	33.3	1.4				14.5	0.0	27.0
Incr Delay (d2), s/veh	0.0	3.7	0.0	0.0	17.0	0.4				0.2	0.0	93.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	13.9	0.0	0.0	20.0	24.7				2.0	0.0	35.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	34.1	0.0	0.0	50.2	1.8				14.8	0.0	120.2
LnGrp LOS		A	C		A	F				B	A	F
Approach Vol, veh/h		1730			2948					1983		
Approach Delay, s/veh		34.1			35.4					104.5		
Approach LOS		C			D					F		
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		49.0		61.0		49.0						
Change Period (Y+Rc), s		6.0		5.1		6.0						
Max Green Setting (Gmax), s		43.0		55.9		43.0						
Max Q Clear Time (g_c+I1), s		36.1		57.9		45.5						
Green Ext Time (p_c), s		3.4		0.0		0.0						

Intersection Summary

HCM 6th Ctrl Delay	55.6
HCM 6th LOS	E

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary  
 27: I-15 NB Ramps & Mira Mesa Blvd

Opening Year 2027 + Project AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑	↑	↑↑		↑↑			
Traffic Volume (veh/h)	0	902	894	0	1721	290	1077	0	414	0	0	0
Future Volume (veh/h)	0	902	894	0	1721	290	1077	0	414	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No		No			No					
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	0	1870			
Adj Flow Rate, veh/h	0	991	982	0	1891	0	1282	0	493			
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.84	0.84	0.84			
Percent Heavy Veh, %	0	2	2	0	2	2	2	0	2			
Cap, veh/h	0	2590	1409	0	2590		1383	0	1117			
Arrive On Green	0.00	0.51	0.51	0.00	0.51	0.00	0.40	0.00	0.40			
Sat Flow, veh/h	0	5274	1527	0	5274	1585	3456	0	2790			
Grp Volume(v), veh/h	0	991	982	0	1891	0	1282	0	493			
Grp Sat Flow(s),veh/h/ln	0	1702	1527	0	1702	1585	1728	0	1395			
Q Serve(g_s), s	0.0	14.2	20.0	0.0	34.8	0.0	42.4	0.0	15.4			
Cycle Q Clear(g_c), s	0.0	14.2	20.0	0.0	34.8	0.0	42.4	0.0	15.4			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2590	1409	0	2590		1383	0	1117			
V/C Ratio(X)	0.00	0.38	0.70	0.00	0.73		0.93	0.00	0.44			
Avail Cap(c_a), veh/h	0	2590	1409	0	2590		1581	0	1276			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.56	0.56	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	18.1	1.4	0.0	23.1	0.0	34.3	0.0	26.2			
Incr Delay (d2), s/veh	0.0	0.2	1.6	0.0	1.9	0.0	8.5	0.0	0.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	5.4	30.0	0.0	13.8	0.0	19.1	0.0	5.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	18.3	3.1	0.0	25.0	0.0	42.8	0.0	26.3			
LnGrp LOS		A	B	A	A	C	D	A	C			
Approach Vol, veh/h		1973			1891			1775				
Approach Delay, s/veh		10.7			25.0			38.3				
Approach LOS		B			C			D				
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		66.9		53.1		66.9						
Change Period (Y+Rc), s		6.0		5.1		6.0						
Max Green Setting (Gmax), s		54.0		54.9		54.0						
Max Q Clear Time (g_c+I1), s		22.0		44.4		36.8						
Green Ext Time (p_c), s		8.5		3.6		9.4						

Intersection Summary

HCM 6th Ctrl Delay	24.2
HCM 6th LOS	C

Notes

User approved changes to right turn type.  
 Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



HCM 6th Signalized Intersection Summary  
 28: I-805 Direct Access Ramps & Carroll Canyon Rd

Opening Year 2027 + Project AM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖		↗		↕	
Traffic Volume (veh/h)	0	564	7	35	154	18	17	0	163	53	0	0
Future Volume (veh/h)	0	564	7	35	154	18	17	0	163	53	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	0	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	576	7	38	166	19	24	0	230	65	0	0
Peak Hour Factor	0.98	0.98	0.98	0.93	0.93	0.93	0.71	0.71	0.71	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	0	2	2	2	2
Cap, veh/h	1	2858	35	53	2772	312	0	0	0	84	0	0
Arrive On Green	0.00	0.80	0.80	0.03	0.86	0.86	0.00	0.00	0.00	0.05	0.00	0.00
Sat Flow, veh/h	1781	3594	44	1781	3207	362		0		1781	0	0
Grp Volume(v), veh/h	0	285	298	38	91	94		0.0		65	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1861	1781	1777	1792				1781	0	0
Q Serve(g_s), s	0.0	4.7	4.7	2.5	0.9	0.9				4.3	0.0	0.0
Cycle Q Clear(g_c), s	0.0	4.7	4.7	2.5	0.9	0.9				4.3	0.0	0.0
Prop In Lane	1.00		0.02	1.00		0.20				1.00		0.00
Lane Grp Cap(c), veh/h	1	1413	1480	53	1536	1549				84	0	0
V/C Ratio(X)	0.00	0.20	0.20	0.71	0.06	0.06				0.77	0.00	0.00
Avail Cap(c_a), veh/h	74	1413	1480	153	1536	1549				230	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	3.0	3.0	57.7	1.2	1.2				56.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.3	6.4	0.1	0.1				5.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.2	1.3	1.2	0.1	0.1				2.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	3.3	3.3	64.1	1.2	1.2				62.0	0.0	0.0
LnGrp LOS	A	A	A	E	A	A				E	A	A
Approach Vol, veh/h		583			223						65	
Approach Delay, s/veh		3.3			12.0						62.0	
Approach LOS		A			B						E	
Timer - Assigned Phs	1	2		4	5	6						
Phs Duration (G+Y+Rc), s	100.5			11.2	0.0	108.8						
Change Period (Y+Rc), s	4.7	5.1		5.5	* 4.7	5.1						
Max Green Setting (Gmax), s	42.9			15.5	* 5	48.2						
Max Q Clear Time (g_c+14), s	6.7			6.3	0.0	2.9						
Green Ext Time (p_c), s	0.0	2.0		0.1	0.0	0.6						

Intersection Summary

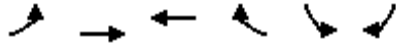
HCM 6th Ctrl Delay	9.9
HCM 6th LOS	A

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 29: Carroll Canyon Rd & Scranton Rd

Opening Year 2027 + Project AM  
 08/04/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖↗	↑↑	↑↑	↖	↖↗	↖
Traffic Volume (veh/h)	244	646	158	86	301	52
Future Volume (veh/h)	244	646	158	86	301	52
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	262	695	193	105	327	57
Peak Hour Factor	0.93	0.93	0.82	0.82	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	368	2435	1792	770	504	224
Arrive On Green	0.11	0.69	0.50	0.50	0.14	0.14
Sat Flow, veh/h	3456	3647	3647	1526	3563	1585
Grp Volume(v), veh/h	262	695	193	105	327	57
Grp Sat Flow(s),veh/h/ln	1728	1777	1777	1526	1781	1585
Q Serve(g_s), s	4.4	4.6	1.7	2.2	5.3	1.9
Cycle Q Clear(g_c), s	4.4	4.6	1.7	2.2	5.3	1.9
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	368	2435	1792	770	504	224
V/C Ratio(X)	0.71	0.29	0.11	0.14	0.65	0.25
Avail Cap(c_a), veh/h	428	2435	1792	770	1941	864
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.2	3.7	7.9	8.0	24.6	23.2
Incr Delay (d2), s/veh	4.6	0.3	0.1	0.4	1.4	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.8	0.5	0.6	2.1	1.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	30.7	4.0	8.0	8.4	26.0	23.7
LnGrp LOS	C	A	A	A	C	C
Approach Vol, veh/h		957	298		384	
Approach Delay, s/veh		11.3	8.1		25.7	
Approach LOS		B	A		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		47.5		13.1	11.0	36.5
Change Period (Y+Rc), s		6.0		4.5	4.5	6.0
Max Green Setting (Gmax), s		41.5		33.0	7.5	29.5
Max Q Clear Time (g_c+I1), s		6.6		7.3	6.4	4.2
Green Ext Time (p_c), s		4.8		1.3	0.1	1.4

Intersection Summary

HCM 6th Ctrl Delay	14.1
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary  
 1: I-5 SB On-Ramp/I-5 SB Off-Ramp & Carmel Mountain Rd

Opening Year 2027 + Project PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↘↗	↑↑					↘	↔	↗
Traffic Volume (veh/h)	0	892	88	380	217	0	0	0	0	540	0	244
Future Volume (veh/h)	0	892	88	380	217	0	0	0	0	540	0	244
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00				1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	959	95	427	244	0				684	0	181
Peak Hour Factor	0.93	0.93	0.93	0.89	0.89	0.89				0.90	0.90	0.90
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1551	675	480	2180	0				1066	0	461
Arrive On Green	0.00	0.44	0.44	0.14	0.61	0.00				0.30	0.00	0.30
Sat Flow, veh/h	0	3647	1547	3456	3647	0				3563	0	1539
Grp Volume(v), veh/h	0	959	95	427	244	0				684	0	181
Grp Sat Flow(s),veh/h/ln	0	1777	1547	1728	1777	0				1781	0	1539
Q Serve(g_s), s	0.0	31.2	5.5	18.2	4.3	0.0				25.0	0.0	14.0
Cycle Q Clear(g_c), s	0.0	31.2	5.5	18.2	4.3	0.0				25.0	0.0	14.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1551	675	480	2180	0				1066	0	461
V/C Ratio(X)	0.00	0.62	0.14	0.89	0.11	0.00				0.64	0.00	0.39
Avail Cap(c_a), veh/h	0	1551	675	675	2180	0				1066	0	461
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	32.6	25.4	63.4	12.0	0.0				45.6	0.0	41.7
Incr Delay (d2), s/veh	0.0	1.9	0.4	8.4	0.1	0.0				3.0	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	13.9	2.2	8.6	1.8	0.0				11.6	0.0	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	34.5	25.8	71.8	12.1	0.0				48.5	0.0	44.2
LnGrp LOS	A	C	C	E	B	A				D	A	D
Approach Vol, veh/h		1054			671						865	
Approach Delay, s/veh		33.7			50.1						47.6	
Approach LOS		C			D						D	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	26.5	72.5		51.0		99.0						
Change Period (Y+Rc), s	* 5.7	7.0		6.1		7.0						
Max Green Setting (Gmax), s	* 29	57.0		44.9		92.0						
Max Q Clear Time (g_c+I1), s	20.2	33.2		27.0		6.3						
Green Ext Time (p_c), s	0.6	5.2		1.7		1.1						

Intersection Summary

HCM 6th Ctrl Delay	42.6
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 2: I-5 NB Off-Ramp/I-5 NB On-Ramp & Carmel Mountain Rd

Opening Year 2027 + Project PM

08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑↑	↗	↘	↕	↗			
Traffic Volume (veh/h)	693	746	0	0	527	859	74	5	535	0	0	0
Future Volume (veh/h)	693	746	0	0	527	859	74	5	535	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		0.93			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	722	777	0	0	573	391	57	0	318			
Peak Hour Factor	0.96	0.96	0.96	0.92	0.92	0.92	0.89	0.89	0.89			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	753	2783	0	0	1560	470	153	0	253			
Arrive On Green	0.42	0.78	0.00	0.00	0.31	0.31	0.09	0.00	0.09			
Sat Flow, veh/h	1781	3647	0	0	5274	1539	1781	0	2946			
Grp Volume(v), veh/h	722	777	0	0	573	391	57	0	318			
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1702	1539	1781	0	1473			
Q Serve(g_s), s	40.8	6.3	0.0	0.0	9.1	24.5	3.1	0.0	8.9			
Cycle Q Clear(g_c), s	40.8	6.3	0.0	0.0	9.1	24.5	3.1	0.0	8.9			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	753	2783	0	0	1560	470	153	0	253			
V/C Ratio(X)	0.96	0.28	0.00	0.00	0.37	0.83	0.37	0.00	1.26			
Avail Cap(c_a), veh/h	898	4367	0	0	3420	1031	153	0	253			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	29.1	3.1	0.0	0.0	28.2	33.5	44.8	0.0	47.4			
Incr Delay (d2), s/veh	18.0	0.0	0.0	0.0	0.1	1.5	0.6	0.0	144.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	20.5	1.7	0.0	0.0	3.7	9.2	1.4	0.0	8.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.1	3.1	0.0	0.0	28.2	35.0	45.4	0.0	191.7			
LnGrp LOS	D	A	A	A	C	D	D	A	F			
Approach Vol, veh/h		1499			964			375				
Approach Delay, s/veh		24.3			31.0			169.4				
Approach LOS		C			C			F				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		88.8			49.6	39.2		15.0				
Change Period (Y+Rc), s		7.5			* 5.7	7.5		6.1				
Max Green Setting (Gmax), s		127.5			* 52	69.5		8.9				
Max Q Clear Time (g_c+I1), s		8.3			42.8	26.5		10.9				
Green Ext Time (p_c), s		4.1			1.0	3.7		0.0				

Intersection Summary

HCM 6th Ctrl Delay	45.8
HCM 6th LOS	D

Notes

- User approved volume balancing among the lanes for turning movement.
- \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 3: Vista Sorrento Pkwy/Torrey View Ct & Carmel Mountain Rd

Opening Year 2027 + Project PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑	↖↗	↖↗	↑↑	↖↗
Traffic Volume (veh/h)	19	87	79	404	76	320	401	649	590	254	412	15
Future Volume (veh/h)	19	87	79	404	76	320	401	649	590	254	412	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.97	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	112	101	449	84	356	436	705	641	270	438	16
Peak Hour Factor	0.78	0.78	0.78	0.90	0.90	0.90	0.92	0.92	0.92	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	113	770	457	506	1351	556	500	810	1588	327	1339	49
Arrive On Green	0.03	0.15	0.15	0.15	0.26	0.26	0.14	0.43	0.43	0.09	0.38	0.38
Sat Flow, veh/h	3456	5106	1513	3456	5106	1535	3456	1870	2723	3456	3493	127
Grp Volume(v), veh/h	24	112	101	449	84	356	436	705	641	270	222	232
Grp Sat Flow(s),veh/h/ln	1728	1702	1513	1728	1702	1535	1728	1870	1362	1728	1777	1844
Q Serve(g_s), s	0.8	2.2	5.7	14.5	1.4	22.0	14.1	39.0	14.7	8.7	10.0	10.1
Cycle Q Clear(g_c), s	0.8	2.2	5.7	14.5	1.4	22.0	14.1	39.0	14.7	8.7	10.0	10.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	113	770	457	506	1351	556	500	810	1588	327	681	707
V/C Ratio(X)	0.21	0.15	0.22	0.89	0.06	0.64	0.87	0.87	0.40	0.83	0.33	0.33
Avail Cap(c_a), veh/h	213	1642	716	540	2136	792	629	810	1588	346	681	707
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.6	42.0	30.3	47.6	31.3	30.4	47.7	29.3	13.2	50.6	24.7	24.8
Incr Delay (d2), s/veh	0.3	0.1	0.3	14.9	0.0	1.9	9.3	12.3	0.8	13.3	1.3	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.9	2.0	7.3	0.6	7.8	6.4	18.5	4.1	4.4	4.5	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.0	42.1	30.6	62.5	31.3	32.3	56.9	41.6	13.9	63.8	26.0	26.0
LnGrp LOS	D	D	C	E	C	C	E	D	B	E	C	C
Approach Vol, veh/h		237			889			1782			724	
Approach Delay, s/veh		38.4			47.5			35.4			40.1	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.1	23.0	20.9	48.9	8.1	35.9	15.2	54.6				
Change Period (Y+Rc), s	4.4	5.8	4.4	5.3	4.4	* 5.8	4.4	5.3				
Max Green Setting (Gmax), s	36.6	36.6	20.7	40.0	7.0	* 48	11.4	49.3				
Max Q Clear Time (g_c+110), s	7.7	7.7	16.1	12.1	2.8	24.0	10.7	41.0				
Green Ext Time (p_c), s	0.2	1.5	0.4	3.6	0.0	3.1	0.0	5.0				

Intersection Summary

HCM 6th Ctrl Delay	39.5
HCM 6th LOS	D

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
4: Roselle St & 1-5 SB On-Ramp

Opening Year 2027 + Project PM  
08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑		↑↑	↑			↑	
Traffic Volume (veh/h)	0	0	0	0	0	0	1509	112	0	0	179	125
Future Volume (veh/h)	0	0	0	0	0	0	1509	112	0	0	179	125
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.94
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				0	1870	0	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				0	0	0	1796	133	0	0	208	145
Peak Hour Factor				0.92	0.92	0.92	0.84	0.84	0.92	0.92	0.86	0.86
Percent Heavy Veh, %				0	2	0	2	2	0	0	2	2
Cap, veh/h				0	0	0	2002	1710	0	0	258	180
Arrive On Green				0.00	0.00	0.00	0.58	0.91	0.00	0.00	0.26	0.26
Sat Flow, veh/h				0			3456	1870	0	0	1000	697
Grp Volume(v), veh/h				0.0			1796	133	0	0	0	353
Grp Sat Flow(s),veh/h/ln							1728	1870	0	0	0	1696
Q Serve(g_s), s							26.1	0.4	0.0	0.0	0.0	11.2
Cycle Q Clear(g_c), s							26.1	0.4	0.0	0.0	0.0	11.2
Prop In Lane							1.00		0.00	0.00		0.41
Lane Grp Cap(c), veh/h							2002	1711	0	0	0	438
V/C Ratio(X)							0.90	0.08	0.00	0.00	0.00	0.81
Avail Cap(c_a), veh/h							3412	2714	0	0	0	657
HCM Platoon Ratio							1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)							1.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh							10.6	0.2	0.0	0.0	0.0	19.9
Incr Delay (d2), s/veh							1.0	0.0	0.0	0.0	0.0	4.8
Initial Q Delay(d3),s/veh							0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln							7.4	0.0	0.0	0.0	0.0	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh							11.6	0.2	0.0	0.0	0.0	24.7
LnGrp LOS							B	A	A	A	A	C
Approach Vol, veh/h								1929			353	
Approach Delay, s/veh								10.8			24.7	
Approach LOS								B			C	
Timer - Assigned Phs		2			5	6						
Phs Duration (G+Y+Rc), s		57.3			37.6	19.7						
Change Period (Y+Rc), s		4.9			4.4	4.9						
Max Green Setting (Gmax), s		83.2			56.6	22.2						
Max Q Clear Time (g_c+I1), s		2.4			28.1	13.2						
Green Ext Time (p_c), s		0.9			5.1	1.6						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay											12.9	
HCM 6th LOS											B	

HCM Unsignalized Intersection Capacity Analysis  
5: Roselle St & Sorrento Valley Blvd

Opening Year 2027 + Project PM  
08/04/2023



Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	↶	↶↶	↶	↶↶		↶	
Traffic Volume (veh/h)	92	1466	104	701	173	9	
Future Volume (Veh/h)	92	1466	104	701	173	9	
Sign Control	Free		Stop			Stop	
Grade	0%		0%			0%	
Peak Hour Factor	0.83	0.83	0.91	0.91	0.89	0.89	
Hourly flow rate (vph)	111	1766	114	770	194	10	
Pedestrians	10		10			10	
Lane Width (ft)	12.0		12.0			12.0	
Walking Speed (ft/s)	4.0		4.0			4.0	
Percent Blockage	1		1			1	
Right turn flare (veh)							
Median type	None						
Median storage (veh)							
Upstream signal (ft)	1002						
pX, platoon unblocked							
vC, conflicting volume	10		242	20	299	242	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	10		242	20	299	242	
tC, single (s)	4.1		6.5	6.2	7.1	6.5	
tC, 2 stage (s)							
tF (s)	2.2		4.0	3.3	3.5	4.0	
p0 queue free %	93		81	26	0	98	
cM capacity (veh/h)	1596		604	1040	134	604	
Direction, Lane #	WB 1	WB 2	WB 3	NB 1	NB 2	NB 3	SB 1
Volume Total	111	883	883	114	385	385	204
Volume Left	111	0	0	0	0	0	194
Volume Right	0	883	883	0	385	385	0
cSH	1596	1700	1700	604	1040	1040	139
Volume to Capacity	0.07	0.52	0.52	0.19	0.37	0.37	1.47
Queue Length 95th (ft)	6	0	0	17	43	43	343
Control Delay (s)	7.4	0.0	0.0	12.3	10.5	10.5	304.0
Lane LOS	A			B	B	B	F
Approach Delay (s)	0.4			10.7			304.0
Approach LOS				B			F
Intersection Summary							
Average Delay			24.4				
Intersection Capacity Utilization			66.7%	ICU Level of Service		C	
Analysis Period (min)			15				

Intersection						
Intersection Delay, s/veh	22.3					
Intersection LOS	C					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↗↗	↗		↕↕	↕	
Traffic Vol, veh/h	834	56	0	229	93	0
Future Vol, veh/h	834	56	0	229	93	0
Peak Hour Factor	0.94	0.94	0.80	0.80	0.78	0.78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	887	60	0	286	119	0
Number of Lanes	2	1	0	2	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left SB		EB	
Conflicting Lanes Left	1	3	0
Conflicting Approach Right NB			EB
Conflicting Lanes Right	2	0	3
HCM Control Delay	26.7	11.5	13.1
HCM LOS	D	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	SBLn1
Vol Left, %	0%	0%	100%	100%	0%	0%
Vol Thru, %	100%	100%	0%	0%	0%	100%
Vol Right, %	0%	0%	0%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	115	115	417	417	56	93
LT Vol	0	0	417	417	0	0
Through Vol	115	115	0	0	0	93
RT Vol	0	0	0	0	56	0
Lane Flow Rate	143	143	444	444	60	119
Geometry Grp	8	8	7	7	7	8
Degree of Util (X)	0.292	0.222	0.781	0.781	0.056	0.255
Departure Headway (Hd)	7.345	5.588	6.339	6.339	3.379	7.708
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	488	640	572	572	1057	465
Service Time	5.102	3.345	4.071	4.071	1.11	5.474
HCM Lane V/C Ratio	0.293	0.223	0.776	0.776	0.057	0.256
HCM Control Delay	13.1	9.9	28.1	28.1	6.3	13.1
HCM Lane LOS	B	A	D	D	A	B
HCM 95th-tile Q	1.2	0.8	7.3	7.3	0.2	1



HCM 6th Signalized Intersection Summary  
7: Vista Sorrento Pkwy & Sorrento Valley Blvd

Opening Year 2027 + Project PM  
08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗		↖	↖↗		↖	↖↗	↖
Traffic Volume (veh/h)	156	804	110	156	599	377	955	1204	514	527	147	120
Future Volume (veh/h)	156	804	110	156	599	377	955	1204	514	527	147	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.97	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	184	946	70	181	697	205	867	1460	330	567	158	129
Peak Hour Factor	0.85	0.85	0.85	0.86	0.86	0.86	0.95	0.95	0.95	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	130	913	68	130	732	215	698	1159	253	392	206	280
Arrive On Green	0.07	0.27	0.27	0.07	0.27	0.27	0.39	0.39	0.39	0.11	0.11	0.11
Sat Flow, veh/h	1781	3343	247	1781	2680	788	1781	2957	646	3563	1870	1493
Grp Volume(v), veh/h	184	503	513	181	462	440	867	905	885	567	158	129
Grp Sat Flow(s),veh/h/ln	1781	1777	1813	1781	1777	1692	1781	1870	1733	1781	1870	1493
Q Serve(g_s), s	10.6	39.7	39.7	10.6	37.1	37.2	57.0	57.0	57.0	16.0	11.9	11.2
Cycle Q Clear(g_c), s	10.6	39.7	39.7	10.6	37.1	37.2	57.0	57.0	57.0	16.0	11.9	11.2
Prop In Lane	1.00		0.14	1.00		0.47	1.00		0.37	1.00		1.00
Lane Grp Cap(c), veh/h	130	485	495	130	485	462	698	733	679	392	206	280
V/C Ratio(X)	1.42	1.04	1.04	1.39	0.95	0.95	1.24	1.23	1.30	1.45	0.77	0.46
Avail Cap(c_a), veh/h	130	485	495	130	485	462	698	733	679	392	206	280
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.4	52.9	52.9	67.4	51.9	51.9	44.2	44.2	44.2	64.7	62.9	53.1
Incr Delay (d2), s/veh	226.6	50.6	50.2	217.2	28.8	29.8	120.6	117.3	146.7	214.8	14.5	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.9	24.0	24.5	12.6	20.0	19.2	47.3	48.9	50.9	18.7	6.3	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	294.0	103.4	103.0	284.6	80.7	81.8	164.8	161.5	190.9	279.5	77.4	53.6
LnGrp LOS	F	F	F	F	F	F	F	F	F	F	F	D
Approach Vol, veh/h		1200			1083			2657			854	
Approach Delay, s/veh		132.5			115.2			172.4			208.0	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	45.4		22.0	15.0	45.4		63.0				
Change Period (Y+Rc), s	4.4	* 5.7		6.0	4.4	5.7		6.0				
Max Green Setting (Gmax), s	10.6	* 40		16.0	10.6	39.3		57.0				
Max Q Clear Time (g_c+1/2g), s	10.6	41.7		18.0	12.6	39.2		59.0				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	158.7
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.  
\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
8: Vista Sorrento Pkwy & Lusk Blvd

Opening Year 2027 + Project PM  
08/04/2023



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	389	1773	891	107	180	238
Future Volume (veh/h)	389	1773	891	107	180	238
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.97	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	427	849	990	119	200	264
Peak Hour Factor	0.91	0.91	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	393	814	1928	232	246	1322
Arrive On Green	0.22	0.22	0.61	0.61	0.07	0.71
Sat Flow, veh/h	1781	2790	3274	382	3456	1870
Grp Volume(v), veh/h	427	849	553	556	200	264
Grp Sat Flow(s),veh/h/ln	1781	1395	1777	1786	1728	1870
Q Serve(g_s), s	33.1	33.1	26.7	26.7	8.6	7.2
Cycle Q Clear(g_c), s	33.1	33.1	26.7	26.7	8.6	7.2
Prop In Lane	1.00	1.00		0.21	1.00	
Lane Grp Cap(c), veh/h	393	814	1077	1082	246	1322
V/C Ratio(X)	1.09	1.04	0.51	0.51	0.81	0.20
Avail Cap(c_a), veh/h	393	814	1077	1082	1327	1322
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.5	53.1	16.9	16.9	68.7	7.5
Incr Delay (d2), s/veh	70.6	43.3	1.7	1.7	2.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh	22.2	19.7	10.7	10.7	3.8	2.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	129.0	96.4	18.6	18.6	71.2	7.9
LnGrp LOS	F	F	B	B	E	A
Approach Vol, veh/h	1276		1109			464
Approach Delay, s/veh	107.3		18.6			35.1
Approach LOS	F		B			D
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	51.1	96.9			112.0	38.0
Change Period (Y+Rc), s	4.4	6.0			6.0	4.9
Max Green Setting (Gmax), s	57.6	44.0			106.0	33.1
Max Q Clear Time (g_c+110), s	110.6	28.7			9.2	35.1
Green Ext Time (p_c), s	0.1	1.8			0.4	0.0

Intersection Summary

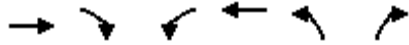
HCM 6th Ctrl Delay		61.0	
HCM 6th LOS		E	

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary  
 9: Wateridge Cir & Lusk Blvd

Opening Year 2027 + Project PM  
 08/04/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↔	↑↑	↔	↔
Traffic Volume (veh/h)	324	6	38	966	6	48
Future Volume (veh/h)	324	6	38	966	6	48
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	386	7	50	1271	8	61
Peak Hour Factor	0.84	0.84	0.76	0.76	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2143	39	167	2588	105	170
Arrive On Green	0.60	0.60	0.05	0.73	0.06	0.06
Sat Flow, veh/h	3662	65	3456	3647	1781	1585
Grp Volume(v), veh/h	192	201	50	1271	8	61
Grp Sat Flow(s),veh/h/ln	1777	1856	1728	1777	1781	1585
Q Serve(g_s), s	2.7	2.7	0.8	8.4	0.2	2.0
Cycle Q Clear(g_c), s	2.7	2.7	0.8	8.4	0.2	2.0
Prop In Lane		0.03	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1067	1115	167	2588	105	170
V/C Ratio(X)	0.18	0.18	0.30	0.49	0.08	0.36
Avail Cap(c_a), veh/h	1067	1115	318	2588	931	905
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	5.0	5.0	25.5	3.2	24.7	23.0
Incr Delay (d2), s/veh	0.4	0.4	0.4	0.7	0.1	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.7	0.3	0.9	0.1	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	5.3	5.3	25.9	3.9	24.8	23.5
LnGrp LOS	A	A	C	A	C	C
Approach Vol, veh/h	393			1321	69	
Approach Delay, s/veh	5.3			4.7	23.6	
Approach LOS	A			A	C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	7.1	40.2			47.3	8.2
Change Period (Y+Rc), s	4.4	6.9			* 6.9	4.9
Max Green Setting (Gmax), s	5.1	29.7			* 40	29.0
Max Q Clear Time (g_c+1/2), s	12.8	4.7			10.4	4.0
Green Ext Time (p_c), s	0.0	0.6			3.3	0.0

Intersection Summary

HCM 6th Ctrl Delay	5.6
HCM 6th LOS	A

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection						
Int Delay, s/veh	1.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑		↗
Traffic Vol, veh/h	440	14	18	947	0	183
Future Vol, veh/h	440	14	18	947	0	183
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	478	15	20	1029	0	199

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	493	0	- 247
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	4.14	-	- 6.94
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	2.22	-	- 3.32
Pot Cap-1 Maneuver	-	-	1067	-	0 753
Stage 1	-	-	-	-	0 -
Stage 2	-	-	-	-	0 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1067	-	- 753
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	11.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	753	-	-	1067	-
HCM Lane V/C Ratio	0.264	-	-	0.018	-
HCM Control Delay (s)	11.5	-	-	8.4	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	1.1	-	-	0.1	-

Intersection						
Int Delay, s/veh	4.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↘	
Traffic Vol, veh/h	437	4	23	965	183	245
Future Vol, veh/h	437	4	23	965	183	245
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	475	4	25	1049	99	133

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	479	0	1052
Stage 1	-	-	-	-	477
Stage 2	-	-	-	-	575
Critical Hdwy	-	-	4.14	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	-	-	2.22	-	3.52
Pot Cap-1 Maneuver	-	-	1080	-	222
Stage 1	-	-	-	-	590
Stage 2	-	-	-	-	526
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1080	-	217
Mov Cap-2 Maneuver	-	-	-	-	217
Stage 1	-	-	-	-	590
Stage 2	-	-	-	-	514

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	30.3
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	367	-	-	1080	-
HCM Lane V/C Ratio	0.634	-	-	0.023	-
HCM Control Delay (s)	30.3	-	-	8.4	-
HCM Lane LOS	D	-	-	A	-
HCM 95th %tile Q(veh)	4.2	-	-	0.1	-

HCM 6th Signalized Intersection Summary  
 12: Project Dwy #3/Pacific Center Blvd & Lusk Blvd

Opening Year 2027 + Project PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↔		↔	↕↔			↕↔			↕	↕↔
Traffic Volume (veh/h)	33	387	17	21	491	58	166	4	207	167	0	478
Future Volume (veh/h)	33	387	17	21	491	58	166	4	207	167	0	478
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	578	25	24	552	65	313	8	391	180	0	514
Peak Hour Factor	0.67	0.67	0.67	0.89	0.89	0.89	0.53	0.53	0.53	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	130	835	36	44	727	85	288	7	294	548	0	954
Arrive On Green	0.04	0.24	0.24	0.02	0.23	0.23	0.58	0.58	0.58	0.58	0.00	0.58
Sat Flow, veh/h	3456	3461	149	1781	3190	374	407	11	510	822	0	1552
Grp Volume(v), veh/h	49	296	307	24	307	310	712	0	0	180	0	514
Grp Sat Flow(s),veh/h/ln	1728	1777	1833	1781	1777	1787	929	0	0	822	0	1552
Q Serve(g_s), s	1.3	14.8	14.8	1.3	15.7	15.8	44.5	0.0	0.0	0.0	0.0	18.6
Cycle Q Clear(g_c), s	1.3	14.8	14.8	1.3	15.7	15.8	56.1	0.0	0.0	11.6	0.0	18.6
Prop In Lane	1.00		0.08	1.00		0.21	0.44		0.55	1.00		1.00
Lane Grp Cap(c), veh/h	130	429	442	44	405	408	588	0	0	548	0	954
V/C Ratio(X)	0.38	0.69	0.69	0.55	0.76	0.76	1.21	0.00	0.00	0.33	0.00	0.54
Avail Cap(c_a), veh/h	348	693	715	108	622	626	588	0	0	548	0	954
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.7	33.6	33.7	47.0	35.1	35.1	28.4	0.0	0.0	11.2	0.0	10.9
Incr Delay (d2), s/veh	0.7	0.7	0.7	3.9	1.1	1.1	109.6	0.0	0.0	1.6	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	6.1	6.3	0.6	6.5	6.6	31.9	0.0	0.0	2.1	0.0	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.4	34.4	34.4	50.9	36.2	36.2	138.0	0.0	0.0	12.8	0.0	13.0
LnGrp LOS	D	C	C	D	D	D	F	A	A	B	A	B
Approach Vol, veh/h		652			641			712				694
Approach Delay, s/veh		35.3			36.7			138.0				13.0
Approach LOS		D			D			F				B
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.8	29.2		61.4	8.1	27.9		61.4				
Change Period (Y+Rc), s	4.4	5.7		5.3	4.4	5.7		* 5.3				
Max Green Setting (Gmax), s	5.9	38.0		55.7	9.8	34.1		* 56				
Max Q Clear Time (g_c+I1), s	3.3	16.8		20.6	3.3	17.8		58.1				
Green Ext Time (p_c), s	0.0	1.0		0.8	0.0	1.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	57.0
HCM 6th LOS	E

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection						
Int Delay, s/veh	4.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↘	
Traffic Vol, veh/h	614	4	23	583	37	245
Future Vol, veh/h	614	4	23	583	37	245
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	667	4	25	634	40	266

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	671	0	1036 336
Stage 1	-	-	-	-	669 -
Stage 2	-	-	-	-	367 -
Critical Hdwy	-	-	4.14	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	2.22	-	3.52 3.32
Pot Cap-1 Maneuver	-	-	915	-	227 660
Stage 1	-	-	-	-	471 -
Stage 2	-	-	-	-	671 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	915	-	221 660
Mov Cap-2 Maneuver	-	-	-	-	221 -
Stage 1	-	-	-	-	471 -
Stage 2	-	-	-	-	653 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	21.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	524	-	-	915	-
HCM Lane V/C Ratio	0.585	-	-	0.027	-
HCM Control Delay (s)	21.1	-	-	9	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	3.7	-	-	0.1	-

HCM 6th Signalized Intersection Summary  
 14: I-805 NB Ramps/Mira Sorrento PI & Vista Sorrento Pkwy

Opening Year 2027 + Project PM

08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	530	200	932	264	15	270	104	117	303	923	201
Future Volume (veh/h)	57	530	200	932	264	15	270	104	117	303	923	201
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		0.92	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	75	697	0	1002	284	16	293	113	127	329	1003	164
Peak Hour Factor	0.76	0.76	0.76	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	695	961	815	640	565	460	219	245	394	635	918	150
Arrive On Green	0.39	0.51	0.00	0.19	0.30	0.30	0.12	0.07	0.07	0.36	0.30	0.30
Sat Flow, veh/h	1781	1870	1585	3456	1870	1539	1781	3554	1451	1781	3033	495
Grp Volume(v), veh/h	75	697	0	1002	284	16	293	113	127	329	587	580
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1870	1539	1781	1777	1451	1781	1777	1751
Q Serve(g_s), s	4.0	43.3	0.0	27.8	18.7	1.1	18.4	4.6	7.9	21.9	45.4	45.4
Cycle Q Clear(g_c), s	4.0	43.3	0.0	27.8	18.7	1.1	18.4	4.6	7.9	21.9	45.4	45.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.28
Lane Grp Cap(c), veh/h	695	961	815	640	565	460	219	245	394	635	538	530
V/C Ratio(X)	0.11	0.73	0.00	1.56	0.50	0.03	1.34	0.46	0.32	0.52	1.09	1.09
Avail Cap(c_a), veh/h	695	961	815	640	565	460	219	407	460	635	538	530
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.35	0.35	0.35	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.1	28.2	0.0	61.1	43.1	37.3	65.8	67.1	36.5	38.1	52.3	52.4
Incr Delay (d2), s/veh	0.3	4.8	0.0	256.7	1.1	0.0	180.9	0.5	0.2	0.3	66.0	67.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	19.6	0.0	34.7	8.6	0.4	19.4	2.1	2.8	9.4	29.5	29.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.4	33.0	0.0	317.8	44.2	37.3	246.7	67.6	36.7	38.5	118.3	119.6
LnGrp LOS	C	C	A	F	D	D	F	E	D	D	F	F
Approach Vol, veh/h		772			1302			533			1496	
Approach Delay, s/veh		32.6			254.7			158.7			101.3	
Approach LOS		C			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	32.0	83.5	23.0	50.0	64.9	50.6	58.0	15.0				
Change Period (Y+Rc), s	* 4.7	5.8	5.1	5.1	5.8	* 5.8	5.1	5.1				
Max Green Setting (Gmax), s	* 27	39.2	17.9	44.9	21.7	* 45	46.1	16.7				
Max Q Clear Time (g_c+I1), s	29.8	45.3	20.4	47.4	6.0	20.7	23.9	9.9				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2				

Intersection Summary

HCM 6th Ctrl Delay	144.5
HCM 6th LOS	F

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.
- \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Intersection						
Int Delay, s/veh	1.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	192	0	24	963	0	90
Future Vol, veh/h	192	0	24	963	0	90
Conflicting Peds, #/hr	0	10	10	0	10	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	79	79	63	63
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	231	0	30	1219	0	143

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	241	0	1530
Stage 1	-	-	-	-	241
Stage 2	-	-	-	-	1289
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1326	-	129
Stage 1	-	-	-	-	799
Stage 2	-	-	-	-	258
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1315	-	124
Mov Cap-2 Maneuver	-	-	-	-	124
Stage 1	-	-	-	-	793
Stage 2	-	-	-	-	250

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	10.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	775	-	-	1315	-
HCM Lane V/C Ratio	0.184	-	-	0.023	-
HCM Control Delay (s)	10.7	-	-	7.8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.7	-	-	0.1	-

HCM 6th Signalized Intersection Summary  
 16: Lusk Blvd & Barnes Canyon Rd

Opening Year 2027 + Project PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗		↖	↖↗	↖	↖	↖↗	↖↗
Traffic Volume (veh/h)	369	367	174	35	206	80	31	157	57	334	588	549
Future Volume (veh/h)	369	367	174	35	206	80	31	157	57	334	588	549
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.95	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	429	427	202	37	219	85	34	171	62	464	817	762
Peak Hour Factor	0.86	0.86	0.86	0.94	0.94	0.94	0.92	0.92	0.92	0.72	0.72	0.72
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	269	623	291	56	371	138	54	1227	533	286	846	737
Arrive On Green	0.15	0.27	0.27	0.03	0.15	0.15	0.03	0.35	0.35	0.16	0.48	0.48
Sat Flow, veh/h	1781	2324	1086	1781	2496	930	1781	3554	1542	1781	1778	1548
Grp Volume(v), veh/h	429	325	304	37	153	151	34	171	62	464	816	763
Grp Sat Flow(s),veh/h/ln	1781	1777	1634	1781	1777	1650	1781	1777	1542	1781	1777	1549
Q Serve(g_s), s	15.6	17.0	17.3	2.1	8.3	8.8	2.0	3.4	2.8	16.6	46.0	49.2
Cycle Q Clear(g_c), s	15.6	17.0	17.3	2.1	8.3	8.8	2.0	3.4	2.8	16.6	46.0	49.2
Prop In Lane	1.00		0.66	1.00		0.56	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	269	476	438	56	264	245	54	1227	533	286	846	737
V/C Ratio(X)	1.60	0.68	0.69	0.66	0.58	0.61	0.63	0.14	0.12	1.62	0.97	1.03
Avail Cap(c_a), veh/h	269	622	572	115	464	431	86	1227	533	286	846	737
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.9	33.9	34.0	49.5	41.0	41.2	49.6	23.3	23.1	43.4	26.3	27.1
Incr Delay (d2), s/veh	284.9	1.0	1.3	4.7	0.8	0.9	4.5	0.2	0.4	295.4	23.6	42.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	28.0	7.3	6.8	1.0	3.6	3.6	0.9	1.4	1.1	30.5	22.9	24.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	328.8	34.9	35.3	54.2	41.8	42.2	54.1	23.5	23.5	338.7	49.9	69.4
LnGrp LOS	F	C	D	D	D	D	D	C	C	F	D	F
Approach Vol, veh/h		1058			341			267			2043	
Approach Delay, s/veh		154.2			43.3			27.4			122.8	
Approach LOS		F			D			C			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.0	41.4	7.7	33.3	7.5	54.9	20.0	21.0				
Change Period (Y+Rc), s	4.4	5.7	4.4	* 5.6	4.4	5.7	4.4	5.6				
Max Green Setting (Gmax), s	16.6	35.7	6.7	* 36	5.0	47.3	15.6	27.0				
Max Q Clear Time (g_c+I1), s	18.6	5.4	4.1	19.3	4.0	51.2	17.6	10.8				
Green Ext Time (p_c), s	0.0	0.3	0.0	1.3	0.0	0.0	0.0	0.5				

Intersection Summary

HCM 6th Ctrl Delay	117.6
HCM 6th LOS	F

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 17: Barnes Canyon Rd/Commercial Dwy & Pacific Heights Blvd

Opening Year 2027 + Project PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	441	124	204	82	58	93	23	684	46	22	9
Future Volume (veh/h)	29	441	124	204	82	58	93	23	684	46	22	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	0.99		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	31	469	132	232	93	66	102	25	752	55	26	11
Peak Hour Factor	0.94	0.94	0.94	0.88	0.88	0.88	0.91	0.91	0.91	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	41	809	226	298	735	470	696	879	726	393	581	246
Arrive On Green	0.02	0.30	0.30	0.09	0.36	0.36	0.47	0.47	0.47	0.47	0.47	0.47
Sat Flow, veh/h	1781	2723	760	3456	2039	1303	1360	1870	1545	692	1237	523
Grp Volume(v), veh/h	31	305	296	232	80	79	102	25	752	55	0	37
Grp Sat Flow(s),veh/h/ln	1781	1777	1707	1728	1777	1565	1360	1870	1545	692	0	1760
Q Serve(g_s), s	1.7	14.4	14.6	6.5	3.0	3.4	4.3	0.7	46.5	4.6	0.0	1.1
Cycle Q Clear(g_c), s	1.7	14.4	14.6	6.5	3.0	3.4	5.5	0.7	46.5	5.3	0.0	1.1
Prop In Lane	1.00		0.45	1.00		0.83	1.00		1.00	1.00		0.30
Lane Grp Cap(c), veh/h	41	528	507	298	640	564	696	879	726	393	0	827
V/C Ratio(X)	0.75	0.58	0.58	0.78	0.12	0.14	0.15	0.03	1.04	0.14	0.00	0.04
Avail Cap(c_a), veh/h	108	528	507	335	640	564	696	879	726	393	0	827
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.0	29.5	29.6	44.3	21.2	21.3	15.7	14.1	26.2	15.5	0.0	14.2
Incr Delay (d2), s/veh	9.7	4.5	4.9	8.4	0.4	0.5	0.2	0.0	43.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	6.7	6.6	3.1	1.3	1.3	1.3	0.3	24.4	0.7	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.7	34.0	34.4	52.7	21.6	21.8	15.8	14.1	69.2	15.6	0.0	14.2
LnGrp LOS	E	C	C	D	C	C	B	B	F	B	A	B
Approach Vol, veh/h		632		391		879		92				
Approach Delay, s/veh		35.4		40.1		61.5		15.0				
Approach LOS		D		D		E		B				
Timer - Assigned Phs	1	2	4	5	6	8						
Phs Duration (G+Y+Rc), s	12.9	34.6	51.4	6.7	40.9	51.4						
Change Period (Y+Rc), s	4.4	5.2	4.9	4.4	* 5.2	4.9						
Max Green Setting (Gmax), s	9.6	29.4	46.5	6.0	* 33	46.5						
Max Q Clear Time (g_c+1), s	19.5	16.6	7.3	3.7	5.4	48.5						
Green Ext Time (p_c), s	0.1	4.6	0.4	0.0	2.0	0.0						

Intersection Summary

HCM 6th Ctrl Delay	46.9
HCM 6th LOS	D

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis  
 18: Carroll Canyon Rd/I-805 SB Ramps & Sorrento Valley Rd

Opening Year 2027 + Project PM

08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↑↑↑	↑	↑	↑↑	↑↑↑	↑↑		↑↑	↑↑	↑↑		
Traffic Volume (vph)	0	569	154	66	338	1969	316	0	1036	684	177	35	
Future Volume (vph)	0	569	154	66	338	1969	316	0	1036	684	177	35	
Ideal Flow (vphpl)	1800	1800	1900	1900	1800	1800	1900	1900	1900	1800	1900	1800	
Total Lost time (s)		8.0	4.5	6.1	8.0	7.5	4.5		6.1	7.0	7.5		
Lane Util. Factor		0.91	1.00	1.00	0.95	0.76	0.97		0.88	0.97	0.95		
Frbp, ped/bikes		1.00	0.98	1.00	1.00	0.98	1.00		0.99	1.00	1.00		
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		
Frt		1.00	0.85	1.00	1.00	0.85	1.00		0.85	1.00	0.98		
Flt Protected		1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00		
Satd. Flow (prot)		4818	1551	1770	3353	3342	3433		2768	3252	3437		
Flt Permitted		1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00		
Satd. Flow (perm)		4818	1551	1770	3353	3342	3433		2768	3252	3437		
Peak-hour factor, PHF	0.90	0.90	0.90	0.92	0.92	0.92	0.95	0.95	0.95	0.77	0.77	0.77	
Adj. Flow (vph)	0	632	171	72	367	2140	333	0	1091	888	230	45	
RTOR Reduction (vph)	0	0	132	0	0	486	0	0	65	0	11	0	
Lane Group Flow (vph)	0	632	39	72	367	1654	333	0	1026	888	264	0	
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10	
Confl. Bikes (#/hr)			10			10			10			10	
Turn Type		NA	pm+ov	Prot	NA	custom	Prot		pm+ov	Prot	NA		
Protected Phases		2	3	1	6	4	3		1	7	4		
Permitted Phases			2			6			3				
Actuated Green, G (s)		20.4	34.0	39.9	66.4	115.9	13.6		53.5	67.6	49.5		
Effective Green, g (s)		20.9	34.0	39.9	66.9	115.9	13.6		53.5	68.1	49.5		
Actuated g/C Ratio		0.14	0.23	0.27	0.45	0.77	0.09		0.36	0.45	0.33		
Clearance Time (s)		8.5	4.5	6.1	8.5	7.5	4.5		6.1	7.5	7.5		
Vehicle Extension (s)		1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0		
Lane Grp Cap (vph)		671	351	470	1495	2749	311		987	1476	1134		
v/s Ratio Prot		c0.13	0.01	0.04	0.11	c0.20	c0.10		c0.28	0.27	0.08		
v/s Ratio Perm			0.01			0.30			0.09				
v/c Ratio		0.94	0.11	0.15	0.25	0.60	1.07		1.04	0.60	0.23		
Uniform Delay, d1		63.9	46.0	42.1	25.8	7.2	68.2		48.2	30.8	36.5		
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		
Incremental Delay, d2		23.1	0.1	0.1	0.0	0.3	71.1		39.4	1.8	0.5		
Delay (s)		87.0	46.1	42.2	25.9	7.5	139.3		87.7	32.6	37.0		
Level of Service		F	D	D	C	A	F		F	C	D		
Approach Delay (s)		78.3			11.1			99.7			33.6		
Approach LOS		E			B			F			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			45.7		HCM 2000 Level of Service					D			
HCM 2000 Volume to Capacity ratio			0.88										
Actuated Cycle Length (s)			150.0		Sum of lost time (s)					26.1			
Intersection Capacity Utilization			98.3%		ICU Level of Service					F			
Analysis Period (min)			15										

c Critical Lane Group

HCM 6th Signalized Intersection Summary

Opening Year 2027 + Project PM

19: I-805 NB Off-Ramp/Vista Sorrento Pkwy & Sorrento Valley Rd/Mira Mesa Blvd

08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑			↑↑↑	↔		↑	↔↔↔	↔		↔↔
Traffic Volume (veh/h)	158	704	0	0	1640	931	0	43	867	162	0	734
Future Volume (veh/h)	158	704	0	0	1640	931	0	43	867	162	0	734
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.91	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	0	1870	1870	1870	0	1870
Adj Flow Rate, veh/h	174	774	0	0	1763	1001	0	48	441	219	0	992
Peak Hour Factor	0.91	0.91	0.91	0.93	0.93	0.93	0.90	0.90	0.90	0.74	0.74	0.74
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	2	2	0	2
Cap, veh/h	547	3083	0	0	2621	896	0	126	222	299	0	0
Arrive On Green	0.16	0.60	0.00	0.00	0.27	0.27	0.00	0.07	0.07	0.17	0.00	0.00
Sat Flow, veh/h	3456	5274	0	0	6696	1546	0	1870	3302	1781	219	
Grp Volume(v), veh/h	174	774	0	0	1763	1001	0	48	441	219	44.2	
Grp Sat Flow(s),veh/h/ln	1728	1702	0	0	1609	1546	0	1870	1101	1781	D	
Q Serve(g_s), s	4.9	7.8	0.0	0.0	26.8	44.8	0.0	2.7	7.4	12.8		
Cycle Q Clear(g_c), s	4.9	7.8	0.0	0.0	26.8	44.8	0.0	2.7	7.4	12.8		
Prop In Lane	1.00		0.00	0.00		1.00	0.00		1.00	1.00		
Lane Grp Cap(c), veh/h	547	3083	0	0	2621	896	0	126	222	299		
V/C Ratio(X)	0.32	0.25	0.00	0.00	0.67	1.12	0.00	0.38	1.99	0.73		
Avail Cap(c_a), veh/h	550	3083	0	0	2621	896	0	126	222	300		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.67	0.67	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.25	0.25	0.00	1.00	1.00	0.09		
Uniform Delay (d), s/veh	41.0	10.2	0.0	0.0	33.5	26.7	0.0	49.1	51.3	43.4		
Incr Delay (d2), s/veh	0.1	0.2	0.0	0.0	0.4	57.2	0.0	0.7	459.1	0.7		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.0	2.7	0.0	0.0	10.8	55.8	0.0	1.3	11.5	5.5		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.2	10.4	0.0	0.0	33.8	83.9	0.0	49.8	510.4	44.2		
LnGrp LOS	D	B	A	A	C	F	A	D	F	D		
Approach Vol, veh/h		948			2764			489				
Approach Delay, s/veh		16.0			51.9			465.2				
Approach LOS		B			D			F				
Timer - Assigned Phs		2			5	6	7	8				
Phs Duration (G+Y+Rc), s		72.9			21.6	51.3	24.1	13.0				
Change Period (Y+Rc), s		7.0			* 4.7	7.0	6.1	6.1				
Max Green Setting (Gmax), s		65.9			* 17	44.2	18.0	6.9				
Max Q Clear Time (g_c+11), s		9.8			6.9	46.8	14.8	9.4				
Green Ext Time (p_c), s		0.9			0.1	0.0	0.1	0.0				

Intersection Summary

HCM 6th Ctrl Delay	89.6
HCM 6th LOS	F

Notes

- User approved pedestrian interval to be less than phase max green.
- \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 20: Scranton Rd & Mira Mesa Blvd

Opening Year 2027 + Project PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↗	↔	↑↑↑	↘	↔↔	↔↔		↔↔	↗	↘
Traffic Volume (veh/h)	191	1149	256	131	1576	110	430	107	84	120	343	666
Future Volume (veh/h)	191	1149	256	131	1576	110	430	107	84	120	343	666
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	203	1222	272	136	1642	115	398	205	90	132	377	732
Peak Hour Factor	0.94	0.94	0.94	0.96	0.96	0.96	0.93	0.93	0.93	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	160	1239	372	99	1553	109	1150	800	336	962	505	976
Arrive On Green	0.02	0.08	0.08	0.06	0.25	0.25	0.32	0.32	0.32	0.27	0.27	0.27
Sat Flow, veh/h	3456	5106	1533	1781	6169	432	3563	2478	1040	3563	1870	3072
Grp Volume(v), veh/h	203	1222	272	136	1284	473	398	152	143	132	377	732
Grp Sat Flow(s),veh/h/ln	1728	1702	1533	1781	1609	1775	1781	1870	1648	1781	1870	1536
Q Serve(g_s), s	5.1	26.3	19.1	6.1	27.7	27.7	9.4	6.6	7.1	3.1	20.3	23.5
Cycle Q Clear(g_c), s	5.1	26.3	19.1	6.1	27.7	27.7	9.4	6.6	7.1	3.1	20.3	23.5
Prop In Lane	1.00		1.00	1.00		0.24	1.00		0.63	1.00		1.00
Lane Grp Cap(c), veh/h	160	1239	372	99	1215	447	1150	604	532	962	505	976
V/C Ratio(X)	1.27	0.99	0.73	1.38	1.06	1.06	0.35	0.25	0.27	0.14	0.75	0.75
Avail Cap(c_a), veh/h	160	1239	372	99	1215	447	1150	604	532	962	505	976
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.21	0.21	0.21	0.60	0.60	0.60	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.2	50.4	47.1	52.0	41.2	41.2	28.4	27.5	27.7	30.4	36.7	33.7
Incr Delay (d2), s/veh	130.5	8.8	2.0	202.9	37.0	37.0	49.2	0.8	1.0	1.2	0.3	9.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	12.9	8.0	8.2	14.5	17.5	4.1	3.1	2.9	1.4	10.4	9.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	184.6	59.2	49.1	254.9	78.2	90.4	29.2	28.5	29.0	30.7	46.4	39.0
LnGrp LOS	F	E	D	F	F	F	C	C	C	C	D	D
Approach Vol, veh/h		1697			1893			693			1241	
Approach Delay, s/veh		72.6			93.9			29.0			40.4	
Approach LOS		E			F			C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	32.4		34.7	9.0	33.4		39.9				
Change Period (Y+Rc), s	4.4	* 6.2		5.3	4.4	6.2		4.9				
Max Green Setting (Gmax), s	5.6	* 26		22.6	4.6	27.0		35.0				
Max Q Clear Time (g_c+1), s	10.1	28.3		25.5	7.1	29.7		11.4				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		7.2				

Intersection Summary

HCM 6th Ctrl Delay	67.2
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 21: Oberlin Dr/Lusk Blvd & Mira Mesa Blvd

Opening Year 2027 + Project PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑		↔↔	↑↑↑		↔	↑	↔	↔↔	↑	↔
Traffic Volume (veh/h)	89	1363	6	47	1242	87	20	18	160	644	111	475
Future Volume (veh/h)	89	1363	6	47	1242	87	20	18	160	644	111	475
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	100	1531	7	51	1350	95	21	19	167	708	122	412
Peak Hour Factor	0.89	0.89	0.89	0.92	0.92	0.92	0.96	0.96	0.96	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	135	2181	10	85	1950	137	31	436	357	743	805	666
Arrive On Green	0.04	0.42	0.42	0.05	0.80	0.80	0.02	0.23	0.23	0.22	0.43	0.43
Sat Flow, veh/h	3456	5245	24	3456	4861	342	1781	1870	1531	3456	1870	1547
Grp Volume(v), veh/h	100	994	544	51	945	500	21	19	167	708	122	412
Grp Sat Flow(s),veh/h/ln	1728	1702	1865	1728	1702	1799	1781	1870	1531	1728	1870	1547
Q Serve(g_s), s	5.4	45.8	45.8	2.7	23.5	23.5	2.2	1.5	17.8	38.4	7.6	39.3
Cycle Q Clear(g_c), s	5.4	45.8	45.8	2.7	23.5	23.5	2.2	1.5	17.8	38.4	7.6	39.3
Prop In Lane	1.00		0.01	1.00		0.19	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	135	1415	775	85	1366	722	31	436	357	743	805	666
V/C Ratio(X)	0.74	0.70	0.70	0.60	0.69	0.69	0.67	0.04	0.47	0.95	0.15	0.62
Avail Cap(c_a), veh/h	193	1415	775	122	1366	722	62	436	357	938	805	666
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.29	0.29	0.29	0.81	0.81	0.81	1.00	1.00	1.00	0.34	0.34	0.34
Uniform Delay (d), s/veh	90.3	45.8	45.8	89.4	13.6	13.6	92.8	56.5	62.7	73.6	33.0	42.0
Incr Delay (d2), s/veh	1.3	0.9	1.6	2.1	2.4	4.4	8.7	0.2	4.4	6.8	0.1	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	19.2	21.1	1.2	5.2	5.9	1.1	0.7	7.4	17.7	3.5	15.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	91.6	46.7	47.4	91.5	15.9	18.0	101.5	56.6	67.1	80.4	33.1	43.5
LnGrp LOS	F	D	D	F	B	B	F	E	E	F	C	D
Approach Vol, veh/h		1638			1496			207			1242	
Approach Delay, s/veh		49.6			19.2			69.6			63.5	
Approach LOS		D			B			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	85.2	7.7	88.0	11.8	82.4	45.3	50.5				
Change Period (Y+Rc), s	4.4	* 6.2	4.4	6.2	4.4	6.2	4.4	* 6.2				
Max Green Setting (Gmax), s	7.5	* 74	6.6	81.8	10.6	69.8	51.6	* 38				
Max Q Clear Time (g_c+14), s	14.5	47.8	4.2	41.3	7.4	25.5	40.4	19.8				
Green Ext Time (p_c), s	0.0	3.2	0.0	0.4	0.0	3.1	0.5	0.1				

Intersection Summary

HCM 6th Ctrl Delay	44.4
HCM 6th LOS	D

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 22: Pacific Heights Blvd & Mira Mesa Blvd

Opening Year 2027 + Project PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘	↑↑	↗	↘	↑↑	↗
Traffic Volume (veh/h)	115	1854	101	123	973	232	126	58	428	1381	357	317
Future Volume (veh/h)	115	1854	101	123	973	232	126	58	428	1381	357	317
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.94	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	129	2083	113	132	1046	0	132	72	158	1262	384	341
Peak Hour Factor	0.89	0.89	0.89	0.93	0.93	0.93	0.81	0.81	0.81	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	152	2191	659	113	2082		154	211	338	1039	1162	500
Arrive On Green	0.06	0.29	0.29	0.06	0.41	0.00	0.09	0.11	0.11	0.30	0.33	0.32
Sat Flow, veh/h	1781	5106	1546	1781	5106	1585	1781	1870	2990	3456	3554	1541
Grp Volume(v), veh/h	129	2083	113	132	1046	0	132	72	158	1262	384	341
Grp Sat Flow(s),veh/h/ln	1781	1702	1546	1781	1702	1585	1781	1870	1495	1728	1777	1541
Q Serve(g_s), s	13.6	76.0	10.4	12.1	29.0	0.0	13.9	6.7	9.4	57.1	15.5	36.5
Cycle Q Clear(g_c), s	13.6	76.0	10.4	12.1	29.0	0.0	13.9	6.7	9.4	57.1	15.5	36.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	152	2191	659	113	2082		154	211	338	1039	1162	500
V/C Ratio(X)	0.85	0.95	0.17	1.16	0.50		0.86	0.34	0.47	1.22	0.33	0.68
Avail Cap(c_a), veh/h	218	2191	659	113	2082		221	340	543	1039	1279	551
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.55	0.55	0.55	0.89	0.89	0.00	1.00	1.00	1.00	0.61	0.61	0.61
Uniform Delay (d), s/veh	88.4	65.7	42.6	88.9	41.9	0.0	85.6	77.7	78.9	66.4	48.2	55.7
Incr Delay (d2), s/veh	8.2	6.7	0.3	130.4	0.8	0.0	14.7	0.4	0.4	102.5	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	34.9	4.2	9.6	12.2	0.0	7.0	3.3	3.6	40.0	7.0	14.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	96.6	72.4	43.0	219.3	42.7	0.0	100.3	78.1	79.3	168.9	48.3	57.1
LnGrp LOS	F	E	D	F	D		F	E	E	F	D	E
Approach Vol, veh/h		2325			1178			362			1987	
Approach Delay, s/veh		72.3			62.5			86.7			126.4	
Approach LOS		E			E			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	60.0	86.7	20.3	66.9	20.1	82.7	61.0	26.3				
Change Period (Y+Rc), s	4.4	5.7	4.4	* 5.3	4.4	5.7	4.4	5.3				
Max Green Setting (Gmax), s	68.0	68.0	23.1	* 68	22.8	56.8	56.6	34.0				
Max Q Clear Time (g_c+1/4), s	78.0	78.0	15.9	38.5	15.6	31.0	59.1	11.4				
Green Ext Time (p_c), s	0.0	0.0	0.1	0.9	0.0	1.2	0.0	0.3				

Intersection Summary

HCM 6th Ctrl Delay	89.6
HCM 6th LOS	F

Notes

- User approved volume balancing among the lanes for turning movement.
- \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
- Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



HCM 6th Signalized Intersection Summary  
 23: Camino Santa Fe & Mira Mesa Blvd

Opening Year 2027 + Project PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖	↑↑↑	↗	↖	↑↑	↗	↖↗	↑↑	↗
Traffic Volume (veh/h)	111	3173	238	199	570	149	151	352	534	385	244	41
Future Volume (veh/h)	111	3173	238	199	570	149	151	352	534	385	244	41
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	119	3412	256	219	626	164	180	419	636	423	268	45
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.84	0.84	0.84	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	141	2486	750	160	2541	767	142	1098	618	293	1117	480
Arrive On Green	0.08	0.49	0.48	0.09	0.50	0.50	0.08	0.31	0.31	0.08	0.31	0.31
Sat Flow, veh/h	1781	5106	1549	1781	5106	1550	1781	3554	1540	3456	3554	1540
Grp Volume(v), veh/h	119	3412	256	219	626	164	180	419	636	423	268	45
Grp Sat Flow(s),veh/h/ln	1781	1702	1549	1781	1702	1550	1781	1777	1540	1728	1777	1540
Q Serve(g_s), s	12.5	92.5	19.4	17.1	13.3	11.4	15.1	17.6	58.7	16.1	10.6	3.9
Cycle Q Clear(g_c), s	12.5	92.5	19.4	17.1	13.3	11.4	15.1	17.6	58.7	16.1	10.6	3.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	141	2486	750	160	2541	767	142	1098	618	293	1117	480
V/C Ratio(X)	0.84	1.37	0.34	1.37	0.25	0.21	1.27	0.38	1.03	1.44	0.24	0.09
Avail Cap(c_a), veh/h	203	2486	750	160	2541	767	142	1098	618	293	1117	480
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	86.3	48.8	30.3	86.5	27.3	27.1	87.4	51.4	57.3	87.0	48.3	46.4
Incr Delay (d2), s/veh	1.5	167.9	0.0	199.3	0.0	0.1	166.0	1.0	43.7	218.3	0.5	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	76.3	7.2	16.7	5.4	4.2	13.4	7.9	36.3	16.0	4.8	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	87.8	216.6	30.3	285.8	27.3	27.1	253.4	52.4	101.0	305.3	48.8	46.8
LnGrp LOS	F	F	C	F	C	C	F	D	F	F	D	D
Approach Vol, veh/h		3787			1009			1235			736	
Approach Delay, s/veh		200.0			83.4			106.7			196.1	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	31.0	98.0	19.0	66.0	18.9	100.1	20.0	65.0				
Change Period (Y+Rc), s	4.4	6.0	4.4	6.4	4.4	6.0	4.4	* 6.4				
Max Green Setting (Gmax), s	10.6	92.0	14.6	45.6	21.1	87.5	15.6	* 45				
Max Q Clear Time (g_c+19), s	11.1	94.5	17.1	12.6	14.5	15.3	18.1	60.7				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.3	0.0	0.8	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	165.2
HCM 6th LOS	F

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 24: Camino Ruiz & Mira Mesa Blvd

Opening Year 2027 + Project PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑		↔↔	↑↑↑	↔	↔	↑↑↑	↔	↔↔	↑↑	↔
Traffic Volume (veh/h)	250	2370	52	310	1038	227	151	596	185	349	496	76
Future Volume (veh/h)	250	2370	52	310	1038	227	151	596	185	349	496	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.92	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	260	2469	54	373	1251	273	186	736	228	379	539	83
Peak Hour Factor	0.96	0.96	0.96	0.83	0.83	0.83	0.81	0.81	0.81	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	305	2412	52	387	2520	754	196	1443	412	393	1017	414
Arrive On Green	0.09	0.47	0.47	0.11	0.49	0.49	0.11	0.28	0.28	0.11	0.29	0.28
Sat Flow, veh/h	3456	5137	112	3456	5106	1528	1781	5106	1458	3456	3554	1458
Grp Volume(v), veh/h	260	1632	891	373	1251	273	186	736	228	379	539	83
Grp Sat Flow(s),veh/h/ln	1728	1702	1845	1728	1702	1528	1781	1702	1458	1728	1777	1458
Q Serve(g_s), s	14.1	89.2	89.2	20.4	31.2	20.9	19.7	23.0	25.3	20.7	24.2	8.2
Cycle Q Clear(g_c), s	14.1	89.2	89.2	20.4	31.2	20.9	19.7	23.0	25.3	20.7	24.2	8.2
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	305	1598	866	387	2520	754	196	1443	412	393	1017	414
V/C Ratio(X)	0.85	1.02	1.03	0.96	0.50	0.36	0.95	0.51	0.55	0.96	0.53	0.20
Avail Cap(c_a), veh/h	395	1598	866	387	2520	754	196	1443	412	393	1017	414
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	85.4	50.4	50.4	84.0	32.3	29.7	84.0	57.1	58.0	83.8	57.0	51.7
Incr Delay (d2), s/veh	11.0	28.0	38.1	35.7	0.1	0.1	49.3	1.3	5.3	35.9	2.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	43.0	49.1	11.0	12.9	7.8	11.7	10.1	9.9	11.2	11.2	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	96.4	78.4	88.5	119.7	32.3	29.8	133.3	58.4	63.2	119.7	59.0	52.8
LnGrp LOS	F	F	F	F	C	C	F	E	E	F	E	D
Approach Vol, veh/h		2783			1897			1150			1001	
Approach Delay, s/veh		83.3			49.2			71.5			81.5	
Approach LOS		F			D			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	35.2	94.0	24.8	60.0	20.6	98.6	25.5	59.3				
Change Period (Y+Rc), s	4.4	5.3	4.4	5.7	4.4	* 5.3	4.4	* 5.7				
Max Green Setting (Gmax), s	20.8	88.7	20.4	40.3	21.2	* 89	21.1	* 40				
Max Q Clear Time (g_c+Q), s	20.4	91.2	21.7	26.2	16.1	33.2	22.7	27.3				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.7	0.1	2.0	0.0	1.1				

Intersection Summary

HCM 6th Ctrl Delay	71.6
HCM 6th LOS	E

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 25: Black Mountain Rd & Mira Mesa Blvd

Opening Year 2027 + Project PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖
Traffic Volume (veh/h)	494	2016	116	243	1347	232	179	638	284	376	365	336
Future Volume (veh/h)	494	2016	116	243	1347	232	179	638	284	376	365	336
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	526	2145	123	270	1497	258	206	733	326	384	372	343
Peak Hour Factor	0.94	0.94	0.94	0.90	0.90	0.90	0.87	0.87	0.87	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	568	2217	784	313	1839	749	250	926	396	425	1106	479
Arrive On Green	0.16	0.43	0.43	0.09	0.36	0.36	0.07	0.26	0.26	0.12	0.31	0.31
Sat Flow, veh/h	3456	5106	1542	3456	5106	1537	3456	3554	1535	3456	3554	1540
Grp Volume(v), veh/h	526	2145	123	270	1497	258	206	733	326	384	372	343
Grp Sat Flow(s),veh/h/ln	1728	1702	1542	1728	1702	1537	1728	1777	1535	1728	1777	1540
Q Serve(g_s), s	28.5	77.9	8.1	14.6	50.4	19.8	11.2	36.5	38.0	20.8	15.3	37.5
Cycle Q Clear(g_c), s	28.5	77.9	8.1	14.6	50.4	19.8	11.2	36.5	38.0	20.8	15.3	37.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	568	2217	784	313	1839	749	250	926	396	425	1106	479
V/C Ratio(X)	0.93	0.97	0.16	0.86	0.81	0.34	0.82	0.79	0.82	0.90	0.34	0.72
Avail Cap(c_a), veh/h	607	2290	806	329	1889	764	326	926	396	438	1106	479
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	78.2	52.4	25.1	85.3	55.0	30.5	86.9	65.4	66.4	82.2	50.3	58.0
Incr Delay (d2), s/veh	19.0	11.8	0.0	18.7	2.6	0.1	9.6	6.9	17.4	20.6	0.8	8.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.1	35.1	3.0	7.4	21.9	7.4	5.3	17.4	16.7	10.5	7.0	15.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	97.2	64.3	25.2	104.0	57.6	30.6	96.6	72.3	83.8	102.8	51.2	66.8
LnGrp LOS	F	E	C	F	E	C	F	E	F	F	D	E
Approach Vol, veh/h		2794			2025			1265			1099	
Approach Delay, s/veh		68.7			60.3			79.2			74.1	
Approach LOS		E			E			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	31.1	87.3	17.7	63.9	35.1	73.2	27.3	54.3				
Change Period (Y+Rc), s	4.4	5.3	4.4	* 5.3	4.4	* 5.3	4.4	5.3				
Max Green Setting (Gmax), s	7.6	84.7	17.4	* 51	32.9	* 70	23.6	44.7				
Max Q Clear Time (g_c+110), s	110.6	79.9	13.2	39.5	30.5	52.4	22.8	40.0				
Green Ext Time (p_c), s	0.0	2.1	0.1	0.8	0.2	2.4	0.1	0.8				

Intersection Summary

HCM 6th Ctrl Delay	69.0
HCM 6th LOS	E

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 26: Mira Mesa Blvd & I-15 SB Ramps

Opening Year 2027 + Project PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑↑		↑↑↑	↑				↑↑		↑↑
Traffic Volume (veh/h)	0	2425	923	0	1629	374	0	0	0	388	0	1325
Future Volume (veh/h)	0	2425	923	0	1629	374	0	0	0	388	0	1325
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	0	1870
Adj Flow Rate, veh/h	0	2500	0	0	1830	420				417	0	1425
Peak Hour Factor	0.97	0.97	0.97	0.89	0.89	0.89				0.93	0.93	0.93
Percent Heavy Veh, %	0	2	2	0	2	2				2	0	2
Cap, veh/h	0	2221		0	2221	1381				1586	0	1280
Arrive On Green	0.00	0.44	0.00	0.00	0.44	0.43				0.46	0.00	0.46
Sat Flow, veh/h	0	5274	2790	0	5274	1520				3456	0	2790
Grp Volume(v), veh/h	0	2500	0	0	1830	420				417	0	1425
Grp Sat Flow(s),veh/h/ln	0	1702	1395	0	1702	1520				1728	0	1395
Q Serve(g_s), s	0.0	43.5	0.0	0.0	31.6	4.2				7.4	0.0	45.9
Cycle Q Clear(g_c), s	0.0	43.5	0.0	0.0	31.6	4.2				7.4	0.0	45.9
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2221		0	2221	1381				1586	0	1280
V/C Ratio(X)	0.00	1.13		0.00	0.82	0.30				0.26	0.00	1.11
Avail Cap(c_a), veh/h	0	2221		0	2221	1381				1586	0	1280
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	0.71	0.71				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	28.2	0.0	0.0	24.9	0.9				16.6	0.0	27.1
Incr Delay (d2), s/veh	0.0	63.0	0.0	0.0	1.8	0.0				0.4	0.0	62.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	29.1	0.0	0.0	12.1	7.2				3.0	0.0	25.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	91.3	0.0	0.0	26.7	0.9				17.0	0.0	89.2
LnGrp LOS	A	F		A	C	A				B	A	F
Approach Vol, veh/h		2500			2250					1842		
Approach Delay, s/veh		91.3			21.8					72.8		
Approach LOS		F			C					E		
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		49.0		51.0		49.0						
Change Period (Y+Rc), s		6.0		5.1		6.0						
Max Green Setting (Gmax), s		43.0		45.9		43.0						
Max Q Clear Time (g_c+I1), s		45.5		47.9		33.6						
Green Ext Time (p_c), s		0.0		0.0		5.2						

Intersection Summary

HCM 6th Ctrl Delay	62.4
HCM 6th LOS	E

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary  
 27: I-15 NB Ramps & Mira Mesa Blvd

Opening Year 2027 + Project PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑	↑	↑↑		↑↑			
Traffic Volume (veh/h)	0	1413	1357	0	1105	547	912	0	351	0	0	0
Future Volume (veh/h)	0	1413	1357	0	1105	547	912	0	351	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No		No			No					
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	0	1870			
Adj Flow Rate, veh/h	0	1427	1371	0	1285	0	1002	0	386			
Peak Hour Factor	0.99	0.99	0.99	0.86	0.86	0.86	0.91	0.91	0.91			
Percent Heavy Veh, %	0	2	2	0	2	2	2	0	2			
Cap, veh/h	0	3081	1406	0	3081		1051	0	848			
Arrive On Green	0.00	0.60	0.60	0.00	0.60	0.00	0.30	0.00	0.30			
Sat Flow, veh/h	0	5274	1531	0	5274	1585	3456	0	2790			
Grp Volume(v), veh/h	0	1427	1371	0	1285	0	1002	0	386			
Grp Sat Flow(s),veh/h/ln	0	1702	1531	0	1702	1585	1728	0	1395			
Q Serve(g_s), s	0.0	18.5	72.4	0.0	16.0	0.0	34.1	0.0	13.4			
Cycle Q Clear(g_c), s	0.0	18.5	72.4	0.0	16.0	0.0	34.1	0.0	13.4			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	3081	1406	0	3081		1051	0	848			
V/C Ratio(X)	0.00	0.46	0.98	0.00	0.42		0.95	0.00	0.45			
Avail Cap(c_a), veh/h	0	3081	1406	0	3081		1063	0	858			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.09	0.09	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	13.1	4.9	0.0	12.6	0.0	40.9	0.0	33.7			
Incr Delay (d2), s/veh	0.0	0.0	3.5	0.0	0.4	0.0	17.2	0.0	0.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	6.5	3.9	0.0	5.9	0.0	16.8	0.0	4.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	13.1	8.3	0.0	13.0	0.0	58.1	0.0	33.9			
LnGrp LOS		A	B	A	A	B	E	A	C			
Approach Vol, veh/h		2798			1285			1388				
Approach Delay, s/veh		10.8			13.0			51.4				
Approach LOS		B			B			D				
Timer - Assigned Phs		2			6			8				
Phs Duration (G+Y+Rc), s		78.4			78.4			41.6				
Change Period (Y+Rc), s		6.0			6.0			5.1				
Max Green Setting (Gmax), s		72.0			72.0			36.9				
Max Q Clear Time (g_c+I1), s		74.4			18.0			36.1				
Green Ext Time (p_c), s		0.0			7.6			0.4				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay		21.6										
HCM 6th LOS		C										
<b>Notes</b>												
User approved changes to right turn type.												
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 6th Signalized Intersection Summary  
 28: I-805 Direct Access Ramps & Carroll Canyon Rd

Opening Year 2027 + Project PM  
 08/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	197	33	263	701	70	4	0	33	24	13	1
Future Volume (veh/h)	5	197	33	263	701	70	4	0	33	24	13	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		1.00	1.00		0.87
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	0	1870	1870	1870	1870
Adj Flow Rate, veh/h	6	237	40	286	762	76	5	0	44	37	20	2
Peak Hour Factor	0.83	0.83	0.83	0.92	0.92	0.92	0.75	0.75	0.75	0.65	0.65	0.65
Percent Heavy Veh, %	2	2	2	2	2	2	2	0	2	2	2	2
Cap, veh/h	13	1980	328	315	2674	267	0	0	0	48	26	3
Arrive On Green	0.01	0.65	0.65	0.18	0.82	0.82	0.00	0.00	0.00	0.04	0.04	0.04
Sat Flow, veh/h	1781	3033	503	1781	3253	324		0		1124	608	61
Grp Volume(v), veh/h	6	137	140	286	416	422		0.0		59	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1760	1781	1777	1800				1793	0	0
Q Serve(g_s), s	0.4	3.5	3.6	18.9	6.5	6.5				3.9	0.0	0.0
Cycle Q Clear(g_c), s	0.4	3.5	3.6	18.9	6.5	6.5				3.9	0.0	0.0
Prop In Lane	1.00		0.29	1.00		0.18				0.63		0.03
Lane Grp Cap(c), veh/h	13	1160	1148	315	1461	1480				77	0	0
V/C Ratio(X)	0.45	0.12	0.12	0.91	0.28	0.29				0.77	0.00	0.00
Avail Cap(c_a), veh/h	108	1160	1148	643	1461	1480				202	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.87	0.87	0.87				1.00	0.00	0.00
Uniform Delay (d), s/veh	59.3	7.8	7.9	48.4	2.5	2.5				56.8	0.0	0.0
Incr Delay (d2), s/veh	8.4	0.2	0.2	3.6	0.4	0.4				5.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.3	1.3	8.4	1.5	1.5				1.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.7	8.1	8.1	52.0	2.9	2.9				62.7	0.0	0.0
LnGrp LOS	E	A	A	D	A	A				E	A	A
Approach Vol, veh/h		283			1124						59	
Approach Delay, s/veh		9.3			15.4						62.7	
Approach LOS		A			B						E	
Timer - Assigned Phs	1	2		4	5	6						
Phs Duration (G+Y+Rc), s	25.9	83.4		10.6	5.6	103.8						
Change Period (Y+Rc), s	4.7	5.1		5.5	* 4.7	5.1						
Max Green Setting (Gmax), s	43	31.9		13.5	* 7.3	67.9						
Max Q Clear Time (g_c+Y), s	20.9	5.6		5.9	2.4	8.5						
Green Ext Time (p_c), s	0.4	0.9		0.1	0.0	3.1						

Intersection Summary

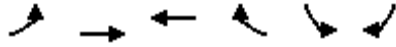
HCM 6th Ctrl Delay	16.1
HCM 6th LOS	B

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 29: Carroll Canyon Rd & Scranton Rd

Opening Year 2027 + Project PM  
 08/04/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖↗	↑↑	↑↑	↖	↖↗	↖
Traffic Volume (veh/h)	48	220	837	206	214	469
Future Volume (veh/h)	48	220	837	206	214	469
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	244	900	222	223	489
Peak Hour Factor	0.90	0.90	0.93	0.93	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	131	2222	1844	793	382	680
Arrive On Green	0.04	0.63	0.52	0.52	0.21	0.21
Sat Flow, veh/h	3456	3647	3647	1527	1781	3170
Grp Volume(v), veh/h	53	244	900	222	223	489
Grp Sat Flow(s),veh/h/ln1728	1777	1777	1777	1527	1781	1585
Q Serve(g_s), s	1.0	1.8	10.7	5.4	7.4	9.4
Cycle Q Clear(g_c), s	1.0	1.8	10.7	5.4	7.4	9.4
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	131	2222	1844	793	382	680
V/C Ratio(X)	0.41	0.11	0.49	0.28	0.58	0.72
Avail Cap(c_a), veh/h	211	2222	1844	793	910	1620
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.8	4.9	10.2	8.9	23.1	23.9
Incr Delay (d2), s/veh	2.0	0.1	0.9	0.9	1.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.5	3.4	1.5	3.0	8.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.8	5.0	11.1	9.8	24.5	25.4
LnGrp LOS	C	A	B	A	C	C
Approach Vol, veh/h		297	1122		712	
Approach Delay, s/veh		10.0	10.8		25.1	
Approach LOS		B	B		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		47.0		18.6	7.0	40.0
Change Period (Y+Rc), s		6.0		4.5	4.5	6.0
Max Green Setting (Gmax), s		41.0		33.5	4.0	32.5
Max Q Clear Time (g_c+I1), s		3.8		11.4	3.0	12.7
Green Ext Time (p_c), s		1.5		2.7	0.0	6.6

Intersection Summary

HCM 6th Ctrl Delay	15.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

**Intersection: 1: I-5 SB On-Ramp/I-5 SB Off-Ramp & Carmel Mountain Rd**

Movement	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	L	LTR	R
Maximum Queue (ft)	298	292	171	215	440	182	164	325	465	441
Average Queue (ft)	114	93	23	175	232	85	72	312	433	325
95th Queue (ft)	232	237	106	246	383	152	137	383	456	546
Link Distance (ft)	410	410			526	526	526		417	417
Upstream Blk Time (%)	0	1			0				62	9
Queuing Penalty (veh)	0	0			1				0	0
Storage Bay Dist (ft)			315	190				300		
Storage Blk Time (%)		3	0	3	15			10	60	
Queuing Penalty (veh)		1	0	7	36			83	292	

**Intersection: 2: I-5 NB Off-Ramp/I-5 NB On-Ramp & Carmel Mountain Rd**

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	T	R	L	LTR	R
Maximum Queue (ft)	205	555	544	243	198	130	182	260	349	353
Average Queue (ft)	85	253	326	118	71	22	66	79	177	159
95th Queue (ft)	175	591	651	210	149	82	137	217	351	353
Link Distance (ft)		526	526	1105	1105	1105			346	
Upstream Blk Time (%)		10	25						10	13
Queuing Penalty (veh)		58	151						0	0
Storage Bay Dist (ft)	190						240	265		470
Storage Blk Time (%)	1	3					0	0	11	13
Queuing Penalty (veh)	3	4					0	0	27	43



**Intersection: 3: Vista Sorrento Pkwy/Torrey View Ct & Carmel Mountain Rd**

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	17	42	145	897	1121	290	262	275	360	21	42	66
Average Queue (ft)	1	10	13	131	759	279	246	271	300	3	6	14
95th Queue (ft)	9	31	119	667	1443	336	311	290	462	14	24	75
Link Distance (ft)			1105	1105	1105				316	316	316	
Upstream Blk Time (%)				2	33				66			
Queuing Penalty (veh)				9	157				0			
Storage Bay Dist (ft)	245	245				265	250	250				260
Storage Blk Time (%)					1	78	7	70	2			
Queuing Penalty (veh)				5	14	1	15	11				

**Intersection: 3: Vista Sorrento Pkwy/Torrey View Ct & Carmel Mountain Rd**

Movement	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	R	R	L	L	T	TR
Maximum Queue (ft)	67	113	204	71	61	126	140	546	245
Average Queue (ft)	18	44	89	23	17	50	128	446	230
95th Queue (ft)	49	99	170	54	63	130	181	631	301
Link Distance (ft)			1104	1104				503	
Upstream Blk Time (%)								49	
Queuing Penalty (veh)								0	
Storage Bay Dist (ft)	305	305			310	115	115		220
Storage Blk Time (%)						1	11	68	30
Queuing Penalty (veh)						4	76	397	170

**Intersection: 4: Roselle St & 1-5 SB On-Ramp**

Movement	NB	NB	NB	SB
Directions Served	L	L	T	TR
Maximum Queue (ft)	158	177	92	128
Average Queue (ft)	58	69	15	50
95th Queue (ft)	117	162	60	100
Link Distance (ft)	403	403	403	185
Upstream Blk Time (%)				0
Queuing Penalty (veh)				0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

**Intersection: 5: Roselle St & Sorrento Valley Blvd**

Movement	WB	WB	WB	B75	B75	NB	NB	SB
Directions Served	L	R	R	T	T	T	R	LT
Maximum Queue (ft)	114	254	163	67	27	330	374	106
Average Queue (ft)	11	63	19	3	1	69	208	49
95th Queue (ft)	115	186	99	32	15	240	480	83
Link Distance (ft)		187	187	644	644	351	351	403
Upstream Blk Time (%)		2	0			1	12	
Queuing Penalty (veh)		12	1			7	78	
Storage Bay Dist (ft)	90							
Storage Blk Time (%)	0	4						
Queuing Penalty (veh)	0	4						

**Intersection: 6: Roselle St & I-5 NB Off-Ramp**

Movement	EB	EB	EB	NB	NB	SB
Directions Served	L	L	R	T	T	T
Maximum Queue (ft)	519	535	220	38	82	64
Average Queue (ft)	497	499	167	10	33	27
95th Queue (ft)	510	516	321	33	63	56
Link Distance (ft)	478	478		126	126	351
Upstream Blk Time (%)	76	96			0	
Queuing Penalty (veh)	0	0			0	
Storage Bay Dist (ft)			195			
Storage Blk Time (%)		98	0			
Queuing Penalty (veh)		97	1			

**Intersection: 7: Vista Sorrento Pkwy & Sorrento Valley Blvd**

Movement	EB	EB	EB	B75	B75	B75	WB	WB	WB	NB	NB	NB
Directions Served	L	T	TR	T	T		L	T	TR	L	LT	TR
Maximum Queue (ft)	193	712	758	183	218	308	250	359	350	137	209	312
Average Queue (ft)	66	385	674	107	131	191	246	334	207	62	104	159
95th Queue (ft)	173	809	861	215	256	404	348	349	437	159	175	266
Link Distance (ft)		644	644	187	187	187		320	320		1759	1759
Upstream Blk Time (%)		5	68	0	8	34		84	10			
Queuing Penalty (veh)		45	599	0	36	153		0	0			
Storage Bay Dist (ft)	265						225			250		
Storage Blk Time (%)		1					87	5			0	
Queuing Penalty (veh)		1					368	17			0	

**Intersection: 7: Vista Sorrento Pkwy & Sorrento Valley Blvd**

Movement	SB	SB	SB	SB	B50	B50	B49	B49	B47	B47
Directions Served	L	LT	T	R	T	T	T	T	T	T
Maximum Queue (ft)	150	2086	2081	150	2489	2485	1747	1735	1131	1133
Average Queue (ft)	131	2051	2050	87	2215	2214	1256	1256	699	703
95th Queue (ft)	198	2072	2071	209	3160	3161	2428	2426	1562	1567
Link Distance (ft)		1975	1975		2379	2379	1636	1636	1104	1104
Upstream Blk Time (%)		98	97		79	79	65	66	17	22
Queuing Penalty (veh)		888	877		716	717	593	594	154	201
Storage Bay Dist (ft)	125			125						
Storage Blk Time (%)	9	82	78	0						
Queuing Penalty (veh)	70	185	133	1						

**Intersection: 8: Vista Sorrento Pkwy & Lusk Blvd**

Movement	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	R	T	TR	L	L	T
Maximum Queue (ft)	128	60	67	203	307	195	1799	1821
Average Queue (ft)	55	26	29	72	142	191	1759	1743
95th Queue (ft)	110	51	56	159	272	241	1829	1952
Link Distance (ft)	2826	2826		2426	2426		1759	1759
Upstream Blk Time (%)							27	22
Queuing Penalty (veh)							334	264
Storage Bay Dist (ft)			115			170		
Storage Blk Time (%)						42	57	
Queuing Penalty (veh)						353	486	

**Intersection: 9: Wateridge Cir & Lusk Blvd**

Movement	EB	EB	WB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	L	T	T	L	R
Maximum Queue (ft)	115	138	20	66	74	86	31	40
Average Queue (ft)	22	35	1	23	11	12	7	14
95th Queue (ft)	73	97	11	51	47	54	26	39
Link Distance (ft)	1324	1324			388	388		289
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			155	155			100	
Storage Blk Time (%)								
Queuing Penalty (veh)								

**Intersection: 10: Project Dwy #1 & Lusk Blvd**

Movement	EB	WB	NB
Directions Served	TR	L	R
Maximum Queue (ft)	47	136	53
Average Queue (ft)	5	56	17
95th Queue (ft)	26	107	44
Link Distance (ft)	388		64
Upstream Blk Time (%)			0
Queuing Penalty (veh)			0
Storage Bay Dist (ft)		150	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		1	

**Intersection: 11: Project Dwy #2 & Lusk Blvd**

Movement	EB	WB	NB
Directions Served	TR	L	LR
Maximum Queue (ft)	6	113	56
Average Queue (ft)	0	44	18
95th Queue (ft)	4	89	44
Link Distance (ft)	332		76
Upstream Blk Time (%)			0
Queuing Penalty (veh)			0
Storage Bay Dist (ft)		150	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Intersection: 12: Project Dwy #3/Pacific Center Blvd & Lusk Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	135	174	192	247	174	254	248	58	65	51
Average Queue (ft)	61	96	79	129	103	141	138	22	19	18
95th Queue (ft)	121	147	151	211	145	220	213	52	51	44
Link Distance (ft)			961	961		386	386	131	857	857
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	240	240			150					
Storage Blk Time (%)		0	0		2	5				
Queuing Penalty (veh)		0	0		8	11				

Intersection: 13: Project Dwy #4 & Lusk Blvd

Movement	EB	WB	NB
Directions Served	TR	L	LR
Maximum Queue (ft)	26	99	56
Average Queue (ft)	2	43	20
95th Queue (ft)	13	86	45
Link Distance (ft)	386	912	46
Upstream Blk Time (%)			1
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 14: I-805 NB Ramps/Mira Sorrento PI & Vista Sorrento Pkwy

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	TR	R	L	L	T	R	L	T	T	R	L
Maximum Queue (ft)	170	237	34	183	203	254	88	195	258	249	185	105
Average Queue (ft)	65	110	7	92	113	123	38	192	237	145	40	38
95th Queue (ft)	173	200	27	153	172	219	70	212	249	294	186	85
Link Distance (ft)		1596	1596	463	463	463	463		220	220		
Upstream Blk Time (%)									67	18		
Queuing Penalty (veh)									0	0		
Storage Bay Dist (ft)	245							170			160	160
Storage Blk Time (%)		0						60	14	22	0	0
Queuing Penalty (veh)		1						337	125	39	0	0

Intersection: 14: I-805 NB Ramps/Mira Sorrento PI & Vista Sorrento Pkwy

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	143	124
Average Queue (ft)	69	48
95th Queue (ft)	127	98
Link Distance (ft)	598	598
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 15: Scranton Rd & Barnes Canyon Rd

Movement	EB	WB	WB	B65	NB
Directions Served	TR	L	T	T	LR
Maximum Queue (ft)	427	84	50	20	92
Average Queue (ft)	387	28	3	1	30
95th Queue (ft)	480	67	28	20	83
Link Distance (ft)	374		1191	184	362
Upstream Blk Time (%)	86			0	
Queuing Penalty (veh)	0			0	
Storage Bay Dist (ft)		75			
Storage Blk Time (%)		1			
Queuing Penalty (veh)		3			

**Intersection: 16: Lusk Blvd & Barnes Canyon Rd**

Movement	EB	EB	EB	B65	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	T	L	T	TR	L	T	T	R	L
Maximum Queue (ft)	180	283	180	1207	154	373	360	124	270	254	124	120
Average Queue (ft)	175	258	58	1195	32	213	171	103	125	128	16	66
95th Queue (ft)	190	270	175	1240	110	346	320	146	257	225	71	121
Link Distance (ft)		184		1191		807	807		1636	1636		
Upstream Blk Time (%)	27	61	0	32								
Queuing Penalty (veh)	0	604	0	316								
Storage Bay Dist (ft)	155		155		130			100			210	95
Storage Blk Time (%)	58	19	0		0	35		24	5	1	0	8
Queuing Penalty (veh)	123	140	0		0	9		67	12	1	0	10

**Intersection: 16: Lusk Blvd & Barnes Canyon Rd**

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	266	324
Average Queue (ft)	99	161
95th Queue (ft)	201	275
Link Distance (ft)	912	912
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)	8	
Queuing Penalty (veh)	7	

**Intersection: 17: Barnes Canyon Rd/Commercial Dwy & Pacific Heights Blvd**

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	L	T	TR	L	T	R	L	TR
Maximum Queue (ft)	34	52	73	222	232	348	101	150	55	85	43	37
Average Queue (ft)	7	10	21	151	161	42	52	67	6	31	8	11
95th Queue (ft)	26	36	53	205	209	202	93	124	34	63	30	35
Link Distance (ft)		452	452			1240	1240		807	807	48	48
Upstream Blk Time (%)						0					1	0
Queuing Penalty (veh)						0					0	0
Storage Bay Dist (ft)	115			210	210			150				
Storage Blk Time (%)				0	1	0		1				
Queuing Penalty (veh)				1	3	1		0				



Intersection: 18: Carroll Canyon Rd/I-805 SB Ramps & Sorrento Valley Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB	NB
Directions Served	T	T	T	R	L	T	T	R	R	R	L	L
Maximum Queue (ft)	242	196	117	86	55	158	172	57	50	52	129	160
Average Queue (ft)	139	80	25	23	11	72	81	9	7	7	23	83
95th Queue (ft)	217	180	76	65	39	139	156	35	31	31	94	146
Link Distance (ft)	552	552	552			318	318	318	318	318		523
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	180				360				245			
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 18: Carroll Canyon Rd/I-805 SB Ramps & Sorrento Valley Rd

Movement	NB	NB	SB	SB	SB	SB
Directions Served	R	R	L	L	T	TR
Maximum Queue (ft)	154	27	180	444	418	240
Average Queue (ft)	63	1	170	419	242	86
95th Queue (ft)	125	14	220	430	475	203
Link Distance (ft)	523			402	402	
Upstream Blk Time (%)			31		4	
Queuing Penalty (veh)			0		0	
Storage Bay Dist (ft)	315		155		250	
Storage Blk Time (%)			11		28	
Queuing Penalty (veh)			103		258	

**Intersection: 19: I-805 NB Off-Ramp/Vista Sorrento Pkwy & Sorrento Valley Rd/Mira Mesa Blvd**

Movement	EB	EB	EB	EB	EB	B86	B86	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	T	T	T	T	T	T	R
Maximum Queue (ft)	172	185	634	516	454	17	14	144	209	255	257	272
Average Queue (ft)	96	160	352	267	283	1	0	66	103	134	140	133
95th Queue (ft)	183	222	555	423	401	21	14	128	174	220	228	243
Link Distance (ft)			842	842	842	318	318	1044	1044	1044	1044	1044
Upstream Blk Time (%)			0									
Queuing Penalty (veh)			2									
Storage Bay Dist (ft)	160	160										
Storage Blk Time (%)	1	14	31									
Queuing Penalty (veh)	4	86	91									

**Intersection: 19: I-805 NB Off-Ramp/Vista Sorrento Pkwy & Sorrento Valley Rd/Mira Mesa Blvd**

Movement	NB	NB	NB	NB	SB	SB	SB
Directions Served	T	R	R	R	L	R	R
Maximum Queue (ft)	825	844	685	607	139	71	55
Average Queue (ft)	733	810	641	325	51	22	14
95th Queue (ft)	1087	874	779	495	110	51	37
Link Distance (ft)	799	799			463	463	463
Upstream Blk Time (%)	10	35					
Queuing Penalty (veh)	0	0					
Storage Bay Dist (ft)			660	660			
Storage Blk Time (%)		16	1	0			
Queuing Penalty (veh)		247	7	0			

Intersection: 20: Scranton Rd & Mira Mesa Blvd

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	T	R	L	T	T	T	TR	L
Maximum Queue (ft)	337	402	520	502	503	378	283	195	428	515	642	43
Average Queue (ft)	205	246	315	321	333	170	151	66	126	222	380	9
95th Queue (ft)	299	388	464	451	458	323	273	170	295	459	618	31
Link Distance (ft)			1044	1044	1044	1044			3001	3001	3001	338
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	380	380					340	340				
Storage Blk Time (%)	0	0	2				0	0	0			
Queuing Penalty (veh)	0	0	18				1	1	1			

Intersection: 20: Scranton Rd & Mira Mesa Blvd

Movement	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	LT	TR	L	L	TR	R	R
Maximum Queue (ft)	93	190	187	50	145	327	264	79
Average Queue (ft)	17	121	122	13	67	170	77	28
95th Queue (ft)	60	179	180	39	162	295	226	64
Link Distance (ft)	338	338	338			610	610	610
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)				120	120			
Storage Blk Time (%)					0	39		
Queuing Penalty (veh)					0	21		

Intersection: 21: Oberlin Dr/Lusk Blvd & Mira Mesa Blvd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	TR	L	L	T	T	TR	L	T
Maximum Queue (ft)	227	240	722	808	556	93	121	148	256	346	39	58
Average Queue (ft)	185	205	303	246	250	27	58	49	80	149	7	13
95th Queue (ft)	253	277	660	625	515	68	143	114	180	283	36	41
Link Distance (ft)			3001	3001	3001			1722	1722	1722		770
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	215	215				235	235				95	
Storage Blk Time (%)	7	14	7									
Queuing Penalty (veh)	49	101	35									

Intersection: 21: Oberlin Dr/Lusk Blvd & Mira Mesa Blvd

Movement	NB	SB	SB	SB	SB
Directions Served	R	L	L	T	R
Maximum Queue (ft)	60	88	112	38	73
Average Queue (ft)	18	32	49	6	24
95th Queue (ft)	48	74	94	26	55
Link Distance (ft)				1636	1636
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	95	185	185		
Storage Blk Time (%)	0				
Queuing Penalty (veh)	0				

Intersection: 22: Pacific Heights Blvd & Mira Mesa Blvd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	T
Maximum Queue (ft)	310	607	467	271	104	275	686	904	1038	315	120	274
Average Queue (ft)	293	322	153	140	36	258	357	393	535	277	53	151
95th Queue (ft)	343	636	341	266	82	328	641	846	1068	405	117	244
Link Distance (ft)		1722	1722	1722	1722		6242	6242	6242			700
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	285					250				290	95	
Storage Blk Time (%)	34	0				32	4		4	20	7	38
Queuing Penalty (veh)	161	0				215	16		55	134	7	13

Intersection: 22: Pacific Heights Blvd & Mira Mesa Blvd

Movement	NB	NB	SB	SB	SB	SB	SB
Directions Served	TR	R	L	L	T	T	R
Maximum Queue (ft)	233	120	136	163	65	60	66
Average Queue (ft)	103	20	57	88	23	19	25
95th Queue (ft)	203	85	123	151	55	51	54
Link Distance (ft)	700				1240	1240	1240
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		95	480	480			
Storage Blk Time (%)	13	0					
Queuing Penalty (veh)	7	0					

Intersection: 23: Camino Santa Fe & Mira Mesa Blvd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	T
Maximum Queue (ft)	102	166	190	192	69	155	3269	3327	3336	3107	265	736
Average Queue (ft)	28	70	101	114	26	133	2921	2976	2984	2414	261	693
95th Queue (ft)	74	140	171	181	54	207	3503	3536	3531	3208	293	770
Link Distance (ft)		6242	6242	6242	6242		4844	4844	4844	4844		690
Upstream Blk Time (%)												83
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	145					130					240	
Storage Blk Time (%)	0	1				18	40				91	1
Queuing Penalty (veh)	0	0				212	240				70	4

Intersection: 23: Camino Santa Fe & Mira Mesa Blvd

Movement	NB	NB	SB	SB	SB	SB	SB
Directions Served	T	R	L	L	T	T	R
Maximum Queue (ft)	676	107	138	222	296	261	239
Average Queue (ft)	272	25	35	104	152	117	107
95th Queue (ft)	672	73	109	182	248	226	207
Link Distance (ft)	690	690			731	731	731
Upstream Blk Time (%)	0						
Queuing Penalty (veh)	0						
Storage Bay Dist (ft)			250	250			
Storage Blk Time (%)				0	1		
Queuing Penalty (veh)				0	1		

Intersection: 24: Camino Ruiz & Mira Mesa Blvd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	B39
Directions Served	L	L	T	T	TR	L	L	T	T	T	R	T
Maximum Queue (ft)	90	112	120	118	98	153	225	563	610	606	215	114
Average Queue (ft)	26	57	61	49	27	85	138	293	329	344	58	4
95th Queue (ft)	69	112	111	100	76	144	250	531	561	569	220	113
Link Distance (ft)			3616	3616	3616			2423	2423	2423		2146
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	190	190				200	200				190	
Storage Blk Time (%)						0	0	11		19	0	
Queuing Penalty (veh)						1	1	22		23	0	

Intersection: 24: Camino Ruiz & Mira Mesa Blvd

Movement	B39	B39	B31	B31	B31	NB	NB	NB	NB	NB	SB	SB
Directions Served	T	T	T	T	T	L	T	T	T	R	L	L
Maximum Queue (ft)	264	246	1018	1310	526	217	277	278	125	110	237	250
Average Queue (ft)	9	8	39	66	23	105	164	133	61	68	227	246
95th Queue (ft)	190	179	428	560	313	189	243	246	156	108	259	274
Link Distance (ft)	2146	2146	1556	1556	1556		520	520				
Upstream Blk Time (%)				0	0							
Queuing Penalty (veh)				0	0							
Storage Bay Dist (ft)						230			100	100	225	225
Storage Blk Time (%)						0	1	13	1	3	26	65
Queuing Penalty (veh)						0	1	40	1	3	62	153

Intersection: 24: Camino Ruiz & Mira Mesa Blvd

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	539	502	183
Average Queue (ft)	461	343	74
95th Queue (ft)	642	550	145
Link Distance (ft)	504	504	504
Upstream Blk Time (%)	40	0	
Queuing Penalty (veh)	0	0	
Storage Bay Dist (ft)			
Storage Blk Time (%)	3		
Queuing Penalty (veh)	13		

**Intersection: 25: Black Mountain Rd & Mira Mesa Blvd**

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	258	275	983	1218	1309	295	199	240	591	591	595	103
Average Queue (ft)	193	221	673	908	1012	173	114	174	564	564	565	13
95th Queue (ft)	294	313	1078	1211	1297	413	179	282	576	577	580	71
Link Distance (ft)			1556	1556	1556				489	489	489	489
Upstream Blk Time (%)									48	51	52	0
Queuing Penalty (veh)									427	454	463	2
Storage Bay Dist (ft)	250	250				270	215	215				
Storage Blk Time (%)	2	21	5		61	0	0	1	47			
Queuing Penalty (veh)	12	107	13		93	1	1	8	114			

**Intersection: 25: Black Mountain Rd & Mira Mesa Blvd**

Movement	B58	B58	B58	B58	B83	B83	B83	B83	NB	NB	NB	NB
Directions Served	T	T	T	T	T	T	T	T	L	L	T	T
Maximum Queue (ft)	1506	1506	1514	1501	199	207	205	181	232	246	311	276
Average Queue (ft)	1229	1268	1276	1243	62	83	81	68	150	184	178	128
95th Queue (ft)	1830	1827	1830	1870	189	217	200	175	257	281	384	322
Link Distance (ft)	1412	1412	1412	1412	90	90	90	90			560	560
Upstream Blk Time (%)	18	29	36	27	6	9	11	9			0	0
Queuing Penalty (veh)	161	260	323	244	54	78	96	77			0	0
Storage Bay Dist (ft)									230	230		
Storage Blk Time (%)									3	13	0	0
Queuing Penalty (veh)									3	16	0	0

**Intersection: 25: Black Mountain Rd & Mira Mesa Blvd**

Movement	NB	SB	SB	SB	SB	SB
Directions Served	R	L	L	T	T	R
Maximum Queue (ft)	174	402	415	628	596	270
Average Queue (ft)	72	361	413	601	447	150
95th Queue (ft)	154	528	420	613	740	303
Link Distance (ft)				584	584	
Upstream Blk Time (%)				80	1	
Queuing Penalty (veh)				0	0	
Storage Bay Dist (ft)	260	390	390			245
Storage Blk Time (%)		5	84	1	4	9
Queuing Penalty (veh)		18	293	5	23	31



**Intersection: 26: Mira Mesa Blvd & I-15 SB Ramps**

Movement	EB	EB	EB	EB	EB	B83	B83	B83	B83	B83	B58	B58
Directions Served	T	T	T	R	R	T	T	T	T	T	T	T
Maximum Queue (ft)	163	165	179	93	144	58	172	345	2	15	43	174
Average Queue (ft)	100	113	157	23	51	6	18	138	0	1	1	6
95th Queue (ft)	172	184	184	74	130	32	92	290	2	7	42	85
Link Distance (ft)	90	90	90	90	90	1412	1412	1412	1412	1412	489	489
Upstream Blk Time (%)	15	19	45	0	1							0
Queuing Penalty (veh)	65	82	197	0	6							0
Storage Bay Dist (ft)												
Storage Blk Time (%)												
Queuing Penalty (veh)												

**Intersection: 26: Mira Mesa Blvd & I-15 SB Ramps**

Movement	B58	WB	WB	WB	WB	SB	SB	SB	SB
Directions Served	T	T	T	T	R	L	L	R	R
Maximum Queue (ft)	409	806	820	793	228	130	683	699	595
Average Queue (ft)	30	559	561	523	56	17	662	666	558
95th Queue (ft)	201	951	948	921	146	125	674	684	660
Link Distance (ft)	489	864	864	864	864		646	646	
Upstream Blk Time (%)	0	3	2	1			31	61	
Queuing Penalty (veh)	0	24	16	9			0	0	
Storage Bay Dist (ft)						285			570
Storage Blk Time (%)								40	1
Queuing Penalty (veh)								325	8

**Intersection: 27: I-15 NB Ramps & Mira Mesa Blvd**

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	T	T	T	R	T	T	T	R	L	L	R	R
Maximum Queue (ft)	226	215	224	203	537	595	625	125	487	517	306	153
Average Queue (ft)	90	90	93	66	291	340	439	91	317	317	114	34
95th Queue (ft)	190	186	187	140	479	629	719	180	465	475	267	102
Link Distance (ft)	864	864	864	864	603	603	603		670	670		
Upstream Blk Time (%)					0	2	16		0	1		
Queuing Penalty (veh)					0	0	0		0	0		
Storage Bay Dist (ft)								100			565	565
Storage Blk Time (%)							39	0		1	0	
Queuing Penalty (veh)							112	1		4	0	

**Intersection: 28: I-805 Direct Access Ramps & Carroll Canyon Rd**

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	T	TR	L	T	TR	L	R	LTR
Maximum Queue (ft)	167	132	83	59	56	50	102	111
Average Queue (ft)	57	16	26	9	7	16	49	47
95th Queue (ft)	131	68	63	35	31	55	81	91
Link Distance (ft)	564	564		958	958		351	269
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	400			415				
Storage Blk Time (%)								
Queuing Penalty (veh)								

**Intersection: 29: Carroll Canyon Rd & Scranton Rd**

Movement	EB	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	L	L	T	T	T	T	R	L	LR	R
Maximum Queue (ft)	180	240	653	600	102	42	64	113	130	41
Average Queue (ft)	74	220	389	334	41	10	25	44	66	14
95th Queue (ft)	210	287	726	679	81	34	52	99	106	35
Link Distance (ft)			958	958	414	414			570	570
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	120	120					190	90		
Storage Blk Time (%)	0	84	1					0	2	
Queuing Penalty (veh)	0	273	1					0	3	

**Network Summary**

Network wide Queuing Penalty: 18566
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**Intersection: 1: I-5 SB On-Ramp/I-5 SB Off-Ramp & Carmel Mountain Rd**

Movement	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	L	LTR	R
Maximum Queue (ft)	456	430	202	214	355	119	111	325	446	427
Average Queue (ft)	413	333	31	144	175	42	38	279	349	188
95th Queue (ft)	481	490	129	230	286	99	95	386	528	443
Link Distance (ft)	410	410			526	526	526		417	417
Upstream Blk Time (%)	50	9							45	7
Queuing Penalty (veh)	0	0							0	0
Storage Bay Dist (ft)			315	190				300		
Storage Blk Time (%)		2	0	1	7			48	4	
Queuing Penalty (veh)		2	0	3	14			188	12	

**Intersection: 2: I-5 NB Off-Ramp/I-5 NB On-Ramp & Carmel Mountain Rd**

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	T	R	L	LTR	R
Maximum Queue (ft)	215	546	540	267	353	636	265	272	328	275
Average Queue (ft)	213	521	215	136	80	317	243	58	215	165
95th Queue (ft)	218	600	551	233	210	682	317	168	317	265
Link Distance (ft)		526	526	1105	1105	1105			346	
Upstream Blk Time (%)		25	0						0	0
Queuing Penalty (veh)		178	3						0	0
Storage Bay Dist (ft)	190						240	265		470
Storage Blk Time (%)	58	0				0	27	0	4	0
Queuing Penalty (veh)	218	0				2	46	0	13	0

**Intersection: 3: Vista Sorrento Pkwy/Torrey View Ct & Carmel Mountain Rd**

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	20	37	46	62	75	74	262	274	343	45	77	137
Average Queue (ft)	2	9	8	20	32	29	182	233	84	5	18	52
95th Queue (ft)	11	39	30	49	65	60	277	304	308	25	54	127
Link Distance (ft)			1105	1105	1105				316	316	316	
Upstream Blk Time (%)									4			
Queuing Penalty (veh)									0			
Storage Bay Dist (ft)	245	245				265	250	250				260
Storage Blk Time (%)							0	13	0			
Queuing Penalty (veh)							0	3	0			

**Intersection: 3: Vista Sorrento Pkwy/Torrey View Ct & Carmel Mountain Rd**

Movement	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	R	R	L	L	T	TR
Maximum Queue (ft)	155	314	437	70	82	127	140	469	245
Average Queue (ft)	56	151	195	23	32	97	132	239	141
95th Queue (ft)	116	264	354	53	85	175	158	400	287
Link Distance (ft)			1104	1104				503	
Upstream Blk Time (%)								0	
Queuing Penalty (veh)								0	
Storage Bay Dist (ft)	305	305			310	115	115		220
Storage Blk Time (%)			2			4	32	14	0
Queuing Penalty (veh)			8			18	139	65	2

**Intersection: 4: Roselle St & 1-5 SB On-Ramp**

Movement	NB	NB	NB	SB
Directions Served	L	L	T	TR
Maximum Queue (ft)	234	236	57	210
Average Queue (ft)	124	132	9	131
95th Queue (ft)	203	215	39	214
Link Distance (ft)	404	404	404	185
Upstream Blk Time (%)				8
Queuing Penalty (veh)				0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

**Intersection: 5: Roselle St & Sorrento Valley Blvd**

Movement	WB	WB	WB	B75	B75	NB	NB	SB
Directions Served	L	R	R	T	T	T	R	LT
Maximum Queue (ft)	114	294	260	678	667	64	4	113
Average Queue (ft)	53	259	147	454	395	34	0	59
95th Queue (ft)	146	302	306	784	773	50	4	93
Link Distance (ft)		185	185	646	646	351	351	404
Upstream Blk Time (%)		61	7	4	2			
Queuing Penalty (veh)		514	61	37	17			
Storage Bay Dist (ft)	90							
Storage Blk Time (%)	0	41						
Queuing Penalty (veh)	0	38						

**Intersection: 6: Roselle St & I-5 NB Off-Ramp**

Movement	EB	EB	EB	NB	NB	SB
Directions Served	L	L	R	T	T	T
Maximum Queue (ft)	206	236	136	66	93	62
Average Queue (ft)	59	103	32	31	44	31
95th Queue (ft)	134	186	81	55	72	54
Link Distance (ft)	478	478		126	126	351
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					0	
Storage Bay Dist (ft)			195			
Storage Blk Time (%)		1	0			
Queuing Penalty (veh)		1	0			

**Intersection: 7: Vista Sorrento Pkwy & Sorrento Valley Blvd**

Movement	EB	EB	EB	B75	B75	B75	WB	WB	WB	NB	NB	NB
Directions Served	L	T	TR	T	T		L	T	TR	L	LT	TR
Maximum Queue (ft)	290	618	607	27	14	6	250	360	364	275	1799	1793
Average Queue (ft)	263	444	415	1	2	0	226	334	336	270	1733	1731
95th Queue (ft)	350	636	594	20	19	5	308	361	352	326	1920	1928
Link Distance (ft)		646	646	185	185	185		320	320		1759	1759
Upstream Blk Time (%)		3	1					61	57		10	9
Queuing Penalty (veh)		11	4					0	0		130	121
Storage Bay Dist (ft)	265						225			250		
Storage Blk Time (%)	47	21					32	56		22	52	
Queuing Penalty (veh)	190	34					95	87		243	248	

**Intersection: 7: Vista Sorrento Pkwy & Sorrento Valley Blvd**

Movement	SB	SB	SB	SB	B50	B50	B49	B49
Directions Served	L	LT	T	R	T	T	T	T
Maximum Queue (ft)	150	2074	2062	150	1913	1906	82	86
Average Queue (ft)	146	1815	1624	73	605	591	5	6
95th Queue (ft)	160	2459	2628	158	1801	1797	62	67
Link Distance (ft)		1975	1975		2379	2379	1636	1636
Upstream Blk Time (%)		62	42		3	3		
Queuing Penalty (veh)		276	189		13	14		
Storage Bay Dist (ft)	125			125				
Storage Blk Time (%)	77	82	13	1				
Queuing Penalty (veh)	258	216	16	1				

**Intersection: 8: Vista Sorrento Pkwy & Lusk Blvd**

Movement	WB	WB	WB	B43	B43	NB	NB	SB	SB	SB
Directions Served	L	R	R	T	T	T	TR	L	L	T
Maximum Queue (ft)	327	2868	140	207	228	1436	1451	99	127	143
Average Queue (ft)	322	2411	139	28	38	889	898	32	55	31
95th Queue (ft)	400	3134	164	176	201	1680	1699	76	105	99
Link Distance (ft)	2826	2826		1324	1324	2426	2426		1759	1759
Upstream Blk Time (%)	2	21								
Queuing Penalty (veh)	11	102								
Storage Bay Dist (ft)			115					170		
Storage Blk Time (%)		44	31						0	
Queuing Penalty (veh)		393	274						0	

**Intersection: 9: Wateridge Cir & Lusk Blvd**

Movement	EB	EB	WB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	L	T	T	L	R
Maximum Queue (ft)	79	91	21	51	147	157	34	58
Average Queue (ft)	18	23	1	22	28	33	5	24
95th Queue (ft)	54	66	10	46	100	113	24	50
Link Distance (ft)	1324	1324			388	388		289
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			155	155			100	
Storage Blk Time (%)					0			
Queuing Penalty (veh)					0			

**Intersection: 10: Project Dwy #1 & Lusk Blvd**

Movement	WB	NB
Directions Served	L	R
Maximum Queue (ft)	29	84
Average Queue (ft)	4	51
95th Queue (ft)	21	81
Link Distance (ft)	331	64
Upstream Blk Time (%)		2
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

**Intersection: 11: Project Dwy #2 & Lusk Blvd**

Movement	WB	WB	WB	NB
Directions Served	L	T	T	LR
Maximum Queue (ft)	29	95	90	114
Average Queue (ft)	6	3	3	72
95th Queue (ft)	25	89	89	107
Link Distance (ft)	962	962	962	70
Upstream Blk Time (%)				27
Queuing Penalty (veh)				0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 12: Project Dwy #3/Pacific Center Blvd & Lusk Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	26	60	169	171	74	241	264	163	116	227
Average Queue (ft)	3	20	79	84	16	111	160	113	49	97
95th Queue (ft)	16	48	138	142	50	202	240	174	98	181
Link Distance (ft)			962	962		386	386	131	846	846
Upstream Blk Time (%)								11		
Queuing Penalty (veh)								0		
Storage Bay Dist (ft)	240	240			150					
Storage Blk Time (%)							2			
Queuing Penalty (veh)							0			

Intersection: 13: Project Dwy #4 & Lusk Blvd

Movement	EB	EB	WB	NB
Directions Served	T	TR	L	LR
Maximum Queue (ft)	3	15	36	83
Average Queue (ft)	0	1	7	60
95th Queue (ft)	4	13	28	75
Link Distance (ft)	386	386	912	46
Upstream Blk Time (%)				33
Queuing Penalty (veh)				0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				



Intersection: 14: I-805 NB Ramps/Mira Sorrento PI & Vista Sorrento Pkwy

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	TR	R	L	L	T	R	L	T	T	R	L
Maximum Queue (ft)	270	885	715	497	510	503	74	195	261	194	143	185
Average Queue (ft)	92	600	275	435	450	259	8	192	236	72	49	158
95th Queue (ft)	282	1077	751	536	553	541	56	211	252	146	111	242
Link Distance (ft)		1596	1596	463	463	463	463		220	220		
Upstream Blk Time (%)				9	27	9	0		88	0		
Queuing Penalty (veh)				26	76	25	0		0	0		
Storage Bay Dist (ft)	245							170			160	160
Storage Blk Time (%)		51						90	0	0	0	15
Queuing Penalty (veh)		29						47	1	0	0	67

Intersection: 14: I-805 NB Ramps/Mira Sorrento PI & Vista Sorrento Pkwy

Directions Served	T	TR
Maximum Queue (ft)	644	642
Average Queue (ft)	616	614
95th Queue (ft)	631	630
Link Distance (ft)	598	598
Upstream Blk Time (%)	64	57
Queuing Penalty (veh)	0	0
Storage Bay Dist (ft)		
Storage Blk Time (%)	63	
Queuing Penalty (veh)	192	

Intersection: 15: Scranton Rd & Barnes Canyon Rd

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	LR
Maximum Queue (ft)	27	33	65	64
Average Queue (ft)	2	5	4	28
95th Queue (ft)	14	22	29	50
Link Distance (ft)	374		1191	362
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		75		
Storage Blk Time (%)			0	
Queuing Penalty (veh)			0	

**Intersection: 16: Lusk Blvd & Barnes Canyon Rd**

Movement	EB	EB	EB	B65	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	T	L	T	TR	L	T	T	R	L
Maximum Queue (ft)	179	256	180	79	154	243	174	65	94	141	61	120
Average Queue (ft)	147	108	103	6	39	126	40	20	15	48	12	119
95th Queue (ft)	183	252	183	47	107	210	99	52	55	107	39	133
Link Distance (ft)		184		1191		807	807		1636	1636		
Upstream Blk Time (%)	3	5	0									
Queuing Penalty (veh)	0	14	0									
Storage Bay Dist (ft)	155		155		130			100			210	95
Storage Blk Time (%)	18	4	1		0	12		0	0			78
Queuing Penalty (veh)	99	28	4		0	4		0	0			228

**Intersection: 16: Lusk Blvd & Barnes Canyon Rd**

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	813	792
Average Queue (ft)	641	555
95th Queue (ft)	777	797
Link Distance (ft)	912	912
Upstream Blk Time (%)	0	0
Queuing Penalty (veh)	1	1
Storage Bay Dist (ft)		
Storage Blk Time (%)	3	
Queuing Penalty (veh)	11	

**Intersection: 17: Barnes Canyon Rd/Commercial Dwy & Pacific Heights Blvd**

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	L	T	TR	L	T	R	L	TR
Maximum Queue (ft)	119	269	231	129	123	53	83	101	45	338	65	55
Average Queue (ft)	28	129	86	61	59	12	35	36	11	169	29	17
95th Queue (ft)	75	225	173	108	103	39	71	80	37	287	62	45
Link Distance (ft)		452	452			1240	1240		807	807	48	48
Upstream Blk Time (%)											6	2
Queuing Penalty (veh)											0	0
Storage Bay Dist (ft)	115			210	210			150				
Storage Blk Time (%)	0	11						0				
Queuing Penalty (veh)	0	3						0				

Intersection: 18: Carroll Canyon Rd/I-805 SB Ramps & Sorrento Valley Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	B86	B86
Directions Served	T	T	T	R	L	T	T	R	R	R	T	T
Maximum Queue (ft)	358	324	224	119	98	120	146	104	115	106	151	76
Average Queue (ft)	249	207	118	6	27	46	60	35	39	34	5	3
95th Queue (ft)	341	297	210	55	73	105	124	83	92	84	106	71
Link Distance (ft)	552	552	552			318	318	318	318	318	842	842
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)				180	360							
Storage Blk Time (%)			1	0								
Queuing Penalty (veh)			1	0								

Intersection: 18: Carroll Canyon Rd/I-805 SB Ramps & Sorrento Valley Rd

Movement	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	R	R	L	L	T	TR
Maximum Queue (ft)	233	555	576	340	180	426	363	172
Average Queue (ft)	97	521	544	332	167	307	114	40
95th Queue (ft)	215	634	563	469	220	443	235	122
Link Distance (ft)		523	523			402	402	
Upstream Blk Time (%)		29	85			4	0	
Queuing Penalty (veh)		0	0			0	0	
Storage Bay Dist (ft)	245			315	155			250
Storage Blk Time (%)	0	1	80	4	3	29	0	
Queuing Penalty (veh)	0	1	414	20	9	100	0	

**Intersection: 19: I-805 NB Off-Ramp/Vista Sorrento Pkwy & Sorrento Valley Rd/Mira Mesa Blvd**

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	T	T	T	T	T	R	T	R
Maximum Queue (ft)	125	134	139	139	168	124	225	504	766	958	213	366
Average Queue (ft)	46	63	57	59	80	52	111	167	263	535	38	239
95th Queue (ft)	100	118	116	116	144	104	187	331	612	1154	114	342
Link Distance (ft)			842	842	842	1044	1044	1044	1044	1044	799	799
Upstream Blk Time (%)								0	0	4		
Queuing Penalty (veh)								0	0	20		
Storage Bay Dist (ft)	160	160										
Storage Blk Time (%)	0	0	0									
Queuing Penalty (veh)	0	1	0									

**Intersection: 19: I-805 NB Off-Ramp/Vista Sorrento Pkwy & Sorrento Valley Rd/Mira Mesa Blvd**

Movement	NB	NB	SB	SB	SB
Directions Served	R	R	L	R	R
Maximum Queue (ft)	338	197	173	178	178
Average Queue (ft)	198	62	70	86	84
95th Queue (ft)	311	138	138	158	153
Link Distance (ft)			463	463	463
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	660	660			
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 20: Scranton Rd & Mira Mesa Blvd

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	T	R	L	T	T	T	TR	L
Maximum Queue (ft)	189	210	309	329	343	119	334	364	3056	3047	3042	97
Average Queue (ft)	117	135	185	213	235	42	244	227	2371	2472	2504	34
95th Queue (ft)	207	224	270	300	320	86	399	423	3666	3629	3614	77
Link Distance (ft)			1044	1044	1044	1044			3001	3001	3001	338
Upstream Blk Time (%)									4	20	29	
Queuing Penalty (veh)									21	113	167	
Storage Bay Dist (ft)	380	380					340	340				
Storage Blk Time (%)			0				20	14	2			
Queuing Penalty (veh)			0				80	55	13			

Intersection: 20: Scranton Rd & Mira Mesa Blvd

Movement	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	LT	TR	L	L	TR	R	R
Maximum Queue (ft)	191	226	166	72	145	662	636	623
Average Queue (ft)	85	163	76	15	101	627	592	327
95th Queue (ft)	164	224	145	47	193	653	757	715
Link Distance (ft)	338	338	338			610	610	610
Upstream Blk Time (%)						91	34	2
Queuing Penalty (veh)						0	0	0
Storage Bay Dist (ft)				120	120			
Storage Blk Time (%)				0	0	79		
Queuing Penalty (veh)				0	2	94		

Intersection: 21: Oberlin Dr/Lusk Blvd & Mira Mesa Blvd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	TR	L	L	T	T	TR	L	T
Maximum Queue (ft)	96	240	384	406	406	57	259	1689	1700	1695	87	158
Average Queue (ft)	31	87	250	273	291	11	71	561	592	608	33	47
95th Queue (ft)	75	205	380	392	403	40	209	1510	1538	1549	83	290
Link Distance (ft)			3001	3001	3001			1722	1722	1722		770
Upstream Blk Time (%)								1	1	2		2
Queuing Penalty (veh)								5	5	10		0
Storage Bay Dist (ft)	215	215				235	235					95
Storage Blk Time (%)		0	20				0	34				8
Queuing Penalty (veh)		0	17				0	16				14

Intersection: 21: Oberlin Dr/Lusk Blvd & Mira Mesa Blvd

Movement	NB	SB	SB	SB	SB
Directions Served	R	L	L	T	R
Maximum Queue (ft)	99	197	210	1319	1235
Average Queue (ft)	42	188	204	914	489
95th Queue (ft)	82	225	250	1392	1152
Link Distance (ft)				1636	1636
Upstream Blk Time (%)				1	0
Queuing Penalty (veh)				4	1
Storage Bay Dist (ft)	95	185	185		
Storage Blk Time (%)	1	22	61	1	
Queuing Penalty (veh)	0	24	68	4	

Intersection: 22: Pacific Heights Blvd & Mira Mesa Blvd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	T
Maximum Queue (ft)	310	556	580	592	72	274	494	481	500	261	120	289
Average Queue (ft)	155	376	407	423	24	180	220	218	209	23	97	100
95th Queue (ft)	325	531	562	576	55	295	400	388	382	152	136	238
Link Distance (ft)		1722	1722	1722	1722		6242	6242	6242			700
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	285					250				290	95	
Storage Blk Time (%)	0	32				11	5		4	0	33	5
Queuing Penalty (veh)	1	36				35	6		9	0	10	5

Intersection: 22: Pacific Heights Blvd & Mira Mesa Blvd

Movement	NB	NB	SB	SB	SB	SB	SB
Directions Served	TR	R	L	L	T	T	R
Maximum Queue (ft)	563	120	492	505	1141	1014	292
Average Queue (ft)	301	111	488	503	880	347	114
95th Queue (ft)	486	170	506	562	1110	888	228
Link Distance (ft)	700				1240	1240	1240
Upstream Blk Time (%)	0				0		
Queuing Penalty (veh)	0				0		
Storage Bay Dist (ft)		95	480	480			
Storage Blk Time (%)	63	4	8	45	1		
Queuing Penalty (veh)	136	9	15	80	9		



Intersection: 23: Camino Santa Fe & Mira Mesa Blvd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	T
Maximum Queue (ft)	169	4852	4893	4894	3712	155	1033	874	296	68	265	635
Average Queue (ft)	103	2953	2995	3008	1986	151	674	209	70	19	236	386
95th Queue (ft)	197	5020	5056	5069	3838	171	1207	694	191	51	311	694
Link Distance (ft)		6242	6242	6242	6242		4844	4844	4844	4844		690
Upstream Blk Time (%)												1
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	145					130					240	
Storage Blk Time (%)	6	51				88	2				55	1
Queuing Penalty (veh)	65	57				167	3				97	2

Intersection: 23: Camino Santa Fe & Mira Mesa Blvd

Movement	NB	NB	SB	SB	SB	SB	SB
Directions Served	T	R	L	L	T	T	R
Maximum Queue (ft)	690	735	262	275	779	704	33
Average Queue (ft)	520	648	253	272	707	256	5
95th Queue (ft)	870	835	281	294	920	709	20
Link Distance (ft)	690	690			731	731	731
Upstream Blk Time (%)	12	51			74	0	
Queuing Penalty (veh)	0	0			0	0	
Storage Bay Dist (ft)			250	250			
Storage Blk Time (%)			13	80	1		
Queuing Penalty (veh)			16	98	3		

Intersection: 24: Camino Ruiz & Mira Mesa Blvd

Movement	EB	EB	EB	EB	EB	B32	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	TR	T	L	L	T	T	T	R
Maximum Queue (ft)	196	214	707	752	761	483	212	225	475	416	424	215
Average Queue (ft)	104	161	543	579	596	16	181	197	238	207	220	117
95th Queue (ft)	177	260	707	743	745	476	244	255	445	353	363	257
Link Distance (ft)			3616	3616	3616	4844			2423	2423	2423	
Upstream Blk Time (%)						0						
Queuing Penalty (veh)						0						
Storage Bay Dist (ft)	190	190					200	200				190
Storage Blk Time (%)	0	2	37				11	26	6		20	0
Queuing Penalty (veh)	2	15	93				37	89	17		46	0

Intersection: 24: Camino Ruiz & Mira Mesa Blvd

Movement	B39	B39	B31	B31	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	T	T	T	T	L	T	T	T	R	L	L	T
Maximum Queue (ft)	43	42	111	115	255	535	501	125	112	237	250	516
Average Queue (ft)	1	1	4	4	200	345	301	108	75	193	228	283
95th Queue (ft)	42	37	109	109	305	528	477	175	126	267	276	478
Link Distance (ft)	2146	2146	1556	1556		520	520					504
Upstream Blk Time (%)						3	1					1
Queuing Penalty (veh)						0	0					0
Storage Bay Dist (ft)					230			100	100	225	225	
Storage Blk Time (%)					10	25	42	4	7	3	19	8
Queuing Penalty (veh)					19	38	163	9	15	7	48	26

Intersection: 24: Camino Ruiz & Mira Mesa Blvd

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	421	63
Average Queue (ft)	215	28
95th Queue (ft)	362	53
Link Distance (ft)	504	504
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

**Intersection: 25: Black Mountain Rd & Mira Mesa Blvd**

Movement	EB	EB	EB	EB	EB	EB	B31	B31	B31	B39	B39	WB
Directions Served	L	L	T	T	T	R	T	T	T	T	T	L
Maximum Queue (ft)	262	275	1120	1270	1354	295	30	41	20	242	243	212
Average Queue (ft)	211	251	645	792	901	130	1	2	2	8	8	140
95th Queue (ft)	292	331	1048	1216	1298	384	29	33	28	238	239	222
Link Distance (ft)			1556	1556	1556		2146	2146	2146	2423	2423	
Upstream Blk Time (%)			0	0	1							0
Queuing Penalty (veh)			0	2	9							0
Storage Bay Dist (ft)	250	250				270						215
Storage Blk Time (%)	3	12	21		58	0						1
Queuing Penalty (veh)	22	78	102		67	0						6

**Intersection: 25: Black Mountain Rd & Mira Mesa Blvd**

Movement	WB	WB	WB	WB	WB	B58	B58	B58	B58	B83	B83	B83
Directions Served	L	T	T	T	R	T	T	T	T	T	T	T
Maximum Queue (ft)	240	535	563	568	216	65	118	122	22	23	36	11
Average Queue (ft)	182	312	353	372	72	3	8	10	1	1	2	0
95th Queue (ft)	272	508	547	569	161	32	56	65	24	12	18	8
Link Distance (ft)		489	489	489	489	1412	1412	1412	1412	93	93	93
Upstream Blk Time (%)		1	2	3								0
Queuing Penalty (veh)		8	15	24								0
Storage Bay Dist (ft)	215											
Storage Blk Time (%)	4	17										
Queuing Penalty (veh)	16	40										

**Intersection: 25: Black Mountain Rd & Mira Mesa Blvd**

Movement	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	R	L	L	T	T	R
Maximum Queue (ft)	212	255	567	553	285	402	415	622	579	263
Average Queue (ft)	101	201	373	333	231	343	383	423	281	136
95th Queue (ft)	201	306	564	538	334	477	471	779	610	275
Link Distance (ft)			560	560				584	584	
Upstream Blk Time (%)			2	2				34	0	
Queuing Penalty (veh)			0	0				0	0	
Storage Bay Dist (ft)	230	230			260	390	390			245
Storage Blk Time (%)	0	1	31	13	7	5	47	2	0	3
Queuing Penalty (veh)	0	2	54	38	22	9	85	6	1	6

**Intersection: 26: Mira Mesa Blvd & I-15 SB Ramps**

Movement	EB	EB	EB	EB	EB	B83	B83	B83	B83	B83	B58	B58
Directions Served	T	T	T	R	R	T	T	T	T	T	T	T
Maximum Queue (ft)	177	175	193	65	52	1318	1400	1420	1372	1155	254	340
Average Queue (ft)	137	141	166	8	5	590	889	1040	765	203	18	50
95th Queue (ft)	201	198	179	40	33	1447	1640	1610	1738	952	150	272
Link Distance (ft)	93	93	93	93	93	1412	1412	1412	1412	1412	489	489
Upstream Blk Time (%)	22	25	58	0	0	0	6	10	1	0	0	0
Queuing Penalty (veh)	116	136	310	0	0	2	30	52	7	0	0	2
Storage Bay Dist (ft)												
Storage Blk Time (%)												
Queuing Penalty (veh)												

**Intersection: 26: Mira Mesa Blvd & I-15 SB Ramps**

Movement	B58	WB	WB	WB	WB	SB	SB	SB	SB
Directions Served	T	T	T	T	R	L	L	R	R
Maximum Queue (ft)	364	383	381	348	72	196	672	674	588
Average Queue (ft)	73	229	231	194	22	53	314	495	394
95th Queue (ft)	339	338	336	310	56	161	720	742	585
Link Distance (ft)	489	864	864	864	864		646	646	
Upstream Blk Time (%)	1						5	8	
Queuing Penalty (veh)	9						0	0	
Storage Bay Dist (ft)						285			570
Storage Blk Time (%)							0	4	0
Queuing Penalty (veh)							0	29	1

**Intersection: 27: I-15 NB Ramps & Mira Mesa Blvd**

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB		
Directions Served	T	T	T	R	T	T	T	R	L	L	R	R		
Maximum Queue (ft)	248	261	250	264	235	194	266	125	464	443	207	172		
Average Queue (ft)	120	127	130	90	155	105	91	38	314	292	98	35		
95th Queue (ft)	228	238	228	183	218	184	199	124	446	420	184	108		
Link Distance (ft)	864	864	864	864	603	603	603		670	670				
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)								100					565	565
Storage Blk Time (%)								3	0			0		
Queuing Penalty (veh)								14	0			0		

**Intersection: 28: I-805 Direct Access Ramps & Carroll Canyon Rd**

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	R	LTR
Maximum Queue (ft)	30	87	34	300	96	108	27	57	84
Average Queue (ft)	4	26	5	163	19	26	4	24	32
95th Queue (ft)	18	68	20	254	66	78	20	49	72
Link Distance (ft)		564	564		958	958		351	269
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	250			400			415		
Storage Blk Time (%)	0								
Queuing Penalty (veh)	0								

**Intersection: 29: Carroll Canyon Rd & Scranton Rd**

Movement	EB	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	L	L	T	T	T	T	R	L	LR	R
Maximum Queue (ft)	35	75	91	77	310	248	112	114	168	126
Average Queue (ft)	5	34	33	20	155	92	41	45	87	62
95th Queue (ft)	23	67	73	57	255	198	80	103	137	104
Link Distance (ft)			958	958	414	414			570	570
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	120	120					190	90		
Storage Blk Time (%)		0	0			0	0	0	7	
Queuing Penalty (veh)		0	0			0	0	1	7	

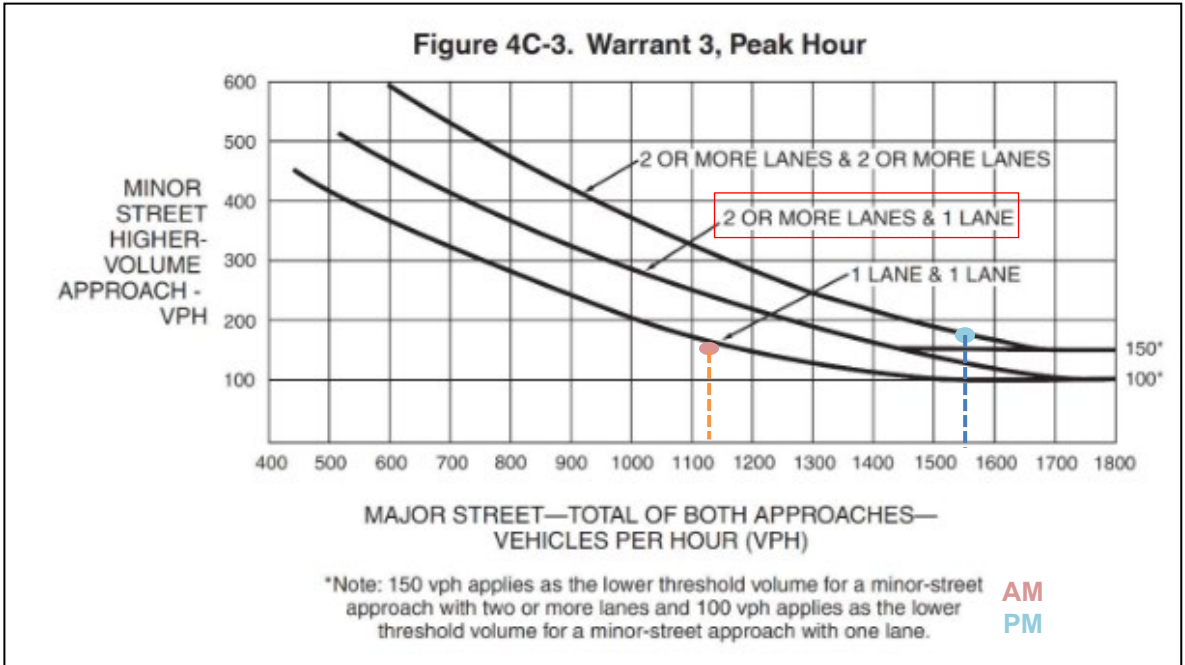
**Network Summary**

Network wide Queuing Penalty: 9491
------------------------------------

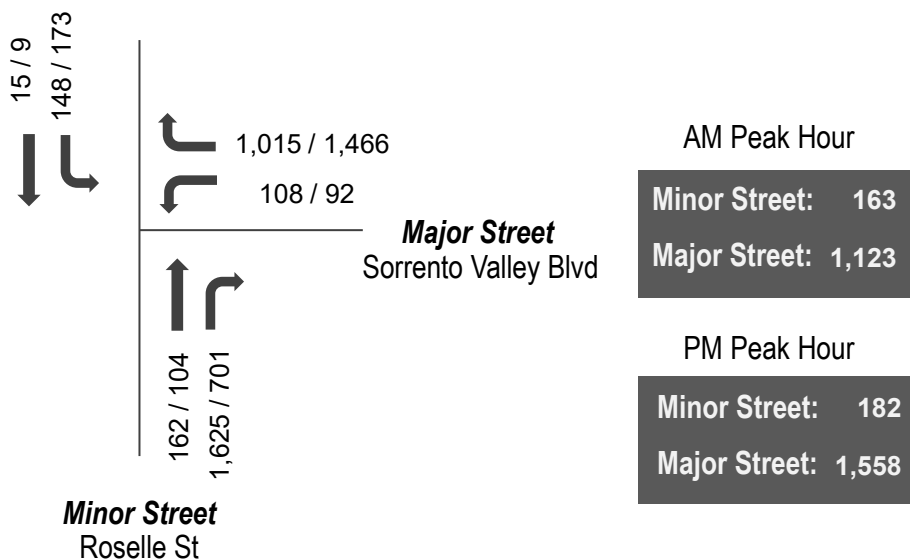
**APPENDIX H**  
**SIGNAL WARRANT ANALYSIS**

# Intersection #5 Roselle Street / Sorrento Valley Boulevard

Opening Year 2027 + Project Traffic Volumes



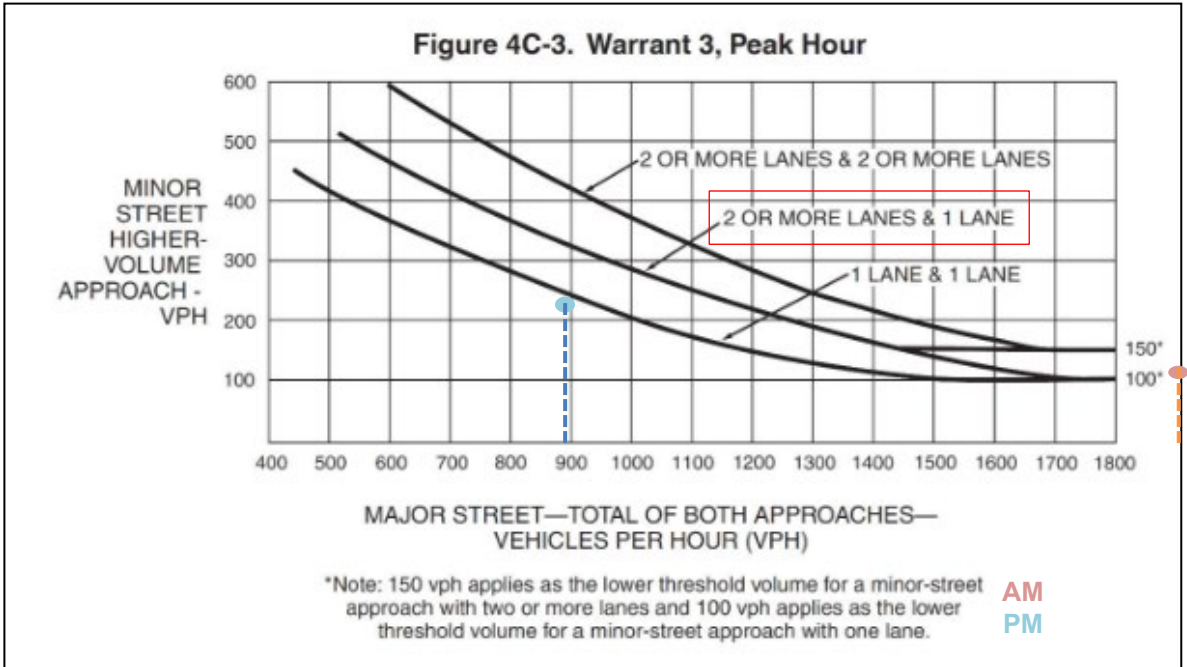
Opening Year 2027 + Project



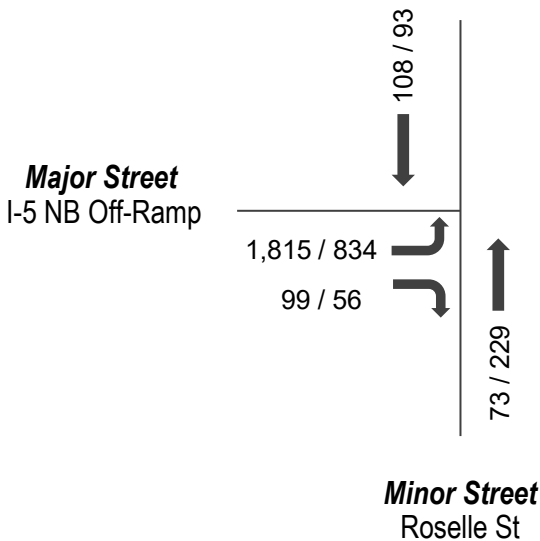
**RESULT: SIGNAL IS WARRANTED IN THE PM PEAK HOUR**

# Intersection #6 Roselle Street / I-5 NB Off-Ramp

Opening Year 2027 + Project Traffic Volumes



Opening Year 2027 + Project



AM Peak Hour

Minor Street:	108
Major Street:	1,914

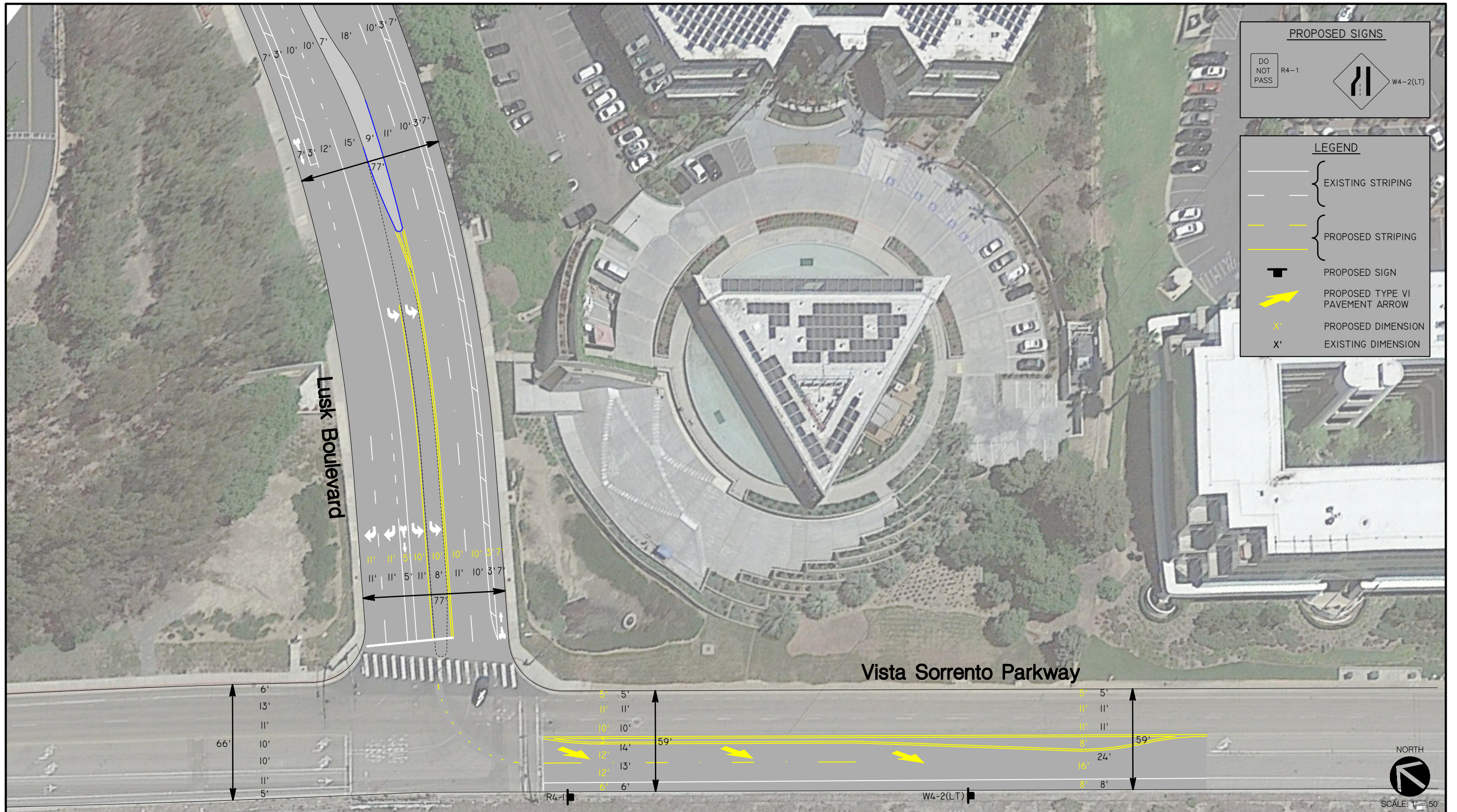
PM Peak Hour

Minor Street:	229
Major Street:	890

**RESULT: SIGNAL IS WARRANTED IN THE AM PEAK HOUR**



**APPENDIX I**  
**PROJECT IMPROVEMENT CONCEPTUAL PLANS**



REV. 10/12/2022  
 N:\3544\CAD\Lusk - Vista Sorrento Concept Plan\_A-1.dwg



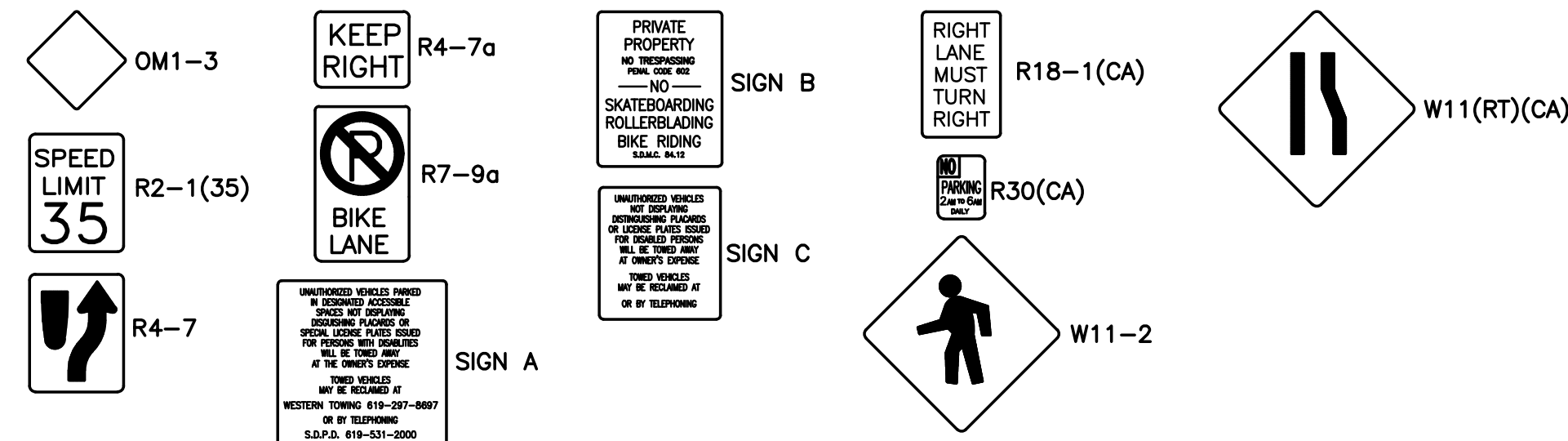
**CONCEPTUAL ONLY**  
 NOT FOR CONSTRUCTION

**Figure A-1**

**Lusk Blvd / Vista Sorrento Pkwy Concept Plan**



**EXISTING SIGNS (THIS SHEET ONLY)**



**WORK TO BE DONE (THIS SHEET ONLY)**

THE IMPROVEMENTS CONSIST OF THE FOLLOWING WORK TO BE DONE ACCORDING TO THESE PLANS AND THE SPECIFICATIONS AND STANDARD DRAWINGS OF THE CITY OF SAN DIEGO.

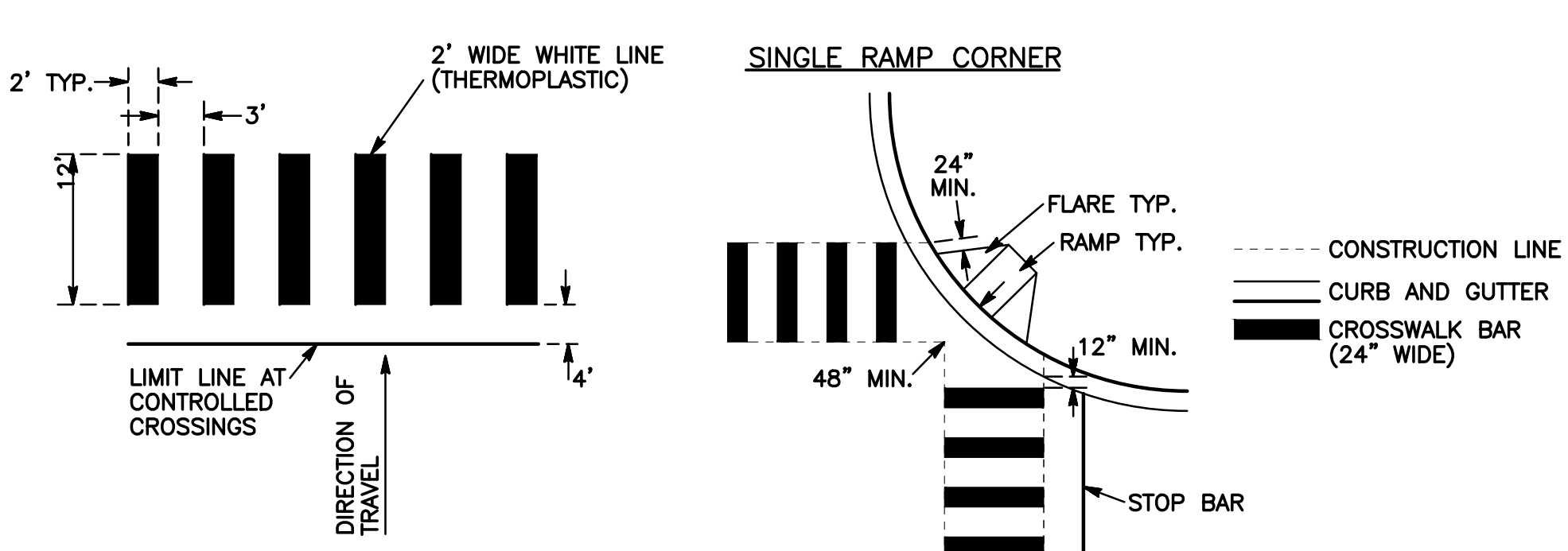
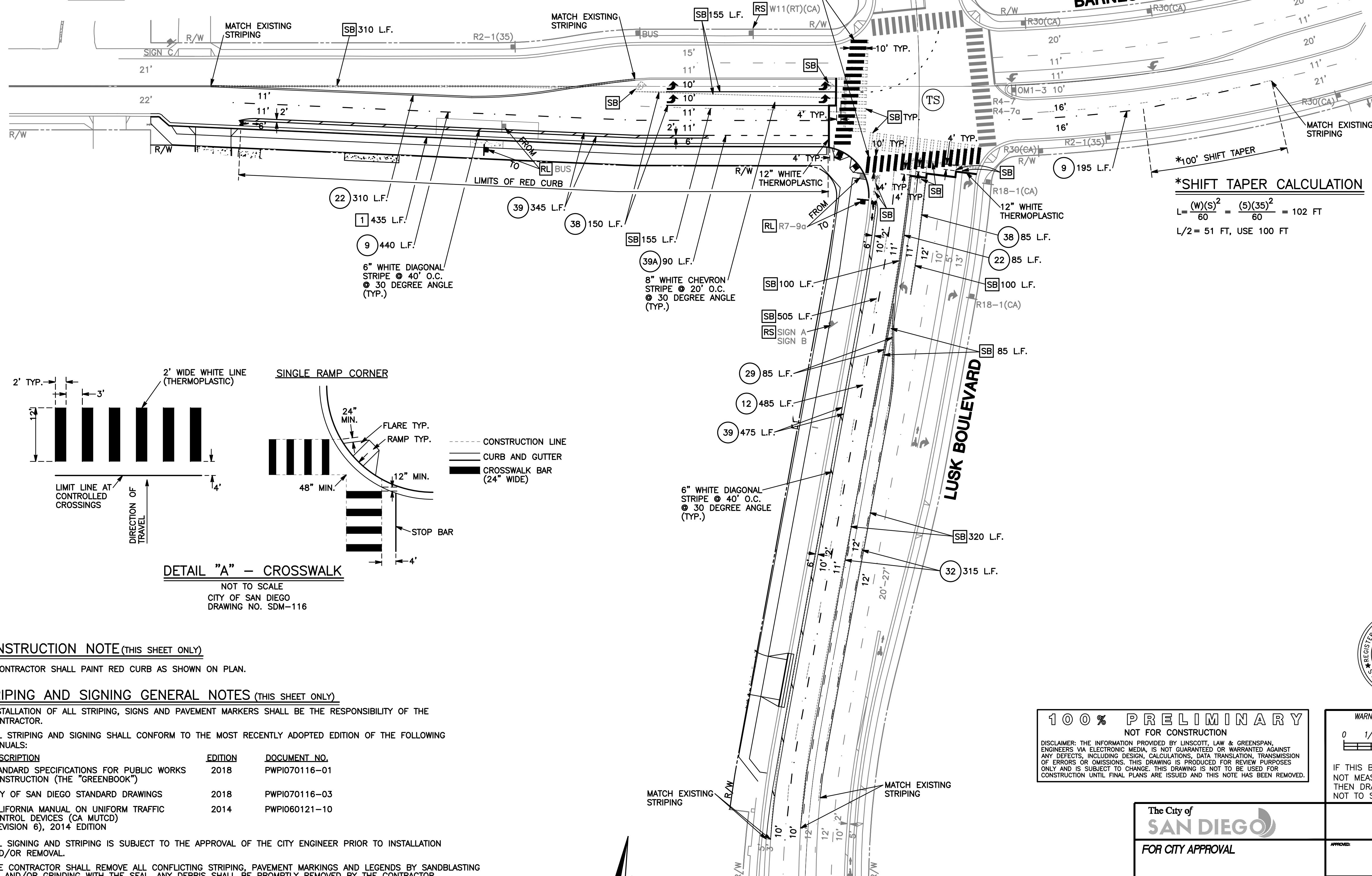
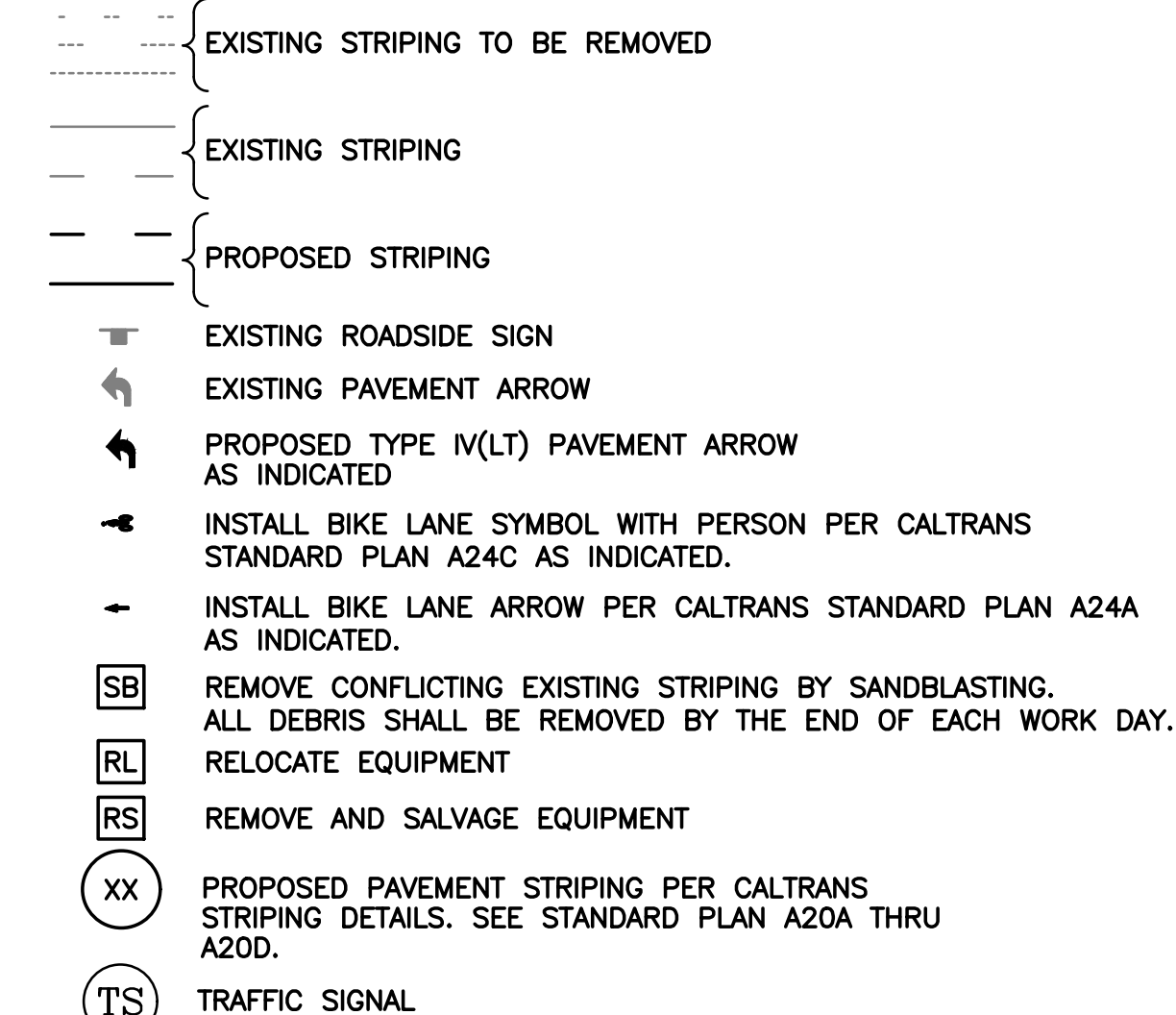
**STANDARD SPECIFICATIONS:**

DOCUMENT NO.	EDITION	DESCRIPTION
ECPI010122-01	2021	STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK")
ECPI010122-02	2021	CITY OF SAN DIEGO SUPPLEMENT TO THE "GREENBOOK" ("WHITEBOOK")
PWPI010119-04	2021	CITYWIDE COMPUTER AIDED DESIGN AND DRAFTING (CADD) STANDARDS
PWPI060121-10	2014	CALIFORNIA DEPARTMENT OF TRANSPORTATION MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (REVISION 6)
PWPI030119-03	2018	CALIFORNIA DEPARTMENT OF TRANSPORTATION U.S. CUSTOMARY STANDARD SPECIFICATIONS

**STANDARD DRAWINGS:**

DOCUMENT NO.	EDITION	DESCRIPTION
ECPI010122-03	2021	CITY OF SAN DIEGO STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION
PWPI030119-06	2018	CALIFORNIA DEPARTMENT OF TRANSPORTATION U.S. CUSTOMARY STANDARD PLANS

**LEGEND (THIS SHEET ONLY)**



**DETAIL "A" - CROSSWALK**  
NOT TO SCALE  
CITY OF SAN DIEGO  
DRAWING NO. SDM-116

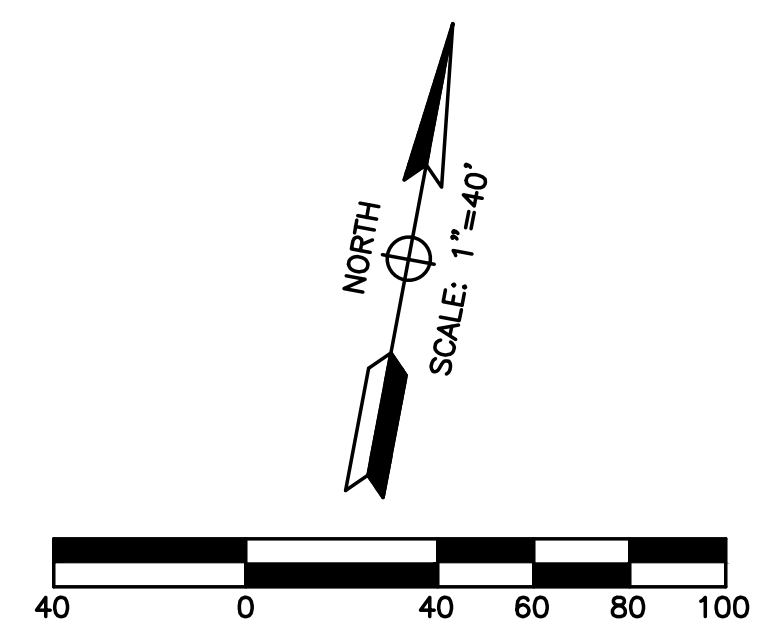
**CONSTRUCTION NOTE (THIS SHEET ONLY)**

1] CONTRACTOR SHALL PAINT RED CURB AS SHOWN ON PLAN.

**STRIPING AND SIGNING GENERAL NOTES (THIS SHEET ONLY)**

- INSTALLATION OF ALL STRIPING, SIGNS AND PAVEMENT MARKERS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL STRIPING AND SIGNING SHALL CONFORM TO THE MOST RECENTLY ADOPTED EDITION OF THE FOLLOWING MANUALS:
 

DESCRIPTION	EDITION	DOCUMENT NO.
STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (THE "GREENBOOK")	2018	PWPI070116-01
CITY OF SAN DIEGO STANDARD DRAWINGS	2018	PWPI070116-03
CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CA MUTCD) (REVISION 6), 2014 EDITION	2014	PWPI060121-10
- ALL SIGNING AND STRIPING IS SUBJECT TO THE APPROVAL OF THE CITY ENGINEER PRIOR TO INSTALLATION AND/OR REMOVAL.
- THE CONTRACTOR SHALL REMOVE ALL CONFLICTING STRIPING, PAVEMENT MARKINGS AND LEGENDS BY SANDBLASTING OR AND/OR GRINDING WITH THE SEAL. ANY DEBRIS SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR.
- SIGN POSTS SHALL BE INSTALLED WITH SQUARE PERFORATED STEEL TUBING WITH BREAKAWAY BASE PER CITY OF SAN DIEGO STANDARD DRAWING M-45.
- ALL RAISED MEDIAN NOSES SHALL BE PAINTED YELLOW.
- ALL SIGNS SHOWN ON THE STRIPING AND SIGNING PLANS SHALL BE NEW SIGNS PROVIDED AND INSTALLED BY THE CONTRACTOR, EXCEPT FOR EXISTING SIGNS SPECIFICALLY INDICATED TO BE RELOCATED OR TO REMAIN.
- STRIPED CROSSWALKS SHALL HAVE AN INSIDE DIMENSION OF 10 FEET UNLESS INDICATED OTHERWISE.
- ALL LIMIT LINES/STOP LINES, CROSSWALK LINES, PAVEMENT LEGENDS, AND ARROWS (EXCEPT WITHIN BIKE LANES) SHALL BE THERMOPLASTIC.
- THE CONTRACTOR SHALL NOTIFY THE CITY TRAFFIC ENGINEER AT (858)495-4741 A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO AND UPON COMPLETION OF STRIPING AND SIGNING.



**LINSCOTT LAW & GREENSPAN engineers**  
 LINSCOTT, LAW & GREENSPAN, ENGINEERS  
 4542 Ruffner Street, Suite 100  
 San Diego, Ca 92111  
 (858)300-8800

LLG 3-226642.1  
 Designed By: HQL

1. STR1-6642.DWG  
 Drawn By: DVS

4/5/23  
 Checked By: KCY

**100% PRELIMINARY**  
 NOT FOR CONSTRUCTION

DISCLAIMER: THE INFORMATION PROVIDED BY LINSCOTT, LAW & GREENSPAN, ENGINEERS VIA ELECTRONIC MEDIA, IS NOT GUARANTEED OR WARRANTED AGAINST ANY DEFECTS, INCLUDING DESIGN, CALCULATIONS, DATA TRANSLATION, TRANSMISSION OF ERRORS OR OMISSIONS. THIS DRAWING IS PRODUCED FOR REVIEW PURPOSES ONLY AND IS SUBJECT TO CHANGE. THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION UNTIL FINAL PLANS ARE ISSUED AND THIS NOTE HAS BEEN REMOVED.



**DECLARATION OF RESPONSIBLE CHARGE**

I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE, AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS.

I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE CITY OF SAN DIEGO IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME, AS ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR PROJECT DESIGN.

**ENGINEER OF WORK**

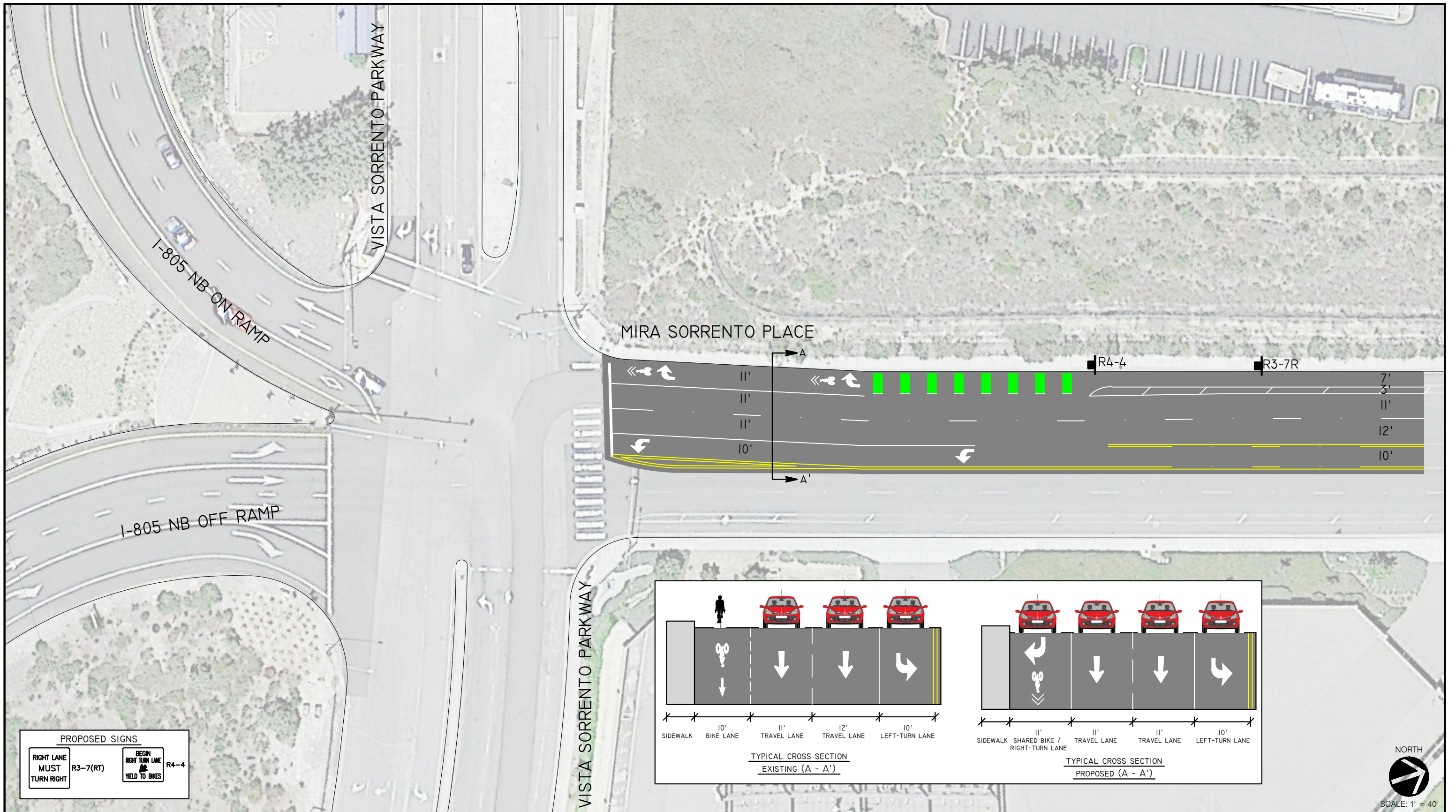
KALYAN C. YELLAPU R.C.E. 75023 DATE

**WARNING**  
 0 1/2 1

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

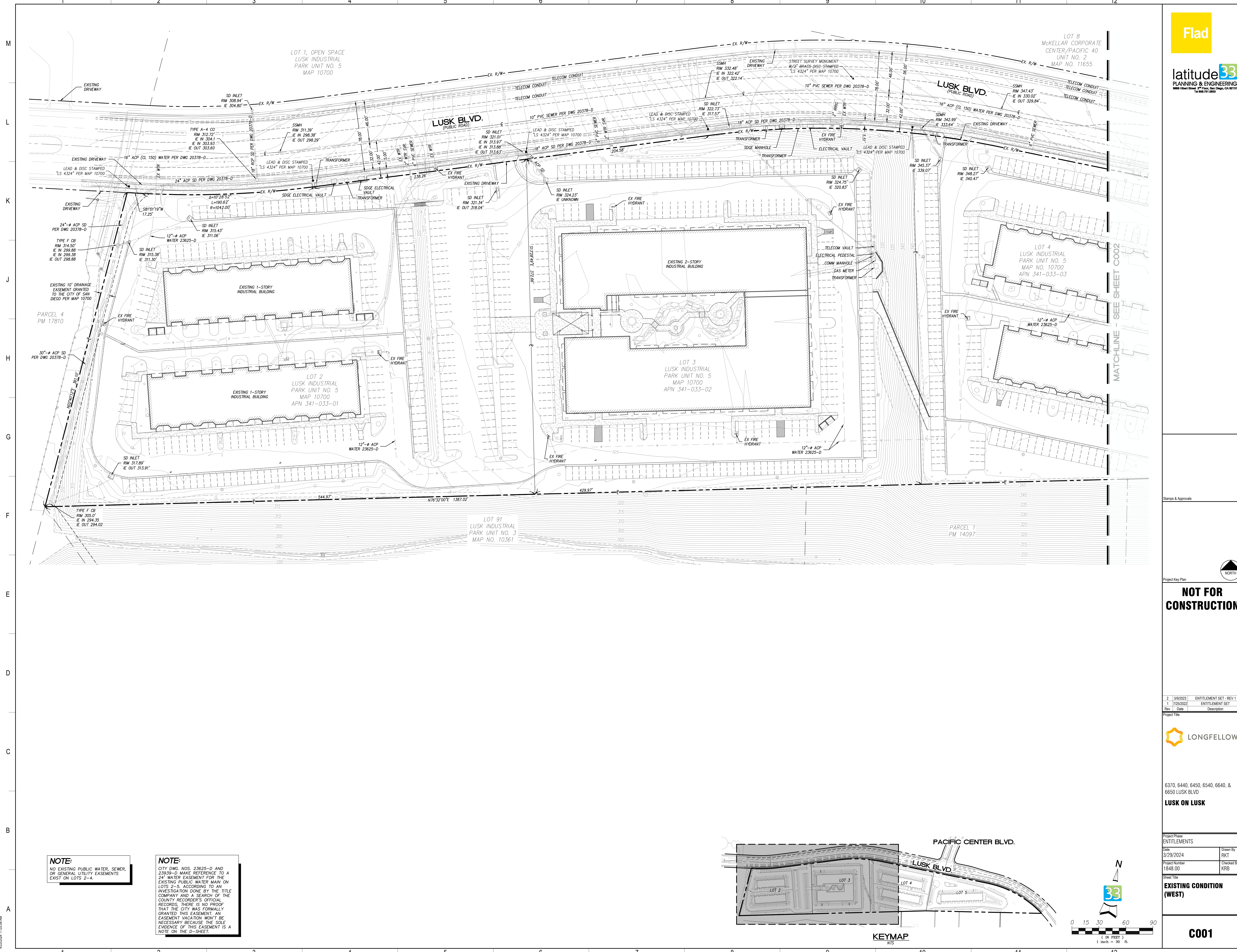
**SIGNING AND STRIPING PLAN FOR:**  
**BARNES CANYON ROAD and LUSK BOULEVARD**  
 LOT 96 OF LUSK INDUSTRIAL PARK, UNIT NO. 3, MAP 10361

The City of <b>SAN DIEGO</b> FOR CITY APPROVAL	DEVELOPMENT SERVICES DEPARTMENT SHEET 53 OF 54 SHEETS		PMT NO. _____
	APPROVED FOR CITY ENGINEER _____ DATE _____		PRJ NO. 1066402
DESCRIPTION	BY	APPROVED	DATE
ORIGINAL	LLG		
AS BUILTS			1906-6269 NAD83 COORDINATES
CONTRACTOR _____ DATE STARTED _____			266-1709 LAMBERT COORDINATES
INSPECTOR _____ DATE COMPLETED _____			DRAWING NO. 100486-33-D
			<b>S-01</b>



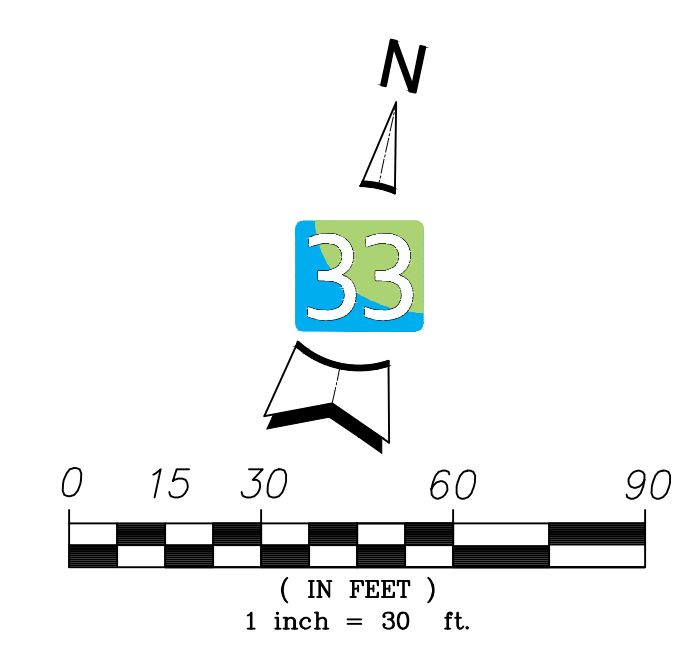
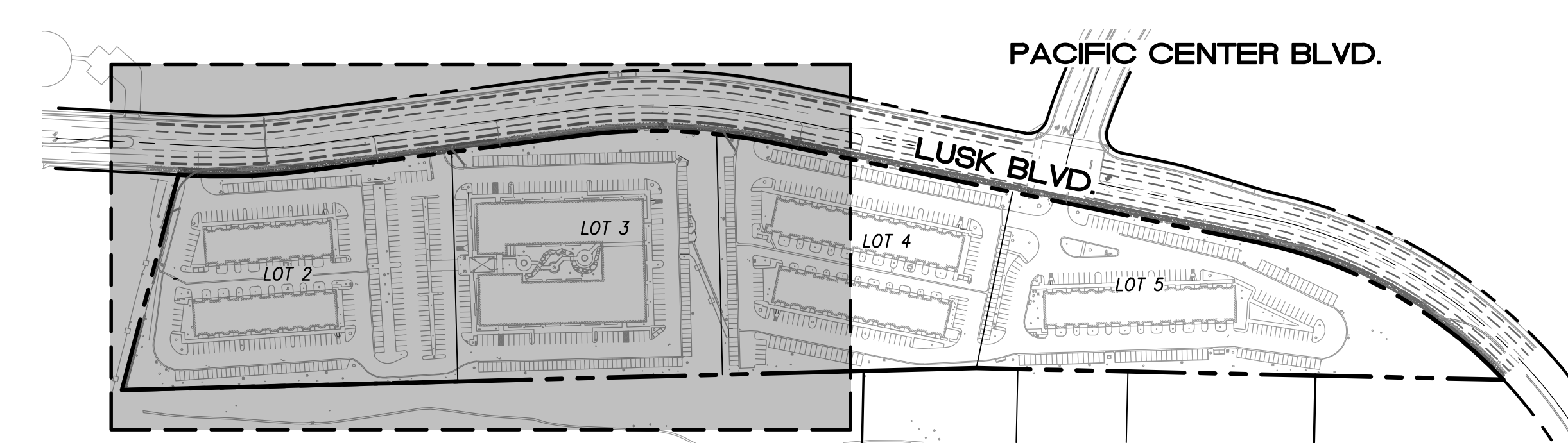
CONCEPTUAL ONLY  
NOT FOR CONSTRUCTION

**Figure A**  
Vista Sorrento Parkway / Mira Sorrento Place  
/ I-805 Northbound Ramps - Concept Plan



**NOTE:**  
 NO EXISTING PUBLIC WATER, SEWER, OR GENERAL UTILITY EASEMENTS EXIST ON LOTS 2-4.

**NOTE:**  
 CITY DWG. NOS. 23625-D AND 23935-D MAKE REFERENCE TO A 24\"/>



Stamps & Approvals

Project Key Plan

**NOT FOR CONSTRUCTION**

2	5/9/2023	ENTITLEMENT SET - REV 1
1	7/25/2022	ENTITLEMENT SET
Rev	Date	Description

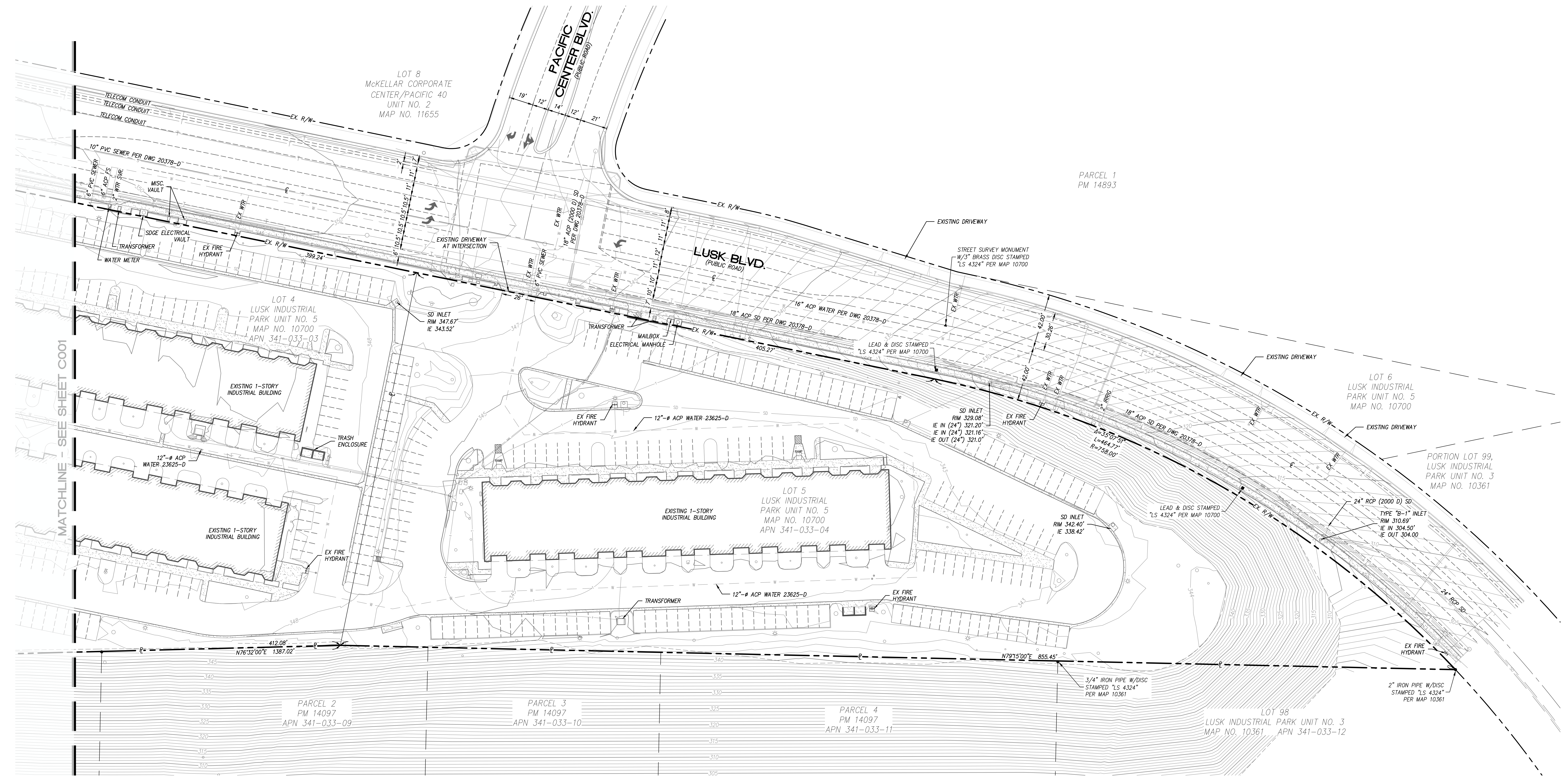


6370, 6440, 6450, 6540, 6640, & 6650 LUSK BLVD  
**LUSK ON LUSK**

Project Phase	
ENTITLEMENTS	
Date	Drawn By
3/29/2024	RKT
Project Number	Checked By
1848.00	KRB
Sheet Title	
<b>EXISTING CONDITION (WEST)</b>	

**C001**

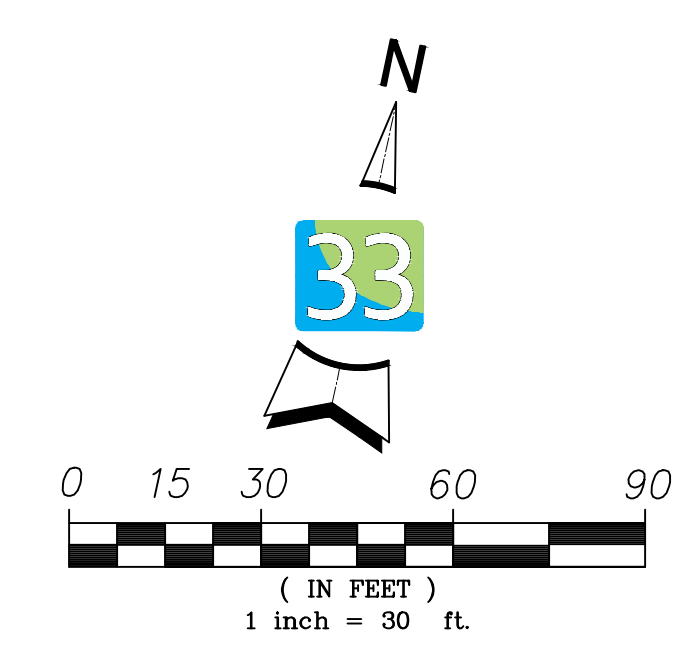
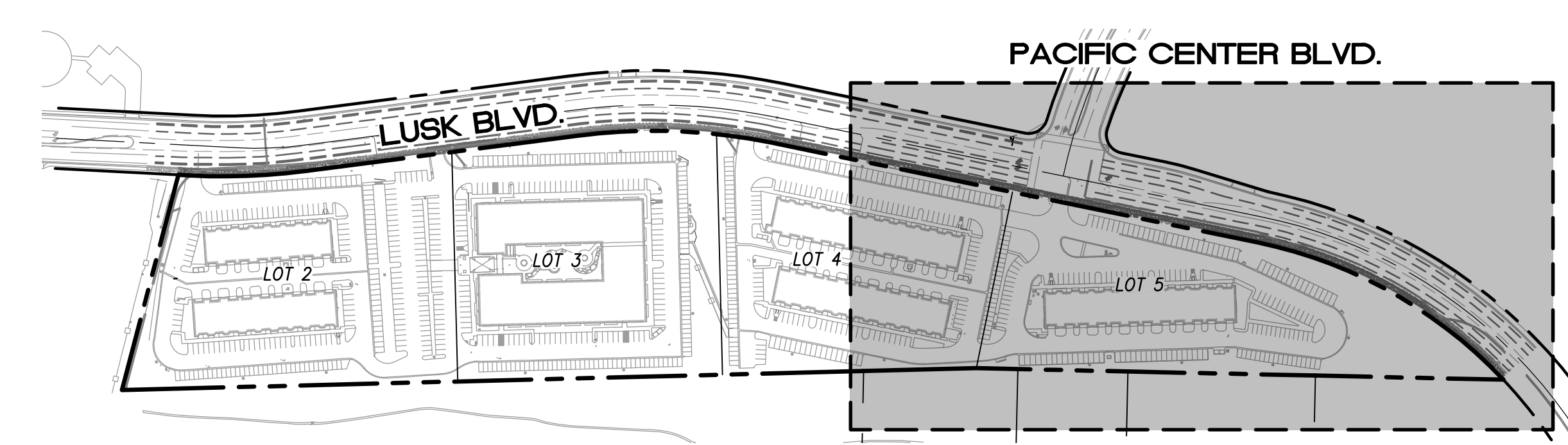
H:\1800\1848.00 - LONGFELLOW - LUSK ON LUSK\ENTITLEMENT\PLANS\CDOT\EXISTING CONDITION (WEST).DWG  
 4/23/2024 11:03:05 AM



MATCHLINE - SEE SHEET C001

**NOTE:**  
 NO EXISTING PUBLIC WATER, SEWER, OR GENERAL UTILITY EASEMENTS EXIST ON LOTS 2-4.

**NOTE:**  
 CITY DWG. NOS. 23625-D AND 23935-D MAKE REFERENCE TO A 24" WATER EASEMENT FOR THE EXISTING PUBLIC WATER MAIN ON LOTS 2-5. ACCORDING TO AN INVESTIGATION DONE BY THE TITLE COMPANY AND A SEARCH OF THE COUNTY RECORDER'S OFFICIAL RECORDS, THERE IS NO PROOF THAT THE CITY WAS FORMALLY GRANTED THIS EASEMENT. AN EASEMENT VACATION WOULD BE NECESSARY BECAUSE THE SOLE EVIDENCE OF THIS EASEMENT IS A NOTE ON THE D-SHEET.



Stamps & Approvals

Project Key Plan  
 NORTH

**NOT FOR CONSTRUCTION**

2	5/9/2023	ENTITLEMENT SET - REV 1
1	7/25/2022	ENTITLEMENT SET
Rev	Date	Description

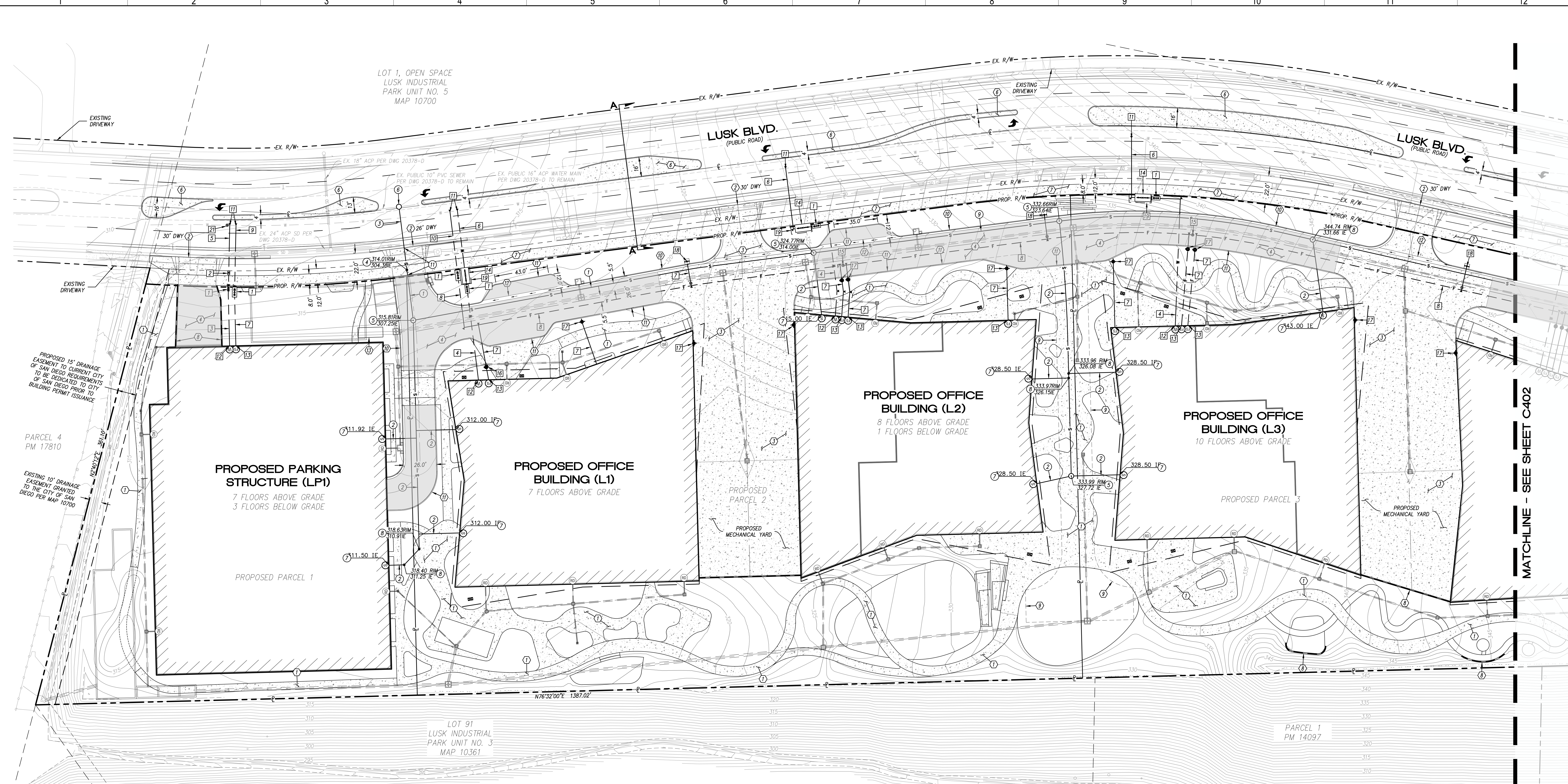


6370, 6440, 6450, 6540, 6640, & 6650 LUSK BLVD  
**LUSK ON LUSK**

Project Phase	
ENTITLEMENTS	
Date	Drawn By
3/29/2024	RKT
Project Number	Checked By
1848.00	KRB
Sheet Title	
<b>EXISTING CONDITION (EAST)</b>	

**C002**

H:\1800\1848.00 - LONGFELLOW - LUSK ENGINEERING PLANS\LUSK\ENTITLEMENT\PLANS\C002 EXISTING CONDITION (EAST).DWG 4/23/2024 11:03:22 AM



**LEGEND:**

PROPOSED R/W	---
EXISTING R/W	---
CENTER LINE	—
PROPERTY LINE	---
WALL	---
WATER SERVICE PIPE	—
FIRE SERVICE PIPE	—
SEWER PIPE	—
STORM DRAIN PIPE	—
STORM DRAIN A-4 CLEANDOUT	—
STORM DRAIN CATCH BASIN	—
ADA RAMP	—
WATER BACKFLOW PREVENTOR	—
FIRE BACKFLOW PREVENTOR	—
WATER METER	—
SEWER MANHOLE	—
SEWER CLEANDOUT	—

- WATER IMPROVEMENT NOTES**
1. PROPOSED PRIVATE BACKFLOW PREVENTOR ASSEMBLY.
  2. PROPOSED PUBLIC 2" WATER METER.
  3. PROPOSED 2" PVC PRIVATE WATER SERVICE.
  4. PROPOSED 6" PVC PRIVATE WATER SERVICE.
  5. PROPOSED 2" PVC PUBLIC WATER SERVICE.
  6. PROPOSED 6" PVC PUBLIC WATER SERVICE.
  7. PROPOSED 8" PVC PRIVATE FIRE SERVICE.
  8. PROPOSED 12" PVC PRIVATE FIRE SERVICE.
  9. PROPOSED 8" PVC PUBLIC FIRE SERVICE.
  10. PROPOSED 12" PVC PUBLIC FIRE SERVICE.
  11. CONNECT TO EXISTING PUBLIC 16" ACP WATER LINE.
  12. WATER POINT OF CONNECTION.
  13. FIRE POINT OF CONNECTION.
  14. PROPOSED PUBLIC 6" WATER METER.
  15. PROPOSED 12" GATE VALVE.
  16. PROPOSED POST INDICATOR VALVE.
  17. PROPOSED FIRE DEPARTMENT CONNECTION.
  18. PROPOSED FIRE HYDRANT.
  19. WATER EASEMENT TO BE DEDICATED TO THE CITY OF SAN DIEGO FOR PUBLIC METERS ON PRIVATE PROPERTY.
  20. PROPOSED 16" GATE VALVE ON PUBLIC WATER MAIN.

- SEWER IMPROVEMENT NOTES**
1. PROPOSED PRIVATE 10" PVC SEWER MAIN.
  2. PROPOSED PRIVATE 6" PVC SEWER LATERAL.
  3. PROPOSED PRIVATE 10" PVC SEWER LATERAL. EMRA REQUIRED.
  4. PROPOSED PUBLIC SEWER MANHOLE.
  5. PROPOSED PRIVATE SEWER MANHOLE.
  6. CONNECT PROPOSED SEWER LATERAL TO PROPOSED SEWER MANHOLE AT EXISTING MAIN.
  7. PROPOSED SEWER CONNECTION AT BUILDING.
  8. PROPOSED SEWER CLEANDOUT.
  9. PROPOSED PRIVATE 10" PVC SEWER MAIN.
  10. PROPOSED PRIVATE 6" PVC SEWER MAIN.
  11. PRIVATE EMRA REQUIRED FOR SEWER IN DRIVEWAY.

- CONSTRUCTION NOTES**
1. PROPOSED PRIVATE CONCRETE SIDEWALK.
  2. PROPOSED COMMERCIAL DRIVEWAY.
  3. VEHICULAR RATED PCC PAVEMENT.
  4. PROPOSED AC PAVEMENT.
  5. PROPOSED 8-11" MEDIAN CURB. NO LANDSCAPING OR IRRIGATION.
  6. PROPOSED PUBLIC CONC CONCRETE SIDEWALK.
  7. PROPOSED SITE WALL.
  8. LIMITS OF FIRE LANE.
  9. PROPOSED 6" CURB AND GUTTER.
  10. PROPOSED 6" CURB.
  11. PROPOSED RIBBON GUTTER.
  12. PROPOSED GENERATOR PAD.

**NOTE:**  
 GRADING/STORM DRAIN DESIGN, SEE SHEET C301.

**NOTE:**  
 DEDICATION OF ADDITIONAL PARKWAY FOR PEDESTRIAN SAFETY.

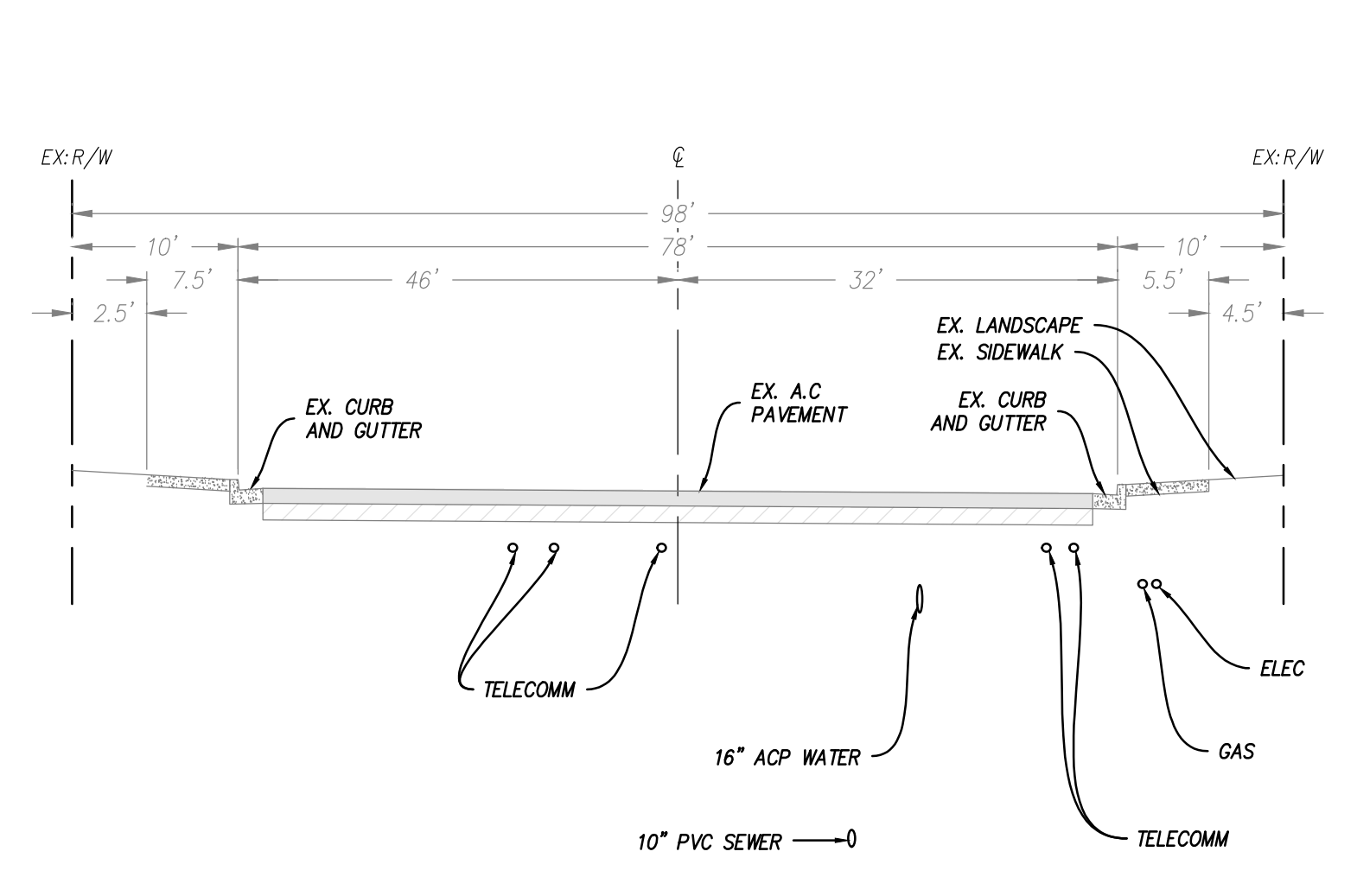
**NOTE:**  
 INSTALL HIGH VISIBILITY CROSSWALK STRIPING AT INTERSECTION OF LUSK BLVD AND WATERIDGE CIRCLE.

**NOTE:**  
 ALL ON-SITE UTILITY IMPROVEMENTS ARE PRIVATE UNLESS OTHERWISE NOTED.

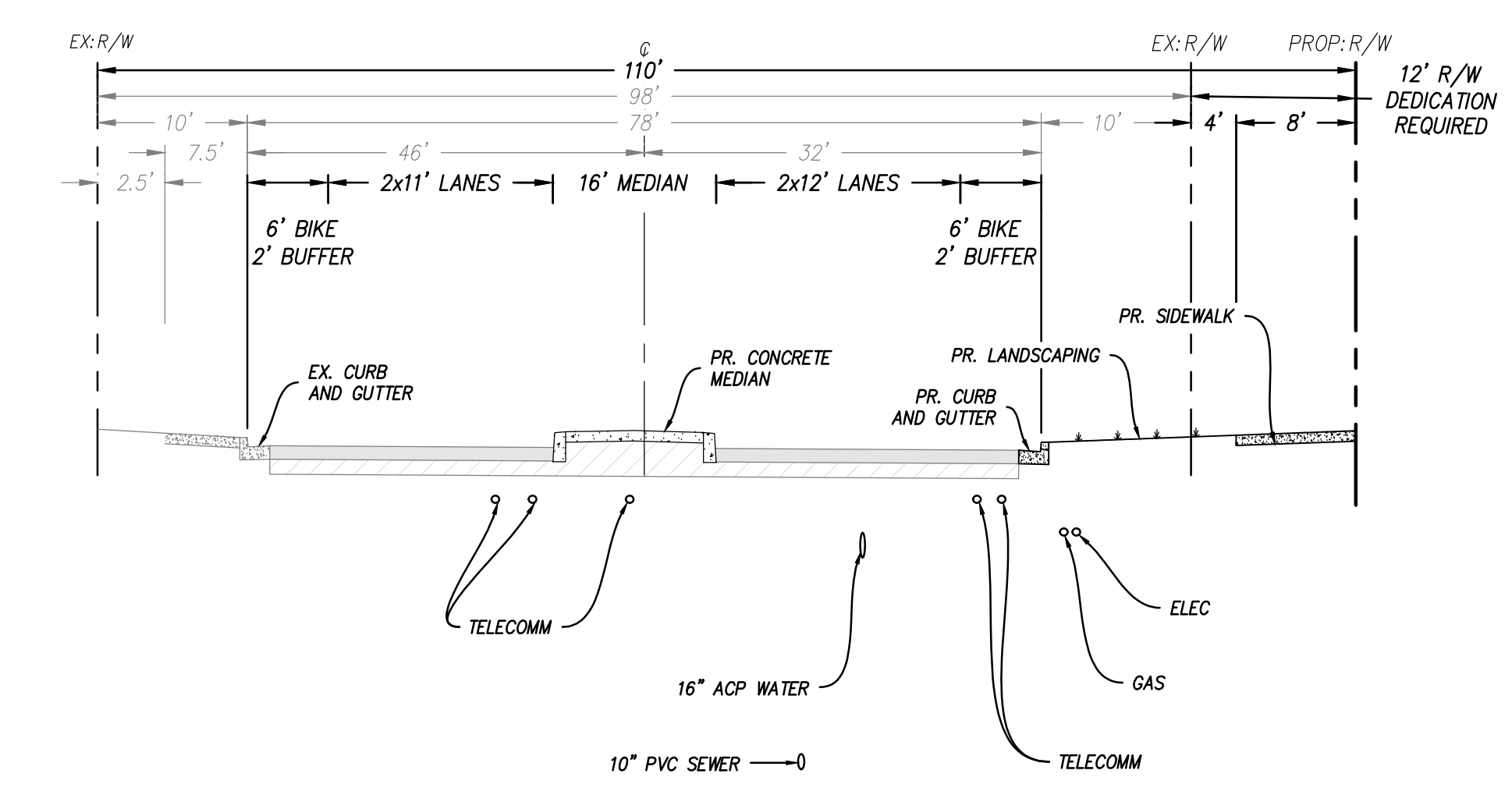
**NOTE:**  
 3" OR LARGER WATER METERS ARE REQUIRED FOR THIS PROJECT. THE OWNER/PERMITEE SHALL CONSTRUCT THE NEW METER AND PRIVATE BACK FLOW DEVICE ON SITE ABOVE GROUND, WITHIN AN ADEQUATELY SIZED WATER EASEMENT, IN A WATER SATISFACTORY TO THE PUBLIC UTILITIES DIRECTOR AND THE CITY ENGINEER.

**NOTE:**  
 PROVIDE MINIMUM 10' SEPARATION BETWEEN WATER/FIRE SERVICES AND STREET TREES OR PROVIDE A ROOT BARRIER PER WATER FACILITIES DESIGN SECTION 3.3.4.

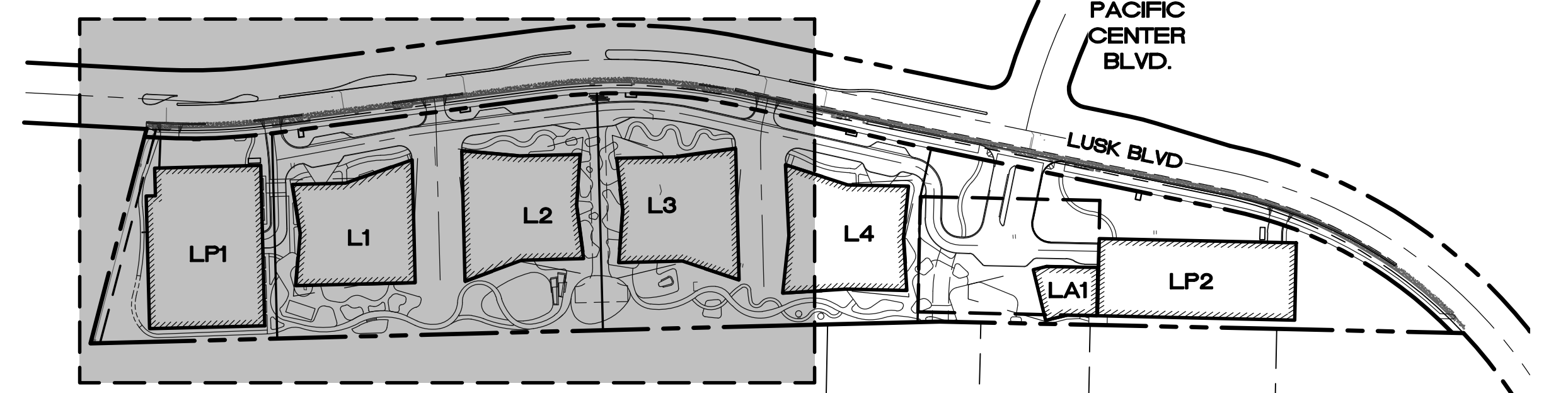
**NOTE:**  
 ENCROACHMENT MAINTENANCE AND REMOVAL AGREEMENT (EMRA) WILL BE REQUIRED FOR ALL PRIVATE IMPROVEMENTS WITHIN THE RIGHT OF WAY.



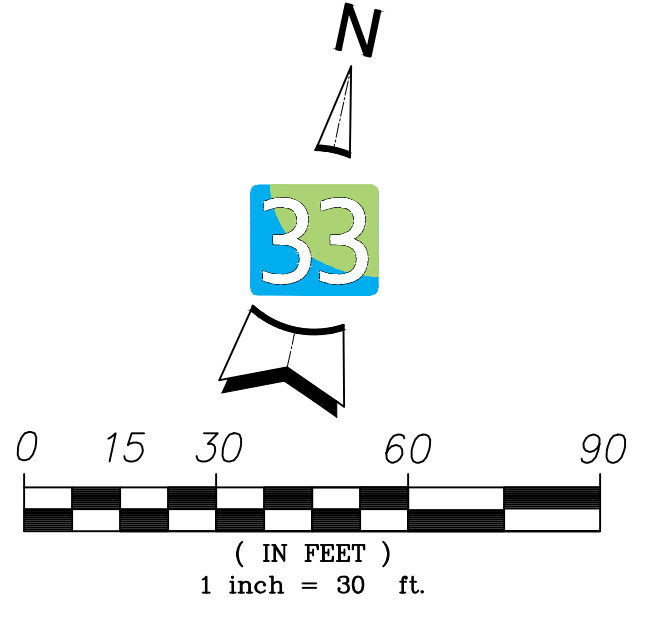
**EXISTING ROAD SECTION 'A'**  
 LUSK BOULEVARD  
 NOT TO SCALE



**PROPOSED ROAD SECTION 'A'**  
 LUSK BOULEVARD  
 NOT TO SCALE



**KEYMAP**  
 NTS



Stamps & Approvals

Project Key Plan

**NOT FOR CONSTRUCTION**

2	5/9/2023	ENTITLEMENT SET - REV 1
1	7/25/2022	ENTITLEMENT SET
Rev	Date	Description

Project Title

**LONGFELLOW**

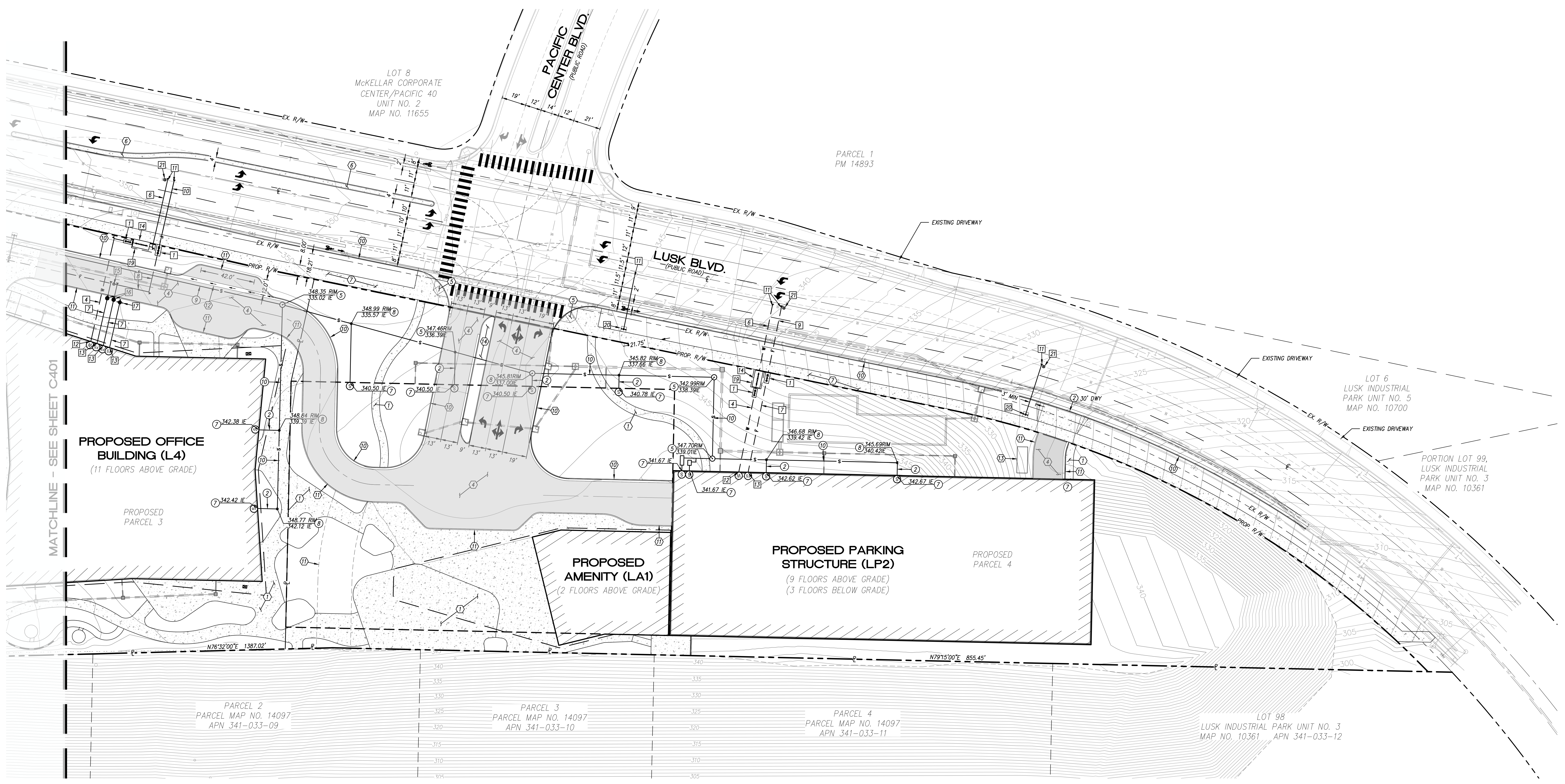
6370, 6440, 6450, 6540, 6640, & 6650 LUSK BLVD  
**LUSK ON LUSK**

Project Phase	
ENTITLEMENTS	
Date	Drawn By
3/29/2024	RKT
Project Number	Checked By
1848.00	KRB
Sheet Title	
<b>UTILITY &amp; IMPROVEMENT PLAN (WEST)</b>	

**C401**

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- LEGEND:**
- PROPOSED R/W
  - EXISTING R/W
  - CENTER LINE
  - PROPERTY LINE
  - WALL
  - WATER SERVICE PIPE
  - FIRE SERVICE PIPE
  - SEWER PIPE
  - STORM DRAIN PIPE
  - STORM DRAIN A-4 CLEANDOUT
  - STORM DRAIN CATCH BASIN
  - ADA RAMP
  - WATER BACKFLOW PREVENTOR
  - FIRE BACKFLOW PREVENTOR
  - WATER METER
  - SEWER MANHOLE
  - SEWER CLEANDOUT

- WATER IMPROVEMENT NOTES**
- 1) PROPOSED PRIVATE BACKFLOW PREVENTOR ASSEMBLY.
  - 4) PROPOSED 6" PVC PRIVATE WATER SERVICE.
  - 6) PROPOSED 6" PVC PUBLIC WATER SERVICE.
  - 7) PROPOSED 8" PVC PRIVATE FIRE SERVICE.
  - 8) PROPOSED 12" PVC PRIVATE FIRE SERVICE.
  - 9) PROPOSED 8" PVC PUBLIC FIRE SERVICE.
  - 10) PROPOSED 12" PVC PUBLIC FIRE SERVICE.
  - 11) CONNECT TO EXISTING PUBLIC 16" ACP WATER LINE.
  - 12) WATER POINT OF CONNECTION.
  - 13) FIRE POINT OF CONNECTION.
  - 14) PROPOSED PUBLIC 8" WATER METER.
  - 15) PROPOSED 12" GATE VALVE.
  - 16) PROPOSED POST INDICATOR VALVE.
  - 17) PROPOSED FIRE DEPARTMENT CONNECTION.
  - 18) WATER EASEMENT TO BE DEDICATED TO THE CITY OF SAN DIEGO FOR PUBLIC METERS ON PRIVATE PROPERTY.
  - 20) RELOCATED FIRE HYDRANT.
  - 21) PROPOSED 16" GATE VALVE ON PUBLIC WATER MAIN.

- SEWER IMPROVEMENT NOTES**
- 1) PROPOSED PRIVATE 6" PVC SEWER LATERAL.
  - 5) PROPOSED PRIVATE SEWER MANHOLE PER SDS-106.
  - 7) PROPOSED SEWER CONNECTION AT BUILDING.
  - 8) PROPOSED SEWER CLEANDOUT PER SC-01.
  - 9) PROPOSED PRIVATE 10" PVC SEWER MAIN.
  - 10) PROPOSED PRIVATE 8" PVC SEWER MAIN.

- CONSTRUCTION NOTES**
- 1) PROPOSED PRIVATE CONCRETE SIDEWALK.
  - 2) PROPOSED COMMERCIAL DRIVEWAY.
  - 3) PROPOSED AC PAVEMENT.
  - 5) PROPOSED ADA RAMP.
  - 6) PROPOSED 8-1 MEDIAN CURB. NO LANDSCAPING OR IRRIGATION.
  - 7) PROPOSED PUBLIC CONCRETE SIDEWALK.
  - 8) PROPOSED 6" CURB AND GUTTER.
  - 9) PROPOSED 6" CURB.
  - 10) PROPOSED RIBBON GUTTER.
  - 11) PROPOSED GENERATOR PAD.
  - 12) PROPOSED RAISED MEDIAN. THE RAISED MEDIAN WILL HOUSE ESSENTIAL WAYFINDING SIGNAGE TO SAFELY GUIDE VEHICLE ENTRY INTO THE PARKING GARAGE AND PICK-UP/DROP-OFF AREAS.

**NOTE:**  
 GRADING/STORM DRAIN DESIGN, SEE SHEET C302.

**NOTE:**  
 DEDICATION OF ADDITIONAL PARKWAY FOR PEDESTRIAN SAFETY.

**NOTE:**  
 INSTALL HIGH VISIBILITY CROSSWALK STRIPING AT INTERSECTION OF LUSK BLVD AND PACIFIC CENTER BLVD.

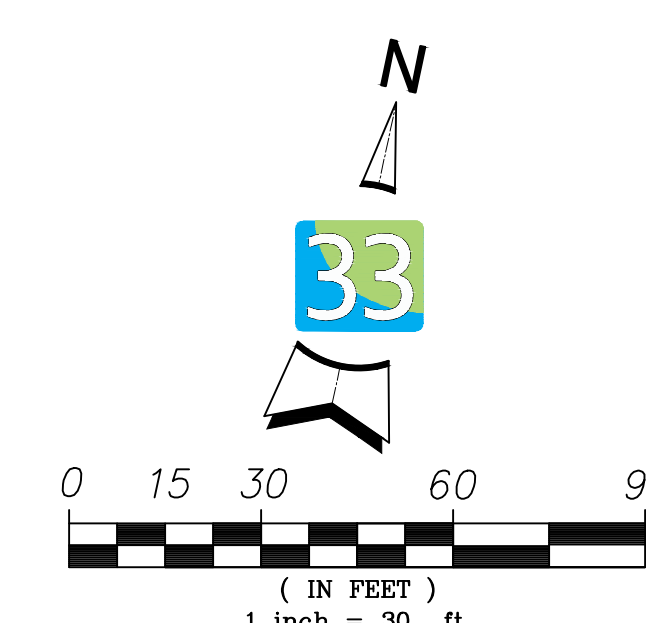
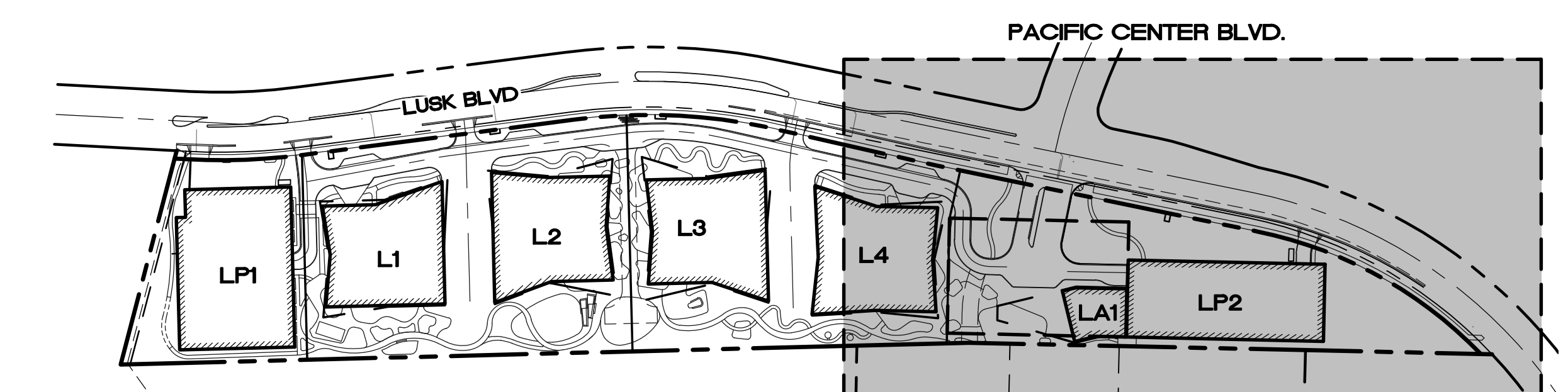
**NOTE:**  
 3" OR LARGER WATER METERS ARE REQUIRED FOR THIS PROJECT. THE OWNER/PERMITEE SHALL CONSTRUCT THE NEW METER AND PRIVATE BACK FLOW DEVICE ON SITE, ABOVE GROUND, WITHIN AN ADEQUATELY SIZED WATER EASEMENT, IN A MANNER SATISFACTORY TO THE PUBLIC UTILITIES DIRECTOR AND THE CITY ENGINEER.

**NOTE:**  
 ALL ON-SITE UTILITY IMPROVEMENTS ARE PRIVATE UNLESS OTHERWISE NOTED.

**NOTE:**  
 PROVIDE MINIMUM 10' SEPARATION BETWEEN WATER/FIRE SERVICES AND STREET TREES OR PROVIDE A ROOT BARRIER PER WATER FACILITIES DESIGN SECTION 3.3.4

**NOTE:**  
 PRIOR TO ISSUANCE AND ANY CONSTRUCTION PERMIT, THE OWNER/PERMITEE SHALL INCORPORATE ANY CONSTRUCTION BEST MANAGEMENT PRACTICES NECESSARY TO COMPLY WITH CHAPTER 14, ARTICLE 2, DIVISION 1 (GRADING REGULATIONS) OF THE SAN DIEGO MUNICIPAL CODE INTO THE CONSTRUCTION PLANS OR SPECIFICATIONS.

**NOTE:**  
 ENCROACHMENT MAINTENANCE AND REMOVAL AGREEMENT (EMRA) WILL BE REQUIRED FOR ALL PRIVATE IMPROVEMENTS WITHIN THE RIGHT OF WAY.



Stamps & Approvals

Project Key Plan

**NOT FOR CONSTRUCTION**

2	5/9/2023	ENTITLEMENT SET - REV 1
1	7/25/2022	ENTITLEMENT SET
Rev	Date	Description

Project Title

**LONGFELLOW**

6370, 6440, 6450, 6540, 6640, & 6650 LUSK BLVD  
**LUSK ON LUSK**

Project Phase

ENTITLEMENTS	Drawn By	
Date	3/29/2024	Checked By
Project Number	1848.00	Checked By
Sheet Title	UTILITY & IMPROVEMENT PLAN (EAST)	

**C402**

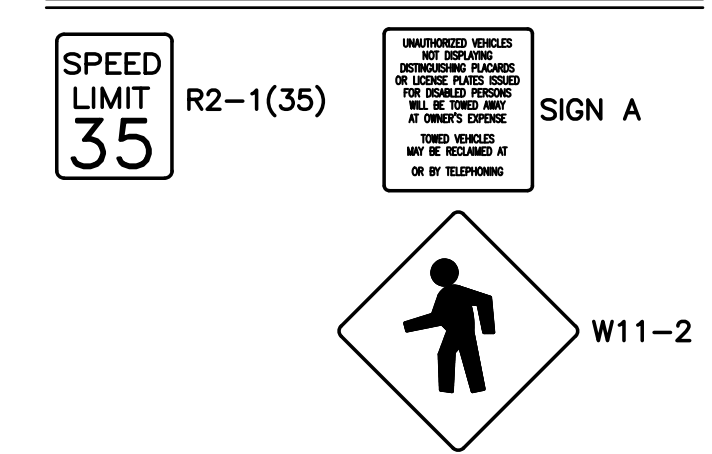
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**STRIPING AND SIGNING GENERAL NOTES (THIS SHEET ONLY)**

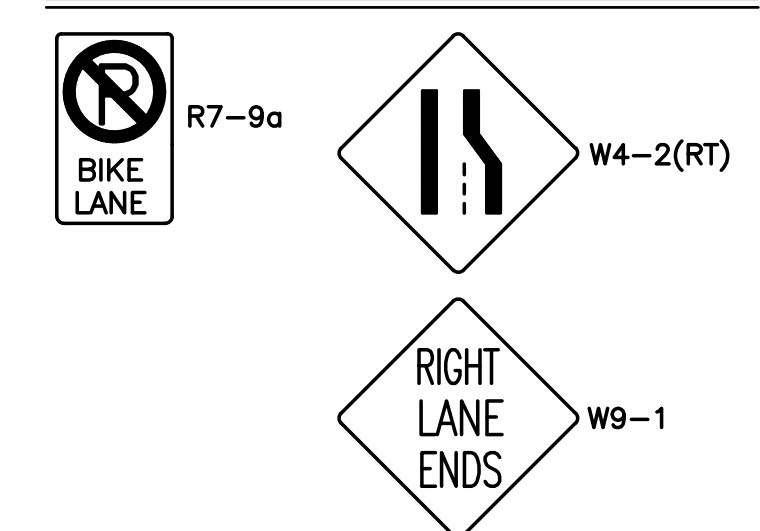
- INSTALLATION OF ALL STRIPING, SIGNS AND PAVEMENT MARKERS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL STRIPING AND SIGNING SHALL CONFORM TO THE MOST RECENTLY ADOPTED EDITION OF THE FOLLOWING MANUALS:
 

DESCRIPTION	EDITION	DOCUMENT NO.
STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (THE "GREENBOOK")	2021	ECPI010122-01
CITY OF SAN DIEGO STANDARD DRAWINGS	2021	ECPI010122-03
CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CA MUTCD) (REVISION 6), 2014 EDITION	2014	PWPI1060121-10
- ALL SIGNING AND STRIPING IS SUBJECT TO THE APPROVAL OF THE CITY ENGINEER PRIOR TO INSTALLATION AND/OR REMOVAL.
- THE CONTRACTOR SHALL REMOVE ALL CONFLICTING STRIPING, PAVEMENT MARKINGS AND LEGENDS BY SANDBLASTING OR AND/OR GRINDING WITH THE SEAL. ANY DEBRIS SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR.
- SIGN POSTS SHALL BE INSTALLED WITH SQUARE PERFORATED STEEL TUBING WITH BREAKAWAY BASE PER CITY OF SAN DIEGO STANDARD DRAWING M-45.
- ALL RAISED MEDIAN NOSES SHALL BE PAINTED YELLOW.
- ALL SIGNS SHOWN ON THE STRIPING AND SIGNING PLANS SHALL BE NEW SIGNS PROVIDED AND INSTALLED BY THE CONTRACTOR, EXCEPT FOR EXISTING SIGNS SPECIFICALLY INDICATED TO BE RELOCATED OR TO REMAIN.
- STRIPED CROSSWALKS SHALL HAVE AN INSIDE DIMENSION OF 10 FEET UNLESS INDICATED OTHERWISE.
- ALL LIMIT LINES/STOP LINES, CROSSWALK LINES, PAVEMENT LEGENDS, AND ARROWS (EXCEPT WITHIN BIKE LANES) SHALL BE THERMOPLASTIC.
- THE CONTRACTOR SHALL NOTIFY THE CITY TRAFFIC ENGINEER AT (858)495-4741 A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO AND UPON COMPLETION OF STRIPING AND SIGNING.

**EXISTING SIGNS (THIS SHEET ONLY)**



**PROPOSED SIGNS (THIS SHEET ONLY)**



**LEGEND (THIS SHEET ONLY)**

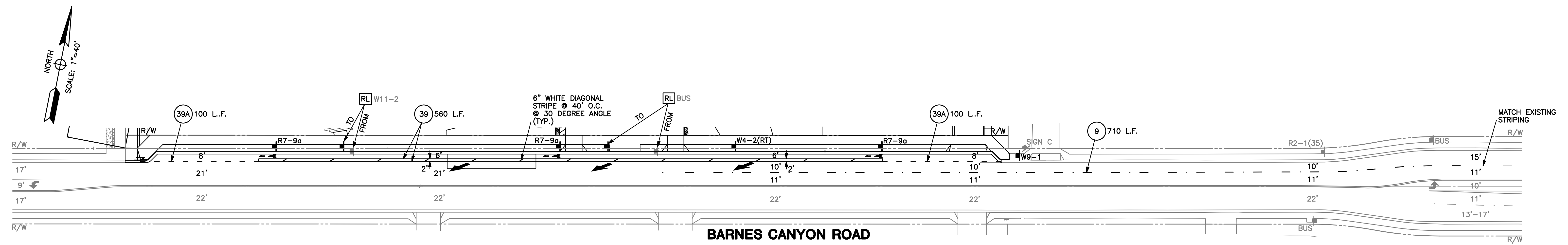
- EXISTING STRIPING TO BE REMOVED
- EXISTING STRIPING
- PROPOSED STRIPING
- EXISTING ROADSIDE SIGN
- EXISTING PAVEMENT ARROW
- PROPOSED TYPE VI PAVEMENT ARROW AS INDICATED
- INSTALL BIKE LANE SYMBOL WITH PERSON PER CALTRANS STANDARD PLAN A24C AS INDICATED.
- INSTALL BIKE LANE ARROW PER CALTRANS STANDARD PLAN A24A AS INDICATED.
- REMOVE CONFLICTING EXISTING STRIPING BY SANDBLASTING.
- RELOCATE EQUIPMENT
- REMOVE AND SALVAGE EQUIPMENT
- PROPOSED PAVEMENT STRIPING PER CALTRANS STRIPING DETAILS. SEE STANDARD PLAN A20A THRU A20D.
- TRAFFIC SIGNAL

**WORK TO BE DONE (THIS SHEET ONLY)**

- THE IMPROVEMENTS CONSIST OF THE FOLLOWING WORK TO BE DONE ACCORDING TO THESE PLANS AND THE SPECIFICATIONS AND STANDARD DRAWINGS OF THE CITY OF SAN DIEGO.
- STANDARD SPECIFICATIONS:**
- | DOCUMENT NO.  | EDITION | DESCRIPTION  |
|---------------|---------|--|
| ECPI010122-01 | 2021    | STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK")                            |
| ECPI010122-02 | 2021    | CITY OF SAN DIEGO SUPPLEMENT TO THE "GREENBOOK" ("WHITEBOOK")                                  |
| PWPI010119-04 | 2021    | CITYWIDE COMPUTER AIDED DESIGN AND DRAFTING (CADD) STANDARDS                                   |
| PWPI060121-10 | 2014    | CALIFORNIA DEPARTMENT OF TRANSPORTATION MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (REVISION 6) |
| PWPI030119-03 | 2018    | CALIFORNIA DEPARTMENT OF TRANSPORTATION U.S. CUSTOMARY STANDARD SPECIFICATIONS                 |

**STANDARD DRAWINGS:**

- | DOCUMENT NO.  | EDITION | DESCRIPTION   |
|---------------|---------|---|
| ECPI010122-03 | 2021    | CITY OF SAN DIEGO STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION     |
| PWPI030119-06 | 2018    | CALIFORNIA DEPARTMENT OF TRANSPORTATION U.S. CUSTOMARY STANDARD PLANS |



**BARNES CANYON ROAD**

**100% PRELIMINARY**  
NOT FOR CONSTRUCTION

DISCLAIMER: THE INFORMATION PROVIDED BY LINSKOTT, LAW & GREENSPAN, ENGINEERS VIA ELECTRONIC MEDIA, IS NOT GUARANTEED OR WARRANTED AGAINST ANY DEFECTS, INCLUDING DESIGN, CALCULATIONS, DATA TRANSLATION, TRANSMISSION OF ERRORS OR OMISSIONS. THIS DRAWING IS PRODUCED FOR REVIEW PURPOSES ONLY AND IS SUBJECT TO CHANGE. THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION UNTIL FINAL PLANS ARE ISSUED AND THIS NOTE HAS BEEN REMOVED.

**DECLARATION OF RESPONSIBLE CHARGE**

I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE, AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS.

I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE CITY OF SAN DIEGO IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME, AS ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR PROJECT DESIGN.

**ENGINEER OF WORK**

KALYAN C. YELLAPU R.C.E. 75023 DATE \_\_\_\_\_

**LINSKOTT LAW & GREENSPAN engineers**  
LINSKOTT, LAW & GREENSPAN, ENGINEERS  
4542 Ruffner Street, Suite 100  
San Diego, Ca 92111  
(858)300-8800

LLG 3-226641.1 1. STR1-6641.DWG 10/27/22  
Designed By: HQL Drawn By: DVS Checked By: KCY

**WARNING**  
SIGNING AND STRIPING PLAN FOR:  
**BARNES CANYON ROAD**

0 1/2 1  
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

**The City of SAN DIEGO**  
DEVELOPMENT SERVICES DEPARTMENT  
SHEET 34 OF 34 SHEETS

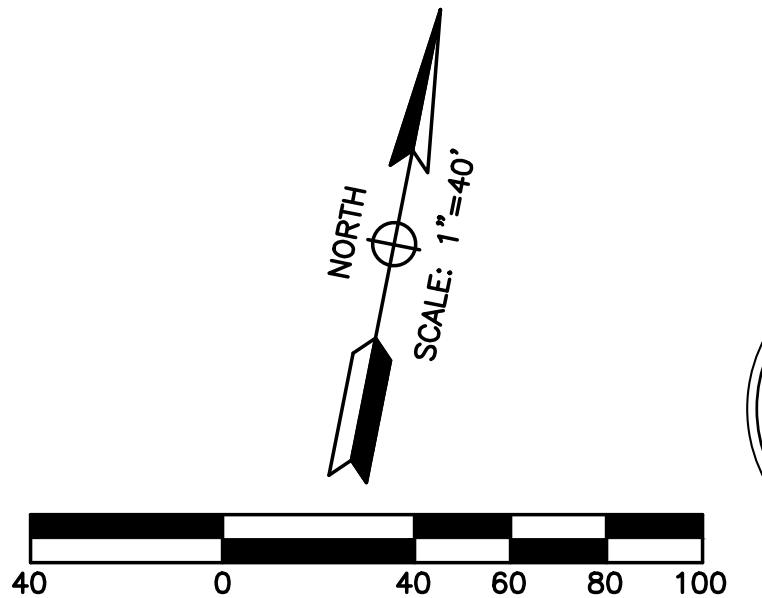
FOR CITY APPROVAL

DESCRIPTION	BY	APPROVED	DATE
ORIGINAL	LLG		

AS BUILTS

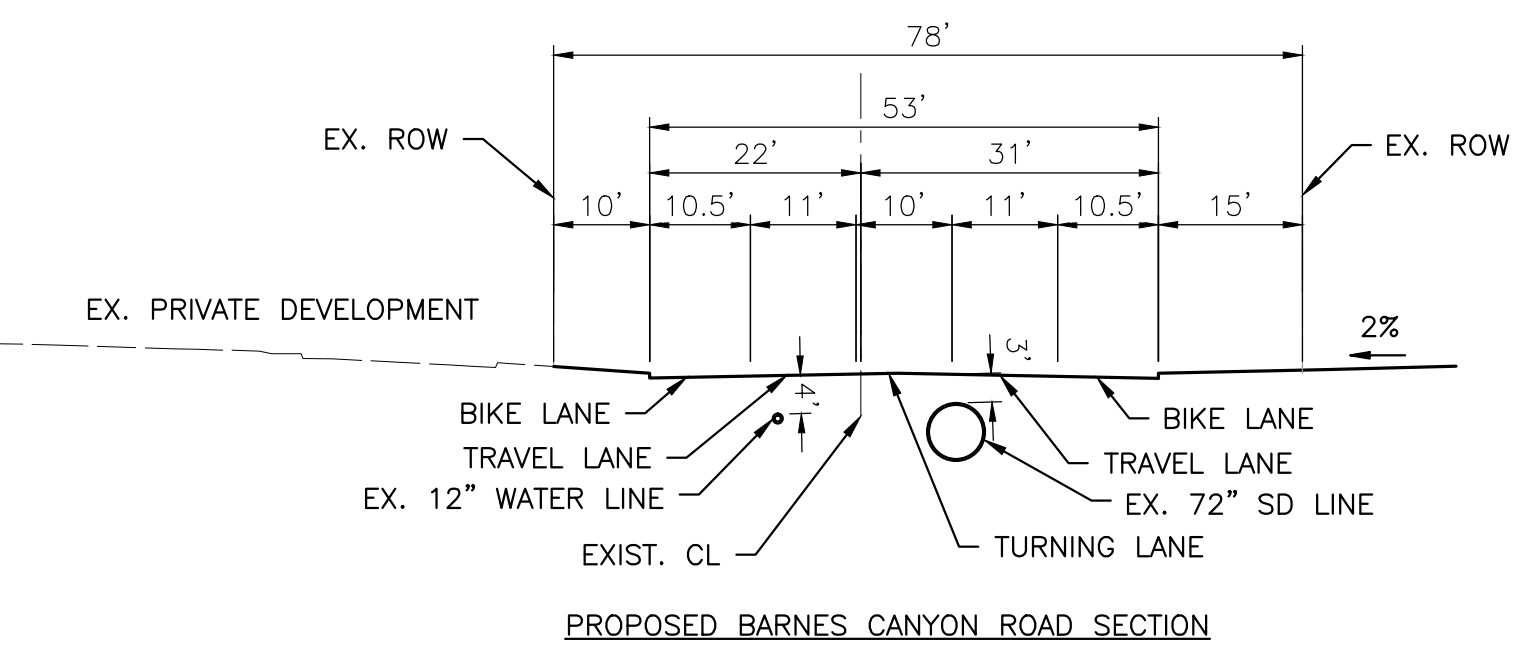
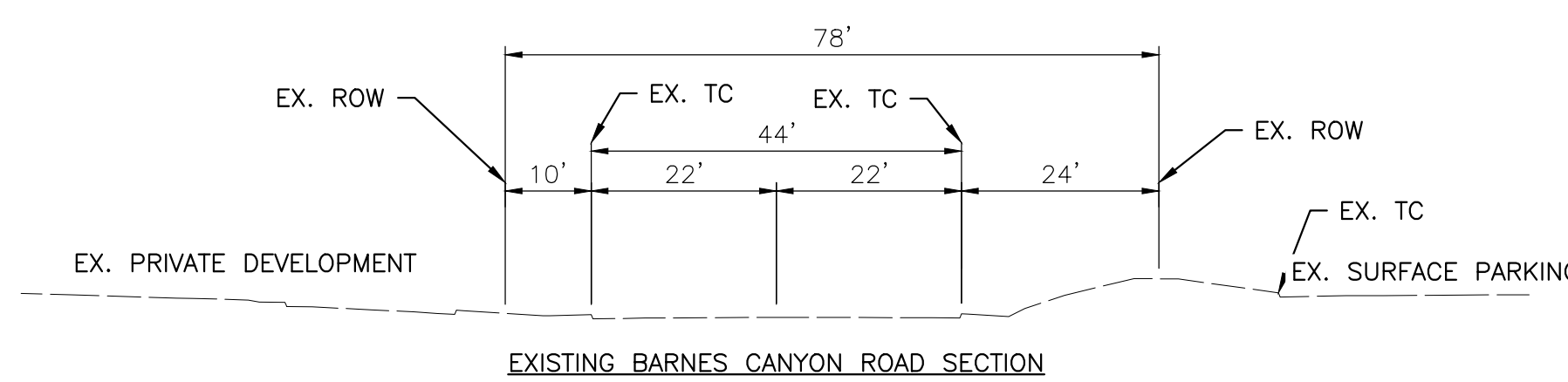
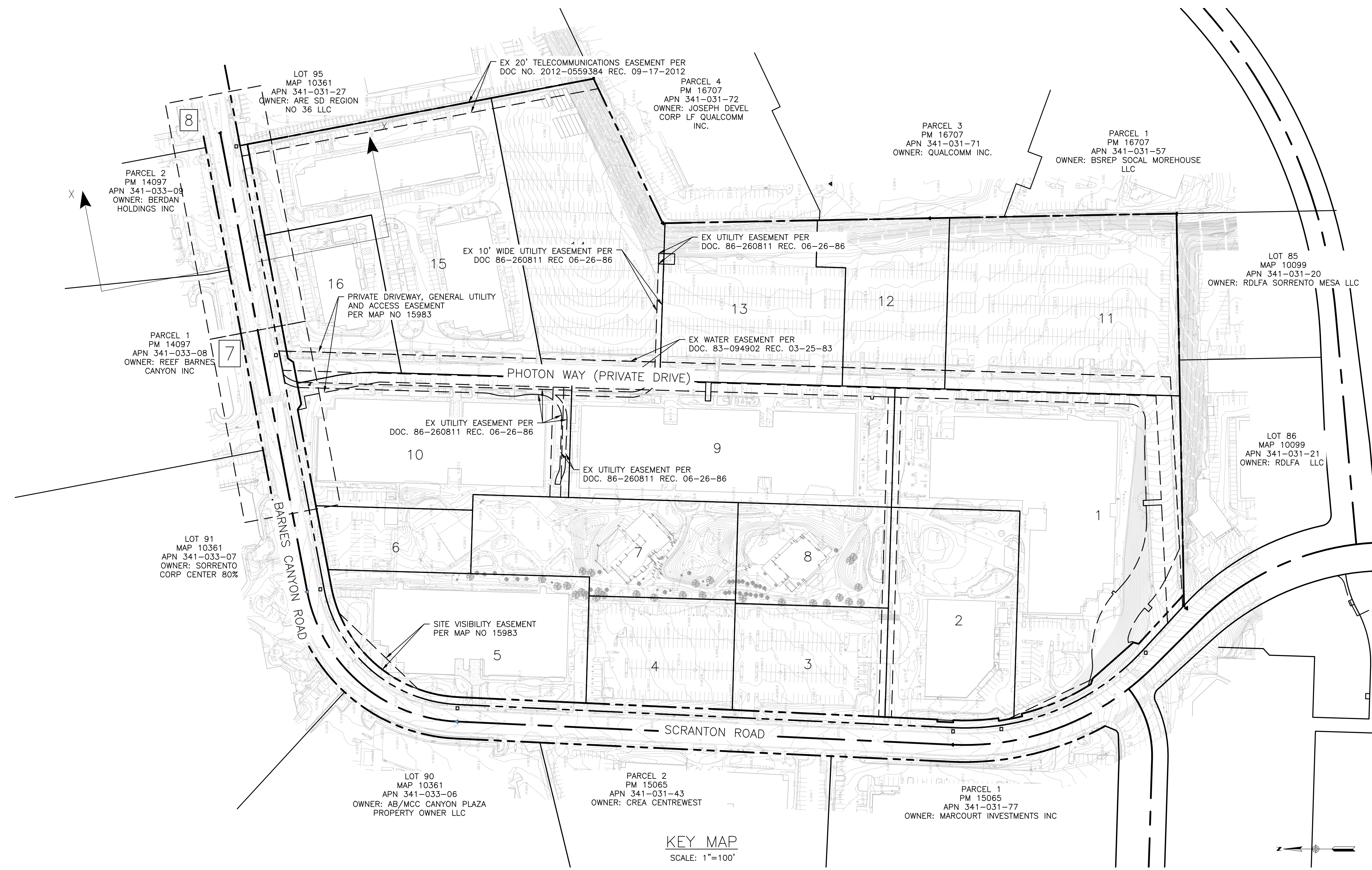
CONTRACTOR \_\_\_\_\_ DATE STARTED \_\_\_\_\_  
INSPECTOR \_\_\_\_\_ DATE COMPLETED \_\_\_\_\_

PMT NO. 3171518  
PRJ NO. 1066399  
1908-6267 NAD83 COORDINATES  
268-1707 LAMBERT COORDINATES  
DRAWING NO. **100491-34-D** **S-01**



**LEGEND:**

[X] IMPROVEMENT SHEET



PRIVATE CONTRACT

**INDEX MAP FOR:  
SD TECH CENTER**

BARNES CANYON ROAD EAST OF SCRANTON ROAD  
LOTS 10, 15, & 16 OF MAP 15983

CITY OF SAN DIEGO, CALIFORNIA DEVELOPMENT SERVICES DEPARTMENT SHEET 4 OF 23 SHEETS		PROJECT NO. 687635
FOR CITY ENGINEER	DATE	V.T.M.
DESCRIPTION	BY	APPROVED
ORIGINAL	REC	DATE
AS-BUILTS	REC	DATE
CONTRACTOR	DATE STARTED	42360-4-D
INSPECTOR	DATE COMPLETED	

(REV. 5/13/2019)

**RICK**  
ENGINEERING COMPANY  
San Diego

5620 FRIARS ROAD  
SAN DIEGO, CA 92110  
619.291.0707  
(FAX) 619.291.4165

J-19045

rickengineering.com  
Riverside - Orange - San Luis Obispo - Denver - Sacramento - Phoenix - Tucson

PRELIMINARY - NOT FOR CONSTRUCTION

**APPENDIX J**  
**BUS ROUTE SCHEDULES**

Exact fare, please Favor de pagar la cantidad exacta

ONE-WAY FARES Tarifas Sencillas	\$2.50	\$1.25
EARNED DAY PASS Pase del Día Ganado	\$6.00	\$3.00
MONTH PASS Pase mensual	\$72.00	\$23.00

Load money into your PRONTO account to earn Day Passes and Month Passes. Tap your PRONTO card (\$2) or scan your PRONTO mobile app (free) to ride. Carga dinero a tu cuenta de PRONTO para ganar Pases del Día y Pases Mensuales. Toca tu tarjeta PRONTO (\$2) o escanea tu aplicación móvil PRONTO (gratis) para viajar.

- One-ways with PRONTO receive free transfers for two hours. No free transfers for cash. Los viajes de ida con PRONTO reciben transbordos gratuitos por dos horas. No se permiten transbordos gratuitos con pagos en efectivo.
- Day Passes not sold in advance. Earned with PRONTO. Los pases diarios no se venden por adelantado. Se obtienen con PRONTO.
- A month pass can be purchased in advanced or earned with PRONTO. Good from first day to last day of the month. El Pase Mensual se puede comprar por adelantado o se obtiene mientras viaja con PRONTO. Válido desde el primer día hasta el último día del mes.

\*Proof of eligibility required. Senior Eligibility: Age 65+ or born on or before September 1, 1959. Youth Eligibility: Ages 6-18  
\*Se requiere verificación de elegibilidad. Elegibilidad para Personas Mayores: Edad 65+ o nacido en o antes del 1 de septiembre, 1959. Elegibilidad para Jóvenes: edades 6-18

For more information, visit: / Para más información, visite: [sdmts.com/fares](http://sdmts.com/fares)

## DIRECTORY / Directorio

MTS Information & Trip Planning MTS Información y planeo de viaje	511 or/ó (619) 233-3004
TTY/TDD (teletype for hearing impaired) Teletipo para sordos	(619) 234-5005 or/ó (888) 722-4889
InfoExpress (24-hour info via Touch-Tone phone) Información las 24 horas (via teléfono de teclas)	(619) 685-4900
Customer Service / Suggestions Servicio al cliente / Sugerencias	(619) 557-4555
MTS Security MTS Seguridad	(619) 595-4960
Lost & Found Objetos extraviados	(619) 233-3004
Transit Store	(619) 234-1060 12th & Imperial Transit Center M-F 8am-5pm
For MTS online trip planning Planificación de viajes por Internet	<a href="http://sdmts.com">sdmts.com</a>

For more information on riding MTS services, pick up a Rider's Guide on a bus or at the Transit Store, or visit [sdmts.com](http://sdmts.com).

Para obtener más información sobre el uso de los servicios de MTS, recoja un 'Rider's Guide' en un autobús o en la Transit Store, o visita a [sdmts.com](http://sdmts.com).

Thank you for riding MTS! ¡Gracias por viajar con MTS!

Effective SEPTEMBER 1, 2021

Rapid

237

Mira Mesa – UC San Diego  
via Mira Mesa Boulevard

### DESTINATIONS

- Miramar College Transit Station
- Mira Mesa High School
- Mira Mesa Mall
- Sorrento Mesa
- Westfield UTC



[sdmts.com](http://sdmts.com)

Route Alerts, Updated Schedules,  
Connections & More



Alternative formats available upon request. Please call: (619) 557-4555 / Formato alternativo disponible al preguntar. Favor de llamar: (619) 557-4555

# PRONTO

## Always get the best fare!

¡Obtén siempre la mejor tarifa!

### Get the Card.

Descarga la tarjeta.

Trolley ticket machines (cash, credit or debit)  
Máquinas expendedoras de boletos (efectivo, tarjeta de crédito o debito)

Retail outlets  
Establecimientos comerciales

Transit Store: 12th & Imperial Transit Center  
Tienda Transit Store: Centro de Transporte 12th & Imperial

### Get the app.

Descarga la aplicación.

RidePRONTO.com
619-595-5636

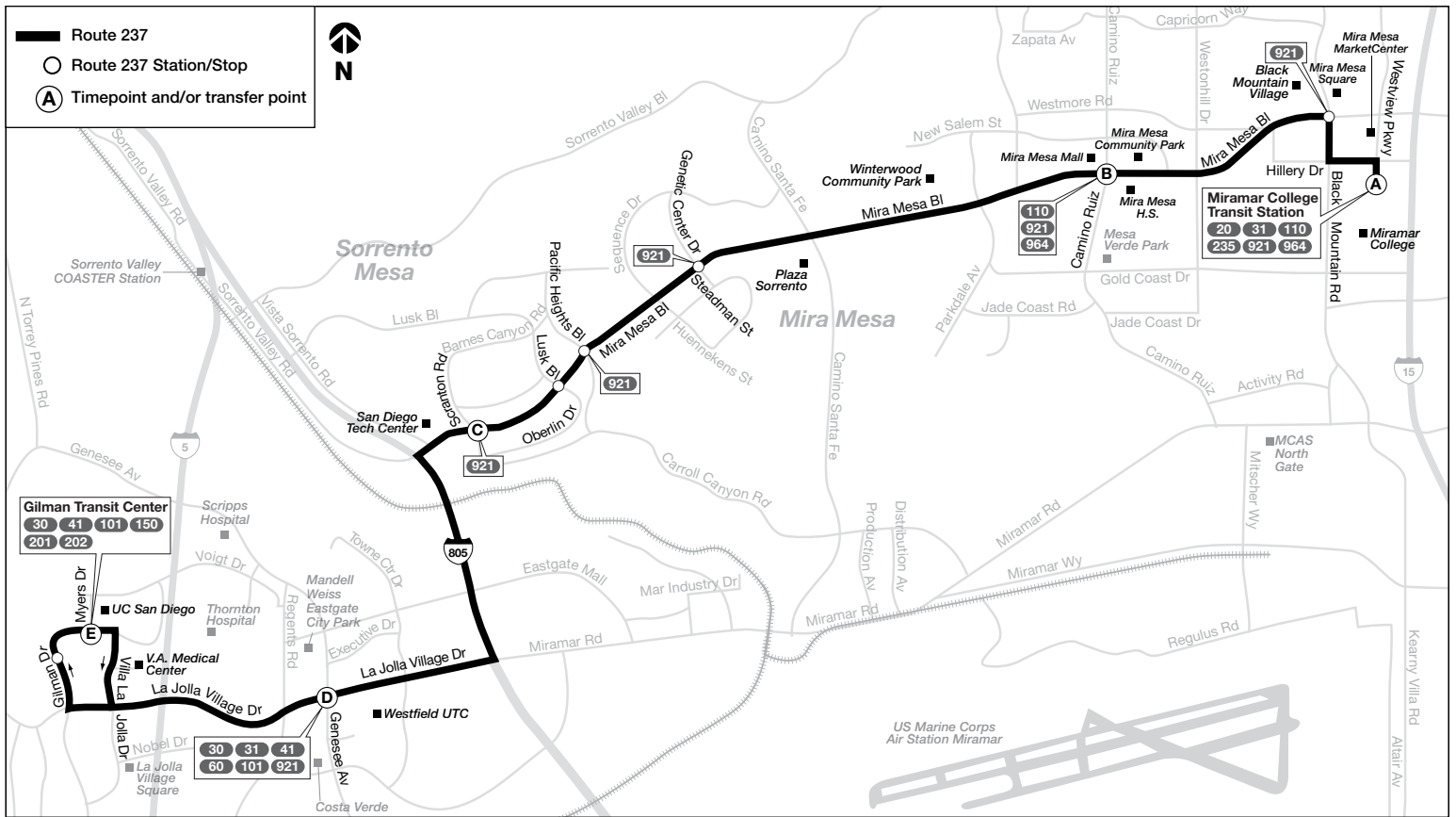
# Rider Insider

Freebies ♥ Contests ♥ Events ♥ News ♥ Fun

We **LOVE** our riders and as part of giving back, we're starting a new program for **YOU!** Just by staying in touch with us via email you'll get exclusive sweepstakes, news, events, plus transit lifestyle tips.

Join Today! [sdmts.com/RiderInsider](http://sdmts.com/RiderInsider)

Sponsored by



**Route 237 – Monday through Friday / Lunes a viernes**

**Mira Mesa → UC San Diego**

(A) Miramar College Transit Station <b>DEPART</b>	(B) Mira Mesa Bl. & Camino Ruiz	(C) Mira Mesa Bl. & Scranton Rd.	(D) La Jolla Village Dr. & Genesee Av.	(E) Gilman T. C. (UCSD) <b>ARRIVE</b>
5:52a	5:59a	6:09a	6:17a	6:25a
6:22	6:29	6:39	6:47	6:55
6:36	6:43	6:53	7:01	7:09
6:51	6:59	7:10	7:18	7:27
7:04	7:13	7:25	7:34	7:43
7:20	7:29	7:41	7:50	7:59
7:35	7:44	7:56	8:05	8:14
7:50	7:59	8:12	8:21	8:31
8:05	8:14	8:27	8:36	8:46
8:20	8:29	8:42	8:51	9:01
8:35	8:44	8:57	9:06	9:16
8:50	8:59	9:12	9:21	9:31
9:06	9:15	9:28	9:37	9:47
9:21	9:30	9:43	9:52	10:02
9:51	9:59	10:11	10:20	10:29
<b>2:48p</b>	<b>2:55p</b>	<b>3:06p</b>	<b>3:17p</b>	<b>3:26p</b>
3:18	3:25	3:36	3:47	3:56
3:48	3:56	4:08	4:19	4:28
4:19	4:27	4:39	4:51	5:01
4:34	4:42	4:54	5:06	5:16
4:50	4:58	5:10	5:22	5:32
5:05	5:13	5:25	5:37	5:47
5:20	5:28	5:40	5:52	6:02
5:35	5:43	5:55	6:07	6:17
5:50	5:57	6:09	6:19	6:29
6:21	6:28	6:39	6:48	6:57
6:47	6:54	7:04	7:12	7:21
7:17	7:24	7:34	7:42	7:51

**UC San Diego → Mira Mesa**

(E) Gilman T. C. (UCSD) <b>DEPART</b>	(D) La Jolla Village Dr. & Genesee Av.	(C) Mira Mesa Bl. & Scranton Rd.	(B) Mira Mesa Bl. & Camino Ruiz	(A) Miramar College Transit Station <b>ARRIVE</b>
6:03a	6:09a	6:13a	6:24a	6:31a
6:36	6:43	6:47	6:58	7:06
7:05	7:12	7:17	7:29	7:38
7:24	7:31	7:36	7:48	7:57
7:39	7:46	7:51	8:03	8:12
7:54	8:01	8:06	8:18	8:27
8:13	8:20	8:25	8:37	8:46
8:28	8:35	8:40	8:52	9:01
8:43	8:50	8:55	9:07	9:16
9:09	9:16	9:21	9:33	9:42
<b>2:01p</b>	<b>2:10p</b>	<b>2:15p</b>	<b>2:27p</b>	<b>2:37p</b>
<b>2:31</b>	<b>2:40</b>	<b>2:45</b>	<b>2:57</b>	<b>3:07</b>
<b>3:01</b>	<b>3:10</b>	<b>3:15</b>	<b>3:27</b>	<b>3:37</b>
<b>3:29</b>	<b>3:38</b>	<b>3:43</b>	<b>3:55</b>	<b>4:05</b>
<b>3:44</b>	<b>3:53</b>	<b>3:58</b>	<b>4:10</b>	<b>4:20</b>
<b>3:57</b>	<b>4:06</b>	<b>4:11</b>	<b>4:25</b>	<b>4:35</b>
<b>4:12</b>	<b>4:21</b>	<b>4:26</b>	<b>4:42</b>	<b>4:53</b>
<b>4:27</b>	<b>4:36</b>	<b>4:41</b>	<b>4:57</b>	<b>5:08</b>
<b>4:40</b>	<b>4:49</b>	<b>4:54</b>	<b>5:11</b>	<b>5:23</b>
<b>4:54</b>	<b>5:03</b>	<b>5:08</b>	<b>5:25</b>	<b>5:38</b>
<b>5:12</b>	<b>5:21</b>	<b>5:26</b>	<b>5:43</b>	<b>5:56</b>
<b>5:27</b>	<b>5:36</b>	<b>5:41</b>	<b>5:58</b>	<b>6:11</b>
<b>5:44</b>	<b>5:52</b>	<b>5:57</b>	<b>6:14</b>	<b>6:26</b>
<b>5:57</b>	<b>6:05</b>	<b>6:10</b>	<b>6:27</b>	<b>6:39</b>
<b>6:16</b>	<b>6:24</b>	<b>6:29</b>	<b>6:44</b>	<b>6:54</b>
<b>6:33</b>	<b>6:41</b>	<b>6:46</b>	<b>6:59</b>	<b>7:08</b>
<b>6:55</b>	<b>7:03</b>	<b>7:08</b>	<b>7:21</b>	<b>7:30</b>
<b>7:31</b>	<b>7:39</b>	<b>7:43</b>	<b>7:55</b>	<b>8:03</b>
<b>8:01</b>	<b>8:09</b>	<b>8:13</b>	<b>8:25</b>	<b>8:33</b>

Route 237 does not operate on weekends or on the following holidays and observed holidays  
*La ruta 237 no ofrece servicio durante el fin de semana o durante los siguientes días festivos y feriados observados*



New Year's Day, Presidents' Day,  
 Memorial Day, Independence Day,  
 Labor Day, Thanksgiving, Christmas

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Exact fare, please Favor de pagar la cantidad exacta

ONE-WAY FARES Tarifas Sencillas	\$2.50	\$1.25
EARNED DAY PASS Pase del Día Ganado	\$6.00	\$3.00
MONTH PASS Pase mensual	\$72.00	\$23.00

Load money into your PRONTO account to earn Day Passes and Month Passes. Tap your PRONTO card (\$2) or scan your PRONTO mobile app (free) to ride. Carga dinero a tu cuenta de PRONTO para ganar Pases del Día y Pases Mensuales. Toca tu tarjeta PRONTO (\$2) o escanea tu aplicación móvil PRONTO (gratis) para viajar.

• One-ways with PRONTO receive free transfers for two hours. No free transfers for cash. Los viajes de ida con PRONTO reciben transbordos gratuitos por dos horas. No se permiten transbordos gratuitos con pagos en efectivo.

• Day Passes not sold in advance. Earned with PRONTO. Los pases diarios no se venden por adelantado. Se obtienen con PRONTO.

• A month pass can be purchased in advanced or earned with PRONTO. Good from first day to last day of the month. El Pase Mensual se puede comprar por adelantado o se obtiene mientras viaja con PRONTO. Válido desde el primer día hasta el último día del mes.

\*Proof of eligibility required. Senior Eligibility: Age 65+ or born on or before September 1, 1959. Youth Eligibility: Ages 6-18  
\*Se requiere verificación de elegibilidad. Elegibilidad para Personas Mayores: Edad 65+ o nacido en o antes del 1 de septiembre, 1959. Elegibilidad para Jóvenes: edades 6-18

For more information, visit: / Para más información, visite: [sdmts.com/fares](http://sdmts.com/fares)

**DIRECTORY / Directorio**

<b>MTS Information &amp; Trip Planning</b> MTS Información y planeo de viaje	511 or/ó (619) 233-3004
<b>TTY/TDD (teletype for hearing impaired)</b> Teletipo para sordos	(619) 234-5005 or/ó (888) 722-4889
<b>InfoExpress</b> (24-hour info via Touch-Tone phone) Información las 24 horas (via teléfono de teclas)	(619) 685-4900
<b>Customer Service / Suggestions</b> Servicio al cliente / Sugerencias	(619) 557-4555
<b>MTS Security</b> MTS Seguridad	(619) 595-4960
<b>Lost &amp; Found</b> Objetos extraviados	(619) 233-3004
<b>Transit Store</b>	(619) 234-1060 12th & Imperial Transit Center M-F 8am-5pm
<b>For MTS online trip planning</b> Planificación de viajes por Internet	<a href="http://sdmts.com">sdmts.com</a>

For more information on riding MTS services, pick up a Rider's Guide on a bus or at the Transit Store, or visit [sdmts.com](http://sdmts.com).

Para obtener más información sobre el uso de los servicios de MTS, recoja un 'Rider's Guide' en un autobús o en la Transit Store, o visita a [sdmts.com](http://sdmts.com).

Thank you for riding MTS! ¡Gracias por viajar con MTS!

Effective SEPTEMBER 1, 2021

**31**

**UTC -  
Mira Mesa**  
via Miramar Road

**921**

**UTC -  
Mira Mesa**  
via Mira Mesa Boulevard

**DESTINATIONS**

- MCAS Miramar - North Gate
- Miramar College
- Miramar College Transit Station
- Mira Mesa Marketcenter
- Westfield UTC

**ROUTE 921**

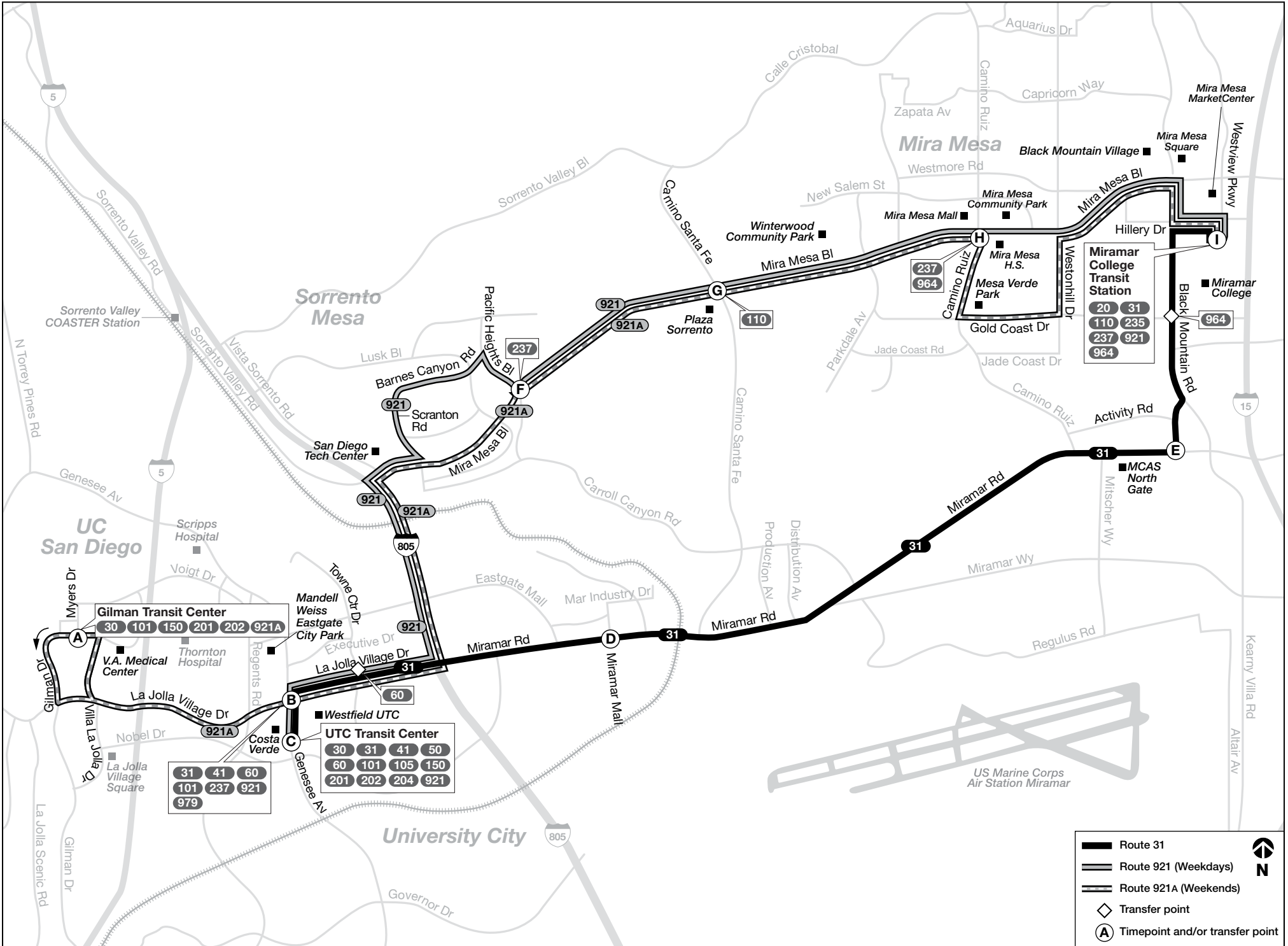
- Miramar College
- Miramar College Transit Station
- Mira Mesa High School
- Mira Mesa Mall
- Mira Mesa Marketcenter
- Sorrento Mesa
- VA Medical Center (921A)
- Westfield UTC
- UC San Diego (921A)



[sdmts.com](http://sdmts.com)  
Route Alerts, Updated Schedules,  
Connections & More



Alternative formats available upon request. Please call: (619) 557-4555 / Formato alternativo disponible al preguntar. Favor de llamar: (619) 557-4555



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**Route 31 - Monday through Friday / Lunes a viernes**

University City → Miramar → Mira Mesa			
UTC Transit Center DEPART	Miramar Rd. & Miramar Mall	Black Mountain Rd. & Miramar Rd.	Miramar College Transit Station ARRIVE
5:55a	6:01a	6:11a	6:18a
6:28	6:35	6:46	6:53
6:58	7:05	7:16	7:23
7:27	7:35	7:47	7:55
7:57	8:05	8:17	8:25
8:28	8:36	8:47	8:55
2:27p	2:35p	2:46p	2:54p
3:03	3:10	3:23	3:31
3:33	3:40	3:53	4:01
4:01	4:09	4:23	4:32
4:31	4:39	4:53	5:02
5:03	5:11	5:25	5:34
5:33	5:41	5:55	6:04
6:03	6:10	6:23	6:31
6:33	6:40	6:51	6:58

Mira Mesa → Miramar → University City			
Miramar College Transit Station DEPART	Miramar Rd. & Black Mountain Rd.	Miramar Rd. & Miramar Mall	UTC Transit Center ARRIVE
5:39a	5:46a	5:59a	6:07a
6:09	6:16	6:29	6:37
6:39	6:47	7:00	7:09
7:07	7:16	7:29	7:39
7:38	7:47	8:00	8:10
8:08	8:17	8:30	8:40
8:38	8:47	9:00	9:10
9:09	9:17	9:29	9:38
2:43p	2:50p	3:02p	3:12p
3:11	3:18	3:30	3:40
3:41	3:48	4:00	4:10
4:11	4:18	4:30	4:40
4:41	4:48	5:01	5:12
5:11	5:18	5:31	5:42
5:49	5:56	6:07	6:16

Route 31 does not operate on weekends or on the following holidays and observed holidays >>> New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, Christmas  
La ruta 31 no ofrece servicio durante el fin de semana o durante los siguientes días festivos y feriados observados

**Route 921 – Monday through Friday / lunes a viernes**

**University City ➔ Sorrento Valley ➔ Mira Mesa**

(C) UTC Transit Center	(F) Mira Mesa Bl. & Pacific Heights Bl.	(G) Mira Mesa Bl. & Camino Santa Fe	(H) Mira Mesa Bl. & Camino Ruiz	(I) Miramar College Transit Station
DEPART				ARRIVE
6:17a	6:33a	6:38a	6:44a	6:53a
6:41	6:57	7:02	7:08	7:17
7:11	7:27	7:32	7:38	7:47
7:35	7:53	7:59	8:06	8:15
8:05	8:23	8:29	8:36	8:45
8:35	8:53	8:59	9:06	9:15
9:08	9:24	9:29	9:36	9:45
9:38	9:54	9:59	10:06	10:15
10:08	10:24	10:29	10:36	10:45
10:38	10:54	10:59	11:06	11:15
11:08	11:24	11:29	11:36	11:45
11:38	11:54	11:59	12:06p	12:15p
12:08p	12:24p	12:29p	12:36	12:45
12:38	12:54	12:59	1:06	1:15
1:06	1:23	1:28	1:35	1:45
1:36	1:53	1:58	2:05	2:15
2:11	2:28	2:33	2:40	2:50
2:41	2:58	3:03	3:10	3:20
3:11	3:28	3:33	3:40	3:50
3:39	3:56	4:02	4:09	4:20
4:06	4:24	4:30	4:38	4:50
4:36	4:54	5:00	5:08	5:20
5:06	5:24	5:30	5:38	5:50
5:31	5:49	5:55	6:03	6:15
6:04	6:21	6:26	6:34	6:45
6:36	6:53	6:58	7:05	7:15
7:07	7:24	7:29	7:36	7:46

**Mira Mesa ➔ Sorrento Valley ➔ University City**

(I) Miramar College Transit Station	(H) Mira Mesa Bl. & Camino Ruiz	(G) Mira Mesa Bl. & Camino Santa Fe	(F) Pacific Heights Bl. & Mira Mesa Bl.	(C) UTC Transit Center
DEPART				ARRIVE
5:35a	5:44a	5:50a	5:55a	6:12a
6:09	6:18	6:24	6:29	6:47
6:39	6:48	6:54	6:59	7:16
7:09	7:19	7:26	7:31	7:50
7:39	7:49	7:56	8:01	8:20
8:09	8:19	8:26	8:31	8:50
8:39	8:49	8:56	9:01	9:20
9:09	9:19	9:26	9:31	9:50
9:44	9:53	9:59	10:04	10:22
10:14	10:23	10:29	10:34	10:52
10:44	10:53	10:59	11:04	11:22
11:14	11:23	11:29	11:34	11:52
11:44	11:53	11:59	12:04p	12:22p
12:14p	12:23p	12:29p	12:34	12:52
12:44	12:53	12:59	1:04	1:22
1:14	1:23	1:29	1:34	1:52
1:44	1:53	1:59	2:04	2:22
2:14	2:23	2:29	2:34	2:54
2:39	2:48	2:54	2:59	3:21
3:06	3:15	3:21	3:26	3:48
3:36	3:45	3:51	3:56	4:18
4:07	4:16	4:22	4:27	4:49
4:37	4:46	4:52	4:57	5:19
5:07	5:16	5:22	5:27	5:49
5:37	5:46	5:52	5:57	6:19
6:07	6:16	6:22	6:27	6:46
6:35	6:44	6:50	6:55	7:14

**Route 921A – Saturday and Sunday / sábado y domingo**

**University City ➔ Sorrento Valley ➔ Mira Mesa**

(A) Gilman Transit Center (UCSD)	(B) La Jolla Village Dr. & Genesee Av.	(F) Mira Mesa Bl. & Pacific Heights Bl.	(G) Mira Mesa Bl. & Camino Santa Fe	(H) Camino Ruiz & Mira Mesa Bl.	(I) Miramar College Transit Station
DEPART					ARRIVE
A 7:19a	7:29a	7:37a	7:40a	7:45a	7:57a
A 8:19	8:29	8:37	8:40	8:45	8:57
A 9:19	9:30	9:39	9:42	9:48	10:01
A 10:19	10:30	10:39	10:42	10:48	11:01
A 11:19	11:30	11:39	11:42	11:48	12:01p
A 12:19p	12:30p	12:39p	12:42p	12:48p	1:01
A 1:19	1:30	1:39	1:42	1:48	2:01
A 2:19	2:30	2:39	2:42	2:48	3:01
A 3:19	3:30	3:39	3:42	3:48	4:01
A 4:19	4:30	4:39	4:42	4:48	5:01
A 5:18	5:29	5:38	5:41	5:47	6:00
A 6:18	6:29	6:38	6:41	6:47	7:00
A 7:22	7:32	7:40	7:43	7:48	8:00

**Mira Mesa ➔ Sorrento Valley ➔ University City**

(I) Miramar College Transit Station	(H) Mira Mesa Bl. & Camino Ruiz	(G) Mira Mesa Bl. & Camino Santa Fe	(F) Mira Mesa Bl. & Pacific Heights Bl.	(B) La Jolla Village Dr. & Genesee Av.	(A) Gilman Transit Center (UCSD)
DEPART					ARRIVE
A 7:27a	7:39a	7:44a	7:47a	7:55a	8:04a
A 8:27	8:39	8:44	8:47	8:55	9:04
A 9:28	9:42	9:47	9:50	9:59	10:09
A 10:28	10:42	10:47	10:50	10:59	11:09
A 11:28	11:42	11:47	11:50	11:59	12:09p
A 12:28p	12:42p	12:47p	12:50p	12:59p	1:09
A 1:28	1:42	1:47	1:50	1:59	2:09
A 2:28	2:42	2:47	2:50	2:59	3:09
A 3:28	3:42	3:47	3:50	3:59	4:09
A 4:27	4:41	4:46	4:49	4:58	5:08
A 5:27	5:41	5:46	5:49	5:58	6:08
A 6:27	6:41	6:46	6:49	6:58	7:08

A = Saturday/Sunday trips have an alternate routing in Mira Mesa & Sorrento Mesa. See map. / Viajes de sábado/domingo tienen ruta alternativa en Mira Mesa y Sorrento Mesa. Vea el mapa.

A Saturday or Sunday schedule will be operated on the following holidays and observed holidays  
Se operará con horario de sábado o domingo durante los siguientes días festivos y feriados observados

>>> New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, Christmas

**PRONTO**



**Always get the best fare!**

*¡Obtén siempre la mejor tarifa!*

**Get the Card.**  
*Descarga la tarjeta.*

Trolley ticket machines (cash, credit or debit)  
*Máquinas expendedoras de boletos (efectivo, tarjeta de crédito o debito)*

Retail outlets  
*Establecimientos comerciales*

Transit Store: 12th & Imperial Transit Center  
*Tienda Transit Store: Centro de Transporte 12th & Imperial*

**Get the app.**  
*Descarga la aplicación.*



**RidePRONTO.com**

**619-595-5636**



The Sorrento Valley COASTER Connection is a free service for COASTER passengers! This service is provided as a courtesy by the Metropolitan Transit System and the North County Transit District.

¡El Sorrento Valley COASTER Connection es un servicio gratuito para los pasajeros del COASTER! Este servicio es proveído como cortesía por el Metropolitan Transit System y el North County Transit District.

**PRONTO**



**Always get the best fare!**

¡Obtén siempre la mejor tarifa!



**Get the Card.**  
Descarga la tarjeta.

**Get the app.**  
Descarga la aplicación.



RidePRONTO.com

619-595-5636

**DIRECTORY / Directorio**

MTS Information & Trip Planning MTS Información y planeo de viaje	511 or/ó (619) 233-3004
TTY/TDD (teletype for hearing impaired) Teletipo para sordos	(619) 234-5005 or/ó (888) 722-4889
InfoExpress (24-hour info via Touch-Tone phone) Información las 24 horas (vía teléfono de teclas)	(619) 685-4900
Customer Service / Suggestions Servicio al cliente / Sugerencias	(619) 557-4555
MTS Security MTS Seguridad	(619) 595-4960
Lost & Found Objetos extraviados	(619) 233-3004
Transit Store	(619) 234-1060 12th & Imperial Transit Center M-F 8am-5pm
For MTS online trip planning Planificación de viajes por Internet	sdmts.com

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Thank you for riding MTS! ¡Gracias por viajar con MTS!

**COASTER CONNECTION**

Sorrento Valley COASTER Station

**972** Sorrento Mesa

**973** Carroll Canyon

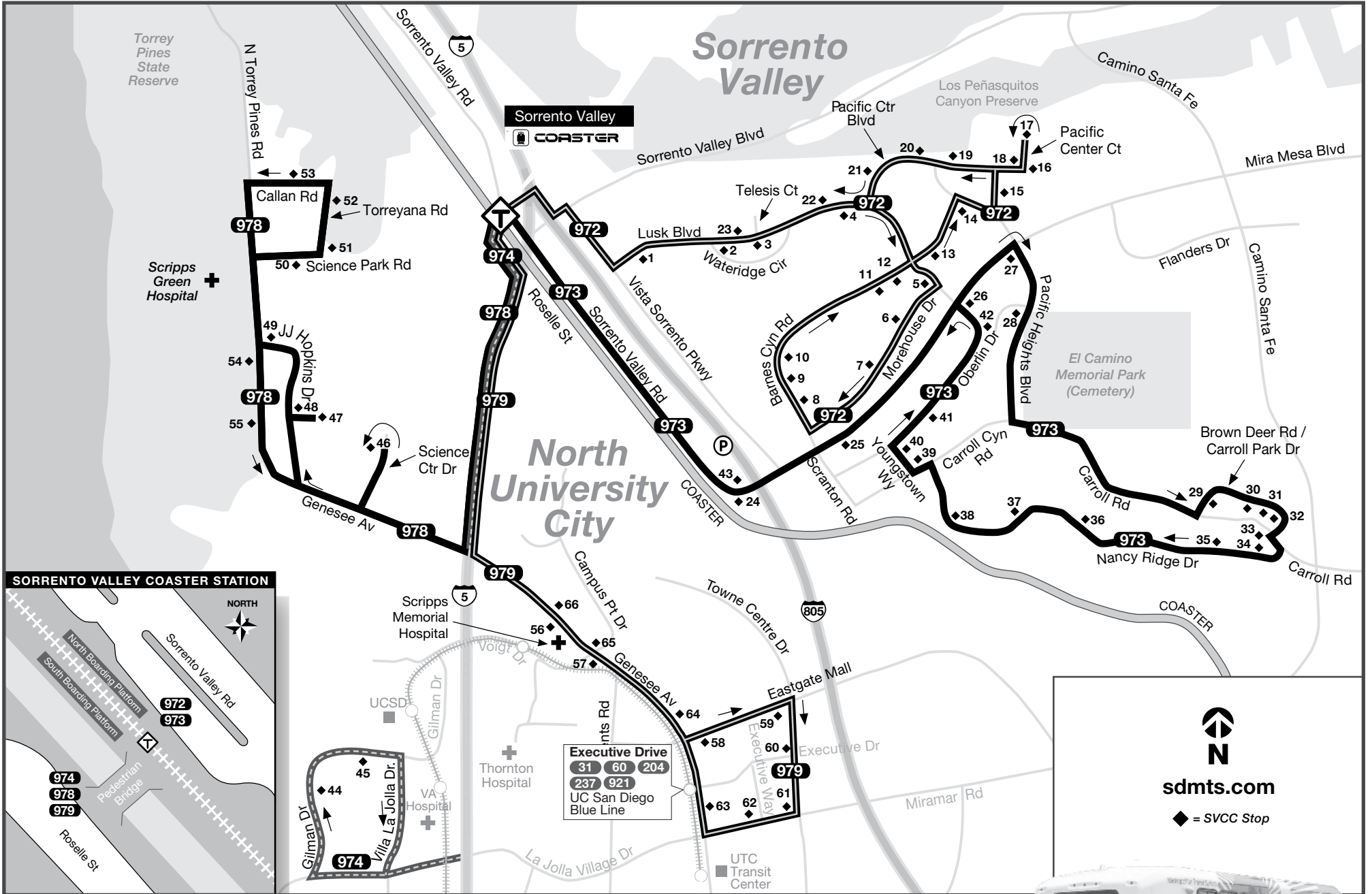
**974** UC San Diego

**978** Torrey Pines

**979** University City TROLLEY CONNECTION



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**COASTER**

**Oceanside → San Diego**

	Morning (AM)				Afternoon/Evening (PM)				
	5:56a	6:36a	7:16a	7:36a	3:36p	4:16p	4:36p	5:16p	6:16p
Oceanside	5:56a	6:36a	7:16a	7:36a	3:36p	4:16p	4:36p	5:16p	6:16p
Carlsbad Village	6:03	6:43	7:23	7:43	3:43	4:23	4:43	5:23	6:23
Carlsbad Poinsettia	6:09	6:49	7:29	7:49	3:49	4:29	4:49	5:29	6:29
Encinitas	6:15	6:55	7:35	7:55	3:55	4:35	4:55	5:35	6:35
Solana Beach	6:21	7:01	7:41	8:01	4:01	4:41	5:01	5:41	6:41
Sorrento Valley	6:30	7:10	7:50	8:10	4:10	4:50	5:10*	5:50	6:50
Old Town	6:51	7:31	8:11	8:31	4:31	5:11	5:31	6:11	7:11
San Diego	6:57	7:37	8:17	8:37	4:37	5:17	5:37	6:17	7:17

**San Diego → Oceanside**

	Morning (AM)		Afternoon/Evening (PM)				
	6:40a	7:40a	3:40p	4:20p	5:20p	5:40p	6:20p
San Diego	6:40a	7:40a	3:40p	4:20p	5:20p	5:40p	6:20p
Old Town	6:47	7:47	3:47	4:27	5:27	5:47	6:27
Sorrento Valley	7:09	8:09	4:09	4:49	5:49	6:09*	6:49
Solana Beach	7:19	8:19	4:19	4:59	5:59	6:19	6:59
Encinitas	7:25	8:25	4:25	5:05	6:05	6:25	7:05
Carlsbad Poinsettia	7:31	8:31	4:31	5:11	6:11	6:31	7:11
Carlsbad Village	7:37	8:37	4:37	5:17	6:17	6:37	7:17
Oceanside	7:42	8:42	4:42	5:22	6:22	6:42	7:22



**ROUTE DEVIATIONS / Desviaciones de la Ruta**

Effective October 25, 2021  
SVCC services can provide a deviation of up to 3/4 of a mile off of the route for requesting passengers traveling to or from the Sorrento Valley COASTER Station during the corresponding hours that the SVCC service operates. SVCC route deviations are only provided in areas where ADA complementary paratransit service is not available on MTS Access or NCTD LIFT. Please call (877) 841-3278 for more information.

A partir de 25 de octubre de 2021  
Los servicios de SVCC pueden desviarse hasta 3/4 de milla fuera de la ruta para pasajeros solicitantes que viajen hacia o desde la estación COASTER de Sorrento Valley durante las horas correspondientes en que opera el servicio de SVCC. Las desviaciones de la ruta de SVCC solo se proporcionan en áreas donde el servicio de paratransito complementario de la ADA no está disponible en MTS Access o NCTD LIFT. Llame al (877) 841-3278 para obtener más información.

**COMMUTER TAX BENEFIT PROGRAM FOR EMPLOYERS / Programa de Asistencia de Tránsito del Empleador**

Employers can provide their employees a payroll tax deduction for riding transit to work of up to \$125 per month. Employers benefit from this program through reduced payroll taxes and other business deductions. For more information about this and other commuter services for employers visit [iCommuteSD.com](http://iCommuteSD.com) or call 511 and say "iCommute".

Los empleadores pueden proporcionar a sus empleados una deducción de los impuestos sobre nóminas de hasta \$125 dólares al mes por trasladarse al trabajo usando el transporte interurbano. Los empleadores sacan provecho de este programa mediante menores impuestos sobre nómina y otras deducciones empresariales. Para mayores informes sobre éste y otros servicios gratuitos para pasajeros interurbanos para los empleadores, favor de visitar [iCommuteSD.com](http://iCommuteSD.com) o llamar al 511 y decir 'iCommute'.

COASTER schedule shown is effective November 21, 2021 and is subject to change without notice. This may not reflect the most current schedule. Only trips that connect with the Sorrento Valley COASTER Connection are shown. Additional days and times of service can be found at [www.gonctd.com](http://www.gonctd.com). COASTER calendario que se muestra es a partir del 21 de noviembre de 2021 y está sujeto a cambios sin previo aviso. Esto puede no reflejar el calendario más actual. Sólo los viajes que conectan con el Sorrento Valley COASTER Connection se muestran. Días adicionales y las horas de servicio se pueden encontrar en [www.gonctd.com](http://www.gonctd.com).

\* This COASTER Connection trip is operated by North County Transit District. Visit [goNCTD.com](http://goNCTD.com) for details. Este viaje COASTER Connection operado por North County Transit District. Visite a [goNCTD.com](http://goNCTD.com) para detalles.

**Route 972 – Monday through Friday / lunes a viernes**

**Sorrento Mesa → Sorrento Valley COASTER Station**

	Morning (AM)				Afternoon/Evening (PM)					
	6:30a	7:10a	7:50a	8:16a	—	4:05p		5:05p		6:05p
◇ Sorrento Valley COASTER Station <b>DEPART*</b>					3:33p					
1 10525 Vista Sorrento Pkwy.										
2 EB Lusk Blvd & Wateridge Circle (after intersection)										
3 EB Lusk Blvd & Telesis Ct. (after intersection)										
4 Across from 6455 Lusk Blvd.	6:37	7:17	7:57	8:23	3:34	4:14		5:14		6:14
5 10225 Lusk Blvd. (electrical boxes)										
6 Across from 5525 Morehouse Drive										
7 5510 Morehouse Drive										
8 5424 Scranton Road										
9 9605 Scranton Road										
10 9805 Scranton Road										
11 10055 Barnes Canyon Road										
12 10225 Barnes Canyon Road										
13 EB Barnes Canyon Road & Lusk Blvd. (after intersection)	6:43	7:23	8:03	8:29	3:40	4:20	▲	5:20	▲	6:20
14 EB Barnes Canyon Road & Pacific Heights Blvd. (before turn)										
15 10211 Pacific Mesa Blvd.										
16 10309 Pacific Center Ct.										
17 10450 Pacific Center Ct.										
18 5910 Pacific Center Blvd.										
19 5788 Pacific Center Blvd.										
20 5764 Pacific Center Blvd.										
21 WB Pacific Center Blvd & McKellar Ct. (after intersection)										
22 Qualcomm Design Center (45 mph sign)	6:51	7:31	8:11	8:37	3:48	4:28		5:28		6:28
23 WB Lusk Blvd & Telesis Ct. (after intersection)										
◇ Sorrento Valley COASTER Station <b>ARRIVE</b>	6:57	7:37	8:16	—	3:57	4:37	4:58p	5:37	5:57p	6:37

**Route 973 – Monday through Friday / lunes a viernes**

**Carroll Canyon → Sorrento Valley COASTER Station**

	Morning (AM)				Afternoon/Evening (PM)					
	6:30a	7:10a	7:50a	8:19a	—	4:06p		5:06p		6:06p
◇ Sorrento Valley COASTER Station <b>DEPART*</b>					—	4:06p		5:06p		6:06p
24 10240 Sorrento Valley Road					3:33p					
25 EB Mira Mesa Blvd. & Scranton Road (after intersection)										
26 EB Mira Mesa Blvd. & Oberlin Drive (after intersection)										
27 Pacific Heights Blvd. & Mira Mesa Blvd. (after turn, electrical boxes)	6:38	7:18	7:58	8:27	3:34	4:14		5:14		6:14
28 Pacific Heights Blvd. & Cornerstone Ct. (after intersection)										
29 Brown Deer Road & Ferris Square (at pedestrian crossing sign)										
30 9215 Brown Deer Road										
31 9339 Carroll Park Drive										
32 9449 Carroll Park Drive										
33 Nancy Ridge Drive & Carroll Road (after turn, Carroll Ridge Bus. Park)	6:47	7:27	8:06	8:36	3:43	4:23		5:23		6:23
34 6868 Nancy Ridge Drive							▲		▲	
35 6650 Nancy Ridge Drive										
36 6310 Nancy Ridge Drive (electrical boxes in front of Nancy Ridge Technology Park)										
37 6150 Nancy Ridge Drive (Sorrento Ridge Business Park)										
38 5960 Nancy Ridge Drive (Sorrento Vista Industrial Park)										
39 5280 Carroll Canyon Road										
40 Youngstown Way & Oberlin Drive (before turn, at fire hydrant)										
41 5807 Oberlin Drive										
42 5871 Oberlin Drive (mailboxes)	6:51	7:31	8:10	8:40	3:47	4:27		5:27		6:27
43 Across street from 10260 Sorrento Valley Rd.										
◇ Sorrento Valley COASTER Station <b>ARRIVE</b>	7:00	7:40	8:19	—	3:57	4:37	4:58p	5:37	5:57p	6:37

**Route 974 – Monday through Friday / lunes a viernes**

**UC San Diego → Sorrento Valley COASTER Station**

	Morning (AM)				Afternoon/Evening (PM)					
	6:30a	7:10a	7:50a	8:12a	—	4:11p		5:11p		6:12p
◇ Sorrento Valley COASTER Station <b>DEPART*</b>					—	4:11p		5:11p		6:12p
44 Gilman Drive & Eucalyptus Grove Lane					3:44p		▲		▲	
45 Gilman Transit Center (UCSD)	6:39	7:20	8:00	8:22	3:44p	4:23		5:23		6:24
◇ Sorrento Valley COASTER Station <b>ARRIVE</b>	6:50	7:32	8:12	—	3:57	4:37	4:58p	5:37	5:57p	6:37

**Route 978 – Monday through Friday / lunes a viernes**

**Torrey Pines → Sorrento Valley COASTER Station**

	Morning (AM)				Afternoon/Evening (PM)					
	6:30a	7:10a	7:50a	8:19a	—	4:10p		5:07p		6:06p
◇ Sorrento Valley COASTER Station <b>DEPART*</b>					—	4:10p		5:07p		6:06p
46 10350 Science Center Drive	6:36	7:16	7:56	8:25	3:38p	4:16		5:15		6:16
47 General Atomics Court (at end of turnaround)										
48 General Atomics Court & John Hopkins Drive (before turn)										
49 John Hopkins Drive & North Torrey Pines Road (before turn)										
50 3033 Science Park Road										
51 Torreyana Rd. & Road to the Cure (before intersection)										
52 Torreyana Rd. & Callan Road (before turn)	6:43	7:23	8:02	8:32	3:45	4:23	▲	5:22	▲	6:23
53 11099 Callan Road										
54 10666 North Torrey Pines Road	6:46	7:26	8:05	8:35	3:48	4:26		5:25		6:26
55 3366 North Torrey Pines Road										
◇ Sorrento Valley COASTER Station <b>ARRIVE</b>	7:04	7:42	8:19	—	3:57	4:37	4:58p	5:37	5:57p	6:37

**Route 979 – Monday through Friday / lunes a viernes**

**University City → Sorrento Valley COASTER Station**

	Morning (AM)				Afternoon/Evening (PM)					
	6:30a	7:10a	7:50a	8:14a	—	4:08p		5:08p		6:10p
◇ Sorrento Valley COASTER Station <b>DEPART*</b>					—	4:08p		5:08p		6:10p
56 SB Genesee Ave. & Scripps Driveway (after intersection)					—					
57 SB Genesee Ave. & Campus Point Drive (after intersection)	6:37	7:17	7:57	8:21	3:37p	4:15		5:15		6:17
58 EB Eastgate Mall & Easter Way (before intersection)										
59 EB Eastgate Mall & Towne Centre Way (before turn)										
60 Towne Centre Way & Executive Drive (before turn)										
61 La Jolla Village Dr. & Towne Centre Dr. (after turn)										
62 La Jolla Village Dr. & Executive Way	6:43	7:23	8:03	8:27	3:43	4:21	▲	5:21	▲	6:23
63 NB Genesee Av. @ Executive Dr. Trolley Station (Blue Line Transfer)										
64 NB Genesee Ave. & Eastgate Mall (after intersection)										
65 NB Genesee Ave. & Campus Point Drive (after intersection)										
66 NB Genesee Ave. & Scripps Driveway (after intersection)										
◇ Sorrento Valley COASTER Station <b>ARRIVE</b>	6:54	7:34	8:14	—	3:57	4:37	4:58p	5:37	5:57p	6:37

Routes 972, 973, 974, 978, and 979 do not operate on weekends or on the observation of the following holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, and Christmas  
 Las rutas 972, 973, 974, 978 y 979 no ofrecen servicio durante el fin de semana ó durante los siguientes días festivos: Año Nuevo, Memorial Day, Día de la Independencia (E.E.U.U.), Labor Day, Día de Acción de Gracias, y Navidad

\* All morning departures from Sorrento Valley COASTER Station wait for the arriving southbound train. Morning buses may depart the station earlier than time shown, once all passengers have transferred from the designated COASTER train. Afternoon departures from Sorrento Valley COASTER Station may leave up to ten minutes earlier than shown.

Todas las salidas de Sorrento Valley COASTER Station en la mañana esperan la llegada del tren hacia el sur. En la mañana, cuando todos los pasajeros del COASTER se han trasladado a los autobuses, los autobuses podrán salir de la estación, aunque sea unos minutos antes del horario. En la tarde, las salidas de Sorrento Valley COASTER Station pueden salir hasta diez minutos antes de lo mostrado.

▲ Trip is operated by North County Transit District. Visit goNCTD.com for details.  
 Este viaje operado por North County Transit District. Visite a goNCTD.com para detalles.

The schedules and other information shown in this timetable are subject to change. MTS does not assume responsibility for errors in timetables nor for any inconvenience caused by delayed buses. / Los horarios e información que se indican en este itinerario están sujetos a cambios. MTS no asume responsabilidad por errores en los itinerarios, ni por ningún perjuicio que se origine por los autobuses demorados.

# COASTER

## Schedule & Platform Assignments

EFFECTIVE October 25, 2021  
VÁLIDA 25 de octubre, 2021

SOUTHBOUND OCEANSIDE TO SAN DIEGO		MONDAY-FRIDAY COASTER														
TRAIN SERVICE NO.		620	622	624	626	628	630	632	634	636	638	640	642	644	646	648
Oceanside	DEPART	5:16a	5:56a	6:36a	7:16a	7:36a	9:36a	11:36a	1:36p	2:36p	3:36p	4:16p	4:36p	5:16p	6:16p	7:36p
Carlsbad Village	↓	5:23a	6:03a	6:43a	7:23a	7:43a	9:43a	11:43a	1:43p	2:43p	3:43p	4:23p	4:43p	5:23p	6:23p	7:43p
Carlsbad Poinsettia	↓	5:29a	6:09a	6:49a	7:29a	7:49a	9:49a	11:49a	1:49p	2:49p	3:49p	4:29p	4:49p	5:29p	6:29p	7:49p
Encinitas	↓	5:35a	6:15a	6:55a	7:35a	7:55a	9:55a	11:55a	1:55p	2:55p	3:55p	4:35p	4:55p	5:35p	6:35p	7:55p
Solana Beach	↓	5:41a	6:21a	7:01a	7:41a	8:01a	10:01a	12:01p	2:01p	3:01p	4:01p	4:41p	5:01p	5:41p	6:41p	8:01p
Sorrento Valley	↓	5:50a*	6:30a	7:10a	7:50a	8:10a	10:10a*	12:10p*	2:10p*	3:10p*	4:10p	4:50p	5:10p	5:50p	6:50p	8:10p*
San Diego-Old Town	↓	6:11a	6:51a	7:31a	8:11a	8:31a	10:31a	12:31p	2:31p	3:31p	4:31p	5:11p	5:31p	6:11p	7:11p	8:31p
San Diego-SF Depot	ARRIVE	6:17a	6:57a	7:37a	8:17a	8:37a	10:37a	12:37p	2:37p	3:37p	4:37p	5:17p	5:37p	6:17p	7:17p	8:37p

FRI ONLY COASTER
650
9:16p
9:23p
9:29p
9:35p
9:41p
9:50p*
10:11p
10:17p

\* Sorrento Valley COASTER Connection shuttle service not available for this train.  
\* El servicio de conexión Sorrento Valley de COASTER no está disponible para este tren.

**Holiday COASTER Schedule**  
**Saturday & Sunday Schedule**

- New Year's Day
- Memorial Day
- Independence Day
- Labor Day
- Thanksgiving Day
- Christmas Day

Schedule subject to change.

NORTHBOUND SAN DIEGO TO OCEANSIDE		MONDAY-FRIDAY COASTER														
TRAIN SERVICE NO.		621	623	625	627	629	631	633	635	637	639	641	643	645	647	649
San Diego-SF Depot	DEPART	6:40a	7:40a	8:20a	8:40a	9:20a	11:20a	1:20p	3:40p	4:20p	5:20p	5:40p	6:20p	6:40p	7:40p	9:20p
San Diego-Old Town	↓	6:47a	7:47a	8:27a	8:47a	9:27a	11:27a	1:27p	3:47p	4:27p	5:27p	5:47p	6:27p	6:47p	7:47p	9:27p
Sorrento Valley	↓	7:09a	8:09a	8:49a*	9:09a*	9:49a*	11:49a*	1:49p*	4:09p	4:49p	5:49p	6:09p	6:49p	7:09p*	8:09p*	9:49p*
Solana Beach	↓	7:19a	8:19a	8:59a	9:19a	9:59a	11:59a	1:59p	4:19p	4:59p	5:59p	6:19p	6:59p	7:19p	8:19p	9:59p
Encinitas	↓	7:25a	8:25a	9:05a	9:25a	10:05a	12:05p	2:05p	4:25p	5:05p	6:05p	6:25p	7:05p	7:25p	8:25p	10:05p
Carlsbad Poinsettia	↓	7:31a	8:31a	9:11a	9:31a	10:11a	12:11p	2:11p	4:31p	5:11p	6:11p	6:31p	7:11p	7:31p	8:31p	10:11p
Carlsbad Village	↓	7:37a	8:37a	9:17a	9:37a	10:17a	12:17p	2:17p	4:37p	5:17p	6:17p	6:37p	7:17p	7:37p	8:37p	10:17p
Oceanside	ARRIVE	7:42a	8:42a	9:22a	9:42a	10:22a	12:22p	2:22p	4:42p	5:22p	6:22p	6:42p	7:22p	7:42p	8:42p	10:22p

FRI ONLY COASTER
651
11:40p
11:47p
12:09a*
12:19a
12:25a
12:31a
12:37a
12:42a

**Horario Festivo de COASTER**  
**Horario del sábado y domingo**

- Año Nuevo
- Día de la Recordación
- Día de la Independencia
- Día del Trabajo
- Día de Acción de Gracias
- Día de Navidad

Los horarios están sujetos a cambios.

SOUTHBOUND OCEANSIDE TO SAN DIEGO		SATURDAY & SUNDAY COASTER									
TRAIN SERVICE NO.		670	672	674	676	678	680	682	684	686	688
Oceanside	DEPART	7:36a	9:16a	10:36a	12:16p	1:36p	3:16p	4:36p	6:16p	7:36p	9:16p
Carlsbad Village	↓	7:43a	9:23a	10:43a	12:23p	1:43p	3:23p	4:43p	6:23p	7:43p	9:23p
Carlsbad Poinsettia	↓	7:49a	9:29a	10:49a	12:29p	1:49p	3:29p	4:49p	6:29p	7:49p	9:29p
Encinitas	↓	7:55a	9:35a	10:55a	12:35p	1:55p	3:35p	4:55p	6:35p	7:55p	9:35p
Solana Beach	↓	8:01a	9:41a	11:01a	12:41p	2:01p	3:41p	5:01p	6:41p	8:01p	9:41p
Sorrento Valley	↓	8:10a*	9:50a*	11:10a*	12:50p*	2:10p*	3:50p*	5:10p*	6:50p*	8:10p*	9:50p*
San Diego-Old Town	↓	8:31a	10:11a	11:31a	1:11p	2:31p	4:11p	5:31p	7:11p	8:31p	10:11p
San Diego-SF Depot	ARRIVE	8:37a	10:17a	11:37a	1:17p	2:37p	4:17p	5:37p	7:17p	8:37p	10:17p

NORTHBOUND SAN DIEGO TO OCEANSIDE		SATURDAY & SUNDAY COASTER									
TRAIN SERVICE NO.		671	673	675	677	679	681	683	685	687	689
San Diego-SF Depot	DEPART	9:20a	10:40a	12:20p	1:40p	3:20p	4:40p	6:20p	7:40p	9:20p	11:40p
San Diego-Old Town	↓	9:27a	10:47a	12:27p	1:47p	3:27p	4:47p	6:27p	7:47p	9:27p	11:47p
Sorrento Valley	↓	9:49a*	11:09a*	12:49p*	2:09p*	3:49p*	5:09p*	6:49p*	8:09p*	9:49p*	12:09a*
Solana Beach	↓	9:59a	11:19a	12:59p	2:19p	3:59p	5:19p	6:59p	8:19p	9:59p	12:19a
Encinitas	↓	10:05a	11:25a	1:05p	2:25p	4:05p	5:25p	7:05p	8:25p	10:05p	12:25a
Carlsbad Poinsettia	↓	10:11a	11:31a	1:11p	2:31p	4:11p	5:31p	7:11p	8:31p	10:11p	12:31a
Carlsbad Village	↓	10:17a	11:37a	1:17p	2:37p	4:17p	5:37p	7:17p	8:37p	10:17p	12:37a
Oceanside	ARRIVE	10:22a	11:42a	1:22p	2:42p	4:22p	5:42p	7:22p	8:42p	10:22p	12:42a

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**NOT VALID:** Fri-Tues of Memorial Day weekend, Fri-Tues of Labor Day weekend, Monday through the following Tuesday of Thanksgiving week, Opening Day through Sunday of the Summer Del Mar Races, and Wed-Sun of Comic-Con week (these dates subject to change).

**ONLY SERVES:** Oceanside, Solana Beach, San Diego-Old Town, and San Diego-SF Depot

**DOES NOT SERVE:** Carlsbad Village, Carlsbad Poinsettia, Encinitas, and Sorrento Valley

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**NO ES VÁLIDO:** Vi-Ma del fin de semana del Día de la Recordación (Memorial Day), Vi-Ma del fin de Semana del Día del Trabajo, Lunes hasta el Siguiente Martes de la semana de Acción de Gracias, la semana de Inauguración de las Carreras de Del Mar y Mié-Do de la semana de Comic-Con (estas fechas están sujetas a cambios).

**SOLO SIRVE:** Oceanside, Solana Beach, San Diego-Old Town, y San Diego-SF Depot

**NO SIRVE:** Carlsbad Village, Carlsbad Poinsettia, Encinitas, y Sorrento Valley

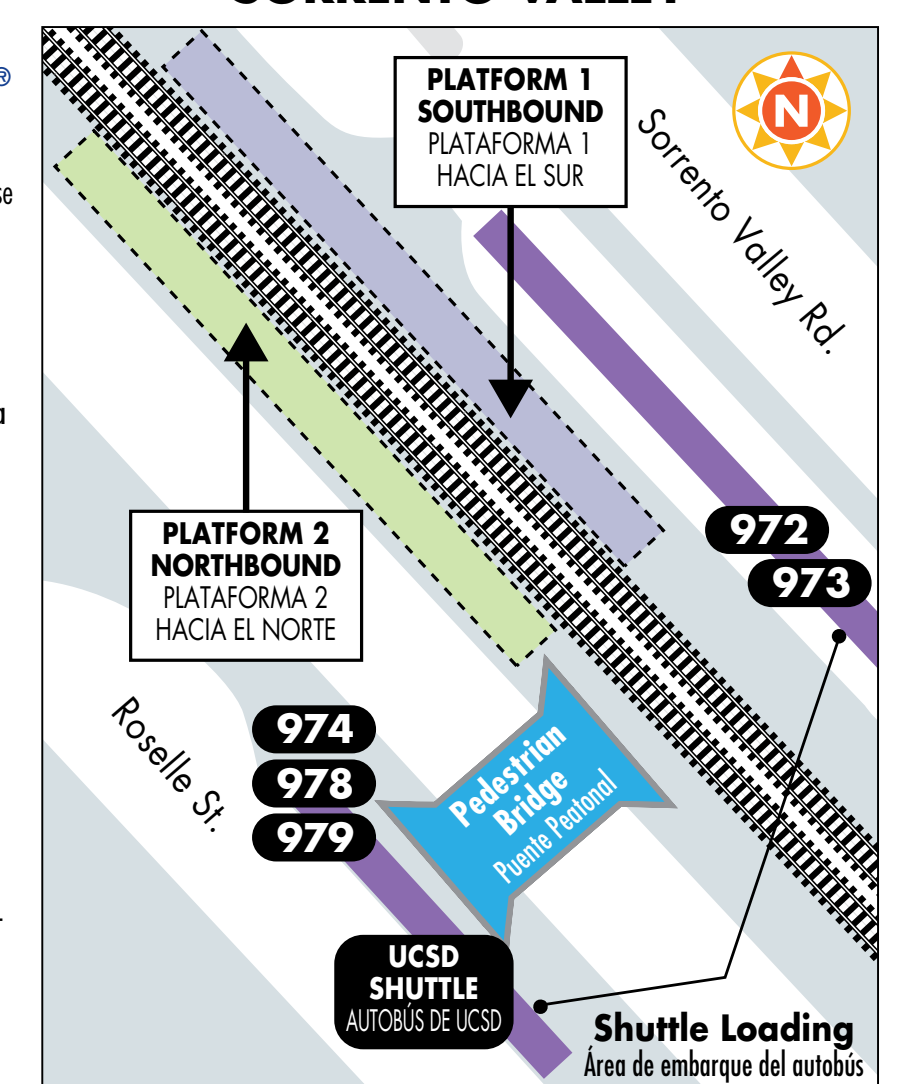
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### SORRENTO VALLEY



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Los boletos comprados en una máquina expendedora SOLO SON VÁLIDOS para el MISMO DÍA de su compra. NO HAY REEMBOLSOS. Los boletos de un solo trayecto son válidos por 2 horas desde su compra. Boletos y Stored Value pueden comprarse a través de la aplicación de PRONTO en dispositivos móviles.

NORTH COUNTY TRANSIT DISTRICT  
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