# El Camino Real Senior Living

## Access Analysis

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# 1.0 Introduction

Based on the City of San Diego's new SB 743-compliant CEQA Significance Thresholds for Transportation implemented via the City of San Diego Transportation Study Manual (September 2020), the Proposed Project is considered to be a small project, and may be presumed to have a less than significant transportation VMT impact. The Proposed Project proposes an addendum to the previously approved *St. John Garabed Church Final Environmental Impact Report* (St. John Church FEIR), October 2014, which did not analyze this project's traffic at its access point. Therefore, the purpose of this access analysis is to evaluate the effect in which the proposed El Camino Real Assisted Living Facility Project (Proposed Project) (PTS #675732) will have on the surrounding local transportation network, as well as determine if additional improvements to the transportation network will be needed. Discussion regarding consistency with the operational analysis results of the St. John Church TIS is also provided in this analysis.

## 1.1 Project Description

The El Camino Real Assisted Living Facility Project (Proposed Project) is located on 13860 El Camino Real, south of the proposed St. John Garabed Armenian Church (St. John Church) project and east of Interstate 5, within Subarea II of the North City Future Urbanizing Area (NCFUA) of the City of San Diego. The Proposed Project intends to develop a 105,568 SF, three story 105-unit nursing home facility for assisted living consisting of 18 memory care accommodations (20 beds) and 87 assisted living accommodations (105 beds). Figure 1.1 displays the Proposed Project's regional location.

The Proposed Project is consistent with the underlying AR-1-1 (Agricultural Residential) zoning and is requesting the following discretionary approvals:

- Uncodified Ordinance
- Conditional Use Permit (CUP) Amendment
- Site Development Permit (SDP) Amendment
- Neighborhood Use Permit (NUP)

Access to the project site will be provided via the driveway currently under construction by the adjacent St. John Church. This driveway as described in the *St. John Garabed Armenian Church Traffic Impact Study* (St. John Church TIS), July 2013, will allow for right-in/right-out access off El Camino Real and operate as a side-street stop-controlled intersection, with El Camino Real as uncontrolled and the driveway as stop-controlled. Figure 1.2 displays the Proposed Project site plan.

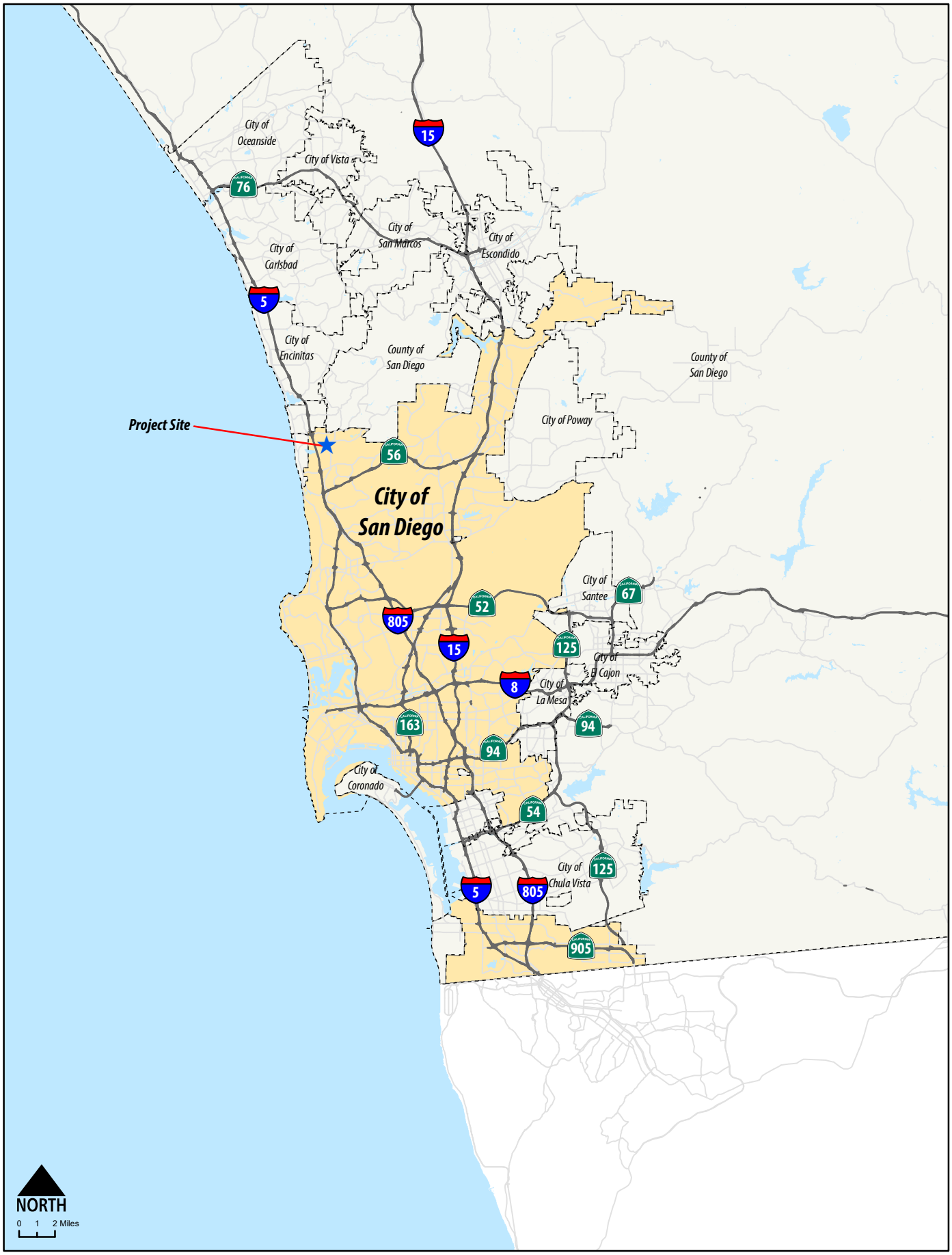


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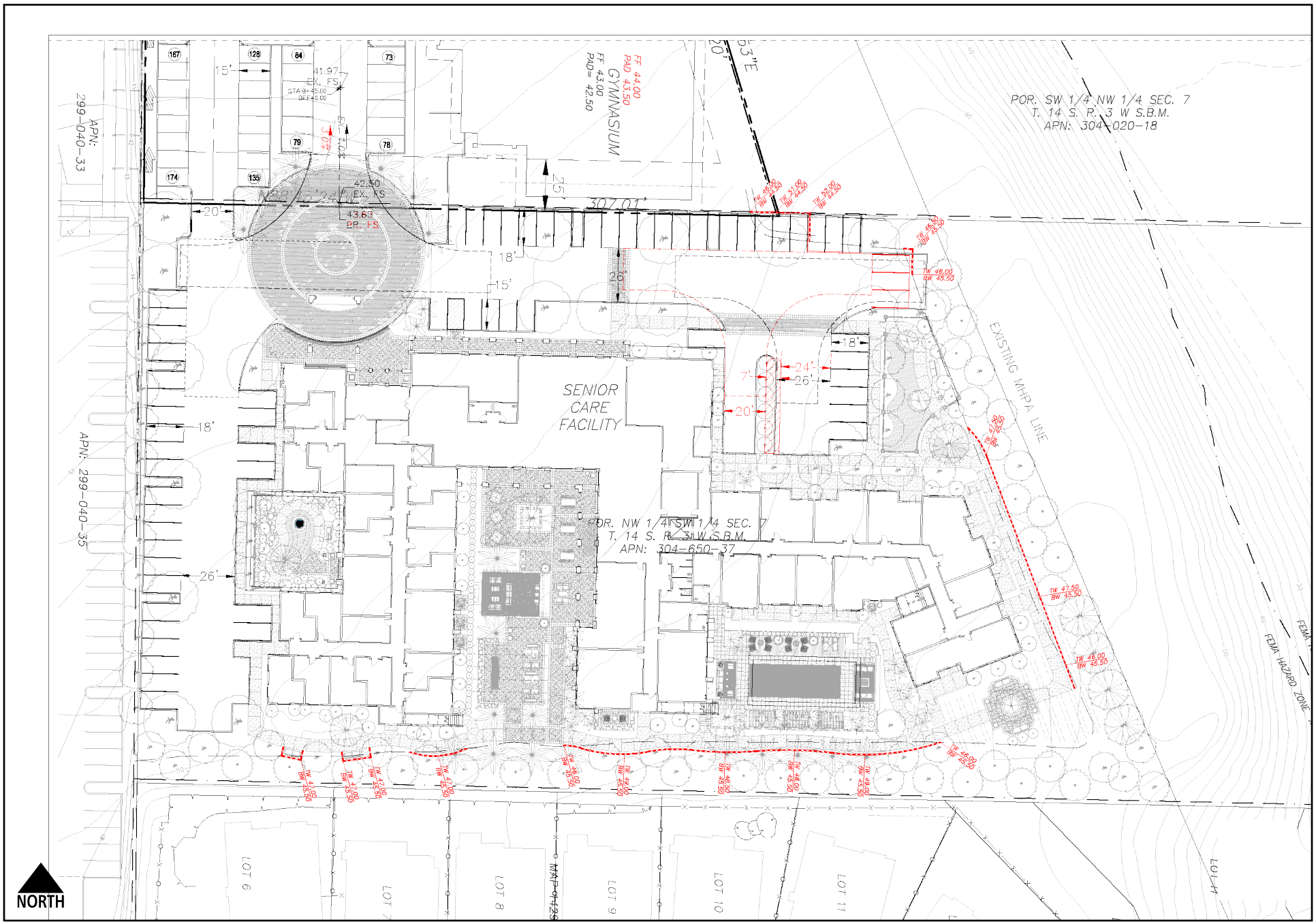
*Figure 1.1*
*Project Regional Location*




**El Camino Real Assisted Living Facility**
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*Figure 1.2*
*Proposed Project Site Plan*

## 1.2 Report Organization

Following this introductory chapter, the report is organized into the following chapters:

2.0 *Analysis Methodology and Thresholds* – This chapter reviews the methods utilized to evaluate the Proposed Project's effect on the local transportation network, in accordance with the standards and requirements used for the St. John Church TIS.

3.0 *Proposed Project* – This chapter describes the Proposed Project's land uses and associated trip generation. Additional information such as trip distribution patterns and project trip assignment are also included in this chapter, which are used to determine the project study area.

4.0 *Project Setting* – This chapter provides a qualitative description of the transportation facilities and services located within the Proposed Project study area including roadway facilities, active transportation facilities, and transit services.

5.0 *Existing Conditions* – This chapter describes and evaluates the existing transportation network. The operations of the vehicular, pedestrian, bicycle, and transit facilities within the study area are evaluated and substandard facilities are identified. LOS analysis results are also provided for existing vehicular traffic conditions.

6.0 *Near-Term Year 2024 Conditions* – This chapter describes and evaluates the effect in which near-term developments, that are anticipated to contribute traffic within the project study area, will have on the surrounding transportation network. LOS analysis results are also provided for Near-Term Year 2024 Base and Near-Term Year 2024 Base with Project vehicular traffic conditions. The necessary features required to improve any identified substandard facilities to standard levels are also provided.

7.0 *Horizon Year Conditions* – This chapter describes projected long-range future conditions of the transportation network within the study area.

8.0 *Determination of Consistency with Previous FEIR* – This section determines if the analysis results presented in this access analysis are consistent with the operational analysis results of the St. John Church TIS.

# 2.0 Analysis Methodology and Thresholds

This study was performed in accordance with the operational analysis presented in the St. John Church TIS. The project information form (PIF) is included in **Appendix A**. Detailed information on analysis methodologies, standards, and thresholds are discussed in the following sections.

## 2.1 LOS Definition

LOS is a quantitative measure describing operational conditions within a traffic stream, and the motorist's and/or passengers' perception of operations. A LOS definition generally describes these conditions in terms of such factors as delay, speed, travel time, freedom to maneuver, interruptions in traffic flow, queuing, comfort, and convenience. **Table 2.1** describes generalized definitions of the various LOS categories (A through F) as applied to roadway operations.

Table 2.1 LOS Definitions

| LOS Category | Definition of Operation |
|---|---|
| A | This LOS represents a completely free-flow condition, where the operation of vehicles is virtually unaffected by the presence of other vehicles and only constrained by the geometric features of the highway and by driver preferences. |
| B | This LOS represents a relatively free-flow condition, although the presence of other vehicles becomes noticeable. Average travel speeds are the same as in LOS A, but drivers have slightly less freedom to maneuver. |
| C | At this LOS, the influence of traffic density on operations becomes marked. The ability to maneuver within the traffic stream is clearly affected by other vehicles. |
| D | At this LOS, the ability to maneuver is notably restricted due to traffic congestion, and only minor disruptions can be absorbed without extensive queues forming and the service deteriorating. |
| E | This LOS represents operations at or near capacity. LOS E is an unstable level, with vehicles operating with minimum spacing for maintaining uniform flow. At LOS E, disruptions cannot be dissipated readily thus causing deterioration down to LOS F. |
| F | At this LOS, forced or breakdown of traffic flow occurs, although operations appear to be at capacity, queues form behind these breakdowns. Operations within queues are highly unstable, with vehicles experiencing brief periods of movement followed by stoppages. |

Source: Highway Capacity Manual 6th Edition

## 2.2 Roadway Segment LOS Standards and Thresholds

Roadway segment LOS standards and thresholds provide the basis for analysis of arterial roadway segment performance. The analysis of roadway segment LOS is based on the functional classification of the roadway, the maximum capacity, roadway geometrics, and existing or forecast ADT volumes. **Table 2.2** presents the roadway segment capacity and LOS standards for the City of San Diego. These standards were utilized to analyze roadways evaluated in this report.

Table 2.2 City of San Diego Roadway Segment Daily Capacity and LOS Standards

| Street Classification | Proposed LOS/ADT Thresholds | | | | |
|---|---|---|---|---|---|
| | A | B | C | D | E |
| Major Arterial (4-lane, divided) | < 15,000 | < 21,000 | < 30,000 | **< 35,000** | < 40,000 |

Source: City of San Diego TSM

Note:
**Bold** numbers indicate the ADT thresholds for acceptable LOS.

These standards are generally used as long-range planning guidelines to determine the functional classification of roadways. The actual capacity of a roadway facility varies according to its physical

attributes. Typically, the performance and LOS of a roadway segment is heavily influenced by the ability of its intersections to accommodate peak hour traffic volumes. For the purposes of this traffic analysis, LOS D is considered acceptable for circulation element roadway segments within the City of San Diego.

## 2.3 Peak Hour Intersection LOS Standards and Thresholds

This section presents the methodologies used to perform peak hour intersection capacity analysis at the signalized and unsignalized intersections within the study area. The following assumptions were utilized in conducting all intersection LOS analyses:

- *Peak Hour Factor (PHF)* – Calculated from historic peak hour intersection count data, included in Appendix B. A PHF of 0.95 or existing PHF (whichever is greater) was used for Horizon Year conditions and for all new driveways.
- *Signal Timing* – Used traffic signal timing/phasing plans from the City of San Diego (March 2021). Signal timings were optimized under Horizon Year conditions. Existing signal timing/phasing plans are provided in Appendix C.
- *Conflicting Pedestrians and Pedestrian Calls* – Used pedestrian count data from the February 2012 peak hour intersection count data for all scenarios.
- *Heavy Truck Percentage* – No truck routes within study area; therefore, 3% trucks on all intersection movements were used for all scenarios.
- *Lane Utilization Factor* – No unusual lane utilization was observed in the field; therefore, HCM 6th Edition defaults were used for all scenarios.

### 2.3.1 Signalized Intersections

The analysis of signalized intersections utilized the operational analysis procedure as outlined in the Highway Capacity Manual (HCM) 6th Edition signalized (Chapter 19) intersection analysis methodology. This method defines LOS in terms of delay, or more specifically, average stopped delay per vehicle. Delay is a measure of driver and/or passenger discomfort, frustration, fuel consumption and lost travel time. This technique uses 1,900 vehicles per hour per lane (VPHPL) as the maximum saturation volume of an intersection. This saturation volume is adjusted to account for lane width, on-street parking, pedestrians, traffic composition (i.e., percentage trucks) and shared lane movements (i.e., through and right-turn movements originating from the same lane). The LOS criteria used for the analysis of signalized intersections are described in Table 2.3, identifying the thresholds of control delays and the associated LOS. The computerized analysis of intersection operations was performed utilizing the Synchro Version 10 traffic analysis software by Trafficware Ltd.

Table 2.3 Signalized Intersection LOS Operation Analysis Method

| Average Stopped Delay Per Vehicle (Seconds) | LOS Characteristics |
|---|---|
| <10 | LOS A describes operations with very low delay. This occurs when progression is extremely favorable, and most vehicles do not stop at all. Short cycle lengths may also contribute to low delay. |
| >10– 20 | LOS B describes operations with generally good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay. |
| >20 – 35 | LOS C describes operations with higher delays, which may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping. |
| >35– 55 | LOS D describes operations with high vehicle delay, resulting from some combination of unfavorable progression, long cycle lengths, or high vehicle volumes. The influence of congestion becomes more noticeable, and individual cycle failures are noticeable. |
| >55 – 80 | LOS E is considered the limit of acceptable delay. Individual cycle failures are frequent occurrences. |
| >80 | LOS F describes a condition of excessively high vehicle delay, considered unacceptable to most drivers. This condition often occurs when arrival flow rates exceed the LOS D capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes to such delay. |

Source: Highway Capacity Manual 6th Edition

### 2.3.2 Unsignalized Intersections

Unsignalized intersections were analyzed using the HCM 6th Edition side-street stop (Chapter 20) and all-way stop (Chapter 21) intersection analysis methodology. The computerized analysis of intersection operations was performed utilizing the Synchro Version 10 traffic analysis software by Trafficware Ltd.

LOS was determined as follows:

- *Side-street stop intersections*: Reported for the worst-case movement

The LOS criteria used for the analysis of unsignalized intersections are described in **Table 2.4**.

Table 2.4 LOS Criteria for Stop-Controlled Unsignalized Intersections

| Average Stopped Delay Per Vehicle (Seconds) | LOS |
|---|---|
| 0 – 10 | A |
| > 10 – 15 | B |
| > 15 – 25 | C |
| > 25 – 35 | D |
| > 35 – 50 | E |
| > 50 | F |

Source: Highway Capacity Manual 6th Edition

# 3.0 Proposed Project

This chapter describes the Proposed Project, including the Proposed Project's trip generation, as well as specific information needed for the analysis including the trip distribution patterns and project trip assignment.

## 3.1 Project Trip Generation, Distribution, and Assignment

Project Trip Generation

Weekday project trip generation estimates were derived utilizing the trip generation rates outlined in Table 1 of the *City of San Diego Land Use Code – Trip Generation Manual, May 2003*. Appendix C of the City's trip generation manual defines a Congregate Care facility as:

"A facility that typically consists of one or more multi-unit buildings designed for elderly living."

Similarly, the City's trip generation manual defines a Convalescent Hospital as:

"Convalescent hospitals are freestanding institutions designed to provide medical care for patients with long- term illnesses. Normally such hospitals do not provide emergency room medical treatment."

As such, it was determined that both Congregate Care facility and Convalescent Hospital are the appropriate trip generation rates for the Proposed Project. **Table 3.1** displays the anticipated trip generation for the proposed project.

Table 3.1 Proposed Project Trip Generation

| | | | | AM | | | | | PM | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | Units | Trip Rate | ADT | % | Trips | Split | In | Out | % | Trips | Split | In | Out |
| Congregate Care Facility | 87 DU | 2 / DU | 174 | 3% | 6 | (6:4) | 4 | 2 | 8% | 14 | (5:5) | 7 | 7 |
| Convalescent/Nursing | 20 beds | 3 / bed | 60 | 7% | 4 | (6:4) | 2 | 2 | 7% | 4 | (4:6) | 2 | 2 |
| | | **Total** | **234** | - | **10** | - | **6** | **4** | - | **18** | - | **9** | **9** |

Note:
DU = Dwelling Unit

As shown, in Table 3.1, the Proposed Project would generate a total of 234 daily weekday trips, with 10 occurring in the AM peak hour (6 inbound, 4 outbound) and 18 occurring in the PM peak hour (9 inbound, 9 outbound).

Per the St. John Church TIS, the St. John Church would generate more trips during the weekend than during a typical weekday. The Proposed Project is also expected to generate trips during the weekend, primarily due to people visiting family and guests residing at the Proposed Project. Therefore, from a trip generation perspective, the worst-case scenario, and consequently the highest number of vehicles utilizing the driveway shared by both projects, would occur when trips for the Proposed Project and the St. John Church are combined. Therefore, an analysis was conducted to evaluate traffic conditions during the weekend peak hour under Near-Term Year 2024 scenario. LOS analysis results during the weekend peak hour are discussed in Section 6.0.

It should be noted that the City's trip generation manual does not provide weekend trip generation rates. However, the *ITE Trip Generation Manual, 10th Edition* provides weekday and weekend trip generation rates for a continuing care retirement community. Weekday trip generation rates were observed to be higher than weekend trip generation rates. In other words, the ITE Trip Generation Manual estimates that a continuing care retirement community generates more trips during a typical weekday than during a weekend day. Since the Proposed Project land uses would operate similar to a continuing care retirement community, it was assumed the Proposed Project would also generate more trips during a weekday than during a weekend day. As such, and for a conservative analysis, the Proposed Project's Sunday peak hour trip generation is assumed to be identical to the weekday PM peak hour trip generation, which is the peak hour that generates the most project trips during a typical weekday, as shown previously in Table 3.1.

Project Trip Distribution

The trip distribution for the Proposed Project was developed based on the geographical location of the project, the characteristics of the proposed land uses, and nearest freeway facilities. **Figure 3.1** displays the Proposed Project trip distribution patterns associated with the Proposed Project land uses.

Project Trip Assignment

Based upon the project trip distribution patterns, daily and AM/PM peak hour project trips were assigned to the adjacent roadway network, as displayed in **Figure 3.2**.

## 3.2 Project Study Area

To demonstrate consistency with the operational analysis results of the St. John Church TIS, the study area for this analysis is the same as the roadway segments and intersections analyzed in that study:

Roadway Segments

- El Camino Real, between San Dieguito Road and Sea Country Lane

Under Existing conditions, the driveway that will provide access to the Proposed Project and the adjacent St. John Church is under construction. This driveway is anticipated to be completed prior to the Proposed Project's opening year, 2024. Therefore, under future scenarios, Near-Term Year 2024 and Horizon Year, the roadway segment of El Camino Real between San Dieguito Road and Sea Country Lane is divided into two (2) segments as follows:

- El Camino Real, between San Dieguito Road and Project Driveway
- El Camino Real, between Project Driveway and Sea Country Lane

Intersections

1. El Camino Real & San Dieguito Road (Signal)
2. El Camino Real & Sea Country Lane (Signal)
3. El Camino Real & Project Driveway (Side-street stop-controlled)[1]

[1] Project driveway is currently under construction and expected to be completed prior to the Proposed Project's opening year, 2024. Therefore, it is only analyzed under Near-Term Year 2024 and Horizon Year scenarios.

**Figure 3.4** displays the project study area.

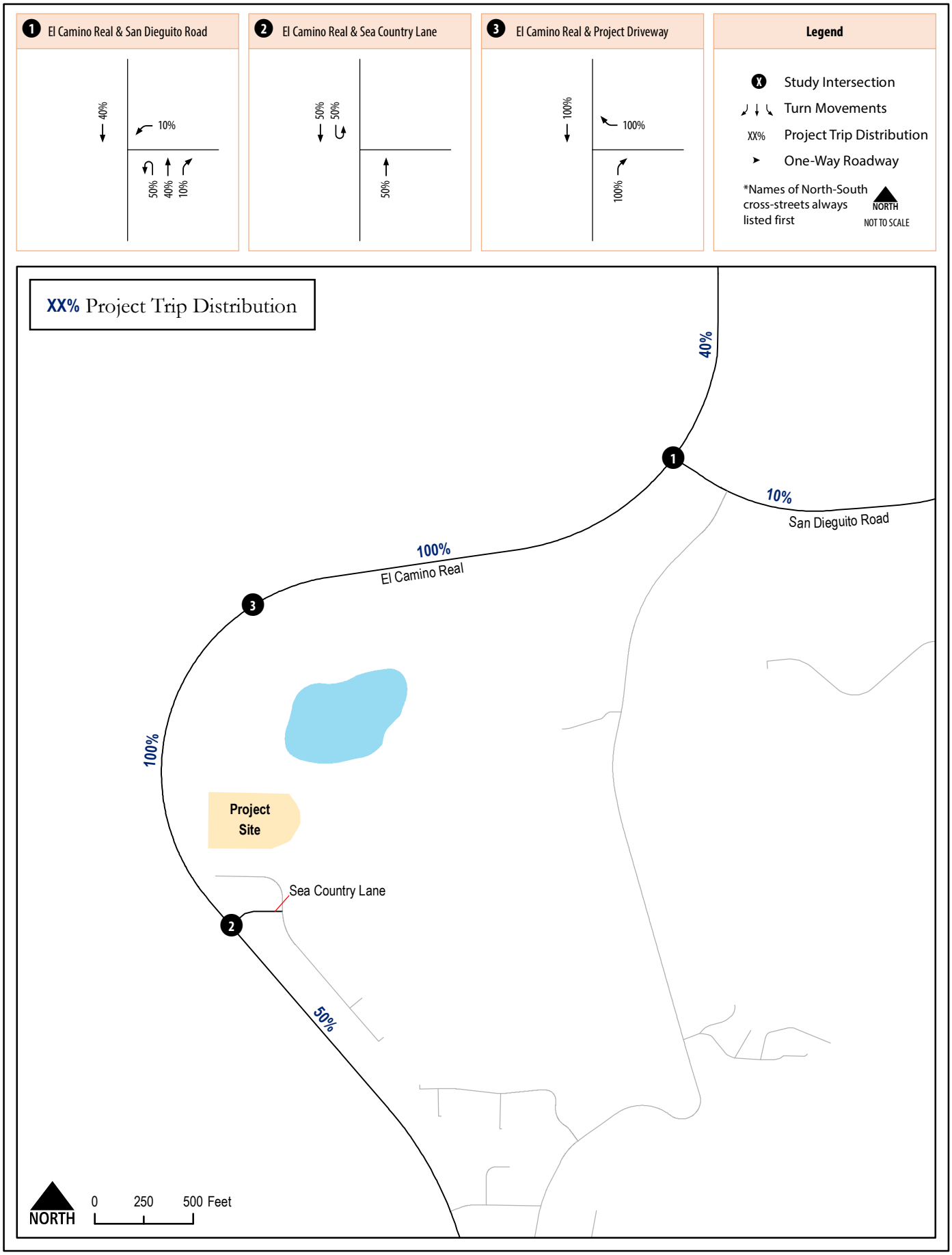


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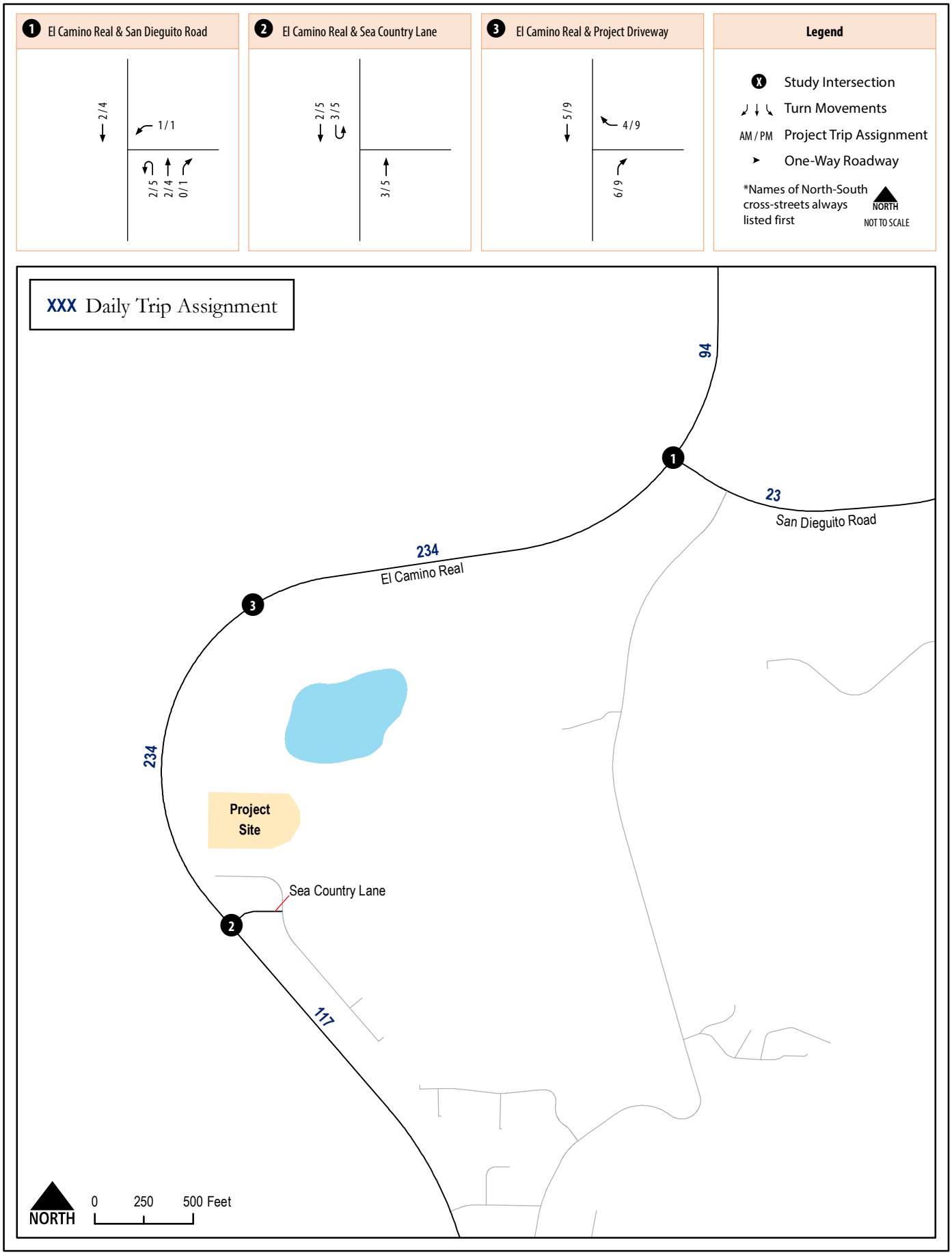
*Figure 3.1*
*Project Trip Distribution*




**El Camino Real Assisted Living Facility**
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*Figure 3.2*
*Project Trip Assignment (Weekday)*

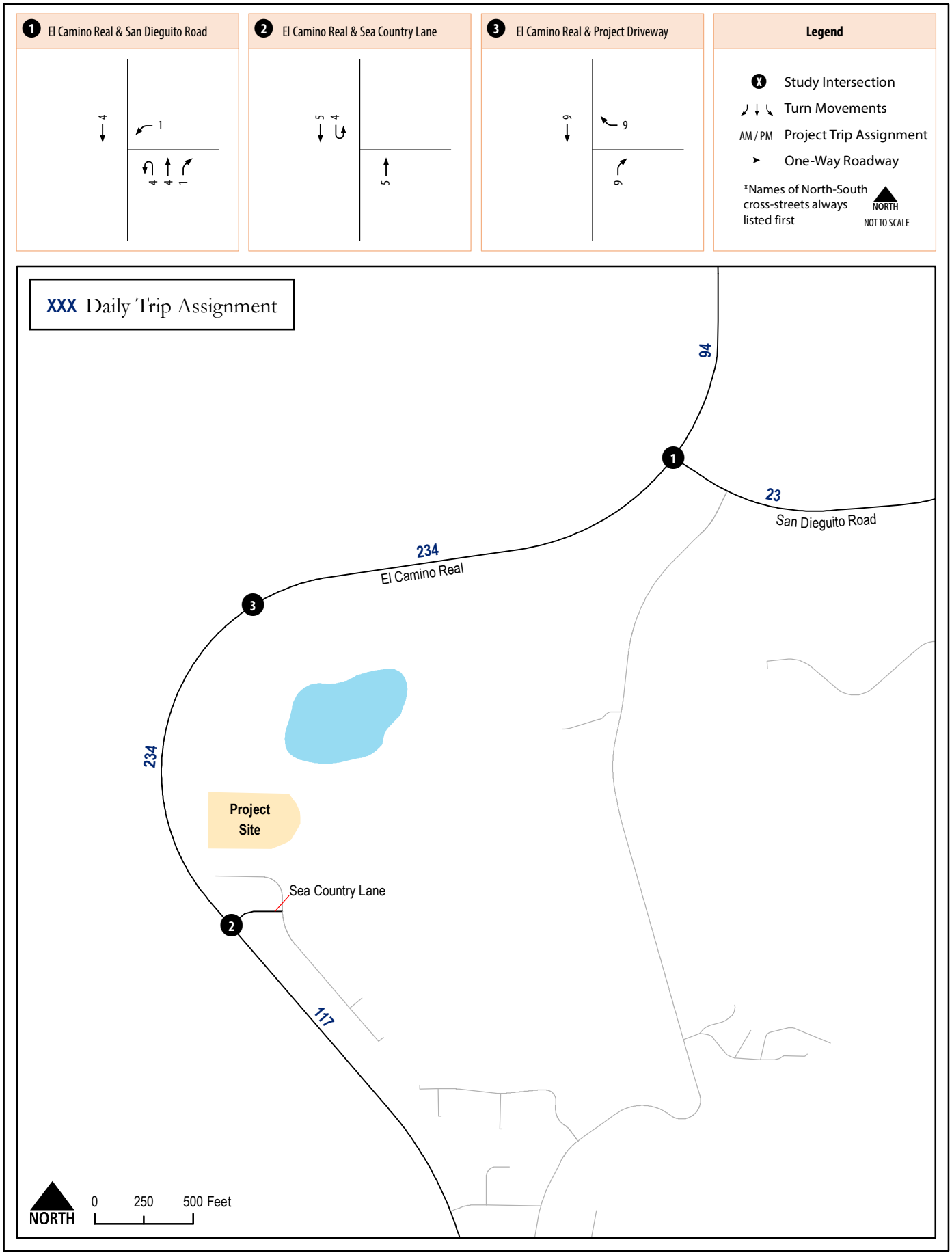


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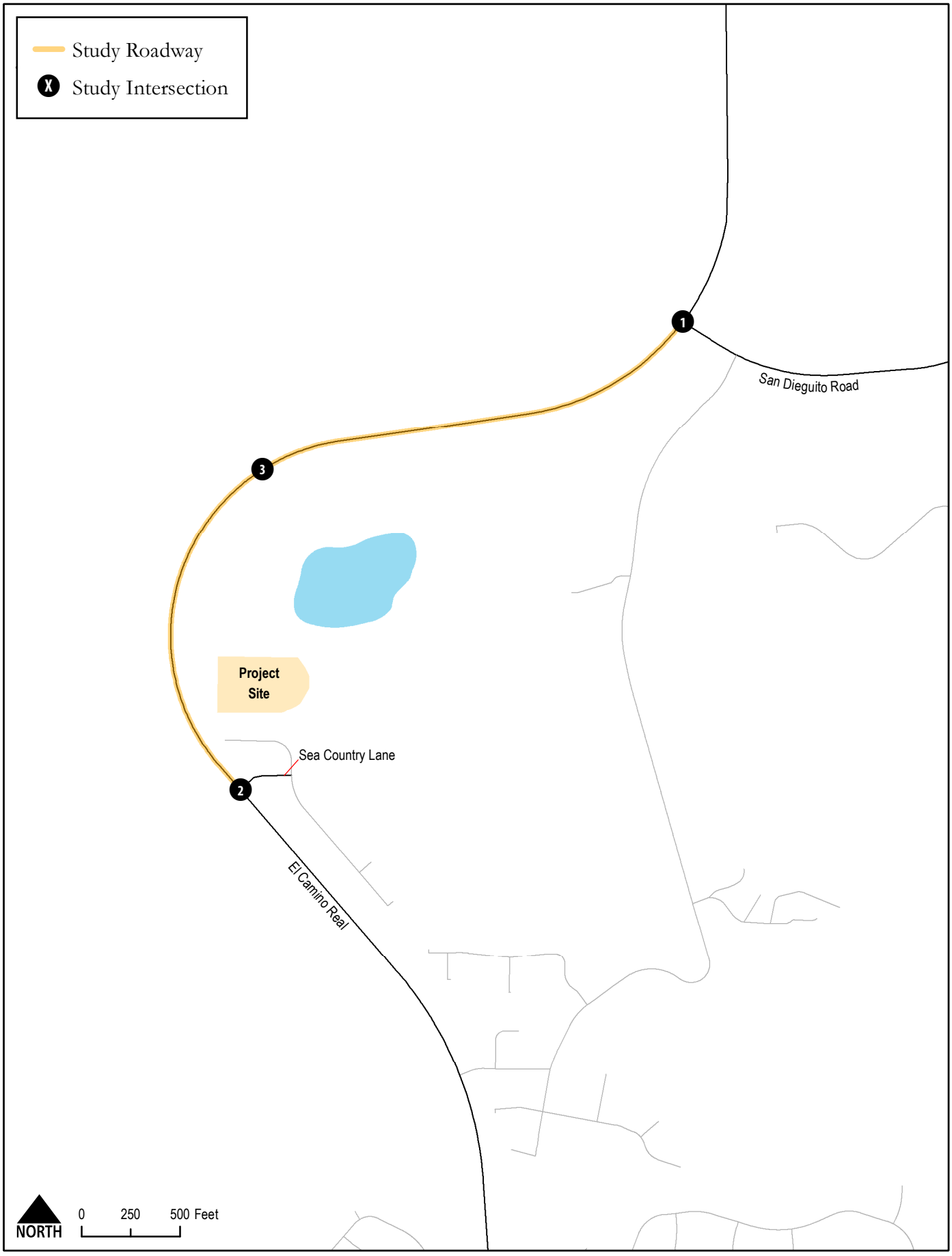
*Figure 3.3*
*Project Trip Assignment (Weekend)*




**El Camino Real Assisted Living Facility**
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*Figure 3.4*
*Project Study Area*

# 4.0 Project Setting

This chapter provides a qualitative description of the transportation network facilities within the Proposed Project study area. This includes roadway facilities, active transportation facilities, as well as transit facilities and services.

## 4.1 Vehicular Facilities

Descriptions of all major transportation network facilities located within ½ mile distance of the project site are provided below.

North-South Roadways

*El Camino Real* – El Camino Real between San Dieguito Road and Sea Country Lane is a 4-lane roadway with a raised median. Contiguous sidewalks exist along the eastern side of El Camino Real, but there are no existing sidewalks along the western side. Class II Bike Lanes are provided along both directions throughout the segment. Parking is prohibited on both sides of the roadway in this area and the posted speed limit is 50 miles per hour. The North City Future Urbanizing Area (NCFUA) Framework Plan classifies El Camino Real as a 4-lane major arterial between San Dieguito Road and Sea Country Lane. This segment is at its ultimate classification per the NCFUA Framework Plan.

East-West Roadways

*San Dieguito Road* – San Dieguito Road is a 2-lane undivided roadway between El Camino Real and further east. There are no existing sidewalks on either side of San Dieguito Road. Class II Bike Lanes are provided along both directions throughout the roadway. Parking is prohibited on both sides of the roadway in this area and the posted speed limit is 45 miles per hour. The NCFUA Framework Plan classifies San Dieguito Road as a 2-lane collector from El Camino Real to the east. This segment is at its ultimate classification per the NCFUA Framework Plan.

## 4.2 Pedestrian Facilities

Pedestrian facilities within a ½ a mile walking distance of the Proposed Project site were observed. **Table 4.1** summarizes the existing physical characteristics of sidewalks along the project study area. Specifically, missing sidewalks, narrow sidewalks, and major obstructions are identified.

Table 4.1 Roadway Pedestrian Facilities and Conditions

| Roadway | From | To | East Side / South Side | | West Side / North Side | |
|---|---|---|---|---|---|---|
| | | | Sidewalk Type | Conditions | Sidewalk Type | Conditions |
| El Camino Real | San Dieguito Road | Sea Country Lane | Existing | No obstructions and no significant sidewalk deterioration | Missing | There are no existing sidewalks throughout the entire segment |
| San Dieguito Road | El Camino Real | Caminito Pacifica Trail | Missing | There are no existing sidewalks throughout the entire segment | Missing | There are no existing sidewalks throughout the entire segment |

As shown in Table 4.1, three (3) sidewalk segments were identified to have missing sidewalks. It should be noted that due to construction of driveways along the east side of El Camino Real, there are minor obstructions. However, this is temporary in nature and no obstructions are anticipated post-construction. As such, Table 4.1 does not identify obstructions associated with driveway construction along the east side of El Camino Real between San Dieguito Road and Sea Country Lane.

Table 4.2 summarizes the existing physical characteristics of sidewalk ramps along the project frontage and at intersections within ½ mile walking distance from the project site. Specifically, major ramp obstructions and missing detectable surface warning (DSW) tactiles are reported.

Table 4.2 Intersection Missing Curb Ramps

| North / South Roadway | East / West Roadway | Conditions |
|---|---|---|
| El Camino Real | San Dieguito Road | NW, NE, SW Curb Ramps Missing[1] |

Notes:
[1] No Ped crossing in east/west direction on south leg at this T-intersection.

As shown in Table 4.2, the intersection of El Camino Real and San Dieguito Road was identified to have three (3) missing curb ramps. This is likely due to the No Ped crossing along the south leg as well as the missing sidewalks along the west side of El Camino Real and both sides of San Dieguito Road.

## 4.3 Bicycle Facilities

Bicycle facilities within a ½ a mile cycling distance of the Proposed Project site were observed. Table 4.3 summarizes the bicycle facilities fronting the Proposed Project, their respective ultimate classification, and present conditions.

Table 4.3 Bicycle Facilities and Conditions

| Roadway | From | To | Facility | Conditions | Ultimate Classification |
|---|---|---|---|---|---|
| El Camino Real | San Dieguito Road | Sea Country Lane | NB: Class II<br>SB: Class II | Continuous with no major obstructions or gaps. | Class II or III |
| San Dieguito Road | El Camino Real | Caminito Pacifica Trail | NB: Class II<br>SB: Class II | Continuous with no major obstructions or gaps. | Class II or III |

As shown in Table 4.3, the Proposed Project is surrounded by Class II Bike Lanes to the west along El Camino Real and to the north along San Dieguito Road. These bicycle facilities are continuous with no major obstructions or gaps.

## 4.4 Transit Facilities

There are no existing or planned transit facilities within a ½ mile of the Proposed Project.

## 4.5 Project Improvements

The Proposed Project does not include any transportation network improvements. Based on review of the NCFUA Framework Plan and the Proposed Project site plan, the Proposed Project does not interfere with community plan transportation network improvements. Proposed Project improvements are summarized below.

### Project Driveways

- *El Camino Real & Project Driveway* – As mentioned previously, vehicular access to the Proposed Project will be provided by the driveway proposed for construction by the adjacent church project, St. John Church. This newly constructed driveway will be a three-legged intersection operating as a side-street stop-controlled intersection permitting right-in/right-out access only.

### Pedestrian Facilities

No changes to the pedestrian network are proposed.

## Bicycle Facilities

No changes to the bicycle network are proposed. Bicycle amenities such as bicycle parking and storage will be provided on site.

## Transit Facilities

No changes to the transit network are proposed. However, the project applicant proposes to provide a shuttle to the Solana Beach Station. No other transit stop amenities are proposed.

# 5.0 Existing Conditions

This section provides an analysis of Existing traffic conditions without the Proposed Project. Traffic conditions under Existing with Project were not analyzed since the Existing with Project scenario is a hypothetical scenario that assumes the Proposed Project would be fully built out immediately, adding its associated buildout traffic volumes to the existing roadway volumes and infrastructure. As a result of this presumption, cumulative traffic volumes, future planned roadway network mitigation measures, and surrounding land use changes are not accounted for, which could result in either understating or overstating the Proposed Project's effect. For these reasons, the Existing with Project scenario is not included in this analysis.

## 5.1 Existing Roadway Network and Traffic Volumes

Figure 5.1 displays the study area roadway segment classifications and intersection geometrics under Existing conditions.

### Traffic Volumes

Since current daily travel patterns do not reflect traffic conditions prior to COVID-19 restrictions, weekday traffic counts conducted in 2012 for the St. John Church TIS, included in Appendix B, were adjusted to better reflect traffic volumes under Existing conditions.

SANDAG Transportation Information Forecast Center (TFIC) traffic forecast volumes for Series 14 base year 2016 were observed to grow 13.84% to forecast year 2025, resulting in an annual growth rate of 1.54% per year over a nine-year period. Existing conditions traffic volumes were derived by applying this 1.54% annual growth rate to the February 2012 traffic counts from the St. John Church TIS, for a total growth of 13.84% over a nine-year period. The resulting daily roadway and AM/PM peak hour turning movement volumes for study area roadway segments and intersections are displayed in **Figure 5.2**. Traffic volume calculations are included in **Appendix D**.

## 5.2 Existing Traffic Conditions

LOS analyses under Existing conditions were conducted using the methodologies described in Section 2.0. Roadway segment and intersection LOS analysis results are discussed below.

### 5.2.1 Roadway Segment Analysis

Table 5.1 displays roadway segment LOS and analysis results for study roadway segments under Existing conditions.

**Table 5.1 Roadway Segment LOS Results – Existing Conditions**

| Roadway | Segment | Functional Classification | Daily Volume | LOS Threshold (LOS E) | V/C | LOS |
|---|---|---|---|---|---|---|
| El Camino Real | San Dieguito Road to Sea Country Lane | 4-Lane Major Arterial | 15,151 | 40,000 | 0.396 | B |

Notes:
V/C = Volume / Capacity.

As shown in Table 5.1, El Camino Real between San Dieguito Road and Sea Country Lane currently operates at acceptable LOS B.

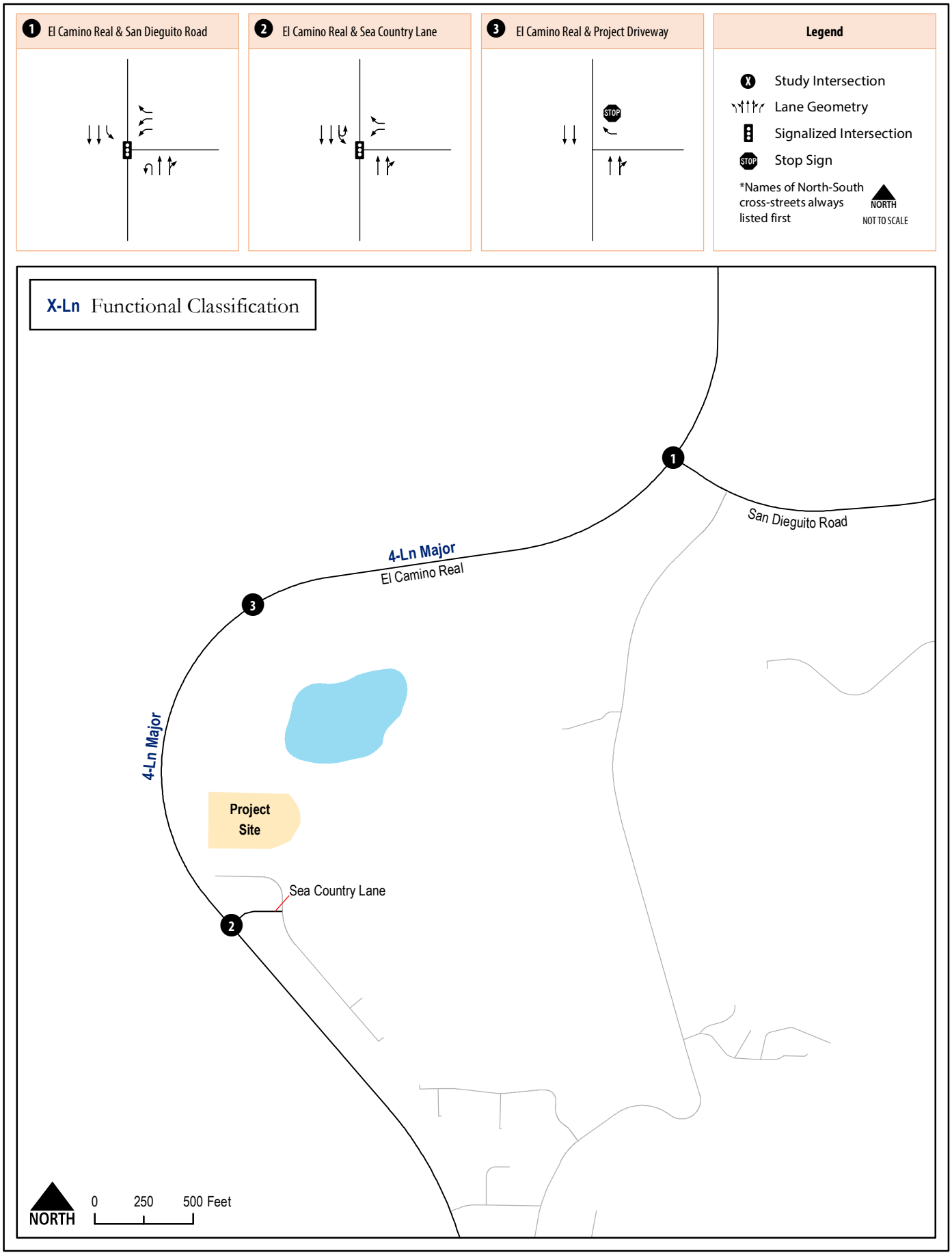


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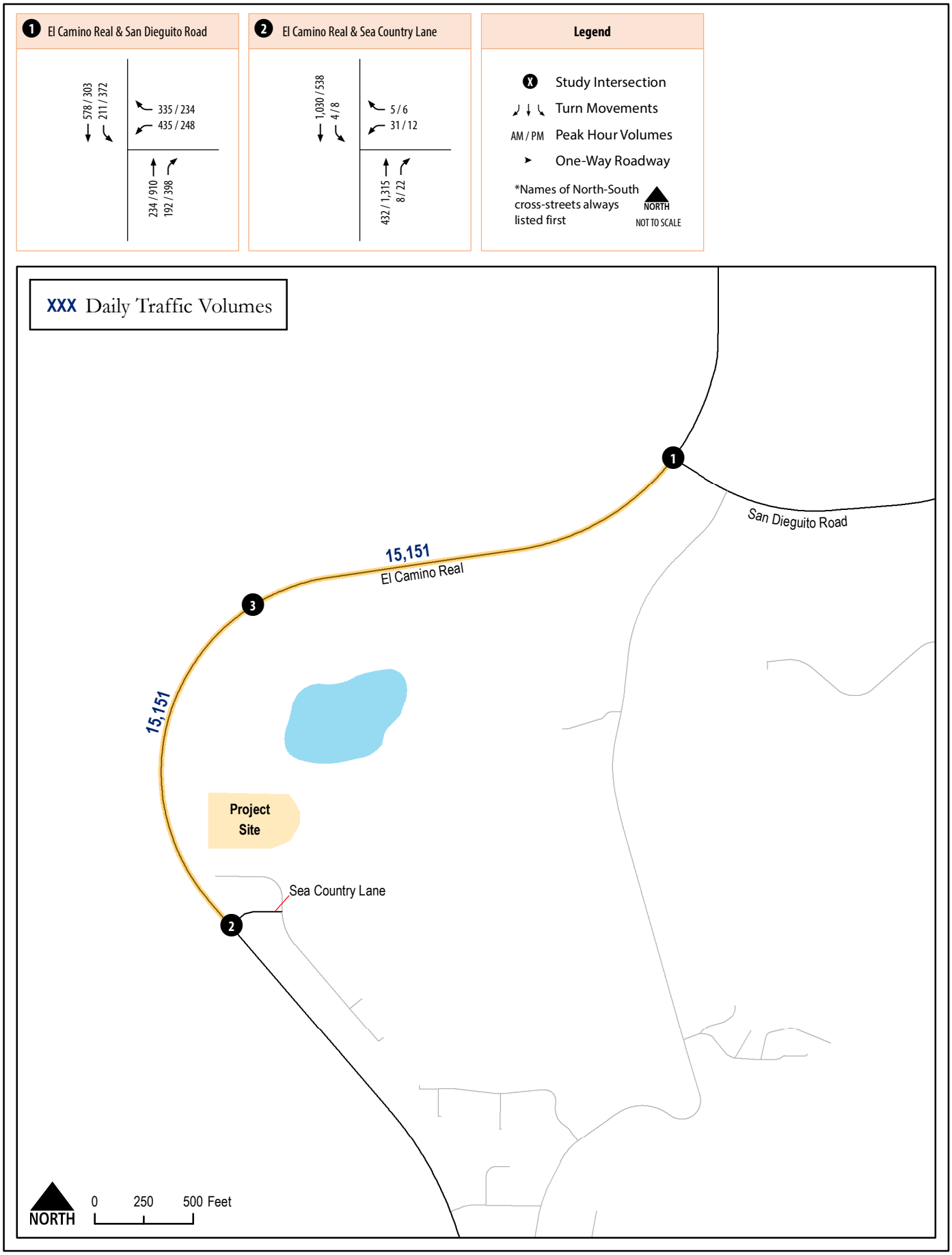
*Figure 5.1*
*Roadway Classifications and Intersection Geometrics*
*Existing Conditions*

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**Local Mobility Analysis**

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*Figure 5.2*
*Traffic Volumes*
*Existing Conditions*

### 5.2.2 Intersection Analysis

Table 5.2 displays intersection LOS and average vehicle delay results for the study area intersections under Existing conditions. LOS calculation worksheets and signal timing inputs for Existing conditions are provided in Appendix E.

Table 5.2 Peak Hour Intersection LOS Results – Existing Conditions

| ID # | Intersection | Control Type | AM Peak Hour | | PM Peak Hour | |
|---|---|---|---|---|---|---|
| | | | Avg. Delay (sec.) | LOS | Avg. Delay (sec.) | LOS |
| 1 | El Camino Real & San Dieguito Road | Signal | 14.7 | B | 41.4 | D |
| 2 | El Camino Real & Sea Country Lane | Signal | 4.8 | A | 5.1 | A |

As shown in Table 5.2, both study area intersections currently operate at an acceptable LOS D or better during both the AM and PM peak hours under Existing conditions.

# 6.0 Near-Term Year 2024 Base Conditions

This section provides an analysis of Year 2024 traffic conditions, the Proposed Project's opening year, both without and with the Proposed Project. The scenarios analyzed in this section include:

- Near-Term Year 2024 Base
- Near-Term Year 2024 Base with Project

It should be noted that the adjacent St. John Church project is anticipated to be complete by the Proposed Project's opening year, 2024. Since both projects are anticipated to generate project trips during the weekend, in addition to evaluating traffic conditions during a typical weekday this section includes an evaluation of traffic conditions during the weekend.

## 6.1 Near-Term Year 2024 Base Roadway Network and Traffic Volumes

Roadway and intersection geometrics under Near-Term Year 2024 Base Conditions were assumed to be identical to existing roadway geometrics, as previously shown in Figure 5.1, with the exception of the following one (1) intersection:

3. *El Camino Real & Project Driveway* – The St. John Church project is currently in the process of constructing this driveway and it is assumed the driveway will be complete by the Proposed Project's opening year, 2024. This driveway would serve both the Proposed Project and the St. John Church, allow for right-in right-out access off El Camino Real, and operate as a side-street stop-controlled intersection, with El Camino Real as uncontrolled and the project driveway as stop-controlled.

Near-Term Year 2024 Base scenario traffic volumes were derived by applying the 1.54% annual growth rate, calculated previously in Section 5.1, to the February 2012 weekday and weekend traffic counts (included in Appendix B) conducted for the St. John Church TIS. This resulted in a total growth of 18.48% over a twelve-year period between year 2012 and year 2024. Additionally, since the St. John Church is anticipated to be complete by the Proposed Project's opening year, and thus contribute traffic within the project study area, trips generated by the St. John Church were added to the estimated year 2024 traffic volumes. Traffic volumes from the St. John Church TIS, including the St. John Church project trip assignment, are included in Appendix B. Traffic volume calculations for the Near-Term Year 2024 Base scenario are included in Appendix D.

Figure 6.1 and Figure 6.2 display the weekday and weekend average daily roadway and peak hour intersection volumes under Near-Term Year 2024 Base conditions, respectively.

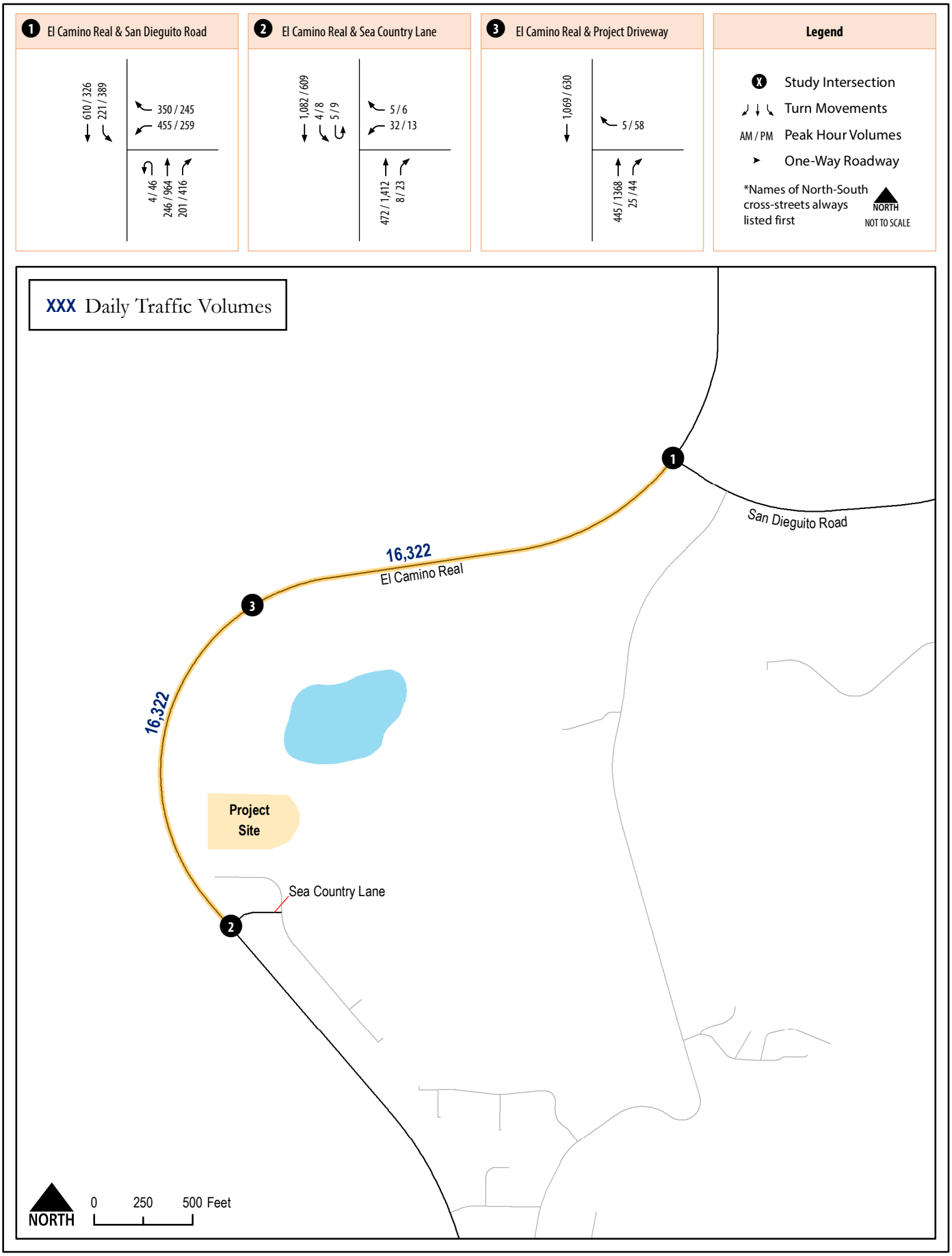


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*Figure 6.1*
*Traffic Volumes*
*Near-Term Year 2024 Base Conditions (Weekday)*

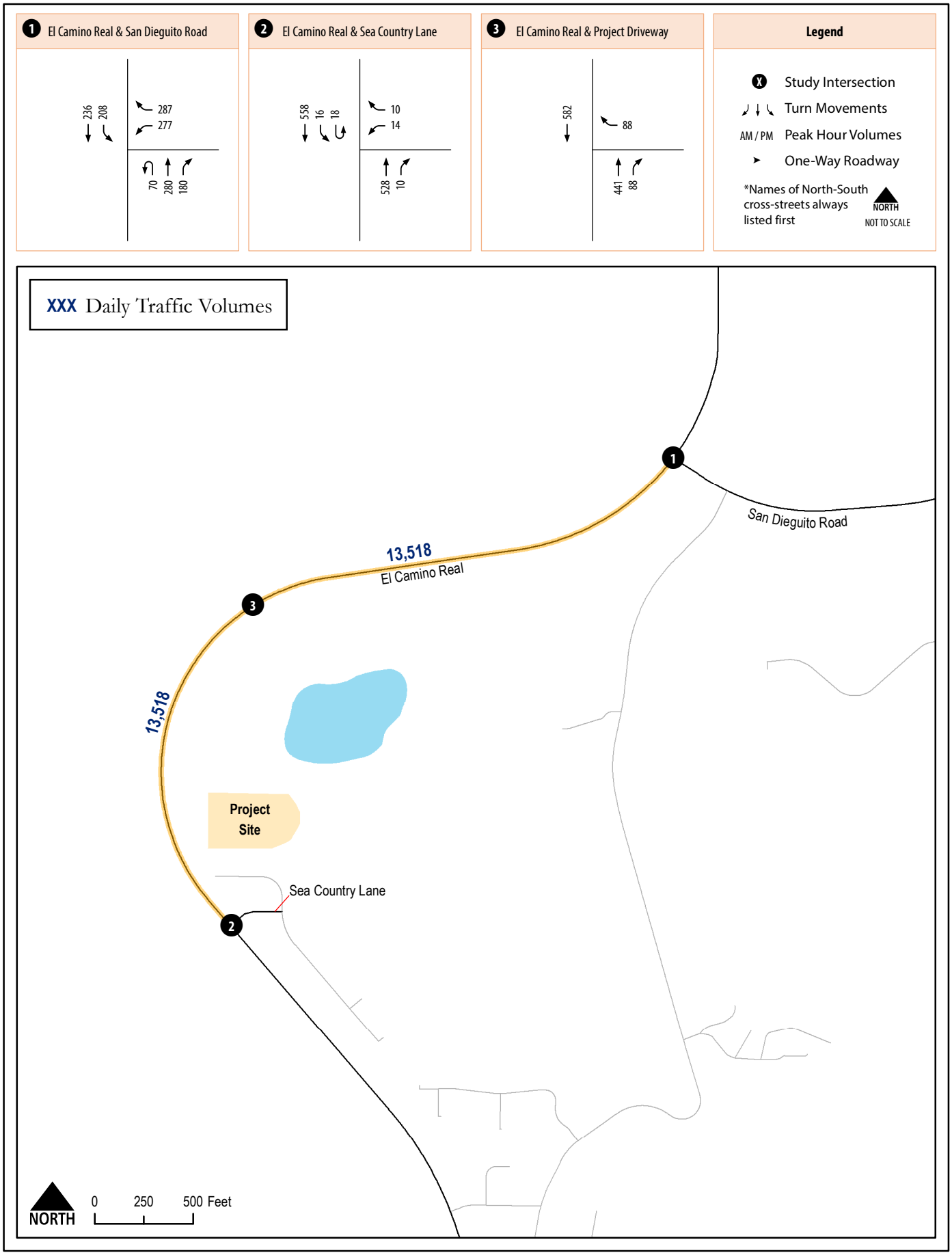


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*Figure 6.2*
*Traffic Volumes*
*Near-Term Year 2024 Base Conditions (Weekend)*

## 6.2 Near-Term Year 2024 Base Traffic Conditions

LOS analyses under Near-Term Year 2024 Base conditions were conducted using the methodologies described in Section 2.0. Roadway segment and intersection LOS analysis results are discussed separately below.

### 6.2.1 Roadway Segment Analysis (Weekday)

**Table 6.1** displays the LOS analysis results for roadway segments under Near-Term Year 2024 Base conditions during the week.

Table 6.1 Roadway Segment LOS Results – Near-Term Year 2024 Base Conditions (Weekday)

| Roadway | Segment | Functional Classification | Daily Volume | LOS Threshold (LOS E) | V/C | LOS |
|---|---|---|---|---|---|---|
| El Camino Real | San Dieguito Road to Project Driveway | 4-Lane Major Arterial | 16,322 | 40,000 | 0.408 | B |
| El Camino Real | Project Driveway to Sea Country Lane | 4-Lane Major Arterial | 16,322 | 40,000 | 0.408 | B |

Note:
V/C = Volume / Capacity.

As shown in Table 6.1, El Camino Real between San Dieguito Road and Sea Country Lane is projected to operate at acceptable LOS B during the week under Near-Term Year 2024 Base conditions.

### 6.2.2 Roadway Segment Analysis (Weekend)

**Table 6.2** displays the LOS analysis results for roadway segments under Near-Term Year 2024 Base conditions during the weekend.

Table 6.2 Roadway Segment LOS Results – Near-Term Year 2024 Base Conditions (Weekend)

| Roadway | Segment | Functional Classification | Daily Volume | LOS Threshold (LOS E) | V/C | LOS |
|---|---|---|---|---|---|---|
| El Camino Real | San Dieguito Road to Project Driveway | 4-Lane Major Arterial | 13,518 | 40,000 | 0.338 | A |
| El Camino Real | Project Driveway to Sea Country Lane | 4-Lane Major Arterial | 13,518 | 40,000 | 0.338 | A |

Note:
V/C = Volume / Capacity.

As shown in Table 6.2, El Camino Real between San Dieguito Road and Sea Country Lane is projected to operate at acceptable LOS A during the weekend under Near-Term Year 2024 Base conditions.

### 6.2.3 Intersection Analysis (Weekday)

**Table 6.3** displays intersection LOS and average vehicle delay results for the study area intersections under Near-Term Year 2024 Base conditions during the weekday. LOS calculation worksheets and signal timing inputs for Near-Term Year 2024 Base conditions are provided in **Appendix F**.

Table 6.3 Peak Hour Intersection LOS Results – Near-Term Year 2024 Base Conditions (Weekday)

| ID # | Intersection | Control Type | AM Peak Hour | | PM Peak Hour | |
|---|---|---|---|---|---|---|
| | | | Avg. Delay (sec.) | LOS | Avg. Delay (sec.) | LOS |
| 1 | El Camino Real & San Dieguito Road | Signal | 16.7 | B | 47.8 | D |
| 2 | El Camino Real & Sea Country Lane | Signal | 5.0 | A | 5.8 | A |
| 3 | El Camino Real & Project Driveway | SSSC | 10.2 | B | 18.7 | C |

Note:
SSSC = Side-Street Stop-Controlled. For SSSC, the delay shown is the worst delay experienced by any of the approaches.

As shown in Table 6.3, all study area intersections are projected to operate at an acceptable LOS D or better during both weekday AM and PM peak hours under Near-Term Year 2024 Base conditions.

### 6.2.4 Intersection Analysis (Weekend)

Table 6.4 displays intersection LOS and average vehicle delay results for the study area intersections under Near-Term Year 2024 Base conditions during the weekend. LOS calculation worksheets and signal timing inputs for Near-Term Year 2024 Base conditions are provided in Appendix G.

Table 6.4 Peak Hour Intersection LOS Results – Near-Term Year 2024 Base Conditions (Weekend)

| ID # | Intersection | Control Type | Sunday Peak Hour | |
|---|---|---|---|---|
| | | | Avg. Delay (sec.) | LOS |
| 1 | El Camino Real & San Dieguito Road | Signal | 17.2 | B |
| 2 | El Camino Real & Sea Country Lane | Signal | 5.6 | A |
| 3 | El Camino Real & Project Driveway | SSSC | 11.2 | B |

Note:
SSSC = Side-Street Stop-Controlled. For SSSC, the delay shown is the worst delay experienced by any of the approaches.

As shown in Table 6.4, all study area intersections are projected to operate at an acceptable LOS B or better during the weekend peak hour under Near-Term Year 2024 Base conditions.

## 6.3 Near-Term Year 2024 Base with Project Roadway Network and Traffic Volumes

Roadway and intersection geometrics under Near-Term Year 2024 Base with Project conditions were assumed to be identical to the Near-Term Year 2024 Base conditions geometrics, previously discussed in Section 6.1.

Near-Term Year 2024 Base with Project traffic volumes were derived by adding the trips generated by the Proposed Project (as shown in Figure 3.2 and Figure 3.3) to the Near-Term Year 2024 Base traffic volumes (as shown in Figure 6.1 and Figure 6.2). Figure 6.3 and Figure 6.4 display the weekday and weekend average daily roadway and peak hour intersection volumes under Near-Term Year 2024 Base conditions, respectively.

## 6.4 Near-Term Year 2024 Base with Project Traffic Conditions

LOS analyses under Near-Term Year 2024 Base with Project conditions were conducted using the methodologies described in Section 2.0. Roadway segment and intersection LOS analysis results are discussed below.

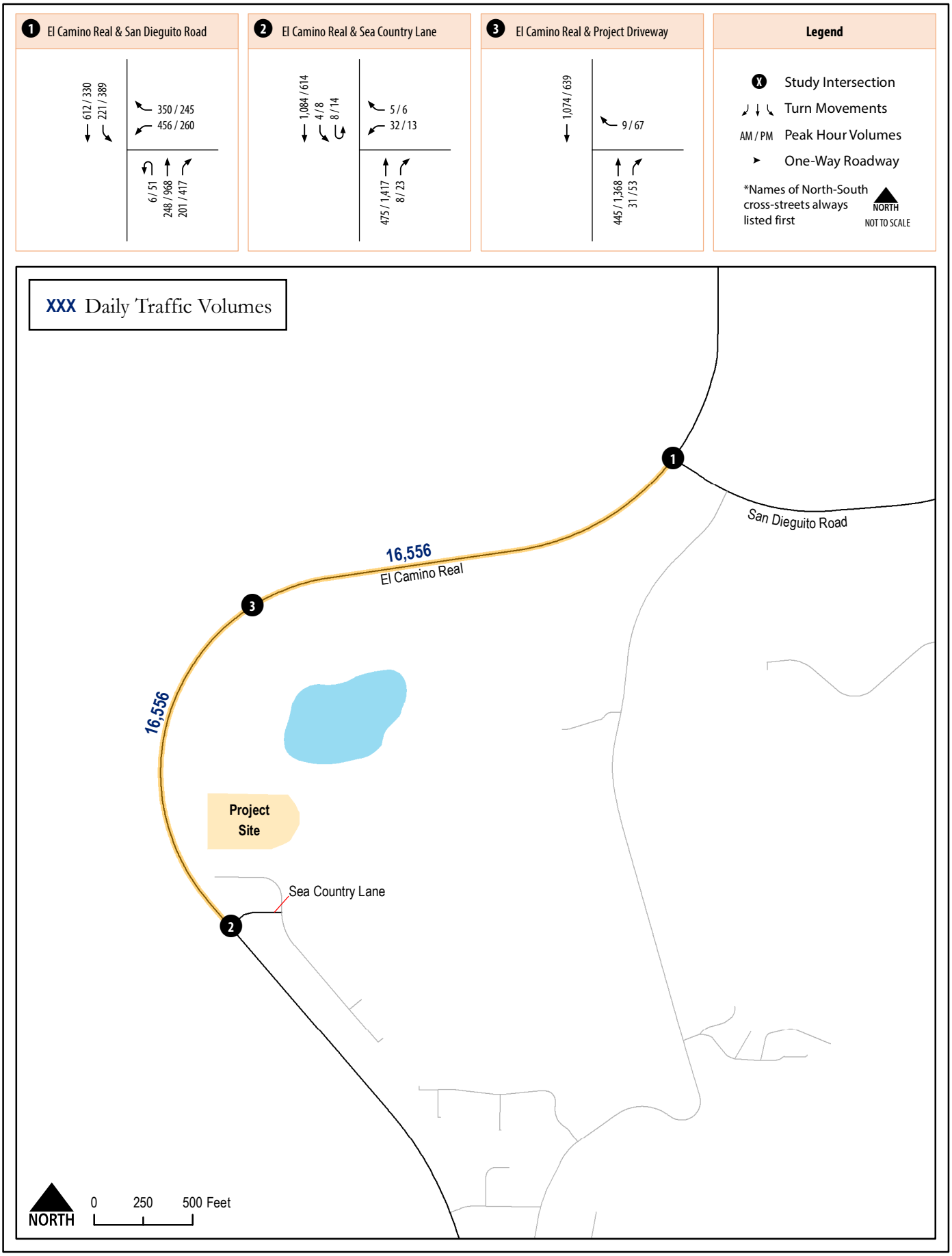


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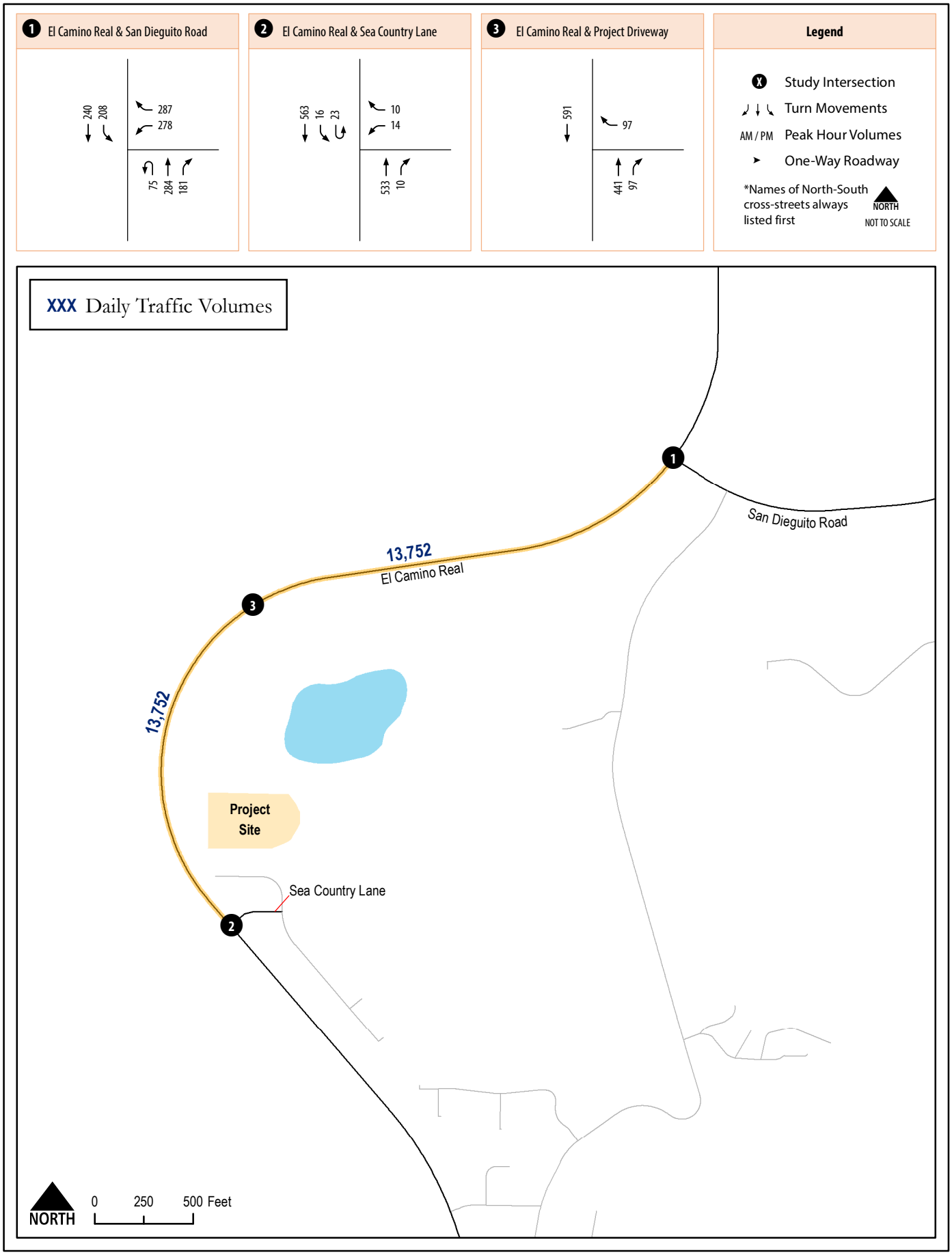
*Figure 6.3*
*Traffic Volumes*
*Near-Term Year 2024 Base with Project Conditions (Weekday)*

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**Local Mobility Analysis**

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*Figure 6.4*
*Traffic Volumes*
*Near-Term Year 2024 Base with Project Conditions (Weekend)*

### 6.4.1 Roadway Segment Analysis (Weekday)

**Table 6.5** displays the LOS analysis results for study area roadway segments under Near-Term Year 2024 Base with Project during the week.

Table 6.5 Roadway Segment LOS Results – Near-Term Year 2024 Base with Project Conditions (Weekday)

| Roadway | Segment | Functional Classification | ADT | LOS Threshold (LOS E) | V/C | LOS | LOS w/o Project | ΔV/C |
|---|---|---|---|---|---|---|---|---|
| El Camino Real | San Dieguito Road to Project Driveway | 4-Lane Major Arterial | 16,556 | 40,000 | 0.414 | B | B | 0.006 |
| El Camino Real | Project Driveway to Sea Country Lane | 4-Lane Major Arterial | 16,556 | 40,000 | 0.414 | B | B | 0.006 |

Note:
V/C = Volume / Capacity.

As shown in Table 6.5, El Camino Real between San Dieguito Road and Sea Country Lane is projected to continue to operate at acceptable LOS B during the week under Near-Term Year 2024 Base with Project conditions.

### 6.4.2 Roadway Segment Analysis (Weekend)

**Table 6.6** displays the LOS analysis results for study area roadway segments under Near-Term Year 2024 Base with Project conditions during the weekend.

Table 6.6 Roadway Segment LOS Results – Near-Term Year 2024 Base with Project Conditions (Weekend)

| Roadway | Segment | Functional Classification | ADT | LOS Threshold (LOS E) | V/C | LOS | LOS w/o Project | ΔV/C |
|---|---|---|---|---|---|---|---|---|
| El Camino Real | San Dieguito Road to Project Driveway | 4-Lane Major Arterial | 13,752 | 40,000 | 0.344 | A | A | 0.006 |
| El Camino Real | Project Driveway to Sea Country Lane | 4-Lane Major Arterial | 13,752 | 40,000 | 0.344 | A | A | 0.006 |

Note:
V/C = Volume / Capacity.

As shown in Table 6.6, El Camino Real between San Dieguito Road and Sea Country Lane is projected to continue to operate at acceptable LOS A during the weekend under Near-Term Year 2024 Base with Project conditions.

### 6.4.3 Intersection Analysis (Weekday)

**Table 6.7** displays intersection LOS and average vehicle delay results for the study area intersections under Near-Term Year 2024 Base with Project conditions during the weekday. LOS calculation and signal timing input worksheets for Near-Term Year 2024 Base with Project conditions are provided in **Appendix H.**

Table 6.7 Peak Hour Intersection LOS Results – Near-Term Year 2024 Base with Project Conditions (Weekday)

| # | Intersection | Control Type | AM Peak Hour Avg. Delay (sec) | AM Peak Hour LOS | PM Peak Hour Avg. Delay (sec) | PM Peak Hour LOS | Delay w/o Project (sec) AM/PM | LOS w/o Project AM/PM | Change in Delay (sec) AM/PM |
|---|---|---|---|---|---|---|---|---|---|
| 1 | El Camino Real & San Dieguito Road | Signal | 16.8 | B | 47.9 | D | 16.7 / 47.8 | B / D | 0.1 / 0.1 |
| 2 | El Camino Real & Sea Country Lane | Signal | 5.0 | A | 6.0 | A | 5.0 / 5.8 | A / A | 0.0 / 0.2 |
| 3 | El Camino Real & Project Driveway | SSSC | 10.2 | B | 19.4 | C | 10.2 / 18.7 | B / C | 0.0 / 0.7 |

Note:
SSSC = Side-Street Stop-Controlled. For SSSC, the delay shown is the worst delay experienced by any of the approaches.

As shown in Table 6.7, all study area intersections are projected to operate at an acceptable LOS D or better during both weekday AM and PM peak hours under Near-Term Year 2024 Base with Project conditions.

### 6.4.4 Intersection Analysis (Weekend)

Table 6.8 displays intersection LOS and average vehicle delay results for the study area intersections under Near-Term Year 2024 Base with Project conditions during the weekend. LOS calculation and signal timing input worksheets for Near-Term Year 2024 Base with Project conditions are provided in **Appendix I.**

Table 6.8 Peak Hour Intersection LOS Results – Near-Term Year 2024 Base with Project Conditions (Weekend)

| # | Intersection | Control Type | Sunday Peak Hour Avg. Delay (sec) | Sunday Peak Hour LOS | Delay w/o Project (sec) | LOS w/o Project | Change in Delay (sec) |
|---|---|---|---|---|---|---|---|
| 1 | El Camino Real & San Dieguito Road | Signal | 17.3 | B | 17.2 | B | 0.1 |
| 2 | El Camino Real & Sea Country Lane | Signal | 5.7 | A | 5.6 | A | 0.1 |
| 3 | El Camino Real & Project Driveway | SSSC | 11.4 | B | 11.2 | B | 0.2 |

Note:
SSSC = Side-Street Stop-Controlled. For SSSC, the delay shown is the worst delay experienced by any of the approaches.

As shown in Table 6.8, all study area intersections are projected to operate at an acceptable LOS B or better during the weekend peak hour under Near-Term Year 2024 Base with Project conditions.

## 6.5 Determination of the Need for Off-Site Improvements to Accommodate Project Traffic

This section determines if the analysis results above are consistent with the operational analysis results of the St. John Garabed Church TIS.

### 6.5.1 Roadway Segment Improvements

Based upon the significance criteria presented in Section 2.7 of this report, the addition of Proposed Project traffic would not have an adverse effect on traffic operations along any of the study area roadway segments under Near-Term Year 2024 Base with Project conditions. Therefore, no roadway segment improvements will be required.

### 6.5.2 Intersection Improvements

Based upon the significance criteria presented in Section 2.7 of this report, the addition of Proposed Project traffic would not have an adverse effect on traffic operations at any of the study area intersections under Near-Term Year 2024 Base with Project conditions. Therefore, no intersection improvements will be required.

### 6.5.3 Pedestrian Improvements

Based on review of the NCFUA Framework Plan and the Proposed Project site plan, the Proposed Project does not interfere with existing or planned pedestrian facilities. Thus, no reductions to pedestrian facility quality are identified as a result of the Proposed Project. Therefore, no adverse effects to the pedestrian network were identified, and no pedestrian improvements will be required.

### 6.5.4 Bicycle Improvements

Based on review of the NCFUA Framework Plan and the Proposed Project site plan, the Proposed Project does not interfere with existing or planned bicycle facilities. Thus, no reductions to bicycle facility quality are identified as a result of the Proposed Project. Therefore, no adverse effects to the pedestrian network were identified, and no bicycle improvements will be required.

The Proposed Project will, however, provide bicycle amenities such as on-site bicycle parking and storage per the San Diego Municipal Code requirements.

### 6.5.5 Transit Improvements

There are no existing or planned transit facilities within ½ mile of the Proposed Project. Thus, no reductions to transit facility quality are identified as a result of the Proposed Project. Therefore, no adverse effects to the transit network were identified, and no transit improvements will be required.

Although no transit improvements will be required, the project applicant proposes to provide a shuttle to the Solana Beach Station.

# 7.0 Horizon Year Base Conditions

This section provides an analysis of Horizon Year Base traffic conditions both with and without the Proposed Project. The scenarios analyzed in this section include:

- Horizon Year Base
- Horizon Year Base with Project

## 7.1 Horizon Year Base Roadway Network and Traffic Volumes

Roadway and intersection geometrics under Horizon Year Base Conditions were assumed to be identical to existing roadway geometrics, as previously shown in Figure 5.1, with the exception of the following one (1) intersection:

3. *El Camino Real & Project Driveway* – The St. John Church project is currently in the process of constructing this driveway and it is assumed the driveway will be complete by the Proposed Project's opening year, 2024. This driveway would serve both the Proposed Project and the St. John Church, allow for right-in right-out access off El Camino Real, and operate as a side-street stop-controlled intersection, with El Camino Real as uncontrolled and the project driveway as stop-controlled.

It is anticipated that traffic signals would be adjusted to accommodate growth in traffic volumes between the Proposed Project's opening year (Near-Term Year 2024) and Horizon Year. Thus, signal timings were optimized under Horizon Year Base conditions.

Traffic volumes for this scenario were obtained from the Horizon Year with Project section of the St. John Church TIS. Relevant excerpt of the church study is provided in Appendix B. **Figure 7.1** and **Figure 7.2** display the weekday and weekend average daily roadway and peak hour intersection volumes under Horizon Year Base conditions, respectively.

## 7.2 Horizon Year Base Traffic Conditions

LOS analyses under Horizon Year Base conditions were conducted using the methodologies described in Section 2.0. Roadway segment and intersection LOS analysis results are discussed separately below.

### 7.2.1 Roadway Segment Analysis (Weekday)

**Table 7.1** displays the LOS analysis results for roadway segments under Horizon Year Base conditions during the week.

**Table 7.1 Roadway Segment LOS Results – Horizon Year Base Conditions (Weekday)**

| Roadway | Segment | Functional Classification | Daily Volume | LOS Threshold (LOS E) | V/C | LOS |
|---|---|---|---|---|---|---|
| El Camino Real | San Dieguito Road to Project Driveway | 4-Lane Major Arterial | 30,757 | 40,000 | 0.769 | D |
| El Camino Real | Project Driveway to Sea Country Lane | 4-Lane Major Arterial | 30,757 | 40,000 | 0.769 | D |

Note:
V/C = Volume / Capacity.

As shown in Table 7.1, El Camino Real between San Dieguito Road and Sea Country Lane is projected to operate at acceptable LOS D during the week under Horizon Year Base conditions.

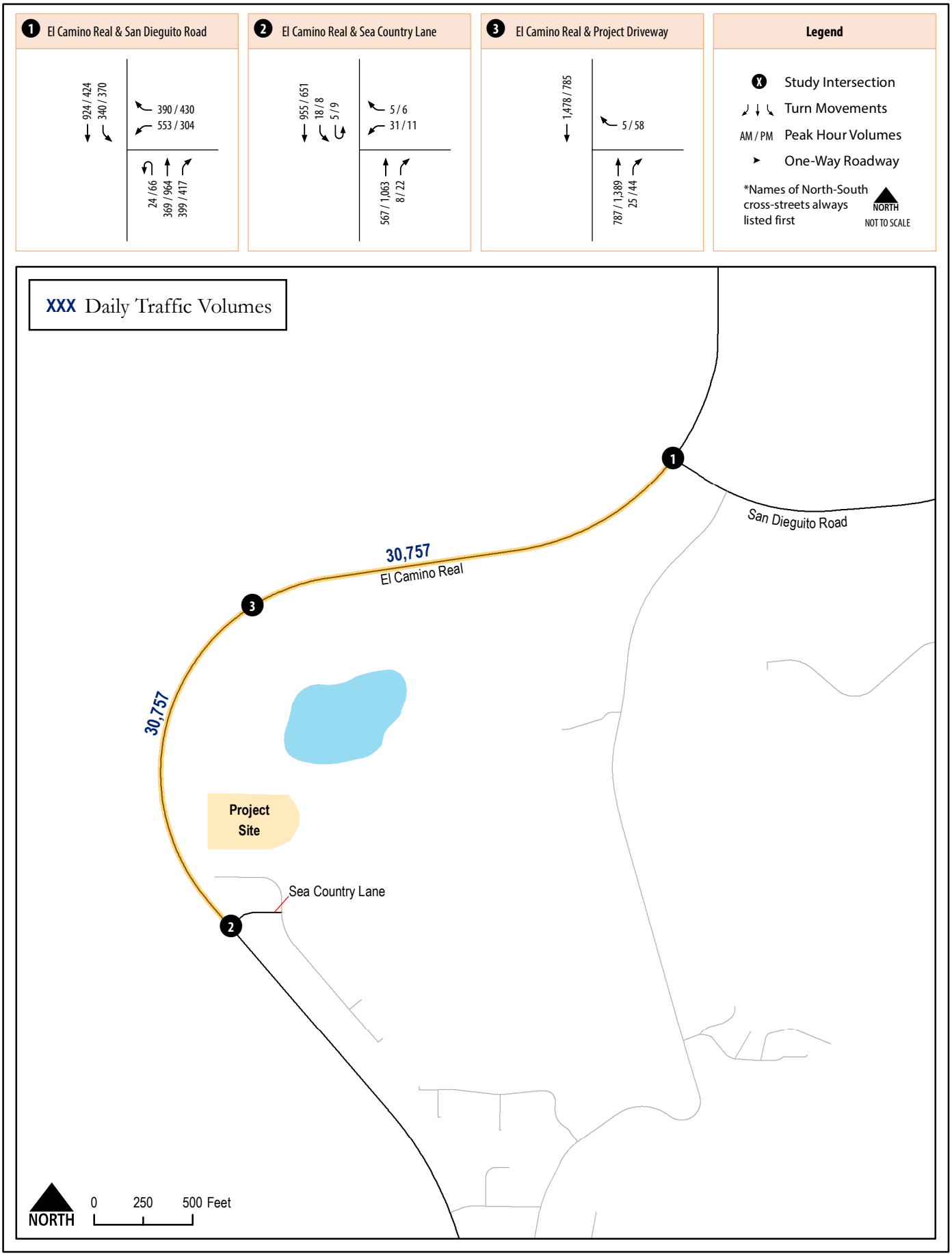


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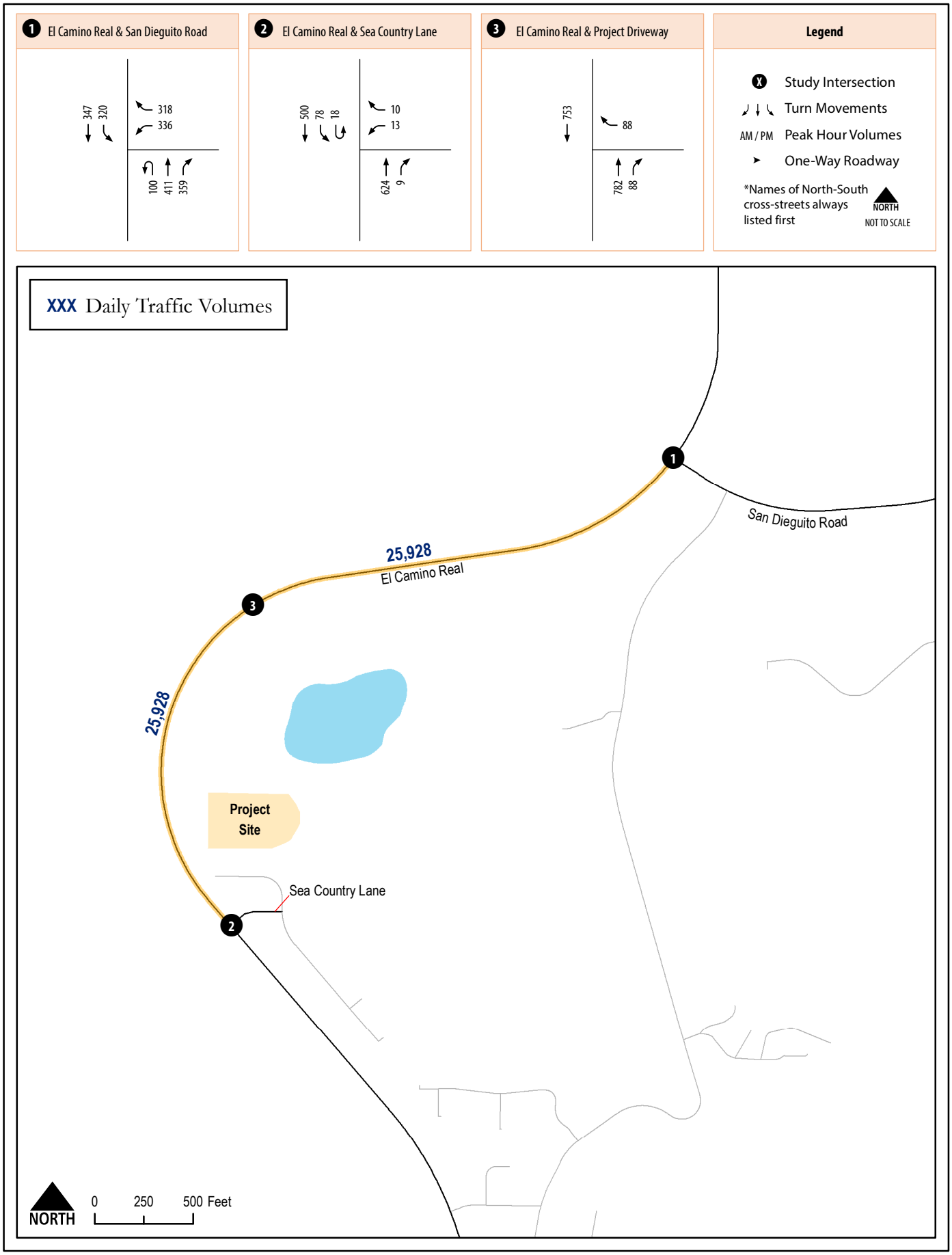
*Figure 7.1*
*Traffic Volumes*
*Horizon Year Base Conditions (Weekday)*

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**Local Mobility Analysis**

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*Figure 7.2*
*Traffic Volumes*
*Horizon Year Base Conditions (Weekend)*

### 7.2.2 Roadway Segment Analysis (Weekend)

**Table 7.2** displays the LOS analysis results for roadway segments under Horizon Year Base conditions during the weekend.

Table 7.2 Roadway Segment LOS Results – Horizon Year Base Conditions (Weekend)

| Roadway | Segment | Functional Classification | Daily Volume | LOS Threshold (LOS E) | V/C | LOS |
|---|---|---|---|---|---|---|
| El Camino Real | San Dieguito Road to Project Driveway | 4-Lane Major Arterial | 25,928 | 40,000 | 0.648 | C |
| El Camino Real | Project Driveway to Sea Country Lane | 4-Lane Major Arterial | 25,928 | 40,000 | 0.648 | C |

Note:
V/C = Volume / Capacity.

As shown in Table 7.2, El Camino Real between San Dieguito Road and Sea Country Lane is projected to operate at acceptable LOS C during the weekend under Horizon Year Base conditions.

### 7.2.3 Intersection Analysis (Weekday)

**Table 7.3** displays intersection LOS and average vehicle delay results for the study area intersections under Horizon Year Base conditions during the weekday. LOS calculation worksheets and signal timing inputs for Horizon Year Base conditions are provided in **Appendix J**.

Table 7.3 Peak Hour Intersection LOS Results – Horizon Year Base Conditions (Weekday)

| | | | AM Peak Hour | | PM Peak Hour | |
|---|---|---|---|---|---|---|
| ID # | Intersection | Control Type | Avg. Delay (sec.) | LOS | Avg. Delay (sec.) | LOS |
| 1 | El Camino Real & San Dieguito Road | Signal | 24.0 | C | 53.5 | D |
| 2 | El Camino Real & Sea Country Lane | Signal | 5.1 | A | 4.8 | A |
| 3 | El Camino Real & Project Driveway | SSSC | 11.8 | B | 19.0 | C |

Note:
SSSC = Side-Street Stop-Controlled. For SSSC, the delay shown is the worst delay experienced by any of the approaches.

As shown in Table 7.3, all study area intersections are projected to operate at an acceptable LOS D or better during both weekday AM and PM peak hours under Horizon Year Base conditions.

### 7.2.4 Intersection Analysis (Weekend)

**Table 7.4** displays intersection LOS and average vehicle delay results for the study area intersections under Horizon Year Base conditions during the weekend. LOS calculation worksheets and signal timing inputs for Horizon Year Base conditions are provided in **Appendix K**.

Table 7.4 Peak Hour Intersection LOS Results – Horizon Year Base Conditions (Weekend)

| | | | Sunday Peak Hour | |
|---|---|---|---|---|
| ID # | Intersection | Control Type | Avg. Delay (sec.) | LOS |
| 1 | El Camino Real & San Dieguito Road | Signal | 22.6 | C |
| 2 | El Camino Real & Sea Country Lane | Signal | 6.5 | A |
| 3 | El Camino Real & Project Driveway | SSSC | 13.7 | B |

Note:
SSSC = Side-Street Stop-Controlled. For SSSC, the delay shown is the worst delay experienced by any of the approaches.

As shown in Table 7.4, all study area intersections are projected to operate at an acceptable LOS C or better during the weekend peak hour under Horizon Year Base conditions.

## 7.3 Horizon Year Base with Project Roadway Network and Traffic Volumes

Roadway and intersection geometrics under Horizon Year Base with Project conditions were assumed to be identical to the Horizon Year Base conditions geometrics, previously discussed in Section 7.1.

Horizon Year Base with Project traffic volumes were derived by adding the trips generated by the Proposed Project (as shown in Figure 3.2 and Figure 3.3) to the Horizon Year Base traffic volumes (as shown in Figure 7.1 and Figure 7.2). **Figure 7.3** and **Figure 7.4** display the weekday and weekend average daily roadway and peak hour intersection volumes under Horizon Year Base conditions, respectively.

## 7.4 Horizon Year Base with Project Traffic Conditions

LOS analyses under Horizon Year Base with Project conditions were conducted using the methodologies described in Section 2.0. Roadway segment and intersection LOS analysis results are discussed below.

### 7.4.1 Roadway Segment Analysis (Weekday)

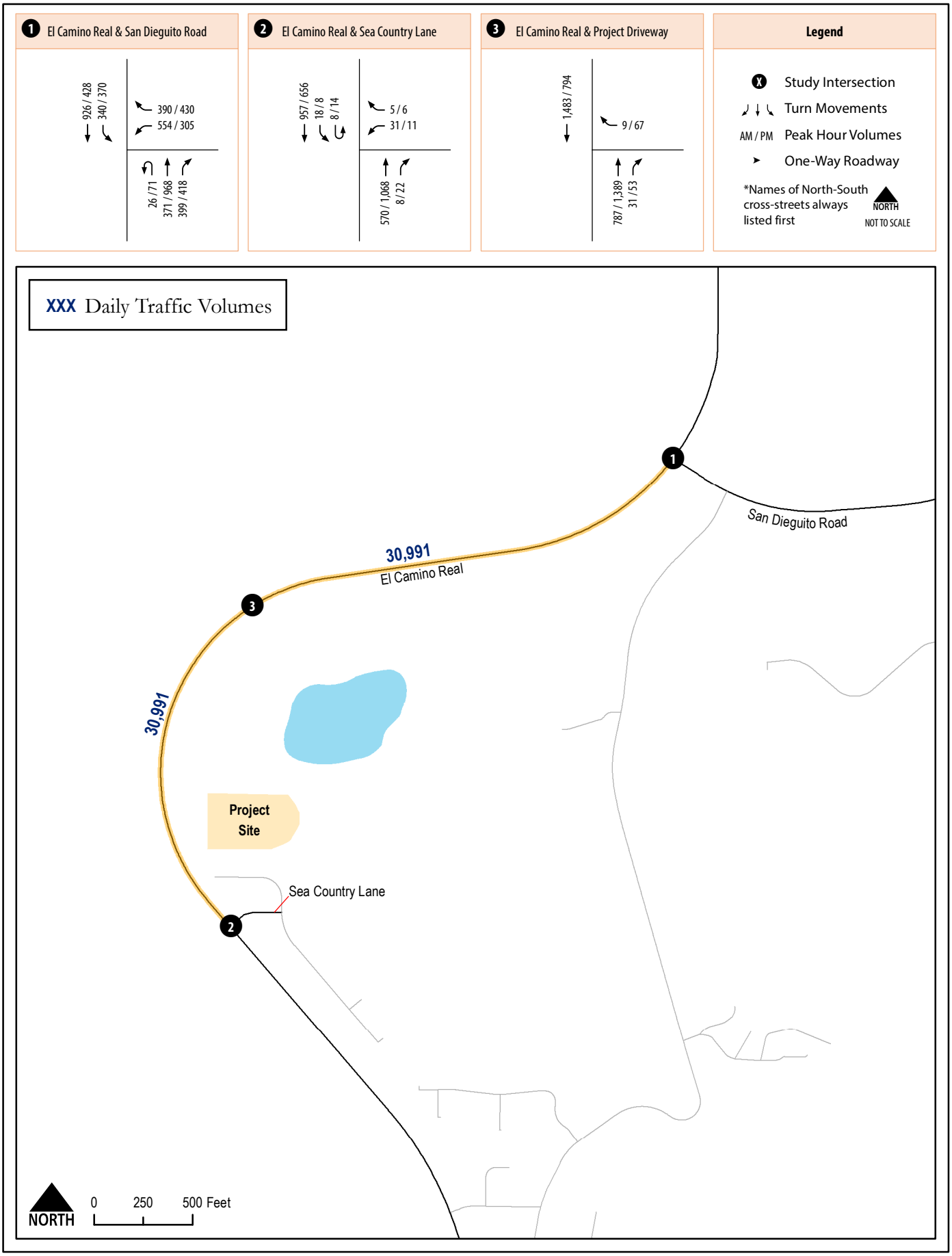
**Table 7.5** displays the LOS analysis results for study area roadway segments under Horizon Year Base with Project conditions during the week.

Table 7.5 Roadway Segment LOS Results – Horizon Year Base with Project Conditions (Weekday)

| Roadway | Segment | Functional Classification | ADT | LOS Threshold (LOS E) | V/C | LOS | LOS w/o Project | ΔV/C |
|---|---|---|---|---|---|---|---|---|
| El Camino Real | San Dieguito Road to Project Driveway | 4-Lane Major Arterial | 30,991 | 40,000 | 0.775 | D | D | 0.006 |
| El Camino Real | Project Driveway to Sea Country Lane | 4-Lane Major Arterial | 30,991 | 40,000 | 0.775 | D | D | 0.006 |

Note:
V/C = Volume / Capacity.

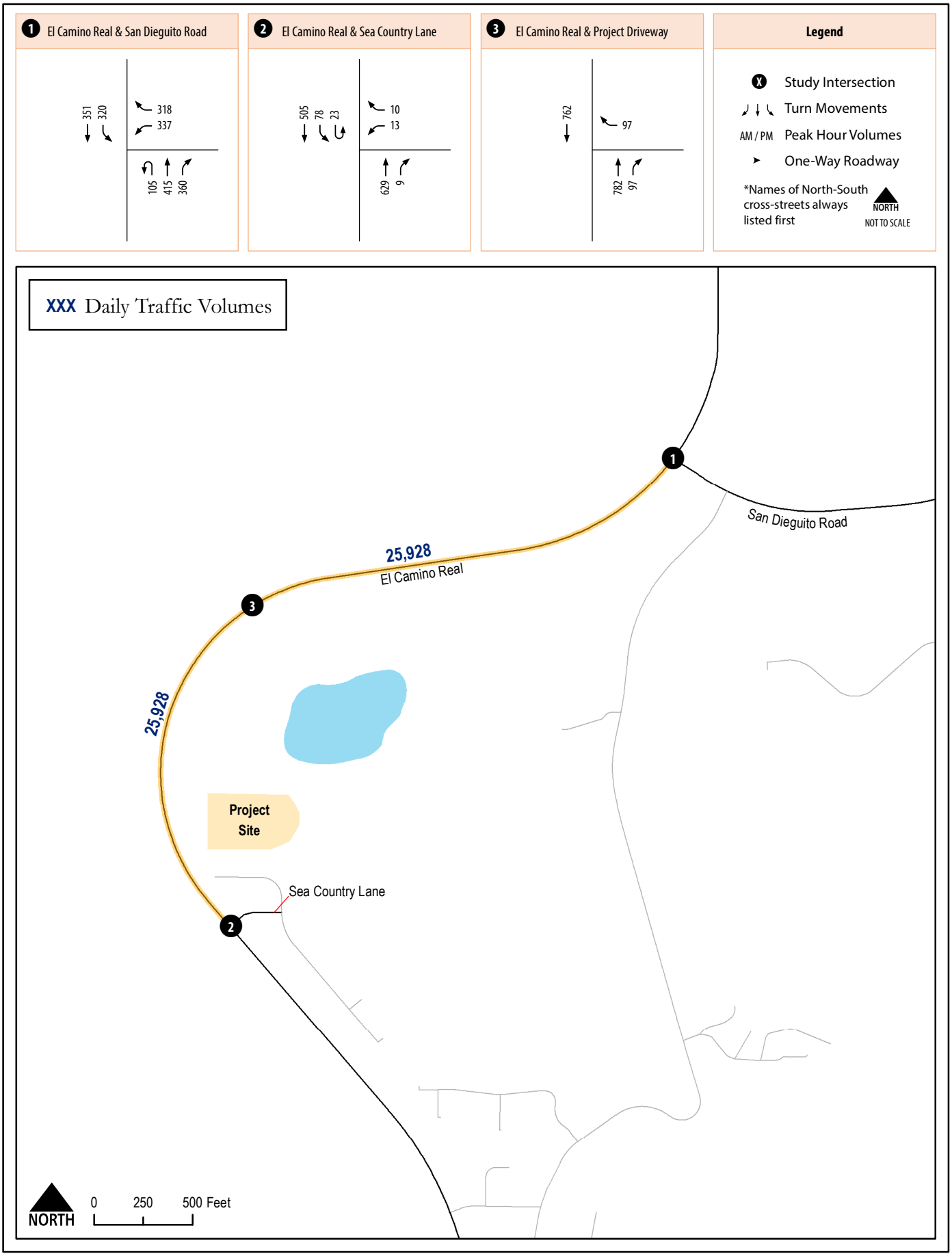
As shown in Table 7.5, El Camino Real between San Dieguito Road and Sea Country Lane is projected to continue to operate at acceptable LOS D during the week under Horizon Year Base with Project conditions.




**El Camino Real Assisted Living Facility**
**Local Mobility Analysis**

C+R

*Figure 7.3*
*Traffic Volumes*
*Horizon Year Base with Project Conditions (Weekday)*




**El Camino Real Assisted Living Facility**
**Local Mobility Analysis**

C+R

*Figure 7.4*
*Traffic Volumes*
*Horizon Year Base with Project Conditions (Weekend)*

### 7.4.2 Roadway Segment Analysis (Weekend)

Table 7.6 displays the LOS analysis results for study area roadway segments under Horizon Year Base with Project conditions during the weekend.

Table 7.6 Roadway Segment LOS Results – Horizon Year Base with Project Conditions (Weekend)

| Roadway | Segment | Functional Classification | ADT | LOS Threshold (LOS E) | V/C | LOS | LOS w/o Project | ΔV/C |
|---|---|---|---|---|---|---|---|---|
| El Camino Real | San Dieguito Road to Project Driveway | 4-Lane Major Arterial | 26,162 | 40,000 | 0.654 | C | C | 0.006 |
| El Camino Real | Project Driveway to Sea Country Lane | 4-Lane Major Arterial | 26,162 | 40,000 | 0.654 | C | C | 0.006 |

Note:
V/C = Volume / Capacity.

As shown in Table 7.6, El Camino Real between San Dieguito Road and Sea Country Lane is projected to continue to operate at acceptable LOS C during the weekend under Horizon Year Base with Project conditions.

### 7.4.3 Intersection Analysis (Weekday)

Table 7.7 displays intersection LOS and average vehicle delay results for the study area intersections under Horizon Year Base with Project conditions during the weekday. LOS calculation and signal timing input worksheets for Horizon Year Base with Project conditions are provided in **Appendix L.**

Table 7.7 Peak Hour Intersection LOS Results – Horizon Year Base with Project Conditions (Weekday)

| # | Intersection | Control Type | AM Peak Hour Avg. Delay (sec) | AM Peak Hour LOS | PM Peak Hour Avg. Delay (sec) | PM Peak Hour LOS | Delay w/o Project (sec) AM/PM | LOS w/o Project AM/PM | Change in Delay (sec) AM/PM |
|---|---|---|---|---|---|---|---|---|---|
| 1 | El Camino Real & San Dieguito Road | Signal | 33.0 | C | 53.8 | D | 24.0 / 53.5 | C / D | 9.0 / 0.3 |
| 2 | El Camino Real & Sea Country Lane | Signal | 5.5 | A | 5.6 | A | 5.1 / 4.8 | A / A | 0.4 / 0.8 |
| 3 | El Camino Real & Project Driveway | SSSC | 11.9 | B | 19.7 | C | 11.8 / 19.0 | B / C | 0.1 / 0.7 |

Note:
SSSC = Side-Street Stop-Controlled. For SSSC, the delay shown is the worst delay experienced by any of the approaches.

As shown in Table 7.7, all study area intersections are projected to operate at acceptable LOS D or better during both weekday AM and PM peak hours under Horizon Year Base with Project conditions.

### 7.4.4 Intersection Analysis (Weekend)

Table 7.8 displays intersection LOS and average vehicle delay results for the study area intersections under Horizon Year Base with Project conditions during the weekend. LOS calculation and signal timing input worksheets for Horizon Year Base with Project conditions are provided in **Appendix M.**

Table 7.8 Peak Hour Intersection LOS Results – Horizon Year Base with Project Conditions (Weekend)

| # | Intersection | Control Type | Sunday Peak Hour | | Delay w/o Project (sec) | LOS w/o Project | Change in Delay (sec) |
|---|---|---|---|---|---|---|---|
| | | | Avg. Delay (sec) | LOS | | | |
| 1 | El Camino Real & San Dieguito Road | Signal | 22.8 | C | 22.6 | C | 0.2 |
| 2 | El Camino Real & Sea Country Lane | Signal | 6.6 | A | 6.5 | A | 0.1 |
| 3 | El Camino Real & Project Driveway | SSSC | 14.0 | B | 13.7 | B | 0.3 |

Note:
SSSC = Side-Street Stop-Controlled. For SSSC, the delay shown is the worst delay experienced by any of the approaches.

As shown in Table 7.8, all study area intersections are projected to operate at acceptable LOS C or better during the weekend peak hour under Horizon Year Base with Project conditions.

## 7.5 Determination of the Need for Off-Site Improvements to Accommodate Project Traffic

This section determines if the analysis results above are consistent with the operational analysis results of the St. John Garabed Church TIS.

### 7.5.1 Roadway Segment Improvements

Based upon the significance criteria presented in Section 2.7 of this report, the addition of Proposed Project traffic would not cause an adverse effect on traffic operations along any of the study area roadway segments under Horizon Year Base with Project conditions. Therefore, no roadway segment improvements will be required.

### 7.5.2 Intersection Improvements

Based upon the significance criteria presented in Section 2.7 of this report, the addition of Proposed Project traffic would not cause an adverse effect to traffic operations at any of the study area intersections under Horizon Year Base with Project conditions. Therefore, no intersection improvements will be required.

### 7.5.3 Pedestrian Improvements

Based on review of the NCFUA Framework Plan and the Proposed Project site plan, the Proposed Project does not interfere with existing or planned pedestrian facilities. Thus, no reductions to pedestrian facility quality are identified as a result of the Proposed Project. Therefore, no adverse effects to the pedestrian network were identified, and no pedestrian improvements will be required.

### 7.5.4 Bicycle Improvements

Based on review of the NCFUA Framework Plan and the Proposed Project site plan, the Proposed Project does not interfere with existing or planned bicycle facilities. Thus, no reductions to bicycle facility quality are identified as a result of the Proposed Project. Therefore, no adverse effects to the pedestrian network were identified, and no bicycle improvements will be required.

The Proposed Project will, however, provide bicycle amenities such as on-site bicycle parking and storage per the San Diego Municipal Code requirements.

### 7.5.5 Transit Improvements

There are no existing or planned transit facilities within ½ mile of the Proposed Project. Thus, no reductions to transit facility quality are identified as a result of the Proposed Project. Therefore, no adverse effects to the transit network were identified, and no transit improvements will be required.

Although no transit improvements will be required, the project applicant proposes to provide a shuttle to the Solana Beach Station.

# 8.0 Consistency with the St. John Church TIS

This section determines if the analysis results presented above are consistent with the findings of the St. John Church TIS.

The FEIR concluded that the St. John Church would not have a significant transportation related impact since the St. John Church would not cause any roadway segments or intersections to operate at a substandard LOS. Similarly, all intersections and roadway segments within the Proposed Project study area are anticipated to operate at LOS D or better. Thus, the Proposed Project would not have an adverse effect on roadway segments or intersections and would remain consistent with the operational analysis results of the St. John Church TIS.

Additionally, based on the City of San Diego's new SB 743-compliant CEQA Significance Thresholds for Transportation implemented via the City of San Diego TSM, the Proposed Project is considered to be a small project, and may be presumed to have a less than significant transportation VMT impact.

# Appendix A
# Project Information Form (PIF)

# City of San Diego
# Project Information Form

Project Information

| | | | | | |
|---|---|---|---|---|---|
| Project Name: | El Camino Real Senior Living | | | | |
| **Project Applicant** | | | | | |
| Name: | Nolan Weinberg, Development Associate, PMB Carmel Valley LLC | | | | |
| Address: | 3394 Carmel Mount Road Suite 200, San Diego, CA 92121 | | | | |
| Contact Information | Phone Number: | 858.794.1900 | Email: | NWeinberg@pmbllc.com | |
| **Project Location and Context** | | | | | |
| Project Address: | Approximately: 13860 El Camino Real, San Diego, CA 92130 | | | | |
| APN: | 3046503700 | | | | |
| Driveway Cross Streets: | El Camino Real & Project Driveway. Project driveway currently under construction by the adjacent church project (St. John Garabed Armenian Church). | | | | |
| Please attach a Project Location Map that clearly identifies project driveways and access points. | Attachment A – Project Regional Location and Attachment B – Project Site Plan | | | | |
| Community Plan Area: | North City Future Urbanizing Area Subarea II Plan | Land Use Designation: | Very Low Density Residential and Environmental Tier | Zoning: | AR-1-1 |
| Is any portion of the project located in a Parking Standards Transit Priority Area?: ☐ Yes ☒ No | | | | | |

**Project Description (with Proposed Land Uses and Intensities):**

The Proposed Project intends to develop a 105,568 SF, three story 105-unit nursing home facility for assisted living consisting of 18 memory care accommodations and 87 assisted living accommodations. A conditional use permit is being requested for the Proposed Project.

The trip generation rate for "Congregate Care Facility" was used for assisted living units as it is the most applicable. Similarly, the trip generation rate for "Convalescent/Nursing" was used for memory care units.

| Number of Parking Spaces: | Vehicle Spaces | Accessible Spaces | Bicycle Spaces *(racks and secure storage)* | Motorcycle Spaces |
|---|---|---|---|---|
| | 61 | 3 | 12 short term + 4 long term | 2 |

Identify any project features related to TDM and identify any transportation amenities or travel demand management measures that are required based on the San Diego Municipal Code Section 142.0528 (transportation amenities) or the Climate Action Plan Consistency Checklist. For example: transit pass subsidies, unbundled parking, shuttle services, car share, bicycle supportive features (bike repair station, bike lockers, etc.)

6 carpool/zero emissions vehicle + 4 EV capable parking space.

Please attach a project site plan that clearly identifies the following:

- Land use types and quantities, and number of parking spaces provided (vehicle, bicycle, motorcycle) clearly identified.
- Driveway locations and type (full access, partial access, right in/out only) identified.
- Pedestrian access, bicycle access and on-site pedestrian circulation clearly identified.
- Location/distance of closest existing transit stop, and proposed transit stops identified in RTIP (measured as walking distance to project entrance/or middle of parcel).

Please see Attachment B

# City of San Diego
# Project Information Form

| Trip Generation Estimates (calculated using the process described in the TSM): | Unadjusted Driveway Trips | | Total Net New Trips | |
|---|---|---|---|---|
| | Daily: | 228 | Daily: | 228 |
| | AM Peak Hour: | 10 | AM Peak Hour: | 10 |
| | PM Peak Hour: | 18 | PM Peak Hour: | 18 |

Preliminary Screening Criteria

| | CEQA Transportation Analysis Screening<br>1) Select the Land Uses that apply to your project<br>2) Answer the questions for each Land Use that applies to your project<br>*(if "Yes" in any land use category below then that land use (or a portion of the land use) is screened from CEQA Transportation Analysis)* | Screened Out | Not Screened Out |
|---|---|---|---|
| | | Yes | No |
| X | 1. Redevelopment Project: | | |
| | a. Does the project result in a net decrease in total Project VMT? | | X |
| | b. Answer if yes to 1a. If the project replaces affordable housing with market rate housing, are there more market rate units planned than existing affordable units being replaced. | | N/A |
| X | 2. Residential Project: | | |
| | a. Is the project in a VMT/Capita Efficient Area (per SANDAG screening maps)? | | X |
| | b. Does the project include Affordable Housing?<br>All affordable units are screened out. | | X |
| | 3. Commercial Employment Project: | | |
| | • Is the project in a VMT/Employee Efficient Area? (per SANDAG screening maps?) | | |
| | 4. Industrial Employment Project | | |
| | • Is the project in a VMT/Industrial Employee Efficient Area? | | |
| | 5. Retail/Public Facility/Recreational | | |
| | • Is the project locally serving: - Retail OR Public Facility OR Recreational | | |
| X | 6. Small Project | | |
| | • For all components of a project that are not screened out above (all 'No' in a land use category), what is the daily unadjusted driveway trip generation? 234 daily Trips<br>Is it less than 300 daily trips? Yes | X | |

| Local Mobility Analysis | | |
|---|---|---|
| Is your project's land use consistent with the Community Plan zoning? | ☐ Consistent<br>☐ Generates less than 1,000 daily trips (unadjusted driveway trips) | ☒ Inconsistent<br>☒ Generates less than 500 daily trips (unadjusted driveway trips) |
| If a project generates 1,000 or more daily trips (consistent with Community Plan Zoning) or 500 or more daily trips (inconsistent with Community Plan zoning), attach an exhibit showing the project's trip distribution percentages and project trip assignment using the process described in the TSM. | | |

**City of San Diego**
**Project Information Form**

LMA Attachment Information & Scoping

Consistent with the City of San Diego Transportation Study Manual (TSM), a Transportation Impact Analysis and a Local Mobility Analysis will not be required due to the amount of daily trips generated by the Proposed Project. Although the Proposed Project is inconsistent with the community plan, the average daily trips (228) generated by the Proposed Project is below 300 daily trips threshold, which screens the Proposed Project out from completing a Transportation Impact Analysis. Similarly, the average daily trips generated by the Proposed Project is less than 500 daily trips, which screens the Proposed Project out from completing a Local Mobility Analysis.

Access to the project site will be provided via the project driveway currently under construction by the adjacent church project. The project driveway, as described in the *St. John Garabed Armenian Church Traffic Impact Study*, July 2013, would allow for right-in right-out access off El Camino Real. Since the traffic study for the adjacent church project did not account for the trips generated by the Proposed Project, a Local Mobility Analysis will be conducted for the Proposed Project.

Trip Generation

A trip generation analysis was conducted to determine the number of vehicle trips expected to be generated from the Proposed Project. Trip generation rates were obtained from the City of San Diego's *Trip Generation Manual* (May 2003). Appendix C of the City's trip generation manual defines a Congregate Care facility as:

*"A facility that typically consists of one or more multi-unit buildings designed for elderly living."*

Similarly, the City's trip generation manual defines a Convalescent Hospital as:

"*Convalescent hospitals are freestanding institutions designed to provide medical care for patients with long-term illnesses. Normally such hospitals do not provide emergency room medical treatment."*

As such, it was determined that both Congregate Care facility and Convalescent Hospital are the appropriate trip generation rates for the Proposed Project. The Proposed Project description determine the Proposed Project trip Generation Table 1 (based on driveway rates).

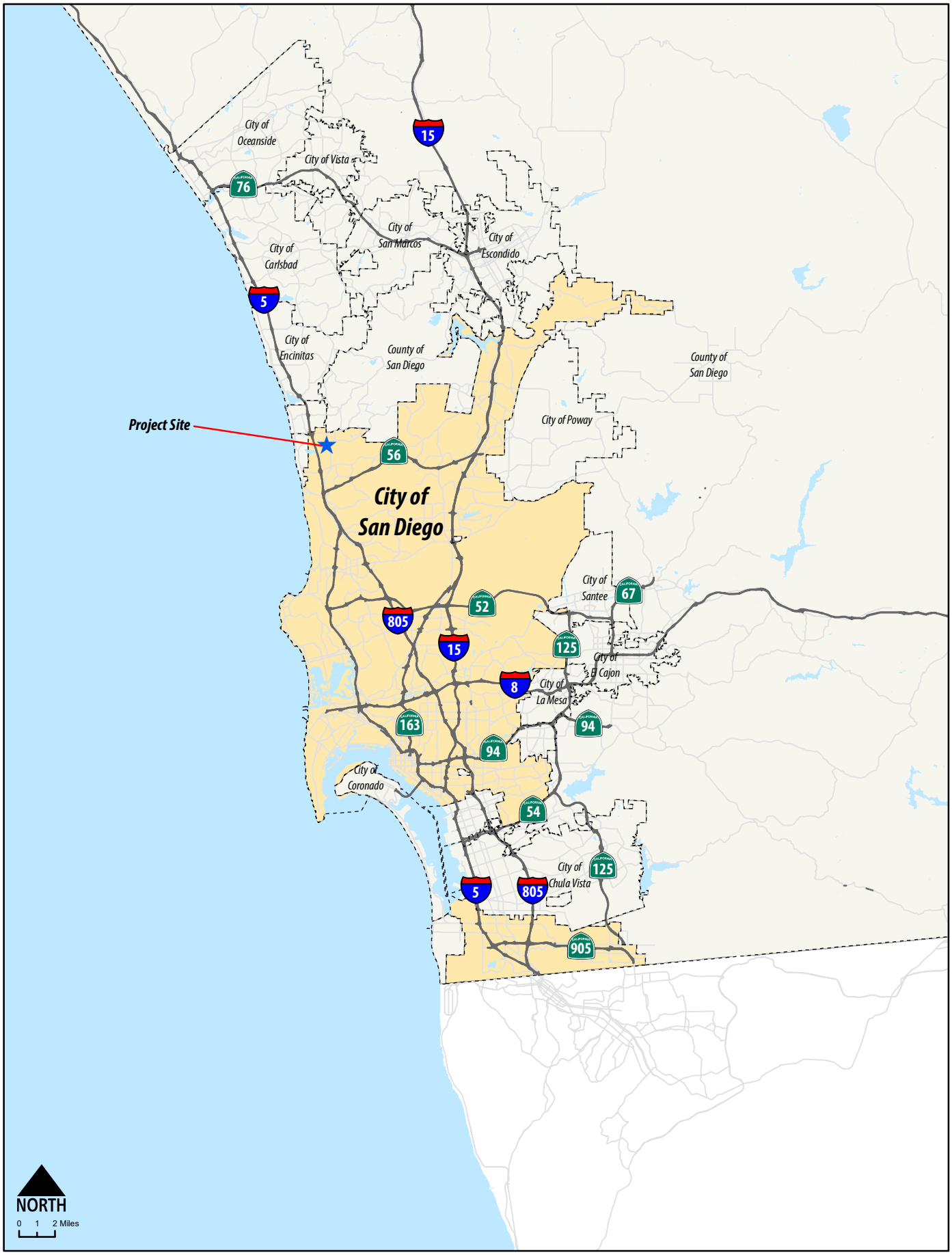
Table 1 – Proposed Project Trip Generation

| Land Use | Units | Trip Rate | ADT | AM | | | | | PM | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | Trips | Split | In | Out | % | Trips | Split | In | Out |
| Congregate Care Facility | 87 DU | 2/DU | 174 | 3% | 6 | (6:4) | 4 | 2 | 8% | 14 | (5:5) | 7 | 7 |
| Convalescent/Nursing | 18 beds | 3/Bed | 54 | 7% | 4 | (6:4) | 2 | 2 | 7% | 4 | (4:6) | 2 | 2 |
| Total | | | 228 | | 10 | | 6 | 4 | | 18 | | 9 | 9 |

Attachment:
The table below provide a summary of each of the attachments.

| Name | Description | Attachment No. |
|---|---|---|
| Proposed Project Regional Location | Displays the Proposed Project's regional location | A |
| Proposed Project Site Plan | Displays the Proposed Project's site plan | B |

# Attachment A
# Proposed Project Regional Location

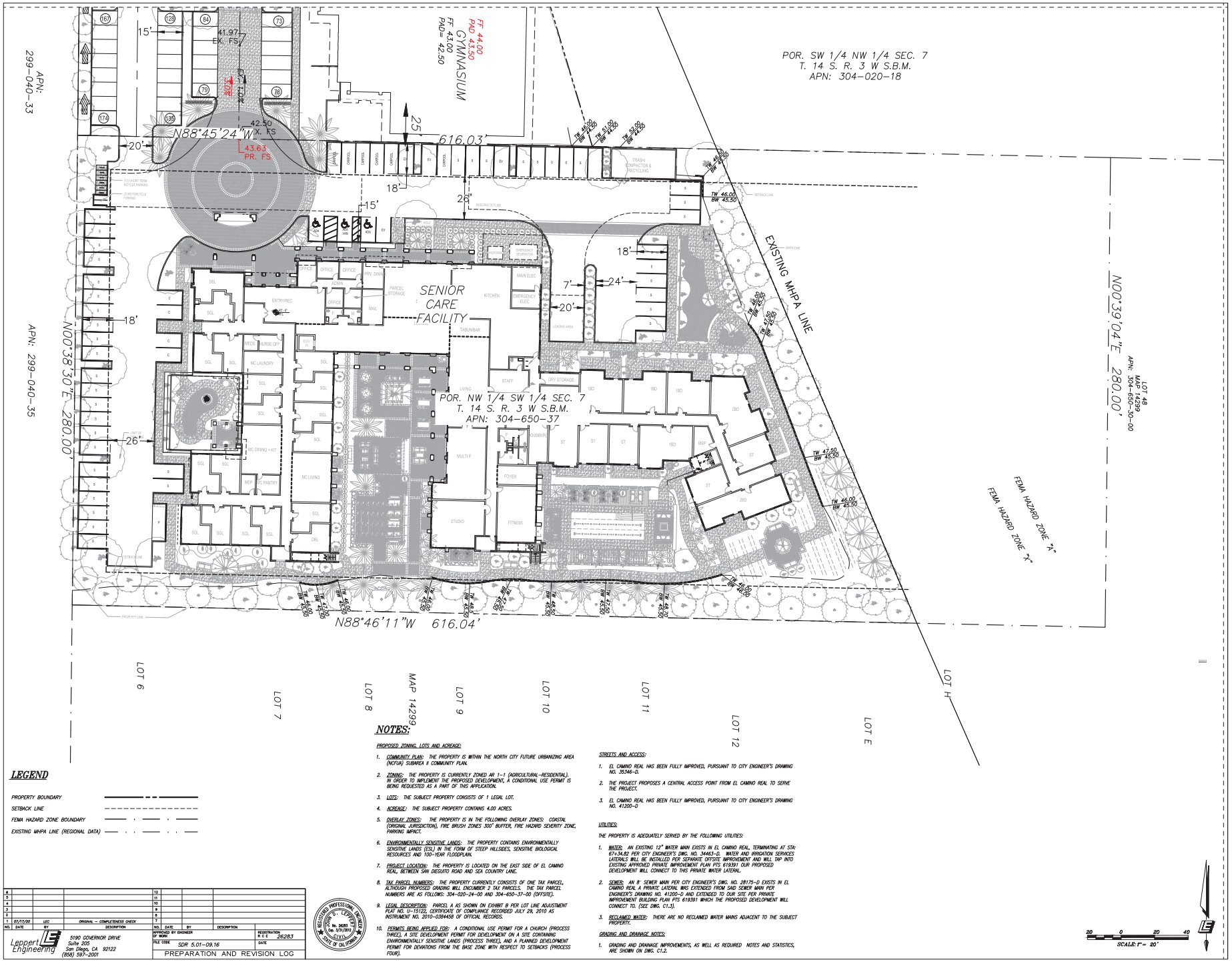



**El Camino Real Senior Living**

*Attachment A*
*Project Regional Location*

CHEN RYAN

# Attachment B
# Proposed Project Site Plan




## LEGEND

- PROPERTY BOUNDARY
- SETBACK LINE
- FEMA HAZARD ZONE BOUNDARY
- EXISTING MHPA LINE (REGIONAL DATA)

## NOTES:

PROPOSED ZONING, LOTS AND ACREAGE:

1. COMMUNITY PLAN: THE PROPERTY IS WITHIN THE NORTH CITY FUTURE URBANIZING AREA (NCFUA) SUBAREA II COMMUNITY PLAN.
2. ZONING: THE PROPERTY IS CURRENTLY ZONED AR 1-1 (AGRICULTURAL-RESIDENTIAL). IN ORDER TO IMPLEMENT THE PROPOSED DEVELOPMENT, A CONDITIONAL USE PERMIT IS BEING REQUESTED AS A PART OF THIS APPLICATION.
3. LOTS: THE SUBJECT PROPERTY CONSISTS OF 1 LEGAL LOT.
4. ACREAGE: THE SUBJECT PROPERTY CONTAINS 4.00 ACRES.
5. OVERLAY ZONES: THE PROPERTY IS IN THE FOLLOWING OVERLAY ZONES: COASTAL (ORIGINAL JURISDICTION), FIRE BRUSH ZONES 300' BUFFER, FIRE HAZARD SEVERITY ZONE, PARKING IMPACT.
6. ENVIRONMENTALLY SENSITIVE LANDS: THE PROPERTY CONTAINS ENVIRONMENTALLY SENSITIVE LANDS (ESL) IN THE FORM OF STEEP HILLSIDES, SENSITIVE BIOLOGICAL RESOURCES AND 100-YEAR FLOODPLAIN.
7. PROJECT LOCATION: THE PROPERTY IS LOCATED ON THE EAST SIDE OF EL CAMINO REAL, BETWEEN SAN DIEGUITO ROAD AND SEA COUNTRY LANE.
8. TAX PARCEL NUMBERS: THE PROPERTY CURRENTLY CONSISTS OF ONE TAX PARCEL, ALTHOUGH PROPOSED GRADING WILL ENCUMBER 2 TAX PARCELS. THE TAX PARCEL NUMBERS ARE AS FOLLOWS: 304-020-24-00 AND 304-650-37-00 (OFFSITE).
9. LEGAL DESCRIPTION: PARCEL A AS SHOWN ON EXHIBIT B PER LOT LINE ADJUSTMENT PLAT NO. U-15122, CERTIFICATE OF COMPLIANCE RECORDED JULY 29, 2010 AS INSTRUMENT NO. 2010-0394458 OF OFFICIAL RECORDS.
10. PERMITS BEING APPLIED FOR: A CONDITIONAL USE PERMIT FOR A CHURCH (PROCESS THREE), A SITE DEVELOPMENT PERMIT FOR DEVELOPMENT ON A SITE CONTAINING ENVIRONMENTALLY SENSITIVE LANDS (PROCESS THREE), AND A PLANNED DEVELOPMENT PERMIT FOR DEVIATIONS FROM THE BASE ZONE WITH RESPECT TO SETBACKS (PROCESS FOUR).

STREETS AND ACCESS:

1. EL CAMINO REAL HAS BEEN FULLY IMPROVED, PURSUANT TO CITY ENGINEER'S DRAWING NO. 35346-D.
2. THE PROJECT PROPOSES A CENTRAL ACCESS POINT FROM EL CAMINO REAL TO SERVE THE PROJECT.
3. EL CAMINO REAL HAS BEEN FULLY IMPROVED, PURSUANT TO CITY ENGINEER'S DRAWING NO. 41200-D

UTILITIES:

THE PROPERTY IS ADEQUATELY SERVED BY THE FOLLOWING UTILITIES:

1. WATER: AN EXISTING 12" WATER MAIN EXISTS IN EL CAMINO REAL, TERMINATING AT STA: 67+34.82 PER CITY ENGINEER'S DWG. NO. 34463-D. WATER AND IRRIGATION SERVICES LATERALS WILL BE INSTALLED PER SEPARATE OFFSITE IMPROVEMENT AND WILL TAP INTO EXISTING APPROVED PRIVATE IMPROVEMENT PLAN PTS 619391. OUR PROPOSED DEVELOPMENT WILL CONNECT TO THIS PRIVATE WATER LATERAL.
2. SEWER: AN 8" SEWER MAIN PER CITY ENGINEER'S DWG. NO. 28175-D EXISTS IN EL CAMINO REAL A PRIVATE LATERAL WAS EXTENDED FROM SAID SEWER MAIN PER ENGINEER'S DRAWING NO. 41200-D AND EXTENDED TO OUR SITE PER PRIVATE IMPROVEMENT BUILDING PLAN PTS 619391 WHICH THE PROPOSED DEVELOPMENT WILL CONNECT TO. (SEE DWG. C1.3).
3. RECLAIMED WATER: THERE ARE NO RECLAIMED WATER MAINS ADJACENT TO THE SUBJECT PROPERTY.

GRADING AND DRAINAGE NOTES:

1. GRADING AND DRAINAGE IMPROVEMENTS, AS WELL AS REQUIRED NOTES AND STATISTICS, ARE SHOWN ON DWG. C1.2.

| NO. | DATE | BY | DESCRIPTION |
|---|---|---|---|
| 6 | | | |
| 5 | | | |
| 4 | | | |
| 3 | | | |
| 2 | | | |
| 1 | 07/17/20 | LEC | ORIGINAL – COMPLETENESS CHECK |

| NO. | DATE | BY | DESCRIPTION |
|---|---|---|---|
| 13 | | | |
| 12 | | | |
| 11 | | | |
| 10 | | | |
| 9 | | | |
| 8 | | | |
| 7 | | | |

APPROVED BY ENGINEER OF WORK: REGISTRATION R.C.E. 26283
FILE CODE: SDR 5.01-09.16 DATE
PREPARATION AND REVISION LOG

REGISTERED PROFESSIONAL ENGINEER JOHN D. LEPPERT No. 26283 (exp. 3/31/2021) STATE OF CALIFORNIA

Leppert Engineering
5190 GOVERNOR DRIVE
Suite 205
San Diego, CA 92122
(858) 597-2001

SCALE: 1" = 20'

CALLISONRTKL

CallisonRTKL Inc.

Consultant

Client/Owner/Project Address

Issue Drawing Log

| REV # | DATE (MM.DD.YY) | ISSUE NAME |
|---|---|---|

Seal

NOT FOR REGULATORY APPROVAL, PERMITTING, OR CONSTRUCTION

Sheet Identification

SITE PLAN

C1.1

SHEET NO. 6 OF 25

## SYMBOL LEGEND

ROOM NAME
150 SF — ROOM TAG W/ AREA

STRUCTURAL GRID - EXISTING

STRUCTURAL GRID - NEW

XXX — PARTITION TYPE TAG

XX-XX — CEILING TAG

XX-XX 88" - 10" — CEILING TAG W/ HEIGHT

FL-01 — FLOOR TAG

D001 — DOOR TAG

DOOR # | SIZE # | X — LIFE SAFETY DOOR TAG

XX-XX — FURNITURE/FIXTURE/ CASEWORK TAG

XX — GLAZING TAG

XX — WINDOW TAG

REVISION DELTA

NOTE — NOTE WITH LEADER

7 — KEY NOTE

3 — FINISH/MATERIAL TAG

L2 — LIGHTING TAG

PL-01 — PLUMBING TAG

XX-XXX — SPECIALTY EQUIPMENT TAG

0' - 0" — SPOT ELEVATION - ELEVATION VIEWS

0' - 0" — SPOT ELEVATION - PLAN VIEWS

TRUE NORTH — NORTH ARROW

ZZ_01 0' - 0" — LEVEL/DATUM ELEVATION MARK

1 A101 SIM — SECTION MARK

1 A101 SIM — 1 A101 SIM — BUILDING SECTION MARK

1 A101 SIM — DETAIL SECTION MARK

1 A101 SIM — DETAIL CALLOUT MARK

1 A101 — INTERIOR ELEVATION MARK

1 A101 — EXTERIOR ELEVATION MARK

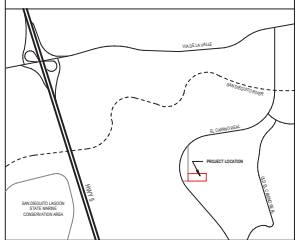
## ABBREVIATIONS

| | | |
|---|---|---|
| A | AB | ANCHOR BOLT |
| | AC | ACOUSTICAL TILE |
| | AD | AREA DRAIN |
| | AFF | ABOVE FINISH FLOOR |
| | ALT | ALTERNATE |
| | ALUM | ALUMINUM |
| | ARCH | ARCHITECTURAL |
| | AU | ASH URN |
| | AV | AUDIO VISUAL |
| B | BAS | BASE AS SCHEDULED |
| | BD | BOARD |
| | BLDG | BUILDING |
| | BLKG | BLOCKING |
| | BM | BEAM OR BENCHMARK |
| | BNG | BEARING |
| | BOD | BOTTOM OF DECK |
| | BOT | BOTTOM |
| | BR | BACKER ROD |
| | BRG | BRIDGING |
| | BUR | BUILT-UP ROOFING |
| | BW | BOTH WAYS |
| C | C | COURSE |
| | CAB | CABINET |
| | CEM | CEMENT OR CEMENTITIOUS |
| | CG | CORNER GUARD |
| | CIP | CAST-IN-PLACE |
| | CIR | CIRCLE |
| | CJ | CONTROL JOINT |
| | CLG | CEILING |
| | CM | CENTIMETER |
| | CMU | CONCRETE MASONRY UNIT |
| | COL | COLUMN |
| | CONC | CONCRETE |
| | CONST | CONSTRUCTION |
| | CONT | CONTINUOUS |
| | CORR | CORRIDOR |
| | CPT | CARPET |
| | CSK | COUNTERSINK OR COUNTERSUNK |
| | CT | CERAMIC TILE |
| D | D | DEPTH OR DEEP |
| | DBL | DOUBLE |
| | DEG | DEGREE |
| | DEMO | DEMOLITION |
| | DTL | DETAIL |
| | DF | DRINKING FOUNTAIN |
| | DIA | DIAMETER |
| | DIM | DIMENSION |
| | DN | DOWN |
| | DP | DAMPPROOFING |
| | DR | DOOR |
| | DS | DOWNSPOUT |
| | DTL | DETAIL |
| | DW | DISHWASHER |
| | DWG | DRAWING |
| | DWR | DRAWER |
| E | E | EAST |
| | EA | EACH |
| | EHB | ELECTRIC HAIR BLOWER |
| | EHD | ELECTRIC HAND DRYER |
| | EIFS | EXTERIOR INSULATING FINISH SYSTEM |
| | EJ | EXPANSION JOINT |
| | EL | ELEVATION (GRADE) |
| | ELEC | ELECTRICAL |
| | EQ | EQUAL |
| | EQ | EQUIPMENT |
| | ETS | EXPOSED TO STRUCTURE |
| | EW | EACH WAY |
| | EWC | ELECTRIC WATER COOLER |
| | EXP | EXPANSION OR EXPOSED |
| | EXIST | EXISTING |
| | EXT | EXTERIOR |
| | EXTD | EXTRUDED |
| F | FD | FLOOR DRAIN |
| | FE | FIRE EXTINGUISHER |
| | FEC | FIRE EXTINGUISHER CABINET |
| | FEX | FIRE EXTINGUISHER (NO CABINET) |
| | FFA | FURNITURE, FIXTURES & ACCESSORIES |
| | FFE | FURNITURE, FIXTURES & EQUIPMENT |
| | FF | FINISHED FLOOR |
| | FHC | FIRE HOSE CABINET |
| | FIN | FINISH |
| | FLR | FLOOR |
| | FLUOR | FLUORESCENT |
| | FP | FIREPROOFING |
| | FR | FIRE RETARDANT/ FIRE RESISTIVE |
| | FRP | FIBERGLASS REINFORCED POLYMER |
| | FT | FOOT/ FEET |
| | FTG | FOOTING |
| | FURN | FURNITURE |
| | FV | FIELD VERIFY |
| | FWC | FABRIC WALL COVERING |
| | FPHB | FREEZE-PROOF HOSE BIBB |
| G | GA | GAUGE |
| | GALV | GALVANIZED |
| | GB | GRAB BAR |
| | GFRC | GLASS FIBER REINFORCED CONCRETE |
| | GFRG | GLASS FIBER REINFORCED GYPSUM |
| | GL | GLASS |
| | GND | GROUND |
| | GR | GRADE |
| | GYP | GYPSUM |
| | GYP BD | GYPSUM BOARD |
| H | H | HIGH |
| | HB | HOSE BIBB |
| | HC | HOLLOW CORE |
| | HD | HOLD |
| | HBD | HARDBOARD |
| | HCTLT | HANDICAPPED ACCESSIBLE TOILET |
| | HDR | HEADER |
| | HDW | HARDWARE |
| | HDWD | HARDWOOD |
| | HM | HOLLOW METAL |
| | HOR | HORIZONTAL |
| | HPL | HIGH PRESSURE LAMINATE |
| | HR | HOUR |
| | HT | HEIGHT |
| | HVAC | HEATING, VENTILATION & AIR CONDITIONING |
| I | ID | INSIDE DIAMETER |
| | IN | INCH |
| | INCAN | INCANDESCENT |
| | INSUL | INSULATION |
| | INT | INTERIOR |
| J | JB | JUNCTION BOX |
| | JT | JOINT |
| K | KD | KNOCK DOWN |
| | KO | KNOCKOUT |
| L | L | LONG |
| | LAM | LAMINATED |
| | LAV | LAVATORY |
| | LB | LAG BOLT |
| | LF | LINEAR FOOT OR LINEAR FEET |
| | LLH | LONG LEG HORIZONTAL |
| | LLV | LONG LEG VERTICAL |
| | LT | LIGHT OR LIGHTING |
| E | E | EAST |
| | EA | EACH |
| | EHB | ELECTRIC HAIR BLOWER |
| | EHD | ELECTRIC HAND DRYER |
| | EIFS | EXTERIOR INSULATING FINISH SYSTEM |
| | EJ | EXPANSION JOINT |
| | EL | ELEVATION (GRADE) |
| | ELEC | ELECTRICAL |
| | EQ | EQUAL |
| | EQ | EQUIPMENT |
| | ETS | EXPOSED TO STRUCTURE |
| | EW | EACH WAY |
| | EWC | ELECTRIC WATER COOLER |
| | EXP | EXPANSION OR EXPOSED |
| | EXIST | EXISTING |
| | EXT | EXTERIOR |
| | EXTD | EXTRUDED |
| M | M | METER |
| | MACH | MACHINE |
| | MAS | MASONRY |
| | MATL | MATERIAL |
| | MAX | MAXIMUM |
| | MBH | MOP AND BROOM HOLDER |
| | MBR | MODIFIED BITUMEN ROOFING MEDICINE CABINET |
| | MECH | MECHANICAL |
| | MEMB | MEMBRANE |
| | MFR | MANUFACTURER |
| | MH | MANHOLE |
| | MIN | MINIMUM |
| | MIR-F | MIRROR-FRAMED EDGE |
| | MIR-G | MIRROR-GLASS EDGE |
| | MLD | MOLDING |
| | MM | MILLIMETER |
| | MO | MASONRY OPENING |
| | MS | MOP SINK |
| | MTD | MOUNTED |
| | MTG | MOUNTING |
| | MTL | METAL |
| N | N | NORTH |
| | NCOM | NONCOMBUSTIBLE |
| | NIC | NOT IN CONTRACT |
| | NOM | NOMINAL |
| | NPS | NOMINAL PIPE SIZE |
| | NTS | NOT TO SCALE |
| O | OC | ON CENTER |
| | OD | OUTSIDE DIAMETER |
| | OFCI | OWNER FURNISHED/ CONTRACTOR INSTALLED |
| | OFD | OVERFLOW DRAIN |
| | OFOI | OWNER FURNISHED/ OWNER INSTALLED |
| | OH | OPPOSITE HAND OR OVERHEAD |
| | OPG | OPENING |
| | OPP | OPPOSITE |
| | OPT | OPTION OR OPTIONAL |
| P | PC | PRECAST |
| | PCEM | PORTLAND CEMENT |
| | PA | PUBLIC ADDRESS SYSTEM |
| | PCF | POUNDS PER CUBIC FOOT |
| | PL | PLATE |
| | P.LAM | PLASTIC LAMINATE |
| | PLTR | LASTER |
| | PLBG | PLUMBING |
| | PLF | POUNDS PER LINEAR FOOT |
| | PMR | PROTECTED MEMBRANE ROOFING |
| | PNL | PANEL |
| | PNT | PAINT OR PAINTED |
| | POL | POLISHED |
| | PR | PAIR |
| | PSF | POUNDS PER SQUARE FOOT |
| | PSI | POUNDS PER SQUARE INCH |
| | PT | POINT |
| | PTD | PAPER TOWEL DISPENSER |
| | PTDWR | PAPER TOWEL DISPENSER/ WASTE RECEPTACLE |
| | PTM | PATCH TO MATCH |
| | PTN | PARTITION |
| | PVC | POLYVINYL CHLORIDE |
| | PVMT | PAVEMENT |
| | PWD | PLYWOOD |
| Q | QT | QUARRY TILE |
| | QTR | QUARTER |
| | QTY | QUANTITY |
| R | R | RADIUS OR RISER |
| | RA | RETURN AIR |
| | RCP | REFLECTED CEILING PLAN |
| | RD | ROOF DRAIN |
| | RE | REFER OR REFERENCE |
| | REFL | REFLECTED |
| | REG | REGISTER |
| | REINF | REINFORCEMENT |
| | REQ | REQUIRED |
| | RES | RESILIENT |
| | REV | REVERSE |
| | RH | ROBE HOOK |
| | RM | ROOM |
| | RO | ROUGH OPENING |
| | ROW | RIGHT-OF-WAY |
| | RSF | RESILIENT SHEET FLOORING |
| S | S | SOUTH |
| | SA | SUPPLY AIR |
| | SAN | SANITARY |
| | SB | SPLASH BLOCK |
| | SC | SOLID CORE OR SHOWER CURTAIN |
| | SCHED | SCHEDULE OR SCHEDULED |
| | SD | SOAP DISPENSER |
| | SECT | SECTION |
| | SF | SQUARE FOOT OR SQUARE FEET |
| | SFP | SPRAYED FIREPROOFING |
| | SH | SPRINKLER HEAD |
| | SHT | SHEET |
| | SHTG | SHEATHING |
| | SIM | SIMILAR |
| | SKLT | SKYLIGHT |
| | SND | SANITARY NAPKIN DISPOSAL |
| | SNV | SANITARY NAPKIN VENDOR |
| | SP | STANDPIPE |
| | SPEC | SPECIFIED OR SPECIFICATIONS |
| | SPR | SINGLE PLY ROOFING |
| | SQ | SQUARE |
| | SR | SHOWER ROD |
| | SRSC | SHOWER ROD/ SHOWER CURTAIN |
| | SS | STAINLESS STEEL |
| | ST | SOAP TRAY |
| | STA | STATION |
| | STC | SOUND TRANSMISSION CLASS |
| | STD | STANDARD |
| | STL | STEEL |
| | STOR | STORAGE |
| | STRU | STRUCTURE OR STRUCTURAL |
| | SUSP | SUSPENDED OR SUSPENSION |
| | SYM | SYMBOL |
| | SYN | SYNTHETIC |
| | SYS | SYSTEM |
| T | T | TREAD OR TOP |
| | TB | TOWEL BAR |
| | TBL | TOP OF BRICK LEDGE |
| | T&B | TOP AND BOTTOM |
| | TC | TOP OF CURB |
| | TD | TRENCH DRAIN |
| | TEL | TELEPHONE |
| | TERR | TERRAZZO |
| | T&G | TONGUE & GROOVE |
| | THK | THICK OR THICKNESS |
| | THRU | THROUGH |
| | TLT | TOILET |
| | TOC | TOP OF CONCRETE |
| | TOD | TOP OF DECK |
| | TOF | TOP OF FOOTING |
| | TOI | TOP OF INSULATION |
| | TOJ | TOP OF JOIST |
| | TOL | TOLERANCE |
| | TOP | TOP OF PARAPET |
| | TOS | TOP OF STEEL |
| | TOW | TOP OF WALL |
| | TPH | TOILET PAPER HOLDER |
| | TR | TELEPHONE RECEPTACLE |
| | TS | TOP OF SLAB |
| | TELE | TELEPHONE |
| | TTB | TERMINAL BOARD |
| | TV | TELEVISION |
| | TYP | TYPICAL |
| U | UCL | UNDER CABINET LIGHT |
| | ULAY | UNDERLAYMENT |
| | UNO | UNLESS NOTED OTHERWISE |
| | UR | URINAL |
| V | VB | VAPOR BARRIER |
| | VCT | VINYL COMPOSITION TILE |
| | VERT | VERTICAL |
| | VP | VENT PIPE |
| | VS | VENT SHAFT |
| | VT | VINYL TILE |
| | VWC | VINYL WALLCOVERING |
| W | W | WEST OR WIDE OR WIDTH |
| | WI | WITH |
| | WB | WIND BRACE OR BRACING |
| | WC | WATER CLOSET |
| | WCOT | WAINSCOT |
| | WD | WOOD |
| | WDO | WINDOW |
| | WH | WEEPHOLE |
| | WO | WINDOW OPENING |
| | W/O | WITHOUT |
| | WP | WATERPROOFING |
| | WR | WASTE RECEPTACLE |
| | WIR | WATER RESISTIVE OR RESISTANT |
| | WS | WEATHERSTRIPPING |
| | WT | WEIGHT |
| | WWF | WELDED WIRE FABRIC |
| Y | YD | YARD |

| | | | |
|---|---|---|---|
| = | EQUAL | & | AND |
| ± | PLUS OR MINUS | L | ANGLE (RIGHT) |
| # | POUND OR NUMBER | L | ANGLE (ACUTE) |
| x | TIMES | @ | AT |
| | DEGREES | CL | CENTERLINE |

' FOOT OR FEET
" INCH
- MINUS
+ PLUS

## VICINITY MAP




**NOTE: TRANSIT STOPS:** THE PROJECT IS NOT ADJACENT TO TRANSIT. THE NEAREST TRANSIT STOP IS LOCATED 2 MILES FROM THE SITE ENTRY.

TRUE NORTH

## SETBACK AND DEVELOPMENT REGULATIONS:

| | AR-1-1 REQUIREMENTS | PROPOSED |
|---|---|---|
| MAX PERMITTED DENSITY: | 1 | N/A* |
| MIN LOT AREA: | 10 ACRES | 3.95 ACRES (172,480 SF) |
| MIN. LOT DIMENSIONS:<br>WIDTH<br>STREET FRONTAGE<br>LOT DEPTH | <br>200'<br>200' | <br>280'<br>N/A<br>616' |
| SETBACK REQUIREMENTS:<br>FRONT<br>SIDE<br>REAR | <br>25'<br>20'<br>25' | <br>N/A<br>20'<br>N/A |
| MAX. STRUCTURAL HEIGHT: | 30'<br>NOTE: ADDITIONAL HEIGHT ALLOWED PER SDMC 131.0344 IF THE FRONT, SIDE, AND REAR SETBACKS ARE EACH INCREASED BY 10 FT FOR EACH 10 FT OF STRUCTURE HEIGHT ABOVE 30 FT. | 40' |
| MAX. LOT COVERAGE: | 10% | *20% (34,525 SF BUILDING PAD |
| MIN. FLOOR AREA: | APPLIES (650 SF MIN FLOOR AREA PER DU) | N/A |
| REFUSE AND MATERIAL STORAGE: | APPLIES | COMPLIES |
| VISIBILITY AREA: | APPLIES | COMPLIES |

* DOES NOT COMPLY. SEE CONDITIONAL USE PERMIT APPLICATION.

## UNIT BREAKDOWNS:

MEMORY CARE:

| UNIT TYPE | COUNT | MIN ... MAX AREA |
|---|---|---|
| MEMORY CARE | | |
| DOUBLE | 2 | 360 SF ... 584 SF |
| SINGLE | 16 | 359 SF ... 360 SF |
| L 1 | 18 | |
| MEMORY CARE: | 18 | |

ASSISTED LIVING:

| UNIT TYPE | COUNT | MIN ... MAX AREA |
|---|---|---|
| ASSISTED LIVING | | |
| 1 BED | 4 | 621 SF ... 768 SF |
| 2 BED | 2 | 900 SF ... 953 SF |
| STUDIO | 5 | 432 SF ... 471 SF |
| L 1 | 11 | |
| 1 BED | 26 | 569 SF ... 973 SF |
| 2 BED | 6 | 900 SF ... 1,119 SF |
| STUDIO | 5 | 432 SF ... 441 SF |
| L 2 | 37 | |
| 1 BED | 27 | 579 SF ... 973 SF |
| 2 BED | 7 | 893 SF ... 1,124 SF |
| STUDIO | 5 | 432 SF ... 441 SF |
| L 3 | 39 | |
| ASSISTED LIVING | 87 | |
| TOTAL UNITS | 105 | |

## PARKING SUMMARY

**PARKING REQUIREMENTS**
*PER SAN DIEGO MUNICIPAL CODE (SDMC) UNDER INTERMEDIATE CARE FACILITIES REQUIREMENTS*

| | |
|---|---|
| ASSISTED LIVING | 34 SPACES<br>72 1BD/STUDIOS + 15 2BD = 87 UNITS (102 BEDS)<br>(1 SPACES PER BED PER SDMC TABLE 142-05G) |
| MEMORY CARE | 7 SPACES<br>16 SINGLES + 2 DOUBLES = 18 UNITS (20 BEDS)<br>(1 SPACES PER BED PER SDMC TABLE 142-05G) |
| TOTAL | 41 SPACES REQUIRED |

**PARKING PROVIDED**

| | |
|---|---|
| TOTAL | 61 SPACES<br>(INCLUDING 2 STANDARD/ACCESSIBLE STALLS AND 1 VAN ACCESSIBLE STALL) |
| SHORT TERM BICYCLE PARKING | 12 SPACES PROVIDED<br>11 SPACES REQ'D PER SDMC SECTION 142.0530(E)(1)(A) |
| LONG TERM BICYCLE PARKING | 6 SPACES PROVIDED<br>6 SPACES REQ'D PER SDMC SECTION 142.0530(E)(2)(A) |
| MOTORCYCLE PARKING | 2 SPACES PROVIDED<br>2 SPACES REQ'D PER SDMC SECTION 142.0560(F) |
| ACCESSIBLE PARKING | 3 SPACES PROVIDED<br>3 SPACES REQ'D PER CALIFORNIA BUILDING CODE (CBC) SECTION 11B-208 AND TABLE 11B-208.2 |
| CARPOOL AND ZERO EMISSION PARKING | 9 DESIGNATED FOR CARPOOL<br>9 DESIGNATED PARKING SPACES FOR CARPOOL AND ZERO EMISSIONS REQ'D PER SDMC SECTION 142.0530(D) |
| ELECTRIC VEHICLE CHARGING STATIONS | 4 EV CAPABLE SPACES PROVIDED<br>4 SPACES REQ'D PER CALIFORNIA GREEN BUILDING CODE (CGBC) TABLE A 106.5.3.3 |
| LOADING AREA | 1 SPACES PROVIDED (NOT INCLUDED IN TOTAL PARKING)<br>1 SPACES REQ'D PER SDMC SECTION 142.1010 AND TABLE 142-10B |

SEE SHEET A-101 FOR PARKING LOCATIONS AND DIMENSIONAL REQUIREMENTS

CALLISONRTKL


CallisonRTKL Inc.
333 S. HOPE STREET, C-200
LOS ANGELES, CA 90071
Tel: TEL.: 213-6336000
Fax: FAX: 213-6336060


Project No: 040-200022.00

**Consultant**

# EL CAMINO REAL SENIOR LIVING

**Client/Owner/Project Address**

PMB CARMEL VALLEY LLC
3394 CARMEL MOUNTAIN ROAD
SUITE 200
SAN DIEGO, CA 92121

**Issue Drawing Log**

| REV # | DATE (MM.DD.YY) | ISSUE NAME |
|---|---|---|

**Seal**

NOT FOR REGULATORY APPROVAL, PERMITTING, OR CONSTRUCTION

**Sheet Identification**

**PROJECT INFORMATION**

**G-001**
SHEET NO. 2 OF 25



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# Appendix B
# St. John Church TIS Traffic Counts

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** CA12_4069_009 **Day:** THURSDAY

**City:** City of San Diego **Date:** 02/23/2012

**AM**

| **NS/EW Streets:** | El Camino Real | | | El Camino Real | | | San Dieguito Rd | | | San Dieguito Rd | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 1 | 2 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | |
| 7:00 AM | | 15 | 21 | 32 | 71 | | | | | 58 | | 54 | 251 |
| 7:15 AM | | 41 | 38 | 36 | 168 | | | | | 105 | | 81 | 469 |
| 7:30 AM | | 59 | 37 | 47 | 140 | | | | | 104 | | 79 | 466 |
| 7:45 AM | | 46 | 45 | 46 | 127 | | | | | 96 | | 66 | 426 |
| 8:00 AM | | 59 | 48 | 56 | 72 | | | | | 77 | | 68 | 380 |
| 8:15 AM | | 47 | 62 | 64 | 76 | | | | | 103 | | 90 | 442 |
| 8:30 AM | | 46 | 58 | 50 | 71 | | | | | 77 | | 99 | 401 |
| 8:45 AM | | 51 | 53 | 55 | 67 | | | | | 74 | | 94 | 394 |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 364 | 362 | 386 | 792 | 0 | 0 | 0 | 0 | 694 | 0 | 631 | 3229 |
| **APPROACH %'s :** | 0.00% | 50.14% | 49.86% | 32.77% | 67.23% | 0.00% | #DIV/0! | #DIV/0! | #DIV/0! | 52.38% | 0.00% | 47.62% | |

| **PEAK HR START TIME :** | 715 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 205 | 168 | 185 | 507 | 0 | 0 | 0 | 0 | 382 | 0 | 294 | 1741 |
| **PEAK HR FACTOR :** | | 0.871 | | | 0.848 | | | 0.000 | | | 0.909 | | 0.928 |

**CONTROL :** Signalized

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** CA12_4069_009 **Day:** THURSDAY

**City:** City of San Diego **Date:** 02/23/2012

**PM**

| **NS/EW Streets:** | El Camino Real | | | El Camino Real | | | San Dieguito Rd | | | San Dieguito Rd | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 1 | 2 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | |
| 4:00 PM | | 102 | 39 | 53 | 34 | | | | | 65 | | 50 | 343 |
| 4:15 PM | | 107 | 59 | 67 | 63 | | | | | 49 | | 63 | 408 |
| 4:30 PM | | 179 | 55 | 66 | 70 | | | | | 56 | | 64 | 490 |
| 4:45 PM | | 173 | 69 | 84 | 66 | | | | | 59 | | 44 | 495 |
| 5:00 PM | | 212 | 98 | 79 | 68 | | | | | 57 | | 60 | 574 |
| 5:15 PM | | 231 | 106 | 74 | 68 | | | | | 43 | | 57 | 579 |
| 5:30 PM | | 183 | 76 | 89 | 64 | | | | | 58 | | 44 | 514 |
| 5:45 PM | | 161 | 71 | 68 | 70 | | | | | 52 | | 47 | 469 |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| **TOTAL VOLUMES :** | 0 | 1348 | 573 | 580 | 503 | 0 | 0 | 0 | 0 | 439 | 0 | 429 | 3872 |
| **APPROACH %'s :** | 0.00% | 70.17% | 29.83% | 53.55% | 46.45% | 0.00% | #DIV/0! | #DIV/0! | #DIV/0! | 50.58% | 0.00% | 49.42% | |
| **PEAK HR START TIME :** | 445 PM | | | | | | | | | | | | TOTAL |
| **PEAK HR VOL :** | 0 | 799 | 349 | 326 | 266 | 0 | 0 | 0 | 0 | 217 | 0 | 205 | 2162 |
| **PEAK HR FACTOR :** | | 0.852 | | | 0.967 | | | 0.000 | | | 0.902 | | 0.934 |

**CONTROL :** Signalized

# ITM Peak Hour Summary

Prepared by:

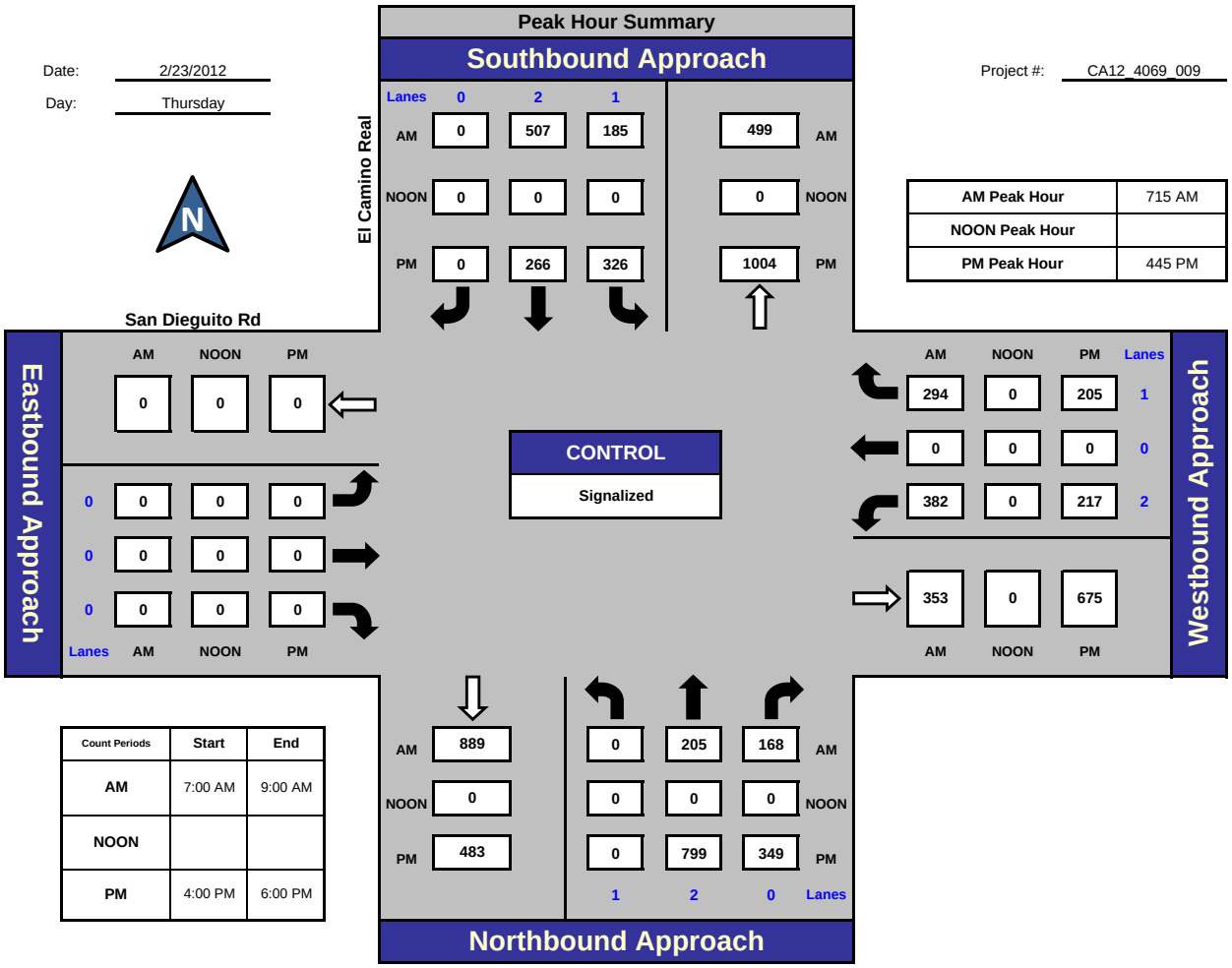
National Data & Surveying Services

## *El Camino Real and San Dieguito Rd , City of San Diego*

Date: 2/23/2012

Day: Thursday

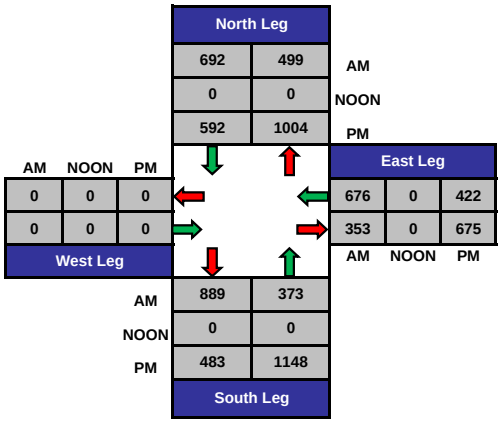
Project #: CA12_4069_009



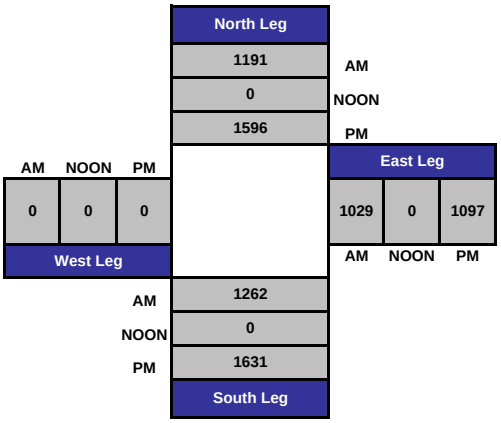

| AM Peak Hour | 715 AM |
|---|---|
| NOON Peak Hour | |
| PM Peak Hour | 445 PM |

| Count Periods | Start | End |
|---|---|---|
| AM | 7:00 AM | 9:00 AM |
| NOON | | |
| PM | 4:00 PM | 6:00 PM |

### Total Ins & Outs




### Total Volume Per Leg



# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** CA12_4069_010 **Day:** THURSDAY

**City:** City of San Diego **Date:** 02/23/2012

**AM**

| **NS/EW Streets:** | El Camino Real | | | El Camino Real | | | Sea Country Ln | | | Sea Country Ln | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 2 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | |
| 7:00 AM | | 34 | 2 | 0 | 116 | | | | | 1 | | 2 | 155 |
| 7:15 AM | | 82 | 0 | 1 | 273 | | | | | 5 | | 1 | 362 |
| 7:30 AM | | 97 | 3 | 1 | 239 | | | | | 12 | | 2 | 354 |
| 7:45 AM | | 82 | 2 | 0 | 242 | | | | | 4 | | 1 | 331 |
| 8:00 AM | | 118 | 2 | 1 | 150 | | | | | 6 | | 0 | 277 |
| 8:15 AM | | 103 | 1 | 2 | 171 | | | | | 4 | | 3 | 284 |
| 8:30 AM | | 103 | 2 | 0 | 146 | | | | | 4 | | 1 | 256 |
| 8:45 AM | | 103 | 5 | 1 | 144 | | | | | 1 | | 2 | 256 |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| **TOTAL VOLUMES :** | 0 | 722 | 17 | 6 | 1481 | 0 | 0 | 0 | 0 | 37 | 0 | 12 | 2275 |
| **APPROACH %'s :** | 0.00% | 97.70% | 2.30% | 0.40% | 99.60% | 0.00% | #DIV/0! | #DIV/0! | #DIV/0! | 75.51% | 0.00% | 24.49% | |
| **PEAK HR START TIME :** | 715 AM | | | | | | | | | | | | TOTAL |
| **PEAK HR VOL :** | 0 | 379 | 7 | 3 | 904 | 0 | 0 | 0 | 0 | 27 | 0 | 4 | 1324 |
| **PEAK HR FACTOR :** | | 0.804 | | | 0.828 | | | 0.000 | | | 0.554 | | 0.914 |

**CONTROL :** 1-Way Stop (WB)

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** CA12_4069_010 **Day:** THURSDAY

**City:** City of San Diego **Date:** 02/23/2012

**PM**

| **NS/EW Streets:** | El Camino Real | | | El Camino Real | | | Sea Country Ln | | | Sea Country Ln | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 2 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | |
| 4:00 PM | | 141 | 8 | 0 | 90 | | | | | 4 | | 1 | 244 |
| 4:15 PM | | 181 | 1 | 1 | 102 | | | | | 2 | | 1 | 288 |
| 4:30 PM | | 205 | 4 | 0 | 143 | | | | | 2 | | 1 | 355 |
| 4:45 PM | | 268 | 5 | 1 | 122 | | | | | 2 | | 2 | 400 |
| 5:00 PM | | 292 | 7 | 2 | 115 | | | | | 2 | | 2 | 420 |
| 5:15 PM | | 340 | 5 | 1 | 116 | | | | | 3 | | 0 | 465 |
| 5:30 PM | | 255 | 2 | 3 | 119 | | | | | 3 | | 1 | 383 |
| 5:45 PM | | 221 | 8 | 3 | 126 | | | | | 5 | | 0 | 363 |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| **TOTAL VOLUMES :** | 0 | 1903 | 40 | 11 | 933 | 0 | 0 | 0 | 0 | 23 | 0 | 8 | 2918 |
| **APPROACH %'s :** | 0.00% | 97.94% | 2.06% | 1.17% | 98.83% | 0.00% | #DIV/0! | #DIV/0! | #DIV/0! | 74.19% | 0.00% | 25.81% | |
| **PEAK HR START TIME :** | 445 PM | | | | | | | | | | | | TOTAL |
| **PEAK HR VOL :** | 0 | 1155 | 19 | 7 | 472 | 0 | 0 | 0 | 0 | 10 | 0 | 5 | 1668 |
| **PEAK HR FACTOR :** | | 0.851 | | | 0.974 | | | 0.000 | | | 0.938 | | 0.897 |

**CONTROL :** 1-Way Stop (WB)

# ITM Peak Hour Summary

Prepared by:

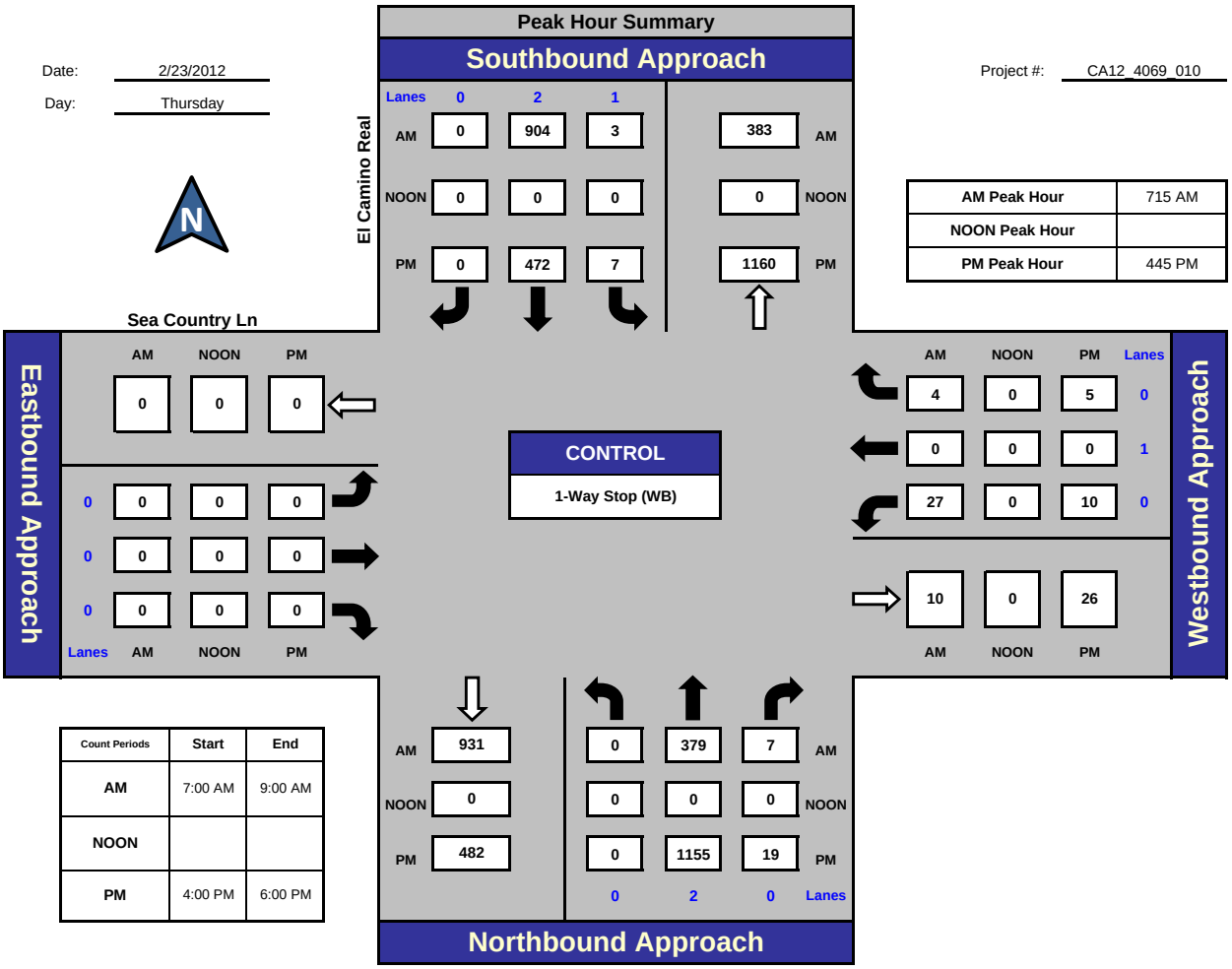
National Data & Surveying Services

## *El Camino Real and Sea Country Ln , City of San Diego*

Date: 2/23/2012

Day: Thursday

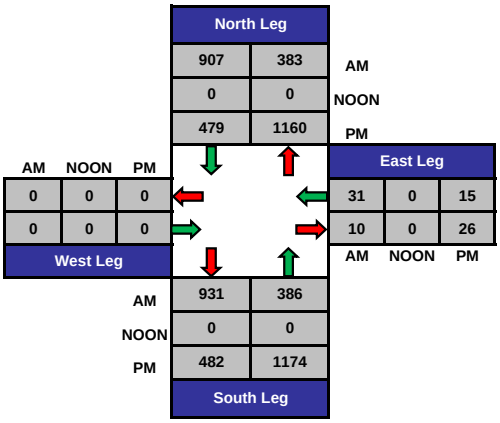
Project #: CA12_4069_010



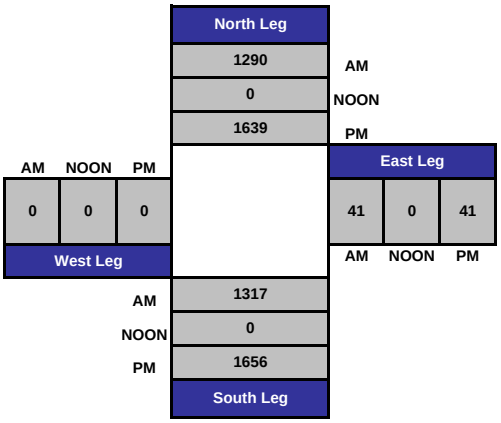

| AM Peak Hour | 715 AM |
|---|---|
| NOON Peak Hour | |
| PM Peak Hour | 445 PM |

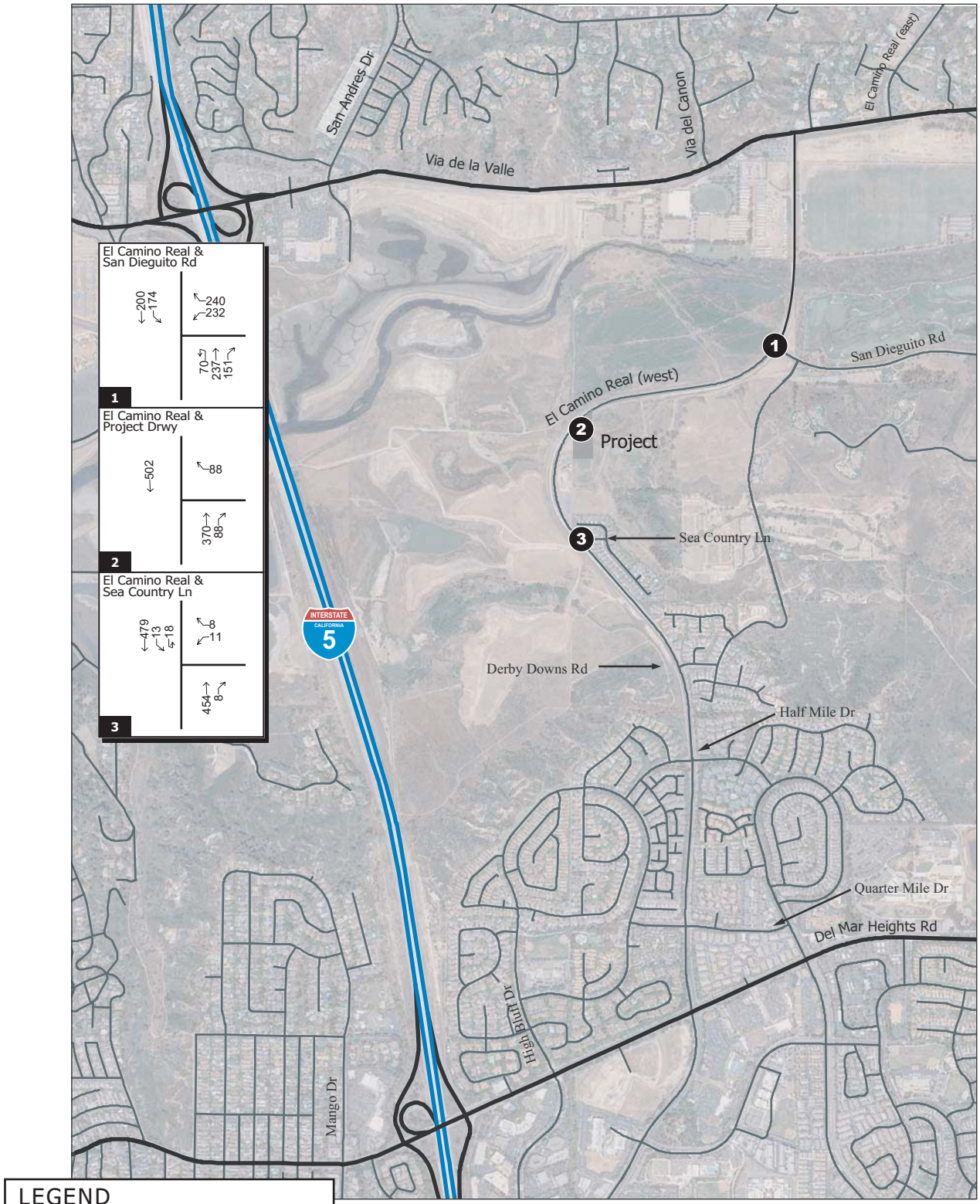
| Count Periods | Start | End |
|---|---|---|
| AM | 7:00 AM | 9:00 AM |
| NOON | | |
| PM | 4:00 PM | 6:00 PM |

### Total Ins & Outs




### Total Volume Per Leg






LEGEND

10 Sunday Peak Hour Trips

Note: U-turns will be occuring at San Dieguito Rd and Sea Country Lane

Figure 3-11
Existing Sunday Peak Hour Intersection Volumes With Project

N
Not To Scale

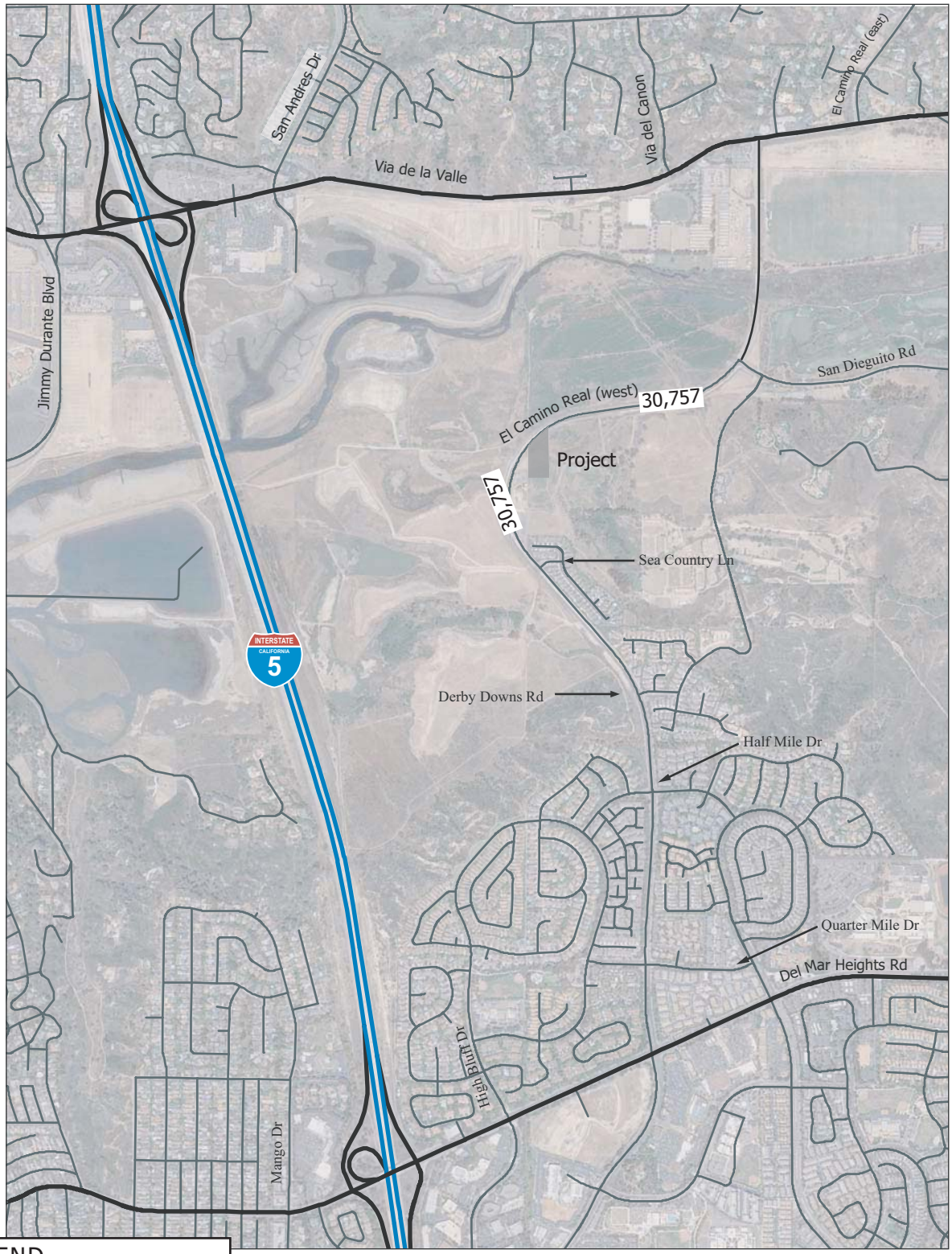



Figure 5-3
Horizon Year Weekday Roadway Segment Volumes WithProject

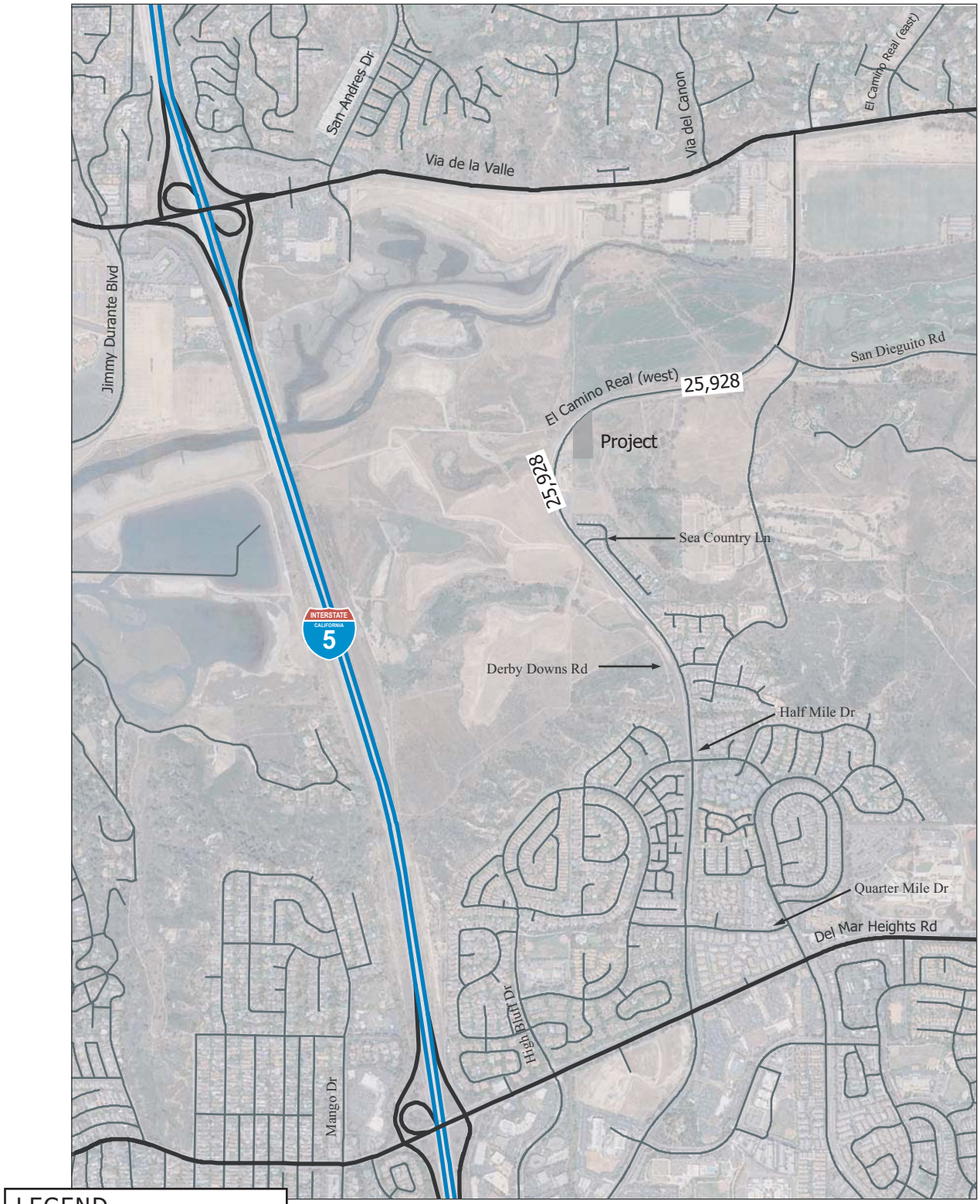
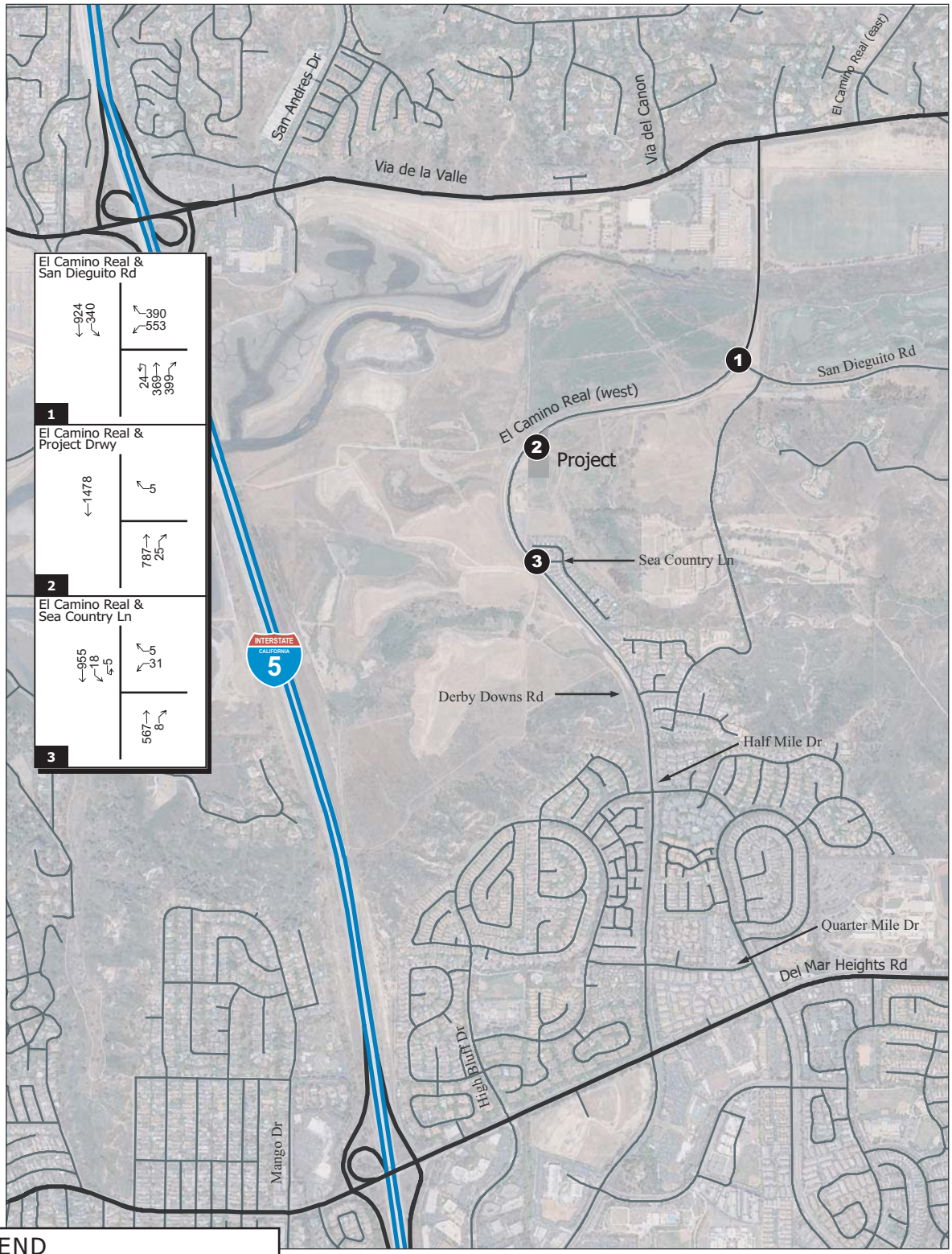



Figure 5-4
Horizon Year Weekend Roadway Segment Volumes With Project



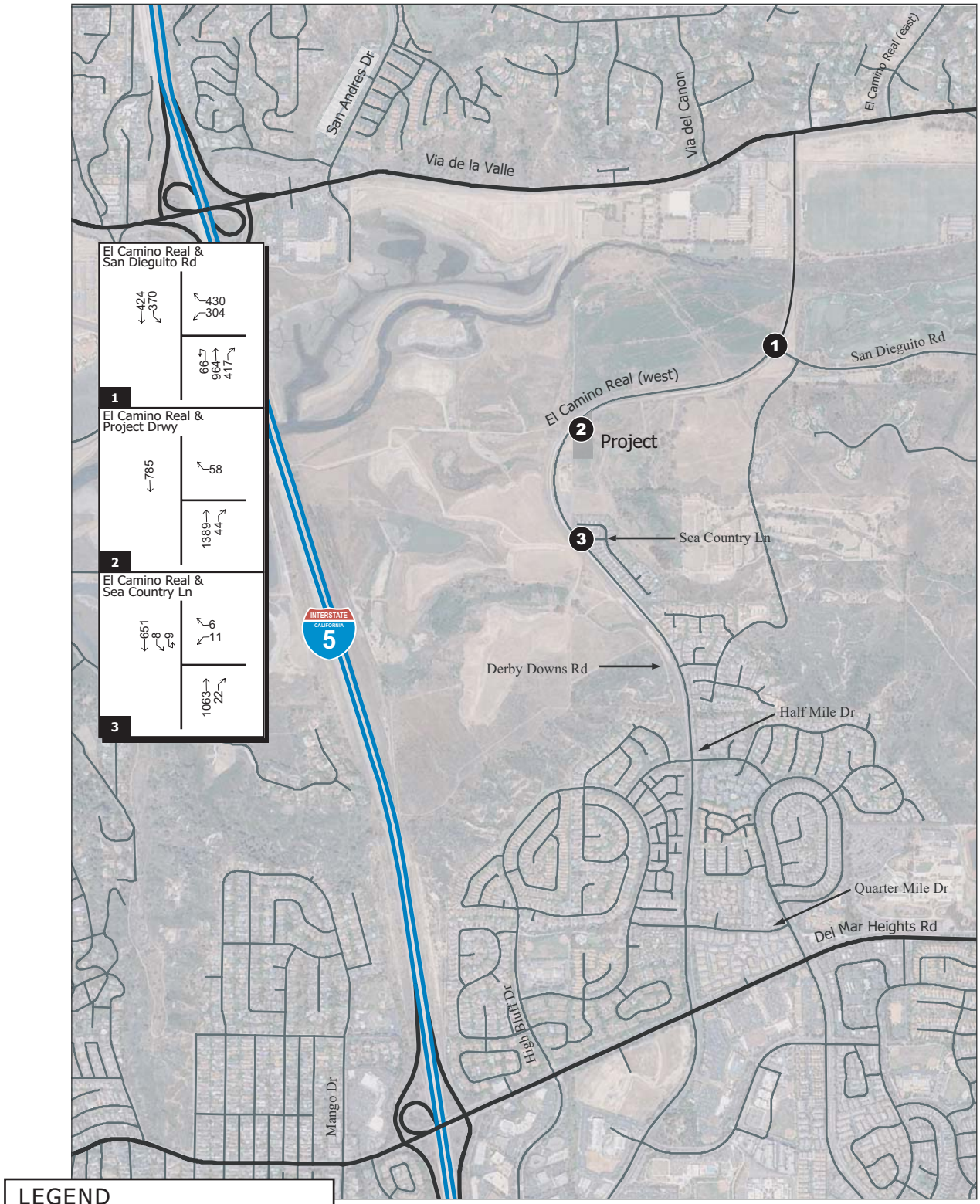

LEGEND

10 AM Peak Hour Trips

Note: U-turns will be occuring at San Dieguito Rd and Sea Country Lane

Figure 5-8
Horizon Year AM Peak Hour Intersection Volumes With Project

N
Not To Scale




LEGEND

10 PM Peak Hour Trips

Note: U-turns will be occuring at San Dieguito Rd and Sea Country Lane

Figure 5-9
Horizon Year PM Peak Hour Intersection Volumes With Project

N
Not To Scale

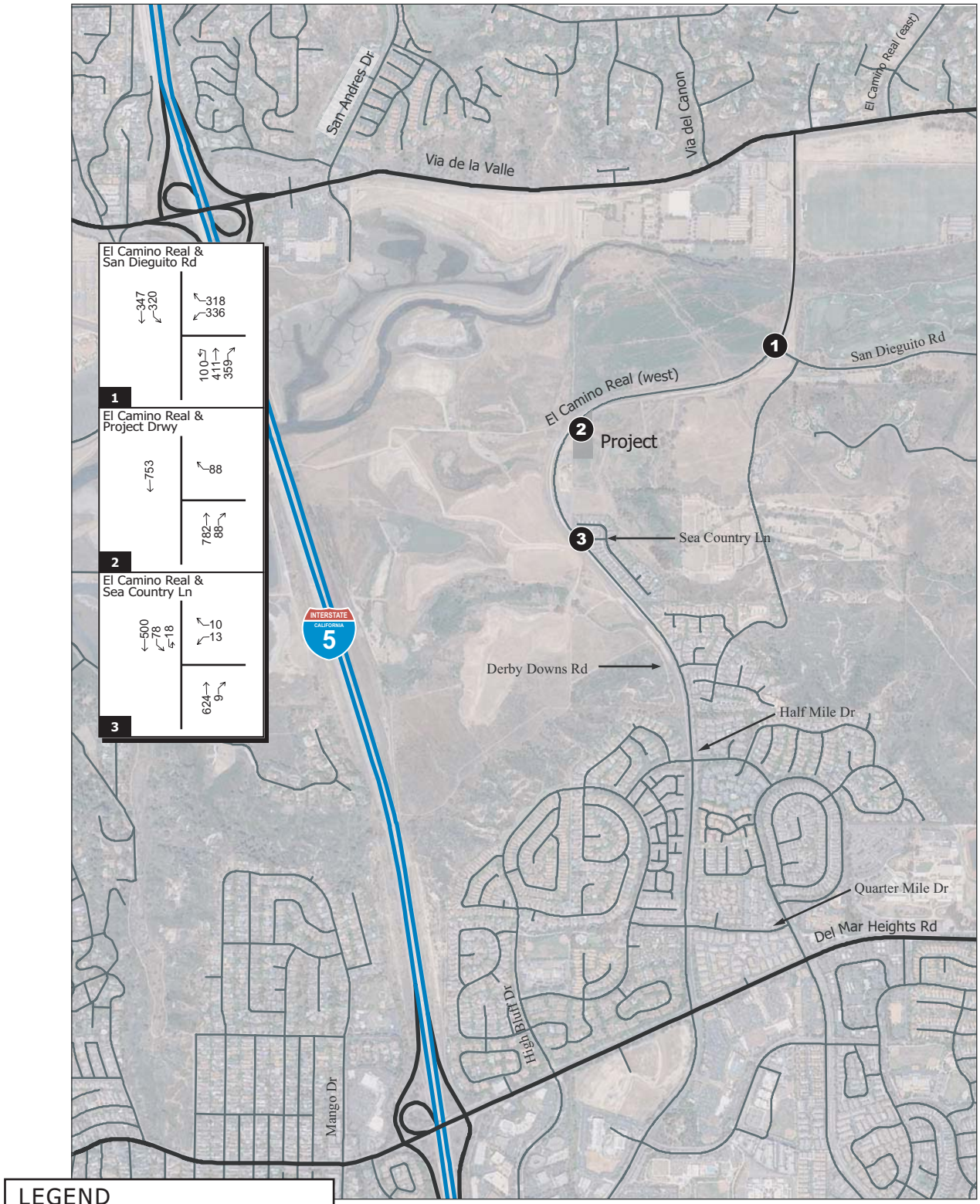



Figure 5-10
Horizon Year Sunday Peak Hour Intersection Volumes With Project

# Appendix C
# Signal Timing Sheets

# INTERSECTION: EL CAMINO REAL & SAN DIEGUITO RD

233 Program

Group Assignment:
Field Master Assignment:
System Reference Number:

N/S Street: El Camino Real
E/W Street: San Dieguito Rd

Last Database Change:

Timing sheets by: JMV
Approved by: BC
Timing implemented on: 10/5/2010

| | | El Camino Real | | | | El Camino Real | | | San Dieguito Rd |
|---|---|---|---|---|---|---|---|---|---|
| | | Phase | | | | | | | |
| Row | Phase Numbers----> | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 0 | Ped Walk | | 7 | | | | | | 7 |
| 1 | Ped FDW | | 15 | | | | | | 18 |
| 2 | Min Green | 4 | 7 | | | 4 | 7 | | 4 |
| 3 | Type 3 Disconnect | | | | | | | | |
| 4 | Added per Vehicle | | | | | | | | |
| 5 | Veh Extension | 2.0 | 5.6 | | | 2.0 | 5.6 | | 2.0 |
| 6 | Max Gap | 2.0 | 5.6 | | | 2.0 | 5.6 | | 2.0 |
| 7 | Min Gap | 2.0 | 0.2 | | | 2.0 | 0.2 | | 2.0 |
| 8 | Max Limit | 30 | 60 | | | 30 | 60 | | 40 |
| 9 | Max Limit 2 | | | | | | | | |
| A | Adv. / Delay Walk | | | | | | | | |
| B | PE Min Ped FDW | | | | | | | | |
| C | Cond Serv Check | | | | | | | | |
| D | Reduce Every | | 0.6 | | | | 0.6 | | |
| E | Yellow Change | 3.4 | 4.9 | | | 3.4 | 4.3 | | 3.9 |
| F | Red Clear | 1.0 | 1.0 | | | 1.0 | 1.0 | | 1.0 |

**Phase Timing - Bank 1** <F/1+Phase+Row>

| | E |
|---|---|
| RR-1 Delay | |
| RR-1 Clear | |
| EV-A Delay | 0 |
| EV-A Clear | 0 |
| EV-B Delay | |
| EV-B Clear | |
| EV-C Delay | 0 |
| EV-C Clear | 0 |
| EV-D Delay | 0 |
| EV-D Clear | 0 |
| RR-2 Delay | |
| RR-2 Clear | |
| *View EV Delay* | - - - |
| *View EV Clear* | - - - |
| *View RR Delay* | - - - |
| *View RR Clear* | - - - |

**Preempt Timing** <F/1+E+Row>

| | F | Row |
|---|---|---|
| Permit | 12__56_8 | 0 |
| Red Lock | | 1 |
| Yellow Lock | | 2 |
| Min Recall | | 3 |
| Ped Recall | | 4 |
| *View Set Peds* | | 5 |
| Rest In Walk | | 6 |
| Red Rest | | 7 |
| Double Entry | | 8 |
| Max Recall | | 9 |
| Soft Recall | _2___6__ | A |
| Max 2 | | B |
| Cond. Service | | C |
| Man Cntrl Calls | | D |
| Yellow Start | _2___6__ | E |
| First Phases | _____8 | F |

**Phase Functions** <F/1+F+Row>

Current Calculated Cycle Length: C/0 + B + F

| | 9 | A | B | C | D |
|---|---|---|---|---|---|
| | - - - | - - - | - - - | - - - | - - - |
| Phase 1 | | | | | |
| Phase 2 | | | | | |
| Phase 3 | | | | | |
| Phase 4 | | | | | |
| Phase 5 | | | | | |
| Phase 6 | | | | | |
| Phase 7 | | | | | |
| Phase 8 | | | | | |
| Max Initial | | | | | |
| Alternate Walk | | | | | |
| Alternate FDW | | | | | |
| Alternate Initial | | | | | |
| Alternate Extension | | | | | |

**Alternate Timing** <F/1+Column+Phase>

| | | |
|---|---|---|
| Drop Number | | <C/0+0+0> |
| Zone Number | | <C/0+0+1> |
| Area Number | | <C/0+0+2> |
| Area Address | | <C/0+0+3> |
| QuicNet Channel | | (QuicNet) |

**Communication Addresses**

| | | |
|---|---|---|
| Flash Start | 0 | <F/1+0+E> |
| Red Revert | 5.0 | <F/1+0+F> |
| All Red Start | 0.0 | <F/1+C+0> |

**Start / Revert Times**

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

(Outputs specified in Assignable Outputs at E/127+A+E & F)

| | | |
|---|---|---|
| Exclusive Walk | 0 | <F/1+0+0> |
| Exclusive FDW | 0 | <F/1+0+1> |
| All Red Clear | 0.0 | <F/1+0+2> |

**Exclusive Ped Phase**

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

| | | |
|---|---|---|
| Manual Plan | 14 | <C/0+A+1> |
| Manual Offset | 0 | <C/0+B+1> |

**Manual Selection**

| | | |
|---|---|---|
| **Free Lag** | _2___6_8 | <C/1+F+0> |

How to Set Page Access Code:
F/1 -- C + 0 + F = 1
F + 9 + E = 1

**Notes:** 35346-18-D

Version: 233 RV
Rivision: San Diego 1

## Overlap Assignments <E/29+Column+Row>

| Row | | Overlap 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| 0 | Load Switch Number | | | | | | | | |
| 1 | Veh Set 1 - Phases | | | | | | | | |
| 2 | Veh Set 2 - Phases | | | | | | | | |
| 3 | Veh Set 3 - Phases | | | | | | | | |
| 4 | Neg Veh Phases | | | | | | | | |
| 5 | Neg Ped Phases | | | | | | | | |
| 6 | Green Omit Phases | | | | | | | | |
| 7 | Green Clear Omit Phs. | | | | | | | | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| A | | | | | | | | | |
| B | | | | | | | | | |
| C | | | | | | | | | |
| D | Green Clear | | | | | | | | |
| E | Yellow Change | | | | | | | | |
| F | Red Clear | | | | | | | | |

## Specials <F/2+F+Row>

| | F | Row |
|---|---|---|
| Fast Green Flash Phase | | 0 |
| Green Flash Phases | | 1 |
| Flashing Walk Phases | | 2 |
| Guaranteed Passage | | 3 |
| Simultaneous Gap Term | | 4 |
| Sequential Timing | | 5 |
| Advance Walk Phases | | 6 |
| Delay Walk Phases | | 7 |
| External Recall | | 8 |
| Start-up Overlap Green | | 9 |
| Max Extension | | A |
| Inhibit Ped Reservice | | B |
| Semi-Actuated | | C |
| Start-up Overlap Yellow | | D |
| Start-up Vehicle Calls | | E |
| Start-up Ped Calls | | F |

## Configuration <E/125+E+Row>

| Row | | E |
|---|---|---|
| 0 | Exclusive Phases | |
| 1 | RR-1 Clear Phases | |
| 2 | RR-2 Clear Phases | |
| 3 | RR-2 Limited Service | |
| 4 | Prot / Perm Phases | |
| 5 | Flash to PE Circuits | |
| 6 | Flash Entry Phases | |
| 7 | Disable Yellow Range | |
| 8 | Disable Ovp Yel Range | |
| 9 | Overlap Yellow Flash | |
| A | EV-A Phases | 2 5 |
| B | EV-B Phases | |
| C | EV-C Phases | 1 6 |
| D | EV-D Phases | 8 |
| E | Extra 1 Config. Bits | 1 345 |
| F | IC Select (Interconnect) | 2 |

## Configuration <E/125+F+Row>

| | F |
|---|---|
| Ext. Permit 1 Phases | |
| Ext. Permit 2 Phases | |
| Exclusive Ped Assign | |
| Preempt Non-Lock | 12345678 |
| Ped for 2P Output | 2 |
| Ped for 6P Output | |
| Ped for 4P Output | |
| Ped for 8P Output | 8 |
| Yellow Flash Phases | |
| Low Priority A Phases | |
| Low Priority B Phases | |
| Low Priority C Phases | |
| Low Priority D Phases | |
| Restricted Phases | |
| Extra 2 Config. Bits | |

## Preemption Priority <E/125+C+Row>

( * RR-1 is always Highest, and RR-2 is always Second Highest )

| | C | Row |
|---|---|---|
| EV-A | | 0 |
| EV-B | | 1 |
| EV-C | | 2 |
| EV-D | | 3 |
| RR-1 * | - - - | 4 |
| RR-2 * | - - - | 5 |
| SE-1 | 0 | 6 |
| SE-2 | 0 | 7 |
| | | 8 |
| | | 9 |
| | | A |
| | | B |
| | | C |
| | | D |
| | | E |
| | | F |

## Coordination Transition Minimums <C/5+2+Row>

| | 2 | Row |
|---|---|---|
| | | 0 |
| Phase 1 | 0 | 1 |
| Phase 2 | 0 | 2 |
| Phase 3 | 0 | 3 |
| Phase 4 | 0 | 4 |
| Phase 5 | 0 | 5 |
| Phase 6 | 0 | 6 |
| Phase 7 | 0 | 7 |
| Phase 8 | 0 | 8 |
| | | 9 |
| | | A |
| | | B |
| | | C |
| | | D |
| | | E |
| | | F |

**Extra 1 Flags**
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = EV Advance
5 = Extended Status
6 = International Ped
7 = Flash - Clear Outputs
8 = Split Ring

**IC Select Flags**
1 =
2 = Modem
3 = 7-Wire Slave
4 = Flash / Free
5 =
6 = Simplex Master
7 = 7-Wire Master
8 = Offset Interrupter

**Extra 2 Flags**
1 = AWB During Initial
2 = LMU Installed
3 = Disable Min Walk
4 = QuicNet/4 System
5 = Ignore P/P on EV
6 =
7 = Reserved
8 =

**Flash to PE & PE Non-Lock**
1 = EV A 5 = RR 1
2 = EV B 6 = RR 2
3 = EV C 7 = SE 1
4 = EV D 8 = SE 2

## Time and Date

8-0 Hour, Minute, Day-of-Week
8-1 Day-of-Month, Year, Month
8-F Seconds

## Daylight Savings Time

| | | |
|---|---|---|
| Begin Month | 0 | <C/5+2+A> |
| Begin Week | 0 | <C/5+2+B> |
| End Month | 0 | <C/5+2+C> |
| End Week | 0 | <C/5+2+D> |

Daylight Savings Date:
If set to all zeros, standard dates will be used.

Version: 233 RV2
Revision: San Diego 1

| Row | Detector Name | 0 C1 Pin Number | 1 Attributes | 2 Phase(s) | 3 Assign | 1 Delay | 3 Carry-Over |
|---|---|---|---|---|---|---|---|
| 0 | 2I2U | 39 | | | | | 1.8 |
| 1 | 6J2U | 40 | | | | | 1.8 |
| 2 | | 41 | | | | | |
| 3 | 8J6U | 42 | | | | 10.0 | |
| 4 | 2I2L | 43 | | | | | 1.8 |
| 5 | 6J2L | 44 | | | | | 1.8 |
| 6 | | 45 | | | | | |
| 7 | | 46 | | | | | |
| 8 | | 47 | | | | | |
| 9 | | 48 | | | | | |
| A | | 49 | | | | | |
| B | | 50 | | | | | |
| C | | 55 | | | | | |
| D | | 56 | | | | | |
| E | | 57 | | | | | |
| F | | 58 | | | | | |

Program Type:

| | Ped / Phase / Overlap 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Row |
|---|---|---|---|---|---|---|---|---|---|
| Walk | | | | | | | | | 0 |
| Don't Walk | | | | | | | | | 1 |
| Phase Green | | | | | | | | | 2 |
| Phase Yellow | | | | | | | | | 3 |
| Phase Red | | | | | | | | | 4 |
| Overlap Green | | | | | | | | | 5 |
| Overlap Yellow | | | | | | | | | 6 |
| Overlap Red | | | | | | | | | 7 |

**Redirect Phase Outputs** <E/127+Column+Row>

| | |
|---|---|
| Cabinet Type | 0 |

<E/125+D+0>

**Enable Redirection**
(Enable Redirection = 30)

| | | |
|---|---|---|
| Max OFF (minutes) | 20 | <D/0+0+1> |
| Max ON (minutes) | 60 | <D/0+0+2> |

**Detector Failure Monitor**

| | D | Row |
|---|---|---|
| | | 0 |
| Output Port 1 | | 1 |
| Output Port 2 | | 2 |
| Output Port 3 | | 3 |
| Output Port 4 | | 4 |
| Output Port 5 | | 5 |
| Output Port 6 | | 6 |
| Output Port 7 | | 7 |

**Dimming** <E/125+D+Row>

| Row | Detector Name | 4 C1 Pin Number | 5 Attributes | 6 Phase(s) | 7 Assign | 2 Delay | 4 Carry-Over |
|---|---|---|---|---|---|---|---|
| 0 | | 59 | | | | | |
| 1 | | 60 | | | | | |
| 2 | | 61 | | | | | |
| 3 | | 62 | | | | | |
| 4 | 2I3U | 63 | | | | | 1.8 |
| 5 | 6J3U | 64 | | | | | 1.8 |
| 6 | | 65 | | | | | |
| 7 | | 66 | | | | | |
| 8 | | 67 | | | | | |
| 9 | | 68 | | | | | |
| A | | 69 | | | | | |
| B | | 70 | | | | | |
| C | | 76 | | | | | |
| D | | 77 | | | | | |
| E | | 78 | | | | | |
| F | | 79 | | | | | |

**Detector Assignments** <E/126+Column+Row> <D/0+Column+Row>

Detector Attributes
1 = Full Time Delay
2 = Ped Call
3 =
4 = Count
5 = Extension
6 = Type 3
7 = Calling
8 = Alternate

Det. Assignments
1 = Det. Set 1
2 = Det. Set 2
3 = Det. Set 3
4 =
5 =
6 = Failure - Min Recall
7 = Failure - Max Recall
8 = Report on Failure

| | D |
|---|---|
| Number of Digits | |
| 1 st Digit | |
| 2 ed Digit | |
| 3 ed Digit | |
| 4 th Digit | |
| 5 th Digit | |
| 6 th Digit | |
| 7 th Digit | |
| 8 th Digit | |
| 9 th Digit | |
| 10 th Digit | |
| 11 th Digit | |
| 12 th Digit | |
| 13 th Digit | |
| 14 th Digit | |
| 15 th Digit | <C/5+D+Row> |

**Dial-Back Telephone Number**

Disable Alarms
1 = Stop Time
2 = Flash Sense
3 = Keyboard Entry
4 = Manual Plan
5 = Police Control
6 = External Alarm
7 = Detector Failure
8 =

| | B | Row |
|---|---|---|
| DELAY-A | 1 | A |
| DELAY-B | 1 | B |
| DELAY-C | 0 | C |
| DELAY-D | 0 | D |
| DELAY-E | 0 | E |
| DELAY-F | 0 | F |

<D/0+B+Row> (seconds)

**Delay Logic Times**

| | |
|---|---|
| Omit Alarm | #NAME? |

<C/5+F+0>

**Disable Alarm Reporting**

| | | |
|---|---|---|
| Time | 0 | <C/5+C+0> |

**Redial Time** (minutes)
(View Redial Timer at E/2+D+6)

| Row | Column 9 | Column A | Column B | Column C | Column D | Column E | Column F | Row |
|---|---|---|---|---|---|---|---|---|
| 0 | Spec. Funct. 1 | NOT-3 | Max 2 | Pretimed | Set Monday | Dial 2 (7-Wire) | Sim Term | 0 |
| 1 | Spec. Funct. 2 | NOT-4 | System Det 1 | Plan 1 | Ext. Perm 1 | Dial 3 (7-Wire) | EV-A | 1 |
| 2 | Spec. Funct. 3 | OR-4 (a) | System Det 2 | Plan 2 | Ext. Perm 2 | Offset 1 (7-Wire) | EV-B | 2 |
| 3 | Spec. Funct. 4 | OR-4 (b) | System Det 3 | Plan 3 | Dimming | Offset 2 (7-Wire) | EV-C | 3 |
| 4 | NAND-3 (a) | OR-5 (a) | System Det 4 | Plan 4 | Set Clock | Offset 3 (7-Wire) | EV-D | 4 |
| 5 | NAND-3 (b) | OR-5 (b) | System Det 5 | Plan 5 | Stop Time | Free (7-Wire) | RR-1 | 5 |
| 6 | NAND-4 (a) | OR-6 (a) | System Det 6 | Plan 6 | Flash Sense 81 | Flash (7-Wire) | RR-2 | 6 |
| 7 | NAND-4 (b) | OR-6 (b) | System Det 7 | Plan 7 | Manual Enable | Excl. Ped Omit | Spec. Event 1 | 7 |
| 8 | OR-7 (a) | Fig 3 Diamond | System Det 8 | Plan 8 | Man. Advance | NOT-1 | Spec. Event 2 | 8 |
| 9 | OR-7 (b) | Fig 4 Diamond | Max Inhibit (nema) | Plan 9 | External Alarm | NOT-2 | External Lag | 9 |
| A | OR-7 (c) | AND-4 (a) | Force A (nema) | DELAY-A | Phase Bank 2 | OR-1 (a) | AND-1 (a) | A |
| B | OR-7 (d) | AND-4 (b) | Force B (nema) | DELAY-B | Phase Bank 3 | OR-1 (b) | AND-1 (b) | B |
| C | OR-8 (a) | NAND-1 (a) | C.N.A. (nema) | DELAY-C | Overlap Set 2 | OR-2 (a) | AND-2 (a) | C |
| D | OR-8 (b) | NAND-1 (b) | Hold (nema) | DELAY-D | Overlap Set 3 | OR-2 (b) | AND-2 (b) | D |
| E | OR-8 (c) | NAND-2 (a) | Max Recall | DELAY-E | Detector Set 2 | OR-3 (a) | AND-3 (a) | E |
| F | OR-8 (d) | NAND-2 (b) | Min Recall | DELAY-F | Detector Set 3 | OR-3 (b) | AND-3 (b) | F |

**Assignable Inputs** **<E/126+Column+Row>**

| Row | Column 9 | Column A | Column B | Column C | Column D | Column E | Column F | Row |
|---|---|---|---|---|---|---|---|---|
| 0 | Phase ON - 1 | Preempt Fail | Flasher 0 | Free | NOT-1 | TOD Out 1 | Dial 2 (7-Wire) | 0 |
| 1 | Phase ON - 2 | Sp Evnt Out 1 | Flasher 1 | Plan 1 | OR-1 | TOD Out 2 | Dial 3 (7-Wire) | 1 |
| 2 | Phase ON - 3 | Sp Evnt Out 2 | Fast Flasher | Plan 2 | OR-2 | TOD Out 3 | Offset 1 (7-Wire) | 2 |
| 3 | Phase ON - 4 | Sp Evnt Out 3 | Fig 3 Diamond | Plan 3 | OR-3 | TOD Out 4 | Offset 2 (7-Wire) | 3 |
| 4 | Phase ON - 5 | Sp Evnt Out 4 | Fig 4 Diamond | Plan 4 | AND-1 | TOD Out 5 | Offset 3 (7-Wire) | 4 |
| 5 | Phase ON - 6 | Sp Evnt Out 5 | | Plan 5 | AND-2 | TOD Out 6 | Free (7-Wire) | 5 |
| 6 | Phase ON - 7 | Sp Evnt Out 6 | | Plan 6 | AND-3 | TOD Out 7 | Flash (7-Wire) | 6 |
| 7 | Phase ON - 8 | Sp Evnt Out 7 | | Plan 7 | NOT-2 | TOD Out 8 | Preempt | 7 |
| 8 | Ph. Check - 1 | Sp Evnt Out 8 | NOT-3 | Plan 8 | EV-A | Adv. Warn - 1 | Low Priority A | 8 |
| 9 | Ph. Check - 2 | | NOT-4 | Plan 9 | EV-B | Adv. Warn - 2 | Low Priority B | 9 |
| A | Ph. Check - 3 | Detector Fail | OR-4 | Spec. Funct. 3 | EV-C | DELAY-A | Low Priority C | A |
| B | Ph. Check - 4 | Spec. Funct. 1 | OR-5 | Spec. Funct. 4 | EV-D | DELAY-B | Low Priority D | B |
| C | Ph. Check - 5 | Spec. Funct. 2 | OR-6 | NAND-3 | RR-1 | DELAY-C | | C |
| D | Ph. Check - 6 | Central Control | AND-4 | NAND-4 | RR-2 | DELAY-D | | D |
| E | Ph. Check - 7 | Excl. Ped DW | NAND-1 | OR-7 | Spec. Event 1 | DELAY-E | | E |
| F | Ph. Check - 8 | Excl. Ped WK | NAND-2 | OR-8 | Spec. Event 2 | DELAY-F | | F |

**Assignable Outputs** **<E/127+Column+Row>**

# INTERSECTION: EL CAMINO REAL & SEA COUNTRY LN

233 Program

Group Assignment:
Field Master Assignment:
System Reference Number:

N/S Street: El Camino Real
E/W Street: Sea Country Ln

Last Database Change:

Timing sheets by: JMV
Approved by:
Timing implemented on: 8/30/2011 14:00

El Camino Real — El Camino Real — Sea Country Ln

Phase

| Row | Phase Numbers----> | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| 0 | Ped Walk | | 7 | | 7 | | | | 7 |
| 1 | Ped FDW | | 15 | | 19 | | | | 18 |
| 2 | Min Green | 4 | 7 | | 4 | | 7 | | 4 |
| 3 | Type 3 Disconnect | | | | | | | | |
| 4 | Added per Vehicle | | | | | | | | |
| 5 | Veh Extension | 2.0 | 5.2 | | 0.5 | | 5.1 | | 2.0 |
| 6 | Max Gap | 2.0 | 5.2 | | 0.5 | | 5.1 | | 2.0 |
| 7 | Min Gap | 2.0 | 0.2 | | 0.5 | | 0.2 | | 2.0 |
| 8 | Max Limit | 30 | 60 | | 26 | | 60 | | 40 |
| 9 | Max Limit 2 | | | | | | | | |
| A | Adv. / Delay Walk | | | | | | | | |
| B | PE Min Ped FDW | | | | | | | | |
| C | Cond Serv Check | | | | | | | | |
| D | Reduce Every | | 0.6 | | | | 0.6 | | |
| E | Yellow Change | 3.4 | 5.0 | | 3.9 | | 5.2 | | 3.9 |
| F | Red Clear | 1.0 | 1.0 | | 1.0 | | 1.0 | | 1.0 |

**Phase Timing - Bank 1** <F/1+Phase+Row>

| | E |
|---|---|
| RR-1 Delay | |
| RR-1 Clear | |
| EV-A Delay | 0 |
| EV-A Clear | 0 |
| EV-B Delay | |
| EV-B Clear | |
| EV-C Delay | 0 |
| EV-C Clear | 0 |
| EV-D Delay | 0 |
| EV-D Clear | 0 |
| RR-2 Delay | |
| RR-2 Clear | |
| View EV Delay | - - - |
| View EV Clear | - - - |
| View RR Delay | - - - |
| View RR Clear | - - - |

**Preempt Timing** <F/1+E+Row>

| | F |
|---|---|
| Permit | 12_4_6_8 |
| Red Lock | |
| Yellow Lock | |
| Min Recall | _2___6__ |
| Ped Recall | |
| *View Set Peds* | |
| Rest In Walk | |
| Red Rest | |
| Double Entry | ___4___8 |
| Max Recall | |
| Soft Recall | |
| Max 2 | |
| Cond. Service | |
| Man Cntrl Calls | |
| Yellow Start | _2___6__ |
| First Phases | _____8 |

**Phase Functions** <F/1+F+Row>

Current Calculated Cycle Length: C/0 + B + F

| | 9 | A | B | C | D |
|---|---|---|---|---|---|
| | - - - | - - - | - - - | - - - | - - - |
| Phase 1 | | | | | |
| Phase 2 | | | | | |
| Phase 3 | | | | | |
| Phase 4 | | | | | |
| Phase 5 | | | | | |
| Phase 6 | | | | | |
| Phase 7 | | | | | |
| Phase 8 | | | | | |
| Max Initial | | | | | |
| Alternate Walk | | | | | |
| Alternate FDW | | | | | |
| Alternate Initial | | | | | |
| Alternate Extension | | | | | |

**Alternate Timing** <F/1+Column+Phase>

| | | |
|---|---|---|
| Drop Number | | <C/0+0+0> |
| Zone Number | | <C/0+0+1> |
| Area Number | | <C/0+0+2> |
| Area Address | | <C/0+0+3> |
| QuicNet Channel | | (QuicNet) |

**Communication Addresses**

| | | |
|---|---|---|
| Flash Start | 0 | <F/1+0+E> |
| Red Revert | 5.0 | <F/1+0+F> |
| All Red Start | 0.0 | <F/1+C+0> |

**Start / Revert Times**

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

(Outputs specified in Assignable Outputs at E/127+A+E & F)

| | | |
|---|---|---|
| Exclusive Walk | 0 | <F/1+0+0> |
| Exclusive FDW | 0 | <F/1+0+1> |
| All Red Clear | 0.0 | <F/1+0+2> |

**Exclusive Ped Phase**

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

| | | |
|---|---|---|
| Manual Plan | 14 | <C/0+A+1> |
| Manual Offset | 0 | <C/0+B+1> |

**Manual Selection**

| | | |
|---|---|---|
| Free Lag | _2_4_6_8 | <C/1+F+0> |

How to Set Page Access Code:
F/1 -- C + 0 + F = 1

**Notes:** 35508-3-D

| Row | | Overlap 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| 0 | Load Switch Number | | | | | | | | |
| 1 | Veh Set 1 - Phases | | | | | | | | |
| 2 | Veh Set 2 - Phases | | | | | | | | |
| 3 | Veh Set 3 - Phases | | | | | | | | |
| 4 | Neg Veh Phases | | | | | | | | |
| 5 | Neg Ped Phases | | | | | | | | |
| 6 | Green Omit Phases | | | | | | | | |
| 7 | Green Clear Omit Phs. | | | | | | | | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| A | | | | | | | | | |
| B | | | | | | | | | |
| C | | | | | | | | | |
| D | Green Clear | | | | | | | | |
| E | Yellow Change | | | | | | | | |
| F | Red Clear | | | | | | | | |

**Overlap Assignments** <E/29+Column+Row>

| | F |
|---|---|
| Fast Green Flash Phase | |
| Green Flash Phases | |
| Flashing Walk Phases | |
| Guaranteed Passage | |
| Simultaneous Gap Term | |
| Sequential Timing | |
| Advance Walk Phases | |
| Delay Walk Phases | |
| External Recall | |
| Start-up Overlap Green | |
| Max Extension | |
| Inhibit Ped Reservice | |
| Semi-Actuated | |
| Start-up Overlap Yellow | |
| Start-up Vehicle Calls | |
| Start-up Ped Calls | |

**Specials** <F/2+F+Row>

| Row |
|---|
| 0 |
| 1 |
| 2 |
| 3 |
| 4 |
| 5 |
| 6 |
| 7 |
| 8 |
| 9 |
| A |
| B |
| C |
| D |
| E |
| F |

| Row | | E |
|---|---|---|
| 0 | Exclusive Phases | |
| 1 | RR-1 Clear Phases | |
| 2 | RR-2 Clear Phases | |
| 3 | RR-2 Limited Service | |
| 4 | Prot / Perm Phases | |
| 5 | Flash to PE Circuits | |
| 6 | Flash Entry Phases | |
| 7 | Disable Yellow Range | |
| 8 | Disable Ovp Yel Range | |
| 9 | Overlap Yellow Flash | |
| A | EV-A Phases | 2 |
| B | EV-B Phases | |
| C | EV-C Phases | 6 |
| D | EV-D Phases | 8 |
| E | Extra 1 Config. Bits | 1_345 |
| F | IC Select (Interconnect) | 2 |

**Configuration** <E/125+E+Row>

| | F |
|---|---|
| Ext. Permit 1 Phases | |
| Ext. Permit 2 Phases | |
| Exclusive Ped Assign | |
| Preempt Non-Lock | 12345678 |
| Ped for 2P Output | 2 |
| Ped for 6P Output | |
| Ped for 4P Output | 4 |
| Ped for 8P Output | 8 |
| Yellow Flash Phases | |
| Low Priority A Phases | |
| Low Priority B Phases | |
| Low Priority C Phases | |
| Low Priority D Phases | |
| Restricted Phases | |
| Extra 2 Config. Bits | 3 |

**Configuration** <E/125+F+Row>

| | C |
|---|---|
| EV-A | |
| EV-B | |
| EV-C | |
| EV-D | |
| RR-1 * | --- |
| RR-2 * | --- |
| SE-1 | 0 |
| SE-2 | 0 |

<E/125+C+Row>

**Preemption Priority**

( * RR-1 is always Highest, and RR-2 is always Second Highest )

| Row |
|---|
| 0 |
| 1 |
| 2 |
| 3 |
| 4 |
| 5 |
| 6 |
| 7 |
| 8 |
| 9 |
| A |
| B |
| C |
| D |
| E |
| F |

| | 2 |
|---|---|
| Phase 1 | 0 |
| Phase 2 | 0 |
| Phase 3 | 0 |
| Phase 4 | 0 |
| Phase 5 | 0 |
| Phase 6 | 0 |
| Phase 7 | 0 |
| Phase 8 | 0 |

<C/5+2+Row>

**Coordination Transition Minimums**

| Row |
|---|
| 0 |
| 1 |
| 2 |
| 3 |
| 4 |
| 5 |
| 6 |
| 7 |
| 8 |
| 9 |
| A |
| B |
| C |
| D |
| E |
| F |

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = EV Advance
5 = Extended Status
6 = International Ped
7 = Flash - Clear Outputs
8 = Split Ring

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 = Flash / Free
5 =
6 = Simplex Master
7 = 7-Wire Master
8 = Offset Interrupter

Extra 2 Flags
1 = AWB During Initial
2 = LMU Installed
3 = Disable Min Walk
4 = QuicNet/4 System
5 = Ignore P/P on EV
6 =
7 = Reserved
8 =

Flash to PE & PE Non-Lock
1 = EV A 5 = RR 1
2 = EV B 6 = RR 2
3 = EV C 7 = SE 1
4 = EV D 8 = SE 2

8-0 Hour, Minute, Day-of-Week
8-1 Day-of-Month, Year, Month
8-F Seconds

**Time and Date**

| | | |
|---|---|---|
| Begin Month | 0 | <C/5+2+A> |
| Begin Week | 0 | <C/5+2+B> |
| End Month | 0 | <C/5+2+C> |
| End Week | 0 | <C/5+2+D> |

**Daylight Savings Time**

Daylight Savings Date:
If set to all zeros, standard dates will be used.

# INTERSECTION: EL CAMINO REAL & SEA COUNTRY LN

# 233 Program

| Row | Detector Name | 0 C1 Pin Number | 1 Attributes | 2 Phase(s) | 3 Assign | 1 Delay | 3 Carry-Over |
|---|---|---|---|---|---|---|---|
| 0 | 2I2U | 39 | | | | | 1.8 |
| 1 | 6J2U | 40 | | | | | 1.8 |
| 2 | | 41 | | | | | |
| 3 | | 42 | | | | | |
| 4 | 2I2L | 43 | | | | | 1.8 |
| 5 | 6J2L | 44 | | | | | 1.8 |
| 6 | | 45 | | | | | |
| 7 | | 46 | | | | | |
| 8 | | 47 | | | | | |
| 9 | | 48 | | | | | |
| A | | 49 | | | | | |
| B | 8J8U | 50 | | | | | |
| C | | 55 | | | | | |
| D | 1I1U | 56 | | | | | |
| E | | 57 | | | | | |
| F | | 58 | | | | | |

Program Type:

| | Ped / Phase / Overlap 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Row |
|---|---|---|---|---|---|---|---|---|---|
| Walk | | | | | | | | | 0 |
| Don't Walk | | | | | | | | | 1 |
| Phase Green | | | | | | | | | 2 |
| Phase Yellow | | | | | | | | | 3 |
| Phase Red | | | | | | | | | 4 |
| Overlap Green | | | | | | | | | 5 |
| Overlap Yellow | | | | | | | | | 6 |
| Overlap Red | | | | | | | | | 7 |

**Redirect Phase Outputs** <E/127+Column+Row>

| | Cabinet Type | 0 |
|---|---|---|

<E/125+D+0>

**Enable Redirection**
(Enable Redirection = 30)

| | | |
|---|---|---|
| Max OFF (minutes) | 20 | <D/0+0+1> |
| Max ON (minutes) | 60 | <D/0+0+2> |

**Detector Failure Monitor**

| | D | Row |
|---|---|---|
| | | 0 |
| Output Port 1 | | 1 |
| Output Port 2 | | 2 |
| Output Port 3 | | 3 |
| Output Port 4 | | 4 |
| Output Port 5 | | 5 |
| Output Port 6 | | 6 |
| Output Port 7 | | 7 |

**Dimming** <E/125+D+Row>

| Row | Detector Name | 4 C1 Pin Number | 5 Attributes | 6 Phase(s) | 7 Assign | 2 Delay | 4 Carry-Over |
|---|---|---|---|---|---|---|---|
| 0 | | 59 | | | | | |
| 1 | | 60 | | | | | |
| 2 | | 61 | | | | | |
| 3 | | 62 | | | | | |
| 4 | 2I3U | 63 | | | | | 1.8 |
| 5 | 6J3U | 64 | | | | | 1.8 |
| 6 | | 65 | | | | | |
| 7 | | 66 | | | | | |
| 8 | | 67 | | | | | |
| 9 | | 68 | | | | | |
| A | | 69 | | | | | |
| B | | 70 | | | | | |
| C | 2I3L | 76 | | | | | |
| D | 6J3L | 77 | | | | | |
| E | | 78 | | | | | |
| F | 8J7L | 79 | | | | 10.0 | |

**Detector Assignments** <E/126+Column+Row> <D/0+Column+Row>

Detector Attributes
1 = Full Time Delay
2 = Ped Call
3 =
4 = Count
5 = Extension
6 = Type 3
7 = Calling
8 = Alternate

Det. Assignments
1 = Det. Set 1
2 = Det. Set 2
3 = Det. Set 3
4 =
5 =
6 = Failure - Min Recall
7 = Failure - Max Recall
8 = Report on Failure

| | D |
|---|---|
| Number of Digits | |
| 1 st Digit | |
| 2 ed Digit | |
| 3 ed Digit | |
| 4 th Digit | |
| 5 th Digit | |
| 6 th Digit | |
| 7 th Digit | |
| 8 th Digit | |
| 9 th Digit | |
| 10 th Digit | |
| 11 th Digit | |
| 12 th Digit | |
| 13 th Digit | |
| 14 th Digit | |
| 15 th Digit | |

<C/5+D+Row>

**Dial-Back Telephone Number**

Disable Alarms
1 = Stop Time
2 = Flash Sense
3 = Keyboard Entry
4 = Manual Plan
5 = Police Control
6 = External Alarm
7 = Detector Failure
8 =

| | B | Row |
|---|---|---|
| DELAY-A | 1 | A |
| DELAY-B | 1 | B |
| DELAY-C | 0 | C |
| DELAY-D | 0 | D |
| DELAY-E | 0 | E |
| DELAY-F | 0 | F |

<D/0+B+Row> (seconds)

**Delay Logic Times**

| | |
|---|---|
| Omit Alarm | #NAME? |

<C/5+F+0>

**Disable Alarm Reporting**

| | | |
|---|---|---|
| Time | 0 | <C/5+C+0> |

**Redial Time** (minutes)
(View Redial Timer at E/2+D+6)

# Appendix D
# Traffic Volume Calculations

| TFIC Calcs | | | | | |
|---|---|---|---|---|---|
| **Roadway Segment** | **2016** | **2025** | **% Growth** | **# of Years** | **% Growth per Year** |
| El Camino Real, between San Dieguito Road and Sea Country Lane | 15,900 | 18,100 | 13.84% | 9 | 1.54% |

| Existing 2012 AM | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Intersection | NBU | NBL | NBT | NBR | SBU | SBL | SBT | SBR | EBL | EBT | EBR | WBL | WBT | WBR |
| 1 | | | 205 | 168 | | 185 | 507 | | | | | 382 | | 294 |
| 2 | | | 379 | 7 | | 3 | 904 | | | | | 27 | | 4 |
| 3 | | | 373 | | | | 889 | | | | | | | |
| Church Project Trip Assignment AM | | | | | | | | | | | | | | |
| Intersection | NBU | NBL | NBT | NBR | SBU | SBL | SBT | SBR | EBL | EBT | EBR | WBL | WBT | WBR |
| 1 | 4 | | 1 | | | | 5 | | | | | | | |
| 2 | | | 20 | | 5 | | 4 | | | | | | | |
| 3 | | | | 25 | | | 9 | | | | | | | 5 |
| Existing 2012 + 9-Year Growth AM | | | | | | | | | | | | | | |
| Intersection | NBU | NBL | NBT | NBR | SBU | SBL | SBT | SBR | EBL | EBT | EBR | WBL | WBT | WBR |
| 1 | 0 | 0 | 234 | 192 | 0 | 211 | 578 | 0 | 0 | 0 | 0 | 435 | 0 | 335 |
| 2 | 0 | 0 | 432 | 8 | 0 | 4 | 1030 | 0 | 0 | 0 | 0 | 31 | 0 | 5 |
| 3 | 0 | 0 | 425 | 0 | 0 | 0 | 1013 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing 2012 + 9-Year Growth + Church PTA AM | | | | | | | | | | | | | | |
| Intersection | NBU | NBL | NBT | NBR | SBU | SBL | SBT | SBR | EBL | EBT | EBR | WBL | WBT | WBR |
| 1 | 4 | 0 | 235 | 192 | 0 | 211 | 583 | 0 | 0 | 0 | 0 | 435 | 0 | 335 |
| 2 | 0 | 0 | 452 | 8 | 5 | 4 | 1034 | 0 | 0 | 0 | 0 | 31 | 0 | 5 |
| 3 | 0 | 0 | 425 | 25 | 0 | 0 | 1022 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |

| Existing 2012 PM | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Intersection | NBU | NBL | NBT | NBR | SBU | SBL | SBT | SBR | EBL | EBT | EBR | WBL | WBT | WBR |
| 1 | | | 799 | 349 | | 326 | 266 | | | | | 217 | | 205 |
| 2 | | | 1155 | 19 | | 7 | 472 | | | | | 10 | | 5 |
| 3 | | | 1148 | | | | 483 | | | | | | | |
| Church Project Trip Assignment PM | | | | | | | | | | | | | | |
| Intersection | NBU | NBL | NBT | NBR | SBU | SBL | SBT | SBR | EBL | EBT | EBR | WBL | WBT | WBR |
| 1 | 46 | | 12 | | | | 9 | | | | | | | |
| 2 | | | 35 | | 9 | | 46 | | | | | | | |
| 3 | | | | 44 | | | 55 | | | | | | | 58 |
| Existing 2012 + 9-Year Growth PM | | | | | | | | | | | | | | |
| Intersection | NBU | NBL | NBT | NBR | SBU | SBL | SBT | SBR | EBL | EBT | EBR | WBL | WBT | WBR |
| 1 | 0 | 0 | 910 | 398 | 0 | 372 | 303 | 0 | 0 | 0 | 0 | 248 | 0 | 234 |
| 2 | 0 | 0 | 1315 | 22 | 0 | 8 | 538 | 0 | 0 | 0 | 0 | 12 | 0 | 6 |
| 3 | 0 | 0 | 1307 | 0 | 0 | 0 | 550 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing 2012 + 9-Year Growth + Church PTA PM | | | | | | | | | | | | | | |
| Intersection | NBU | NBL | NBT | NBR | SBU | SBL | SBT | SBR | EBL | EBT | EBR | WBL | WBT | WBR |
| 1 | 46 | 0 | 922 | 398 | 0 | 372 | 312 | 0 | 0 | 0 | 0 | 248 | 0 | 234 |
| 2 | 0 | 0 | 1350 | 22 | 9 | 8 | 584 | 0 | 0 | 0 | 0 | 12 | 0 | 6 |
| 3 | 0 | 0 | 1307 | 44 | 0 | 0 | 605 | 0 | 0 | 0 | 0 | 0 | 0 | 58 |

| Existing 2012 (Sunday) | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Intersection | NBU | NBL | NBT | NBR | SBU | SBL | SBT | SBR | EBL | EBT | EBR | WBL | WBT | WBR |
| 1 | | | 219 | 151 | | 174 | 182 | | | | | 232 | | 240 |
| 2 | | | 384 | 8 | | 13 | 409 | | | | | 11 | | 8 |
| 3 | | | 370 | | | | 414 | | | | | | | |
| Church Project Trip Assignment (Sunday) | | | | | | | | | | | | | | |
| Intersection | NBU | NBL | NBT | NBR | SBU | SBL | SBT | SBR | EBL | EBT | EBR | WBL | WBT | WBR |
| 1 | 70 | | 18 | | | | 18 | | | | | | | |
| 2 | | | 70 | | 18 | | 70 | | | | | | | |
| 3 | | | | 88 | | | 88 | | | | | | | 88 |
| Existing 2012 + 9-Year Growth (Sunday) | | | | | | | | | | | | | | |
| Intersection | NBU | NBL | NBT | NBR | SBU | SBL | SBT | SBR | EBL | EBT | EBR | WBL | WBT | WBR |
| 1 | 0 | 0 | 250 | 172 | 0 | 199 | 208 | 0 | 0 | 0 | 0 | 265 | 0 | 274 |
| 2 | 0 | 0 | 438 | 10 | 0 | 15 | 466 | 0 | 0 | 0 | 0 | 13 | 0 | 10 |
| 3 | 0 | 0 | 422 | 0 | 0 | 0 | 472 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing 2012 + 9-Year Growth + Church PTA (Sunday) | | | | | | | | | | | | | | |
| Intersection | NBU | NBL | NBT | NBR | SBU | SBL | SBT | SBR | EBL | EBT | EBR | WBL | WBT | WBR |
| 1 | 70 | 0 | 268 | 172 | 0 | 199 | 226 | 0 | 0 | 0 | 0 | 265 | 0 | 274 |
| 2 | 0 | 0 | 508 | 10 | 18 | 15 | 536 | 0 | 0 | 0 | 0 | 13 | 0 | 10 |
| 3 | 0 | 0 | 422 | 88 | 0 | 0 | 560 | 0 | 0 | 0 | 0 | 0 | 0 | 88 |

| Existing 2012 AM | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Intersection | NBU | NBL | NBT | NBR | SBU | SBL | SBT | SBR | EBL | EBT | EBR | WBL | WBT | WBR |
| 1 | | | 205 | 168 | | 185 | 507 | | | | | 382 | | 294 |
| 2 | | | 379 | 7 | | 3 | 904 | | | | | 27 | | 4 |
| 3 | | | 373 | | | | 889 | | | | | | | |
| Church Project Trip Assignment AM | | | | | | | | | | | | | | |
| Intersection | NBU | NBL | NBT | NBR | SBU | SBL | SBT | SBR | EBL | EBT | EBR | WBL | WBT | WBR |
| 1 | 4 | | 1 | | | | 5 | | | | | | | |
| 2 | | | 20 | | 5 | | 4 | | | | | | | |
| 3 | | | | 25 | | | 9 | | | | | | | 5 |
| Existing 2012 + 12-Year Growth AM | | | | | | | | | | | | | | |
| Intersection | NBU | NBL | NBT | NBR | SBU | SBL | SBT | SBR | EBL | EBT | EBR | WBL | WBT | WBR |
| 1 | 0 | 0 | 243 | 199 | 0 | 220 | 601 | 0 | 0 | 0 | 0 | 453 | 0 | 349 |
| 2 | 0 | 0 | 449 | 9 | 0 | 4 | 1071 | 0 | 0 | 0 | 0 | 32 | 0 | 5 |
| 3 | 0 | 0 | 442 | 0 | 0 | 0 | 1054 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing 2012 + 12-Year Growth + Church PTA AM | | | | | | | | | | | | | | |
| Intersection | NBU | NBL | NBT | NBR | SBU | SBL | SBT | SBR | EBL | EBT | EBR | WBL | WBT | WBR |
| 1 | 4 | 0 | 244 | 199 | 0 | 220 | 606 | 0 | 0 | 0 | 0 | 453 | 0 | 349 |
| 2 | 0 | 0 | 469 | 9 | 5 | 4 | 1075 | 0 | 0 | 0 | 0 | 32 | 0 | 5 |
| 3 | 0 | 0 | 442 | 25 | 0 | 0 | 1063 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |

| Existing 2012 PM | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Intersection | NBU | NBL | NBT | NBR | SBU | SBL | SBT | SBR | EBL | EBT | EBR | WBL | WBT | WBR |
| 1 | | | 799 | 349 | | 326 | 266 | | | | | 217 | | 205 |
| 2 | | | 1155 | 19 | | 7 | 472 | | | | | 10 | | 5 |
| 3 | | | 1148 | | | | 483 | | | | | | | |
| Church Project Trip Assignment PM | | | | | | | | | | | | | | |
| Intersection | NBU | NBL | NBT | NBR | SBU | SBL | SBT | SBR | EBL | EBT | EBR | WBL | WBT | WBR |
| 1 | 46 | | 12 | | | | 9 | | | | | | | |
| 2 | | | 35 | | 9 | | 46 | | | | | | | |
| 3 | | | | 44 | | | 55 | | | | | | | 58 |
| Existing 2012 + 12-Year Growth PM | | | | | | | | | | | | | | |
| Intersection | NBU | NBL | NBT | NBR | SBU | SBL | SBT | SBR | EBL | EBT | EBR | WBL | WBT | WBR |
| 1 | 0 | 0 | 947 | 414 | 0 | 387 | 316 | 0 | 0 | 0 | 0 | 258 | 0 | 243 |
| 2 | 0 | 0 | 1369 | 23 | 0 | 9 | 560 | 0 | 0 | 0 | 0 | 12 | 0 | 6 |
| 3 | 0 | 0 | 1360 | 0 | 0 | 0 | 573 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing 2012 + 12-Year Growth + Church PTA AM | | | | | | | | | | | | | | |
| Intersection | NBU | NBL | NBT | NBR | SBU | SBL | SBT | SBR | EBL | EBT | EBR | WBL | WBT | WBR |
| 1 | 46 | 0 | 959 | 414 | 0 | 387 | 325 | 0 | 0 | 0 | 0 | 258 | 0 | 243 |
| 2 | 0 | 0 | 1404 | 23 | 9 | 9 | 606 | 0 | 0 | 0 | 0 | 12 | 0 | 6 |
| 3 | 0 | 0 | 1360 | 44 | 0 | 0 | 628 | 0 | 0 | 0 | 0 | 0 | 0 | 58 |

| Existing 2012 (Sunday) | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Intersection | NBU | NBL | NBT | NBR | SBU | SBL | SBT | SBR | EBL | EBT | EBR | WBL | WBT | WBR |
| 1 | | | 219 | 151 | | 174 | 182 | | | | | 232 | | 240 |
| 2 | | | 384 | 8 | | 13 | 409 | | | | | 11 | | 8 |
| 3 | | | 370 | | | | 414 | | | | | | | |
| Church Project Trip Assignment (Sunday) | | | | | | | | | | | | | | |
| Intersection | NBU | NBL | NBT | NBR | SBU | SBL | SBT | SBR | EBL | EBT | EBR | WBL | WBT | WBR |
| 1 | 70 | | 18 | | | | 18 | | | | | | | |
| 2 | | | 70 | | 18 | | 70 | | | | | | | |
| 3 | | | | 88 | | | 88 | | | | | | | 88 |
| Existing 2012 + 12-Year Growth (Sunday) | | | | | | | | | | | | | | |
| Intersection | NBU | NBL | NBT | NBR | SBU | SBL | SBT | SBR | EBL | EBT | EBR | WBL | WBT | WBR |
| 1 | 0 | 0 | 260 | 179 | 0 | 207 | 216 | 0 | 0 | 0 | 0 | 275 | 0 | 285 |
| 2 | 0 | 0 | 455 | 10 | 0 | 16 | 485 | 0 | 0 | 0 | 0 | 14 | 0 | 10 |
| 3 | 0 | 0 | 439 | 0 | 0 | 0 | 491 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing 2012 + 9-Year Growth + Church PTA (Sunday) | | | | | | | | | | | | | | |
| Intersection | NBU | NBL | NBT | NBR | SBU | SBL | SBT | SBR | EBL | EBT | EBR | WBL | WBT | WBR |
| 1 | 70 | 0 | 278 | 179 | 0 | 207 | 234 | 0 | 0 | 0 | 0 | 275 | 0 | 285 |
| 2 | 0 | 0 | 525 | 10 | 18 | 16 | 555 | 0 | 0 | 0 | 0 | 14 | 0 | 10 |
| 3 | 0 | 0 | 439 | 88 | 0 | 0 | 579 | 0 | 0 | 0 | 0 | 0 | 0 | 88 |

# Appendix E
# Existing Peak Hour Intersection Capacity Worksheets and Signal Timing Inputs

| Movement | WBL | WBR | NBU | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | |
| Traffic Volume (veh/h) | 435 | 335 | 0 | 234 | 192 | 211 | 578 |
| Future Volume (veh/h) | 435 | 335 | 0 | 234 | 192 | 211 | 578 |
| 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 | 1856 | 1856 | | 1856 | 1856 | 1856 | 1856 |
| Adj Flow Rate, veh/h | 478 | 294 | | 269 | 198 | 248 | 680 |
| Peak Hour Factor | 0.91 | 0.91 | | 0.87 | 0.87 | 0.85 | 0.85 |
| Percent Heavy Veh, % | 3 | 3 | | 3 | 3 | 3 | 3 |
| Cap, veh/h | 831 | 381 | | 522 | 368 | 305 | 1882 |
| Arrive On Green | 0.24 | 0.24 | | 0.27 | 0.27 | 0.17 | 0.53 |
| Sat Flow, veh/h | 3428 | 1572 | | 2027 | 1363 | 1767 | 3618 |
| Grp Volume(v), veh/h | 478 | 294 | | 244 | 223 | 248 | 680 |
| Grp Sat Flow(s),veh/h/ln | 1714 | 1572 | | 1763 | 1535 | 1767 | 1763 |
| Q Serve(g_s), s | 5.9 | 8.4 | | 5.7 | 6.0 | 6.5 | 5.4 |
| Cycle Q Clear(g_c), s | 5.9 | 8.4 | | 5.7 | 6.0 | 6.5 | 5.4 |
| Prop In Lane | 1.00 | 1.00 | | | 0.89 | 1.00 | |
| Lane Grp Cap(c), veh/h | 831 | 381 | | 476 | 414 | 305 | 1882 |
| V/C Ratio(X) | 0.58 | 0.77 | | 0.51 | 0.54 | 0.81 | 0.36 |
| Avail Cap(c_a), veh/h | 1777 | 815 | | 811 | 706 | 462 | 2295 |
| 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 | 16.1 | 17.0 | | 14.9 | 15.0 | 19.2 | 6.5 |
| Incr Delay (d2), s/veh | 0.2 | 1.3 | | 2.5 | 3.1 | 3.6 | 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 | 1.9 | 2.5 | | 2.0 | 1.9 | 2.4 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | | |
| LnGrp Delay(d),s/veh | 16.3 | 18.3 | | 17.4 | 18.2 | 22.8 | 6.8 |
| LnGrp LOS | B | B | | B | B | C | A |
| Approach Vol, veh/h | 772 | | | 467 | | | 928 |
| Approach Delay, s/veh | 17.1 | | | 17.8 | | | 11.1 |
| Approach LOS | B | | | B | | | B |

| Timer - Assigned Phs | 1 | 2 | | | | 6 | | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.7 | 18.9 | | | | 31.6 | | 16.6 |
| Change Period (Y+Rc), s | 4.4 | 5.9 | | | | * 5.9 | | 4.9 |
| Max Green Setting (Gmax), s | 12.6 | 22.2 | | | | * 31 | | 25.0 |
| Max Q Clear Time (g_c+I1), s | 8.5 | 8.0 | | | | 7.4 | | 10.4 |
| Green Ext Time (p_c), s | 0.1 | 4.4 | | | | 9.0 | | 1.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 14.7 |
| HCM 6th LOS | B |

**Notes**

User approved ignoring U-Turning movement.

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

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 31 | 0 | 5 | 0 | 432 | 8 | 4 | 1030 | 0 |
| Future Volume (veh/h) | 0 | 0 | 0 | 31 | 0 | 5 | 0 | 432 | 8 | 4 | 1030 | 0 |
| 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 | | 1.00 | 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 | 1856 | 0 | 0 | 1856 | 0 | 1856 | 0 | 1856 | 1856 | 1856 | 1856 | 0 |
| Adj Flow Rate, veh/h | 0 | 0 | 0 | 55 | 0 | 7 | 0 | 533 | 9 | 5 | 1241 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.56 | 0.56 | 0.56 | 0.81 | 0.81 | 0.81 | 0.83 | 0.83 | 0.83 |
| Percent Heavy Veh, % | 3 | 0 | 0 | 3 | 0 | 3 | 0 | 3 | 3 | 3 | 3 | 0 |
| Cap, veh/h | 5 | 0 | 0 | 82 | 0 | 0 | 0 | 1881 | 32 | 10 | 2308 | 0 |
| Arrive On Green | 0.00 | 0.00 | 0.00 | 0.05 | 0.00 | 0.00 | 0.00 | 0.53 | 0.53 | 0.01 | 0.65 | 0.00 |
| Sat Flow, veh/h | 1767 | 0 | | 1767 | 55 | | 0 | 3638 | 60 | 1767 | 3618 | 0 |
| Grp Volume(v), veh/h | 0 | 0.0 | | 55 | 20.9 | | 0 | 265 | 277 | 5 | 1241 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1767 | | | 1767 | C | | 0 | 1763 | 1842 | 1767 | 1763 | 0 |
| Q Serve(g_s), s | 0.0 | | | 1.1 | | | 0.0 | 3.1 | 3.1 | 0.1 | 7.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | | | 1.1 | | | 0.0 | 3.1 | 3.1 | 0.1 | 7.0 | 0.0 |
| Prop In Lane | 1.00 | | | 1.00 | | | 0.00 | | 0.03 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 5 | | | 82 | | | 0 | 935 | 978 | 10 | 2308 | 0 |
| V/C Ratio(X) | 0.00 | | | 0.67 | | | 0.00 | 0.28 | 0.28 | 0.52 | 0.54 | 0.00 |
| Avail Cap(c_a), veh/h | 1237 | | | 1237 | | | 0 | 1120 | 1171 | 243 | 3123 | 0 |
| HCM Platoon Ratio | 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 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | | | 17.4 | | | 0.0 | 4.8 | 4.8 | 18.4 | 3.4 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | | | 3.4 | | | 0.0 | 0.4 | 0.4 | 15.4 | 0.4 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | | | 0.5 | | | 0.0 | 0.4 | 0.4 | 0.1 | 0.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | | | 20.9 | | | 0.0 | 5.2 | 5.2 | 33.8 | 3.9 | 0.0 |
| LnGrp LOS | A | | | C | | | A | A | A | C | A | A |
| Approach Vol, veh/h | | | | | | | | 542 | | | 1246 | |
| Approach Delay, s/veh | | | | | | | | 5.2 | | | 4.0 | |
| Approach LOS | | | | | | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | 3 | | 6 | 7 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.6 | 25.9 | 6.6 | | 30.5 | 0.0 |
| Change Period (Y+Rc), s | 4.4 | * 6.2 | 4.9 | | 6.2 | 4.9 |
| Max Green Setting (Gmax), s | 5.1 | * 24 | 26.0 | | 32.9 | 26.0 |
| Max Q Clear Time (g_c+I1), s | 2.1 | 5.1 | 3.1 | | 9.0 | 0.0 |
| Green Ext Time (p_c), s | 0.0 | 5.3 | 0.1 | | 15.3 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 4.8 |
| HCM 6th LOS | A |

**Notes**

User approved ignoring U-Turning movement.

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

| Movement | WBL | WBR | NBU | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | |
| Traffic Volume (veh/h) | 248 | 234 | 0 | 910 | 398 | 372 | 303 |
| Future Volume (veh/h) | 248 | 234 | 0 | 910 | 398 | 372 | 303 |
| 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 | 1856 | 1856 | | 1856 | 1856 | 1856 | 1856 |
| Adj Flow Rate, veh/h | 276 | 186 | | 1071 | 444 | 384 | 312 |
| Peak Hour Factor | 0.90 | 0.90 | | 0.85 | 0.85 | 0.97 | 0.97 |
| Percent Heavy Veh, % | 3 | 3 | | 3 | 3 | 3 | 3 |
| Cap, veh/h | 480 | 220 | | 1179 | 476 | 411 | 2679 |
| Arrive On Green | 0.14 | 0.14 | | 0.49 | 0.49 | 0.23 | 0.76 |
| Sat Flow, veh/h | 3428 | 1572 | | 2516 | 978 | 1767 | 3618 |
| Grp Volume(v), veh/h | 276 | 186 | | 771 | 744 | 384 | 312 |
| Grp Sat Flow(s),veh/h/ln | 1714 | 1572 | | 1763 | 1639 | 1767 | 1763 |
| Q Serve(g_s), s | 8.1 | 12.5 | | 43.1 | 46.1 | 23.0 | 2.5 |
| Cycle Q Clear(g_c), s | 8.1 | 12.5 | | 43.1 | 46.1 | 23.0 | 2.5 |
| Prop In Lane | 1.00 | 1.00 | | | 0.60 | 1.00 | |
| Lane Grp Cap(c), veh/h | 480 | 220 | | 858 | 797 | 411 | 2679 |
| V/C Ratio(X) | 0.58 | 0.85 | | 0.90 | 0.93 | 0.93 | 0.12 |
| Avail Cap(c_a), veh/h | 797 | 366 | | 864 | 803 | 439 | 2679 |
| 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 | 43.4 | 45.3 | | 25.3 | 26.1 | 40.6 | 3.4 |
| Incr Delay (d2), s/veh | 0.4 | 4.1 | | 13.3 | 18.4 | 25.6 | 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 | 3.4 | 4.9 | | 19.1 | 19.9 | 12.3 | 0.6 |
| Unsig. Movement Delay, s/veh | | | | | | | |
| LnGrp Delay(d),s/veh | 43.8 | 49.4 | | 38.6 | 44.5 | 66.2 | 3.5 |
| LnGrp LOS | D | D | | D | D | E | A |
| Approach Vol, veh/h | 462 | | | 1515 | | | 696 |
| Approach Delay, s/veh | 46.1 | | | 41.5 | | | 38.1 |
| Approach LOS | D | | | D | | | D |

| Timer - Assigned Phs | 1 | 2 | | | | 6 | | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 29.5 | 58.4 | | | | 88.0 | | 20.0 |
| Change Period (Y+Rc), s | 4.4 | 5.9 | | | | * 5.9 | | 4.9 |
| Max Green Setting (Gmax), s | 26.8 | 52.9 | | | | * 76 | | 25.1 |
| Max Q Clear Time (g_c+I1), s | 25.0 | 48.1 | | | | 4.5 | | 14.5 |
| Green Ext Time (p_c), s | 0.1 | 4.5 | | | | 4.8 | | 0.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 41.4 |
| HCM 6th LOS | D |

**Notes**

User approved ignoring U-Turning movement.

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

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 12 | 0 | 6 | 0 | 1315 | 22 | 8 | 538 | 0 |
| Future Volume (veh/h) | 0 | 0 | 0 | 12 | 0 | 6 | 0 | 1315 | 22 | 8 | 538 | 0 |
| 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 | | 1.00 | 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 | 1856 | 0 | 0 | 1856 | 0 | 1856 | 0 | 1856 | 1856 | 1856 | 1856 | 0 |
| Adj Flow Rate, veh/h | 0 | 0 | 0 | 13 | 0 | 5 | 0 | 1547 | 25 | 8 | 555 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.94 | 0.94 | 0.94 | 0.85 | 0.85 | 0.85 | 0.97 | 0.97 | 0.97 |
| Percent Heavy Veh, % | 3 | 0 | 0 | 3 | 0 | 3 | 0 | 3 | 3 | 3 | 3 | 0 |
| Cap, veh/h | 3 | 0 | 0 | 23 | 0 | 0 | 0 | 2440 | 39 | 15 | 2745 | 0 |
| Arrive On Green | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.69 | 0.69 | 0.01 | 0.78 | 0.00 |
| Sat Flow, veh/h | 1767 | 0 | | 1767 | 13 | | 0 | 3641 | 57 | 1767 | 3618 | 0 |
| Grp Volume(v), veh/h | 0 | 0.0 | | 13 | 33.8 | | 0 | 767 | 805 | 8 | 555 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1767 | | | 1767 | C | | 0 | 1763 | 1843 | 1767 | 1763 | 0 |
| Q Serve(g_s), s | 0.0 | | | 0.4 | | | 0.0 | 12.8 | 12.9 | 0.2 | 2.2 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | | | 0.4 | | | 0.0 | 12.8 | 12.9 | 0.2 | 2.2 | 0.0 |
| Prop In Lane | 1.00 | | | 1.00 | | | 0.00 | | 0.03 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 3 | | | 23 | | | 0 | 1212 | 1267 | 15 | 2745 | 0 |
| V/C Ratio(X) | 0.00 | | | 0.56 | | | 0.00 | 0.63 | 0.63 | 0.54 | 0.20 | 0.00 |
| Avail Cap(c_a), veh/h | 866 | | | 866 | | | 0 | 1436 | 1501 | 172 | 3493 | 0 |
| HCM Platoon Ratio | 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 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | | | 26.1 | | | 0.0 | 4.6 | 4.6 | 26.3 | 1.6 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | | | 7.6 | | | 0.0 | 1.4 | 1.3 | 10.9 | 0.1 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | | | 0.2 | | | 0.0 | 1.6 | 1.7 | 0.1 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | | | 33.8 | | | 0.0 | 6.0 | 6.0 | 37.2 | 1.6 | 0.0 |
| LnGrp LOS | A | | | C | | | A | A | A | D | A | A |
| Approach Vol, veh/h | | | | | | | | 1572 | | | 563 | |
| Approach Delay, s/veh | | | | | | | | 6.0 | | | 2.1 | |
| Approach LOS | | | | | | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | 3 | | 6 | 7 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.8 | 42.8 | 5.6 | | 47.7 | 0.0 |
| Change Period (Y+Rc), s | 4.4 | * 6.2 | 4.9 | | 6.2 | 4.9 |
| Max Green Setting (Gmax), s | 5.3 | * 43 | 26.1 | | 52.8 | 26.1 |
| Max Q Clear Time (g_c+I1), s | 2.2 | 14.9 | 2.4 | | 4.2 | 0.0 |
| Green Ext Time (p_c), s | 0.0 | 21.7 | 0.0 | | 7.8 | 0.0 |

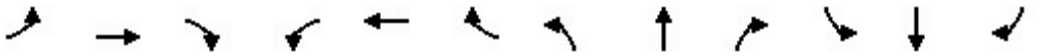
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 5.1 |
| HCM 6th LOS | A |

**Notes**

User approved ignoring U-Turning movement.

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

# Appendix F
# Near-Term Year 2024 Base Peak Hour Intersection Capacity Worksheets and Signal Timing Inputs (Weekday)



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 455 | 0 | 350 | 4 | 246 | 201 | 221 | 610 | 0 |
| Future Volume (veh/h) | 0 | 0 | 0 | 455 | 0 | 350 | 4 | 246 | 201 | 221 | 610 | 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 | | 0.96 | 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 | | | | 1856 | 0 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 0 |
| Adj Flow Rate, veh/h | | | | 500 | 0 | 311 | 4 | 283 | 208 | 260 | 718 | 0 |
| Peak Hour Factor | | | | 0.91 | 0.92 | 0.91 | 0.92 | 0.87 | 0.87 | 0.85 | 0.85 | 0.92 |
| Percent Heavy Veh, % | | | | 3 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 0 |
| Cap, veh/h | | | | 859 | 0 | 394 | 7 | 524 | 370 | 316 | 1572 | 0 |
| Arrive On Green | | | | 0.25 | 0.00 | 0.25 | 0.00 | 0.27 | 0.27 | 0.18 | 0.45 | 0.00 |
| Sat Flow, veh/h | | | | 3428 | 0 | 1572 | 1767 | 1932 | 1365 | 1767 | 3618 | 0 |
| Grp Volume(v), veh/h | | | | 500 | 0 | 311 | 4 | 257 | 234 | 260 | 718 | 0 |
| Grp Sat Flow(s),veh/h/ln | | | | 1714 | 0 | 1572 | 1767 | 1763 | 1534 | 1767 | 1763 | 0 |
| Q Serve(g_s), s | | | | 6.5 | 0.0 | 9.4 | 0.1 | 6.3 | 6.7 | 7.2 | 7.2 | 0.0 |
| Cycle Q Clear(g_c), s | | | | 6.5 | 0.0 | 9.4 | 0.1 | 6.3 | 6.7 | 7.2 | 7.2 | 0.0 |
| Prop In Lane | | | | 1.00 | | 1.00 | 1.00 | | 0.89 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | | | | 859 | 0 | 394 | 7 | 478 | 416 | 316 | 1572 | 0 |
| V/C Ratio(X) | | | | 0.58 | 0.00 | 0.79 | 0.54 | 0.54 | 0.56 | 0.82 | 0.46 | 0.00 |
| Avail Cap(c_a), veh/h | | | | 1688 | 0 | 774 | 139 | 771 | 671 | 439 | 2180 | 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 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | | | | 16.7 | 0.0 | 17.8 | 25.2 | 15.8 | 15.9 | 20.1 | 9.8 | 0.0 |
| Incr Delay (d2), s/veh | | | | 0.2 | 0.0 | 1.4 | 20.5 | 2.7 | 3.4 | 6.2 | 0.6 | 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 | | | | 2.1 | 0.0 | 2.9 | 0.1 | 2.3 | 2.2 | 2.9 | 1.9 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 16.9 | 0.0 | 19.1 | 45.7 | 18.5 | 19.3 | 26.2 | 10.4 | 0.0 |
| LnGrp LOS | | | | B | A | B | D | B | B | C | B | A |
| Approach Vol, veh/h | | | | | 811 | | | 495 | | | 978 | |
| Approach Delay, s/veh | | | | | 17.8 | | | 19.1 | | | 14.6 | |
| Approach LOS | | | | | B | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 | | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.5 | 19.7 | | 4.6 | 28.5 | | 17.6 | | | | | |
| Change Period (Y+Rc), s | 4.4 | 5.9 | | 4.4 | * 5.9 | | 4.9 | | | | | |
| Max Green Setting (Gmax), s | 12.6 | 22.2 | | 4.0 | * 31 | | 25.0 | | | | | |
| Max Q Clear Time (g_c+I1), s | 9.2 | 8.7 | | 2.1 | 9.2 | | 11.4 | | | | | |
| Green Ext Time (p_c), s | 0.1 | 4.5 | | 0.0 | 9.2 | | 1.3 | | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 16.7 |
| HCM 6th LOS | | B |

**Notes**

User approved ignoring U-Turning movement.

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

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 32 | 0 | 5 | 0 | 472 | 8 | 9 | 1082 | 0 |
| Future Volume (veh/h) | 0 | 0 | 0 | 32 | 0 | 5 | 0 | 472 | 8 | 9 | 1082 | 0 |
| 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 | | 1.00 | 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 | 1856 | 0 | 0 | 1856 | 0 | 1856 | 0 | 1856 | 1856 | 1856 | 1856 | 0 |
| Adj Flow Rate, veh/h | 0 | 0 | 0 | 57 | 0 | 7 | 0 | 583 | 9 | 11 | 1304 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.56 | 0.56 | 0.56 | 0.81 | 0.81 | 0.81 | 0.83 | 0.83 | 0.83 |
| Percent Heavy Veh, % | 3 | 0 | 0 | 3 | 0 | 3 | 0 | 3 | 3 | 3 | 3 | 0 |
| Cap, veh/h | 5 | 0 | 0 | 84 | 0 | 0 | 0 | 1904 | 29 | 20 | 2336 | 0 |
| Arrive On Green | 0.00 | 0.00 | 0.00 | 0.05 | 0.00 | 0.00 | 0.00 | 0.54 | 0.54 | 0.01 | 0.66 | 0.00 |
| Sat Flow, veh/h | 1767 | 0 | | 1767 | 57 | | 0 | 3644 | 55 | 1767 | 3618 | 0 |
| Grp Volume(v), veh/h | 0 | 0.0 | | 57 | 21.5 | | 0 | 289 | 303 | 11 | 1304 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1767 | | | 1767 | C | | 0 | 1763 | 1843 | 1767 | 1763 | 0 |
| Q Serve(g_s), s | 0.0 | | | 1.2 | | | 0.0 | 3.5 | 3.5 | 0.2 | 7.6 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | | | 1.2 | | | 0.0 | 3.5 | 3.5 | 0.2 | 7.6 | 0.0 |
| Prop In Lane | 1.00 | | | 1.00 | | | 0.00 | | 0.03 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 5 | | | 84 | | | 0 | 945 | 988 | 20 | 2336 | 0 |
| V/C Ratio(X) | 0.00 | | | 0.68 | | | 0.00 | 0.31 | 0.31 | 0.54 | 0.56 | 0.00 |
| Avail Cap(c_a), veh/h | 1200 | | | 1200 | | | 0 | 1087 | 1137 | 235 | 3031 | 0 |
| HCM Platoon Ratio | 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 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | | | 17.9 | | | 0.0 | 4.9 | 4.9 | 18.8 | 3.5 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | | | 3.6 | | | 0.0 | 0.4 | 0.4 | 8.0 | 0.5 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | | | 0.5 | | | 0.0 | 0.5 | 0.5 | 0.1 | 0.2 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | | | 21.5 | | | 0.0 | 5.4 | 5.3 | 26.8 | 3.9 | 0.0 |
| LnGrp LOS | A | | | C | | | A | A | A | C | A | A |
| Approach Vol, veh/h | | | | | | | | 592 | | | 1315 | |
| Approach Delay, s/veh | | | | | | | | 5.3 | | | 4.1 | |
| Approach LOS | | | | | | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | 3 | | 6 | 7 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.8 | 26.7 | 6.7 | | 31.6 | 0.0 |
| Change Period (Y+Rc), s | 4.4 | * 6.2 | 4.9 | | 6.2 | 4.9 |
| Max Green Setting (Gmax), s | 5.1 | * 24 | 26.0 | | 32.9 | 26.0 |
| Max Q Clear Time (g_c+I1), s | 2.2 | 5.5 | 3.2 | | 9.6 | 0.0 |
| Green Ext Time (p_c), s | 0.0 | 5.8 | 0.1 | | 15.8 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 5.0 |
| HCM 6th LOS | A |

**Notes**

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

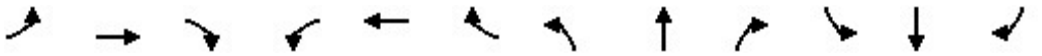
| Intersection | |
|---|---|
| Int Delay, s/veh | 0 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 5 | 445 | 25 | 0 | 1069 |
| Future Vol, veh/h | 0 | 5 | 445 | 25 | 0 | 1069 |
| Conflicting Peds, #/hr | 10 | 10 | 0 | 10 | 10 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 0 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 3 | 3 | 3 | 3 | 3 | 3 |
| Mvmt Flow | 0 | 5 | 484 | 27 | 0 | 1162 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 276 | 0 | 0 | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.96 | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.33 | - | - | - | - |
| Pot Cap-1 Maneuver | 0 | 718 | - | - | 0 | - |
| Stage 1 | 0 | - | - | - | 0 | - |
| Stage 2 | 0 | - | - | - | 0 | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | - | 704 | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 10.2 | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBT |
|---|---|---|---|---|
| Capacity (veh/h) | - | - | 704 | - |
| HCM Lane V/C Ratio | - | - | 0.008 | - |
| HCM Control Delay (s) | - | - | 10.2 | - |
| HCM Lane LOS | - | - | B | - |
| HCM 95th %tile Q(veh) | - | - | 0 | - |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 259 | 0 | 245 | 46 | 964 | 416 | 389 | 326 | 0 |
| Future Volume (veh/h) | 0 | 0 | 0 | 259 | 0 | 245 | 46 | 964 | 416 | 389 | 326 | 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 | | 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 | | | | 1856 | 0 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 0 |
| Adj Flow Rate, veh/h | | | | 288 | 0 | 194 | 50 | 1134 | 430 | 401 | 336 | 0 |
| Peak Hour Factor | | | | 0.90 | 0.92 | 0.90 | 0.92 | 0.85 | 0.85 | 0.97 | 0.97 | 0.92 |
| Percent Heavy Veh, % | | | | 3 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 0 |
| Cap, veh/h | | | | 482 | 0 | 221 | 64 | 1260 | 464 | 423 | 2495 | 0 |
| Arrive On Green | | | | 0.14 | 0.00 | 0.14 | 0.04 | 0.50 | 0.50 | 0.24 | 0.71 | 0.00 |
| Sat Flow, veh/h | | | | 3428 | 0 | 1572 | 1767 | 2496 | 919 | 1767 | 3618 | 0 |
| Grp Volume(v), veh/h | | | | 288 | 0 | 194 | 50 | 791 | 773 | 401 | 336 | 0 |
| Grp Sat Flow(s),veh/h/ln | | | | 1714 | 0 | 1572 | 1767 | 1763 | 1653 | 1767 | 1763 | 0 |
| Q Serve(g_s), s | | | | 10.4 | 0.0 | 15.9 | 3.7 | 53.1 | 57.3 | 29.4 | 4.1 | 0.0 |
| Cycle Q Clear(g_c), s | | | | 10.4 | 0.0 | 15.9 | 3.7 | 53.1 | 57.3 | 29.4 | 4.1 | 0.0 |
| Prop In Lane | | | | 1.00 | | 1.00 | 1.00 | | 0.56 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | | | | 482 | 0 | 221 | 64 | 890 | 834 | 423 | 2495 | 0 |
| V/C Ratio(X) | | | | 0.60 | 0.00 | 0.88 | 0.78 | 0.89 | 0.93 | 0.95 | 0.13 | 0.00 |
| Avail Cap(c_a), veh/h | | | | 654 | 0 | 300 | 137 | 899 | 843 | 438 | 2495 | 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 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | | | | 53.1 | 0.0 | 55.5 | 62.9 | 29.3 | 30.3 | 49.3 | 6.2 | 0.0 |
| Incr Delay (d2), s/veh | | | | 0.4 | 0.0 | 15.9 | 7.3 | 11.9 | 16.9 | 29.3 | 0.1 | 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 | | | | 4.4 | 0.0 | 7.1 | 1.7 | 23.5 | 24.7 | 15.9 | 1.3 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 53.5 | 0.0 | 71.4 | 70.2 | 41.2 | 47.2 | 78.5 | 6.3 | 0.0 |
| LnGrp LOS | | | | D | A | E | E | D | D | E | A | A |
| Approach Vol, veh/h | | | | | 482 | | | 1614 | | | 737 | |
| Approach Delay, s/veh | | | | | 60.7 | | | 45.0 | | | 45.6 | |
| Approach LOS | | | | | E | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 | | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 35.9 | 72.3 | | 9.2 | 99.0 | | 23.4 | | | | | |
| Change Period (Y+Rc), s | 4.4 | 5.9 | | 4.4 | * 5.9 | | 4.9 | | | | | |
| Max Green Setting (Gmax), s | 32.6 | 67.1 | | 10.2 | * 90 | | 25.1 | | | | | |
| Max Q Clear Time (g_c+I1), s | 31.4 | 59.3 | | 5.7 | 6.1 | | 17.9 | | | | | |
| Green Ext Time (p_c), s | 0.1 | 7.2 | | 0.0 | 5.2 | | 0.6 | | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 47.8 |
| HCM 6th LOS | | D |

**Notes**

User approved ignoring U-Turning movement.

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

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 13 | 0 | 6 | 0 | 1412 | 23 | 17 | 609 | 0 |
| Future Volume (veh/h) | 0 | 0 | 0 | 13 | 0 | 6 | 0 | 1412 | 23 | 17 | 609 | 0 |
| 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 | | 1.00 | 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 | 1856 | 0 | 0 | 1856 | 0 | 1856 | 0 | 1856 | 1856 | 1856 | 1856 | 0 |
| Adj Flow Rate, veh/h | 0 | 0 | 0 | 14 | 0 | 5 | 0 | 1661 | 26 | 18 | 628 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.94 | 0.94 | 0.94 | 0.85 | 0.85 | 0.85 | 0.97 | 0.97 | 0.97 |
| Percent Heavy Veh, % | 3 | 0 | 0 | 3 | 0 | 3 | 0 | 3 | 3 | 3 | 3 | 0 |
| Cap, veh/h | 3 | 0 | 0 | 25 | 0 | 0 | 0 | 2458 | 38 | 31 | 2778 | 0 |
| Arrive On Green | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.69 | 0.69 | 0.02 | 0.79 | 0.00 |
| Sat Flow, veh/h | 1767 | 0 | | 1767 | 14 | | 0 | 3644 | 55 | 1767 | 3618 | 0 |
| Grp Volume(v), veh/h | 0 | 0.0 | | 14 | 34.8 | | 0 | 823 | 864 | 18 | 628 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1767 | | | 1767 | C | | 0 | 1763 | 1844 | 1767 | 1763 | 0 |
| Q Serve(g_s), s | 0.0 | | | 0.4 | | | 0.0 | 15.1 | 15.2 | 0.6 | 2.6 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | | | 0.4 | | | 0.0 | 15.1 | 15.2 | 0.6 | 2.6 | 0.0 |
| Prop In Lane | 1.00 | | | 1.00 | | | 0.00 | | 0.03 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 3 | | | 25 | | | 0 | 1220 | 1276 | 31 | 2778 | 0 |
| V/C Ratio(X) | 0.00 | | | 0.57 | | | 0.00 | 0.67 | 0.68 | 0.58 | 0.23 | 0.00 |
| Avail Cap(c_a), veh/h | 819 | | | 819 | | | 0 | 1368 | 1430 | 164 | 3326 | 0 |
| HCM Platoon Ratio | 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 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | | | 27.5 | | | 0.0 | 5.0 | 5.0 | 27.3 | 1.5 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | | | 7.4 | | | 0.0 | 1.8 | 1.8 | 6.4 | 0.1 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | | | 0.2 | | | 0.0 | 2.2 | 2.3 | 0.3 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | | | 34.8 | | | 0.0 | 6.8 | 6.8 | 33.7 | 1.6 | 0.0 |
| LnGrp LOS | A | | | C | | | A | A | A | C | A | A |
| Approach Vol, veh/h | | | | | | | | 1687 | | | 646 | |
| Approach Delay, s/veh | | | | | | | | 6.8 | | | 2.5 | |
| Approach LOS | | | | | | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | 3 | | 6 | 7 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.4 | 45.0 | 5.7 | | 50.4 | 0.0 |
| Change Period (Y+Rc), s | 4.4 | * 6.2 | 4.9 | | 6.2 | 4.9 |
| Max Green Setting (Gmax), s | 5.3 | * 44 | 26.0 | | 52.9 | 26.0 |
| Max Q Clear Time (g_c+I1), s | 2.6 | 17.2 | 2.4 | | 4.6 | 0.0 |
| Green Ext Time (p_c), s | 0.0 | 21.6 | 0.0 | | 9.1 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 5.8 |
| HCM 6th LOS | A |

**Notes**

User approved ignoring U-Turning movement.

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

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.5 |

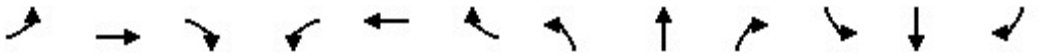
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 58 | 1368 | 44 | 0 | 630 |
| Future Vol, veh/h | 0 | 58 | 1368 | 44 | 0 | 630 |
| Conflicting Peds, #/hr | 10 | 10 | 0 | 10 | 10 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 0 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 3 | 3 | 3 | 3 | 3 | 3 |
| Mvmt Flow | 0 | 63 | 1487 | 48 | 0 | 685 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 788 | 0 | 0 | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.96 | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.33 | - | - | - | - |
| Pot Cap-1 Maneuver | 0 | 332 | - | - | 0 | - |
| Stage 1 | 0 | - | - | - | 0 | - |
| Stage 2 | 0 | - | - | - | 0 | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | - | 326 | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 18.7 | 0 | 0 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBT |
|---|---|---|---|---|
| Capacity (veh/h) | - | - | 326 | - |
| HCM Lane V/C Ratio | - | - | 0.193 | - |
| HCM Control Delay (s) | - | - | 18.7 | - |
| HCM Lane LOS | - | - | C | - |
| HCM 95th %tile Q(veh) | - | - | 0.7 | - |

# Appendix G
# Near-Term Year 2024 Base Peak Hour Intersection Capacity Worksheets and Signal Timing Inputs (Weekend)



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 277 | 0 | 287 | 70 | 280 | 180 | 208 | 236 | 0 |
| Future Volume (veh/h) | 0 | 0 | 0 | 277 | 0 | 287 | 70 | 280 | 180 | 208 | 236 | 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 | | 0.96 | 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 | | | | 1856 | 0 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 0 |
| Adj Flow Rate, veh/h | | | | 330 | 0 | 271 | 76 | 304 | 174 | 260 | 295 | 0 |
| Peak Hour Factor | | | | 0.84 | 0.92 | 0.84 | 0.92 | 0.92 | 0.92 | 0.80 | 0.80 | 0.92 |
| Percent Heavy Veh, % | | | | 3 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 0 |
| Cap, veh/h | | | | 768 | 0 | 352 | 95 | 590 | 327 | 319 | 1414 | 0 |
| Arrive On Green | | | | 0.22 | 0.00 | 0.22 | 0.05 | 0.27 | 0.27 | 0.18 | 0.40 | 0.00 |
| Sat Flow, veh/h | | | | 3428 | 0 | 1572 | 1767 | 2148 | 1190 | 1767 | 3618 | 0 |
| Grp Volume(v), veh/h | | | | 330 | 0 | 271 | 76 | 248 | 230 | 260 | 295 | 0 |
| Grp Sat Flow(s),veh/h/ln | | | | 1714 | 0 | 1572 | 1767 | 1763 | 1576 | 1767 | 1763 | 0 |
| Q Serve(g_s), s | | | | 3.9 | 0.0 | 7.7 | 2.0 | 5.6 | 5.9 | 6.7 | 2.6 | 0.0 |
| Cycle Q Clear(g_c), s | | | | 3.9 | 0.0 | 7.7 | 2.0 | 5.6 | 5.9 | 6.7 | 2.6 | 0.0 |
| Prop In Lane | | | | 1.00 | | 1.00 | 1.00 | | 0.76 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | | | | 768 | 0 | 352 | 95 | 484 | 433 | 319 | 1414 | 0 |
| V/C Ratio(X) | | | | 0.43 | 0.00 | 0.77 | 0.80 | 0.51 | 0.53 | 0.82 | 0.21 | 0.00 |
| Avail Cap(c_a), veh/h | | | | 1809 | 0 | 830 | 336 | 826 | 738 | 470 | 1965 | 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 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | | | | 15.8 | 0.0 | 17.2 | 22.2 | 14.5 | 14.6 | 18.7 | 9.3 | 0.0 |
| Incr Delay (d2), s/veh | | | | 0.1 | 0.0 | 1.3 | 5.6 | 2.4 | 2.9 | 4.2 | 0.2 | 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 | | | | 1.2 | 0.0 | 2.3 | 0.8 | 2.0 | 1.9 | 2.5 | 0.7 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 15.9 | 0.0 | 18.6 | 27.8 | 16.9 | 17.5 | 22.9 | 9.5 | 0.0 |
| LnGrp LOS | | | | B | A | B | C | B | B | C | A | A |
| Approach Vol, veh/h | | | | | 601 | | | 554 | | | 555 | |
| Approach Delay, s/veh | | | | | 17.1 | | | 18.7 | | | 15.8 | |
| Approach LOS | | | | | B | | | B | | | B | |

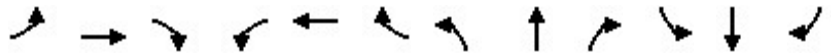
| Timer - Assigned Phs | 1 | 2 | | 5 | 6 | | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.9 | 18.9 | | 7.0 | 24.9 | | 15.5 | | | | | |
| Change Period (Y+Rc), s | 4.4 | 5.9 | | 4.4 | * 5.9 | | 4.9 | | | | | |
| Max Green Setting (Gmax), s | 12.6 | 22.2 | | 9.0 | * 26 | | 25.0 | | | | | |
| Max Q Clear Time (g_c+I1), s | 8.7 | 7.9 | | 4.0 | 4.6 | | 9.7 | | | | | |
| Green Ext Time (p_c), s | 0.1 | 4.5 | | 0.0 | 3.4 | | 1.0 | | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 17.2 |
| HCM 6th LOS | | B |

**Notes**

User approved ignoring U-Turning movement.

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



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 14 | 0 | 10 | 0 | 528 | 10 | 34 | 558 | 0 |
| Future Volume (veh/h) | 0 | 0 | 0 | 14 | 0 | 10 | 0 | 528 | 10 | 34 | 558 | 0 |
| 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 | | 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 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1856 | 0 | 0 | 1856 | 0 | 1856 | 0 | 1856 | 1856 | 1856 | 1856 | 0 |
| Adj Flow Rate, veh/h | 0 | 0 | 0 | 23 | 0 | 14 | 0 | 621 | 11 | 40 | 664 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.62 | 0.62 | 0.62 | 0.85 | 0.85 | 0.85 | 0.84 | 0.84 | 0.84 |
| Percent Heavy Veh, % | 3 | 0 | 0 | 3 | 0 | 3 | 0 | 3 | 3 | 3 | 3 | 0 |
| Cap, veh/h | 6 | 0 | 0 | 41 | 0 | 0 | 0 | 1457 | 26 | 67 | 2112 | 0 |
| Arrive On Green | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.41 | 0.41 | 0.04 | 0.60 | 0.00 |
| Sat Flow, veh/h | 1767 | 0 | | 1767 | 23 | | 0 | 3634 | 63 | 1767 | 3618 | 0 |
| Grp Volume(v), veh/h | 0 | 0.0 | | 23 | 18.6 | | 0 | 309 | 323 | 40 | 664 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1767 | | | 1767 | B | | 0 | 1763 | 1841 | 1767 | 1763 | 0 |
| Q Serve(g_s), s | 0.0 | | | 0.4 | | | 0.0 | 3.7 | 3.7 | 0.7 | 2.7 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | | | 0.4 | | | 0.0 | 3.7 | 3.7 | 0.7 | 2.7 | 0.0 |
| Prop In Lane | 1.00 | | | 1.00 | | | 0.00 | | 0.03 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 6 | | | 41 | | | 0 | 725 | 758 | 67 | 2112 | 0 |
| V/C Ratio(X) | 0.00 | | | 0.56 | | | 0.00 | 0.43 | 0.43 | 0.60 | 0.31 | 0.00 |
| Avail Cap(c_a), veh/h | 1563 | | | 1563 | | | 0 | 1361 | 1422 | 361 | 3946 | 0 |
| HCM Platoon Ratio | 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 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | | | 14.2 | | | 0.0 | 6.2 | 6.2 | 13.9 | 2.9 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | | | 4.3 | | | 0.0 | 0.9 | 0.9 | 3.1 | 0.2 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | | | 0.2 | | | 0.0 | 0.6 | 0.6 | 0.2 | 0.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | | | 18.6 | | | 0.0 | 7.1 | 7.1 | 17.1 | 3.1 | 0.0 |
| LnGrp LOS | A | | | B | | | A | A | A | B | A | A |
| Approach Vol, veh/h | | | | | | | | 632 | | | 704 | |
| Approach Delay, s/veh | | | | | | | | 7.1 | | | 3.9 | |
| Approach LOS | | | | | | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | 3 | | 6 | 7 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.5 | 18.3 | 5.6 | | 23.8 | 0.0 |
| Change Period (Y+Rc), s | 4.4 | * 6.2 | 4.9 | | 6.2 | 4.9 |
| Max Green Setting (Gmax), s | 6.6 | * 23 | 26.0 | | 32.9 | 26.0 |
| Max Q Clear Time (g_c+I1), s | 2.7 | 5.7 | 2.4 | | 4.7 | 0.0 |
| Green Ext Time (p_c), s | 0.0 | 6.0 | 0.0 | | 8.4 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 5.6 |
| HCM 6th LOS | A |

**Notes**

User approved ignoring U-Turning movement.

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

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.8 |

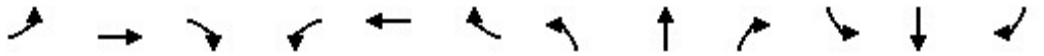
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 88 | 441 | 88 | 0 | 582 |
| Future Vol, veh/h | 0 | 88 | 441 | 88 | 0 | 582 |
| Conflicting Peds, #/hr | 10 | 10 | 0 | 10 | 10 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 0 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 3 | 3 | 3 | 3 | 3 | 3 |
| Mvmt Flow | 0 | 96 | 479 | 96 | 0 | 633 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 308 | 0 | 0 | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.96 | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.33 | - | - | - | - |
| Pot Cap-1 Maneuver | 0 | 685 | - | - | 0 | - |
| Stage 1 | 0 | - | - | - | 0 | - |
| Stage 2 | 0 | - | - | - | 0 | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | - | 672 | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 11.2 | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBT |
|---|---|---|---|---|
| Capacity (veh/h) | - | - | 672 | - |
| HCM Lane V/C Ratio | - | - | 0.142 | - |
| HCM Control Delay (s) | - | - | 11.2 | - |
| HCM Lane LOS | - | - | B | - |
| HCM 95th %tile Q(veh) | - | - | 0.5 | - |

# Appendix H
# Near-Term Year 2024 Base with Project Peak Hour Intersection Capacity Worksheets and Signal Timing Inputs (Weekday)



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 456 | 0 | 350 | 6 | 248 | 201 | 221 | 612 | 0 |
| Future Volume (veh/h) | 0 | 0 | 0 | 456 | 0 | 350 | 6 | 248 | 201 | 221 | 612 | 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 | | 0.96 | 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 | | | | 1856 | 0 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 0 |
| Adj Flow Rate, veh/h | | | | 501 | 0 | 311 | 7 | 285 | 208 | 260 | 720 | 0 |
| Peak Hour Factor | | | | 0.91 | 0.92 | 0.91 | 0.92 | 0.87 | 0.87 | 0.85 | 0.85 | 0.92 |
| Percent Heavy Veh, % | | | | 3 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 0 |
| Cap, veh/h | | | | 859 | 0 | 394 | 13 | 527 | 370 | 316 | 1562 | 0 |
| Arrive On Green | | | | 0.25 | 0.00 | 0.25 | 0.01 | 0.27 | 0.27 | 0.18 | 0.44 | 0.00 |
| Sat Flow, veh/h | | | | 3428 | 0 | 1572 | 1767 | 1938 | 1360 | 1767 | 3618 | 0 |
| Grp Volume(v), veh/h | | | | 501 | 0 | 311 | 7 | 258 | 235 | 260 | 720 | 0 |
| Grp Sat Flow(s),veh/h/ln | | | | 1714 | 0 | 1572 | 1767 | 1763 | 1536 | 1767 | 1763 | 0 |
| Q Serve(g_s), s | | | | 6.5 | 0.0 | 9.4 | 0.2 | 6.4 | 6.7 | 7.2 | 7.3 | 0.0 |
| Cycle Q Clear(g_c), s | | | | 6.5 | 0.0 | 9.4 | 0.2 | 6.4 | 6.7 | 7.2 | 7.3 | 0.0 |
| Prop In Lane | | | | 1.00 | | 1.00 | 1.00 | | 0.89 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | | | | 859 | 0 | 394 | 13 | 479 | 417 | 316 | 1562 | 0 |
| V/C Ratio(X) | | | | 0.58 | 0.00 | 0.79 | 0.53 | 0.54 | 0.56 | 0.82 | 0.46 | 0.00 |
| Avail Cap(c_a), veh/h | | | | 1686 | 0 | 773 | 139 | 770 | 671 | 438 | 2178 | 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 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | | | | 16.7 | 0.0 | 17.8 | 25.1 | 15.8 | 15.9 | 20.1 | 9.9 | 0.0 |
| Incr Delay (d2), s/veh | | | | 0.2 | 0.0 | 1.4 | 12.0 | 2.7 | 3.4 | 6.2 | 0.6 | 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 | | | | 2.1 | 0.0 | 2.9 | 0.1 | 2.3 | 2.2 | 2.9 | 2.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 17.0 | 0.0 | 19.2 | 37.1 | 18.5 | 19.4 | 26.3 | 10.5 | 0.0 |
| LnGrp LOS | | | | B | A | B | D | B | B | C | B | A |
| Approach Vol, veh/h | | | | | 812 | | | 500 | | | 980 | |
| Approach Delay, s/veh | | | | | 17.8 | | | 19.2 | | | 14.7 | |
| Approach LOS | | | | | B | | | B | | | B | |

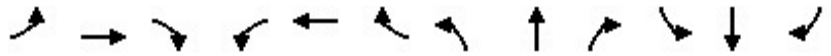
| Timer - Assigned Phs | 1 | 2 | | 5 | 6 | | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.5 | 19.7 | | 4.8 | 28.4 | | 17.6 | | | | | |
| Change Period (Y+Rc), s | 4.4 | 5.9 | | 4.4 | * 5.9 | | 4.9 | | | | | |
| Max Green Setting (Gmax), s | 12.6 | 22.2 | | 4.0 | * 31 | | 25.0 | | | | | |
| Max Q Clear Time (g_c+I1), s | 9.2 | 8.7 | | 2.2 | 9.3 | | 11.4 | | | | | |
| Green Ext Time (p_c), s | 0.1 | 4.5 | | 0.0 | 9.2 | | 1.3 | | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 16.8 |
| HCM 6th LOS | | B |

**Notes**

User approved ignoring U-Turning movement.

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



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 32 | 0 | 5 | 0 | 475 | 8 | 12 | 1084 | 0 |
| Future Volume (veh/h) | 0 | 0 | 0 | 32 | 0 | 5 | 0 | 475 | 8 | 12 | 1084 | 0 |
| 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 | | 1.00 | 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 | 1856 | 0 | 0 | 1856 | 0 | 1856 | 0 | 1856 | 1856 | 1856 | 1856 | 0 |
| Adj Flow Rate, veh/h | 0 | 0 | 0 | 57 | 0 | 7 | 0 | 586 | 9 | 14 | 1306 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.56 | 0.56 | 0.56 | 0.81 | 0.81 | 0.81 | 0.83 | 0.83 | 0.83 |
| Percent Heavy Veh, % | 3 | 0 | 0 | 3 | 0 | 3 | 0 | 3 | 3 | 3 | 3 | 0 |
| Cap, veh/h | 5 | 0 | 0 | 84 | 0 | 0 | 0 | 1895 | 29 | 26 | 2337 | 0 |
| Arrive On Green | 0.00 | 0.00 | 0.00 | 0.05 | 0.00 | 0.00 | 0.00 | 0.53 | 0.53 | 0.01 | 0.66 | 0.00 |
| Sat Flow, veh/h | 1767 | 0 | | 1767 | 57 | | 0 | 3645 | 55 | 1767 | 3618 | 0 |
| Grp Volume(v), veh/h | 0 | 0.0 | | 57 | 21.5 | | 0 | 291 | 304 | 14 | 1306 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1767 | | | 1767 | C | | 0 | 1763 | 1844 | 1767 | 1763 | 0 |
| Q Serve(g_s), s | 0.0 | | | 1.2 | | | 0.0 | 3.5 | 3.5 | 0.3 | 7.6 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | | | 1.2 | | | 0.0 | 3.5 | 3.5 | 0.3 | 7.6 | 0.0 |
| Prop In Lane | 1.00 | | | 1.00 | | | 0.00 | | 0.03 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 5 | | | 84 | | | 0 | 940 | 983 | 26 | 2337 | 0 |
| V/C Ratio(X) | 0.00 | | | 0.68 | | | 0.00 | 0.31 | 0.31 | 0.55 | 0.56 | 0.00 |
| Avail Cap(c_a), veh/h | 1199 | | | 1199 | | | 0 | 1086 | 1136 | 235 | 3028 | 0 |
| HCM Platoon Ratio | 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 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | | | 18.0 | | | 0.0 | 5.0 | 5.0 | 18.8 | 3.5 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | | | 3.6 | | | 0.0 | 0.4 | 0.4 | 6.6 | 0.5 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | | | 0.5 | | | 0.0 | 0.5 | 0.5 | 0.1 | 0.2 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | | | 21.5 | | | 0.0 | 5.4 | 5.4 | 25.4 | 3.9 | 0.0 |
| LnGrp LOS | A | | | C | | | A | A | A | C | A | A |
| Approach Vol, veh/h | | | | | | | | 595 | | | 1320 | |
| Approach Delay, s/veh | | | | | | | | 5.4 | | | 4.2 | |
| Approach LOS | | | | | | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | 3 | | 6 | 7 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.0 | 26.6 | 6.7 | | 31.6 | 0.0 |
| Change Period (Y+Rc), s | 4.4 | * 6.2 | 4.9 | | 6.2 | 4.9 |
| Max Green Setting (Gmax), s | 5.1 | * 24 | 26.0 | | 32.9 | 26.0 |
| Max Q Clear Time (g_c+I1), s | 2.3 | 5.5 | 3.2 | | 9.6 | 0.0 |
| Green Ext Time (p_c), s | 0.0 | 5.8 | 0.1 | | 15.8 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 5.0 |
| HCM 6th LOS | A |

**Notes**

User approved ignoring U-Turning movement.

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

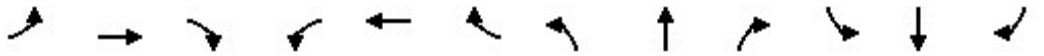
| Intersection | |
|---|---|
| Int Delay, s/veh | 0.1 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 9 | 445 | 31 | 0 | 1074 |
| Future Vol, veh/h | 0 | 9 | 445 | 31 | 0 | 1074 |
| Conflicting Peds, #/hr | 10 | 10 | 0 | 10 | 10 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 0 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 3 | 3 | 3 | 3 | 3 | 3 |
| Mvmt Flow | 0 | 10 | 484 | 34 | 0 | 1167 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 279 | 0 | 0 | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.96 | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.33 | - | - | - | - |
| Pot Cap-1 Maneuver | 0 | 715 | - | - | 0 | - |
| Stage 1 | 0 | - | - | - | 0 | - |
| Stage 2 | 0 | - | - | - | 0 | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | - | 701 | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 10.2 | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBT |
|---|---|---|---|---|
| Capacity (veh/h) | - | - | 701 | - |
| HCM Lane V/C Ratio | - | - | 0.014 | - |
| HCM Control Delay (s) | - | - | 10.2 | - |
| HCM Lane LOS | - | - | B | - |
| HCM 95th %tile Q(veh) | - | - | 0 | - |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 260 | 0 | 245 | 51 | 968 | 417 | 389 | 330 | 0 |
| Future Volume (veh/h) | 0 | 0 | 0 | 260 | 0 | 245 | 51 | 968 | 417 | 389 | 330 | 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 | | 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 | | | | 1856 | 0 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 0 |
| Adj Flow Rate, veh/h | | | | 289 | 0 | 194 | 55 | 1139 | 432 | 401 | 340 | 0 |
| Peak Hour Factor | | | | 0.90 | 0.92 | 0.90 | 0.92 | 0.85 | 0.85 | 0.97 | 0.97 | 0.92 |
| Percent Heavy Veh, % | | | | 3 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 0 |
| Cap, veh/h | | | | 483 | 0 | 221 | 71 | 1255 | 462 | 424 | 2478 | 0 |
| Arrive On Green | | | | 0.14 | 0.00 | 0.14 | 0.04 | 0.50 | 0.50 | 0.24 | 0.70 | 0.00 |
| Sat Flow, veh/h | | | | 3428 | 0 | 1572 | 1767 | 2496 | 919 | 1767 | 3618 | 0 |
| Grp Volume(v), veh/h | | | | 289 | 0 | 194 | 55 | 794 | 777 | 401 | 340 | 0 |
| Grp Sat Flow(s),veh/h/ln | | | | 1714 | 0 | 1572 | 1767 | 1763 | 1653 | 1767 | 1763 | 0 |
| Q Serve(g_s), s | | | | 10.3 | 0.0 | 15.8 | 4.0 | 53.2 | 57.5 | 29.1 | 4.1 | 0.0 |
| Cycle Q Clear(g_c), s | | | | 10.3 | 0.0 | 15.8 | 4.0 | 53.2 | 57.5 | 29.1 | 4.1 | 0.0 |
| Prop In Lane | | | | 1.00 | | 1.00 | 1.00 | | 0.56 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | | | | 483 | 0 | 221 | 71 | 886 | 831 | 424 | 2478 | 0 |
| V/C Ratio(X) | | | | 0.60 | 0.00 | 0.88 | 0.78 | 0.90 | 0.93 | 0.95 | 0.14 | 0.00 |
| Avail Cap(c_a), veh/h | | | | 660 | 0 | 303 | 141 | 893 | 838 | 455 | 2478 | 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 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | | | | 52.6 | 0.0 | 54.9 | 62.0 | 29.3 | 30.4 | 48.7 | 6.4 | 0.0 |
| Incr Delay (d2), s/veh | | | | 0.4 | 0.0 | 15.4 | 6.7 | 12.6 | 18.1 | 27.3 | 0.1 | 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 | | | | 4.4 | 0.0 | 7.0 | 1.9 | 23.7 | 25.0 | 15.5 | 1.3 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 53.0 | 0.0 | 70.3 | 68.8 | 42.0 | 48.5 | 76.1 | 6.4 | 0.0 |
| LnGrp LOS | | | | D | A | E | E | D | D | E | A | A |
| Approach Vol, veh/h | | | | | 483 | | | 1626 | | | 741 | |
| Approach Delay, s/veh | | | | | 60.0 | | | 46.0 | | | 44.1 | |
| Approach LOS | | | | | E | | | D | | | D | |

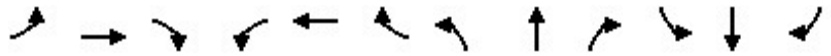
| Timer - Assigned Phs | 1 | 2 | | 5 | 6 | | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 35.7 | 71.5 | | 9.6 | 97.6 | | 23.3 | | | | | |
| Change Period (Y+Rc), s | 4.4 | 5.9 | | 4.4 | * 5.9 | | 4.9 | | | | | |
| Max Green Setting (Gmax), s | 33.6 | 66.1 | | 10.4 | * 90 | | 25.1 | | | | | |
| Max Q Clear Time (g_c+I1), s | 31.1 | 59.5 | | 6.0 | 6.1 | | 17.8 | | | | | |
| Green Ext Time (p_c), s | 0.2 | 6.1 | | 0.0 | 5.3 | | 0.6 | | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 47.9 |
| HCM 6th LOS | | D |

**Notes**

User approved ignoring U-Turning movement.

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



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 13 | 0 | 6 | 0 | 1417 | 23 | 22 | 614 | 0 |
| Future Volume (veh/h) | 0 | 0 | 0 | 13 | 0 | 6 | 0 | 1417 | 23 | 22 | 614 | 0 |
| 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 | | 1.00 | 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 | 1856 | 0 | 0 | 1856 | 0 | 1856 | 0 | 1856 | 1856 | 1856 | 1856 | 0 |
| Adj Flow Rate, veh/h | 0 | 0 | 0 | 14 | 0 | 5 | 0 | 1667 | 26 | 23 | 633 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.94 | 0.94 | 0.94 | 0.85 | 0.85 | 0.85 | 0.97 | 0.97 | 0.97 |
| Percent Heavy Veh, % | 3 | 0 | 0 | 3 | 0 | 3 | 0 | 3 | 3 | 3 | 3 | 0 |
| Cap, veh/h | 3 | 0 | 0 | 25 | 0 | 0 | 0 | 2450 | 38 | 38 | 2783 | 0 |
| Arrive On Green | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.69 | 0.69 | 0.02 | 0.79 | 0.00 |
| Sat Flow, veh/h | 1767 | 0 | | 1767 | 14 | | 0 | 3644 | 55 | 1767 | 3618 | 0 |
| Grp Volume(v), veh/h | 0 | 0.0 | | 14 | 35.1 | | 0 | 826 | 867 | 23 | 633 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1767 | | | 1767 | D | | 0 | 1763 | 1844 | 1767 | 1763 | 0 |
| Q Serve(g_s), s | 0.0 | | | 0.4 | | | 0.0 | 15.4 | 15.5 | 0.7 | 2.6 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | | | 0.4 | | | 0.0 | 15.4 | 15.5 | 0.7 | 2.6 | 0.0 |
| Prop In Lane | 1.00 | | | 1.00 | | | 0.00 | | 0.03 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 3 | | | 25 | | | 0 | 1216 | 1272 | 38 | 2783 | 0 |
| V/C Ratio(X) | 0.00 | | | 0.57 | | | 0.00 | 0.68 | 0.68 | 0.61 | 0.23 | 0.00 |
| Avail Cap(c_a), veh/h | 814 | | | 814 | | | 0 | 1358 | 1420 | 163 | 3303 | 0 |
| HCM Platoon Ratio | 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 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | | | 27.7 | | | 0.0 | 5.1 | 5.1 | 27.4 | 1.5 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | | | 7.4 | | | 0.0 | 1.9 | 1.8 | 5.7 | 0.1 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | | | 0.2 | | | 0.0 | 2.3 | 2.4 | 0.3 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | | | 35.1 | | | 0.0 | 7.0 | 7.0 | 33.1 | 1.6 | 0.0 |
| LnGrp LOS | A | | | D | | | A | A | A | C | A | A |
| Approach Vol, veh/h | | | | | | | | 1693 | | | 656 | |
| Approach Delay, s/veh | | | | | | | | 7.0 | | | 2.7 | |
| Approach LOS | | | | | | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | 3 | | 6 | 7 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.6 | 45.2 | 5.7 | | 50.8 | 0.0 |
| Change Period (Y+Rc), s | 4.4 | * 6.2 | 4.9 | | 6.2 | 4.9 |
| Max Green Setting (Gmax), s | 5.3 | * 44 | 26.0 | | 52.9 | 26.0 |
| Max Q Clear Time (g_c+I1), s | 2.7 | 17.5 | 2.4 | | 4.6 | 0.0 |
| Green Ext Time (p_c), s | 0.0 | 21.4 | 0.0 | | 9.2 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 6.0 |
| HCM 6th LOS | A |

**Notes**

User approved ignoring U-Turning movement.

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

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.6 |

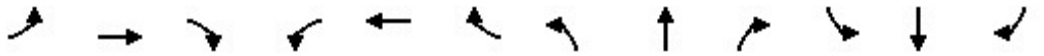
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 67 | 1368 | 53 | 0 | 639 |
| Future Vol, veh/h | 0 | 67 | 1368 | 53 | 0 | 639 |
| Conflicting Peds, #/hr | 10 | 10 | 0 | 10 | 10 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 0 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 3 | 3 | 3 | 3 | 3 | 3 |
| Mvmt Flow | 0 | 73 | 1487 | 58 | 0 | 695 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 793 | 0 | 0 | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.96 | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.33 | - | - | - | - |
| Pot Cap-1 Maneuver | 0 | 329 | - | - | 0 | - |
| Stage 1 | 0 | - | - | - | 0 | - |
| Stage 2 | 0 | - | - | - | 0 | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | - | 323 | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 19.4 | 0 | 0 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBT |
|---|---|---|---|---|
| Capacity (veh/h) | - | - | 323 | - |
| HCM Lane V/C Ratio | - | - | 0.225 | - |
| HCM Control Delay (s) | - | - | 19.4 | - |
| HCM Lane LOS | - | - | C | - |
| HCM 95th %tile Q(veh) | - | - | 0.8 | - |

# Appendix I
# Near-Term Year 2024 Base with Project Peak Hour Intersection Capacity Worksheets and Signal Timing Inputs (Weekend)



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 278 | 0 | 287 | 75 | 284 | 181 | 208 | 240 | 0 |
| Future Volume (veh/h) | 0 | 0 | 0 | 278 | 0 | 287 | 75 | 284 | 181 | 208 | 240 | 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 | | 0.96 | 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 | | | | 1856 | 0 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 0 |
| Adj Flow Rate, veh/h | | | | 331 | 0 | 271 | 82 | 309 | 175 | 260 | 300 | 0 |
| Peak Hour Factor | | | | 0.84 | 0.92 | 0.84 | 0.92 | 0.92 | 0.92 | 0.80 | 0.80 | 0.92 |
| Percent Heavy Veh, % | | | | 3 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 0 |
| Cap, veh/h | | | | 768 | 0 | 352 | 103 | 596 | 327 | 319 | 1403 | 0 |
| Arrive On Green | | | | 0.22 | 0.00 | 0.22 | 0.06 | 0.28 | 0.28 | 0.18 | 0.40 | 0.00 |
| Sat Flow, veh/h | | | | 3428 | 0 | 1572 | 1767 | 2157 | 1184 | 1767 | 3618 | 0 |
| Grp Volume(v), veh/h | | | | 331 | 0 | 271 | 82 | 251 | 233 | 260 | 300 | 0 |
| Grp Sat Flow(s),veh/h/ln | | | | 1714 | 0 | 1572 | 1767 | 1763 | 1578 | 1767 | 1763 | 0 |
| Q Serve(g_s), s | | | | 3.9 | 0.0 | 7.7 | 2.2 | 5.7 | 6.0 | 6.7 | 2.7 | 0.0 |
| Cycle Q Clear(g_c), s | | | | 3.9 | 0.0 | 7.7 | 2.2 | 5.7 | 6.0 | 6.7 | 2.7 | 0.0 |
| Prop In Lane | | | | 1.00 | | 1.00 | 1.00 | | 0.75 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | | | | 768 | 0 | 352 | 103 | 487 | 436 | 319 | 1403 | 0 |
| V/C Ratio(X) | | | | 0.43 | 0.00 | 0.77 | 0.79 | 0.52 | 0.54 | 0.82 | 0.21 | 0.00 |
| Avail Cap(c_a), veh/h | | | | 1802 | 0 | 826 | 338 | 823 | 736 | 468 | 1949 | 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 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | | | | 15.9 | 0.0 | 17.3 | 22.1 | 14.5 | 14.6 | 18.7 | 9.4 | 0.0 |
| Incr Delay (d2), s/veh | | | | 0.1 | 0.0 | 1.4 | 5.1 | 2.4 | 3.0 | 4.3 | 0.2 | 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 | | | | 1.2 | 0.0 | 2.3 | 0.9 | 2.0 | 1.9 | 2.5 | 0.7 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 16.0 | 0.0 | 18.7 | 27.2 | 17.0 | 17.6 | 23.1 | 9.6 | 0.0 |
| LnGrp LOS | | | | B | A | B | C | B | B | C | A | A |
| Approach Vol, veh/h | | | | | 602 | | | 566 | | | 560 | |
| Approach Delay, s/veh | | | | | 17.2 | | | 18.7 | | | 15.9 | |
| Approach LOS | | | | | B | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.0 | 19.0 | | | 7.2 | 24.8 | | 15.6 | | | | |
| Change Period (Y+Rc), s | 4.4 | 5.9 | | | 4.4 | * 5.9 | | 4.9 | | | | |
| Max Green Setting (Gmax), s | 12.6 | 22.2 | | | 9.1 | * 26 | | 25.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 8.7 | 8.0 | | | 4.2 | 4.7 | | 9.7 | | | | |
| Green Ext Time (p_c), s | 0.1 | 4.6 | | | 0.0 | 3.5 | | 1.0 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 17.3 |
| HCM 6th LOS | | B |

**Notes**

User approved ignoring U-Turning movement.

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

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 14 | 0 | 10 | 0 | 533 | 10 | 39 | 563 | 0 |
| Future Volume (veh/h) | 0 | 0 | 0 | 14 | 0 | 10 | 0 | 533 | 10 | 39 | 563 | 0 |
| 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 | | 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 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1856 | 0 | 0 | 1856 | 0 | 1856 | 0 | 1856 | 1856 | 1856 | 1856 | 0 |
| Adj Flow Rate, veh/h | 0 | 0 | 0 | 23 | 0 | 14 | 0 | 627 | 11 | 46 | 670 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.62 | 0.62 | 0.62 | 0.85 | 0.85 | 0.85 | 0.84 | 0.84 | 0.84 |
| Percent Heavy Veh, % | 3 | 0 | 0 | 3 | 0 | 3 | 0 | 3 | 3 | 3 | 3 | 0 |
| Cap, veh/h | 6 | 0 | 0 | 41 | 0 | 0 | 0 | 1457 | 26 | 75 | 2124 | 0 |
| Arrive On Green | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.41 | 0.41 | 0.04 | 0.60 | 0.00 |
| Sat Flow, veh/h | 1767 | 0 | | 1767 | 23 | | 0 | 3635 | 62 | 1767 | 3618 | 0 |
| Grp Volume(v), veh/h | 0 | 0.0 | | 23 | 18.7 | | 0 | 312 | 326 | 46 | 670 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1767 | | | 1767 | B | | 0 | 1763 | 1842 | 1767 | 1763 | 0 |
| Q Serve(g_s), s | 0.0 | | | 0.4 | | | 0.0 | 3.8 | 3.8 | 0.8 | 2.8 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | | | 0.4 | | | 0.0 | 3.8 | 3.8 | 0.8 | 2.8 | 0.0 |
| Prop In Lane | 1.00 | | | 1.00 | | | 0.00 | | 0.03 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 6 | | | 41 | | | 0 | 725 | 758 | 75 | 2124 | 0 |
| V/C Ratio(X) | 0.00 | | | 0.56 | | | 0.00 | 0.43 | 0.43 | 0.61 | 0.32 | 0.00 |
| Avail Cap(c_a), veh/h | 1550 | | | 1550 | | | 0 | 1344 | 1404 | 364 | 3912 | 0 |
| HCM Platoon Ratio | 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 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | | | 14.3 | | | 0.0 | 6.2 | 6.2 | 14.0 | 2.9 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | | | 4.4 | | | 0.0 | 1.0 | 0.9 | 3.0 | 0.2 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | | | 0.2 | | | 0.0 | 0.6 | 0.6 | 0.3 | 0.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | | | 18.7 | | | 0.0 | 7.2 | 7.2 | 16.9 | 3.1 | 0.0 |
| LnGrp LOS | A | | | B | | | A | A | A | B | A | A |
| Approach Vol, veh/h | | | | | | | | 638 | | | 716 | |
| Approach Delay, s/veh | | | | | | | | 7.2 | | | 4.0 | |
| Approach LOS | | | | | | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | 3 | | 6 | 7 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.7 | 18.4 | 5.6 | | 24.1 | 0.0 |
| Change Period (Y+Rc), s | 4.4 | * 6.2 | 4.9 | | 6.2 | 4.9 |
| Max Green Setting (Gmax), s | 6.1 | * 23 | 26.0 | | 32.9 | 26.0 |
| Max Q Clear Time (g_c+I1), s | 2.8 | 5.8 | 2.4 | | 4.8 | 0.0 |
| Green Ext Time (p_c), s | 0.0 | 6.0 | 0.0 | | 8.5 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 5.7 |
| HCM 6th LOS | A |

**Notes**

User approved ignoring U-Turning movement.

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

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.9 |

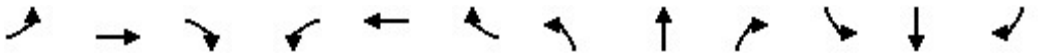
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 97 | 441 | 97 | 0 | 591 |
| Future Vol, veh/h | 0 | 97 | 441 | 97 | 0 | 591 |
| Conflicting Peds, #/hr | 10 | 10 | 0 | 10 | 10 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 0 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 3 | 3 | 3 | 3 | 3 | 3 |
| Mvmt Flow | 0 | 105 | 479 | 105 | 0 | 642 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 312 | 0 | 0 | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.96 | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.33 | - | - | - | - |
| Pot Cap-1 Maneuver | 0 | 681 | - | - | 0 | - |
| Stage 1 | 0 | - | - | - | 0 | - |
| Stage 2 | 0 | - | - | - | 0 | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | - | 668 | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 11.4 | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBT |
|---|---|---|---|---|
| Capacity (veh/h) | - | - | 668 | - |
| HCM Lane V/C Ratio | - | - | 0.158 | - |
| HCM Control Delay (s) | - | - | 11.4 | - |
| HCM Lane LOS | - | - | B | - |
| HCM 95th %tile Q(veh) | - | - | 0.6 | - |

# Appendix J
# Horizon Year Base Peak Hour Intersection Capacity Worksheets and Signal Timing Inputs (Weekday)



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 553 | 0 | 390 | 24 | 369 | 399 | 340 | 924 | 0 |
| Future Volume (veh/h) | 0 | 0 | 0 | 553 | 0 | 390 | 24 | 369 | 399 | 340 | 924 | 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 | | 0.96 | 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 | | | | 1856 | 0 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 0 |
| Adj Flow Rate, veh/h | | | | 582 | 0 | 316 | 26 | 388 | 367 | 358 | 973 | 0 |
| Peak Hour Factor | | | | 0.95 | 0.92 | 0.95 | 0.92 | 0.95 | 0.95 | 0.95 | 0.95 | 0.92 |
| Percent Heavy Veh, % | | | | 3 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 0 |
| Cap, veh/h | | | | 828 | 0 | 380 | 39 | 536 | 458 | 403 | 1797 | 0 |
| Arrive On Green | | | | 0.24 | 0.00 | 0.24 | 0.02 | 0.30 | 0.30 | 0.23 | 0.51 | 0.00 |
| Sat Flow, veh/h | | | | 3428 | 0 | 1572 | 1767 | 1763 | 1506 | 1767 | 3618 | 0 |
| Grp Volume(v), veh/h | | | | 582 | 0 | 316 | 26 | 388 | 367 | 358 | 973 | 0 |
| Grp Sat Flow(s),veh/h/ln | | | | 1714 | 0 | 1572 | 1767 | 1763 | 1506 | 1767 | 1763 | 0 |
| Q Serve(g_s), s | | | | 10.4 | 0.0 | 12.8 | 1.0 | 13.2 | 15.0 | 13.2 | 12.5 | 0.0 |
| Cycle Q Clear(g_c), s | | | | 10.4 | 0.0 | 12.8 | 1.0 | 13.2 | 15.0 | 13.2 | 12.5 | 0.0 |
| Prop In Lane | | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | | | | 828 | 0 | 380 | 39 | 536 | 458 | 403 | 1797 | 0 |
| V/C Ratio(X) | | | | 0.70 | 0.00 | 0.83 | 0.66 | 0.72 | 0.80 | 0.89 | 0.54 | 0.00 |
| Avail Cap(c_a), veh/h | | | | 1277 | 0 | 586 | 147 | 583 | 498 | 463 | 1828 | 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 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | | | | 23.3 | 0.0 | 24.2 | 32.6 | 20.8 | 21.5 | 25.1 | 11.1 | 0.0 |
| Incr Delay (d2), s/veh | | | | 0.4 | 0.0 | 3.4 | 6.8 | 6.3 | 11.3 | 15.8 | 0.8 | 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 | | | | 3.8 | 0.0 | 4.5 | 0.5 | 5.5 | 5.9 | 6.5 | 3.8 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 23.7 | 0.0 | 27.6 | 39.3 | 27.1 | 32.8 | 40.9 | 11.9 | 0.0 |
| LnGrp LOS | | | | C | A | C | D | C | C | D | B | A |
| Approach Vol, veh/h | | | | | 898 | | | 781 | | | 1331 | |
| Approach Delay, s/veh | | | | | 25.1 | | | 30.2 | | | 19.7 | |
| Approach LOS | | | | | C | | | C | | | B | |

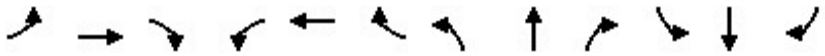
| Timer - Assigned Phs | 1 | 2 | | 5 | 6 | | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 19.7 | 26.3 | | 5.9 | 40.1 | | 21.1 | | | | | |
| Change Period (Y+Rc), s | 4.4 | 5.9 | | 4.4 | * 5.9 | | 4.9 | | | | | |
| Max Green Setting (Gmax), s | 17.6 | 22.2 | | 5.6 | * 35 | | 25.0 | | | | | |
| Max Q Clear Time (g_c+I1), s | 15.2 | 17.0 | | 3.0 | 14.5 | | 14.8 | | | | | |
| Green Ext Time (p_c), s | 0.2 | 3.2 | | 0.0 | 11.8 | | 1.4 | | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 24.0 |
| HCM 6th LOS | | C |

**Notes**

User approved ignoring U-Turning movement.

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



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 31 | 0 | 5 | 0 | 567 | 8 | 23 | 955 | 0 |
| Future Volume (veh/h) | 0 | 0 | 0 | 31 | 0 | 5 | 0 | 567 | 8 | 23 | 955 | 0 |
| 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 | | 1.00 | 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 | 1856 | 0 | 0 | 1856 | 0 | 1856 | 0 | 1856 | 1856 | 1856 | 1856 | 0 |
| Adj Flow Rate, veh/h | 0 | 0 | 0 | 33 | 0 | 4 | 0 | 597 | 7 | 24 | 1005 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 3 | 0 | 0 | 3 | 0 | 3 | 0 | 3 | 3 | 3 | 3 | 0 |
| Cap, veh/h | 6 | 0 | 0 | 56 | 0 | 0 | 0 | 1638 | 19 | 42 | 2189 | 0 |
| Arrive On Green | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.46 | 0.46 | 0.02 | 0.62 | 0.00 |
| Sat Flow, veh/h | 1767 | 0 | | 1767 | 33 | | 0 | 3660 | 42 | 1767 | 3618 | 0 |
| Grp Volume(v), veh/h | 0 | 0.0 | | 33 | 18.9 | | 0 | 295 | 309 | 24 | 1005 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1767 | | | 1767 | B | | 0 | 1763 | 1846 | 1767 | 1763 | 0 |
| Q Serve(g_s), s | 0.0 | | | 0.6 | | | 0.0 | 3.5 | 3.5 | 0.4 | 4.8 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | | | 0.6 | | | 0.0 | 3.5 | 3.5 | 0.4 | 4.8 | 0.0 |
| Prop In Lane | 1.00 | | | 1.00 | | | 0.00 | | 0.02 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 6 | | | 56 | | | 0 | 810 | 848 | 42 | 2189 | 0 |
| V/C Ratio(X) | 0.00 | | | 0.59 | | | 0.00 | 0.36 | 0.36 | 0.57 | 0.46 | 0.00 |
| Avail Cap(c_a), veh/h | 1437 | | | 1437 | | | 0 | 1301 | 1363 | 282 | 3629 | 0 |
| HCM Platoon Ratio | 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 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | | | 15.3 | | | 0.0 | 5.6 | 5.6 | 15.4 | 3.2 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | | | 3.6 | | | 0.0 | 0.6 | 0.6 | 4.3 | 0.3 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | | | 0.2 | | | 0.0 | 0.5 | 0.5 | 0.2 | 0.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | | | 18.9 | | | 0.0 | 6.3 | 6.2 | 19.8 | 3.6 | 0.0 |
| LnGrp LOS | A | | | B | | | A | A | A | B | A | A |
| Approach Vol, veh/h | | | | | | | | 604 | | | 1029 | |
| Approach Delay, s/veh | | | | | | | | 6.2 | | | 3.9 | |
| Approach LOS | | | | | | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | 3 | | 6 | 7 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.2 | 20.9 | 5.9 | | 26.0 | 0.0 |
| Change Period (Y+Rc), s | 4.4 | * 6.2 | 4.9 | | 6.2 | 4.9 |
| Max Green Setting (Gmax), s | 5.1 | * 24 | 26.0 | | 32.9 | 26.0 |
| Max Q Clear Time (g_c+I1), s | 2.4 | 5.5 | 2.6 | | 6.8 | 0.0 |
| Green Ext Time (p_c), s | 0.0 | 5.9 | 0.0 | | 13.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 5.1 |
| HCM 6th LOS | A |

**Notes**

User approved ignoring U-Turning movement.

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

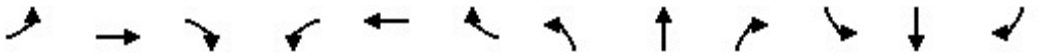
| Intersection | |
|---|---|
| Int Delay, s/veh | 0 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 5 | 787 | 25 | 0 | 1478 |
| Future Vol, veh/h | 0 | 5 | 787 | 25 | 0 | 1478 |
| Conflicting Peds, #/hr | 10 | 10 | 0 | 10 | 10 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 0 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 3 | 3 | 3 | 3 | 3 | 3 |
| Mvmt Flow | 0 | 5 | 855 | 27 | 0 | 1607 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 461 | 0 | 0 | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.96 | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.33 | - | - | - | - |
| Pot Cap-1 Maneuver | 0 | 545 | - | - | 0 | - |
| Stage 1 | 0 | - | - | - | 0 | - |
| Stage 2 | 0 | - | - | - | 0 | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | - | 535 | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 11.8 | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBT |
|---|---|---|---|---|
| Capacity (veh/h) | - | - | 535 | - |
| HCM Lane V/C Ratio | - | - | 0.01 | - |
| HCM Control Delay (s) | - | - | 11.8 | - |
| HCM Lane LOS | - | - | B | - |
| HCM 95th %tile Q(veh) | - | - | 0 | - |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 304 | 0 | 430 | 66 | 964 | 417 | 370 | 424 | 0 |
| Future Volume (veh/h) | 0 | 0 | 0 | 304 | 0 | 430 | 66 | 964 | 417 | 370 | 424 | 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 | | 0.96 | 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 | | | | 1856 | 0 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 0 |
| Adj Flow Rate, veh/h | | | | 320 | 0 | 337 | 72 | 1015 | 365 | 381 | 437 | 0 |
| Peak Hour Factor | | | | 0.95 | 0.92 | 0.95 | 0.92 | 0.95 | 0.95 | 0.97 | 0.97 | 0.92 |
| Percent Heavy Veh, % | | | | 3 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 0 |
| Cap, veh/h | | | | 784 | 0 | 360 | 92 | 1099 | 390 | 348 | 2047 | 0 |
| Arrive On Green | | | | 0.23 | 0.00 | 0.23 | 0.05 | 0.44 | 0.44 | 0.20 | 0.58 | 0.00 |
| Sat Flow, veh/h | | | | 3428 | 0 | 1572 | 1767 | 2523 | 895 | 1767 | 3618 | 0 |
| Grp Volume(v), veh/h | | | | 320 | 0 | 337 | 72 | 705 | 675 | 381 | 437 | 0 |
| Grp Sat Flow(s),veh/h/ln | | | | 1714 | 0 | 1572 | 1767 | 1763 | 1656 | 1767 | 1763 | 0 |
| Q Serve(g_s), s | | | | 8.7 | 0.0 | 23.1 | 4.4 | 41.2 | 42.6 | 21.6 | 6.5 | 0.0 |
| Cycle Q Clear(g_c), s | | | | 8.7 | 0.0 | 23.1 | 4.4 | 41.2 | 42.6 | 21.6 | 6.5 | 0.0 |
| Prop In Lane | | | | 1.00 | | 1.00 | 1.00 | | 0.54 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | | | | 784 | 0 | 360 | 92 | 768 | 721 | 348 | 2047 | 0 |
| V/C Ratio(X) | | | | 0.41 | 0.00 | 0.94 | 0.78 | 0.92 | 0.94 | 1.09 | 0.21 | 0.00 |
| Avail Cap(c_a), veh/h | | | | 785 | 0 | 360 | 171 | 773 | 726 | 348 | 2047 | 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 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | | | | 36.0 | 0.0 | 41.5 | 51.3 | 29.1 | 29.5 | 44.0 | 11.0 | 0.0 |
| Incr Delay (d2), s/veh | | | | 0.1 | 0.0 | 31.3 | 5.3 | 16.9 | 20.3 | 75.9 | 0.2 | 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 | | | | 3.5 | 0.0 | 11.7 | 2.0 | 19.3 | 19.3 | 16.3 | 2.3 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 36.1 | 0.0 | 72.8 | 56.7 | 46.0 | 49.7 | 119.9 | 11.2 | 0.0 |
| LnGrp LOS | | | | D | A | E | E | D | D | F | B | A |
| Approach Vol, veh/h | | | | | 657 | | | 1452 | | | 818 | |
| Approach Delay, s/veh | | | | | 54.9 | | | 48.2 | | | 61.8 | |
| Approach LOS | | | | | D | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 | | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 26.0 | 53.7 | | 10.1 | 69.5 | | 30.0 | | | | | |
| Change Period (Y+Rc), s | 4.4 | 5.9 | | 4.4 | * 5.9 | | 4.9 | | | | | |
| Max Green Setting (Gmax), s | 21.6 | 48.1 | | 10.6 | * 60 | | 25.1 | | | | | |
| Max Q Clear Time (g_c+I1), s | 23.6 | 44.6 | | 6.4 | 8.5 | | 25.1 | | | | | |
| Green Ext Time (p_c), s | 0.0 | 3.2 | | 0.0 | 6.8 | | 0.0 | | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 53.5 |
| HCM 6th LOS | | D |

**Notes**

User approved ignoring U-Turning movement.

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

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 11 | 0 | 6 | 0 | 1063 | 22 | 17 | 651 | 0 |
| Future Volume (veh/h) | 0 | 0 | 0 | 11 | 0 | 6 | 0 | 1063 | 22 | 17 | 651 | 0 |
| 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 | | 1.00 | 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 | 1856 | 0 | 0 | 1856 | 0 | 1856 | 0 | 1856 | 1856 | 1856 | 1856 | 0 |
| Adj Flow Rate, veh/h | 0 | 0 | 0 | 12 | 0 | 5 | 0 | 1251 | 25 | 18 | 671 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.94 | 0.94 | 0.94 | 0.85 | 0.85 | 0.85 | 0.97 | 0.97 | 0.97 |
| Percent Heavy Veh, % | 3 | 0 | 0 | 3 | 0 | 3 | 0 | 3 | 3 | 3 | 3 | 0 |
| Cap, veh/h | 4 | 0 | 0 | 22 | 0 | 0 | 0 | 2266 | 45 | 31 | 2653 | 0 |
| Arrive On Green | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.64 | 0.64 | 0.02 | 0.75 | 0.00 |
| Sat Flow, veh/h | 1767 | 0 | | 1767 | 12 | | 0 | 3625 | 71 | 1767 | 3618 | 0 |
| Grp Volume(v), veh/h | 0 | 0.0 | | 12 | 31.0 | | 0 | 624 | 652 | 18 | 671 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1767 | | | 1767 | C | | 0 | 1763 | 1840 | 1767 | 1763 | 0 |
| Q Serve(g_s), s | 0.0 | | | 0.3 | | | 0.0 | 9.3 | 9.3 | 0.5 | 2.7 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | | | 0.3 | | | 0.0 | 9.3 | 9.3 | 0.5 | 2.7 | 0.0 |
| Prop In Lane | 1.00 | | | 1.00 | | | 0.00 | | 0.04 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 4 | | | 22 | | | 0 | 1131 | 1180 | 31 | 2653 | 0 |
| V/C Ratio(X) | 0.00 | | | 0.55 | | | 0.00 | 0.55 | 0.55 | 0.57 | 0.25 | 0.00 |
| Avail Cap(c_a), veh/h | 973 | | | 973 | | | 0 | 1625 | 1696 | 195 | 3951 | 0 |
| HCM Platoon Ratio | 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 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | | | 23.2 | | | 0.0 | 4.7 | 4.7 | 23.0 | 1.8 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | | | 7.8 | | | 0.0 | 1.0 | 1.0 | 5.9 | 0.1 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | | | 0.2 | | | 0.0 | 1.2 | 1.2 | 0.2 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | | | 31.0 | | | 0.0 | 5.7 | 5.7 | 28.9 | 1.9 | 0.0 |
| LnGrp LOS | A | | | C | | | A | A | A | C | A | A |
| Approach Vol, veh/h | | | | | | | | 1276 | | | 689 | |
| Approach Delay, s/veh | | | | | | | | 5.7 | | | 2.6 | |
| Approach LOS | | | | | | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | 3 | | 6 | 7 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.2 | 36.5 | 5.5 | | 41.7 | 0.0 |
| Change Period (Y+Rc), s | 4.4 | * 6.2 | 4.9 | | 6.2 | 4.9 |
| Max Green Setting (Gmax), s | 5.3 | * 44 | 26.0 | | 52.9 | 26.0 |
| Max Q Clear Time (g_c+I1), s | 2.5 | 11.3 | 2.3 | | 4.7 | 0.0 |
| Green Ext Time (p_c), s | 0.0 | 19.0 | 0.0 | | 9.9 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 4.8 |
| HCM 6th LOS | A |

**Notes**

User approved ignoring U-Turning movement.

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

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.5 |

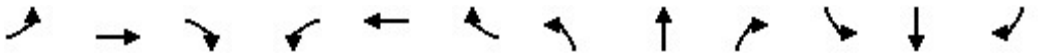
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 58 | 1389 | 44 | 0 | 785 |
| Future Vol, veh/h | 0 | 58 | 1389 | 44 | 0 | 785 |
| Conflicting Peds, #/hr | 10 | 10 | 0 | 10 | 10 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 0 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 3 | 3 | 3 | 3 | 3 | 3 |
| Mvmt Flow | 0 | 63 | 1510 | 48 | 0 | 853 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 799 | 0 | 0 | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.96 | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.33 | - | - | - | - |
| Pot Cap-1 Maneuver | 0 | 326 | - | - | 0 | - |
| Stage 1 | 0 | - | - | - | 0 | - |
| Stage 2 | 0 | - | - | - | 0 | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | - | 320 | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 19 | 0 | 0 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBT |
|---|---|---|---|---|
| Capacity (veh/h) | - | - | 320 | - |
| HCM Lane V/C Ratio | - | - | 0.197 | - |
| HCM Control Delay (s) | - | - | 19 | - |
| HCM Lane LOS | - | - | C | - |
| HCM 95th %tile Q(veh) | - | - | 0.7 | - |

# Appendix K
# Horizon Year Base Peak Hour Intersection Capacity Worksheets and Signal Timing Inputs (Weekend)



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 336 | 0 | 318 | 100 | 411 | 359 | 320 | 347 | 0 |
| Future Volume (veh/h) | 0 | 0 | 0 | 336 | 0 | 318 | 100 | 411 | 359 | 320 | 347 | 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 | | 0.96 | 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 | | | | 1856 | 0 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 0 |
| Adj Flow Rate, veh/h | | | | 354 | 0 | 240 | 109 | 433 | 325 | 337 | 365 | 0 |
| Peak Hour Factor | | | | 0.95 | 0.92 | 0.95 | 0.92 | 0.95 | 0.95 | 0.95 | 0.95 | 0.92 |
| Percent Heavy Veh, % | | | | 3 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 0 |
| Cap, veh/h | | | | 670 | 0 | 307 | 139 | 612 | 456 | 390 | 1644 | 0 |
| Arrive On Green | | | | 0.20 | 0.00 | 0.20 | 0.08 | 0.32 | 0.32 | 0.22 | 0.47 | 0.00 |
| Sat Flow, veh/h | | | | 3428 | 0 | 1572 | 1767 | 1889 | 1406 | 1767 | 3618 | 0 |
| Grp Volume(v), veh/h | | | | 354 | 0 | 240 | 109 | 404 | 354 | 337 | 365 | 0 |
| Grp Sat Flow(s),veh/h/ln | | | | 1714 | 0 | 1572 | 1767 | 1763 | 1532 | 1767 | 1763 | 0 |
| Q Serve(g_s), s | | | | 5.4 | 0.0 | 8.5 | 3.5 | 11.8 | 11.9 | 10.7 | 3.6 | 0.0 |
| Cycle Q Clear(g_c), s | | | | 5.4 | 0.0 | 8.5 | 3.5 | 11.8 | 11.9 | 10.7 | 3.6 | 0.0 |
| Prop In Lane | | | | 1.00 | | 1.00 | 1.00 | | 0.92 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | | | | 670 | 0 | 307 | 139 | 571 | 497 | 390 | 1644 | 0 |
| V/C Ratio(X) | | | | 0.53 | 0.00 | 0.78 | 0.78 | 0.71 | 0.71 | 0.86 | 0.22 | 0.00 |
| Avail Cap(c_a), veh/h | | | | 1464 | 0 | 672 | 169 | 669 | 581 | 531 | 2096 | 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 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | | | | 21.1 | 0.0 | 22.4 | 26.5 | 17.3 | 17.4 | 22.0 | 9.3 | 0.0 |
| Incr Delay (d2), s/veh | | | | 0.2 | 0.0 | 1.7 | 14.2 | 5.2 | 6.1 | 8.4 | 0.2 | 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 | | | | 1.9 | 0.0 | 2.8 | 1.8 | 4.6 | 4.2 | 4.6 | 1.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 21.4 | 0.0 | 24.0 | 40.7 | 22.5 | 23.5 | 30.3 | 9.5 | 0.0 |
| LnGrp LOS | | | | C | A | C | D | C | C | C | A | A |
| Approach Vol, veh/h | | | | | 594 | | | 867 | | | 702 | |
| Approach Delay, s/veh | | | | | 22.4 | | | 25.2 | | | 19.5 | |
| Approach LOS | | | | | C | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 | | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 17.3 | 24.9 | | 9.0 | 33.2 | | 16.3 | | | | | |
| Change Period (Y+Rc), s | 4.4 | 5.9 | | 4.4 | * 5.9 | | 4.9 | | | | | |
| Max Green Setting (Gmax), s | 17.6 | 22.2 | | 5.6 | * 35 | | 25.0 | | | | | |
| Max Q Clear Time (g_c+I1), s | 12.7 | 13.9 | | 5.5 | 5.6 | | 10.5 | | | | | |
| Green Ext Time (p_c), s | 0.2 | 4.8 | | 0.0 | 4.9 | | 0.9 | | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 22.6 |
| HCM 6th LOS | | C |

**Notes**

User approved ignoring U-Turning movement.

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

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 13 | 0 | 10 | 0 | 624 | 9 | 96 | 500 | 0 |
| Future Volume (veh/h) | 0 | 0 | 0 | 13 | 0 | 10 | 0 | 624 | 9 | 96 | 500 | 0 |
| 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 | | 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 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1856 | 0 | 0 | 1856 | 0 | 1856 | 0 | 1856 | 1856 | 1856 | 1856 | 0 |
| Adj Flow Rate, veh/h | 0 | 0 | 0 | 14 | 0 | 10 | 0 | 657 | 8 | 101 | 526 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 3 | 0 | 0 | 3 | 0 | 3 | 0 | 3 | 3 | 3 | 3 | 0 |
| Cap, veh/h | 6 | 0 | 0 | 26 | 0 | 0 | 0 | 1479 | 18 | 132 | 2222 | 0 |
| Arrive On Green | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.41 | 0.41 | 0.07 | 0.63 | 0.00 |
| Sat Flow, veh/h | 1767 | 0 | | 1767 | 14 | | 0 | 3658 | 43 | 1767 | 3618 | 0 |
| Grp Volume(v), veh/h | 0 | 0.0 | | 14 | 21.7 | | 0 | 325 | 340 | 101 | 526 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1767 | | | 1767 | C | | 0 | 1763 | 1846 | 1767 | 1763 | 0 |
| Q Serve(g_s), s | 0.0 | | | 0.2 | | | 0.0 | 4.1 | 4.1 | 1.8 | 2.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | | | 0.2 | | | 0.0 | 4.1 | 4.1 | 1.8 | 2.0 | 0.0 |
| Prop In Lane | 1.00 | | | 1.00 | | | 0.00 | | 0.02 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 6 | | | 26 | | | 0 | 731 | 766 | 132 | 2222 | 0 |
| V/C Ratio(X) | 0.00 | | | 0.54 | | | 0.00 | 0.44 | 0.44 | 0.76 | 0.24 | 0.00 |
| Avail Cap(c_a), veh/h | 1470 | | | 1470 | | | 0 | 1331 | 1394 | 288 | 3711 | 0 |
| HCM Platoon Ratio | 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 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | | | 15.3 | | | 0.0 | 6.6 | 6.6 | 14.2 | 2.5 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | | | 6.4 | | | 0.0 | 1.0 | 1.0 | 3.4 | 0.1 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | | | 0.1 | | | 0.0 | 0.7 | 0.7 | 0.6 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | | | 21.7 | | | 0.0 | 7.6 | 7.5 | 17.6 | 2.6 | 0.0 |
| LnGrp LOS | A | | | C | | | A | A | A | B | A | A |
| Approach Vol, veh/h | | | | | | | | 665 | | | 627 | |
| Approach Delay, s/veh | | | | | | | | 7.5 | | | 5.1 | |
| Approach LOS | | | | | | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | 3 | 6 | 7 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.7 | 19.2 | 5.4 | 25.9 | 0.0 |
| Change Period (Y+Rc), s | 4.4 | * 6.2 | 4.9 | 6.2 | 4.9 |
| Max Green Setting (Gmax), s | 5.1 | * 24 | 26.0 | 32.9 | 26.0 |
| Max Q Clear Time (g_c+I1), s | 3.8 | 6.1 | 2.2 | 4.0 | 0.0 |
| Green Ext Time (p_c), s | 0.0 | 6.4 | 0.0 | 6.5 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 6.5 |
| HCM 6th LOS | A |

**Notes**

User approved ignoring U-Turning movement.

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

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.7 |

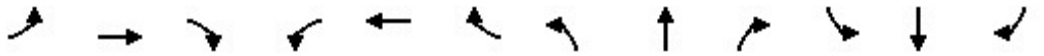
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 88 | 782 | 88 | 0 | 753 |
| Future Vol, veh/h | 0 | 88 | 782 | 88 | 0 | 753 |
| Conflicting Peds, #/hr | 10 | 10 | 0 | 10 | 10 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 0 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 3 | 3 | 3 | 3 | 3 | 3 |
| Mvmt Flow | 0 | 96 | 850 | 96 | 0 | 818 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 493 | 0 | 0 | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.96 | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.33 | - | - | - | - |
| Pot Cap-1 Maneuver | 0 | 519 | - | - | 0 | - |
| Stage 1 | 0 | - | - | - | 0 | - |
| Stage 2 | 0 | - | - | - | 0 | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | - | 509 | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 13.7 | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBT |
|---|---|---|---|---|
| Capacity (veh/h) | - | - | 509 | - |
| HCM Lane V/C Ratio | - | - | 0.188 | - |
| HCM Control Delay (s) | - | - | 13.7 | - |
| HCM Lane LOS | - | - | B | - |
| HCM 95th %tile Q(veh) | - | - | 0.7 | - |

# Appendix L
# Horizon Year Base with Project Peak Hour Intersection Capacity Worksheets and Signal Timing Inputs (Weekday)



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 554 | 0 | 390 | 26 | 371 | 399 | 340 | 926 | 0 |
| Future Volume (veh/h) | 0 | 0 | 0 | 554 | 0 | 390 | 26 | 371 | 399 | 340 | 926 | 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 | | 0.96 | 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 | | | | 1856 | 0 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 0 |
| Adj Flow Rate, veh/h | | | | 609 | 0 | 355 | 28 | 426 | 436 | 400 | 1089 | 0 |
| Peak Hour Factor | | | | 0.91 | 0.92 | 0.91 | 0.92 | 0.87 | 0.87 | 0.85 | 0.85 | 0.92 |
| Percent Heavy Veh, % | | | | 3 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 0 |
| Cap, veh/h | | | | 892 | 0 | 409 | 42 | 526 | 450 | 418 | 1804 | 0 |
| Arrive On Green | | | | 0.26 | 0.00 | 0.26 | 0.02 | 0.30 | 0.30 | 0.24 | 0.51 | 0.00 |
| Sat Flow, veh/h | | | | 3428 | 0 | 1572 | 1767 | 1763 | 1506 | 1767 | 3618 | 0 |
| Grp Volume(v), veh/h | | | | 609 | 0 | 355 | 28 | 426 | 436 | 400 | 1089 | 0 |
| Grp Sat Flow(s),veh/h/ln | | | | 1714 | 0 | 1572 | 1767 | 1763 | 1506 | 1767 | 1763 | 0 |
| Q Serve(g_s), s | | | | 11.9 | 0.0 | 16.0 | 1.2 | 16.6 | 21.3 | 16.6 | 16.2 | 0.0 |
| Cycle Q Clear(g_c), s | | | | 11.9 | 0.0 | 16.0 | 1.2 | 16.6 | 21.3 | 16.6 | 16.2 | 0.0 |
| Prop In Lane | | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | | | | 892 | 0 | 409 | 42 | 526 | 450 | 418 | 1804 | 0 |
| V/C Ratio(X) | | | | 0.68 | 0.00 | 0.87 | 0.67 | 0.81 | 0.97 | 0.96 | 0.60 | 0.00 |
| Avail Cap(c_a), veh/h | | | | 1153 | 0 | 529 | 136 | 526 | 450 | 418 | 1804 | 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 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | | | | 24.7 | 0.0 | 26.3 | 36.0 | 24.1 | 25.7 | 28.0 | 12.8 | 0.0 |
| Incr Delay (d2), s/veh | | | | 0.6 | 0.0 | 9.8 | 6.7 | 11.0 | 35.0 | 32.5 | 1.1 | 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 | | | | 4.4 | 0.0 | 6.5 | 0.5 | 7.6 | 10.9 | 10.0 | 5.2 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 25.3 | 0.0 | 36.1 | 42.7 | 35.1 | 60.8 | 60.5 | 13.9 | 0.0 |
| LnGrp LOS | | | | C | A | D | D | D | E | E | B | A |
| Approach Vol, veh/h | | | | | 964 | | | 890 | | | 1489 | |
| Approach Delay, s/veh | | | | | 29.3 | | | 47.9 | | | 26.4 | |
| Approach LOS | | | | | C | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 | | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 22.0 | 28.1 | | 6.2 | 43.9 | | 24.2 | | | | | |
| Change Period (Y+Rc), s | 4.4 | 5.9 | | 4.4 | * 5.9 | | 4.9 | | | | | |
| Max Green Setting (Gmax), s | 17.6 | 22.2 | | 5.7 | * 35 | | 25.0 | | | | | |
| Max Q Clear Time (g_c+I1), s | 18.6 | 23.3 | | 3.2 | 18.2 | | 18.0 | | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | | 0.0 | 11.2 | | 1.3 | | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 33.0 |
| HCM 6th LOS | | C |

**Notes**

User approved ignoring U-Turning movement.

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

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 31 | 0 | 5 | 0 | 570 | 8 | 26 | 957 | 0 |
| Future Volume (veh/h) | 0 | 0 | 0 | 31 | 0 | 5 | 0 | 570 | 8 | 26 | 957 | 0 |
| 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 | | 1.00 | 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 | 1856 | 0 | 0 | 1856 | 0 | 1856 | 0 | 1856 | 1856 | 1856 | 1856 | 0 |
| Adj Flow Rate, veh/h | 0 | 0 | 0 | 55 | 0 | 7 | 0 | 704 | 9 | 31 | 1153 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.56 | 0.56 | 0.56 | 0.81 | 0.81 | 0.81 | 0.83 | 0.83 | 0.83 |
| Percent Heavy Veh, % | 3 | 0 | 0 | 3 | 0 | 3 | 0 | 3 | 3 | 3 | 3 | 0 |
| Cap, veh/h | 5 | 0 | 0 | 83 | 0 | 0 | 0 | 1736 | 22 | 52 | 2259 | 0 |
| Arrive On Green | 0.00 | 0.00 | 0.00 | 0.05 | 0.00 | 0.00 | 0.00 | 0.49 | 0.49 | 0.03 | 0.64 | 0.00 |
| Sat Flow, veh/h | 1767 | 0 | | 1767 | 55 | | 0 | 3655 | 46 | 1767 | 3618 | 0 |
| Grp Volume(v), veh/h | 0 | 0.0 | | 55 | 20.0 | | 0 | 348 | 365 | 31 | 1153 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1767 | | | 1767 | B | | 0 | 1763 | 1845 | 1767 | 1763 | 0 |
| Q Serve(g_s), s | 0.0 | | | 1.1 | | | 0.0 | 4.5 | 4.5 | 0.6 | 6.2 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | | | 1.1 | | | 0.0 | 4.5 | 4.5 | 0.6 | 6.2 | 0.0 |
| Prop In Lane | 1.00 | | | 1.00 | | | 0.00 | | 0.02 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 5 | | | 83 | | | 0 | 859 | 899 | 52 | 2259 | 0 |
| V/C Ratio(X) | 0.00 | | | 0.66 | | | 0.00 | 0.41 | 0.41 | 0.59 | 0.51 | 0.00 |
| Avail Cap(c_a), veh/h | 1292 | | | 1292 | | | 0 | 1145 | 1199 | 278 | 3262 | 0 |
| HCM Platoon Ratio | 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 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | | | 16.7 | | | 0.0 | 5.8 | 5.8 | 17.0 | 3.4 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | | | 3.3 | | | 0.0 | 0.7 | 0.7 | 3.9 | 0.4 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | | | 0.4 | | | 0.0 | 0.7 | 0.8 | 0.2 | 0.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | | | 20.0 | | | 0.0 | 6.6 | 6.5 | 20.9 | 3.8 | 0.0 |
| LnGrp LOS | A | | | B | | | A | A | A | C | A | A |
| Approach Vol, veh/h | | | | | | | | 713 | | | 1184 | |
| Approach Delay, s/veh | | | | | | | | 6.5 | | | 4.3 | |
| Approach LOS | | | | | | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | 3 | | 6 | 7 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.5 | 23.5 | 6.6 | | 29.0 | 0.0 |
| Change Period (Y+Rc), s | 4.4 | * 6.2 | 4.9 | | 6.2 | 4.9 |
| Max Green Setting (Gmax), s | 5.6 | * 23 | 26.0 | | 32.9 | 26.0 |
| Max Q Clear Time (g_c+I1), s | 2.6 | 6.5 | 3.1 | | 8.2 | 0.0 |
| Green Ext Time (p_c), s | 0.0 | 6.7 | 0.1 | | 14.6 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 5.5 |
| HCM 6th LOS | A |

**Notes**

User approved ignoring U-Turning movement.

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

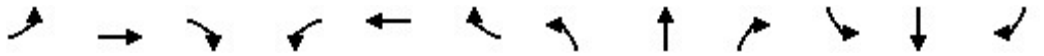
| Intersection | |
|---|---|
| Int Delay, s/veh | 0 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 9 | 787 | 31 | 0 | 1483 |
| Future Vol, veh/h | 0 | 9 | 787 | 31 | 0 | 1483 |
| Conflicting Peds, #/hr | 10 | 10 | 0 | 10 | 10 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 0 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 3 | 3 | 3 | 3 | 3 | 3 |
| Mvmt Flow | 0 | 10 | 855 | 34 | 0 | 1612 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 465 | 0 | 0 | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.96 | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.33 | - | - | - | - |
| Pot Cap-1 Maneuver | 0 | 541 | - | - | 0 | - |
| Stage 1 | 0 | - | - | - | 0 | - |
| Stage 2 | 0 | - | - | - | 0 | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | - | 531 | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 11.9 | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBT |
|---|---|---|---|---|
| Capacity (veh/h) | - | - | 531 | - |
| HCM Lane V/C Ratio | - | - | 0.018 | - |
| HCM Control Delay (s) | - | - | 11.9 | - |
| HCM Lane LOS | - | - | B | - |
| HCM 95th %tile Q(veh) | - | - | 0.1 | - |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 305 | 0 | 430 | 71 | 968 | 418 | 370 | 428 | 0 |
| Future Volume (veh/h) | 0 | 0 | 0 | 305 | 0 | 430 | 71 | 968 | 418 | 370 | 428 | 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 | | 0.96 | 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 | | | | 1856 | 0 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 0 |
| Adj Flow Rate, veh/h | | | | 321 | 0 | 337 | 77 | 1019 | 366 | 381 | 441 | 0 |
| Peak Hour Factor | | | | 0.95 | 0.92 | 0.95 | 0.92 | 0.95 | 0.95 | 0.97 | 0.97 | 0.92 |
| Percent Heavy Veh, % | | | | 3 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 0 |
| Cap, veh/h | | | | 784 | 0 | 360 | 98 | 1100 | 390 | 348 | 2035 | 0 |
| Arrive On Green | | | | 0.23 | 0.00 | 0.23 | 0.06 | 0.44 | 0.44 | 0.20 | 0.58 | 0.00 |
| Sat Flow, veh/h | | | | 3428 | 0 | 1572 | 1767 | 2524 | 894 | 1767 | 3618 | 0 |
| Grp Volume(v), veh/h | | | | 321 | 0 | 337 | 77 | 707 | 678 | 381 | 441 | 0 |
| Grp Sat Flow(s),veh/h/ln | | | | 1714 | 0 | 1572 | 1767 | 1763 | 1656 | 1767 | 1763 | 0 |
| Q Serve(g_s), s | | | | 8.7 | 0.0 | 23.1 | 4.7 | 41.5 | 42.9 | 21.6 | 6.6 | 0.0 |
| Cycle Q Clear(g_c), s | | | | 8.7 | 0.0 | 23.1 | 4.7 | 41.5 | 42.9 | 21.6 | 6.6 | 0.0 |
| Prop In Lane | | | | 1.00 | | 1.00 | 1.00 | | 0.54 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | | | | 784 | 0 | 360 | 98 | 768 | 722 | 348 | 2035 | 0 |
| V/C Ratio(X) | | | | 0.41 | 0.00 | 0.94 | 0.78 | 0.92 | 0.94 | 1.09 | 0.22 | 0.00 |
| Avail Cap(c_a), veh/h | | | | 785 | 0 | 360 | 166 | 773 | 726 | 348 | 2035 | 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 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | | | | 36.0 | 0.0 | 41.5 | 51.1 | 29.2 | 29.5 | 44.0 | 11.2 | 0.0 |
| Incr Delay (d2), s/veh | | | | 0.1 | 0.0 | 31.3 | 5.1 | 17.2 | 20.8 | 76.1 | 0.2 | 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 | | | | 3.5 | 0.0 | 11.7 | 2.1 | 19.5 | 19.5 | 16.3 | 2.3 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 36.1 | 0.0 | 72.8 | 56.2 | 46.4 | 50.3 | 120.1 | 11.4 | 0.0 |
| LnGrp LOS | | | | D | A | E | E | D | D | F | B | A |
| Approach Vol, veh/h | | | | | 658 | | | 1462 | | | 822 | |
| Approach Delay, s/veh | | | | | 54.9 | | | 48.7 | | | 61.8 | |
| Approach LOS | | | | | D | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 | | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 26.0 | 53.7 | | 10.5 | 69.2 | | 30.0 | | | | | |
| Change Period (Y+Rc), s | 4.4 | 5.9 | | 4.4 | * 5.9 | | 4.9 | | | | | |
| Max Green Setting (Gmax), s | 21.6 | 48.1 | | 10.3 | * 60 | | 25.1 | | | | | |
| Max Q Clear Time (g_c+I1), s | 23.6 | 44.9 | | 6.7 | 8.6 | | 25.1 | | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.9 | | 0.0 | 6.9 | | 0.0 | | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 53.8 |
| HCM 6th LOS | | D |

**Notes**

User approved ignoring U-Turning movement.

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

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 11 | 0 | 6 | 0 | 1068 | 22 | 22 | 656 | 0 |
| Future Volume (veh/h) | 0 | 0 | 0 | 11 | 0 | 6 | 0 | 1068 | 22 | 22 | 656 | 0 |
| 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 | | 1.00 | 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 | 1856 | 0 | 0 | 1856 | 0 | 1856 | 0 | 1856 | 1856 | 1856 | 1856 | 0 |
| Adj Flow Rate, veh/h | 0 | 0 | 0 | 12 | 0 | 5 | 0 | 1256 | 25 | 23 | 676 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.94 | 0.94 | 0.94 | 0.85 | 0.85 | 0.85 | 0.97 | 0.97 | 0.97 |
| Percent Heavy Veh, % | 3 | 0 | 0 | 3 | 0 | 3 | 0 | 3 | 3 | 3 | 3 | 0 |
| Cap, veh/h | 4 | 0 | 0 | 22 | 0 | 0 | 0 | 2056 | 41 | 40 | 2514 | 0 |
| Arrive On Green | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.58 | 0.58 | 0.02 | 0.71 | 0.00 |
| Sat Flow, veh/h | 1767 | 0 | | 1767 | 12 | | 0 | 3625 | 70 | 1767 | 3618 | 0 |
| Grp Volume(v), veh/h | 0 | 0.0 | | 12 | 27.4 | | 0 | 626 | 655 | 23 | 676 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1767 | | | 1767 | C | | 0 | 1763 | 1840 | 1767 | 1763 | 0 |
| Q Serve(g_s), s | 0.0 | | | 0.3 | | | 0.0 | 9.3 | 9.3 | 0.5 | 2.8 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | | | 0.3 | | | 0.0 | 9.3 | 9.3 | 0.5 | 2.8 | 0.0 |
| Prop In Lane | 1.00 | | | 1.00 | | | 0.00 | | 0.04 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 4 | | | 22 | | | 0 | 1026 | 1071 | 40 | 2514 | 0 |
| V/C Ratio(X) | 0.00 | | | 0.54 | | | 0.00 | 0.61 | 0.61 | 0.58 | 0.27 | 0.00 |
| Avail Cap(c_a), veh/h | 1136 | | | 1136 | | | 0 | 1242 | 1296 | 227 | 3303 | 0 |
| HCM Platoon Ratio | 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 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | | | 19.9 | | | 0.0 | 5.5 | 5.5 | 19.6 | 2.1 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | | | 7.6 | | | 0.0 | 1.4 | 1.4 | 4.8 | 0.1 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | | | 0.1 | | | 0.0 | 1.3 | 1.3 | 0.2 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | | | 27.4 | | | 0.0 | 6.9 | 6.8 | 24.4 | 2.2 | 0.0 |
| LnGrp LOS | A | | | C | | | A | A | A | C | A | A |
| Approach Vol, veh/h | | | | | | | | 1281 | | | 699 | |
| Approach Delay, s/veh | | | | | | | | 6.9 | | | 2.9 | |
| Approach LOS | | | | | | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | 3 | | 6 | 7 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.3 | 29.7 | 5.4 | | 35.1 | 0.0 |
| Change Period (Y+Rc), s | 4.4 | * 6.2 | 4.9 | | 6.2 | 4.9 |
| Max Green Setting (Gmax), s | 5.3 | * 29 | 26.0 | | 37.9 | 26.0 |
| Max Q Clear Time (g_c+I1), s | 2.5 | 11.3 | 2.3 | | 4.8 | 0.0 |
| Green Ext Time (p_c), s | 0.0 | 12.2 | 0.0 | | 9.1 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 5.6 |
| HCM 6th LOS | A |

**Notes**

User approved ignoring U-Turning movement.

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

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.6 |

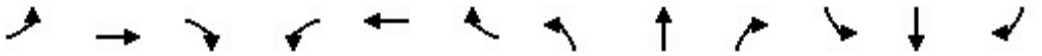
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 67 | 1389 | 53 | 0 | 794 |
| Future Vol, veh/h | 0 | 67 | 1389 | 53 | 0 | 794 |
| Conflicting Peds, #/hr | 10 | 10 | 0 | 10 | 10 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 0 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 3 | 3 | 3 | 3 | 3 | 3 |
| Mvmt Flow | 0 | 73 | 1510 | 58 | 0 | 863 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 804 | 0 | 0 | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.96 | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.33 | - | - | - | - |
| Pot Cap-1 Maneuver | 0 | 324 | - | - | 0 | - |
| Stage 1 | 0 | - | - | - | 0 | - |
| Stage 2 | 0 | - | - | - | 0 | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | - | 318 | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 19.7 | 0 | 0 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBT |
|---|---|---|---|---|
| Capacity (veh/h) | - | - | 318 | - |
| HCM Lane V/C Ratio | - | - | 0.229 | - |
| HCM Control Delay (s) | - | - | 19.7 | - |
| HCM Lane LOS | - | - | C | - |
| HCM 95th %tile Q(veh) | - | - | 0.9 | - |

# Appendix M
# Horizon Year Base with Project Peak Hour Intersection Capacity Worksheets and Signal Timing Inputs (Weekend)



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 337 | 0 | 318 | 105 | 415 | 360 | 320 | 351 | 0 |
| Future Volume (veh/h) | 0 | 0 | 0 | 337 | 0 | 318 | 105 | 415 | 360 | 320 | 351 | 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 | | 0.96 | 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 | | | | 1856 | 0 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 0 |
| Adj Flow Rate, veh/h | | | | 355 | 0 | 240 | 114 | 437 | 326 | 337 | 369 | 0 |
| Peak Hour Factor | | | | 0.95 | 0.92 | 0.95 | 0.92 | 0.95 | 0.95 | 0.95 | 0.95 | 0.92 |
| Percent Heavy Veh, % | | | | 3 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 0 |
| Cap, veh/h | | | | 669 | 0 | 307 | 145 | 615 | 455 | 390 | 1634 | 0 |
| Arrive On Green | | | | 0.20 | 0.00 | 0.20 | 0.08 | 0.32 | 0.32 | 0.22 | 0.46 | 0.00 |
| Sat Flow, veh/h | | | | 3428 | 0 | 1572 | 1767 | 1894 | 1402 | 1767 | 3618 | 0 |
| Grp Volume(v), veh/h | | | | 355 | 0 | 240 | 114 | 407 | 356 | 337 | 369 | 0 |
| Grp Sat Flow(s),veh/h/ln | | | | 1714 | 0 | 1572 | 1767 | 1763 | 1533 | 1767 | 1763 | 0 |
| Q Serve(g_s), s | | | | 5.5 | 0.0 | 8.5 | 3.7 | 11.9 | 12.0 | 10.8 | 3.7 | 0.0 |
| Cycle Q Clear(g_c), s | | | | 5.5 | 0.0 | 8.5 | 3.7 | 11.9 | 12.0 | 10.8 | 3.7 | 0.0 |
| Prop In Lane | | | | 1.00 | | 1.00 | 1.00 | | 0.91 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | | | | 669 | 0 | 307 | 145 | 573 | 498 | 390 | 1634 | 0 |
| V/C Ratio(X) | | | | 0.53 | 0.00 | 0.78 | 0.78 | 0.71 | 0.72 | 0.86 | 0.23 | 0.00 |
| Avail Cap(c_a), veh/h | | | | 1461 | 0 | 670 | 169 | 667 | 580 | 530 | 2092 | 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 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | | | | 21.2 | 0.0 | 22.4 | 26.4 | 17.4 | 17.4 | 22.0 | 9.4 | 0.0 |
| Incr Delay (d2), s/veh | | | | 0.2 | 0.0 | 1.7 | 15.7 | 5.3 | 6.2 | 8.5 | 0.2 | 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 | | | | 1.9 | 0.0 | 2.8 | 2.0 | 4.7 | 4.2 | 4.6 | 1.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 21.4 | 0.0 | 24.1 | 42.1 | 22.6 | 23.6 | 30.5 | 9.6 | 0.0 |
| LnGrp LOS | | | | C | A | C | D | C | C | C | A | A |
| Approach Vol, veh/h | | | | | 595 | | | 877 | | | 706 | |
| Approach Delay, s/veh | | | | | 22.5 | | | 25.6 | | | 19.6 | |
| Approach LOS | | | | | C | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 | | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 17.3 | 24.9 | | 9.2 | 33.1 | | 16.4 | | | | | |
| Change Period (Y+Rc), s | 4.4 | 5.9 | | 4.4 | * 5.9 | | 4.9 | | | | | |
| Max Green Setting (Gmax), s | 17.6 | 22.2 | | 5.6 | * 35 | | 25.0 | | | | | |
| Max Q Clear Time (g_c+I1), s | 12.8 | 14.0 | | 5.7 | 5.7 | | 10.5 | | | | | |
| Green Ext Time (p_c), s | 0.2 | 4.8 | | 0.0 | 4.9 | | 1.0 | | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 22.8 |
| HCM 6th LOS | | C |

**Notes**

User approved ignoring U-Turning movement.

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

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 13 | 0 | 10 | 0 | 629 | 9 | 101 | 505 | 0 |
| Future Volume (veh/h) | 0 | 0 | 0 | 13 | 0 | 10 | 0 | 629 | 9 | 101 | 505 | 0 |
| 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 | | 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 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1856 | 0 | 0 | 1856 | 0 | 1856 | 0 | 1856 | 1856 | 1856 | 1856 | 0 |
| Adj Flow Rate, veh/h | 0 | 0 | 0 | 14 | 0 | 10 | 0 | 662 | 8 | 106 | 532 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 3 | 0 | 0 | 3 | 0 | 3 | 0 | 3 | 3 | 3 | 3 | 0 |
| Cap, veh/h | 6 | 0 | 0 | 26 | 0 | 0 | 0 | 1481 | 18 | 136 | 2229 | 0 |
| Arrive On Green | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.42 | 0.42 | 0.08 | 0.63 | 0.00 |
| Sat Flow, veh/h | 1767 | 0 | | 1767 | 14 | | 0 | 3658 | 43 | 1767 | 3618 | 0 |
| Grp Volume(v), veh/h | 0 | 0.0 | | 14 | 21.8 | | 0 | 327 | 343 | 106 | 532 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1767 | | | 1767 | C | | 0 | 1763 | 1846 | 1767 | 1763 | 0 |
| Q Serve(g_s), s | 0.0 | | | 0.2 | | | 0.0 | 4.2 | 4.2 | 1.9 | 2.1 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | | | 0.2 | | | 0.0 | 4.2 | 4.2 | 1.9 | 2.1 | 0.0 |
| Prop In Lane | 1.00 | | | 1.00 | | | 0.00 | | 0.02 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 6 | | | 26 | | | 0 | 732 | 767 | 136 | 2229 | 0 |
| V/C Ratio(X) | 0.00 | | | 0.54 | | | 0.00 | 0.45 | 0.45 | 0.78 | 0.24 | 0.00 |
| Avail Cap(c_a), veh/h | 1462 | | | 1462 | | | 0 | 1323 | 1386 | 287 | 3690 | 0 |
| HCM Platoon Ratio | 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 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | | | 15.4 | | | 0.0 | 6.6 | 6.6 | 14.3 | 2.5 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | | | 6.4 | | | 0.0 | 1.0 | 1.0 | 3.7 | 0.1 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | | | 0.1 | | | 0.0 | 0.7 | 0.7 | 0.6 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | | | 21.8 | | | 0.0 | 7.6 | 7.6 | 17.9 | 2.6 | 0.0 |
| LnGrp LOS | A | | | C | | | A | A | A | B | A | A |
| Approach Vol, veh/h | | | | | | | | 670 | | | 638 | |
| Approach Delay, s/veh | | | | | | | | 7.6 | | | 5.2 | |
| Approach LOS | | | | | | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | 3 | | 6 | 7 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.8 | 19.3 | 5.4 | | 26.1 | 0.0 |
| Change Period (Y+Rc), s | 4.4 | * 6.2 | 4.9 | | 6.2 | 4.9 |
| Max Green Setting (Gmax), s | 5.1 | * 24 | 26.0 | | 32.9 | 26.0 |
| Max Q Clear Time (g_c+I1), s | 3.9 | 6.2 | 2.2 | | 4.1 | 0.0 |
| Green Ext Time (p_c), s | 0.0 | 6.5 | 0.0 | | 6.6 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 6.6 |
| HCM 6th LOS | A |

**Notes**

User approved ignoring U-Turning movement.

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

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.8 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 97 | 782 | 97 | 0 | 762 |
| Future Vol, veh/h | 0 | 97 | 782 | 97 | 0 | 762 |
| Conflicting Peds, #/hr | 10 | 10 | 0 | 10 | 10 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 0 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 3 | 3 | 3 | 3 | 3 | 3 |
| Mvmt Flow | 0 | 105 | 850 | 105 | 0 | 828 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 498 | 0 | 0 | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.96 | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.33 | - | - | - | - |
| Pot Cap-1 Maneuver | 0 | 515 | - | - | 0 | - |
| Stage 1 | 0 | - | - | - | 0 | - |
| Stage 2 | 0 | - | - | - | 0 | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | - | 505 | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 14 | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBT |
|---|---|---|---|---|
| Capacity (veh/h) | - | - | 505 | - |
| HCM Lane V/C Ratio | - | - | 0.209 | - |
| HCM Control Delay (s) | - | - | 14 | - |
| HCM Lane LOS | - | - | B | - |
| HCM 95th %tile Q(veh) | - | - | 0.8 | - |