

QUESTHAVEN  
RESIDENTIAL DEVELOPMENT

Local Transportation Analysis

APRIL 2024

Prepared For

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## ES.1 Introduction

The purpose of this Local Transportation Analysis (LTA) is to identify and document potential transportation related inconsistencies with the *City of San Marcos General Plan Mobility Element* (Mobility Element) or the *City of San Marcos Transportation Impact Analysis Guidelines* (November 2020) that may be associated with the Questhaven Project (Proposed Project), as well as to recommend improvements, as necessary, for any roadway segments and intersections identified to be inconsistent with the Mobility Element.

## ES.2 Project Setting

The Proposed Project is located on the south side of San Elijo Road between Fallsview Road and the Loma San Marcos Movie Studio project driveway, near the San Elijo Community, within the unincorporated County of San Diego. The Proposed Project includes 76 single-family estate residential dwelling units and a 0.30-acre park within an 89.23-acre lot. Sixty-nine (69) of the single-family units will be market rate units and seven (7) will be affordable housing units.

Trip generation rates for the Proposed Project are derived from the San Diego Association of Governments' (SANDAG) (*not so*) *Brief Guide to Vehicular Traffic Generation Rates for the San Diego Region* (April 2002). Trip generation calculations are provided in Chapter 3. The Proposed Project would generate a total of 914 daily trips, including 74 trips (23-in / 51-out) during the AM peak hour and 93 trips (65-in / 28-out) during the PM peak hour.

The project site is undeveloped under existing conditions. San Elijo Road abuts the northern boundary of the property and will provide access via two driveways, Street "D" and Street "E", to the Proposed Project.

The following ten (10) roadway segments and ten (10) intersections are analyzed in the study:

### Roadway Segments – City of Carlsbad

1. Rancho Santa Fe Road, between Melrose Drive and San Elijo Road
2. Rancho Santa Fe Road, between San Elijo Road and Avenida Soledad

### Roadway Segments – City of San Marcos

3. San Elijo Road, between Rancho Santa Fe and Melrose Drive
4. San Elijo Road, between Melrose Drive and Street "E" (Existing)
5. San Elijo Road, between Street "E" (Existing) and Baker Street
6. San Elijo Road (southbound one-way), between Baker Street and Elfin Forest Road
7. San Elijo Road (southbound one-way), between Elfin Forest Road and Schoolhouse Way
8. San Elijo Road (northbound one-way), between Baker Street and Elfin Forest Road
9. San Elijo Road (northbound one-way), between Elfin Forest Road and Schoolhouse Way
10. San Elijo Road, between Schoolhouse Way and Hope Street

### Intersections – City of San Marcos

1. Melrose Drive / San Elijo Road (Signal)
2. Street “E” / San Elijo Road (SSSC)
3. San Elijo Road (southbound) / Baker Street (Signal)
4. San Elijo Road (northbound) / Baker Street (Signal)
5. San Elijo Road (southbound) / Elfin Forest Road (eastbound) (Signal)
6. San Elijo Road (northbound) / Elfin Forest Road (eastbound) (Signal)
7. San Elijo Road (southbound) / Elfin Forest Road (westbound) (Signal)
8. San Elijo Road (northbound) / Elfin Forest Road (westbound) (Signal)
9. Schoolhouse Way / San Elijo Road (Signal)
10. Street “D” / San Elijo Road (SSSC)<sup>1</sup>

SSSC = *Side-Street Stop-Controlled*.

<sup>1</sup>*Intersection provides project access and does not exist; therefore, it is only analyzed under “With Project” scenarios.*

Freeway mainline segments are not analyzed since the Proposed Project is not anticipated to add more than 50 peak hour trips, in either direction, to a freeway mainline segment.

## **ES.3 Mobility Element Inconsistencies and Recommended Improvements**

The Proposed Project will not create any Mobility Element inconsistencies along any of the study roadway segments under each of the studied scenarios. However, the Proposed Project would result in a Mobility Element inconsistency at one intersection under Near-Term Year 2024 Base with Project Conditions. A summary of all results is provided in the following sections.

### **Existing Conditions**

#### Roadway Segment Analysis

All roadway segments within the project study area currently operate at acceptable Level of Service (LOS) C or better under Existing conditions.

#### Intersection Analysis

All intersections within the project study area currently operate at acceptable LOS D or better during both the AM and PM peak hours under Existing conditions, with the exception of the following two (2) intersections:

3. *San Elijo Road (southbound) / Baker Street* – LOS E during the AM peak hour. This is primarily due to the westbound left-turn movement which experiences particularly high delay compared to all other movements at this intersection.
9. *Schoolhouse Way / San Elijo Road* – LOS E during the AM peak hour. This is primarily due to the high volume of vehicle trips and associated delay for the westbound left-turn movement. Most of these vehicle trips are student drop-off trips at both San Elijo Elementary and Middle Schools.

## Near-Term Year 2024 Conditions

### Roadway Segment Analysis

All roadway segments within the project study area would operate at acceptable LOS D under Near-Term Year 2024 Base conditions.

Similarly, all roadway segments are projected to operate at LOS D or better under Near-Term Year 2024 Base with Project conditions, with the exception of the following:

- San Elijo Road, between Street “E” and Baker Street.

The cause of this roadway segment operating at unacceptable LOS is the result of trips coming out of the project not being allowed to make a left turn out of the Proposed Project Driveway (Street “E” / San Elijo Road) which routes all traffic to travel through this roadway segment. With signalization of the intersection, and the associated lane reconfiguration at the south leg of San Elijo Road and Street “E” (Project Driveway), all movements will be allowed and vehicles making a left turn (travel westbound) out of the Proposed Project will now be able to do so. A trip distribution with the signal in place can be found in **Figure 5.5**.

**Table ES.1** displays roadway LOS results under Near-Term Year 2024 Base with Project with Improvement Conditions.

**Table ES.1 Roadway Segment LOS Results – Near-Term Year 2024 Base with Project with Improvement Conditions**

Roadway	Segment	ADT w/Traffic Signal	V/C w/Traffic Signal	LOS w/Traffic Signal	ADT w/o Traffic Signal	V/C w/o Traffic Signal	LOS w/o Traffic Signal	$\Delta V/C$	I?
San Elijo Road	Street “E” to Baker Street	34,466	0.862	D	35,014	0.875	E	-0.013	N

As shown, the roadway segment of San Elijo Road, between Street “E” and Baker Street would operate at acceptable LOS D with installation of a traffic signal at the intersection of San Elijo Road and Street “E”.

### Intersection Analysis

All intersections within the project study area would operate at acceptable LOS D or better during both AM and PM peak hours under Near-Term Year 2024 Base conditions, with exception to the following four (4) intersections:

1. *Melrose Drive / San Elijo Road* – LOS E during AM peak hour and LOS F during PM peak hour. Since this intersection would experience particularly high volume at the eastbound through movement during the PM peak hour, maximum green time would be limited under the current signal timing configuration.
2. *Street “E” / San Elijo Road* – LOS F during PM peak hour for the northbound approach. This is due to the high right-turn volume and the extremely high conflicting eastbound through volume.
3. *San Elijo Road (southbound) / Baker Street* – LOS E during AM peak hour. This is primarily due to the westbound left-turn movement which experiences particularly high delay compared to all other movements at this intersection.

9. *Schoolhouse Way / San Elijo Road* – LOS E during AM peak hour. This is primarily due to the high volume of vehicle trips and associated delay for the westbound left-turn movement. Most of these vehicle trips are student drop-off trips at both San Elijo Elementary and Middle Schools.

Similarly, all intersections are projected to operate at LOS D or better during both the AM and PM peak hours under Near-Term Year 2024 Base with Project Conditions, with the exception of the same four (4) intersections, as follows:

1. *Melrose Drive / San Elijo Road* – LOS E during AM peak hour and LOS F during PM peak hour. The Proposed Project is anticipated to increase delay by 3.7 seconds during AM peak hour and 7.0 seconds during the PM peak hour when compared to the 2024 Base conditions.
2. *Street "E" / San Elijo Road* – LOS F during the PM peak hour. The proposed project is anticipated to increase delay by 37.9 seconds during AM peak hour and 75.9 seconds during the PM peak hour when compared to the 2024 Base conditions.
3. *San Elijo Road (southbound) / Baker Street* – LOS E during AM peak hour. The Proposed Project is anticipated to increase delay by 18.3 during the AM peak hour and 5.2 seconds during the PM peak hour when compared to the 2024 Base conditions.
9. *Schoolhouse Way / San Elijo Road* – LOS E during AM peak hour. The Proposed Project is anticipated to increase delay by 0.9 seconds during AM peak hour and 0.8 seconds during the PM peak hour when compared to the 2024 Base conditions.

Implementation of the Proposed Project would further deteriorate traffic operations and add more than two seconds of delay to three (3) intersections already operating at LOS E or LOS F; the Proposed Project does not cause the delay at the fourth intersection to decrease by more than two seconds. Given the increased delay at three of those intersections, the Proposed Project would cause an inconsistency with Mobility Element – Policy M-1.4 as described below:

1. *Melrose Drive / San Elijo Road* – To achieve consistency with Mobility Element – Policy M-1.4, the traffic signal timing will need to be optimized. Signal optimization will include reoptimizing cycle lengths and/or signal splits to better accommodate future traffic demand along the San Elijo Road corridor. Implementing this will improve intersection vehicle delays to better than pre-project conditions. Signal optimization, or timing adjustment based on traffic demand, will result in intersection capacity, vehicle throughput, and reduction in vehicle delays. It is important to note that if signal optimization is implemented, adjacent intersections within the coordinated system will need to be taken into consideration. Additionally, the north leg of the intersection (Melrose Drive) will have to be restriped to accommodate southbound dual left-turn lanes and a shared through-right lane. A striping plan shall be prepared to the satisfaction of the City Engineer. Upon implementation of signal optimization and restriping of the north leg to accommodate the aforementioned intersection configuration, consistency with Mobility Element – Policy M-1.4 would be achieved. A diagram of the proposed lane configuration changes to the signal can be found in **Figure 5.9**.
2. *Street "E" / San Elijo Road* – To achieve consistency with Mobility Element – Policy M-1.4, a traffic signal will need to be installed as well as a lane reconfiguration at the south leg of the intersection at this location in order to accommodate the high volume of traffic attempting to turn onto San Elijo Road. Upon installation of the traffic signal, consistency with Mobility Element – Policy M-1.4

would be achieved. A diagram of the proposed lane configuration and traffic control device changes to the intersection can be found in **Figure 5.10**.

- San Elijo Road (southbound) / Baker Street – Achieving consistency with Mobility Element – Policy M-1.4 will require the installation of the traffic signal at Street “E” / San Elijo Road. The installation of the traffic signal at intersection #2 will enable rerouting of traffic from both the Project and the Lomas San Marcos Specific Plan cumulative project to significantly reduce the high westbound left turn volume. Upon installation of the traffic signal consistency with Mobility Element – Policy M-1.4 would be achieved.

**Table ES.2** displays intersection LOS and average vehicle delay results under Near-Term Year 2024 Base with Project with Improvement Conditions. LOS calculation worksheets are provided in Appendix G.

**Table ES.2 Peak Hour Intersection LOS Results – Near-Term Year 2024 Base with Project with Improvement Conditions**

#	Intersection	Control Type	AM Peak Hour		PM Peak Hour		Delay w/o Project (sec) AM/PM	LOS w/o Project AM/PM	Change in Delay (sec) AM/PM
			Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS			
1	Melrose Drive / San Elijo Road	Signal	45.1	D	53.9	D	60.5 / 119.5	<b>E / F</b>	-14.6 / -65.6
2	Street “E” / San Elijo Road	Signal	13.9	B	22.6	C	22.6 / 797.1	<b>C / F</b>	-8.7 / -774.5
3	San Elijo Road (southbound) / Baker Street	Signal	52.4	D	33.1	C	75.7 / 51.4	<b>E / D</b>	-23.3 / -18.3

Notes:

**Bold** indicates substandard LOS E or F.

As shown in Table ES.2, the proposed improvements will enhance the identified traffic operations to better than pre-project conditions as follows:

- Melrose Drive / San Elijo Road* – During the AM peak hour, the delay is projected to be reduced from 63.0 seconds (LOS E) to 45.1 seconds (LOS D), for a total reduction of 17.9 seconds. During the PM peak hour, the delay is projected to be reduced from 89.1 seconds (LOS F) to 41.1 seconds (LOS D), for a total reduction of 48.0 seconds.
- Street “E” / San Elijo Road* – During the AM peak hour, the delay is projected to be reduced from 22.6 seconds (LOS C) to 13.9 seconds (LOS B), for a total reduction of 8.7 seconds. During the PM peak hour, the delay is projected to be reduced from 797.1 seconds (LOS F) to 22.6 seconds (LOS C), for a total reduction of 774.5 seconds.
- San Elijo Road (southbound) / Baker Street* – During the AM peak hour, the delay is projected to be reduced from 75.7 seconds (LOS E) to 52.4 seconds (LOS D), for a total reduction of 23.3 seconds. During the PM peak hour, the delay is projected to be reduced from 51.4 seconds (LOS D) to 33.1 seconds (LOS C), for a total reduction of 18.3 seconds.

All of the intersections described above are located within the City of San Marcos and the County of San Diego does not have control over improvements located within the jurisdiction of the City of San Marcos.

Further coordination with the City of San Marcos would be required to implement any improvements at that location.

## Horizon Year 2035 Conditions

### Roadway Segment Analysis

All roadway segments within the project study area currently operate at acceptable LOS D or better under Horizon Year 2035 Base conditions, with exception to the following roadway segment:

- San Elijo Road, east of Schoolhouse Way – LOS F

Similarly, all roadway segments are projected to operate at LOS D or better under Horizon Year 2035 Base with Project conditions, with exception to the same roadway segments, as follows:

- San Elijo Road, east of Schoolhouse Way – LOS F

Although the roadway segment identified above is projected to continue operating at a substandard LOS with the addition of project traffic, the increase in V/C ratio is less than 0.02. Therefore, based upon the standards set forth in the City of San Marcos TIA Guidelines, the Proposed Project study roadway segment would not be associated with inconsistencies with the TIA Guidelines.

### Intersection Analysis

The Proposed Project is consistent with the *County of San Diego General Plan*; therefore, intersection analysis was not conducted in the Horizon Year.

## ES.4 Site Access

The Proposed Project is located on the south side of San Elijo Road between Fallsview Road and the Loma San Marcos project driveway, near the San Elijo Community within the unincorporated County of San Diego. Project access will be provided via the following two (2) access points:

2. *Street "E" / San Elijo Road* – This access point, named as Street "E", is located at the eastern end of the Questhaven property. It is an existing T-intersection leg (south) that connects to San Elijo Road and currently provides access to the Loma San Marcos Movie Studio. As displayed in **Figure ES.1**, there are currently physical barriers along San Elijo Road that prevent left turn movements out of the existing driveway. This access point is analyzed as a side-street stop-controlled right-in/right-out under Existing, Near Term, and Near Term with Project scenarios. This access point includes one inbound lane and one outbound lane.
  
10. *Street "D" / San Elijo Road* – This access point, named as Street "D", is located at the western end of the property. It will form a side-street stop-controlled, right-in/right-out T-intersection with San Elijo Road. This access point includes one inbound lane and one outbound lane.

The site is comprised of a number of private internal roads to provide adequate internal circulation and access to the proposed land uses, as well as to connect to the two project driveways in Streets "D" and "E".

**Table ES.3** displays intersection LOS and average vehicle delay results for the two Proposed Project access points under Near-Term Year 2024 Base with Project conditions.

**Table ES.3 Peak Hour Project Driveway LOS Results**

#	Intersection	Control Type	Near-Term Year 2024 Base with Project			
			AM Peak Hour		PM Peak Hour	
			Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS
2	Street "E" / San Elijo Road	SSSC	60.5	F	873.4	F
10	Street "D" / San Elijo Road	SSSC	15.6	C	26.8	D

Notes:

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

As shown in Table ES.3, and discussed above, while the access point at Street "D" will operate at LOS D or better during AM and PM peak hours, the access point at Street "E" will cause an inconsistency with the Mobility Element. In order to maintain consistency with the Mobility Element at this location a traffic signal would have to be installed at this location.



**Table ES.4** displays intersection LOS and average vehicle delay results for the two project access points under Near-Term Year 2024 Base with Project Improvement conditions.

**Table ES.4 Peak Hour Project Driveway LOS Results**

#	Intersection	Control Type	Near-Term Year 2024 Base with Project Improvement <sup>1</sup>			
			AM Peak Hour		PM Peak Hour	
			Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS
2	Street "E" / San Elijo Road	Signal	13.9	B	22.6	C
10	Street "D" / San Elijo Road	SSSC	15.6	C	26.8	D

Notes:

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

<sup>1</sup> Includes improvement (construction of traffic signal) identified in Section 5.7.2.

As shown in Table ES.4, both access points will operate at LOS D or better during both the AM and PM peak hours in the Near Term 2024 Base with Project Improvement scenario.

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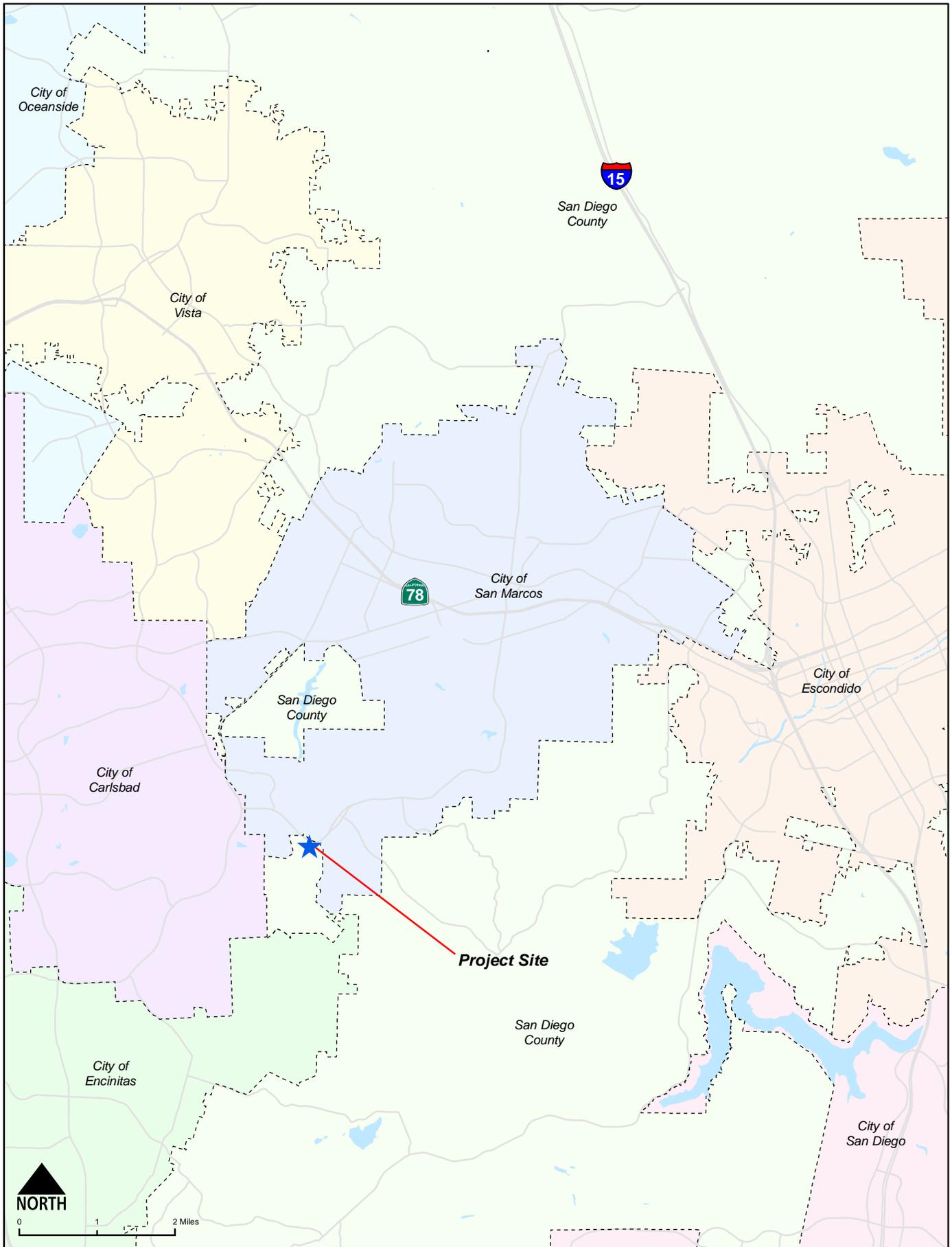
## 1.0 Introduction

The purpose of this Local Transportation Analysis (LTA) is to identify and document potential transportation related inconsistencies with the *City of San Marcos General Plan Mobility Element* (Mobility Element) or the *City of San Marcos Transportation Impact Analysis Guidelines* (November 2020) associated with the Questhaven Project (Proposed Project), as well as to recommend improvements, as necessary, for any roadway segments and intersections identified to be inconsistent with the Mobility Element.

### 1.1 Project Background

The Proposed Questhaven Project (Proposed Project) is located on the south side of San Elijo Road between Fallsvie Road and the Loma San Marcos Movie Studio project driveway, near the San Elijo Community, within the unincorporated County of San Diego. The Project proposes to construct 76 single-family estate residential dwelling units and a 0.66-acre park within an 89.23-acre lot. 69 of the single-family units will be market rate and 7 will be affordable housing units. **Figure 1.1** displays the Proposed Project regional location.

The project site is undeveloped under existing conditions. San Elijo Road abuts the northern boundary of the property and will provide access via two access points, Street "D" and Street "E", to the Proposed Project. The first access point, named Street "E", is the southern leg of an existing intersection and San Elijo Road intersection and located at the eastern end of the property. This driveway currently provides access to Loma San Marcos Studio. The second access point, named Street "D", is located on the western end of the property off of San Elijo Road. Both access points will operate as side-street stop-controlled intersections and only allow right-in/right-out movements.



## 1.2 Report Organization

Following this introduction chapter, this report is organized into the following sections:

- 2.0 *Analysis Methodology* – This chapter describes the methodologies and standards utilized to analyze the roadway segment and intersection traffic conditions.
- 3.0 *Project Description* – This chapter describes the Proposed Project including project trip generation, trip distribution, trip assignment, and study area.
- 4.0 *Existing Conditions* – This chapter describes the existing traffic network within the study area and provides analysis results for existing traffic conditions.
- 5.0 *Near-Term Traffic Conditions* – This chapter describes near-term developments anticipated to generate additional study area trips by year 2024, the Proposed Project opening year. Analysis results are provided for the No-Project (Year 2024 Base) and Year 2024 Base with Project conditions, along with recommended improvements, if necessary.
- 6.0 *Horizon Year 2035 Traffic Conditions* – This chapter describes projected long-range future cumulative traffic conditions. Analysis results are provided for the No-Project (Year 2035 Base) and Year 2035 Base with Project conditions, along with recommended improvements, if necessary. Note that since this project is consistent with the County's General Plan, no intersection analysis is conducted under this scenario.
- 7.0 *Site Access, On-Site Circulation, Parking, and Queuing* – This chapter addresses access and internal circulation within the project site, parking provided, and driveway queuing.
- 8.0 *Pedestrian, Bicycle, and Transit Assessment* – This chapter discusses the Proposed Project site's alternative transportation modes (walking, bicycling, and transit).

## 2.0 Analysis Methodology

Although the Proposed Project resides within the County of San Diego, all study roadway facilities are located within the Cities of San Marcos and Carlsbad. In coordination with City staff, this LTA was performed in accordance with the City of San Marcos *Transportation Impact Analysis Guidelines* (TIA Guidelines). Detailed information on roadway and intersection analysis methodologies, standards, and thresholds are discussed in the following sections.

### 2.1 Level of Service Definition

Level of Service (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 6<sup>th</sup> 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 Average Daily Traffic (ADT) volumes. **Table 2.2** displays roadway segment capacity and LOS standards developed by SANTEC and employed by both for the City of San Marcos and City of Carlsbad. The actual capacity of a roadway facility varies according to its physical attributes.

**Table 2.2 Roadway Segment Daily Capacity and LOS Standards**

Street Classification	Proposed LOS/ADT Thresholds				
	A	B	C	D	E
Expressway (6-lane)	< 30,000	< 42,000	< 60,000	< <b>70,000</b>	< 80,000
Prime Arterial (6-lane)	< 25,000	< 35,000	< 50,000	< <b>55,000</b>	< 60,000
Major Arterial (6-lane, divided)	< 20,000	< 28,000	< 40,000	< <b>45,000</b>	< 50,000
Major Arterial (4-lane, divided)	< 15,000	< 21,000	< 30,000	< <b>35,000</b>	< 40,000
Major Arterial (3-lane, one-way)	< 12,500	< 16,500	< 22,500	< <b>25,000</b>	< 27,500
Major Arterial (2-lane, one-way)	<10,000	<13,000	<17,500	< <b>20,000</b>	<22,500
Secondary Arterial / Collector (4-lane w/ center lane)	< 10,000	< 14,000	< 20,000	< <b>25,000</b>	< 30,000
Collector (4-lane w/o center lane)	< 5,000	< 7,000	< 10,000	< <b>13,000</b>	< 15,000
Collector (2-lane w/ continuous left-turn lane)	< 5,000	< 7,000	< 10,000	< <b>13,000</b>	< 15,000
Collector (2-lane no fronting property)	< 4,000	< 5,500	< 7,500	< <b>9,000</b>	< 10,000
Collector (2-lane w/ commercial fronting)	< 2,500	< 3,500	< 5,000	< <b>6,500</b>	< 8,000
Collector (2-lane w/ multi-family)	< 2,500	< 3,500	< 5,000	< <b>6,500</b>	< 8,000
Collector (3-lane, one-way)	< 11,000	< 14,000	< 19,000	< <b>22,500</b>	< 26,000
Collector (2-lane, one-way)	< 7,500	< 9,500	< 12,500	< <b>15,000</b>	< 17,500
Collector (1-lane, one-way)	< 2,500	< 3,500	< 5,000	< <b>6,500</b>	< 7,500
Sub-Collector (2-lane single family)	-	-	< <b>2,200</b>	-	-

Source: City of San Marcos Transportation Impact Analysis Guidelines (November 2020)

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 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 or better is considered acceptable for circulation element roadway segments.

## 2.3 Peak Hour Intersection LOS Standards and Thresholds

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

- *Peak Hour Factor*: Based on existing peak hour counts and applied to existing and near-term conditions.
- *Signal Timing*: Based on existing signal timing plans (as of April 2020), provided in **Appendix A**.

### 2.3.1 Signalized Intersection Analysis

The analysis of signalized intersections utilized the operational analysis procedure as outlined in the Highway Capacity Manual (HCM) 6th Edition signalized 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 Operational Analysis**

Average Stopped Delay Per Vehicle	LOS Characteristics
≤10	<i>LOS A</i> 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	<i>LOS B</i> describes operations with generally good progression and/or short cycle lengths. More vehicles stop than for <i>LOS A</i> , causing higher levels of average delay.
>20 – 35	<i>LOS C</i> 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	<i>LOS D</i> describes operations with high delay, resulting from some combination of unfavorable progression, long cycle lengths, or high volumes. The influence of congestion becomes more noticeable, and individual cycle failures are noticeable.
>55 – 80	<i>LOS E</i> is considered the limit of acceptable delay. Individual cycle failures are frequent occurrences.
>80	<i>LOS F</i> describes a condition of excessively high delay, considered unacceptable to most drivers. This condition often occurs when arrival flow rates exceed the <i>LOS D</i> capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes to such delay.

Source: Highway Capacity Manual 6<sup>th</sup> Edition

### 2.3.2 Unsignalized Intersection Analysis

Unsignalized intersections, including side street and all way stop controlled intersections, were analyzed using the Highway Capacity Manual 6<sup>th</sup> Edition unsignalized intersection analysis methodology. The Synchro Version 10 traffic analysis software supports this methodology and was utilized to produce LOS results. The LOS for a side street stop controlled (SSSC) intersection is determined by the computed control delay and is defined for each minor movement. **Table 2.4** summarizes the LOS criteria for unsignalized intersections.

**Table 2.4 LOS Criteria for Stop-Controlled Unsignalized Intersections**

Average Stopped Delay Per Vehicle (sec/veh)	LOS
<10	A
>10 to <15	B
>15 to <25	C
>25 to <35	D
>35 to <50	E
>50	F

Source: Highway Capacity Manual 6<sup>th</sup> Edition

## 2.4 Determination of Study Area

The TIA Guidelines require that the project study area includes, at a minimum, the following facilities:

- Project driveways
- Signalized and unsignalized intersections along and adjacent to the project site.
- Any classified (non-residential) roadway segments that are linked to intersections that are being studied.

The study area should also include any other roadway segments and intersections necessary as determined by City staff.

## 2.5 Determination of Inconsistencies with Mobility Element

This section outlines the Mobility Element Policies that are relevant to the Proposed Project. In general, an inconsistency with the Mobility Element would be identified when the addition of project traffic results in level of service that deviates from the following policy:

- Policy M-1.4: LOS D or better for Vehicles as a prioritized mode – Generally provides facilities that have minimum vehicle congestion during peak periods. Most motorists are delayed less than 55 seconds at a signal (or less than one signalized cycle).

In general, an inconsistency would be identified when the addition of project traffic results in a LOS dropping from LOS D or better to substandard LOS E or F. The TIA Guidelines provide the following thresholds for determination of project-related inconsistencies on study area facilities:

- Implementation of the Proposed Project triggers a roadway segment operating at acceptable LOS to operate at substandard LOS and increases the volume/capacity (V/C) ratio by more than 0.02.
- Implementation of the Proposed Project increases the V/C ratio for a study roadway segment that is already operating at substandard LOS by more than 0.02.
- Implementation of the Proposed Project triggers an intersection operating at acceptable LOS to operate at substandard LOS and increases the delay by more than 2.0 seconds.
- Implementation of the Proposed Project increases the delay for a study intersection that is already operating substandard LOS by more than 2.0 seconds.

### 3.0 Project Traffic

This section describes the Proposed Project and estimated project trip generation, trip distribution, and trip assignment.

#### 3.1 Project Description

The Proposed Questhaven Project is located on the south side of San Elijo Road between Fallsview Road and the Loma San Marcos project driveway, near the San Elijo Community, within the unincorporated County of San Diego. The Project proposes to construct 76 single-family estate residential dwelling units and a 0.66-acre park within an 89.23-acre lot. 69 of the single-family units will be market rate units and seven (7) will be affordable housing units. **Figure 3.1** illustrates the Proposed Project site plan.

#### 3.2 Project Trip Generation, Distribution, and Assignment

##### 3.2.1 Project Trip Generation

Trip generation rates for the Proposed Project are derived from the SANDAG’s (*not so*) *Brief Guide to Vehicular Traffic Generation Rates for the San Diego Region* (April 2002). The project site is currently undeveloped; therefore, no existing trips were credited towards the project’s net vehicle trip generation. **Table 3.1** displays the projected daily, as well as AM and PM peak hour, project trip generation.

**Table 3.1 Project Trip Generation**

Land Use	Units	Trip Rate	ADT	AM Peak Hour				PM Peak Hour					
				%	Trips	Split	In	Out	%	Trips	Split	In	Out
Residential - Estate	76 DU	12 / DU	912	8%	73	3:7	22	51	10%	92	7:3	64	28
Park – Neighborhood / County	0.30 acres	5 / acre	2	4%	1	5:5	1	0	8%	1	5:5	1	0
<b>Total</b>			<b>914</b>	-	<b>74</b>	-	<b>23</b>	<b>51</b>	-	<b>93</b>	-	<b>65</b>	<b>28</b>

Source: SANDAG (not so) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, April 2002

Note:  
DU = Dwelling Unit.

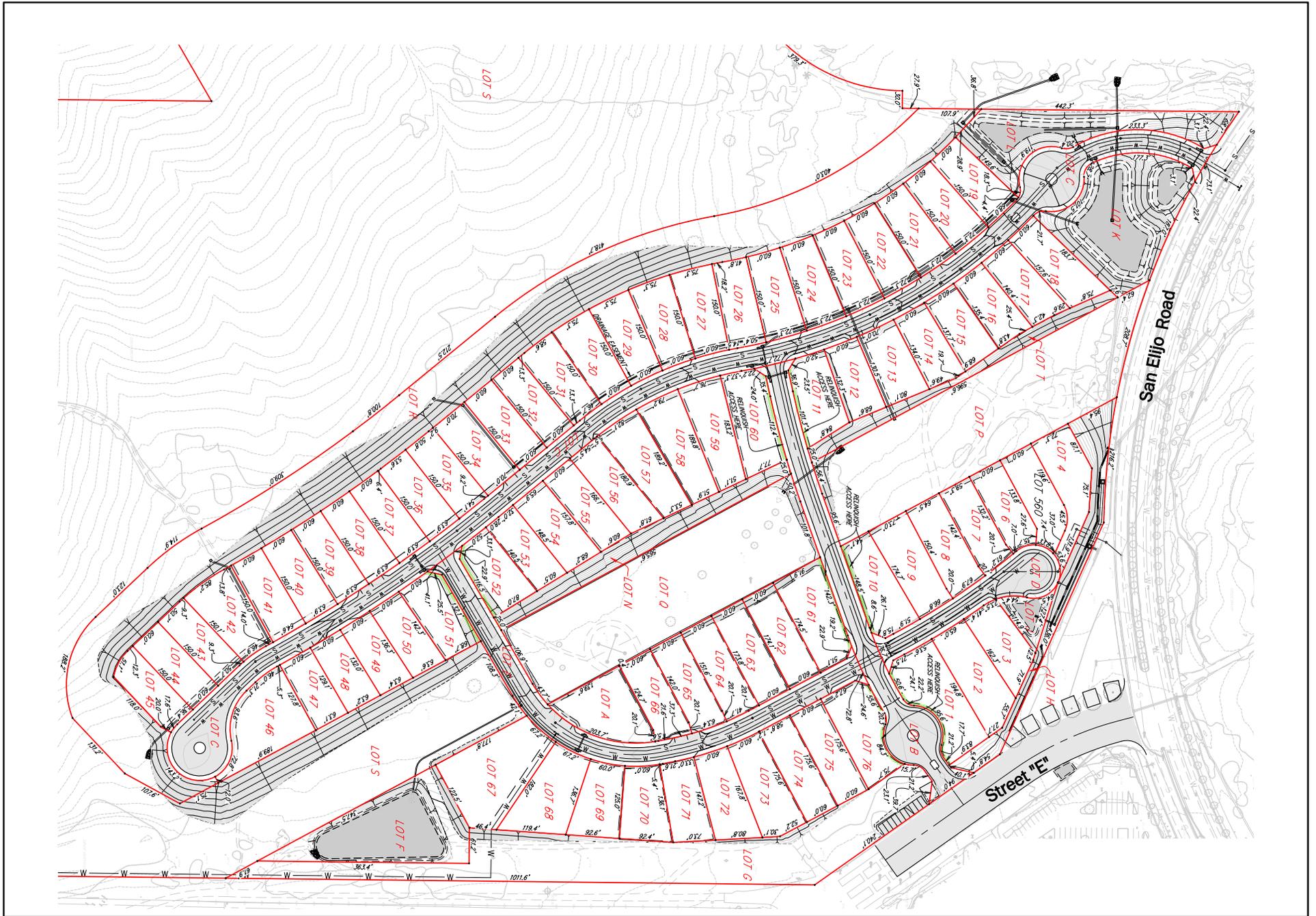
As shown in Table 3.1, the Proposed Project would generate a total of 914 daily trips, including 74 trips (23-in / 51-out) during the AM peak hour and 93 trips (65-in / 28-out) during the PM peak hour.

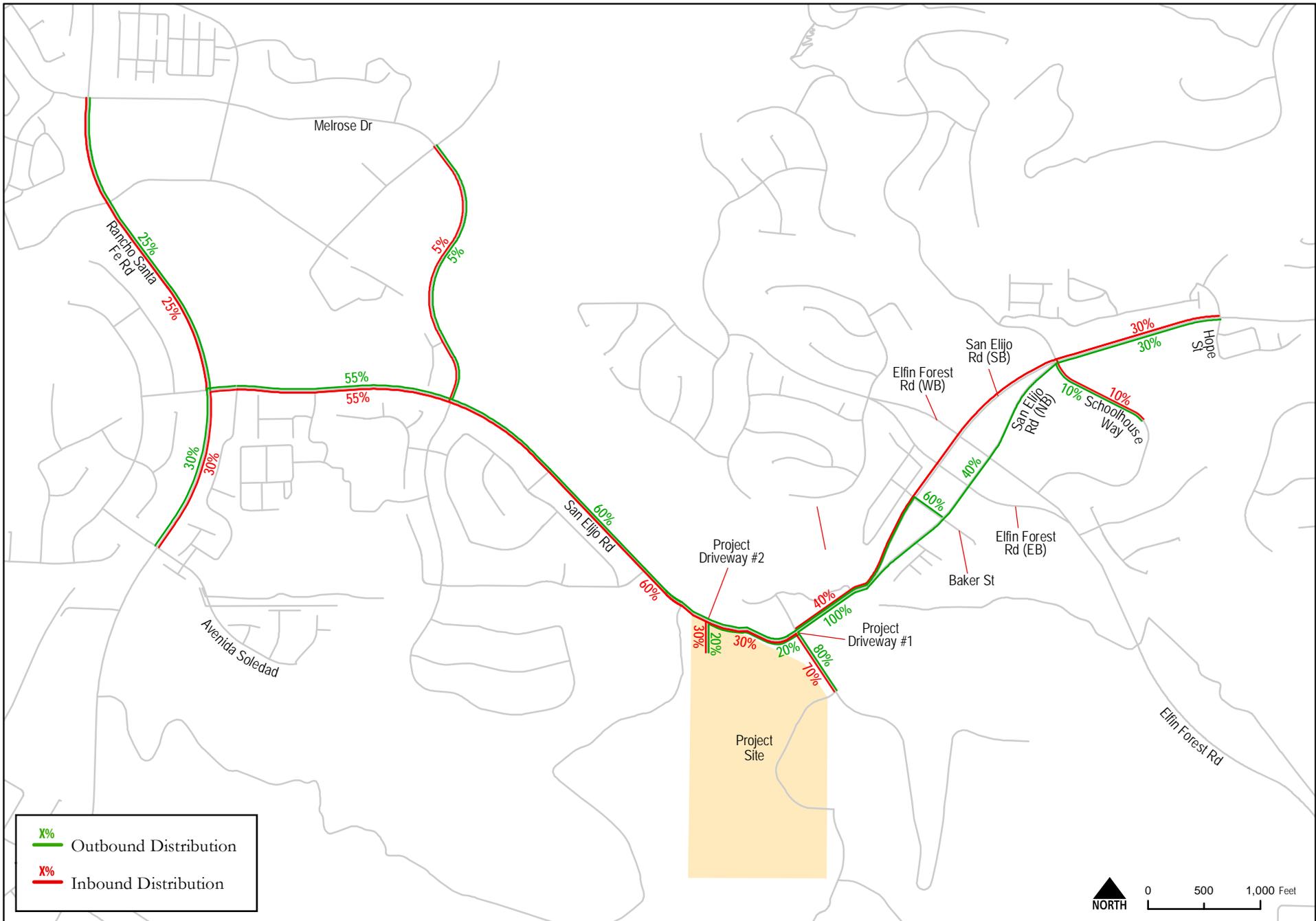
##### 3.2.2 Project Trip Distribution

The project trip distribution was manually developed based upon project land uses, location, proximity to freeway access points, and corresponding land uses in the vicinity of the project site. **Figure 3.2** displays the trip distribution patterns associated with the Proposed Project under existing conditions.

##### 3.2.3 Project Trip Assignment

Based upon the project trip generation and distribution under existing conditions, AM/PM peak hour project trips were assigned to the adjacent roadway network, as displayed in **Figure 3.3**.





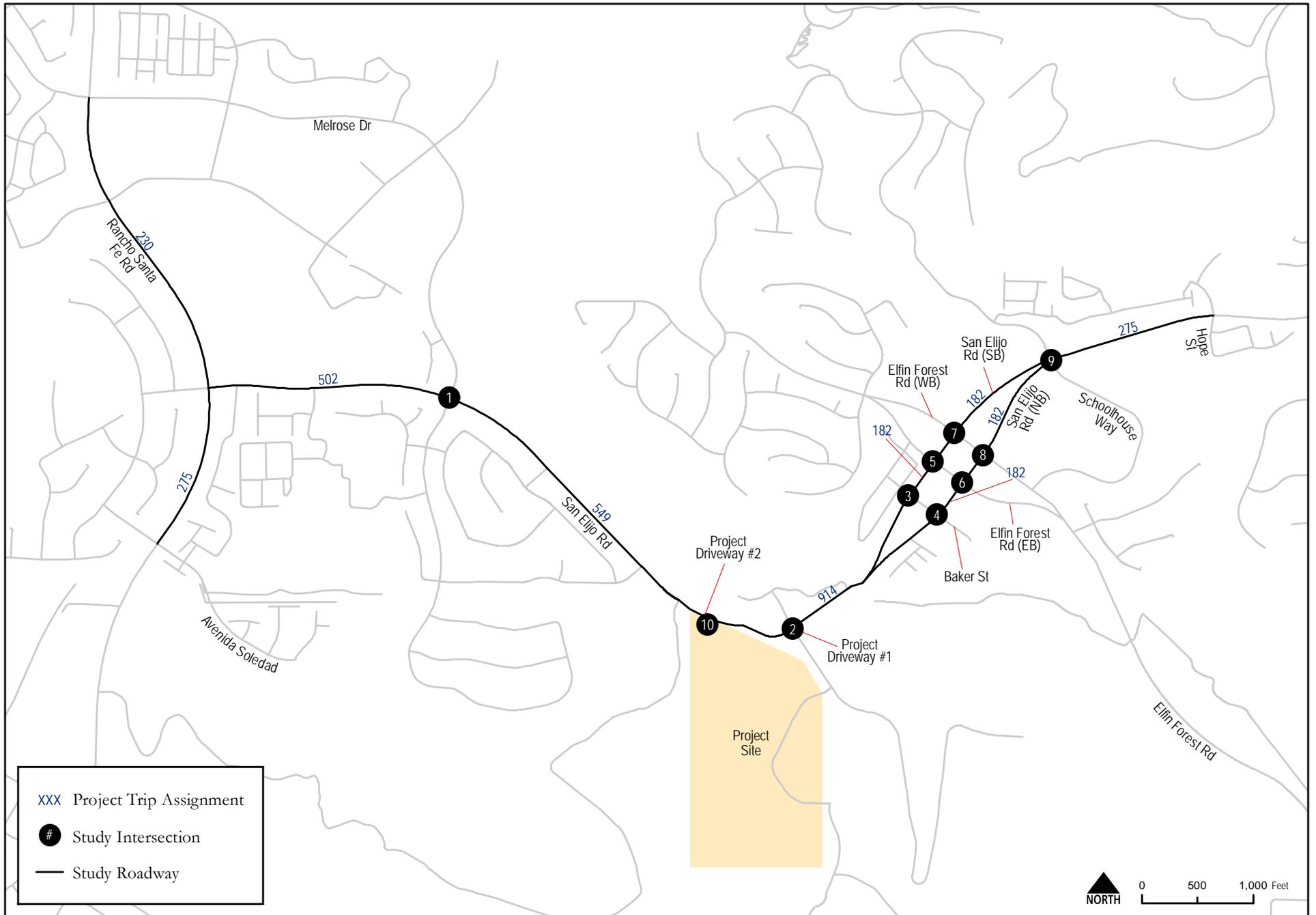
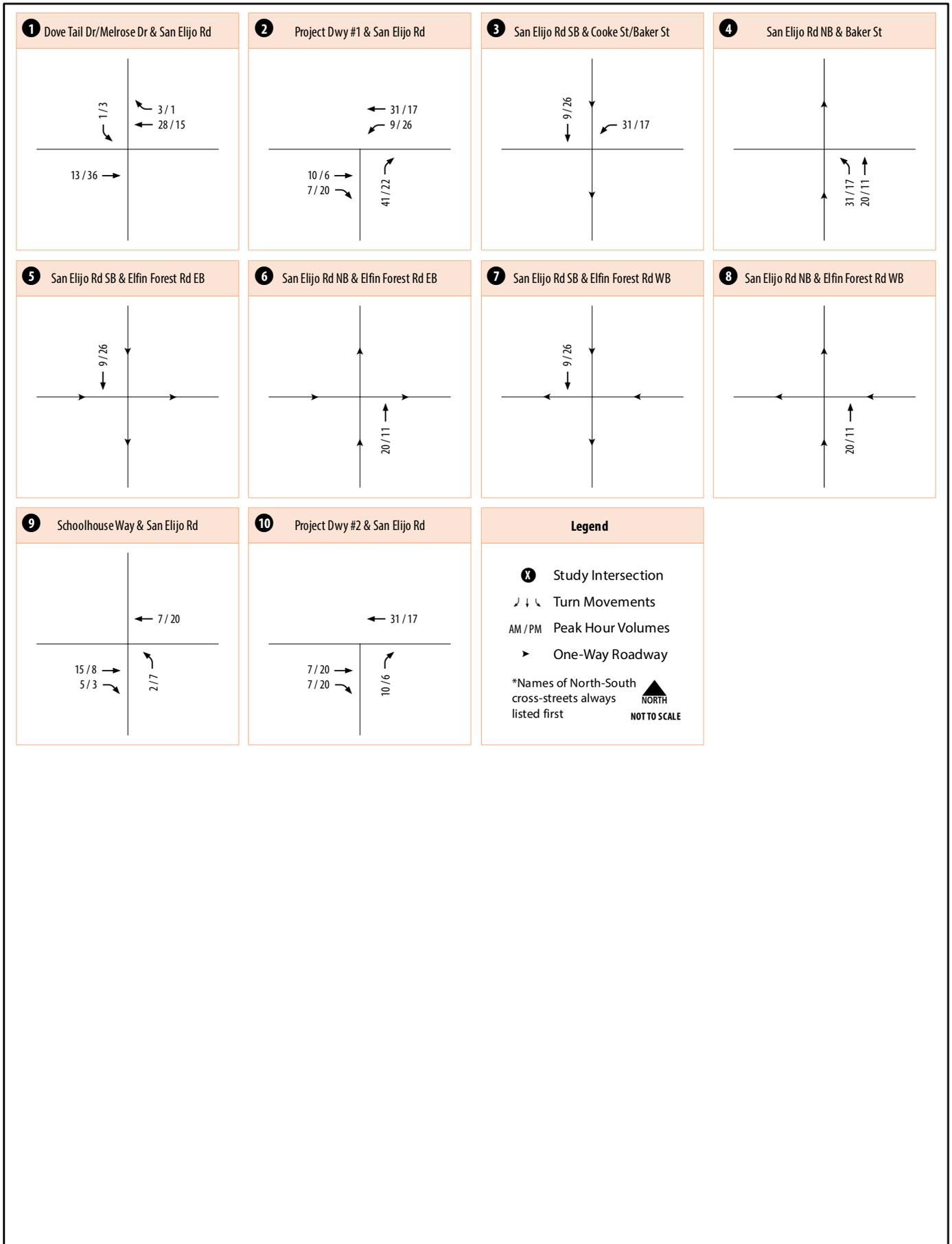


Figure 3.3  
 Project Trip Assignment



### 3.3 Project Study Area

Based on the criteria previously outlines in Section 2.4 and the project trips assignment shown in Figure 3.3, the following ten (10) roadway segments and ten (10) intersections are analyzed in the study:

#### Roadway Segments – City of Carlsbad

1. Rancho Santa Fe Road, between Melrose Drive and San Elijo Road
2. Rancho Santa Fe Road, between San Elijo Road and Avenida Soledad

#### Roadway Segments – City of San Marcos

3. San Elijo Road, between Rancho Santa Fe and Melrose Drive
4. San Elijo Road, between Melrose Drive and Street “E” (Existing)
5. San Elijo Road, between Street “E” (Existing) and Baker Street
6. San Elijo Road (southbound one-way), between Baker Street and Elfin Forest Road
7. San Elijo Road (southbound one-way), between Elfin Forest Road and Schoolhouse Way
8. San Elijo Road (northbound one-way), between Baker Street and Elfin Forest Road
9. San Elijo Road (northbound one-way), between Elfin Forest Road and Schoolhouse Way
10. San Elijo Road, between Schoolhouse Way and Hope Street

#### Intersections – City of San Marcos

1. Melrose Drive / San Elijo Road (Signal)
2. Street “E” / San Elijo Road (SSSC)<sup>1</sup>
3. San Elijo Road (southbound) / Baker Street (Signal)
4. San Elijo Road (northbound) / Baker Street (Signal)
5. San Elijo Road (southbound) / Elfin Forest Road (eastbound) (Signal)
6. San Elijo Road (northbound) / Elfin Forest Road (eastbound) (Signal)
7. San Elijo Road (southbound) / Elfin Forest Road (westbound) (Signal)
8. San Elijo Road (northbound) / Elfin Forest Road (westbound) (Signal)
9. Schoolhouse Way / San Elijo Road (Signal)
10. Street “D” / San Elijo Road (SSSC)<sup>1</sup>

SSSC = Side-Street Stop-Controlled.

<sup>1</sup>Intersection provides project access and does not exist; therefore, it is only analyzed under “With Project” scenarios.

Additionally, it is not anticipated that the Proposed Project would contribute 50 or more peak hour trips in either direction on State Route 78 (SR-78). Similarly, the Proposed Project would not add 20 or more peak hour trips to SR-78 on/off-ramps. Therefore, freeway and ramp analyses were not conducted. **Figure 3.4** illustrates the project study area.

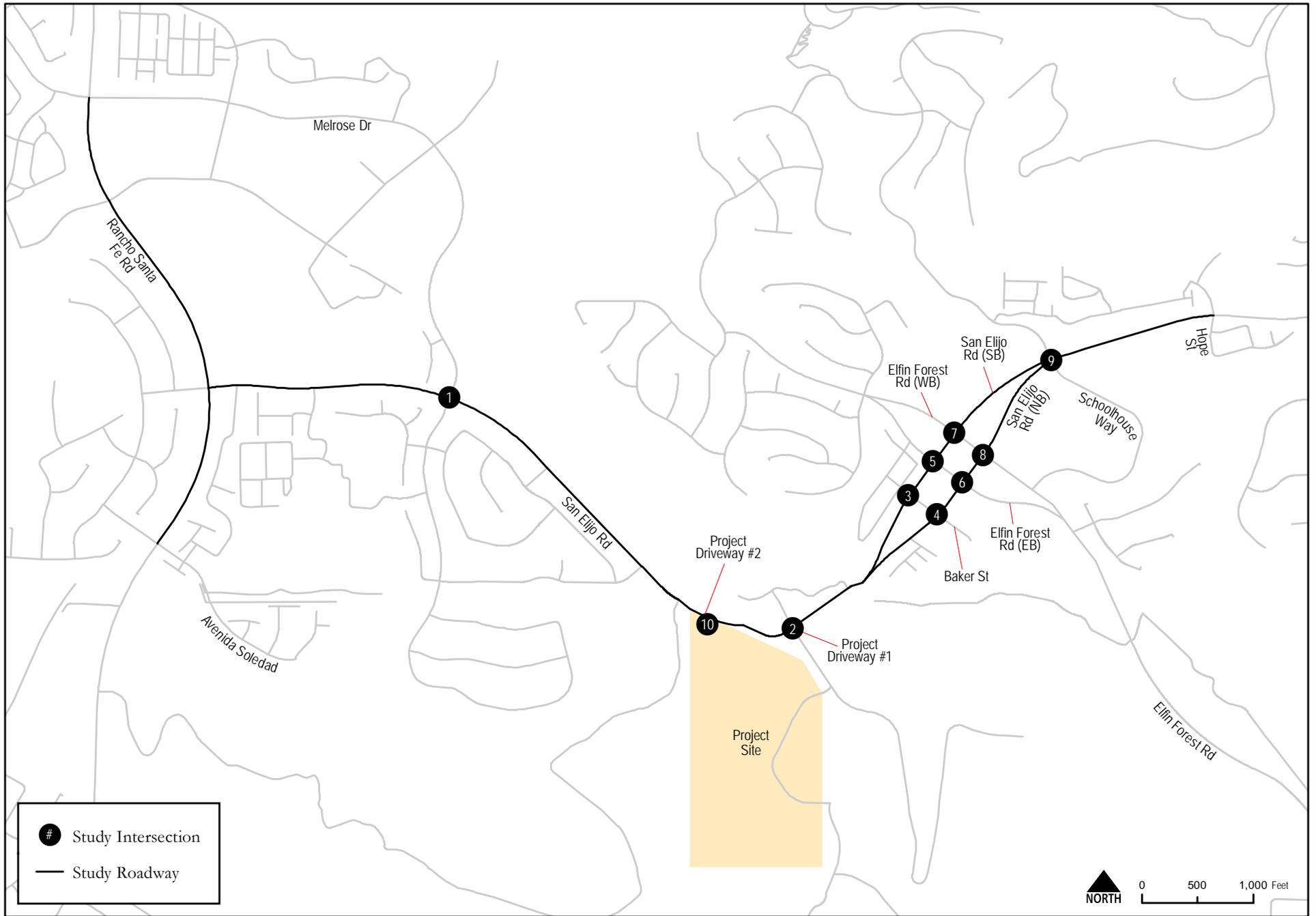


Figure 3.4  
 Project Study Area

## 4.0 Existing Conditions

This section describes study roadway segments, study intersections, and daily roadway and peak hour intersection traffic volume information. Additionally, this section provides an analysis of Existing conditions.

### 4.1 Existing Roadway Network

Several regional and locally significant roadways traverse the study area. Those roadway characteristics are described below.

*Rancho Santa Fe Road* – Within the project study area, Rancho Santa Fe Road is a six-lane roadway with a raised median between Melrose Drive and Avenida Soledad. The posted speed limit is 55 miles per hour. Sidewalks and Class II bicycle lanes are present along both sides of the roadway. On-street parking is prohibited. North County Transit District (NCTD) Bus Route #304 is serviced along the corridor. According to the *City of Carlsbad General Plan Mobility Element*, Rancho Santa Fe Road is classified as an Arterial Street.

*San Elijo Road* – Within the project study area, San Elijo Road is a four-lane roadway with a raised median between Rancho Santa Fe Road and 690 feet south of Baker Street. San Elijo Road splits into two two-lane one-way roadways 690 feet south of Baker Street and converges back into a four-lane roadway with a raised median at Schoolhouse Way. The posted speed limit is 45 miles per hour between Rancho San Fe Road and 690 feet south of Baker Street, 25 miles per hour between 690 feet south of Baker Street and Elfin Forest Road (westbound), and 35 miles per hour between Elfin Forest Road (westbound) and Hope Street. Sidewalks are present along both sides of the roadway, with exception to a dirt path approximately 1,940 feet in length between Fallsview Road and Boundary Lane. Class II bicycle facilities are present along both sides of the roadway. On-street parallel parking is allowed between Boundary Lane and Schoolhouse way. According to the *City of San Marcos General Plan Mobility Element*, San Elijo Road is classified as a 4-lane Major Road.

Table 4.1 provides a summary of the roadway characteristics for roadways that traverse the study area.

**Table 4.1 Existing Roadway Characteristics**

Roadway	From	To	Number of Lanes	Median Type	Sidewalk?	Bike lanes?	Transit Route	Posted Speed Limit
Rancho Santa Fe Road	Melrose Drive	Avenida Soledad	3 NB / 3 SB	Raised	Both Sides	Class II	304	55
San Elijo Road	Ranch Santa Fe Road	Fallsview Road	2 EB / 2 WB	Raised	Both Sides	Class II	None	45
San Elijo Road	Fallsview Road	Boundary Lane	2 EB / 2 WB	Raised	North Side Only	Class II	None	45
San Elijo Road	Boundary Lane	Elfin Forest Road (westbound)	2 EB One-Way / 2 WB One-Way	None	Both Sides	Class II	None	25
San Elijo Road	Elfin Forest Road (westbound)	Schoolhouse Way	2 EB One-Way / 2 WB One-Way	None	Both Sides	Class II	None	35
San Elijo Road	Schoolhouse Way	Hope Street	EB / 2 WB	Raised	Both Sides	Class II	None	35

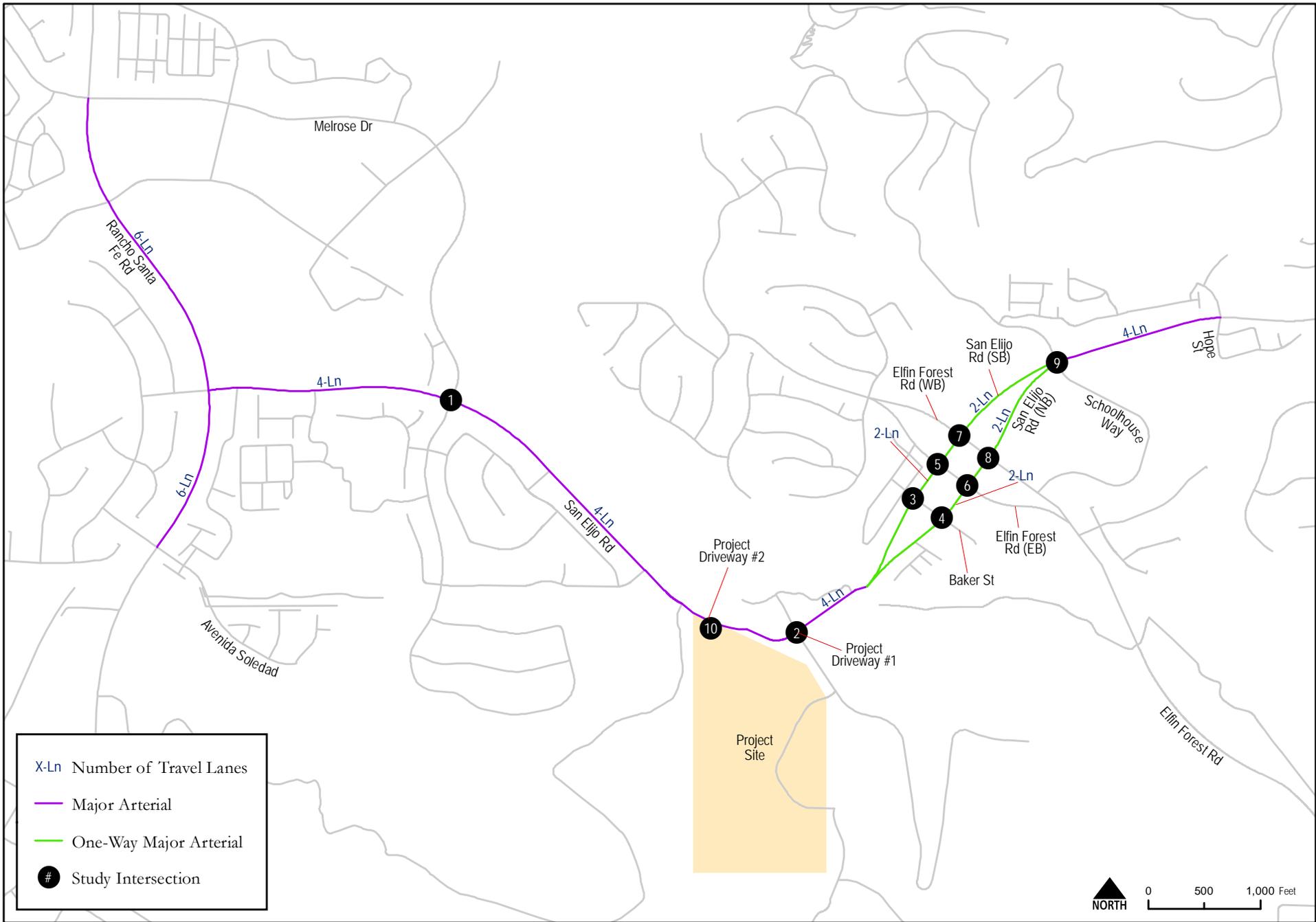
As documented in Section 3.3, 11 intersections are included as part of the study area. Figure 4.1 displays the existing roadway functional classifications and intersection geometrics.

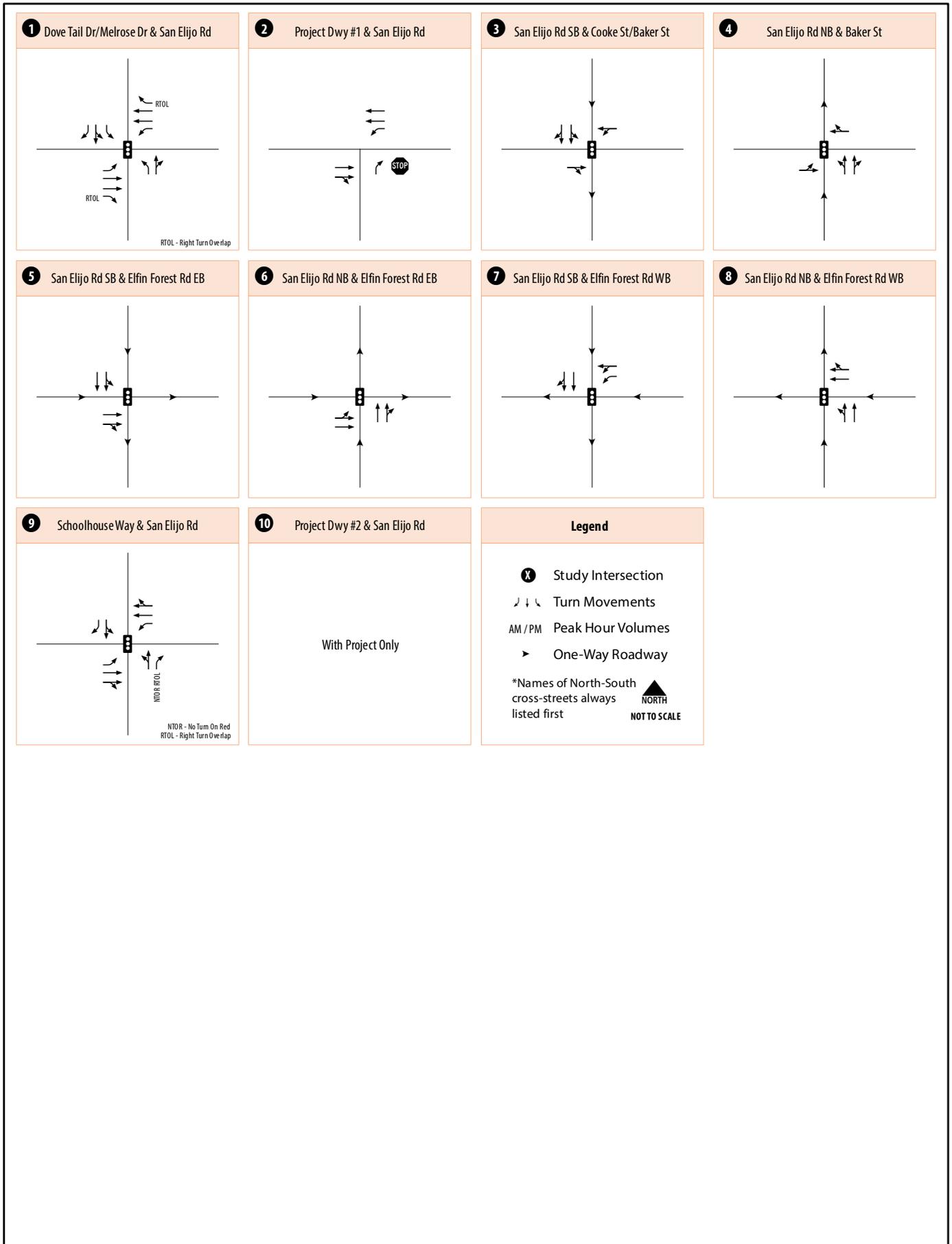
## 4.2 Existing Roadway and Intersection Volumes

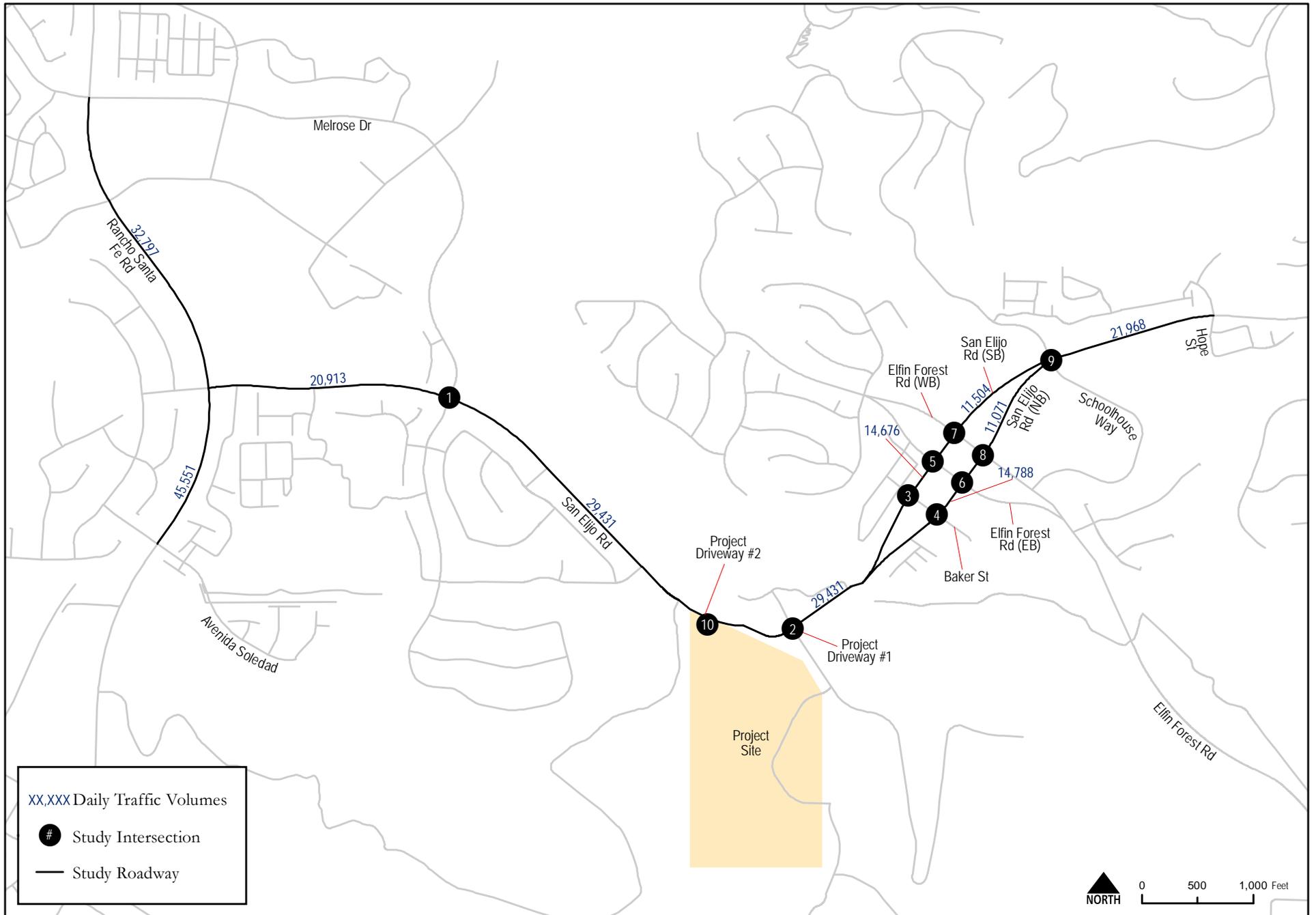
Figure 4.2 shows both existing daily traffic volumes for study area roadway segments and the AM/PM peak hour turning movements for the study intersections. The study area intersection traffic counts were conducted in December 2019 by Elite Traffic Dynamics, LLC. Traffic counts are provided in Appendix B.

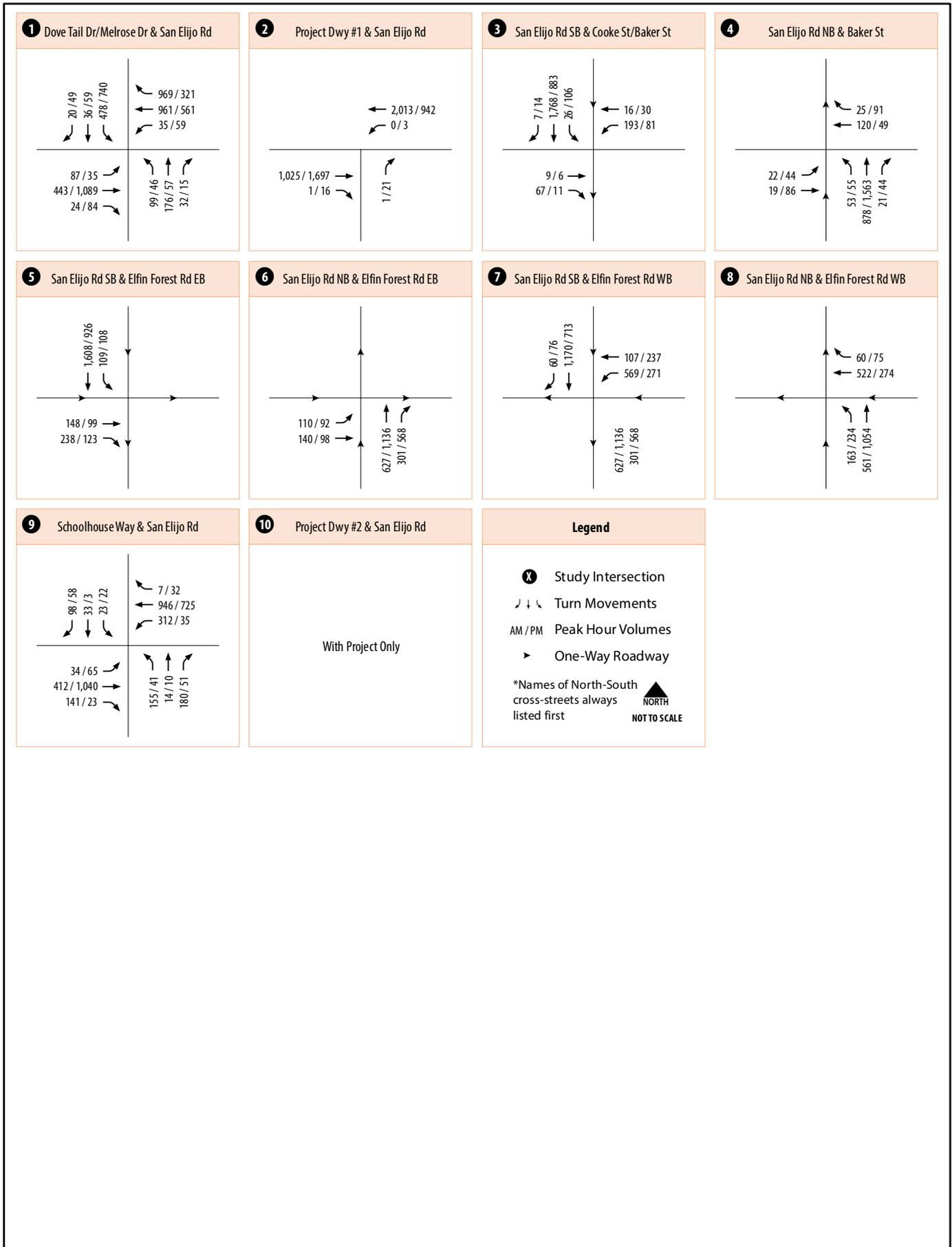
## 4.3 Existing Traffic Conditions

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









### 4.3.1 Roadway Segment Analysis

Table 4.2 displays roadway segment LOS and analysis results for study roadway segments under Existing conditions.

**Table 4.2 Roadway Segment LOS Results – Existing Conditions**

Roadway	Segment	Functional Classification	Daily Volume	LOS Threshold (LOS E)	V/C	LOS
Rancho Santa Fe Road	Melrose Drive to San Elijo Road	6-Lane Prime Arterial	32,797	60,000	0.547	B
Rancho Santa Fe Road	San Elijo Road to Avenida Soledad	6-Lane Prime Arterial	45,551	60,000	0.759	C
San Elijo Road	Rancho Santa Fe Road to Melrose Drive	4-Lane Major Arterial	20,913	40,000	0.523	B
San Elijo Road	Melrose Drive to Street "E"	4-Lane Major Arterial	29,431	40,000	0.736	C
San Elijo Road	Street "E" to Baker Street	4-Lane Major Arterial	29,431	40,000	0.736	C
San Elijo Road (SB)	Baker Street to Elfin Forest Road	2-Lane Major Arterial (One-Way)	14,676	22,500	0.652	C
San Elijo Road (SB)	Elfin Forest Road to Schoolhouse Way	2-Lane Major Arterial (One-Way)	11,504	22,500	0.511	B
San Elijo Road (NB)	Baker Street to Elfin Forest Road	2-Lane Major Arterial (One-Way)	14,788	22,500	0.657	C
San Elijo Road (NB)	Elfin Forest Road to Schoolhouse Way	2-Lane Major Arterial (One-Way)	11,071	22,500	0.492	B
San Elijo Road	East of Schoolhouse Way	4-Lane Major Arterial	21,968	40,000	0.549	C

Notes:

V/C = Volume / Capacity.

As shown in Table 4.2, all study roadway segments currently operate at acceptable LOS C or better under Existing conditions.

### 4.3.2 Intersection Analysis

Table 4.3 displays intersection LOS and average vehicle delay results for the study area intersections under Existing conditions. LOS calculation worksheets for Existing conditions are provided in Appendix C.

**Table 4.3 Peak Hour Intersection LOS Results – Existing Conditions**

#	Intersection	Control Type	AM Peak Hour		PM Peak Hour	
			Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS
1	Melrose Drive / San Elijo Road	Signal	47.5	D	44.3	D
2	Street "E" / San Elijo Road	SSSC	14.3	B	19.9	C
3	San Elijo Road (southbound) / Baker Street	Signal	57.7	<b>E</b>	32.1	C
4	San Elijo Road (northbound) / Baker Street	Signal	13.6	B	16.3	B
5	San Elijo Road (southbound) / Elfin Forest Road (eastbound)	Signal	45.4	D	31.9	C
6	San Elijo Road (northbound) / Elfin Forest Road (eastbound)	Signal	15.0	B	14.6	B
7	San Elijo Road (southbound) / Elfin Forest Road (westbound)	Signal	27.7	C	28.9	C
8	San Elijo Road (northbound) / Elfin Forest Road (westbound)	Signal	30.2	C	32.7	C
9	Schoolhouse Way / San Elijo Road	Signal	68.0	<b>E</b>	26.9	C

Notes:

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

**Bold** indicates substandard LOS E or F.

As shown in Table 4.3, all study area intersections currently operate at an acceptable LOS D or better during both the AM and PM peak hours under Existing conditions, with the exception to the following two (2) intersections:

3. *San Elijo Road (southbound) / Baker Street* – LOS E during the AM peak hour. This is primarily due to the westbound left-turn movement which experiences particularly high delay compared to all other movements at this intersection.
9. *Schoolhouse Way / San Elijo Road* – LOS E during the AM peak hour. This is primarily due to the high volume of vehicle trips and associated delay for the westbound left-turn movement. Most of these vehicle trips are student drop-off trips at both San Elijo Elementary and Middle Schools.

## 5.0 Near-Term Year Traffic Conditions

This section provides an analysis of Near-Term Base conditions both with and without the Proposed Project. The scenarios analyzed in this section include:

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

### 5.1 Cumulative Project Traffic

The following eight (8) projects were identified by City of San Marcos staff as cumulative projects, since they are anticipated to contribute traffic within the project study area by the Proposed Project's opening year:

1. Corner @ 2 Oaks – This project is located at the southwest corner of Twins Oaks Valley Road and San Marcos Boulevard intersection. This project proposes to construct a 13,499 square foot building for office and commercial use as well as 118 multi-family dwelling units.
2. Kaiser Permanente – This project is located at 400 Craven Road. This project proposes to construct a 428,500 square foot building for medical office space and accommodate 206 hospital beds. This project would be an extension of the already existing Kaiser Permanente located at same location.
3. Brookfield Residential (multi-family) – This project is located at the southwest corner of Twin Oaks Valley Road and South Village Drive. This project proposes to develop 220 multi-family dwelling units.
4. Fenton South (Discovery Village South) – This project is located at future extension of Discovery Street. This project proposes to develop 230 single family dwelling units.
5. Mesa Rim Climbing Gym – This project is located at 285 Industrial Street. This project proposes to construct 28,000 square foot building for indoor recreation climbing gym.
6. Artis Senior Living – This project is located at the northeast corner of Rancho Santa Fe Road and San Elijo Road intersection. This project proposes to construct a congregate care facility accommodating 64 beds.
7. Block 3 Housing – This project is located at the northeast corner of June Way and Barham Drive intersection. This project proposes to develop a student housing facility accommodating 342 beds.
8. Loma San Marcos Specific Plan Phase 2 – This project is located on San Elijo Road. This project proposes to construct 213,621 SF of Movie Production space and a 6-story office building measuring 120,000 SF.

The traffic generated from the projects listed above was included in the Near-Term Year 2024 Base scenario.

Figure 5.1 displays the location of the cumulative projects identified above.

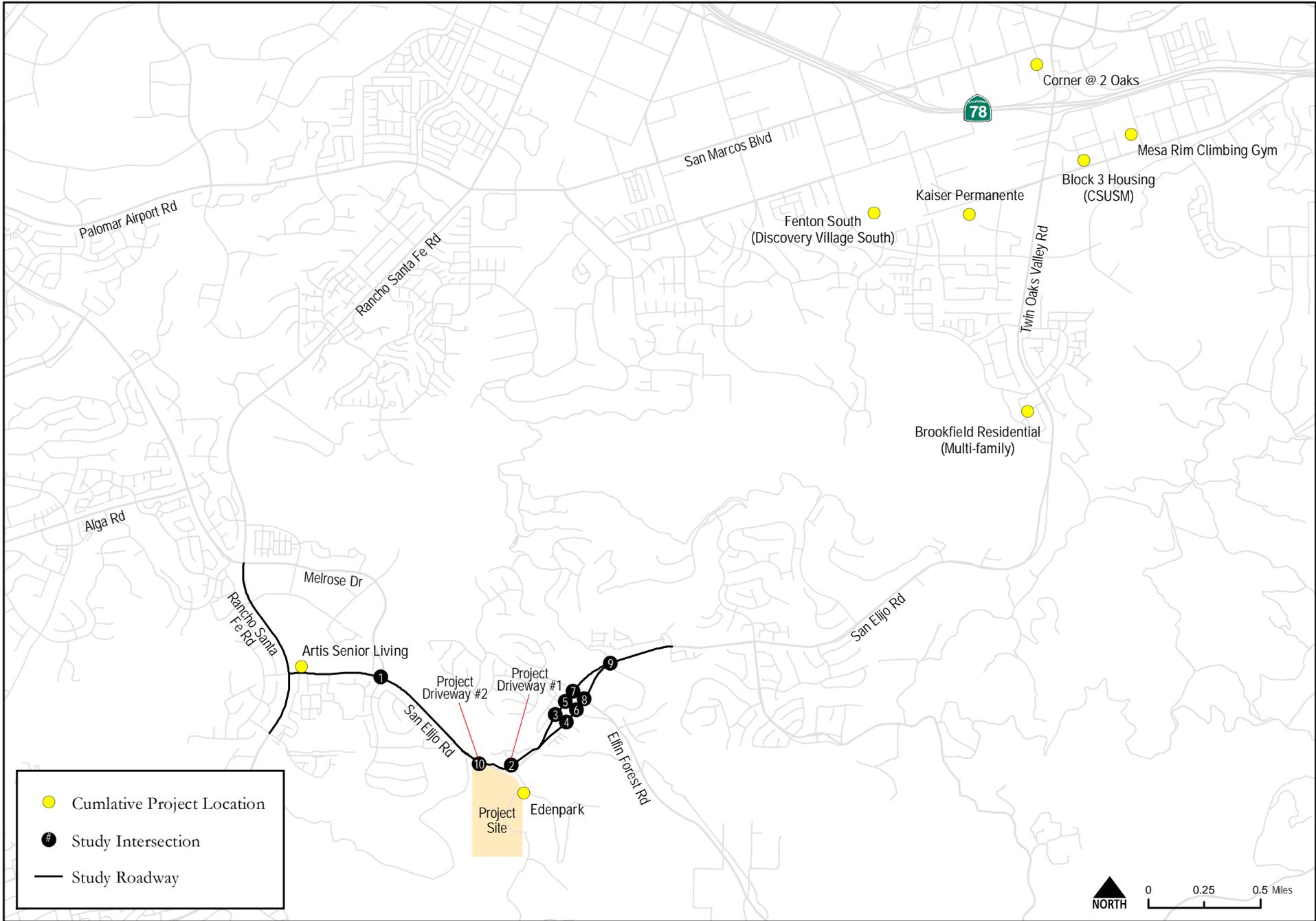


Figure 5.1  
 Cumulative Project Location

## 5.2 Cumulative Projects Trip Generation

**Table 5.1** displays the projected trip generation for the cumulative projects described above. The trip generation assumptions were developed using trip generation rates outlined in SANDAG's (*not so*) *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region* (April 2002) and *ITE Trip Generation Manual 11<sup>th</sup> Edition*. Trip distribution patterns and trip assignments were manually derived based on the geographical location of the cumulative project, the characteristics of the proposed land uses, and the nearest freeway facilities. Relevant excerpts from the source of information regarding the cumulative projects are provided in **Appendix D**.

**Table 5.1 Cumulative Project Trip Generation**

Cumulative Project	Land Use	Daily Trips	AM Peak Hour (In / Out)	PM Peak Hour (In / Out)
Corner @ 2 Oaks	Office / Retail / Multi-family Residential	1,762	118 (47-in / 71-out)	176 (102-in / 74-out)
Kaiser Permanente	Hospital	4,120	330 (231-in / 99-out)	412 (165-in / 247-out)
Brookfield Residential	Multi-family Residential	1,760	141 (28-in / 113-out)	176 (123-in / 53-out)
Fenton South	Single-family Residential	2,300	184 (55-in / 129-out)	230 (161-in / 69-out)
Mesa Rim Climbing Gym <sup>1</sup>	Recreation	460	40 (13-in / 27-out)	46 (26-in / 20-out)
Artis Senior Living	Congregate Care Facility	160	7 (4-in / 3-out)	13 (7-in / 6-out)
Block 3 Housing	Student Housing	1,221	52 (20-in / 32-out)	96 (48-in / 48-out)
Loma San Marcos Phase 2	Movie Production / Office Space	3,747	454 (410-in / 44-out)	491 (98-in / 393-out)
<b>Cumulative Total</b>		<b>15,558</b>	<b>1,370</b> <b>(836-in / 534-out)</b>	<b>1,589</b> <b>(700-in / 889-out)</b>

Source: SANDAG (not so) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, April 2002

Note:

<sup>1</sup>Trip Generation obtained from *ITE Trip Generation Manual 11<sup>th</sup> Edition*.

As shown, the cumulative projects are anticipated to generate 15,558 daily trips, including 1,370 trips during the AM peak hour and 1,589 trips during the PM peak hour that will be dispersed throughout the San Elijo community and beyond the Proposed Project's study area.

**Figure 5.2** displays the cumulative projects trip assignment.

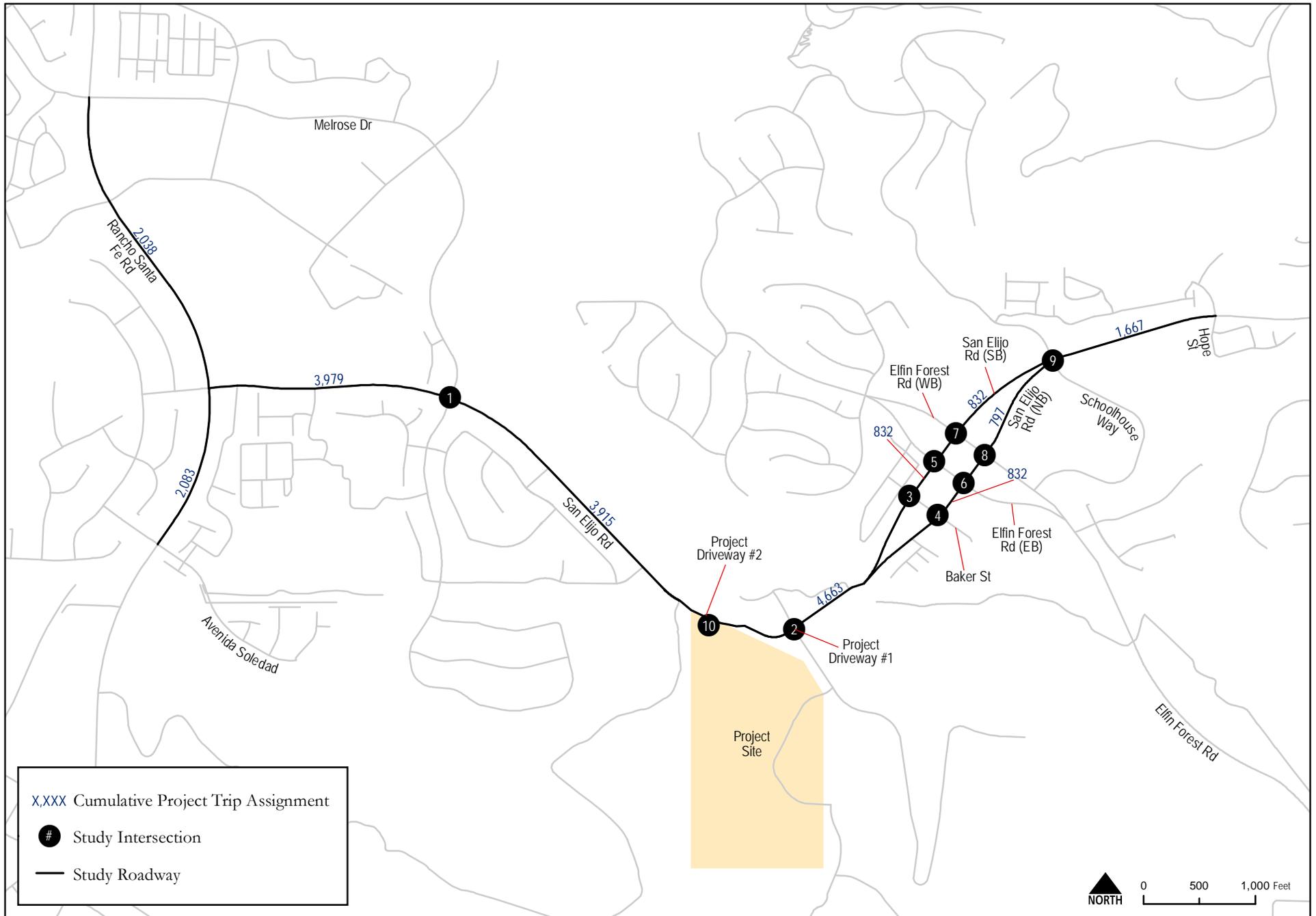
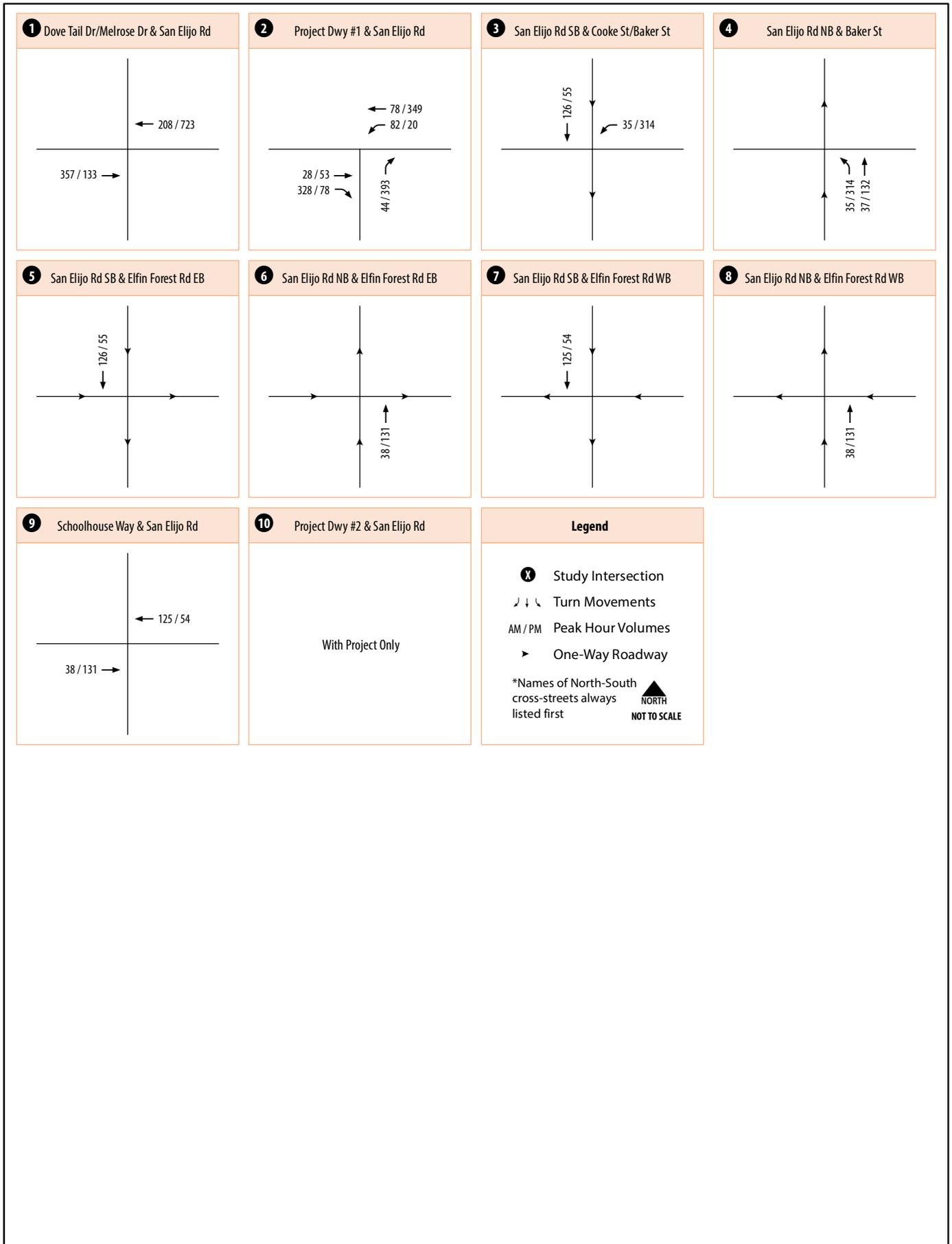


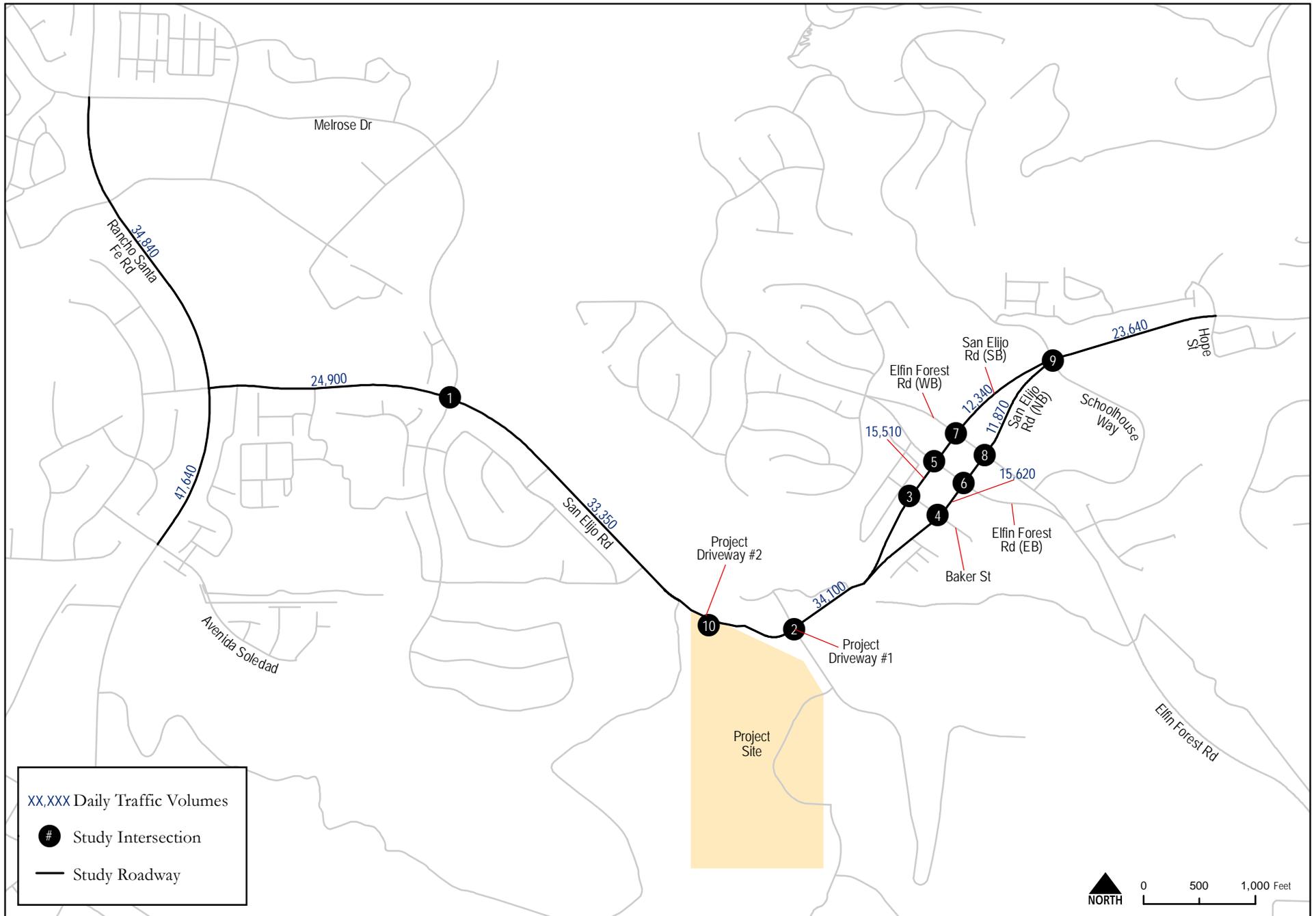
Figure 5.2  
 Cumulative Project Trip Assignment

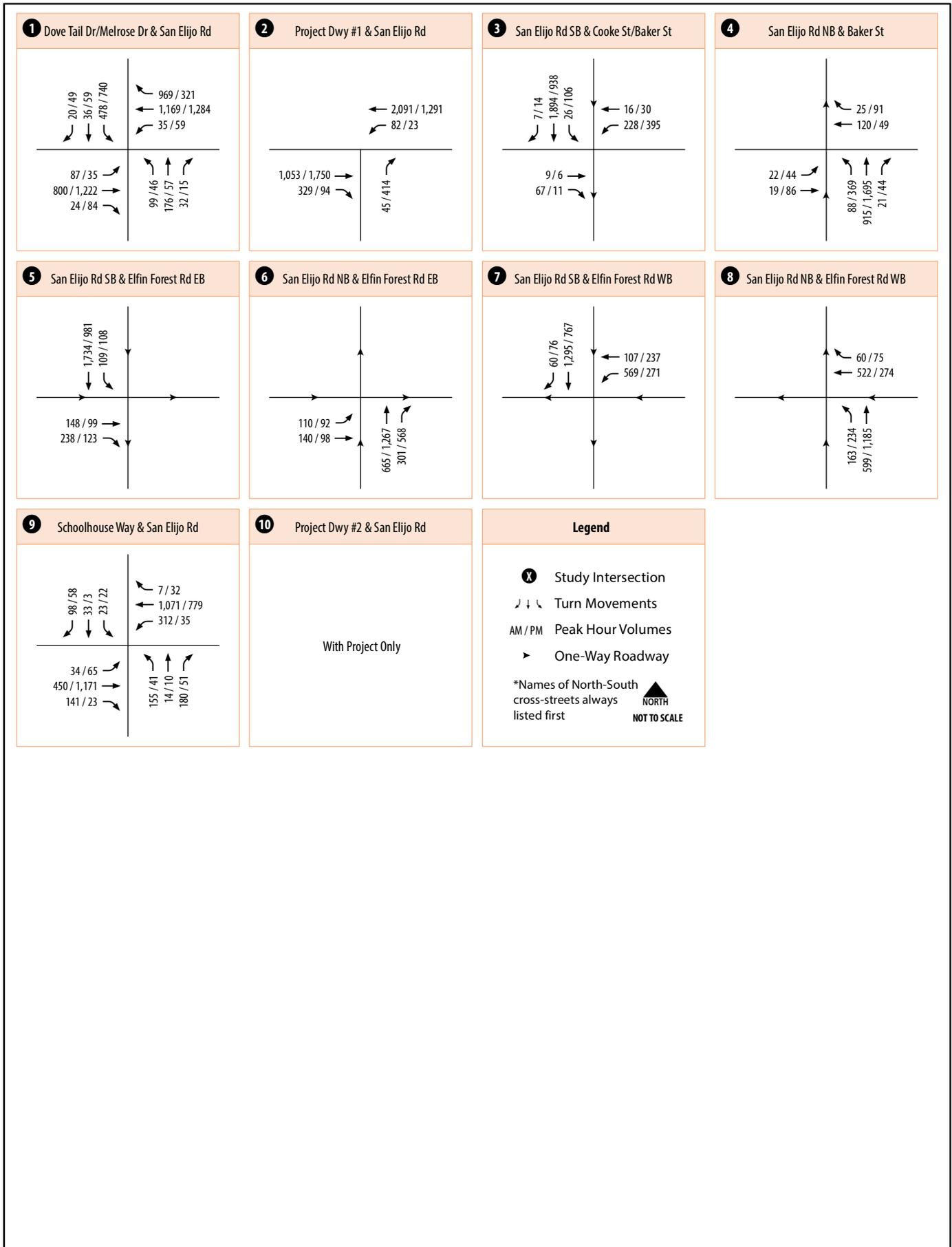


### 5.3 Near-Term Year 2024 Base Roadway Network and Traffic Volumes

Study area roadway and intersection geometrics under Near-Term Base conditions were assumed to be identical to the existing roadway geometrics, as shown in Figure 4.1.

The Near-Term Base scenario traffic volumes were derived by adding the additional trips generated by the cumulative projects listed in Section 5.1 (Figure 5.2) to the existing traffic volumes (Figure 4.2). **Figure 5.3** displays the average daily roadway and peak hour intersection volumes for the study roadway segments and intersections under the Near-Term Base conditions.





## 5.4 Near-Term Year 2024 Base Traffic Conditions

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

### 5.4.1 Roadway Segment Analysis

Table 5.2 displays the LOS analysis results for study area roadway segments under Near-Term Year 2024 Base conditions.

**Table 5.2 Roadway Segment LOS Results – Near-Term Year 2024 Base Conditions**

Roadway	Segment	Functional Classification	ADT	LOS Threshold (LOS E)	V/C	LOS
Rancho Santa Fe Road	Melrose Drive to San Elijo Road	6-Lane Prime Arterial	34,840	60,000	0.581	B
Rancho Santa Fe Road	San Elijo Road to Avenida Soledad	6-Lane Prime Arterial	47,640	60,000	0.794	C
San Elijo Road	Rancho Santa Fe Road to Melrose Drive	4-Lane Major Arterial	24,900	40,000	0.623	C
San Elijo Road	Melrose Drive to Street "E"	4-Lane Major Arterial	33,350	40,000	0.834	D
San Elijo Road	Street "E" to Baker Street	4-Lane Major Arterial	34,100	40,000	0.853	D
San Elijo Road (SB)	Baker Street to Elfin Forest Road	2-Lane Major Arterial (One-Way)	15,510	22,500	0.689	C
San Elijo Road (SB)	Elfin Forest Road to Schoolhouse Way	2-Lane Major Arterial (One-Way)	12,340	22,500	0.548	B
San Elijo Road (NB)	Baker Street to Elfin Forest Road	2-Lane Major Arterial (One-Way)	15,620	22,500	0.694	C
San Elijo Road (NB)	Elfin Forest Road to Schoolhouse Way	2-Lane Major Arterial (One-Way)	11,870	22,500	0.528	B
San Elijo Road	East of Schoolhouse Way	4-Lane Major Arterial	23,640	40,000	0.591	C

Notes:

V/C = Volume / Capacity.

**Bold** indicates substandard LOS E or F.

As shown in Table 5.2, all study area roadway segments would operate at acceptable LOS D or better under Near-Term Year 2024 Base conditions.

### 5.4.2 Intersection Analysis

Table 5.3 displays intersection LOS and average vehicle delay results for the study area intersections under Near-Term Year Base conditions. LOS calculation worksheets for Near-Term Year 2024 Base conditions are provided in Appendix E.

**Table 5.3 Peak Hour Intersection LOS Results – Near-Term Year 2024 Base Conditions**

#	Intersection	Control Type	AM Peak Hour		PM Peak Hour	
			Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS
1	Melrose Drive / San Elijo Road	Signal	63.0	<b>E</b>	89.1	<b>F</b>
2	Street "E" / San Elijo Road	SSSC	22.6	C	N/A <sup>1</sup>	<b>F</b>
3	San Elijo Road (southbound) / Baker Street	Signal	75.7	<b>E</b>	51.4	D
4	San Elijo Road (northbound) / Baker Street	Signal	13.6	B	18.3	B
5	San Elijo Road (southbound) / Elfin Forest Road (eastbound)	Signal	49.3	D	32.5	C
6	San Elijo Road (northbound) / Elfin Forest Road (eastbound)	Signal	14.9	B	14.4	B
7	San Elijo Road (southbound) / Elfin Forest Road (westbound)	Signal	29.3	C	29.0	C
8	San Elijo Road (northbound) / Elfin Forest Road (westbound)	Signal	30.3	C	34.0	C
9	Schoolhouse Way / San Elijo Road	Signal	71.5	<b>E</b>	27.4	C

Note:

**Bold** indicates substandard LOS E or F.

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

<sup>1</sup> Exceeds maximum reasonable calculable delay of 600 seconds per Synchro 11.0 traffic analysis software.

As shown in Table 5.3, all study area intersections would operate at an acceptable LOS D or better during both AM and PM peak hours under Near-Term Year 2024 Base conditions, with exception to the following four (4) intersections:

1. *Melrose Drive / San Elijo Road* – LOS E during AM peak hour and LOS F during PM peak hour. Since this intersection would experience particularly high volume at the eastbound through movement during the PM peak hour, maximum green time would be limited under the current signal timing configuration.
2. *Street "E" / San Elijo Road* – LOS F during PM peak hour for the northbound approach. This is due to the high right-turn volume and the extremely high conflicting eastbound through volume.
3. *San Elijo Road (southbound) / Baker Street* – LOS E during AM peak hour. This is primarily due to the westbound left-turn movement which experiences particularly high delay compared to all other movements at this intersection.
9. *Schoolhouse Way / San Elijo Road* – LOS E during AM peak hour. This is primarily due to the high volume of vehicle trips and associated delay for the westbound left-turn movement. Most of these vehicle trips are student drop-off trips at both San Elijo Elementary and Middle Schools.

## 5.5 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 Near-Term Year 2024 Base with the addition of the following project access point:

10. *Street "D" / San Elijo Road* – This driveway will be located at the western end of the property and form a side-street stop-controlled T-intersection with San Elijo Road. This driveway will allow right-in/right-out access only and include one inbound lane and one outbound lane.

Near-Term Year 2024 Base with Project traffic volumes were derived by combining the Near-Term Year 2024 Base traffic volumes (displayed in Figure 5.3) and the project trip assignment volumes (displayed in Figure 3.3).

Daily roadway and peak hour intersection volumes for this scenario are displayed in **Figure 5.4**.

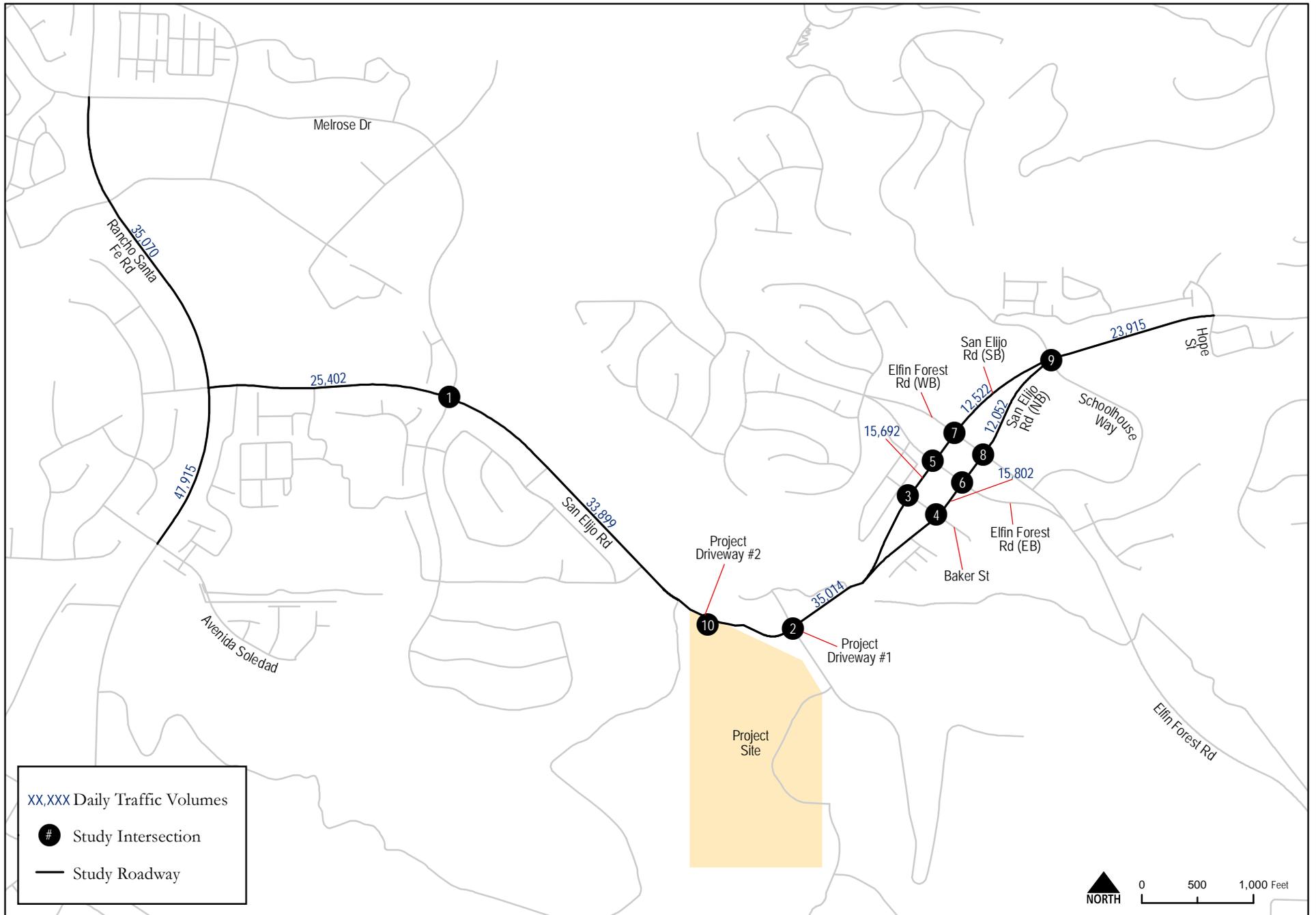
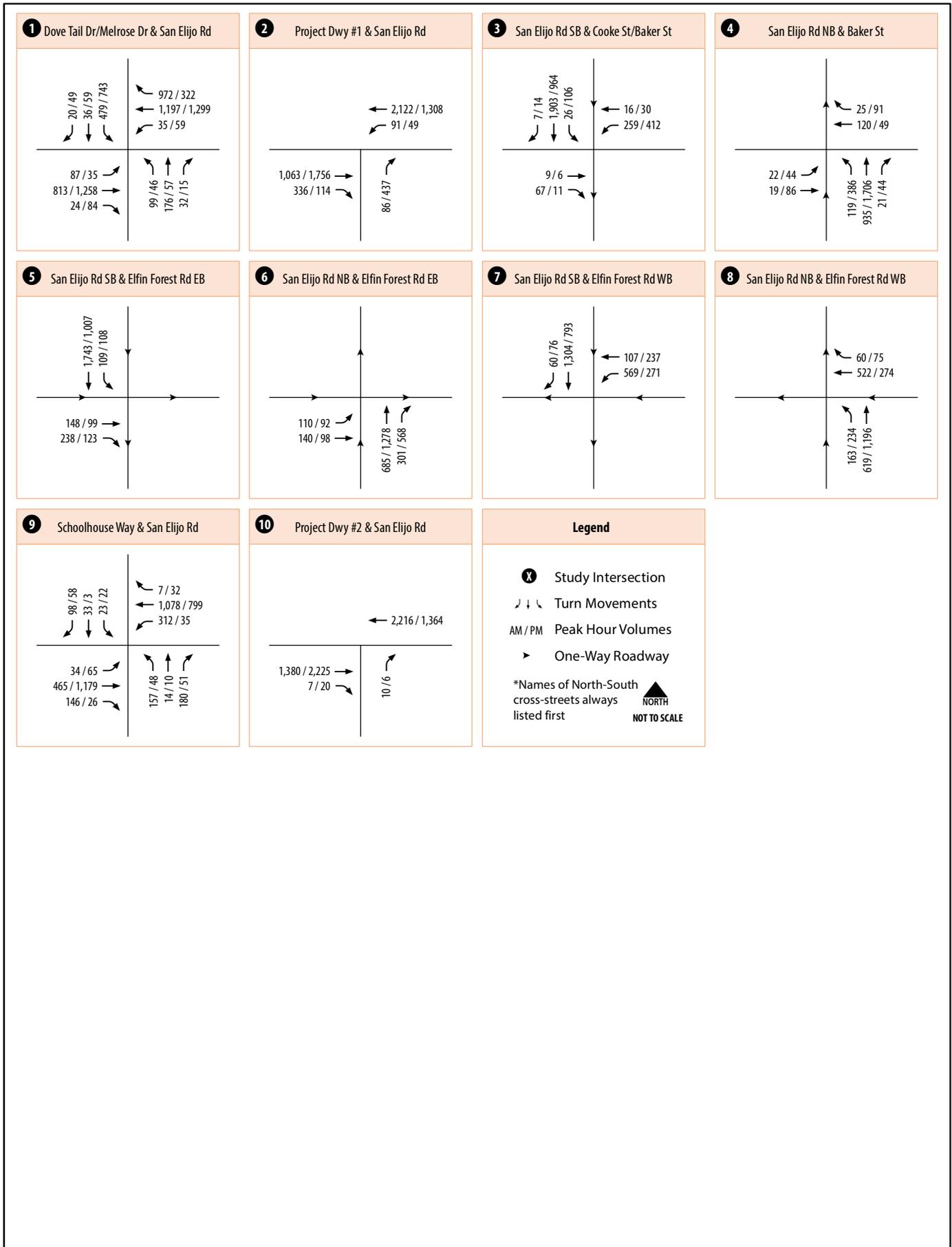


Figure 5.4  
 Traffic Volumes - Near-Term Year 2024 Base with Project Conditions



## 5.6 Near-Term Year Base with Project Traffic Conditions

LOS analyses were conducted using the methodologies described in Chapter 2.0. Roadway segment and intersection LOS analysis results are discussed separately in the following sections.

### 5.6.1 Roadway Segment Analysis

**Table 5.4** displays the LOS analysis results for key study area roadway segments under Near-Term Year 2024 Base with Project.

**Table 5.4 Roadway Segment LOS Results – Near-Term Year 2024 Base with Project Conditions**

Roadway	Segment	Functional Classification	ADT	LOS Threshold (LOS E)	V/C	LOS	LOS w/o Project	ΔV/C	I?
Rancho Santa Fe Road	Melrose Drive to San Elijo Road	6-Lane Prime Arterial	35,070	60,000	0.584	C	C	0.004	N
Rancho Santa Fe Road	San Elijo Road to Avenida Soledad	6-Lane Prime Arterial	47,915	60,000	0.799	C	C	0.005	N
San Elijo Road	Rancho Santa Fe Road to Melrose Drive	4-Lane Major Arterial	25,402	40,000	0.635	C	C	0.013	N
San Elijo Road	Melrose Drive to Street "E"	4-Lane Major Arterial	33,899	40,000	0.847	D	D	0.014	N
San Elijo Road	Street "E" to Baker Street	4-Lane Major Arterial	35,014	40,000	0.875	<b>E</b>	D	0.023	<b>Y</b>
San Elijo Road (SB)	Baker Street to Elfin Forest Road	2-Lane Major Arterial (One-Way)	15,692	22,500	0.697	C	C	0.008	N
San Elijo Road (SB)	Elfin Forest Road to Schoolhouse Way	2-Lane Major Arterial (One-Way)	12,522	22,500	0.557	B	B	0.008	N
San Elijo Road (NB)	Baker Street to Elfin Forest Road	2-Lane Major Arterial (One-Way)	15,802	22,500	0.702	C	C	0.008	N
San Elijo Road (NB)	Elfin Forest Road to Schoolhouse Way	2-Lane Major Arterial (One-Way)	12,052	22,500	0.536	B	B	0.008	N
San Elijo Road	East of Schoolhouse Way	4-Lane Major Arterial	23,915	40,000	0.598	C	C	0.007	N

Notes:

V/C = Volume / Capacity.

I? = Inconsistency?

**Bold** indicates substandard LOS E or F.

As shown in Table 5.4, all study area roadway segments would continue to operate at acceptable LOS D or better under Near-Term Year 2024 Base with Project conditions, with the exception of the following:

- San Elijo Road, between Street "E" and Baker Street.

The Proposed Project would trigger the roadway segment operating at acceptable LOS D to operate at unacceptable LOS E and would increase the volume/capacity ratio by more than 0.02. Therefore, based upon Mobility Element – Policy M-1.4 and the standards set forth in the City of San Marcos TIA Guidelines, the roadway segment mentioned above would be inconsistent with the Mobility Element.

### 5.6.2 Intersection Analysis

Table 5.5 displays intersection LOS and average vehicle delay results under Near-Term Year 2024 Base with Project conditions. LOS calculation worksheets for Near-Term Year 2024 Base with Project conditions are provided in Appendix F.

**Table 5.5 Peak Hour Intersection LOS Results – Near-Term Year 2024 Base with Project Conditions**

#	Intersection	Control Type	AM Peak Hour		PM Peak Hour		Delay w/o Project (sec) AM/PM	LOS w/o Project AM/PM	Change in Delay (sec) AM/PM	I?
			Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS				
1	Melrose Drive / San Elijo Road	Signal	66.7	E	96.1	F	63.0 / 89.1	E / F	<u>3.7 / 7.0</u>	<u>Y</u>
2	Street "E" / San Elijo Road	SSSC	60.5	F	N/A <sup>1</sup>	F	22.6 / 797.1	C / F	<u>37.9 / 75.9</u>	<u>Y</u>
3	San Elijo Road (southbound) / Baker Street	Signal	94.0	E	56.6	E	75.72 / 51.4	E / D	<u>18.3 / 5.2</u>	<u>Y</u>
4	San Elijo Road (northbound) / Baker Street	Signal	13.7	B	23.0	C	13.6 / 18.3	B / B	0.0 / 4.7	N
5	San Elijo Road (southbound) / Elfin Forest Road (eastbound)	Signal	49.7	D	32.7	C	49.3 / 32.5	D / C	0.4 / 0.2	N
6	San Elijo Road (northbound) / Elfin Forest Road (eastbound)	Signal	14.9	B	14.4	B	14.9 / 14.4	B / B	0.0 / 0.0	N
7	San Elijo Road (southbound) / Elfin Forest Road (westbound)	Signal	29.4	C	29.0	C	29.3 / 29.0	C / C	0.1 / 0.0	N
8	San Elijo Road (northbound) / Elfin Forest Road (westbound)	Signal	30.4	C	34.1	C	30.3 / 34.0	C / C	0.1 / 0.1	N
9	Schoolhouse Way / San Elijo Road	Signal	72.4	E	28.2	C	71.5 / 27.4	E / C	0.9 / 0.8	N
10	Street "D" / San Elijo Road	SSSC	15.6	C	26.8	D	N/A	N/A	N/A	N

Notes:

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

I? = Inconsistency?

N/A = Intersection does not exist under Near-Term Year 2024 Base Conditions.

**Bold** indicates substandard LOS E or F.

**Bold and underlined** indicates inconsistency.

<sup>1</sup> Exceeds maximum reasonable calculable delay of 600 seconds per Synchro 11.0 traffic analysis software.

As shown in Table 5.5, all study intersections would continue to operate at acceptable LOS D or better during both the AM and PM peak hours under Near-Term Year 2024 base with Project Conditions, with exception to the following four (4) intersections:

1. *Melrose Drive / San Elijo Road* – LOS E during AM peak hour and LOS F during PM peak hour
2. *Street “E” / San Elijo Road* – LOS F during AM and PM peak hours
3. *San Elijo Road (southbound) / Baker Street* – LOS E during AM and PM peak hours
9. *Schoolhouse Way / San Elijo Road* – LOS E during AM peak hour

The Proposed Project would increase delay at these intersections by:

1. *Melrose Drive / San Elijo Road* – 3.7 seconds during AM peak hour and 7.0 seconds during the PM peak hour;
2. *Street “E” / San Elijo Road* – 37.9 seconds during AM peak hour and 75.9 seconds during the PM peak hour;
3. *San Elijo Road (southbound) / Baker Street* – 18.3 seconds during the AM peak hour and 5.2 seconds during the PM peak hour; and
9. *Schoolhouse Way / San Elijo Road* – 0.9 seconds during AM peak hour and 0.8 seconds during the PM peak hour

The implementation of the Proposed Project would increase the delay at four (4) intersections projected to operate at substandard LOS E under Near-Term Year 2024 Base with Project conditions. However, only three (3) intersections would result in an increase in delay of more than 2.0 seconds. Therefore, based upon Mobility Element – Policy M-1.4 and the standards set forth in the City of San Marcos TIA Guidelines, the study intersections of Melrose Drive / San Elijo Road, Street “E” / San Elijo Road, and San Elijo Road (southbound) / Baker Street would be inconsistent with the Mobility Element.

## 5.7 Mobility Element Inconsistencies and Recommended Improvements

This section identifies recommended improvements for study roadway segments and intersections that would be inconsistent with the Mobility Element with implementation of the Proposed Project under Near-Term Year 2024 Base with Project Conditions.

### 5.7.1 Roadway Segments

Because implementation of the Proposed Project would trigger the roadway segment operating at acceptable LOS D to operate at unacceptable LOS E and would increase the volume/capacity ratio by more than 0.02, the Proposed Project would cause inconsistencies with Mobility Element – Policy M-1.4 and the standards set forth in the City of San Marcos TIA Guidelines at the following roadway segment:

- San Elijo Road, between Street “E” and Baker Street.

However, the cause of this roadway segment operating at unacceptable LOS is the result of trips coming out of the project not being allowed to make a left turn out of the Project Driveway which routes all traffic to travel through this roadway segment. With signalization of the intersection of San Elijo Road and Street “E” (Project Driveway), all movements will be allowed and trips intending to make a left turn (travel

westbound) out of the Project site will now be able to do so and will not have to travel east first towards Baker Street to make a U-turn. **Figure 5.5** displays the trip distribution patterns with the installation of the signal at the intersection of San Elijo Road / Street “E”. Based upon the project trip distribution with this improvement added, AM/PM peak hour project trips were assigned to the adjacent roadway network, as displayed in **Figure 5.6**. Daily roadway and peak hour intersection volumes for this scenario are displayed in **Figure 5.7**.

**Table 5.6** displays roadway LOS results under Near-Term Year 2024 Base with Project with Improvement Conditions.

**Table 5.6 Roadway Segment LOS Results – Near-Term Year 2024 Base with Project with Improvement Conditions**

Roadway	Segment	ADT w/Traffic Signal	V/C w/Traffic Signal	LOS w/Traffic Signal	ADT w/o Traffic Signal	V/C w/o Traffic Signal	LOS w/o Traffic Signal	ΔV/C	I?
San Elijo Road	Street “E” to Baker Street	34,466	0.862	D	35,014	0.875	E	-0.013	N

As shown, the roadway segment of San Elijo Road, between Street “E” and Baker Street would operate at acceptable LOS D with implementation of a traffic signal at the intersection of San Elijo Road and Street “E”. Upon installation of the traffic signal consistency with Mobility Element – Policy M-1.4 would be achieved.

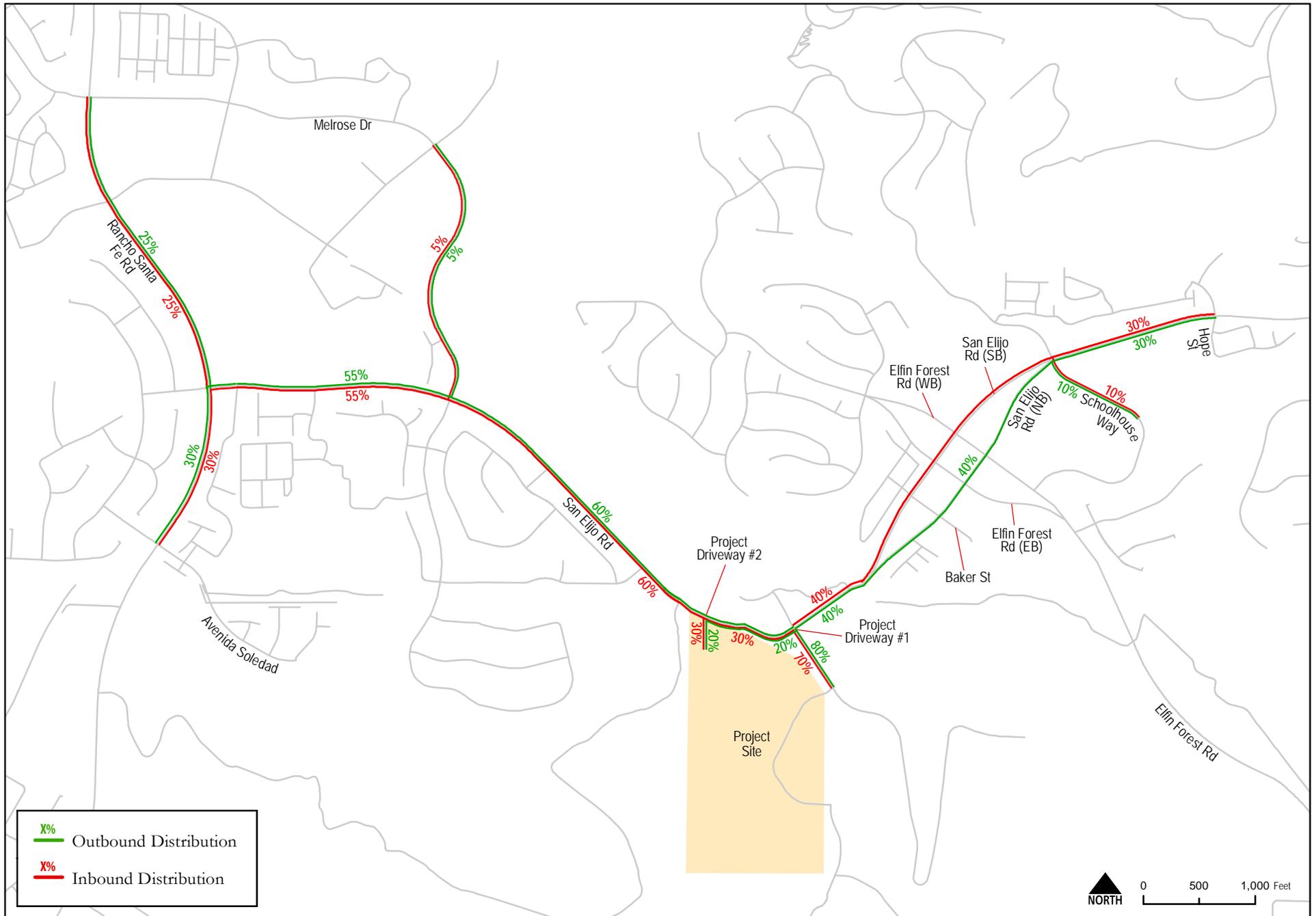


Figure 5.5  
 Project Trip Distribution  
 with Installation of Traffic Signal at San Elijo Road and Street "E"

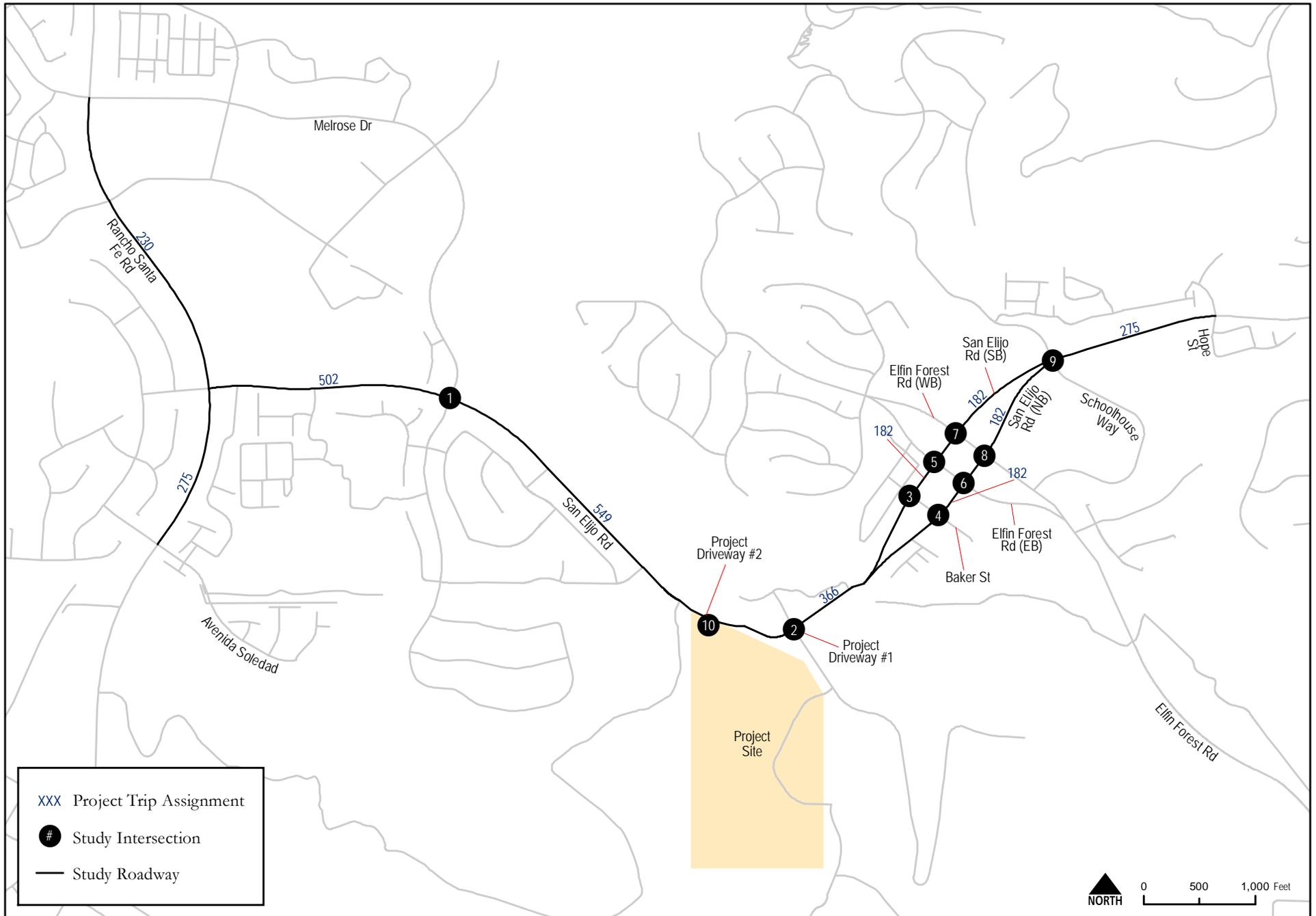
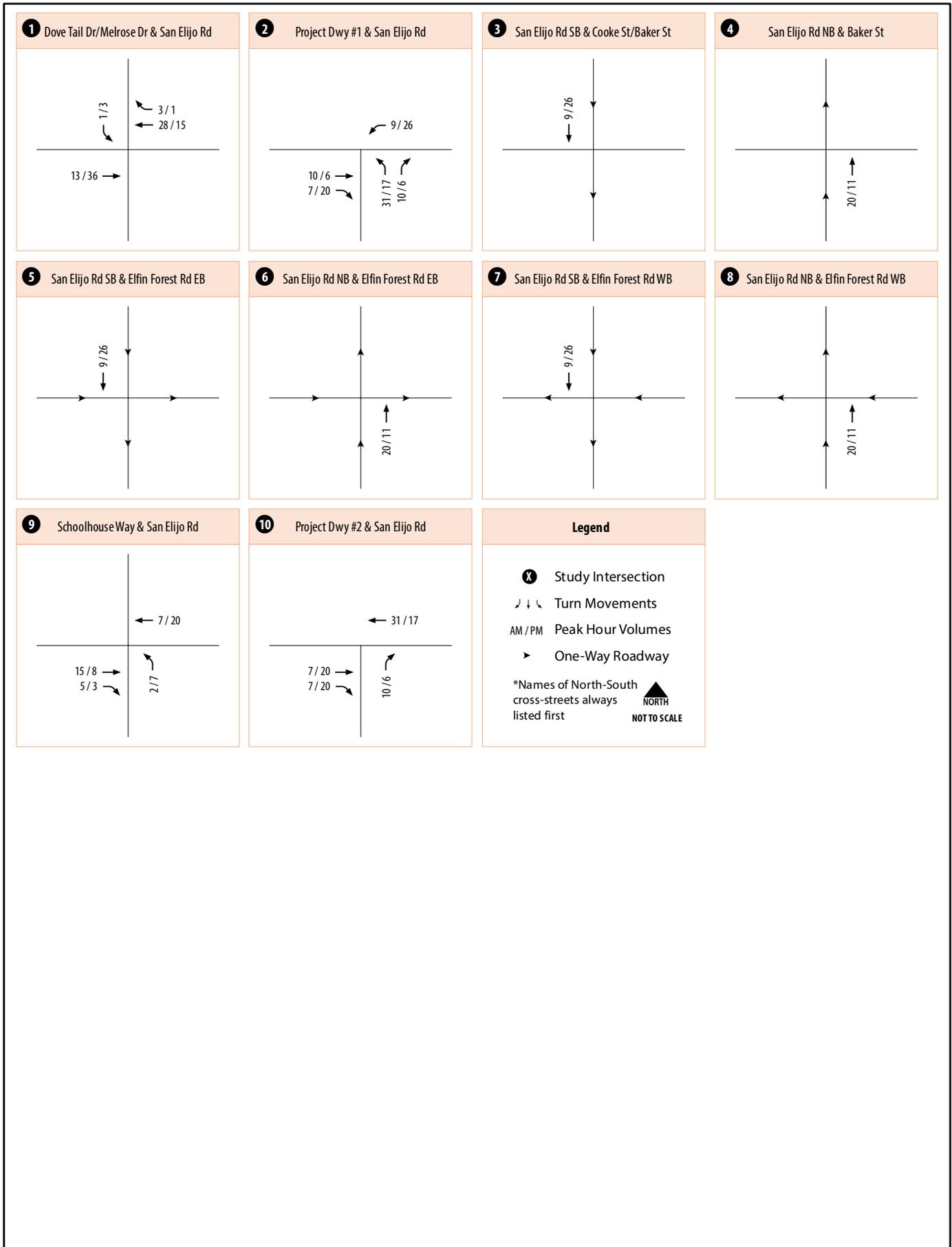
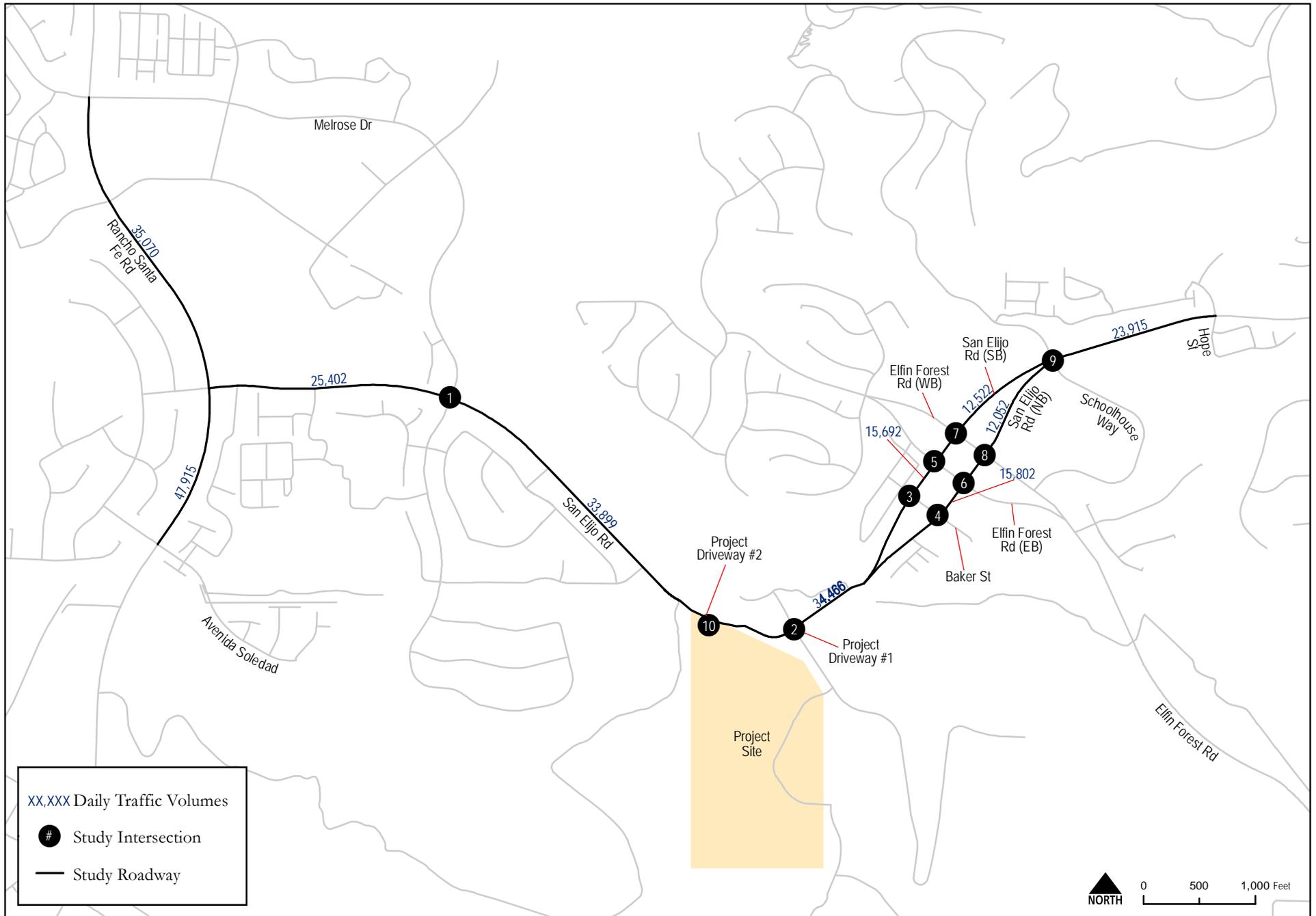
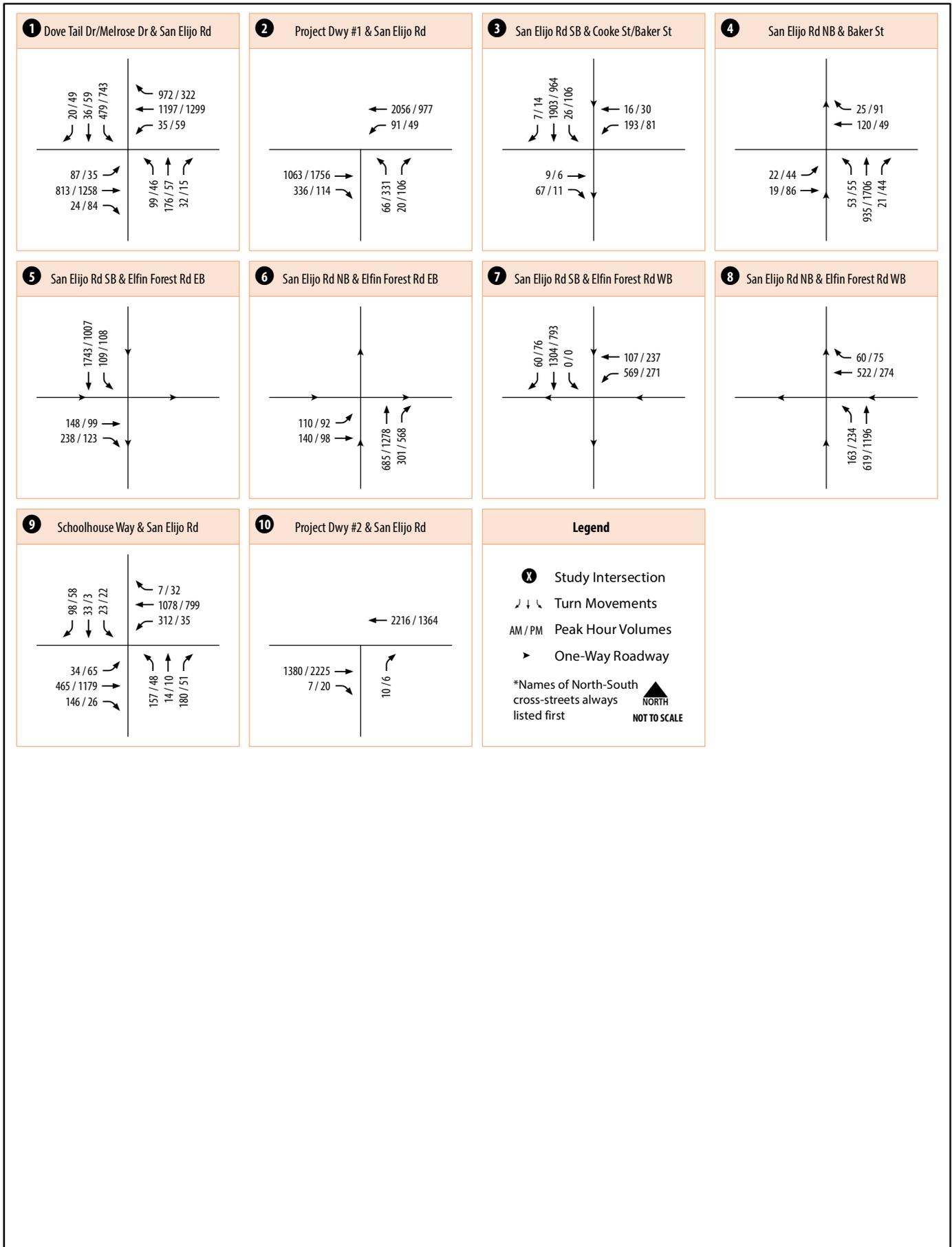


Figure 5.6  
 Project Trip Assignment  
 with Installation of Traffic Signal at San Elijo Road and Street "E"





*Figure 5.7*  
*Traffic Volumes - Near-Term Year 2024 Base with Project Improvement Conditions*



## 5.7.2 Intersections

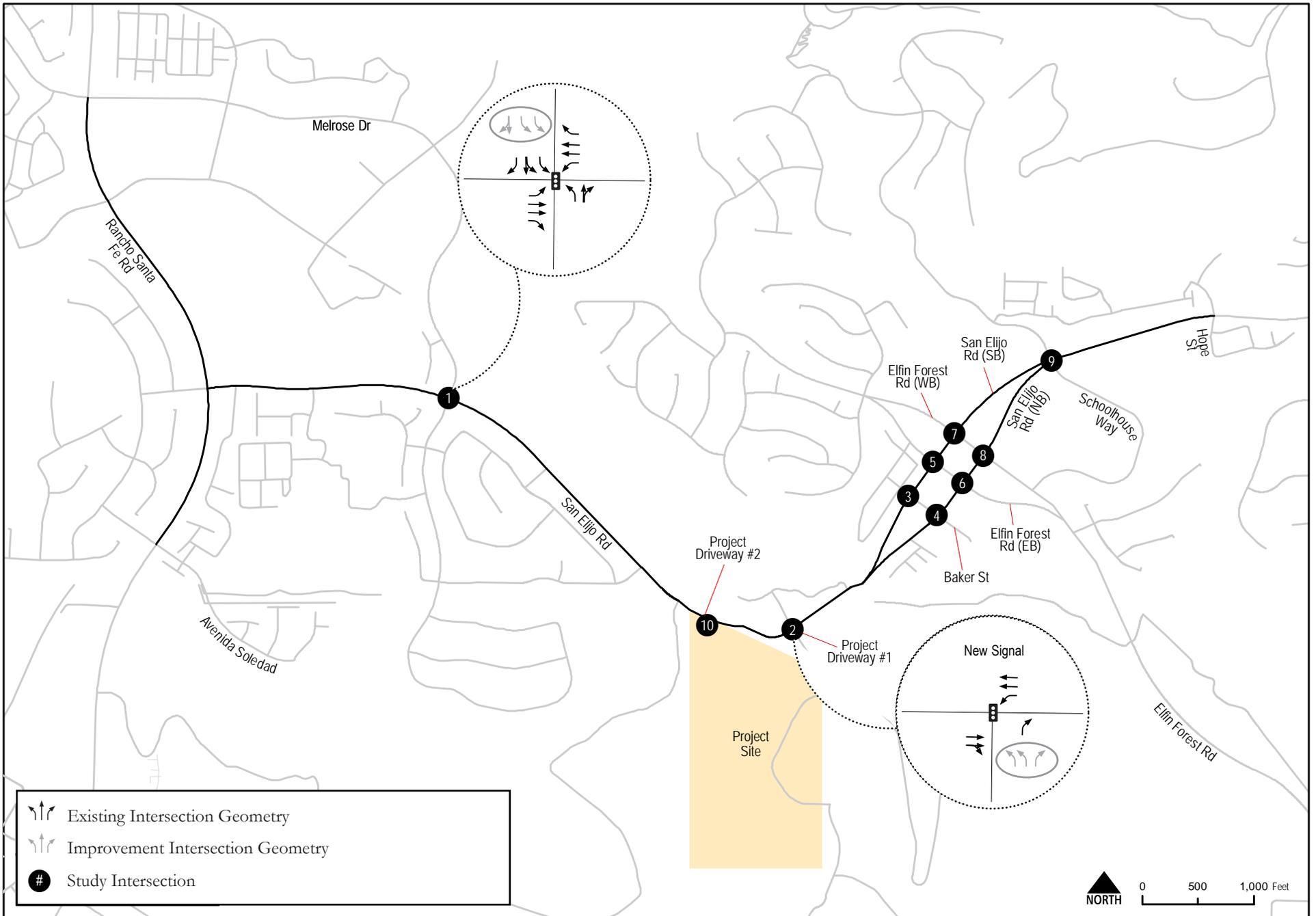
Because implementation of the Proposed Project would further deteriorate traffic operations and add more than two seconds of delay to three (3) intersections already operating at LOS E or F, the Proposed Project would cause inconsistencies with Mobility Element – Policy M-1.4 and the standards set forth in the City of San Marcos TIA Guidelines at the following intersections:

1. *Melrose Drive / San Elijo Road* – To achieve consistency with Mobility Element – Policy M-1.4, the traffic signal timing will need to be optimized. Signal optimization will include reoptimizing cycle lengths and/or signal splits to better accommodate future traffic demand along the corridor. Implementing this will improve intersection vehicle delays to better than pre-project conditions. Signal optimization, or timing adjustment based on traffic demand, will result in intersection capacity, vehicle throughput, and reduction in vehicle delays. It is important to note that if signal optimization is implemented, adjacent intersections within the coordinated system will need to be taken into consideration. Additionally, the north leg of the intersection (Melrose Drive) will have to be restriped to accommodate southbound dual left-turn lanes and a shared through-right lane. A striping plan shall be prepared to the satisfaction of the City Engineer. Upon implementation of signal optimization and restriping of the north leg to accommodate the aforementioned intersection configuration, consistency with Mobility Element – Policy M-1.4 would be achieved.
2. *Street “E” / San Elijo Road* – To achieve consistency with Mobility Element – Policy M-1.4, a traffic signal will be installed as well as a lane reconfiguration at the south leg of the intersection at this location in order to accommodate the high volume of traffic attempting to turn onto San Elijo Road. A traffic signal warrant<sup>1</sup> was conducted for this location using the Near-Term Year 2024 base volumes. See **Appendix G** for traffic signal warrant. Upon completion of the traffic signal warrant, it was determined that the intersection met the requirements for installation of a traffic signal during the PM peak hour. Upon installation of the traffic signal, consistency with Mobility Element – Policy M-1.4 would be achieved.
3. *San Elijo Road (southbound) / Baker Street* – Achieving consistency with Mobility Element – Policy M-1.4 will require the installation of the traffic signal at Street “E” / San Elijo Road. The installation of the signal at intersection #2 will enable rerouting of traffic from both the Project and the Lomas San Marcos Specific Plan cumulative project to significantly reduce the high westbound left turn volume. Upon installation of the traffic signal consistency with Mobility Element – Policy M-1.4 would be achieved.

**Table 5.7** displays intersection LOS and average vehicle delay results under Near-Term Year 2024 Base with Project with Improvement Conditions. **Figure 5.8** displays the difference in intersection geometrics between the with and without improvement scenarios. **Figure 5.9** displays the lane configuration changes for the Melrose Drive / San Elijo Road intersection. **Figure 5.10** displays the lane configuration changes for the Street “E” / San Elijo Road intersection with the installation of the traffic signal. LOS calculation worksheets and traffic signal warrant are provided in Appendix G.

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<sup>1</sup> Note that warrant 3, peak hour volume, is only applicable per CAMUTCD Section 4C.04 when, “*This signal warrant shall be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time.*” Since this intersection serves a movie studio with a large office component it was determined that use of warrant 3 was applicable.



*Figure 5.8*  
*Intersection Geometric Changes*





**Table 5.7 Peak Hour Intersection LOS Results – Near-Term Year 2024 Base with Project with Improvement Conditions**

#	Intersection	Control Type	AM Peak Hour		PM Peak Hour		Delay w/o Project (sec) AM/PM	LOS w/o Project AM/PM	Change in Delay (sec) AM/PM
			Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS			
1	Melrose Drive / San Elijo Road	Signal	45.1	D	41.1	D	63.0 / 89.1	<b>E / F</b>	-17.9 / -48.0
2	Street "E" / San Elijo Road	Signal	13.9	B	22.6	C	22.6 / 797.1	<b>C / F</b>	-8.7 / -774.5
3	San Elijo Road (southbound) / Baker Street	Signal	52.4	D	33.1	C	75.7 / 51.4	<b>E / D</b>	-23.3 / -18.3

Notes:

**Bold** indicates substandard LOS E or F.

As shown in Table 5.7, the proposed improvements will enhance the identified traffic operations to better than pre-project conditions as follows:

1. *Melrose Drive / San Elijo Road* – During the AM peak hour, the delay is projected to be reduced from 63.0 seconds (LOS E) to 45.1 seconds (LOS D), for a total reduction of 17.9 seconds. During the PM peak hour, the delay is projected to be reduced from 89.1 seconds (LOS F) to 41.1 seconds (LOS D), for a total reduction of 48.0 seconds.
2. *Street "E" / San Elijo Road* – During the AM peak hour, the delay is projected to be reduced from 22.6 seconds (LOS C) to 13.9 seconds (LOS B), for a total reduction of 8.7 seconds. During the PM peak hour, the delay is projected to be reduced from 797.1 seconds (LOS F) to 22.6 seconds (LOS C), for a total reduction of 774.5 seconds.

*San Elijo Road (southbound) / Baker Street* – During the AM peak hour, the delay is projected to be reduced from 75.7 seconds (LOS E) to 52.4 seconds (LOS D), for a total reduction of 23.3 seconds. During the PM peak hour, the delay is projected to be reduced from 51.4 seconds (LOS D) to 33.1 seconds (LOS C), for a total reduction of 18.3 seconds.

However, the County of San Diego does not have control over the improvements to intersections under the jurisdiction of the City of San Marcos. Further coordination with the City of San Marcos would be required to implement the recommended improvements.

## 6.0 Horizon Year 2035 Conditions

This chapter provides a description of Horizon Year 2035 Traffic Conditions network, both with and without the Proposed Project. Scenarios analyzed in this section included:

- Horizon Year 2035 Base Conditions
- Horizon Year 2035 with Project Conditions

Since the Proposed Project is consistent with the County of San Diego General Plan, intersection analysis was not conducted.

### 6.1 Horizon Year 2035 Base Roadway Network and Traffic Volumes

Roadway and intersection geometrics under Horizon Year 2035 Base conditions were assumed to be identical to geometrics assumed under Near-Term Year 2024 Base conditions.

The Horizon Year 2035 Base scenario traffic volumes were obtained from the SANDAG Series 13 model via Transportation Forecast Information Center (TFIC) website. Since three of the ten existing ADT volumes were found to be greater than those collected via TFIC, a growth rate, based on existing counts and SANDAG's base year model, was applied to existing counts. Details on counts collected from TFIC and growth rates applied are provided in **Appendix H**.

**Figure 6.1** displays the average daily roadway volumes for the study roadway segments under Horizon Year 2035 Base conditions.

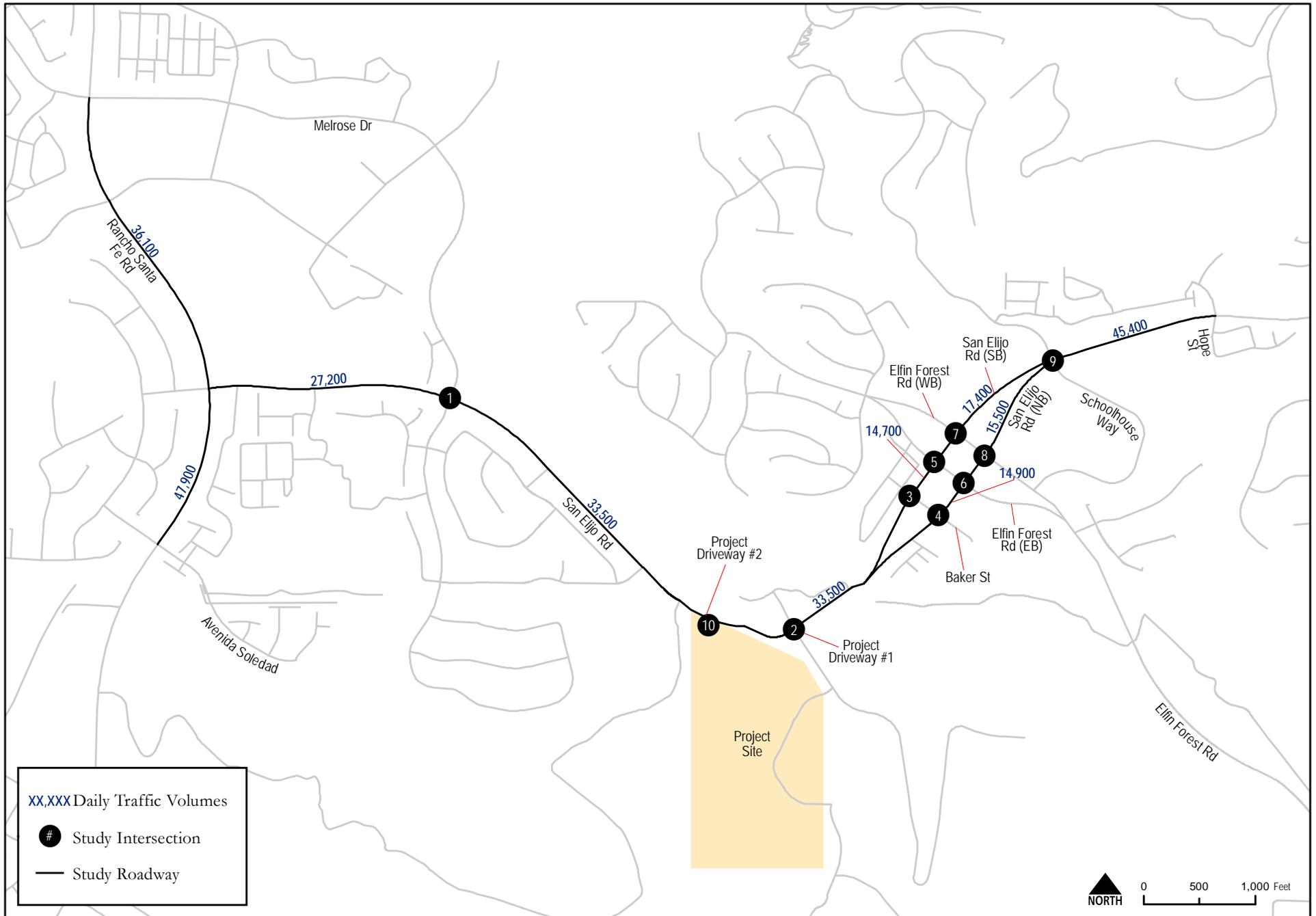


Figure 6.1  
 Traffic Volumes - Horizon Year 2035 Base Conditions

## 6.2 Horizon Year 2035 Base Traffic Conditions

LOS analyses for Horizon Year Base conditions were conducted using the methodologies described in Chapter 2.0. Roadway segment results are discussed below.

### 6.2.1 Roadway Segment Analysis

**Table 6.1** displays the LOS analysis results for study area roadway segments under Horizon Year 2035 Base conditions.

**Table 6.1 Roadway Segment LOS Results – Horizon Year 2035 Base Conditions**

Roadway	Segment	Classification	ADT	LOS Threshold (LOS E)	V/C	LOS
Rancho Santa Fe Road	Melrose Drive to San Elijo Road	6-Lane Prime Arterial	36,100	60,000	0.602	C
Rancho Santa Fe Road	San Elijo Road to Avenida Soledad	6-Lane Prime Arterial	47,900	60,000	0.798	C
San Elijo Road	Rancho Santa Fe Road to Melrose Drive	4-Lane Major Arterial	27,200	40,000	0.680	C
San Elijo Road	Melrose Drive to Street "E"	4-Lane Major Arterial	33,500	40,000	0.838	D
San Elijo Road	Street "E" to Baker Street	4-Lane Major Arterial	33,500	40,000	0.838	D
San Elijo Road (SB)	Baker Street to Elfin Forest Road	2-Lane Major Arterial (One-Way)	14,700	22,500	0.653	C
San Elijo Road (SB)	Elfin Forest Road to Schoolhouse Way	2-Lane Major Arterial (One-Way)	17,400	22,500	0.773	C
San Elijo Road (NB)	Baker Street to Elfin Forest Road	2-Lane Major Arterial (One-Way)	14,900	22,500	0.662	C
San Elijo Road (NB)	Elfin Forest Road to Schoolhouse Way	2-Lane Major Arterial (One-Way)	15,500	22,500	0.689	C
San Elijo Road	East of Schoolhouse Way	4-Lane Major Arterial	45,500	40,000	1.138	<b>F</b>

Notes:

V/C = Volume / Capacity.

**Bold** indicates substandard LOS E or F.

As shown in Table 6.1, all study area roadway segments would operate at acceptable LOS D or better under Horizon Year 2035 Base conditions, with exception to the following roadway segment:

- San Elijo Road east of Schoolhouse Way – LOS F

### 6.3 Horizon Year 2035 Base with Project Roadway Network and Traffic Volumes

Roadway and intersection geometrics under Horizon Year 2035 Base with Project conditions were assumed to be identical to Horizon Year 2035 Base as well as Near-Term Year 2024 Base conditions.

Based on the *San Diego County General Plan*, the designation for the Proposed Project site is semi-rural land usage, which includes the low density residential (single family land use) and areas for recreation (park). The SANDAG Series 13 Year 2035 model includes traffic generated for 44 single family housing units. Trip credits were applied towards the Proposed Project’s net vehicle trip generation for Horizon Year 2035 Conditions. **Table 6.2** displays the projected daily, as well as AM and PM peak hour, project trip generation under Horizon Year 2035 Conditions.

**Table 6.2 Project Trip Generation – Horizon Year 2035 Conditions**

Land Use	Units	Trip Rate	ADT	AM Peak Hour					PM Peak Hour				
				%	Trips	Split	In	Out	%	Trips	Split	In	Out
Residential - Estate	76 DU	12 / DU	912	8%	73	3:7	22	51	10%	92	7:3	64	28
General Plan Land Use	44 DU	12 / DU	-528	8%	-43	3:7	-13	-30	10%	-53	7:3	-37	-16
Park – Neighborhood / County	0.30 acres	5 / acre	2	4%	1	5:5	1	0	8%	1	5:5	1	0
<b>Total</b>			<b>386</b>	<b>-</b>	<b>31</b>	<b>-</b>	<b>8</b>	<b>21</b>	<b>-</b>	<b>40</b>	<b>-</b>	<b>28</b>	<b>12</b>

Source: SANDAG (not so) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, April 2002

Note:

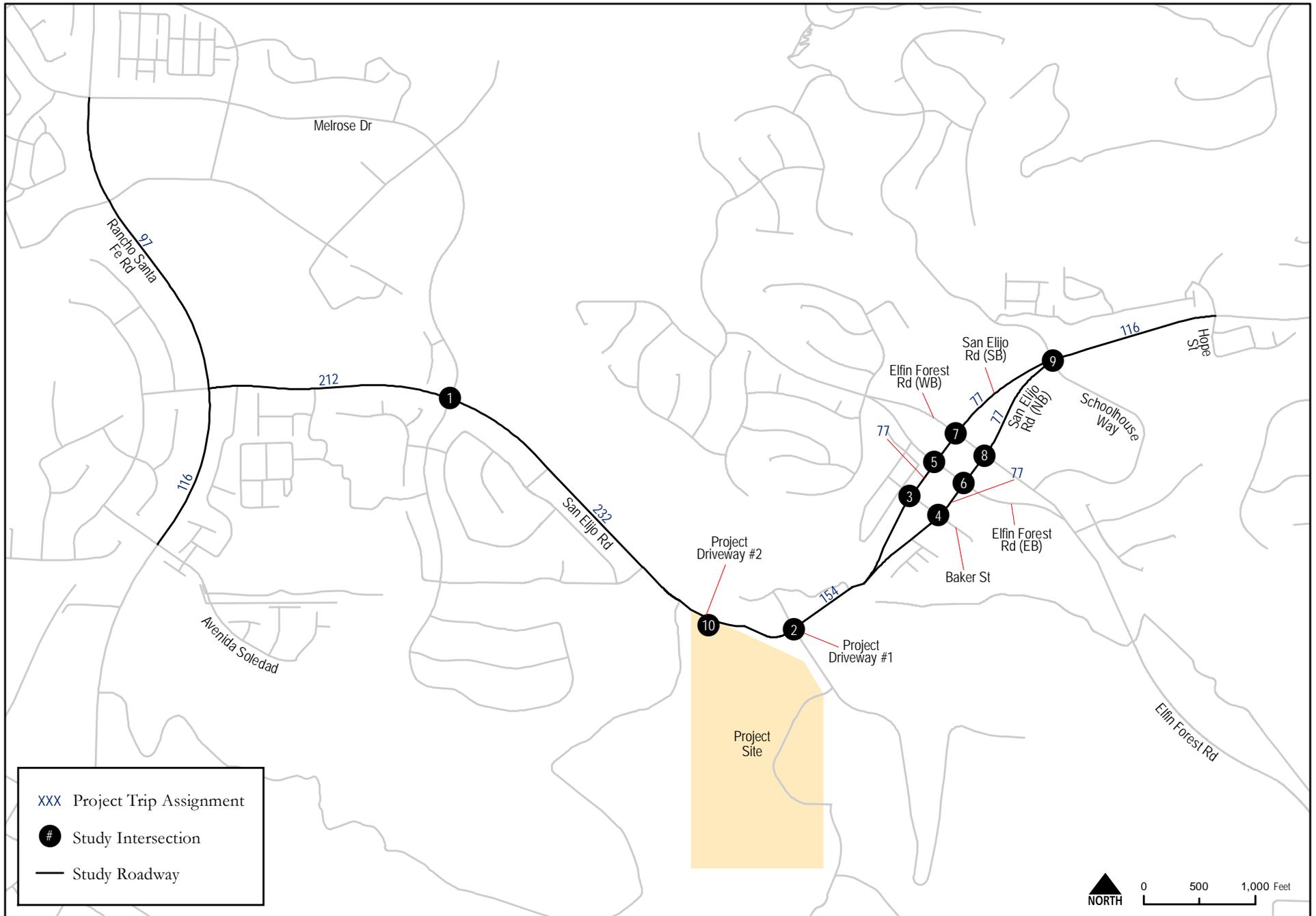
DU = Dwelling Unit.

As shown in Table 6.2, the Proposed Project would generate a total of 386 net daily trips, including 31 trips (8-in / 21-out) during the AM peak hour and 40 trips (28-in / 12-out) during the PM peak hour under Horizon year 2035 Conditions. Proposed Project traffic was distributed following the same patterns used for all shown in Figure 3.4. Additionally, due to improvement at the Street “E” and San Elijo Road intersection allowing for northbound left-turn movement previously prohibited under existing conditions, the Proposed Project trip distribution patterns were updated for the following intersections:

2. Street “E” / San Elijo Road
3. San Elijo Road (southbound) / Baker Street
4. San Elijo Road (northbound) / Baker Street

Project trip assignment is shown in **Figure 6.2**.

Horizon Year 2035 Base with Project traffic volumes were derived by combining the Horizon Year 2035 Base traffic volumes (displayed in Figure 6.1) and the project trip assignment volumes (displayed in Figure 6.2). Daily roadway volumes for this scenario are displayed in **Figure 6.3**.



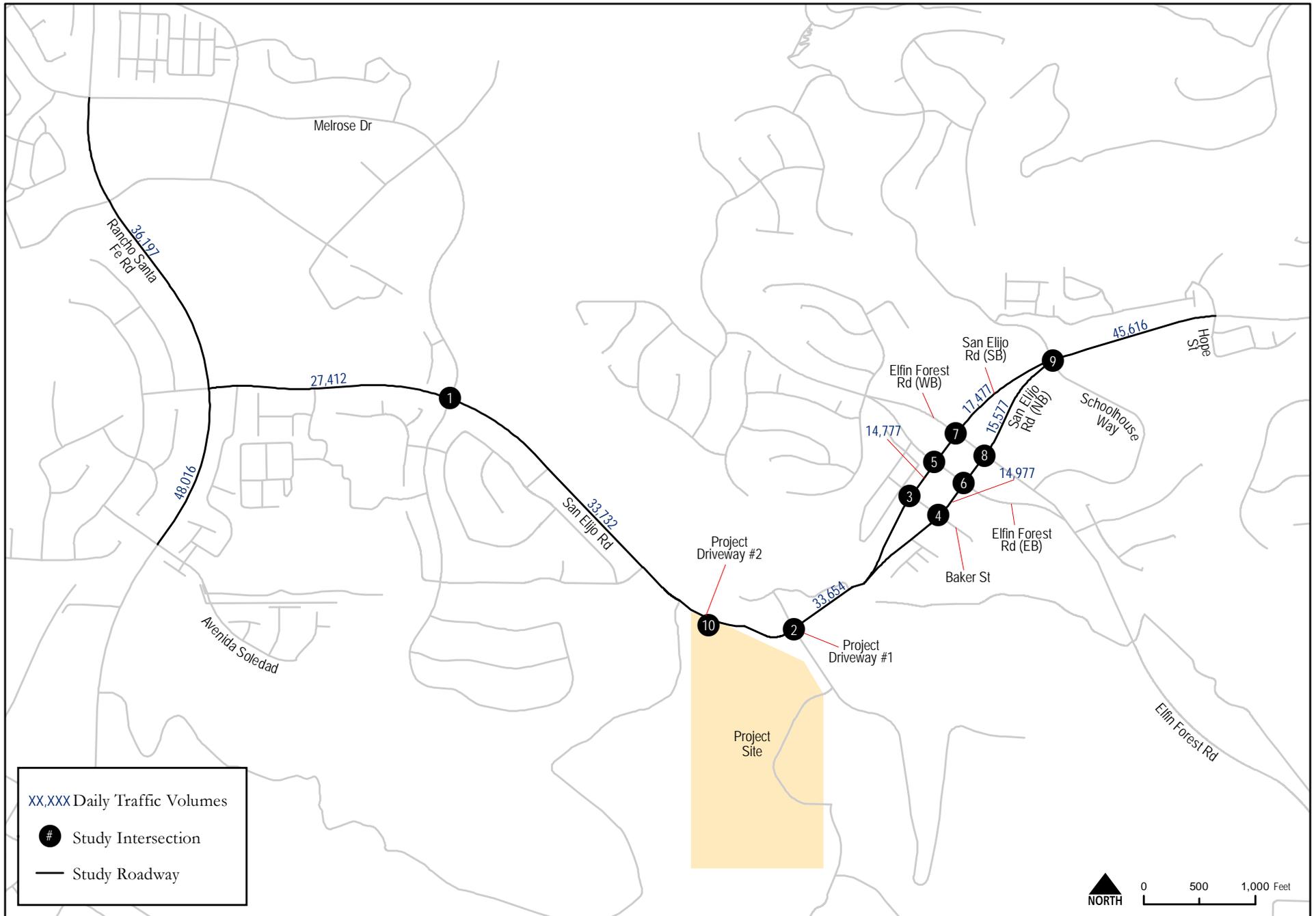


Figure 6.3  
 Traffic Volumes - Horizon Year 2035 Base with Project Conditions

## 6.4 Horizon Year 2035 Base with Project Traffic Conditions

LOS analyses were conducted using the methodologies described in Chapter 2.0. Roadway segment LOS analysis results are discussed below.

### 6.4.1 Roadway Segment Analysis

Table 6.3 displays the LOS analysis results for key study area roadway segments under Horizon Year 2035 Base with Project Conditions.

**Table 6.3 Roadway Segment LOS Results – Horizon Year 2035 Base with Project Conditions**

Roadway	Segment	Functional Classification	ADT	LOS Threshold (LOS E)	V/C	LOS	LOS w/o Project	ΔV/C	I?
Rancho Santa Fe Road	Melrose Drive to San Elijo Road	6-Lane Prime Arterial	36,197	60,000	0.603	C	C	0.002	N
Rancho Santa Fe Road	San Elijo Road to Avenida Soledad	6-Lane Prime Arterial	48,016	60,000	0.800	C	C	0.002	N
San Elijo Road	Rancho Santa Fe Road to Melrose Drive	4-Lane Major Arterial	27,412	40,000	0.685	C	C	0.005	N
San Elijo Road	Melrose Drive to Street "E"	4-Lane Major Arterial	33,732	40,000	0.843	D	D	0.006	N
San Elijo Road	Street "E" to Baker Street	4-Lane Major Arterial	33,654	40,000	0.841	D	D	0.004	N
San Elijo Road (SB)	Baker Street to Elfin Forest Road	2-Lane Major Arterial (One-Way)	14,777	22,500	0.657	C	C	0.003	N
San Elijo Road (SB)	Elfin Forest Road to Schoolhouse Way	2-Lane Major Arterial (One-Way)	17,477	22,500	0.777	C	C	0.003	N
San Elijo Road (NB)	Baker Street to Elfin Forest Road	2-Lane Major Arterial (One-Way)	14,977	22,500	0.666	C	C	0.003	N
San Elijo Road (NB)	Elfin Forest Road to Schoolhouse Way	2-Lane Major Arterial (One-Way)	15,577	22,500	0.692	C	C	0.003	N
San Elijo Road	East of Schoolhouse Way	4-Lane Major Arterial	45,616	40,000	1.140	<b>F</b>	<b>F</b>	0.003	N

Notes:

V/C = Volume / Capacity.

I? = Inconsistency?

**Bold** indicates substandard LOS E or F.

As shown in Table 6.3, all study area roadway segments would continue to operate at acceptable LOS D or better under Horizon Year 2035 Base with Project conditions, with exception to the following roadway segment:

- San Elijo Road east of Schoolhouse Way – LOS F

Although the roadway segment identified above is projected to continue operating at a substandard LOS with the addition of project traffic, the increase in V/C ratio is less than 0.02. Therefore, based upon the standards set forth in the City of San Marcos TIA Guidelines, the Proposed Project study roadway segment would not be associated with inconsistencies with the TIA Guidelines.

## **6.5 Mobility Element Inconsistencies and Recommended Improvements**

This section identifies recommended improvements for study roadway segments and intersections that would be inconsistent with the Mobility Element with implementation of the Proposed Project under Horizon Year 2035 Base with Project conditions.

### **6.5.1 Roadway Segments**

No City of San Marcos TIA Guidelines inconsistencies were identified. Therefore, no improvements are required.

## 7.0 Site Access, On-Site Circulation, Driveway Queuing, and Parking

This chapter addresses access to the project site. Topics discussed include site-access and on-site circulation, parking, and driveway queuing.

### 7.1 Site Access and On-Site Vehicle Circulation

The Proposed Project is located on the south side of San Elijo Road between Fallsview Road and the Loma San Marcos project driveway, near the San Elijo Community within the unincorporated County of San Diego. Project access will be provided via the following two (2) access points:

2. *Street "E" / San Elijo Road* – This driveway, named as Street "E", is located at the eastern end of the Questhaven property. It is an existing T-intersection leg (south) that connects to San Elijo Road and currently provides access to Loma San Marcos Movie Studio. As previously displayed in Figure ES.1 there are currently existing physical barriers along San Elijo Road that prevent left turn movements out of the existing driveway. This access point is analyzed as a side-street-stop-controlled right-in/right-out under Existing, Near Term, and Near Term with Project scenarios. This access point includes one inbound and one outbound lane.
  
10. *Street "D" / San Elijo Road* – This driveway, named as Street "D", is located at the western end of the property. It will form a side-street stop-controlled, right-in/right-out T-intersection with San Elijo Road. This access point includes one inbound lane and one outbound lane.

The site is comprised of number of private internal roads to provide adequate internal circulation and access to the proposed land uses, as well as to connect to the two project driveways in Streets "D" and "E".

Table 7.1 displays intersection LOS and average vehicle delay results for the two analyzed project driveways under Near-Term Year 2024 Base with Project conditions, as shown previously in Chapter 5 of this report.

**Table 7.1 Peak Hour Project Driveway LOS Results**

#	Intersection	Control Type	Near-Term Year 2024 Base with Project <sup>1</sup>			
			AM Peak Hour		PM Peak Hour	
			Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS
2	Street "E" / San Elijo Road	SSSC	60.5	F	873.4	F
10	Street "D" / San Elijo Road	SSSC	15.6	C	26.8	D

Notes:

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

<sup>1</sup> Includes improvement (construction of traffic signal) identified in Section 5.7.2.

As shown in Table 7.1, while the access point at Street "D" will operate at LOS D or better during AM and PM peak hours the access point at Street "E" will cause an inconsistency with the Mobility Element. In order to maintain consistency with the Mobility Element at this location an improvement of the installation of a traffic signal was identified as a project improvement.

Table 7.2 displays intersection LOS and average vehicle delay results for the two project access points under Near-Term Year 2024 Base with Project Improvement conditions.

**Table 7.2 Peak Hour Project Driveway LOS Results**

#	Intersection	Control Type	Near-Term Year 2024 Base with Project <sup>1</sup>			
			AM Peak Hour		PM Peak Hour	
			Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS
2	Street "E" / San Elijo Road	Signal	13.9	B	22.6	C
10	Street "D" / San Elijo Road	SSSC	15.6	C	26.8	D

Notes:

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

<sup>1</sup> Includes improvement (construction of traffic signal) identified in Section 5.7.2.

As shown in Table 7.2, both access points will operate at LOS D or better during both the AM and PM peak hours in the Near Term 2024 Base with Project Improvements scenario.

## 7.2 Parking

Parking will be incorporated within the proposed development. Parking pullouts will be provided along all the internal streets. Additionally, each residential lot will have two to three car garage units with the ability to park an additional two (2) cars in each driveway. Per the County of San Diego Ordinance No. 10251, adopted 2013, the Proposed Project is required to supply two vehicle spaces per single family unit. Table 7.3 displays the Proposed Project’s parking requirements.

**Table 7.3 Parking Requirements**

Type of Occupancy	Units	Requirement	Parking Spaces Required	Parking Spaces Provided
<b>County of San Diego Ordinance No. 10251</b>				
Residential Estate	76	2 spaces / unit	152 spaces	152 to 228 spaces <sup>1</sup>

Note:

The garages for the houses can park up to 3 cars; however, to be conservative only 2 cars were assumed.

As shown in Table 7.3, the Proposed Project will provide enough parking spaces to satisfy the County of San Diego parking requirements.

## 8.0 Pedestrian, Bicycle, and Transit Assessment

This chapter discusses the project site's alternative transportation modes (walking, bicycling, and transit).

### 8.1 Pedestrian Facilities

There is an existing soft surface trail directly adjacent to the project site along San Elijo Road, which is consistent with the *City of San Marcos Mobility Element*.

Based on the preliminary review of the Proposed Project's site plan, the Proposed Project would not result in any impacts to pedestrians and would not conflict with existing pedestrian facilities.

### 8.2 Bicycle Facilities

There are Class II Bicycle Lanes directly adjacent to the project site along San Elijo Road, which is consistent with the *City of San Marcos Bicycle and Pedestrian Master Plan* (May 2015).

Based on the preliminary review of the Proposed Project's site plan, the Proposed Project would not result in any impacts to bicyclists and would not conflict with existing bicycle facilities.

### 8.3 Transit

North County Transit District (NCTD) Bus Route #304 is located in the vicinity of the Proposed Project; however, it is located approximately one-mile from the project site. Route #304 connects the Palomar College Transit Center to the Encinitas Station with 43 bus stops. Operations start at 4:58 AM and ends at 8:23 PM between Monday through Friday and operates between 7:23 AM to 8:23 PM on Saturday. Route #304 currently does not operate on Sundays. This route operates on 40-minute headways.

Additionally, there are not planned transit facilities within the project study area.

Based on the preliminary review of the Proposed Project's site plan, the Proposed Project would not conflict with existing or planned transit facilities and would not result in any impacts to transit facilities.

## Appendix A Signal Timing Sheets

**INTERSECTION: San Elijo & Melrose**

Group Assignment: **NONE**  
 Field Master Assignment: **NONE**  
 System Reference Number: **66**

N/S Street Name: **Melrose**  
 E/W Street Name: **San Elijo**

Last Database Change: **3/18/2019 11:50**

Change Record					
Change	By	Date	Change	By	Date

Notes: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Drop Number	<b>3</b>	<C+0+0>
Zone Number		<C+0+1>
Area Number	<b>5</b>	<C+0+2>
Area Address	<b>3</b>	<C+0+3>
QuicNet Channel	<b>Serial:COM26:</b>	(QuicNet)

**Communication Addresses**

Manual Plan		<C+A+1>
Manual Offset		<C+B+1>

**Manual Selection**

Max Initial	<b>20</b>	<F+0+E>
Red Revert	<b>5.0</b>	<F+0+F>
All Red Start	<b>4.0</b>	<F+C+0>

**Start / Revert Times**

Row	Phase Names ---->	Phase							
		1	2	3	4	5	6	7	8
0	Ped Walk	0	5	0	5	0	5	0	0
1	Ped FDW	0	18	0	30	0	21	0	0
2	Min Green	7	10	10	9	8	10	0	0
3	Type 3 Limit	0	0	0	0	0	0	0	0
4	Added Initial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	Veh Extension	1.5	4.0	2.0	4.0	2.0	4.0	0.0	0.0
6	Max Gap	1.5	4.0	2.0	4.0	2.0	4.0	0.0	0.0
7	Min Gap	1.5	4.0	2.0	4.0	2.0	4.0	0.0	0.0
8	Max Limit	15	30	15	30	15	30	0	0
9	Max Limit 2	0	0	0	0	0	0	0	0
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0
E	Yellow Change	4.0	5.0	4.0	4.0	4.0	5.0	0.0	0.0
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0

**Phase Timing - Bank 1** <F Page>

Row	Phase Names	E		F	
		1	2	1	2
0	RR-1 Delay	0			
1	RR-1 Clear	0			
2	EV-A Delay	0			
3	EV-A Clear	0			
4	EV-B Delay	0			
5	EV-B Clear	0			
6	EV-C Delay	0			
7	EV-C Clear	0			
8	EV-D Delay	0			
9	EV-D Clear	0			
A	RR-2 Delay	0			
B	RR-2 Clear	0			
C	View EV Delay	---			
D	View EV Clear	---			
E	View RR Delay	---			
F	View RR Clear	---			

**Preempt Timing** <F Page>

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

**Phase Functions** <F Page>

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

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

Column Numbers ---->		Plan									
Row	Plan Name ---->	1	2	3	4	5	6	7	8	9	Row
0	Cycle Length	0	0	0	0	0	0	0	0	0	0
1	Phase 1 - ForceOff	0	0	0	0	0	0	0	0	0	1
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0	2
3	Phase 3 - ForceOff	0	0	0	0	0	0	0	0	0	3
4	Phase 4 - ForceOff	0	0	0	0	0	0	0	0	0	4
5	Phase 5 - ForceOff	0	0	0	0	0	0	0	0	0	5
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0	6
7	Phase 7 - ForceOff	0	0	0	0	0	0	0	0	0	7
8	Phase 8 - ForceOff	0	0	0	0	0	0	0	0	0	8
9	Ring Offset	0	0	0	0	0	0	0	0	0	9
A	Offset 1	0	0	0	0	0	0	0	0	0	A
B	Offset 2	0	0	0	0	0	0	0	0	0	B
C	Offset 3	0	0	0	0	0	0	0	0	0	C
D	Permissive	0	0	0	0	0	0	0	0	0	D
E	Hold Release	0	0	0	0	0	0	0	0	0	E
F	Zone Offset	0	0	0	0	0	0	0	0	0	F

Coordination <C Page>

(\* = Coordination Recall)

Row	E	Row
Plan 1 - Sync	_____	1
Plan 2 - Sync	_____	2
Plan 3 - Sync	_____	3
Plan 4 - Sync	_____	4
Plan 5 - Sync	_____	5
Plan 6 - Sync	_____	6
Plan 7 - Sync	_____	7
Plan 8 - Sync	_____	8
Plan 9 - Sync	_____	9
Coord Ped *	_____	A
NEMA Hold	_____	B
		C
		D
		E
		F

Sync Phases <C Page>

Row	Column Numbers ---->	E
0	Exclusive Phases	_____
1	RR-1 Clear Phases	_____
2	RR-2 Clear Phases	_____
3	RR-2 Limited Service	_____
4	Prot / Perm Phases	_____
5	Overlap A - Green Omit	<u>2</u>
6	Overlap B - Green Omit	<u>6</u>
7	Overlap C - Green Omit	_____
8	Overlap D - Green Omit	_____
9	Overlap Yellow Flash	_____
A	EV-A Phases	<u>2 5</u>
B	EV-B Phases	<u>4</u>
C	EV-C Phases	<u>1 6</u>
D	EV-D Phases	<u>3</u>
E	Extra 1 Config. Bits	<u>1 3</u>
F	IC Select (Interconnect)	<u>2</u>

Configuration <E Page>

Row	F
RR Overlap A - Phases	_____
RR Overlap B - Phases	_____
RR Overlap C - Phases	_____
RR Overlap D - Phases	_____
Ped 2P	<u>2</u>
Ped 6P	<u>6</u>
Ped 4P	<u>4</u>
Ped 8P	_____
Yellow Flash Phases	_____
Overlap A - Phases	<u>23</u>
Overlap B - Phases	<u>4 6</u>
Overlap C - Phases	_____
Overlap D - Phases	_____
Restricted Phases	_____
Assign 5 Outputs	<u>1</u>

Configuration <E Page>

- Extra 1 Flags**  
 1 = TBC Type 1  
 2 = NEMA Ext. Coord  
 3 = Auto Daylight Savings  
 4 = EV Advance  
 5 =  
 6 = Special Event  
 7 = Pretimed Operation  
 8 = Split Ring Operation

- Assign 5 Outputs**  
 (Ped Loadswitch Yellows)  
 1 = Right Turn Overlap  
 2 = TOD Outputs  
 3 = EV Beacon - Steady  
 4 = EV Beacon - Flashing  
 5 = Special Event Outputs  
 6 = Phase 3 & 7 Ped  
 7 = Advanced Warning Sign  
 8 =

Force-Off Adjust | 0

**Coord Force-Off Adjust for Ped Service** <C+D+F>

Transition Type | 0

**TBC Transition** <C+D+D>

Transition Type  
 0 = Shortway  
 Non-zero = Lengthen

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

Row	F	Row
Free Lag	<u>2 4 6 8</u>	0
Plan 1 - Lag	_____	1
Plan 2 - Lag	_____	2
Plan 3 - Lag	_____	3
Plan 4 - Lag	_____	4
Plan 5 - Lag	_____	5
Plan 6 - Lag	_____	6
Plan 7 - Lag	_____	7
Plan 8 - Lag	_____	8
Plan 9 - Lag	_____	9
Coord Max *	_____	A
Coord Lag *	_____	B
		C
		D
		E
		F

Lag Phases <C Page>

Row	Time	Plan	Offset	Day of Week
0	00:00	0	0	
1	00:00	0	0	
2	00:00	0	0	
3	00:00	0	0	
4	00:00	0	0	
5	00:00	0	0	
6	00:00	0	0	
7	00:00	0	0	
8	00:00	0	0	
9	00:00	0	0	
A	00:00	0	0	
B	00:00	0	0	
C	00:00	0	0	
D	00:00	0	0	
E	00:00	0	0	
F	00:00	0	0	

**TOD Coordination**  
<9 Key with C+D+9=0>

Time	Funct.	Day of Week
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00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
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00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	

**TOD Function**  
<7 Key>

Column F
Phases/Bits

<D Page>

Time	Plan	Offset	Day of Week
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
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00:00	0	0	
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00:00	0	0	
00:00	0	0	
00:00	0	0	

**Holiday # 1**  
**TOD Coordination**  
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Time	Plan	Offset	Day of Week
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00:00	0	0	
00:00	0	0	

**Holiday # 2**  
**TOD Coordination**  
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00:00	0	0		2
00:00	0	0		3
00:00	0	0		4
00:00	0	0		5
00:00	0	0		6
00:00	0	0		7
00:00	0	0		8
00:00	0	0		9
00:00	0	0		A
00:00	0	0		B
00:00	0	0		C
00:00	0	0		D
00:00	0	0		E
00:00	0	0		F

**Holiday # 3**  
**TOD Coordination**  
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Plan Select  
1 thru 9 = Coordination  
Plan 1 thru 9  
14 or E = Free  
15 or F = Flash

Offset Select  
A = Offset A  
B = Offset B  
C = Offset C

T.O.D. Functions  
0 = Permitted Phases  
1 = Red Lock  
2 = Yellow Lock  
3 = Veh Min Recall  
4 = Ped Recall  
5 =  
6 = Rest In Walk  
7 = Red Rest  
8 = Double Entry  
9 = Veh Max Recall  
A = Veh Soft Recall  
B = Maximum 2  
C = Conditional Service  
D = Free Lag Phases  
E = Bit 1 - Local Override  
Bit 2 - Phase Bank 2  
Bit 3 - Phase Bank 3  
Bit 4 - Disable Detector  
OFF Monitor  
Bit 7 - Detector Count Monitor  
Bit 8 - Real Time Split Monitor  
F = Output Bits 1 thru 4

Month Select  
1 = January  
2 = February  
3 = March  
4 = April  
5 = May  
6 = June  
7 = July  
8 = August  
9 = September  
A = October  
B = November  
C = December

Row	Day	Year	Month	Day of Week
A	0	0	0	
B	0	0	0	
C	0	0	0	

**Holiday Dates**  
<8 Key>

Row	1 Delay	3 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		I-1	14
1	0.0	0.0		I-2U	1
2	0.0	0.0		I-2L	5
3	0.0	0.0		I-3U	21
4	0.0	0.0		I-3L	25
5	0.0	0.0		I-4	9
6	0.0	0.0		I-5	16
7	0.0	0.0		I-6U	3
8	0.0	0.0		I-6L	7
9	0.0	0.0		I-7U	23
A	0.0	0.0		I-7L	27
B	0.0	0.0		I-8	11
C	0.0	0.0		I-9U	18
D	0.0	0.0		I-9L	20
E	---	---	---	---	---
F	---	---	---	---	---

Row	2 Delay	4 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		J-1	13
1	0.0	0.0		J-2U	2
2	0.0	0.0		J-2L	6
3	0.0	0.0		J-3U	22
4	0.0	0.0		J-3L	26
5	0.0	0.0		J-4	10
6	0.0	0.0		J-5	15
7	0.0	0.0		J-6U	4
8	0.0	0.0		J-6L	8
9	0.0	0.0		J-7U	24
A	0.0	0.0		J-7L	28
B	0.0	0.0		J-8	12
C	0.0	0.0		J-9U	17
D	0.0	0.0		J-9L	19
E	---	---	---	---	---
F	---	---	---	---	---

Detector Delay & Carryover <D Page>

Row	9 Green Clear	C Yellow Change	D Red Clear	0 Load- Switch #
A	0.0	0.0	0.0	0
B	0.0	0.0	0.0	0
C	0.0	0.0	0.0	0
D	0.0	0.0	0.0	0

Overlap Timing <F Page> <D Page>

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	5678
E	-- -- -- -- -- -- -- --	1234
F	-- 25 26 27 28 -- -- --	2345

Active Detectors <D Page>

Note: Initialized data is for all detectors to be active (ie, all flag bits set). A Detector which is "not flagged", will not be active as a Phase Detector, and WILL NOT call or extend its associated phase. It will still function as a System Detector.

Row	Detector Number
0	
1	System Det. # 1
2	System Det. # 2
3	System Det. # 3
4	System Det. # 4
5	System Det. # 5
6	System Det. # 6
7	System Det. # 7
8	System Det. # 8

System Detectors <D Page>

Max ON (minutes)	5	<D+A+E>
Max OFF (minutes)	60	<D+A+F>

Detector Failure Monitor

Phase Number	0	<F+C+1>
Time Before Yellow	0.0	<F+C+3>

Advance Warning Beacon - Sign 1

Phase Number	0	<F+D+1>
Time Before Yellow	0.0	<F+D+3>

Advance Warning Beacon - Sign 2

Long Failure	0.0	<F+0+6>
Short Failure	0.0	<F+0+7>

Power Cycle Correction (Default = 0.5)

Disable Parity	0	<D+B+0>
----------------	---	---------

Dial-Up Telephone Communications  
(If set to a non-zero value, parity will be disabled)

		Phase							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	10	0	10	0	10	0	10
2	Min Green	3	7	3	7	3	7	3	7
3	Type 3 Limit	0	0	0	0	0	0	0	0
4	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2
5	Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5
6	Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0
7	Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0
8	Max Limit	17	40	17	40	17	40	17	40
9	Max Limit 2	30	70	30	70	30	70	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
F	Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0

Phase Timing - Bank 2 <F Page>

		Phase								Row
Column Numbers ---->		1	2	3	4	5	6	7	8	
	Phase Names ---->									
	Ped Walk	0	7	0	7	0	7	0	7	0
	Ped FDW	0	10	0	10	0	10	0	10	1
	Min Green	3	7	3	7	3	7	3	7	2
	Type 3 Limit	0	0	0	0	0	0	0	0	3
	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2	4
	Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5	5
	Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0	6
	Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0	7
	Max Limit	17	40	17	40	17	40	17	40	8
	Max Limit 2	30	70	30	70	30	70	30	70	9
	-----	0	0	0	0	0	0	0	0	A
	Call To Phase	0	0	0	0	0	0	0	0	B
	Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	C
	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	D
	Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	E
	Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0	F

Phase Timing - Bank 3 <F Page>

Row	Delay Only ---->	7	8	9	A	B	C	D	E	F	Row
		Time	Dwell	Hold	Advance	Force Off	Vehicle Call	Permit Phases	Ped Omit	Output	
0		0	---	---	---	---	---	---	---	---	0
1		0	0	---	---	---	---	---	---	---	1
2		0	0	---	---	---	---	---	---	---	2
3		0	0	---	---	---	---	---	---	---	3
4		0	0	---	---	---	---	---	---	---	4
5		0	0	---	---	---	---	---	---	---	5
6		0	0	---	---	---	---	---	---	---	6
7		0	0	---	---	---	---	---	---	---	7
8		0	0	---	---	---	---	---	---	---	8
9	Limited Service Int. ---->	0	0	---	---	---	---	---	---	---	9
A		---	0	---	---	---	---	---	---	---	A
B		0	0	---	---	---	---	---	---	---	B
C		0	0	---	---	---	---	---	---	---	C
D		0	0	---	---	---	---	---	---	---	D
E		0	0	---	---	---	---	---	---	---	E
F		0	0	---	---	---	---	---	---	---	F

Special Event Schedule <C Page with F+9+F=22>

<--- Limited Service Interval (Set Dwell = 255)

**INTERSECTION: San Elijo W & Cooke**

Group Assignment: **NONE**  
 Field Master Assignment: **NONE**  
 System Reference Number: **67**

N/S Street Name: **Cooke**  
 E/W Street Name: **San Elijo N**

Last Database Change: **12/21/2018 14:08**

Change Record					
Change	By	Date	Change	By	Date

Notes: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

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

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

Drop Number	<b>4</b>	<C/0+0+0>
Zone Number	<b>0</b>	<C/0+0+1>
Area Number	<b>5</b>	<C/0+0+2>
Area Address	<b>4</b>	<C/0+0+3>
QuicNet Channel	Serial:COM26:	(QuicNet)

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

Flash Start	<b>0</b>	<F/1+0+E>
Red Revert	<b>5.0</b>	<F/1+0+F>
All Red Start	<b>5.0</b>	<F/1+C+0>
FYA Red Revert	<b>0.0</b>	<F/1+0+5>
OVLP CHG Red	<b>6.0</b>	<F/1+0+3>

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

**Communication Addresses**

**Manual Selection**

**Start / Revert Times**

**Exclusive Ped Phase**

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

Column Numbers ---->		Phase							
Row	Phase Names ---->	1	2	3	4	5	6	7	8
0	Ped Walk	0	0	0	7	0	7	0	7
1	Ped FDW	0	0	0	10	0	10	0	10
2	Min Green	0	0	0	5	0	10	0	5
3	Type 3 Disconnect	0	0	0	0	0	0	0	0
4	Added per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	Veh Extension	0.0	0.0	0.0	2.0	0.0	3.0	0.0	3.0
6	Max Gap	0.0	0.0	0.0	2.0	0.0	3.0	0.0	3.0
7	Min Gap	0.0	0.0	0.0	2.0	0.0	3.0	0.0	3.0
8	Max Limit	0	0	0	40	0	40	0	40
9	Max Limit 2	0	0	0	0	0	0	0	0
A	Adv. / Delay Walk	0	0	0	3	0	3	0	3
B	PE Min Ped FDW	0	0	0	0	0	0	0	0
C	Cond Serv Check	0	0	0	0	0	0	0	0
D	Reduce Every	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	Yellow Change	0.0	0.0	0.0	3.0	0.0	4.5	0.0	3.0
F	Red Clear	0.0	0.0	0.0	2.0	0.0	1.5	0.0	2.0

**Phase Timing - Bank 1** <C+0+F=1>

	9	A	B	C	D
Phase 1	0	0	0	0	0.0
Phase 2	20	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	20	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	20	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	20	0	0	0	0.0

Max Initial  
 Alternate Walk  
 Alternate FDW  
 Alternate Initial  
 Alternate Extension

**Alternate Timing** <C+0+F=1>

	E
RR-1 Delay	0
RR-1 Clear	10
EV-A Delay	0
EV-A Clear	1
EV-B Delay	0
EV-B Clear	1
EV-C Delay	0
EV-C Clear	1
EV-D Delay	0
EV-D Clear	1
RR-2 Delay	0
RR-2 Clear	10
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

**Preempt Timing**

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

**Phase Functions** <C+0+F=1>

		Overlap							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Overlap Name ---->								
0	Load Switch Number	0	0	0	0	0	0	0	0
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	Overlap Recall	N	N	N	N	N	N	N	N
9	Queue Jump Phase								
A	Queue Jump Time	0	0	0	0	0	0	0	0
B	Minimum Green	0	0	0	0	0	0	0	0
C	Maximum Green	0	0	0	0	0	0	0	0
D	Green Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	Yellow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
F	Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Overlap Assignments <C+0+E=29>

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

- Extra 2 Flags**  
 1 = AWB During Initial  
 2 = 3 Section FYA  
 3 = Disable Min Walk  
 4 = QuicNet System  
 5 = Ignore P/P on EV  
 6 = Manual Hold in FDW  
 7 = Allow QuicNet PE  
 8 = Flash Grn B4 Yellow

	C	Row
EV-A	0	0
EV-B	0	1
EV-C	0	2
EV-D	0	3
RR-1 *	---	4
RR-2 *	---	5
SE-1	0	6
SE-2	0	7

**Preempt Priority**  
 <C+0+E=125>  
 (\* RR-1 is always Highest, and RR-2 is always Second Highest)

Row	Column Numbers ---->	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	
B	EV-B Phases	4
C	EV-C Phases	6
D	EV-D Phases	8
E	Extra 1 Config. Bits	1 3 5
F	IC Select (Interconnect)	2

Configuration <C+0+E=125>

	F
Ext. Permit 1 Phases	
Ext. Permit 2 Phases	
Exclusive Ped Assign	
Preempt Non-Lock	
Ped for 2P Output	
Ped for 6P Output	6
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	4 7

Configuration <C+0+E=125>

	F
Fast Green Flash Phase	
Green Flash Phases	
Flashing Walk Phases	
Guaranteed Passage	
Simultaneous Gap Term	12345678
Sequential Timing	
Advance Walk Phases	4 6 8
Delay Walk Phases	
External Recall	
Start-up Overlap Green	
Max Extension	
Inhibit Ped Reservice	
Semi-Actuated	
Start-up Overlap Yellow	
Start-up Vehicle Calls	12345678
Start-up Ped Calls	12345678

Specials <C+0+F=2>

- 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

- IC Select Flags**  
 1 =  
 2 = Modem  
 3 = 7-Wire Slave  
 4 = FYA/Ped call side  
 5 = Ped Inhibit FYA  
 6 = Simplex Master  
 7 =  
 8 = Offset Interrupter

	2	Row
		0
Phase 1	10	1
Phase 2	10	2
Phase 3	10	3
Phase 4	10	4
Phase 5	10	5
Phase 6	10	6
Phase 7	10	7
Phase 8	10	8

**Coordination Transition Minimums**  
 <C+0+C=5>

Column Numbers ---->		Plan								
Plan Name ---->		1	2	3	4	5	6	7	8	9
0	Cycle Length	60	45	80	90	90	90	100	100	0
1	Phase 1 - ForceOff	0	0	0	0	0	0	0	0	0
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0
3	Phase 3 - ForceOff	0	0	0	0	0	0	0	0	0
4	Phase 4 - ForceOff	30	19	20	25	25	30	35	30	0
5	Phase 5 - ForceOff	0	0	0	0	0	0	0	0	0
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0
7	Phase 7 - ForceOff	0	0	0	0	0	0	0	0	0
8	Phase 8 - ForceOff	30	19	0	0	0	30	35	30	0
9	Ring Offset	0	0	0	0	0	0	0	0	0
A	Offset 1	33	14	8	59	52	33	33	33	0
B	Offset 2	0	0	0	0	0	0	0	0	0
C	Offset 3	0	0	0	0	0	0	0	0	0
D	Perm 1 - End	4	4	8	9	9	2	5	6	0
E	Hold Release	255	255	255	255	255	255	255	255	0
F	Reserved	0	0	0	0	0	0	0	0	0

Coordination - Bank 1 <C+0+C=1>

0	Ped Adjustment	0	0	0	0	0	0	0	0	0
1	Perm 2 - Start	0	0	0	0	0	0	0	0	0
2	Perm 2 - End	0	0	0	0	0	0	0	0	0
3	Perm 3 - Start	0	0	0	0	0	0	0	0	0
4	Perm 3 - End	0	0	0	0	0	0	0	0	0
5	Reservice Time	0	0	0	0	0	0	0	0	0
6	Reservice Phases									
7										
8	Pretimed Phases									
9	Max Recall									
A	Perm 1 Veh Phase	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678
B	Perm 1 Ped Phase	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678
C	Perm 2 Veh Phase									
D	Perm 2 Ped Phase									
E	Perm 3 Veh Phase									
F	Perm 3 Ped Phase									

Coordination - Bank 2 <C+0+C=2>

Coord Extra  
 1 = Programmed WALK Time for Sync Phases  
 2 = Always Terminate Sync Phase Peds

Row	E	Row
0		0
1	Plan 1 - Sync	6
2	Plan 2 - Sync	6
3	Plan 3 - Sync	6
4	Plan 4 - Sync	6
5	Plan 5 - Sync	6
6	Plan 6 - Sync	6
7	Plan 7 - Sync	6
8	Plan 8 - Sync	6
9	Plan 9 - Sync	6
A	NEMA Sync	
B	NEMA Hold	
C		
D		
E	Coord Extra	
F		

Sync Phases <C+0+C=1>

Row	F	Row
0	Free Lag	2 4 6 8
1	Plan 1 - Lag	2 4 6 8
2	Plan 2 - Lag	2 4 6 8
3	Plan 3 - Lag	2 4 6 8
4	Plan 4 - Lag	2 4 6 8
5	Plan 5 - Lag	2 4 6 8
6	Plan 6 - Lag	2 4 6 8
7	Plan 7 - Lag	2 4 6 8
8	Plan 8 - Lag	2 4 6 8
9	Plan 9 - Lag	2 4 6 8
A	External Lag	
B	Lag Hold	
C		
D		
E		
F		

Lag Phases <C+0+C=1>

Row	Column 8	Column 9	Column A	Column B	Column C	Column D	Column E	Column F	Row								
0	One-Shot Timer	0	Latch 1 Set	0	NOT-3	0	Max 2	0	Pretimed	0	Set DOW	0	Dial 2 (7-Wire)	0	Sim Term	0	0
1	AND-5 (a)	0	Latch 1 Reset	0	NOT-4	0	Bus Checkin A	0	Plan 1	0	Ext. Perm 1	0	Dial 3 (7-Wire)	0	EV-A	71	1
2	AND-5 (b)	0	Latch 2 Set	0	OR-4 (a)	0	Bus Checkin B	0	Plan 2	0	Ext. Perm 2	0	Offset 1 (7-Wire)	0	EV-B	72	2
3	AND-6 (a)	0	Latch 2 Reset	0	OR-4 (b)	0	Bus Checkin C	0	Plan 3	0	Gate Down	0	Offset 2 (7-Wire)	0	EV-C	73	3
4	AND-6 (b)	0	NAND-3 (a)	0	OR-5 (a)	0	Bus Checkin D	0	Plan 4	0	Set Clock	0	Offset 3 (7-Wire)	0	EV-D	74	4
5	Reserved		NAND-3 (b)	0	OR-5 (b)	0	Bus Checkout A	0	Plan 5	0	Stop Time	82	Free (7-Wire)	0	RR-1	51	5
6	Reserved		NAND-4 (a)	0	OR-6 (a)	0	Bus Checkout B	0	Plan 6	0	Flash Sense	81	Flash (7-Wire)	0	RR-2	52	6
7	Reserved		NAND-4 (b)	0	OR-6 (b)	0	Bus Checkout C	0	Plan 7	0	Manual Enable	0	Excl. Ped Omit	0	Spec. Event 1	0	7
8	Spec. Funct. 1	0	OR-7 (a)	0	EXTMR	0	Bus Checkout D	0	Plan 8	0	Man. Advance	0	NOT-1	0	Spec. Event 2	0	8
9	Spec. Funct. 2	0	OR-7 (b)	0	External Alarm 1	0	Max Inhibit (nema)	0	Plan 9	0	External Alarm 2	0	NOT-2	0	External Lag	0	9
A	Spec. Funct. 3	0	OR-7 (c)	0	AND-4 (a)	0	Force A (nema)	0	DELAY-A	0	Phase Bank 2	0	OR-1 (a)	0	AND-1 (a)	0	A
B	Spec. Funct. 4	0	OR-7 (d)	0	AND-4 (b)	0	Force B (nema)	0	DELAY-B	0	Phase Bank 3	0	OR-1 (b)	0	AND-1 (b)	0	B
C	Reserved		OR-8 (a)	0	NAND-1 (a)	0	C.N.A. (nema)	0	DELAY-C	0	Overlap Set 2	0	OR-2 (a)	0	AND-2 (a)	0	C
D	Reserved		OR-8 (b)	0	NAND-1 (b)	0	Hold (nema)	0	DELAY-D	0	Overlap Set 3	0	OR-2 (b)	0	AND-2 (b)	0	D
E	Reserved		OR-8 (c)	0	NAND-2 (a)	0	Max Recall	0	DELAY-E	0	Detector Set 2	0	OR-3 (a)	0	AND-3 (a)	0	E
F	Reserved		OR-8 (d)	0	NAND-2 (b)	0	Min Recall	0	DELAY-F	0	Detector Set 3	0	OR-3 (b)	0	AND-3 (b)	0	F

Assignable Inputs

<C+0+E=126>

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

Assignable Outputs

<C+0+E=127>

Column Numbers ---->		Phase							
Phase Names ---->		1	2	3	4	5	6	7	8
0	Ped Walk	0	0	0	0	0	7	7	7
1	Ped FDW	0	0	0	0	0	7	6	6
2	Min Green	0	0	0	0	0	7	7	7
3	Type 3 Disconnect	0	0	0	0	0	0	0	0
4	Added per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	Veh Extension	0.0	0.0	0.0	0.0	0.0	3.0	3.0	3.0
6	Max Gap	0.0	0.0	0.0	0.0	0.0	3.0	3.0	3.0
7	Min Gap	0.0	0.0	0.0	0.0	0.0	3.0	3.0	3.0
8	Max Limit	0	0	0	0	0	40	40	40
9	Max Limit 2	0	0	0	0	0	0	0	0
A	Adv. / Delay Walk	0	0	0	0	0	0	0	0
B	PE Min Ped FDW	0	0	0	0	0	0	0	0
C	Cond Serv Check	0	0	0	0	0	0	0	0
D	Reduce Every	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	Yellow Change	0.0	0.0	0.0	0.0	0.0	3.2	3.2	3.2
F	Red Clear	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0

Phase Timing - Bank 2 <C+0+F=2>

	9	A	B	C	D
Phase 1	0	0	0	0	0.0
Phase 2	20	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	20	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	20	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	20	0	0	0	0.0
Max Initial					
Alternate Walk					
Alternate FDW					
Alternate Initial					
Alternate Extension					

Alternate Timing

Transition Type  
 0.X = Shortway  
 1.X = Lengthen  
 X.1 thru X.4 =  
 Number of  
 cycles when  
 lengthening

Transition Type **0.3** <C/5+1+9>  
**TBC Transition**

Hawk Select **0** <F/1+0+4>  
**Hawk Select** 200 = Mid-Block, 201 = Hawk

Address **0** <C/1+0+6>  
 Select Parity **0** <C/1+0+5>  
**AB3418 Comm 2** 0 = No Parity, 1 = Even

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

Begin Month **3** <C/5+2+A>  
 Begin Week **2** <C/5+2+B>  
 End Month **11** <C/5+2+C>  
 End Week **1** <C/5+2+D>  
**Daylight Savings Time**

Time B4 Yellow **0.0** <F/1+C+E>  
 Phase Number **0** <F/1+C+F>  
**Advance Warning Beacon - Sign 1**

Time B4 Yellow **0.0**  
 Phase Number **0** <F/1+D+F>  
**Advance Warning Beacon - Sign 2**

Offset Time **0** <C/5+2+E>  
 Max Cycle Time **0** <C/5+2+F>  
**Yellow Yield Coordination**

**12345678**  
 Omit Alarm **12345678** <C/5+F+0>  
**Local Alarm Disable**

Row		1	2	3	4	5	6	7	8
0	Ped Walk	0	0	0	0	0	7	7	7
1	Ped FDW	0	0	0	0	0	7	6	6
2	Min Green	0	0	0	0	0	7	7	7
3	Type 3 Disconnect	0	0	0	0	0	0	0	0
4	Added per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	Veh Extension	0.0	0.0	0.0	0.0	0.0	3.0	3.0	3.0
6	Max Gap	0.0	0.0	0.0	0.0	0.0	3.0	3.0	3.0
7	Min Gap	0.0	0.0	0.0	0.0	0.0	3.0	3.0	3.0
8	Max Limit	0	0	0	0	0	40	40	40
9	Max Limit 2	0	0	0	0	0	0	0	0
A	Adv. / Delay Walk	0	0	0	0	0	0	0	0
B	PE Min Ped FDW	0	0	0	0	0	0	0	0
C	Cond Serv Check	0	0	0	0	0	0	0	0
D	Reduce Every	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	Yellow Change	0.0	0.0	0.0	0.0	0.0	3.2	3.2	3.2
F	Red Clear	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0

Phase Timing - Bank 3 <C+0+F=3>

	9	A	B	C	D
Phase 1	0	0	0	0	0.0
Phase 2	20	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	20	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	20	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	20	0	0	0	0.0
Max Initial					
Alternate Walk					
Alternate FDW					
Alternate Initial					
Alternate Extension					

Alternate Timing

Column Numbers ---->		0	1	2	3	1	3
Row	Detector Name	C1 Pin Number	Attributes	Phase(s)	Assign	Delay	Carry-over
0		39	45 7	2	123	0.0	0.0
1		40	45 7	6	123	0.0	0.0
2		41	45 7	4	123	0.0	0.0
3		42	45 7	8	123	0.0	0.0
4		43	45 7	2	123	0.0	0.0
5		44	45 7	6	123	0.0	0.0
6		45	45 7	4	123	0.0	0.0
7		46	45 7	8	123	0.0	0.0
8		47	67	2	123	0.0	0.0
9		48	67	6	123	0.0	0.0
A		49	67	4	123	0.0	0.0
B		50	67	8	123	0.0	0.0
C		55	45 7	5	123	0.0	0.0
D		56	45 7	1	123	0.0	0.0
E		57	45 7	7	123	0.0	0.0
F		58	45 7	3	123	0.0	0.0

Column Numbers ---->		4	5	6	7	2	4
Row	Detector Name	C1 Pin Number	Attributes	Phase(s)	Assign	Delay	Carry-over
0		59	45 7	5	123	0.0	0.0
1		60	45 7	1	123	0.0	0.0
2		61	45 7	7	123	0.0	0.0
3		62	45 7	3	123	0.0	0.0
4		63	45 7	2	123	0.0	0.0
5		64	45 7	6	123	0.0	0.0
6		65	45 7	4	123	0.0	0.0
7		66	45 7	8	123	0.0	0.0
8		67	2	2	123	0.0	0.0
9		68	2	6	123	0.0	0.0
A		69	2	4	123	0.0	0.0
B		70	2	8	123	0.0	0.0
C		76	45 7	2	123	0.0	0.0
D		77	45 7	6	123	0.0	0.0
E		78	45 7	4	123	0.0	0.0
F		79	45 7	8	123	0.0	0.0

Detector Assignments <C+0+E=126>

<C+0+D=0>

Detector Attributes

- 1 = Full Time Delay
- 2 = Ped Call
- 3 = Overlap
- 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

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

Redirect Phase Outputs <C+0+E=127>

Cabinet Type 0 <E/125+D+0>

Enable Redirection

(Enable Redirection = 30)

Max OFF (minutes) 60 <D/0+0+1>

Max ON (minutes) 5 <D/0+0+2>

Chatter Fail Time 0 <D/0+0+4>

Detector Failure Monitor

Ped Ovlp Parent Ph 0 <E/125+D+1>

Ped Ovlp Phases <E/125+D+2>

RR1 Exit Phases <E/125+D+3>

Excl Ped/Ped Svc 0 <E/125+D+4>

Miscellaneous

	B	Row
One-Shot	0.0	8
Ext. Timer	0	9
DELAY-A	0	A
DELAY-B	0	B
DELAY-C	0	C
DELAY-D	0	D
DELAY-E	0	E
DELAY-F	0	F

Delay Logic Times

<C+0+D=0> (seconds)

Table with columns: Row, Time, Plan, Offset, Day of Week. Rows 0-7 show specific timing (e.g., 00:00 E A 1234567, 07:00 8 A 23456).

TOD Coordination <C+0+9=0.1> (Bank 1)

Table with columns: Time, Funct., Day of Week. Rows 0-7 show timing and function codes (e.g., 07:00 4 23456).

TOD Function <C+0+7=0.1>

Table with columns: Column 4, Phases/Bits. Row 0 shows value 6.

<C+0+E=27>

Table with columns: Day, Year, Month, Holiday Type. All cells are empty.

Holiday Dates <C+0+8=1.1> (Bank 1)

Table with columns: Time, Plan, Offset, Holiday Type. All cells are empty.

Holiday Events <C+0+9=1.1> (Bank 1)

- T.O.D. Functions
0 =
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 4 - Disable Detector OFF Monitor
Bit 5 - Disable Low Priority Preempt
Bit 6 - FYA Inhibit
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 8

Table with columns: Row, Time, Plan, Offset, Day of Week. Rows 0-7 show timing with all Plan and Offset cells set to 0.

TOD Coordination <C+0+9=0.2> (Bank 2)

Table with columns: Time, Funct., Holiday Type. Rows 0-7 show timing and function codes.

Holiday TOD Function <C+0+7=0.2>

Table with columns: Column 4, Phases/Bits. Row 0 shows value 28.

<C+0+E=28>

Table with columns: Day, Year, Month, Holiday Type. All cells are empty.

Holiday Dates <C+0+8=1.2> (Bank 2)

Table with columns: Time, Plan, Offset, Holiday Type. All cells are empty.

Holiday Events <C+0+9=1.2> (Bank 2)

Month Select: October = A, November = B, December = C

- Plan Select
1 thru 9 = Coordination Plan 1 thru 9
14 or E = Free
15 or F = Flash
Offset Select
A = Offset A
B = Offset B
C = Offset C

Row	6 Clear	7 Time	8 Ped Call	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output
0		0								
1		0								
2		0								
3		0								
4		0								
5		0								
6		0								
7		0								
8		0								
9		0								
A		0								
B		0								
C		0								
D		0								
E		0								
F		0								

Special Event Schedule -- Table 1

<C+0+E=27>

Notes:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

0 <E/27+5+F>  
**Limited Service Interval**

Row	6 Clear	7 Time	8 Ped Call	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output
0		0								
1		0								
2		0								
3		0								
4		0								
5		0								
6		0								
7		0								
8		0								
9		0								
A		0								
B		0								
C		0								
D		0								
E		0								
F		0								

Special Event Schedule -- Table 2

<C+0+E=28>

Notes:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

0 <E/28+5+F>  
**Limited Service Interval**

Min Time (seconds) | **0** <F/1+0+8>

**Min Green Before PE Force Off**

Max Time (minutes) | **255** <F/1+0+9>

**Max Preempt Time Before Failure**

Min Time (seconds) | **0** <F/1+0+A>

**Min Time Between Same Preempts**

(Does Not Apply To Railroad Preempt)

Low Pri. Channel | \_\_\_\_\_ <E/125+C+8>

**Disable Low Priority Channel**

- Low Priority  
 1 = Channel A  
 2 = Channel B  
 3 = Channel C  
 4 = Channel D

Row		
C	Bus Headway	<b>0</b>
D	Bus Delay	<b>0</b>
E	Max Early Grn	<b>0</b>
F	Max Grn Ext.	<b>0</b>

**Priority Parameters**  
 <F/1 +A+Row>

Row	Time	Headway	Direction	Day of Week
0	00 : 00	0	0	_____
1	00 : 00	0	0	_____
2	00 : 00	0	0	_____
3	00 : 00	0	0	_____
4	00 : 00	0	0	_____
5	00 : 00	0	0	_____
6	00 : 00	0	0	_____
7	00 : 00	0	0	_____
8	00 : 00	0	0	_____
9	00 : 00	0	0	_____
A	00 : 00	0	0	_____
B	00 : 00	0	0	_____
C	00 : 00	0	0	_____
D	00 : 00	0	0	_____
E	00 : 00	0	0	_____
F	00 : 00	0	0	_____

**Headway Schedule** <C+0+9=2.1>

Headway Time  
 (minutes)  
 1 thru 9 = 1 thru 9  
 A = 10  
 B = 11  
 C = 12  
 D = 13  
 E = 14  
 F = 15

**Low Priority Preemption (Bus Priority)**

Note: Also see "Time of Day Functions", Function E, Bit 5 (Disable Low Priority)



Row	Column Numbers ---->	Overlap							
		1	2	3	4	5	6	7	8
	Overlap Name ---->								
0	Load Switch Number	0	0	0	0	0	0	0	0
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	Overlap Recall	N	N	N	N	N	N	N	N
9	Queue Jump Phase								
A	Queue Jump Time	0	0	0	0	0	0	0	0
B	Minimum Green	0	0	0	0	0	0	0	0
C	Maximum Green	0	0	0	0	0	0	0	0
D	Green Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	Yellow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
F	Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Overlap Assignments <C+0+E=29>

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

- Extra 2 Flags**  
 1 = AWB During Initial  
 2 = 3 Section FYA  
 3 = Disable Min Walk  
 4 = QuicNet System  
 5 = Ignore P/P on EV  
 6 = Manual Hold in FDW  
 7 = Allow QuicNet PE  
 8 = Flash Grn B4 Yellow

	C	Row
EV-A	0	0
EV-B	0	1
EV-C	0	2
EV-D	0	3
RR-1 *	---	4
RR-2 *	---	5
SE-1	0	6
SE-2	0	7

**Preempt Priority**  
 <C+0+E=125>  
 (\* RR-1 is always Highest, and RR-2 is always Second Highest)

Row	Column Numbers ---->	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	4
C	EV-C Phases	
D	EV-D Phases	8
E	Extra 1 Config. Bits	1 3 5
F	IC Select (Interconnect)	2

Configuration <C+0+E=125>

	F
Ext. Permit 1 Phases	
Ext. Permit 2 Phases	
Exclusive Ped Assign	
Preempt Non-Lock	
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	4 7

Configuration <C+0+E=125>

	F
Fast Green Flash Phase	
Green Flash Phases	
Flashing Walk Phases	
Guaranteed Passage	
Simultaneous Gap Term	12345678
Sequential Timing	
Advance Walk Phases	2 4 8
Delay Walk Phases	
External Recall	
Start-up Overlap Green	
Max Extension	
Inhibit Ped Reservice	
Semi-Actuated	
Start-up Overlap Yellow	
Start-up Vehicle Calls	12345678
Start-up Ped Calls	12345678

Specials <C+0+F=2>

- 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

- IC Select Flags**  
 1 =  
 2 = Modem  
 3 = 7-Wire Slave  
 4 = FYA/Ped call side  
 5 = Ped Inhibit FYA  
 6 = Simplex Master  
 7 =  
 8 = Offset Interrupter

	2	Row
		0
Phase 1	10	1
Phase 2	10	2
Phase 3	10	3
Phase 4	10	4
Phase 5	10	5
Phase 6	10	6
Phase 7	10	7
Phase 8	10	8

**Coordination Transition Minimums**  
 <C+0+C=5>

Column Numbers ---->		Plan								
Row	Plan Name ---->	1	2	3	4	5	6	7	8	9
0	Cycle Length	60	100	100	100	100	90	100	100	100
1	Phase 1 - ForceOff	0	65	65	65	65	0	0	65	65
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0
3	Phase 3 - ForceOff	0	25	25	25	25	0	0	25	25
4	Phase 4 - ForceOff	35	40	40	40	40	35	40	40	40
5	Phase 5 - ForceOff	0	65	65	65	65	0	0	65	65
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0
7	Phase 7 - ForceOff	0	25	25	25	25	0	0	25	25
8	Phase 8 - ForceOff	35	40	40	40	40	35	40	40	40
9	Ring Offset	0	0	0	0	0	0	0	0	0
A	Offset 1	0	0	0	0	0	0	0	0	0
B	Offset 2	0	0	0	0	0	0	0	0	0
C	Offset 3	0	0	0	0	0	0	0	0	0
D	Perm 1 - End	1	12	12	12	12	6	8	12	0
E	Hold Release	255	255	255	255	255	255	255	255	255
F	Reserved	0	0	0	0	0	0	0	0	0

Coordination - Bank 1 <C+0+C=1>

0	Ped Adjustment	0	0	0	0	0	0	0	0	0
1	Perm 2 - Start	0	0	0	0	0	0	0	0	0
2	Perm 2 - End	0	0	0	0	0	0	0	0	0
3	Perm 3 - Start	0	0	0	0	0	0	0	0	0
4	Perm 3 - End	0	0	0	0	0	0	0	0	0
5	Reservice Time	0	0	0	0	0	0	0	0	0
6	Reservice Phases									
7										
8	Pretimed Phases									
9	Max Recall									
A	Perm 1 Veh Phase	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678
B	Perm 1 Ped Phase	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678
C	Perm 2 Veh Phase									
D	Perm 2 Ped Phase									
E	Perm 3 Veh Phase									
F	Perm 3 Ped Phase									

Coordination - Bank 2 <C+0+C=2>

Coord Extra  
 1 = Programmed WALK Time for Sync Phases  
 2 = Always Terminate Sync Phase Peds

Row		E	Row
0			0
1	Plan 1 - Sync	<u>2 6</u>	1
2	Plan 2 - Sync	<u>2 6</u>	2
3	Plan 3 - Sync	<u>2 6</u>	3
4	Plan 4 - Sync	<u>2 6</u>	4
5	Plan 5 - Sync	<u>2 6</u>	5
6	Plan 6 - Sync	<u>2 6</u>	6
7	Plan 7 - Sync	<u>2 6</u>	7
8	Plan 8 - Sync	<u>2 6</u>	8
9	Plan 9 - Sync	<u>2 6</u>	9
A	NEMA Sync		A
B	NEMA Hold		B
C			C
D			D
E	Coord Extra		E
F			F

Sync Phases <C+0+C=1>

Row		F	Row
0	Free Lag	<u>2 4 6 8</u>	0
1	Plan 1 - Lag	<u>2 4 6 8</u>	1
2	Plan 2 - Lag	<u>2 4 6 8</u>	2
3	Plan 3 - Lag	<u>2 4 6 8</u>	3
4	Plan 4 - Lag	<u>2 4 6 8</u>	4
5	Plan 5 - Lag	<u>2 4 6 8</u>	5
6	Plan 6 - Lag	<u>2 4 6 8</u>	6
7	Plan 7 - Lag	<u>2 4 6 8</u>	7
8	Plan 8 - Lag	<u>2 4 6 8</u>	8
9	Plan 9 - Lag	<u>2 4 6 8</u>	9
A	External Lag		A
B	Lag Hold		B
C			C
D			D
E			E
F			F

Lag Phases <C+0+C=1>









Row	6 Clear	7 Time	8 Ped Call	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output
0		0								
1		0								
2		0								
3		0								
4		0								
5		0								
6		0								
7		0								
8		0								
9		0								
A		0								
B		0								
C		0								
D		0								
E		0								
F		0								

Special Event Schedule -- Table 1

<C+0+E=27>

Notes:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

0 <E/27+5+F>  
**Limited Service Interval**

Row	6 Clear	7 Time	8 Ped Call	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output
0		0								
1		0								
2		0								
3		0								
4		0								
5		0								
6		0								
7		0								
8		0								
9		0								
A		0								
B		0								
C		0								
D		0								
E		0								
F		0								

Special Event Schedule -- Table 2

<C+0+E=28>

Notes:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

0 <E/28+5+F>  
**Limited Service Interval**

Min Time (seconds) | **0** <F/1+0+8>  
**Min Green Before PE Force Off**

Max Time (minutes) | **255** <F/1+0+9>  
**Max Preempt Time Before Failure**

Min Time (seconds) | **0** <F/1+0+A>  
**Min Time Between Same Preempts**  
 (Does Not Apply To Railroad Preempt)

Low Pri. Channel | \_\_\_\_\_ <E/125+C+8>  
**Disable Low Priority Channel**

- Low Priority  
 1 = Channel A  
 2 = Channel B  
 3 = Channel C  
 4 = Channel D

Row		
C	Bus Headway	0
D	Bus Delay	0
E	Max Early Grn	0
F	Max Grn Ext.	0

**Priority Parameters**  
 <F/1 +A+Row>

Row	Time	Headway	Direction	Day of Week
0	00 : 00	0	0	_____
1	00 : 00	0	0	_____
2	00 : 00	0	0	_____
3	00 : 00	0	0	_____
4	00 : 00	0	0	_____
5	00 : 00	0	0	_____
6	00 : 00	0	0	_____
7	00 : 00	0	0	_____
8	00 : 00	0	0	_____
9	00 : 00	0	0	_____
A	00 : 00	0	0	_____
B	00 : 00	0	0	_____
C	00 : 00	0	0	_____
D	00 : 00	0	0	_____
E	00 : 00	0	0	_____
F	00 : 00	0	0	_____

**Headway Schedule** <C+0+9=2.1>

Headway Time  
 (minutes)  
 1 thru 9 = 1 thru 9  
 A = 10  
 B = 11  
 C = 12  
 D = 13  
 E = 14  
 F = 15

**Low Priority Preemption (Bus Priority)**

Note: Also see "Time of Day Functions", Function E, Bit 5 (Disable Low Priority)











Column Numbers ---->						1	3
Row	Detector Name	C1 Pin	Phase(s)		Assign	Delay	Carry-over
		Number	Attributes				
0		39	45_7_	2	123	0.0	0.0
1		40	45_7_	6	123	0.0	0.0
2		41	45_7_	4	123	0.0	0.0
3		42	45_7_	8	123	0.0	0.0
4		43	45_7_	2	123	0.0	0.0
5		44	45_7_	6	123	0.0	0.0
6		45	45_7_	4	123	0.0	0.0
7		46	45_7_	8	123	0.0	0.0
8		47	67	2	123	0.0	0.0
9		48	67	6	123	0.0	0.0
A		49	67	4	123	0.0	0.0
B		50	67	8	123	0.0	0.0
C		55	45_7_	5	123	0.0	0.0
D		56	45_7_	1	123	0.0	0.0
E		57	45_7_	7	123	0.0	0.0
F		58	45_7_	3	123	0.0	0.0

Column Numbers ---->						2	4
Row	Detector Name	C1 Pin	Phase(s)		Assign	Delay	Carry-over
		Number	Attributes				
0		59	45_7_	5	123	0.0	0.0
1		60	45_7_	1	123	0.0	0.0
2		61	45_7_	7	123	0.0	0.0
3		62	45_7_	3	123	0.0	0.0
4		63	45_7_	2	123	0.0	0.0
5		64	45_7_	6	123	0.0	0.0
6		65	45_7_	4	123	0.0	0.0
7		66	45_7_	8	123	0.0	0.0
8		67	2	2	123	0.0	0.0
9		68	2	6	123	0.0	0.0
A		69	2	4	123	0.0	0.0
B		70	2	8	123	0.0	0.0
C		76	45_7_	2	123	0.0	0.0
D		77	45_7_	6	123	0.0	0.0
E		78	45_7_	4	123	0.0	0.0
F		79	45_7_	8	123	0.0	0.0

Detector Assignments <C+0+E=126>

- Detector Attributes**
- 1 = Full Time Delay
  - 2 = Ped Call
  - 3 = Overlap
  - 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

<C+0+D=0>

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

Redirect Phase Outputs <C+0+E=127>

Cabinet Type 0 <E/125+D+0>

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

Max OFF (minutes) 60 <D/0+0+1>  
 Max ON (minutes) 5 <D/0+0+2>  
 Chatter Fail Time 0 <D/0+0+4>

**Detector Failure Monitor**

Ped Ovlp Parent Ph 0 <E/125+D+1>  
 Ped Ovlp Phases \_\_\_\_\_ <E/125+D+2>  
 RR1 Exit Phases \_\_\_\_\_ <E/125+D+3>  
 Excl Ped/Ped Svc 0 <E/125+D+4>

**Miscellaneous**

	B	Row
One-Shot	0.0	8
Ext. Timer	0	9
DELAY-A	0	A
DELAY-B	0	B
DELAY-C	0	C
DELAY-D	0	D
DELAY-E	0	E
DELAY-F	0	F

**Delay Logic Times**  
<C+0+D=0> (seconds)



Row	6 Clear	7 Time	8 Ped Call	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output
0		0								
1		0								
2		0								
3		0								
4		0								
5		0								
6		0								
7		0								
8		0								
9		0								
A		0								
B		0								
C		0								
D		0								
E		0								
F		0								

Special Event Schedule -- Table 1

<C+0+E=27>

Notes:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

0 <E/27+5+F>  
**Limited Service Interval**

Row	6 Clear	7 Time	8 Ped Call	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output
0		0								
1		0								
2		0								
3		0								
4		0								
5		0								
6		0								
7		0								
8		0								
9		0								
A		0								
B		0								
C		0								
D		0								
E		0								
F		0								

Special Event Schedule -- Table 2

<C+0+E=28>

Notes:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

0 <E/28+5+F>  
**Limited Service Interval**

Min Time (seconds)  <F/1+0+8>  
**Min Green Before PE Force Off**

Max Time (minutes)  <F/1+0+9>  
**Max Preempt Time Before Failure**

Min Time (seconds)  <F/1+0+A>  
**Min Time Between Same Preempts**  
 (Does Not Apply To Railroad Preempt)

Low Pri. Channel  <E/125+C+8>  
**Disable Low Priority Channel**

- Low Priority  
 1 = Channel A  
 2 = Channel B  
 3 = Channel C  
 4 = Channel D

Row		
C	Bus Headway	0
D	Bus Delay	0
E	Max Early Grn	0
F	Max Grn Ext.	0

**Priority Parameters**  
 <F/1 +A+Row>

Row	Time	Headway	Direction	Day of Week
0	00 : 00	0	0	_____
1	00 : 00	0	0	_____
2	00 : 00	0	0	_____
3	00 : 00	0	0	_____
4	00 : 00	0	0	_____
5	00 : 00	0	0	_____
6	00 : 00	0	0	_____
7	00 : 00	0	0	_____
8	00 : 00	0	0	_____
9	00 : 00	0	0	_____
A	00 : 00	0	0	_____
B	00 : 00	0	0	_____
C	00 : 00	0	0	_____
D	00 : 00	0	0	_____
E	00 : 00	0	0	_____
F	00 : 00	0	0	_____

**Headway Schedule** <C+0+9=2.1>

Headway Time  
 (minutes)  
 1 thru 9 = 1 thru 9  
 A = 10  
 B = 11  
 C = 12  
 D = 13  
 E = 14  
 F = 15

**Low Priority Preemption (Bus Priority)**

Note: Also see "Time of Day Functions", Function E, Bit 5 (Disable Low Priority)



		Overlap							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Overlap Name ---->								
0	Load Switch Number	0	0	0	0	0	0	0	0
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	Overlap Recall	N	N	N	N	N	N	N	N
9	Queue Jump Phase								
A	Queue Jump Time	0	0	0	0	0	0	0	0
B	Minimum Green	0	0	0	0	0	0	0	0
C	Maximum Green	0	0	0	0	0	0	0	0
D	Green Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	Yellow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
F	Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Overlap Assignments** <C+0+E=29>

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

**Extra 2 Flags**  
 1 = AWB During Initial  
 2 = 3 Section FYA  
 3 = Disable Min Walk  
 4 = QuicNet System  
 5 = Ignore P/P on EV  
 6 = Manual Hold in FDW  
 7 = Allow QuicNet PE  
 8 = Flash Grn B4 Yellow

	C	Row
EV-A	0	0
EV-B	0	1
EV-C	0	2
EV-D	0	3
RR-1 *	---	4
RR-2 *	---	5
SE-1	0	6
SE-2	0	7

**Preempt Priority**  
 <C+0+E=125>  
 (\* RR-1 is always Highest, and RR-2 is always Second Highest)

Row	Column Numbers ---->	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	4
C	EV-C Phases	
D	EV-D Phases	
E	Extra 1 Config. Bits	1_3_5
F	IC Select (Interconnect)	2

**Configuration** <C+0+E=125>

	F
Ext. Permit 1 Phases	
Ext. Permit 2 Phases	
Exclusive Ped Assign	
Preempt Non-Lock	
Ped for 2P Output	2
Ped for 6P Output	
Ped for 4P Output	4
Ped for 8P Output	
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	4_7

**Configuration** <C+0+E=125>

	F
Fast Green Flash Phase	
Green Flash Phases	
Flashing Walk Phases	
Guaranteed Passage	
Simultaneous Gap Term	12345678
Sequential Timing	
Advance Walk Phases	2_4
Delay Walk Phases	
External Recall	
Start-up Overlap Green	
Max Extension	
Inhibit Ped Reservice	
Semi-Actuated	
Start-up Overlap Yellow	
Start-up Vehicle Calls	12345678
Start-up Ped Calls	12345678

**Specials** <C+0+F=2>

**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

**IC Select Flags**  
 1 =  
 2 = Modem  
 3 = 7-Wire Slave  
 4 = FYA/Ped call side  
 5 = Ped Inhibit FYA  
 6 = Simplex Master  
 7 =  
 8 = Offset Interrupter

	2	Row
		0
Phase 1	10	1
Phase 2	10	2
Phase 3	10	3
Phase 4	10	4
Phase 5	10	5
Phase 6	10	6
Phase 7	10	7
Phase 8	10	8

**Coordination Transition Minimums**  
 <C+0+C=5>

Column Numbers ---->		Plan								
Row	Plan Name ---->	1	2	3	4	5	6	7	8	9
0	Cycle Length	60	0	80	90	90	90	100	0	0
1	Phase 1 - ForceOff	0	0	0	0	0	0	0	0	0
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0
3	Phase 3 - ForceOff	0	0	0	0	0	0	0	0	0
4	Phase 4 - ForceOff	30	0	30	30	30	30	30	0	0
5	Phase 5 - ForceOff	0	0	0	0	0	0	0	0	0
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0
7	Phase 7 - ForceOff	0	0	0	0	0	0	0	0	0
8	Phase 8 - ForceOff	0	0	0	0	0	0	0	0	0
9	Ring Offset	0	0	0	0	0	0	0	0	0
A	Offset 1	8	0	12	8	86	8	8	0	0
B	Offset 2	0	0	0	0	0	0	0	0	0
C	Offset 3	0	0	0	0	0	0	0	0	0
D	Perm 1 - End	1	0	8	9	9	2	5	0	0
E	Hold Release	255	255	255	255	255	255	255	255	255
F	Reserved	0	0	0	0	0	0	0	0	0

Coordination - Bank 1 <C+0+C=1>

0	Ped Adjustment	0	0	0	0	0	0	0	0	0
1	Perm 2 - Start	0	0	0	0	0	0	0	0	0
2	Perm 2 - End	0	0	0	0	0	0	0	0	0
3	Perm 3 - Start	0	0	0	0	0	0	0	0	0
4	Perm 3 - End	0	0	0	0	0	0	0	0	0
5	Reservice Time	0	0	0	0	0	0	0	0	0
6	Reservice Phases									
7										
8	Pretimed Phases									
9	Max Recall									
A	Perm 1 Veh Phase	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678
B	Perm 1 Ped Phase	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678
C	Perm 2 Veh Phase									
D	Perm 2 Ped Phase									
E	Perm 3 Veh Phase									
F	Perm 3 Ped Phase									

Coordination - Bank 2 <C+0+C=2>

Coord Extra  
 1 = Programmed WALK Time for Sync Phases  
 2 = Always Terminate Sync Phase Peds

Row	E	Row
0		0
1	Plan 1 - Sync	2
2	Plan 2 - Sync	2
3	Plan 3 - Sync	2
4	Plan 4 - Sync	2
5	Plan 5 - Sync	2
6	Plan 6 - Sync	2
7	Plan 7 - Sync	2
8	Plan 8 - Sync	2
9	Plan 9 - Sync	2
A	NEMA Sync	
B	NEMA Hold	
C		
D		
E	Coord Extra	
F		

Sync Phases <C+0+C=1>

Row	F	Row
0	Free Lag	2 4 6 8
1	Plan 1 - Lag	2 4 6 8
2	Plan 2 - Lag	2 4 6 8
3	Plan 3 - Lag	2 4 6 8
4	Plan 4 - Lag	2 4 6 8
5	Plan 5 - Lag	2 4 6 8
6	Plan 6 - Lag	2 4 6 8
7	Plan 7 - Lag	2 4 6 8
8	Plan 8 - Lag	2 4 6 8
9	Plan 9 - Lag	2 4 6 8
A	External Lag	
B	Lag Hold	
C		
D		
E		
F		

Lag Phases <C+0+C=1>

Row	Column 8	Column 9	Column A	Column B	Column C	Column D	Column E	Column F	Row								
0	One-Shot Timer	0	Latch 1 Set	0	NOT-3	0	Max 2	0	Pretimed	0	Set DOW	0	Dial 2 (7-Wire)	0	Sim Term	0	0
1	AND-5 (a)	0	Latch 1 Reset	0	NOT-4	0	Bus Checkin A	0	Plan 1	0	Ext. Perm 1	0	Dial 3 (7-Wire)	0	EV-A	71	1
2	AND-5 (b)	0	Latch 2 Set	0	OR-4 (a)	0	Bus Checkin B	0	Plan 2	0	Ext. Perm 2	0	Offset 1 (7-Wire)	0	EV-B	72	2
3	AND-6 (a)	0	Latch 2 Reset	0	OR-4 (b)	0	Bus Checkin C	0	Plan 3	0	Gate Down	0	Offset 2 (7-Wire)	0	EV-C	73	3
4	AND-6 (b)	0	NAND-3 (a)	0	OR-5 (a)	0	Bus Checkin D	0	Plan 4	0	Set Clock	0	Offset 3 (7-Wire)	0	EV-D	74	4
5	Reserved		NAND-3 (b)	0	OR-5 (b)	0	Bus Checkout A	0	Plan 5	0	Stop Time	82	Free (7-Wire)	0	RR-1	51	5
6	Reserved		NAND-4 (a)	0	OR-6 (a)	0	Bus Checkout B	0	Plan 6	0	Flash Sense	81	Flash (7-Wire)	0	RR-2	52	6
7	Reserved		NAND-4 (b)	0	OR-6 (b)	0	Bus Checkout C	0	Plan 7	0	Manual Enable	0	Excl. Ped Omit	0	Spec. Event 1	0	7
8	Spec. Funct. 1	0	OR-7 (a)	0	EXTMR	0	Bus Checkout D	0	Plan 8	0	Man. Advance	0	NOT-1	0	Spec. Event 2	0	8
9	Spec. Funct. 2	0	OR-7 (b)	0	External Alarm 1	0	Max Inhibit (nema)	0	Plan 9	0	External Alarm 2	0	NOT-2	0	External Lag	0	9
A	Spec. Funct. 3	0	OR-7 (c)	0	AND-4 (a)	0	Force A (nema)	0	DELAY-A	0	Phase Bank 2	0	OR-1 (a)	0	AND-1 (a)	0	A
B	Spec. Funct. 4	0	OR-7 (d)	0	AND-4 (b)	0	Force B (nema)	0	DELAY-B	0	Phase Bank 3	0	OR-1 (b)	0	AND-1 (b)	0	B
C	Reserved		OR-8 (a)	0	NAND-1 (a)	0	C.N.A. (nema)	0	DELAY-C	0	Overlap Set 2	0	OR-2 (a)	0	AND-2 (a)	0	C
D	Reserved		OR-8 (b)	0	NAND-1 (b)	0	Hold (nema)	0	DELAY-D	0	Overlap Set 3	0	OR-2 (b)	0	AND-2 (b)	0	D
E	Reserved		OR-8 (c)	0	NAND-2 (a)	0	Max Recall	0	DELAY-E	0	Detector Set 2	0	OR-3 (a)	0	AND-3 (a)	0	E
F	Reserved		OR-8 (d)	0	NAND-2 (b)	0	Min Recall	0	DELAY-F	0	Detector Set 3	0	OR-3 (b)	0	AND-3 (b)	0	F

Assignable Inputs

<C+0+E=126>

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

Assignable Outputs

<C+0+E=127>



Column Numbers ---->		0	1	2	3	1	3
Row	Detector Name	C1 Pin Number	Attributes	Phase(s)	Assign	Delay	Carry-over
0		39	45 7	2	123	0.0	0.0
1		40	45 7	6	123	0.0	0.0
2		41	45 7	4	123	0.0	0.0
3		42	45 7	8	123	0.0	0.0
4		43	45 7	2	123	0.0	0.0
5		44	45 7	6	123	0.0	0.0
6		45	45 7	4	123	0.0	0.0
7		46	45 7	8	123	0.0	0.0
8		47	67	2	123	0.0	0.0
9		48	67	6	123	0.0	0.0
A		49	67	4	123	0.0	0.0
B		50	67	8	123	0.0	0.0
C		55	45 7	5	123	0.0	0.0
D		56	45 7	1	123	0.0	0.0
E		57	45 7	7	123	0.0	0.0
F		58	45 7	3	123	0.0	0.0

Column Numbers ---->		4	5	6	7	2	4
Row	Detector Name	C1 Pin Number	Attributes	Phase(s)	Assign	Delay	Carry-over
0		59	45 7	5	123	0.0	0.0
1		60	45 7	1	123	0.0	0.0
2		61	45 7	7	123	0.0	0.0
3		62	45 7	3	123	0.0	0.0
4		63	45 7	2	123	0.0	0.0
5		64	45 7	6	123	0.0	0.0
6		65	45 7	4	123	0.0	0.0
7		66	45 7	8	123	0.0	0.0
8		67	2	2	123	0.0	0.0
9		68	2	6	123	0.0	0.0
A		69	2	4	123	0.0	0.0
B		70	2	8	123	0.0	0.0
C		76	45 7	2	123	0.0	0.0
D		77	45 7	6	123	0.0	0.0
E		78	45 7	4	123	0.0	0.0
F		79	45 7	8	123	0.0	0.0

Detector Assignments <C+0+E=126>

<C+0+D=0>

Detector Attributes

- 1 = Full Time Delay
- 2 = Ped Call
- 3 = Overlap
- 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

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

Redirect Phase Outputs <C+0+E=127>

Cabinet Type  <E/125+D+0>

Enable Redirection

(Enable Redirection = 30)

Max OFF (minutes)  <D/0+0+1>

Max ON (minutes)  <D/0+0+2>

Chatter Fail Time  <D/0+0+4>

Detector Failure Monitor

Ped Ovlp Parent Ph  <E/125+D+1>

Ped Ovlp Phases  <E/125+D+2>

RR1 Exit Phases  <E/125+D+3>

Excl Ped/Ped Svc  <E/125+D+4>

Miscellaneous

	B	Row
One-Shot	0.0	8
Ext. Timer	0	9
DELAY-A	0	A
DELAY-B	0	B
DELAY-C	0	C
DELAY-D	0	D
DELAY-E	0	E
DELAY-F	0	F

Delay Logic Times

<C+0+D=0> (seconds)



Row	6 Clear	7 Time	8 Ped Call	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output
0		0								
1		0								
2		0								
3		0								
4		0								
5		0								
6		0								
7		0								
8		0								
9		0								
A		0								
B		0								
C		0								
D		0								
E		0								
F		0								

Special Event Schedule -- Table 1

<C+0+E=27>

Notes:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

0 <E/27+5+F>  
**Limited Service Interval**

Row	6 Clear	7 Time	8 Ped Call	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output
0		0								
1		0								
2		0								
3		0								
4		0								
5		0								
6		0								
7		0								
8		0								
9		0								
A		0								
B		0								
C		0								
D		0								
E		0								
F		0								

Special Event Schedule -- Table 2

<C+0+E=28>

Notes:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

0 <E/28+5+F>  
**Limited Service Interval**

Min Time (seconds)  <F/1+0+8>  
**Min Green Before PE Force Off**

Max Time (minutes)  <F/1+0+9>  
**Max Preempt Time Before Failure**

Min Time (seconds)  <F/1+0+A>  
**Min Time Between Same Preempts**  
 (Does Not Apply To Railroad Preempt)

Low Pri. Channel  <E/125+C+8>  
**Disable Low Priority Channel**

- Low Priority  
 1 = Channel A  
 2 = Channel B  
 3 = Channel C  
 4 = Channel D

Row		
C	Bus Headway	0
D	Bus Delay	0
E	Max Early Grn	0
F	Max Grn Ext.	0

**Priority Parameters**  
 <F/1 +A+Row>

Row	Time	Headway	Direction	Day of Week
0	00 : 00	0	0	_____
1	00 : 00	0	0	_____
2	00 : 00	0	0	_____
3	00 : 00	0	0	_____
4	00 : 00	0	0	_____
5	00 : 00	0	0	_____
6	00 : 00	0	0	_____
7	00 : 00	0	0	_____
8	00 : 00	0	0	_____
9	00 : 00	0	0	_____
A	00 : 00	0	0	_____
B	00 : 00	0	0	_____
C	00 : 00	0	0	_____
D	00 : 00	0	0	_____
E	00 : 00	0	0	_____
F	00 : 00	0	0	_____

**Headway Schedule** <C+0+9=2.1>

Headway Time  
 (minutes)  
 1 thru 9 = 1 thru 9  
 A = 10  
 B = 11  
 C = 12  
 D = 13  
 E = 14  
 F = 15

**Low Priority Preemption (Bus Priority)**

Note: Also see "Time of Day Functions", Function E, Bit 5 (Disable Low Priority)

**INTERSECTION: San Elijo W & Elfin Forest N**

Group Assignment: **NONE**  
 Field Master Assignment: **NONE**  
 System Reference Number: **69**

N/S Street Name: **Elfin Forest E**  
 E/W Street Name: **San Elijo N**

Last Database Change: **12/21/2018 14:02**

Change Record					
Change	By	Date	Change	By	Date

Notes: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

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

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

Drop Number	<b>6</b>	<C/0+0+0>
Zone Number	<b>0</b>	<C/0+0+1>
Area Number	<b>5</b>	<C/0+0+2>
Area Address	<b>6</b>	<C/0+0+3>
QuicNet Channel	Serial:COM26:	(QuicNet)

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

Flash Start	<b>0</b>	<F/1+0+E>
Red Revert	<b>5.0</b>	<F/1+0+F>
All Red Start	<b>5.0</b>	<F/1+C+0>
FYA Red Revert	<b>2.0</b>	<F/1+0+5>
OVLP CHG Red	<b>6.0</b>	<F/1+0+3>

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

**Communication Addresses**

**Manual Selection**

**Start / Revert Times**

**Exclusive Ped Phase**

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

Column Numbers ---->		Phase							
Row	Phase Names ---->	1	2	3	4	5	6	7	8
0	Ped Walk	0	0	0	0	0	7	0	7
1	Ped FDW	0	0	0	0	0	10	0	10
2	Min Green	0	0	0	0	0	10	0	10
3	Type 3 Disconnect	0	0	0	0	0	0	0	0
4	Added per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	Veh Extension	0.0	0.0	0.0	0.0	0.0	3.0	0.0	5.0
6	Max Gap	0.0	0.0	0.0	0.0	0.0	3.0	0.0	5.0
7	Min Gap	0.0	0.0	0.0	0.0	0.0	3.0	0.0	5.0
8	Max Limit	0	0	0	0	0	40	0	40
9	Max Limit 2	0	0	0	0	0	0	0	0
A	Adv. / Delay Walk	0	0	0	0	0	3	0	3
B	PE Min Ped FDW	0	0	0	0	0	0	0	0
C	Cond Serv Check	0	0	0	0	0	0	0	0
D	Reduce Every	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	Yellow Change	0.0	0.0	0.0	0.0	0.0	4.5	0.0	3.0
F	Red Clear	0.0	0.0	0.0	0.0	0.0	1.5	0.0	2.0

**Phase Timing - Bank 1** <C+0+F=1>

	9	A	B	C	D
Phase 1	0	0	0	0	0.0
Phase 2	20	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	20	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	20	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	20	0	0	0	0.0

Max Initial  
 Alternate Walk  
 Alternate FDW  
 Alternate Initial  
 Alternate Extension

**Alternate Timing** <C+0+F=1>

	E
RR-1 Delay	0
RR-1 Clear	0
EV-A Delay	0
EV-A Clear	0
EV-B Delay	0
EV-B Clear	0
EV-C Delay	1
EV-C Clear	5
EV-D Delay	1
EV-D Clear	5
RR-2 Delay	0
RR-2 Clear	0
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

**Preempt Timing**

	F	Row
Permit	<b>6 8</b>	0
Red Lock	_____	1
Yellow Lock	_____	2
Min Recall	<b>6</b>	3
Ped Recall	<b>6</b>	4
View Set Peds	-----	5
Rest In Walk	_____	6
Red Rest	_____	7
Dual Entry	_____	8
Max Recall	_____	9
Soft Recall	_____	A
Max 2	_____	B
Cond. Service	_____	C
Man Cntrl Calls	_____	D
Yellow Start	<b>8</b>	E
First Phases	<b>6</b>	F

**Phase Functions** <C+0+F=1>

		Overlap							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Overlap Name ---->								
0	Load Switch Number	0	0	0	0	0	0	0	0
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	Overlap Recall	N	N	N	N	N	N	N	N
9	Queue Jump Phase								
A	Queue Jump Time	0	0	0	0	0	0	0	0
B	Minimum Green	0	0	0	0	0	0	0	0
C	Maximum Green	0	0	0	0	0	0	0	0
D	Green Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	Yellow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
F	Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Overlap Assignments <C+0+E=29>

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

- Extra 2 Flags**  
 1 = AWB During Initial  
 2 = 3 Section FYA  
 3 = Disable Min Walk  
 4 = QuicNet System  
 5 = Ignore P/P on EV  
 6 = Manual Hold in FDW  
 7 = Allow QuicNet PE  
 8 = Flash Grn B4 Yellow

	C	Row
EV-A	0	0
EV-B	0	1
EV-C	0	2
EV-D	0	3
RR-1 *	---	4
RR-2 *	---	5
SE-1	0	6
SE-2	0	7

**Preempt Priority**  
 <C+0+E=125>  
 (\* RR-1 is always Highest, and RR-2 is always Second Highest)

Row	Column Numbers ---->	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	
B	EV-B Phases	
C	EV-C Phases	6
D	EV-D Phases	8
E	Extra 1 Config. Bits	1 3 5
F	IC Select (Interconnect)	2

Configuration <C+0+E=125>

	F
Ext. Permit 1 Phases	
Ext. Permit 2 Phases	
Exclusive Ped Assign	
Preempt Non-Lock	
Ped for 2P Output	
Ped for 6P Output	6
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	4 7

Configuration <C+0+E=125>

	F
Fast Green Flash Phase	
Green Flash Phases	
Flashing Walk Phases	
Guaranteed Passage	
Simultaneous Gap Term	12345678
Sequential Timing	
Advance Walk Phases	6 8
Delay Walk Phases	
External Recall	
Start-up Overlap Green	
Max Extension	
Inhibit Ped Reservice	
Semi-Actuated	
Start-up Overlap Yellow	
Start-up Vehicle Calls	12345678
Start-up Ped Calls	12345678

Specials <C+0+F=2>

- 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

- IC Select Flags**  
 1 =  
 2 = Modem  
 3 = 7-Wire Slave  
 4 = FYA/Ped call side  
 5 = Ped Inhibit FYA  
 6 = Simplex Master  
 7 =  
 8 = Offset Interrupter

	2	Row
		0
Phase 1	10	1
Phase 2	10	2
Phase 3	10	3
Phase 4	10	4
Phase 5	10	5
Phase 6	10	6
Phase 7	10	7
Phase 8	10	8

**Coordination Transition Minimums**  
 <C+0+C=5>

Column Numbers ---->		Plan								
Plan Name ---->		1	2	3	4	5	6	7	8	9
0	Cycle Length	60	45	80	70	75	90	100	100	0
1	Phase 1 - ForceOff	0	0	0	0	0	0	0	0	0
2	Phase 2 - ForceOff	0	0	0	0	30	0	0	0	0
3	Phase 3 - ForceOff	0	0	0	0	0	0	0	0	0
4	Phase 4 - ForceOff	0	0	0	0	0	0	0	0	0
5	Phase 5 - ForceOff	0	0	0	0	0	0	0	0	0
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0
7	Phase 7 - ForceOff	0	0	0	0	0	0	0	0	0
8	Phase 8 - ForceOff	35	24	35	25	0	40	45	40	0
9	Ring Offset	0	0	0	0	0	0	0	0	0
A	Offset 1	16	15	75	0	0	16	16	16	0
B	Offset 2	0	0	0	0	0	0	0	0	0
C	Offset 3	0	0	0	0	0	0	0	0	0
D	Perm 1 - End	1	1	8	9	9	2	4	4	0
E	Hold Release	255	255	255	255	255	255	255	255	0
F	Reserved	0	0	0	0	0	0	0	0	0

Coordination - Bank 1 <C+0+C=1>

0	Ped Adjustment	0	0	0	0	0	0	0	0	0
1	Perm 2 - Start	0	0	0	0	0	0	0	0	0
2	Perm 2 - End	0	0	0	0	0	0	0	0	0
3	Perm 3 - Start	0	0	0	0	0	0	0	0	0
4	Perm 3 - End	0	0	0	0	0	0	0	0	0
5	Reservice Time	0	0	0	0	0	0	0	0	0
6	Reservice Phases									
7										
8	Pretimed Phases									
9	Max Recall									
A	Perm 1 Veh Phase	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678
B	Perm 1 Ped Phase	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678
C	Perm 2 Veh Phase									
D	Perm 2 Ped Phase									
E	Perm 3 Veh Phase									
F	Perm 3 Ped Phase									

Coordination - Bank 2 <C+0+C=2>

Coord Extra  
 1 = Programmed WALK Time for Sync Phases  
 2 = Always Terminate Sync Phase Peds

E		Row
Plan 1 - Sync	6	1
Plan 2 - Sync	6	2
Plan 3 - Sync	6	3
Plan 4 - Sync	6	4
Plan 5 - Sync	8	5
Plan 6 - Sync	6	6
Plan 7 - Sync	6	7
Plan 8 - Sync	6	8
Plan 9 - Sync	6	9
NEMA Sync		A
NEMA Hold		B
		C
		D
Coord Extra		E
		F

Sync Phases <C+0+C=1>

F		Row
Free Lag	2 4 6 8	0
Plan 1 - Lag	2 4 6 8	1
Plan 2 - Lag	2 4 6 8	2
Plan 3 - Lag	2 4 6 8	3
Plan 4 - Lag	2 4 6 8	4
Plan 5 - Lag	2 4 6 8	5
Plan 6 - Lag	2 4 6 8	6
Plan 7 - Lag	2 4 6 8	7
Plan 8 - Lag	2 4 6 8	8
Plan 9 - Lag	2 4 6 8	9
External Lag		A
Lag Hold		B
		C
		D
		E
		F

Lag Phases <C+0+C=1>





Column Numbers ---->							
		0	1	2	3	1	3
Row	Detector Name	C1 Pin Number	Attributes	Phase(s)	Assign	Delay	Carry-over
0		39	45 7	2	123	0.0	0.0
1		40	45 7	6	123	0.0	0.0
2		41	45 7	4	123	0.0	0.0
3		42	45 7	8	123	0.0	0.0
4		43	45 7	2	123	0.0	0.0
5		44	45 7	6	123	0.0	0.0
6		45	45 7	4	123	0.0	0.0
7		46	45 7	8	123	0.0	0.0
8		47	67	2	123	0.0	0.0
9		48	67	6	123	0.0	0.0
A		49	67	4	123	0.0	0.0
B		50	67	8	123	0.0	0.0
C		55	45 7	5	123	0.0	0.0
D		56	45 7	1	123	0.0	0.0
E		57	45 7	7	123	0.0	0.0
F		58	45 7	3	123	0.0	0.0

Column Numbers ---->							
		4	5	6	7	2	4
Row	Detector Name	C1 Pin Number	Attributes	Phase(s)	Assign	Delay	Carry-over
0		59	45 7	5	123	0.0	0.0
1		60	45 7	1	123	0.0	0.0
2		61	45 7	7	123	0.0	0.0
3		62	45 7	3	123	0.0	0.0
4		63	45 7	2	123	0.0	0.0
5		64	45 7	6	123	0.0	0.0
6		65	45 7	4	123	0.0	0.0
7		66	45 7	8	123	0.0	0.0
8		67	2	2	123	0.0	0.0
9		68	2	6	123	0.0	0.0
A		69	2	4	123	0.0	0.0
B		70	2	8	123	0.0	0.0
C		76	45 7	2	123	0.0	0.0
D		77	45 7	6	123	0.0	0.0
E		78	45 7	4	123	0.0	0.0
F		79	45 7	8	123	0.0	0.0

Detector Assignments <C+0+E=126>

- Detector Attributes**
- 1 = Full Time Delay
  - 2 = Ped Call
  - 3 = Overlap
  - 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

<C+0+D=0>

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

Redirect Phase Outputs <C+0+E=127>

Cabinet Type 0 <E/125+D+0>

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

Max OFF (minutes) 60 <D/0+0+1>  
Max ON (minutes) 5 <D/0+0+2>  
Chatter Fail Time 0 <D/0+0+4>

**Detector Failure Monitor**

Ped Ovlp Parent Ph 0 <E/125+D+1>  
Ped Ovlp Phases \_\_\_\_\_ <E/125+D+2>  
RR1 Exit Phases \_\_\_\_\_ <E/125+D+3>  
Excl Ped/Ped Svc 0 <E/125+D+4>

**Miscellaneous**

	B	Row
One-Shot	0.0	8
Ext. Timer	0	9
DELAY-A	0	A
DELAY-B	0	B
DELAY-C	0	C
DELAY-D	0	D
DELAY-E	0	E
DELAY-F	0	F

**Delay Logic Times**  
<C+0+D=0> (seconds)



Row	6	7	8	9	A	B	C	D	E	F
	Clear	Time	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit Phases	Ped Omit	Output
0		0								
1		0								
2		0								
3		0								
4		0								
5		0								
6		0								
7		0								
8		0								
9		0								
A		0								
B		0								
C		0								
D		0								
E		0								
F		0								

Special Event Schedule -- Table 1 <C+0+E=27>

Notes:

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0 <E/27+5+F>  
**Limited Service Interval**

Row	6	7	8	9	A	B	C	D	E	F
	Clear	Time	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit Phases	Ped Omit	Output
0		0								
1		0								
2		0								
3		0								
4		0								
5		0								
6		0								
7		0								
8		0								
9		0								
A		0								
B		0								
C		0								
D		0								
E		0								
F		0								

Special Event Schedule -- Table 2 <C+0+E=28>

Notes:

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0 <E/28+5+F>  
**Limited Service Interval**

Min Time (seconds)  <F/1+0+8>  
**Min Green Before PE Force Off**

Max Time (minutes)  <F/1+0+9>  
**Max Preempt Time Before Failure**

Min Time (seconds)  <F/1+0+A>  
**Min Time Between Same Preempts**  
 (Does Not Apply To Railroad Preempt)

Low Pri. Channel  <E/125+C+8>  
**Disable Low Priority Channel**

- Low Priority  
 1 = Channel A  
 2 = Channel B  
 3 = Channel C  
 4 = Channel D

Row		
C	Bus Headway	0
D	Bus Delay	0
E	Max Early Grn	0
F	Max Grn Ext.	0

**Priority Parameters**  
 <F/1 +A+Row>

Row	Time	Headway	Direction	Day of Week
0	00 : 00	0	0	_____
1	00 : 00	0	0	_____
2	00 : 00	0	0	_____
3	00 : 00	0	0	_____
4	00 : 00	0	0	_____
5	00 : 00	0	0	_____
6	00 : 00	0	0	_____
7	00 : 00	0	0	_____
8	00 : 00	0	0	_____
9	00 : 00	0	0	_____
A	00 : 00	0	0	_____
B	00 : 00	0	0	_____
C	00 : 00	0	0	_____
D	00 : 00	0	0	_____
E	00 : 00	0	0	_____
F	00 : 00	0	0	_____

**Headway Schedule** <C+0+9=2.1>

Headway Time  
 (minutes)  
 1 thru 9 = 1 thru 9  
 A = 10  
 B = 11  
 C = 12  
 D = 13  
 E = 14  
 F = 15

**Low Priority Preemption (Bus Priority)**

Note: Also see "Time of Day Functions", Function E, Bit 5 (Disable Low Priority)

**INTERSECTION: San Elijo E & Elfin Forest N**

Group Assignment: **NONE**

N/S Street Name: **Elfin Forest N**

Last Database Change: **12/20/2018 17:01**

Field Master Assignment: **NONE**

E/W Street Name: **San Elijo E**

System Reference Number: **68**

Change Record					
Change	By	Date	Change	By	Date

Notes:

Manual Plan

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

Manual Offset

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

Drop Number	<b>5</b>	<C/0+0+0>
Zone Number	<b>1</b>	<C/0+0+1>
Area Number	<b>5</b>	<C/0+0+2>
Area Address	<b>5</b>	<C/0+0+3>
QuicNet Channel	Serial:COM26:	(QuicNet)

**Communication Addresses**

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

**Manual Selection**

Flash Start	<b>0</b>	<F/1+0+E>
Red Revert	<b>5.0</b>	<F/1+0+F>
All Red Start	<b>5.0</b>	<F/1+C+0>

**Start / Revert Times**

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

**Exclusive Ped Phase**

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

		Phase							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	10	0	10	0	10	0	10
2	Min Green	5	10	5	5	5	5	5	5
3	Type 3 Disconnect	0	0	0	20	0	20	0	0
4	Added per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	Veh Extension	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
6	Max Gap	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
7	Min Gap	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
8	Max Limit	0	40	0	0	0	0	0	40
9	Max Limit 2	0	0	0	0	0	0	0	0
A	Adv. / Delay Walk	0	3	0	0	0	0	0	3
B	PE Min Ped FDW	7	0	7	7	7	7	7	0
C	Cond Serv Check	0	0	0	0	0	0	0	0
D	Reduce Every	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	Yellow Change	3.0	3.0	3.0	3.0	3.0	4.0	3.0	3.5
F	Red Clear	1.0	2.0	1.0	1.0	1.0	1.0	1.0	2.0

**Phase Timing - Bank 1** <C+0+F=1>

	9	A	B	C	D
Phase 1	0	0	0	0	0.0
Phase 2	20	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	20	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	20	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	20	0	0	0	0.0
Max Initial					
Alternate Walk					
Alternate FDW					
Alternate Initial					
Alternate Extension					

**Alternate Timing** <C+0+F=1>

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

**Preempt Timing**

	F	Row
Permit	<u>2</u> <u>8</u>	0
Red Lock	_____	1
Yellow Lock	_____	2
Min Recall	<u>2</u> _____	3
Ped Recall	<u>2</u> _____	4
View Set Peds	- - - - -	5
Rest In Walk	_____	6
Red Rest	_____	7
Dual Entry	_____	8
Max Recall	_____	9
Soft Recall	_____	A
Max 2	_____	B
Cond. Service	_____	C
Man Cntrl Calls	_____	D
Yellow Start	_____ <u>8</u>	E
First Phases	<u>2</u> _____	F

**Phase Functions** <C+0+F=1>

		Overlap							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Overlap Name ---->								
0	Load Switch Number	0	0	0	0	0	0	0	0
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	Yellow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
F	Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Overlap Assignments <C+0+E=29>

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

- 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 = Allow QuicNet PE  
 8 =

	C	Row
EV-A	0	0
EV-B	0	1
EV-C	0	2
EV-D	0	3
RR-1 *	---	4
RR-2 *	---	5
SE-1	0	6
SE-2	0	7

**Preempt Priority**  
 <C+0+E=125>  
 (\* RR-1 is always Highest, and RR-2 is always Second Highest)

Row	Column Numbers ---->	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	
D	EV-D Phases	8
E	Extra 1 Config. Bits	1 3 5
F	IC Select (Interconnect)	2

Configuration <C+0+E=125>

	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	6
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	

Configuration <C+0+E=125>

	F
Fast Green Flash Phase	
Green Flash Phases	
Flashing Walk Phases	
Guaranteed Passage	
Simultaneous Gap Term	12345678
Sequential Timing	
Advance Walk Phases	2 8
Delay Walk Phases	
External Recall	
Start-up Overlap Green	
Max Extension	
Inhibit Ped Reservice	
Semi-Actuated	
Start-up Overlap Yellow	
Start-up Vehicle Calls	12345678
Start-up Ped Calls	12345678

Specials <C+0+F=2>

- 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

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

	2	Row
		0
Phase 1	10	1
Phase 2	10	2
Phase 3	10	3
Phase 4	10	4
Phase 5	10	5
Phase 6	10	6
Phase 7	10	7
Phase 8	10	8

**Coordination Transition Minimums**  
 <C+0+C=5>

Column Numbers ---->		Plan								
Plan Name ---->		1	2	3	4	5	6	7	8	9
0	Cycle Length	60	100	100	100	75	90	100	100	100
1	Phase 1 - ForceOff	0	55	55	55	0	0	0	55	55
2	Phase 2 - ForceOff	0	0	0	0	30	0	0	0	0
3	Phase 3 - ForceOff	0	20	20	20	0	0	0	20	20
4	Phase 4 - ForceOff	0	40	40	40	0	0	0	40	40
5	Phase 5 - ForceOff	0	55	55	55	0	0	0	55	55
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0
7	Phase 7 - ForceOff	0	20	20	20	0	0	0	20	20
8	Phase 8 - ForceOff	35	40	40	40	0	40	40	40	40
9	Ring Offset	0	0	0	0	0	0	0	0	0
A	Offset 1	16	0	0	0	68	16	16	0	0
B	Offset 2	0	0	0	0	0	0	0	0	0
C	Offset 3	0	0	0	0	0	0	0	0	0
D	Perm 1 - End	1	15	15	15	15	2	3	15	15
E	Hold Release	255	255	255	255	255	255	255	255	255
F	Zone Offset	0	0	0	0	0	0	0	0	0

Coordination - Bank 1 <C+0+C=1>

0	Ped Adjustment	0	0	0	0	0	0	0	0	0
1	Perm 2 - Start	0	0	0	0	0	0	0	0	0
2	Perm 2 - End	0	0	0	0	0	0	0	0	0
3	Perm 3 - Start	0	0	0	0	0	0	0	0	0
4	Perm 3 - End	0	0	0	0	0	0	0	0	0
5	Reservice Time	0	0	0	0	0	0	0	0	0
6	Reservice Phases									
7										
8	Pretimed Phases									
9	Max Recall									
A	Perm 1 Veh Phase	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678
B	Perm 1 Ped Phase	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678
C	Perm 2 Veh Phase									
D	Perm 2 Ped Phase									
E	Perm 3 Veh Phase									
F	Perm 3 Ped Phase									

Coordination - Bank 2 <C+0+C=2>

Coord Extra  
 1 = Programmed WALK Time for Sync Phases  
 2 = Always Terminate Sync Phase Peds

Row	E	Row
0		0
1	Plan 1 - Sync	2
2	Plan 2 - Sync	2
3	Plan 3 - Sync	2
4	Plan 4 - Sync	2
5	Plan 5 - Sync	8
6	Plan 6 - Sync	2
7	Plan 7 - Sync	2
8	Plan 8 - Sync	2
9	Plan 9 - Sync	2
A	NEMA Sync	
B	NEMA Hold	
C		
D		
E	Coord Extra	
F		

Sync Phases <C+0+C=1>

Row	F	Row
0	Free Lag	2 4 6 8
1	Plan 1 - Lag	2 4 6 8
2	Plan 2 - Lag	2 4 6 8
3	Plan 3 - Lag	2 4 6 8
4	Plan 4 - Lag	2 4 6 8
5	Plan 5 - Lag	2 4 6 8
6	Plan 6 - Lag	2 4 6 8
7	Plan 7 - Lag	2 4 6 8
8	Plan 8 - Lag	2 4 6 8
9	Plan 9 - Lag	2 4 6 8
A	External Lag	
B		
C		
D		
E		
F		

Lag Phases <C+0+C=1>

Row	Column 9	Column A	Column B	Column C	Column D	Column E	Column F	Row							
0	Spec. Funct. 1	0	NOT-3	0	Max 2	0	Pretimed	0	Set Monday	0	Dial 2 (7-Wire)	0	Sim Term	0	0
1	Spec. Funct. 2	0	NOT-4	0	System Det 1	0	Plan 1	0	Ext. Perm 1	0	Dial 3 (7-Wire)	0	EV-A	71	1
2	Spec. Funct. 3	0	OR-4 (a)	0	System Det 2	0	Plan 2	0	Ext. Perm 2	0	Offset 1 (7-Wire)	0	EV-B	72	2
3	Spec. Funct. 4	0	OR-4 (b)	0	System Det 3	0	Plan 3	0	Reserved	0	Offset 2 (7-Wire)	0	EV-C	73	3
4	NAND-3 (a)	0	OR-5 (a)	0	System Det 4	0	Plan 4	0	Set Clock	0	Offset 3 (7-Wire)	0	EV-D	74	4
5	NAND-3 (b)	0	OR-5 (b)	0	System Det 5	0	Plan 5	0	Stop Time	82	Free (7-Wire)	0	RR-1	51	5
6	NAND-4 (a)	0	OR-6 (a)	0	System Det 6	0	Plan 6	0	Flash Sense	81	Flash (7-Wire)	0	RR-2	52	6
7	NAND-4 (b)	0	OR-6 (b)	0	System Det 7	0	Plan 7	0	Manual Enable	0	Excl. Ped Omit	0	Spec. Event 1	0	7
8	OR-7 (a)	0	Fig 3 Diamond	0	System Det 8	0	Plan 8	0	Man. Advance	0	NOT-1	0	Spec. Event 2	0	8
9	OR-7 (b)	0	Fig 4 Diamond	0	Max Inhibit (nema)	0	Plan 9	0	External Alarm	0	NOT-2	0	External Lag	0	9
A	OR-7 (c)	0	AND-4 (a)	0	Force A (nema)	0	DELAY-A	0	Phase Bank 2	0	OR-1 (a)	0	AND-1 (a)	0	A
B	OR-7 (d)	0	AND-4 (b)	0	Force B (nema)	0	DELAY-B	0	Phase Bank 3	0	OR-1 (b)	0	AND-1 (b)	0	B
C	OR-8 (a)	0	NAND-1 (a)	0	C.N.A. (nema)	0	DELAY-C	0	Overlap Set 2	0	OR-2 (a)	0	AND-2 (a)	0	C
D	OR-8 (b)	0	NAND-1 (b)	0	Hold (nema)	0	DELAY-D	0	Overlap Set 3	0	OR-2 (b)	0	AND-2 (b)	0	D
E	OR-8 (c)	0	NAND-2 (a)	0	Max Recall	0	DELAY-E	0	Detector Set 2	0	OR-3 (a)	0	AND-3 (a)	0	E
F	OR-8 (d)	0	NAND-2 (b)	0	Min Recall	0	DELAY-F	0	Detector Set 3	0	OR-3 (b)	0	AND-3 (b)	0	F

Assignable Inputs <C+0+E=126>

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

Assignable Outputs <C+0+E=127>



Column Numbers ---->		0	1	2	3	1	3
Row	Detector Name	C1 Pin Number	Attributes	Phase(s)	Assign	Delay	Carry-over
0		39	45 7	2	123	0.0	0.0
1		40	45 7	6	123	0.0	0.0
2		41	45 7	4	123	0.0	0.0
3		42	45 7	8	123	0.0	0.0
4		43	45 7	2	123	0.0	0.0
5		44	45 7	6	123	0.0	0.0
6		45	45 7	4	123	0.0	0.0
7		46	45 7	8	123	0.0	0.0
8		47	67	2	123	0.0	0.0
9		48	67	6	123	0.0	0.0
A		49	67	4	123	0.0	0.0
B		50	67	8	123	0.0	0.0
C		55	45 7	5	123	0.0	0.0
D		56	45 7	1	123	0.0	0.0
E		57	45 7	7	123	0.0	0.0
F		58	45 7	3	123	0.0	0.0

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

Redirect Phase Outputs <C+0+E=127>

Cabinet Type  <E/125+D+0>

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

Max OFF (minutes)  <D/0+0+1>

Max ON (minutes)  <D/0+0+2>

**Detector Failure Monitor**

Column Numbers ---->		4	5	6	7	2	4
Row	Detector Name	C1 Pin Number	Attributes	Phase(s)	Assign	Delay	Carry-over
0		59	45 7	5	123	0.0	0.0
1		60	45 7	1	123	0.0	0.0
2		61	45 7	7	123	0.0	0.0
3		62	45 7	3	123	0.0	0.0
4		63	45 7	2	123	0.0	0.0
5		64	45 7	6	123	0.0	0.0
6		65	45 7	4	123	0.0	0.0
7		66	45 7	8	123	0.0	0.0
8		67	2	2	123	0.0	0.0
9		68	2	6	123	0.0	0.0
A		69	2	4	123	0.0	0.0
B		70	2	8	123	0.0	0.0
C		76	45 7	2	123	0.0	0.0
D		77	45 7	6	123	0.0	0.0
E		78	45 7	4	123	0.0	0.0
F		79	45 7	8	123	0.0	0.0

**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

Detector Assignments <C+0+E=126>

<C+0+D=0>

**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	0	A
DELAY-B	0	B
DELAY-C	0	C
DELAY-D	0	D
DELAY-E	0	E
DELAY-F	0	F

**Delay Logic Times**  
<C+0+D=0> (seconds)

Omit Alarm  <C/5+F+0>

**Disable Alarm Reporting**



Row	6	7	8	9	A	B	C	D	E	F
	Clear	Time	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit Phases	Ped Omit	Output
0		0								2 8
1		0								
2		0								
3		0								
4		0								
5		0								
6		0								
7		0								
8		0								
9		0								
A		0								
B		0								
C		0								
D		0								
E		0								
F		0								

Special Event Schedule -- Table 1 <C+0+E=27>

Notes:

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0 <E/27+5+F>  
**Limited Service Interval**

Row	6	7	8	9	A	B	C	D	E	F
	Clear	Time	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit Phases	Ped Omit	Output
0		0								
1		0								
2		0								
3		0								
4		0								
5		0								
6		0								
7		0								
8		0								
9		0								
A		0								
B		0								
C		0								
D		0								
E		0								
F		0								

Special Event Schedule -- Table 2 <C+0+E=28>

Notes:

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0 <E/28+5+F>  
**Limited Service Interval**

Min Time (seconds)  <F/1+0+8>  
**Min Green Before PE Force Off**

Max Time (minutes)  <F/1+0+9>  
**Max Preempt Time Before Failure**

Min Time (seconds)  <F/1+0+A>  
**Min Time Between Same Preempts**  
 (Does Not Apply To Railroad Preempt)

Low Pri. Channel  <E/125+C+8>  
**Disable Low Priority Channel**

- Low Priority  
 1 = Channel A  
 2 = Channel B  
 3 = Channel C  
 4 = Channel D

Delay Time (seconds)  <F/1+A+D>  
**Bus Delay**

Max Time (seconds)  <F/1+A+E>  
**Max Early Green**

Max Time (seconds)  <F/1+A+F>  
**Max Green Extension**

Row	Time	Headway	Direction	Day of Week
0	00 : 00	0	0	_____
1	00 : 00	0	0	_____
2	00 : 00	0	0	_____
3	00 : 00	0	0	_____
4	00 : 00	0	0	_____
5	00 : 00	0	0	_____
6	00 : 00	0	0	_____
7	00 : 00	0	0	_____
8	00 : 00	0	0	_____
9	00 : 00	0	0	_____
A	00 : 00	0	0	_____
B	00 : 00	0	0	_____
C	00 : 00	0	0	_____
D	00 : 00	0	0	_____
E	00 : 00	0	0	_____
F	00 : 00	0	0	_____

- Headway Time  
 (minutes)  
 1 thru 9 = 1 thru 9  
 A = 10  
 B = 11  
 C = 12  
 D = 13  
 E = 14  
 F = 15

**Headway** <C+0+9=2.1>

**Low Priority Preemption (Bus Priority)**

Only available with *Program 233RV2.B* (and above)

Note: Also see "Time of Day Functions", Function E, Bit 5 (Disable Low Priority)





Column Numbers ---->		Plan								
Plan Name ---->		1	2	3	4	5	6	7	8	9
0	Cycle Length	100	100	100	100	150	150	100	100	100
1	Phase 1 - ForceOff	55	55	55	55	95	102	55	55	55
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0
3	Phase 3 - ForceOff	20	20	20	20	0	0	20	20	20
4	Phase 4 - ForceOff	40	40	40	40	0	0	40	40	40
5	Phase 5 - ForceOff	55	55	55	55	95	102	55	55	55
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0
7	Phase 7 - ForceOff	20	20	20	20	42	42	20	20	20
8	Phase 8 - ForceOff	40	40	40	40	72	82	40	40	40
9	Ring Offset	0	0	0	0	0	0	0	0	0
A	Offset 1	0	0	0	0	60	55	0	0	0
B	Offset 2	0	0	0	0	0	0	0	0	0
C	Offset 3	0	0	0	0	0	0	0	0	0
D	Perm 1 - End	15	15	15	15	15	15	15	15	15
E	Hold Release	255	255	255	255	255	255	255	255	255
F	Zone Offset	0	0	0	0	0	0	0	0	0

Coordination - Bank 1 <C+0+C=1>

0	Ped Adjustment	0	0	0	0	0	0	0	0	0
1	Perm 2 - Start	0	0	0	0	0	0	0	0	0
2	Perm 2 - End	0	0	0	0	0	0	0	0	0
3	Perm 3 - Start	0	0	0	0	0	0	0	0	0
4	Perm 3 - End	0	0	0	0	0	0	0	0	0
5	Reservice Time	0	0	0	0	0	0	0	0	0
6	Reservice Phases									
7										
8	Pretimed Phases									
9	Max Recall									
A	Perm 1 Veh Phase	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678
B	Perm 1 Ped Phase	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678
C	Perm 2 Veh Phase									
D	Perm 2 Ped Phase									
E	Perm 3 Veh Phase									
F	Perm 3 Ped Phase									

Coordination - Bank 2 <C+0+C=2>

Coord Extra  
 1 = Programmed WALK Time for Sync Phases  
 2 = Always Terminate Sync Phase Peds

E		Row
Plan 1 - Sync	<u>2</u> <u>6</u>	0
Plan 2 - Sync	<u>2</u> <u>6</u>	1
Plan 3 - Sync	<u>2</u> <u>6</u>	2
Plan 4 - Sync	<u>2</u> <u>6</u>	3
Plan 5 - Sync	<u>2</u> <u>6</u>	4
Plan 6 - Sync	<u>2</u> <u>6</u>	5
Plan 7 - Sync	<u>2</u> <u>6</u>	6
Plan 8 - Sync	<u>2</u> <u>6</u>	7
Plan 9 - Sync	<u>2</u> <u>6</u>	8
NEMA Sync		9
NEMA Hold		A
		B
		C
		D
Coord Extra		E
		F

Sync Phases <C+0+C=1>

F		Row
Free Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	0
Plan 1 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	1
Plan 2 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	2
Plan 3 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	3
Plan 4 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	4
Plan 5 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	5
Plan 6 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	6
Plan 7 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	7
Plan 8 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	8
Plan 9 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	9
External Lag		A
		B
		C
		D
		E
		F

Lag Phases <C+0+C=1>

Row	Column 9	Column A	Column B	Column C	Column D	Column E	Column F	Row							
0	Spec. Funct. 1	0	NOT-3	0	Max 2	0	Pretimed	0	Set Monday	0	Dial 2 (7-Wire)	0	Sim Term	0	0
1	Spec. Funct. 2	0	NOT-4	0	System Det 1	0	Plan 1	0	Ext. Perm 1	0	Dial 3 (7-Wire)	0	EV-A	71	1
2	Spec. Funct. 3	0	OR-4 (a)	0	System Det 2	0	Plan 2	0	Ext. Perm 2	0	Offset 1 (7-Wire)	0	EV-B	72	2
3	Spec. Funct. 4	0	OR-4 (b)	0	System Det 3	0	Plan 3	0	Reserved	0	Offset 2 (7-Wire)	0	EV-C	73	3
4	NAND-3 (a)	0	OR-5 (a)	0	System Det 4	0	Plan 4	0	Set Clock	0	Offset 3 (7-Wire)	0	EV-D	74	4
5	NAND-3 (b)	0	OR-5 (b)	0	System Det 5	0	Plan 5	0	Stop Time	82	Free (7-Wire)	0	RR-1	51	5
6	NAND-4 (a)	0	OR-6 (a)	0	System Det 6	0	Plan 6	0	Flash Sense	81	Flash (7-Wire)	0	RR-2	52	6
7	NAND-4 (b)	0	OR-6 (b)	0	System Det 7	0	Plan 7	0	Manual Enable	0	Excl. Ped Omit	0	Spec. Event 1	0	7
8	OR-7 (a)	0	Fig 3 Diamond	0	System Det 8	0	Plan 8	0	Man. Advance	0	NOT-1	0	Spec. Event 2	0	8
9	OR-7 (b)	0	Fig 4 Diamond	0	Max Inhibit (nema)	0	Plan 9	0	External Alarm	0	NOT-2	0	External Lag	0	9
A	OR-7 (c)	0	AND-4 (a)	0	Force A (nema)	0	DELAY-A	0	Phase Bank 2	0	OR-1 (a)	97	AND-1 (a)	0	A
B	OR-7 (d)	0	AND-4 (b)	0	Force B (nema)	0	DELAY-B	0	Phase Bank 3	0	OR-1 (b)	0	AND-1 (b)	0	B
C	OR-8 (a)	0	NAND-1 (a)	0	C.N.A. (nema)	0	DELAY-C	0	Overlap Set 2	0	OR-2 (a)	0	AND-2 (a)	0	C
D	OR-8 (b)	0	NAND-1 (b)	0	Hold (nema)	0	DELAY-D	0	Overlap Set 3	0	OR-2 (b)	0	AND-2 (b)	0	D
E	OR-8 (c)	0	NAND-2 (a)	0	Max Recall	0	DELAY-E	0	Detector Set 2	0	OR-3 (a)	0	AND-3 (a)	0	E
F	OR-8 (d)	0	NAND-2 (b)	0	Min Recall	0	DELAY-F	0	Detector Set 3	0	OR-3 (b)	0	AND-3 (b)	0	F

Assignable Inputs <C+0+E=126>

Row	Column 9	Column A	Column B	Column C	Column D	Column E	Column F	Row							
0	Phase ON - 1	0	Preempt Fail	0	Flasher 0	0	Free	0	NOT-1	0	TOD Out 1	0	Dial 2 (7-Wire)	0	0
1	Phase ON - 2	0	Sp Evnt Out 1	0	Flasher 1	0	Plan 1	0	OR-1	35	TOD Out 2	0	Dial 3 (7-Wire)	0	1
2	Phase ON - 3	0	Sp Evnt Out 2	0	Fast Flasher	0	Plan 2	0	OR-2	0	TOD Out 3	0	Offset 1 (7-Wire)	0	2
3	Phase ON - 4	0	Sp Evnt Out 3	0	Fig 3 Diamond	0	Plan 3	0	OR-3	0	TOD Out 4	0	Offset 2 (7-Wire)	0	3
4	Phase ON - 5	0	Sp Evnt Out 4	0	Fig 4 Diamond	0	Plan 4	0	AND-1	0	TOD Out 5	0	Offset 3 (7-Wire)	0	4
5	Phase ON - 6	0	Sp Evnt Out 5	0			Plan 5	0	AND-2	0	TOD Out 6	0	Free (7-Wire)	0	5
6	Phase ON - 7	0	Sp Evnt Out 6	0			Plan 6	0	AND-3	0	TOD Out 7	0	Flash (7-Wire)	0	6
7	Phase ON - 8	0	Sp Evnt Out 7	0			Plan 7	0	NOT-2	0	TOD Out 8	0	Preempt	0	7
8	Ph. Check - 1	0	Sp Evnt Out 8	0	NOT-3	0	Plan 8	0	EV-A	0	Adv. Warn - 1	0	Low Priority A	0	8
9	Ph. Check - 2	0			NOT-4	0	Plan 9	0	EV-B	0	Adv. Warn - 2	0	Low Priority B	0	9
A	Ph. Check - 3	0	Detector Fail	0	OR-4	0	Spec. Funct. 3	0	EV-C	0	DELAY-A	0	Low Priority C	0	A
B	Ph. Check - 4	0	Spec. Funct. 1	0	OR-5	0	Spec. Funct. 4	0	EV-D	0	DELAY-B	0	Low Priority D	0	B
C	Ph. Check - 5	0	Spec. Funct. 2	0	OR-6	0	NAND-3	0	RR-1	0	DELAY-C	0			C
D	Ph. Check - 6	0	Central Control	0	AND-4	0	NAND-4	0	RR-2	0	DELAY-D	0			D
E	Ph. Check - 7	0	Excl. Ped DW	0	NAND-1	0	OR-7	0	Spec. Event 1	0	DELAY-E	0			E
F	Ph. Check - 8	0	Excl. Ped WK	0	NAND-2	0	OR-8	0	Spec. Event 2	0	DELAY-F	0			F

Assignable Outputs <C+0+E=127>

		Phase							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	5	0	1	0	5	7	0
1	Ped FDW	0	13	0	1	0	15	28	0
2	Min Green	5	7	4	0	5	7	5	5
3	Type 3 Disconnect	0	0	0	0	0	0	0	0
4	Added per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	Veh Extension	4.0	3.0	2.0	0.0	3.0	3.0	3.0	3.0
6	Max Gap	4.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0
7	Min Gap	4.0	3.0	0.5	0.0	3.0	3.0	3.0	3.0
8	Max Limit	7	45	7	0	7	45	10	10
9	Max Limit 2	40	0	0	0	0	0	0	0
A	Adv. / Delay Walk	0	7	0	0	0	7	7	0
B	PE Min Ped FDW	0	0	7	0	0	0	0	0
C	Cond Serv Check	0	0	10	0	0	0	0	0
D	Reduce Every	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
E	Yellow Change	4.0	4.0	3.0	0.0	4.0	4.0	4.0	4.0
F	Red Clear	1.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 2 <C+0+F=2>

	9	A	B	C	D
Phase 1	0	0	0	0	0.0
Phase 2	20	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	20	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	20	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	20	0	0	0	0.0

Alternate Timing

Transition Type  
 0.X = Shortway  
 1.X = Lengthen  
 X.1 thru X.4 =  
 Number of  
 cycles when  
 lengthing

Transition Type	0.3	<C/5+1+9>
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**TBC Transition**

Lag Hold Phases	_____	<C/5+1+A>
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**Coordinated Lag Hold Phases**

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

Begin Month	4	<C/5+2+A>
Begin Week	1	<C/5+2+B>
End Month	10	<C/5+2+C>
End Week	5	<C/5+2+D>

**Daylight Savings Time**

		Phase							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	5	0	1	0	5	7	0
1	Ped FDW	0	13	0	1	0	15	28	0
2	Min Green	5	7	4	0	5	7	5	5
3	Type 3 Disconnect	0	0	0	0	0	0	0	0
4	Added per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	Veh Extension	4.0	3.0	2.0	0.0	3.0	3.0	3.0	3.0
6	Max Gap	4.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0
7	Min Gap	4.0	3.0	0.5	0.0	3.0	3.0	3.0	3.0
8	Max Limit	20	45	20	0	20	45	35	45
9	Max Limit 2	40	0	30	0	0	0	0	0
A	Adv. / Delay Walk	0	35	0	0	0	35	7	0
B	PE Min Ped FDW	0	0	7	0	0	0	0	0
C	Cond Serv Check	0	0	10	0	0	0	0	0
D	Reduce Every	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
E	Yellow Change	4.0	4.0	3.0	0.0	4.0	4.0	4.0	4.0
F	Red Clear	1.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 3 <C+0+F=3>

	9	A	B	C	D
Phase 1	0	0	0	0	0.0
Phase 2	20	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	20	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	20	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	20	0	0	0	0.0

Alternate Timing

Time B4 Yellow	0.0	<F/1+C+E>
Phase Number	0	<F/1+C+F>

**Advance Warning Beacon - Sign 1**

Time B4 Yellow	0.0	<F/1+D+E>
Phase Number	0	<F/1+D+F>

**Advance Warning Beacon - Sign 2**

Column Numbers ---->		0	1	2	3	1	3
Row	Detector Name	C1 Pin Number	Attributes	Phase(s)	Assign	Delay	Carry-over
0		39	45 7	2	123	0.0	0.0
1		40	45 7	6	123	0.0	0.0
2		41	45 7	4	123	0.0	0.0
3		42	45 7	8	123	0.0	0.0
4		43	45 7	2	123	0.0	0.0
5		44	45 7	6	123	0.0	0.0
6		45	45 7	4	123	0.0	0.0
7		46	45 7	8	123	0.0	0.0
8		47	67	2	123	0.0	0.0
9		48	67	6	123	0.0	0.0
A		49	67	4	123	0.0	0.0
B		50	67	8	123	0.0	0.0
C		55	45 7	5	123	0.0	0.0
D		56	45 7	1	123	0.0	0.0
E		57	45 7	7	123	0.0	0.0
F		58	45 7	3	123	0.0	0.0

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

Redirect Phase Outputs <C+0+E=127>

Cabinet Type  <E/125+D+0>

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

Max OFF (minutes)  <D/0+0+1>

Max ON (minutes)  <D/0+0+2>

**Detector Failure Monitor**

Column Numbers ---->		4	5	6	7	2	4
Row	Detector Name	C1 Pin Number	Attributes	Phase(s)	Assign	Delay	Carry-over
0		59	45 7	5	123	0.0	0.0
1		60	45 7	1	123	0.0	0.0
2		61	45 7	7	123	5.0	0.0
3		62	45 7	3	123	0.0	0.0
4		63	45 7	2	123	0.0	0.0
5		64	45 7	6	123	0.0	0.0
6		65	45 7	4	123	0.0	0.0
7		66	45 7	8	123	0.0	0.0
8		67	2	2	123	0.0	0.0
9		68	2	6	123	0.0	0.0
A		69	2	7	123	0.0	0.0
B		70	2	8	123	0.0	0.0
C		76	45 7	2	123	0.0	0.0
D		77	45 7	6	123	0.0	0.0
E		78	45 7	4	123	0.0	0.0
F		79	45 7	8	123	0.0	0.0

**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

Detector Assignments <C+0+E=126>

<C+0+D=0>

**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	0	A
DELAY-B	0	B
DELAY-C	0	C
DELAY-D	0	D
DELAY-E	0	E
DELAY-F	0	F

**Delay Logic Times**  
<C+0+D=0> (seconds)

Omit Alarm  <C/5+F+0>

**Disable Alarm Reporting**

Table with columns: Row, Time, Plan, Offset, Day of Week. Rows 0-9, A-F.

TOD Coordination <C+0+9=0.1> (Bank 1)

Table with columns: Time, Funct., Day of Week. Rows 0-9, A-F.

TOD Function <C+0+7=0.1>

Table with columns: Column 4 Phases/Bits. Rows 0-9, A-F.

<C+0+E=27>

Table with columns: Day, Year, Month, Holiday Type. Rows 0-9, A-F.

Holiday Dates <C+0+8=1.1> (Bank 1)

Table with columns: Time, Plan, Offset, Holiday Type. Rows 0-9, A-F.

Holiday Events <C+0+9=1.1> (Bank 1)

- T.O.D. Functions
0 =
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 4 - Disable Detector OFF Monitor
Bit 5 - Disable Low Priority Preempt
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 8

Table with columns: Row, Time, Plan, Offset, Day of Week. Rows 0-9, A-F.

TOD Coordination <C+0+9=0.2> (Bank 2)

Table with columns: Time, Funct., Holiday Type. Rows 0-9, A-F.

Holiday TOD Function <C+0+7=0.2>

Table with columns: Column 4 Phases/Bits. Rows 0-9, A-F.

<C+0+E=28>

Table with columns: Day, Year, Month, Holiday Type. Rows 0-9, A-F.

Holiday Dates <C+0+8=1.2> (Bank 2)

Table with columns: Time, Plan, Offset, Holiday Type. Rows 0-9, A-F.

Holiday Events <C+0+9=1.2> (Bank 2)

- Plan Select
1 thru 9 = Coordination Plan 1 thru 9
14 or E = Free
15 or F = Flash
Offset Select
A = Offset A
B = Offset B
C = Offset C
Month Select
1 = January
2 = February
3 = March
4 = April
5 = May
6 = June
7 = July
8 = August
9 = September
A = October
B = November
C = December

Row	6 Clear	7 Time	8 Ped Call	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output
0		0								
1		0								
2		0								
3		0								
4		0								
5		0								
6		0								
7		0								
8		0								
9		0								
A		0								
B		0								
C		0								
D		0								
E		0								
F		0								

Special Event Schedule -- Table 1

<C+0+E=27>

Notes:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

0 <E/27+5+F>  
**Limited Service Interval**

Row	6 Clear	7 Time	8 Ped Call	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output
0		0								
1		0								
2		0								
3		0								
4		0								
5		0								
6		0								
7		0								
8		0								
9		0								
A		0								
B		0								
C		0								
D		0								
E		0								
F		0								

Special Event Schedule -- Table 2

<C+0+E=28>

Notes:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

0 <E/28+5+F>  
**Limited Service Interval**

Min Time (seconds)  <F/1+0+8>  
**Min Green Before PE Force Off**

Max Time (minutes)  <F/1+0+9>  
**Max Preempt Time Before Failure**

Min Time (seconds)  <F/1+0+A>  
**Min Time Between Same Preempts**  
 (Does Not Apply To Railroad Preempt)

Low Pri. Channel  <E/125+C+8>  
**Disable Low Priority Channel**

- Low Priority  
 1 = Channel A  
 2 = Channel B  
 3 = Channel C  
 4 = Channel D

Delay Time (seconds)  <F/1+A+D>  
**Bus Delay**

Max Time (seconds)  <F/1+A+E>  
**Max Early Green**

Max Time (seconds)  <F/1+A+F>  
**Max Green Extension**

Row	Time	Headway	Direction	Day of Week
0	00 : 00	0	0	_____
1	00 : 00	0	0	_____
2	00 : 00	0	0	_____
3	00 : 00	0	0	_____
4	00 : 00	0	0	_____
5	00 : 00	0	0	_____
6	00 : 00	0	0	_____
7	00 : 00	0	0	_____
8	00 : 00	0	0	_____
9	00 : 00	0	0	_____
A	00 : 00	0	0	_____
B	00 : 00	0	0	_____
C	00 : 00	0	0	_____
D	00 : 00	0	0	_____
E	00 : 00	0	0	_____
F	00 : 00	0	0	_____

- Headway Time  
 (minutes)  
 1 thru 9 = 1 thru 9  
 A = 10  
 B = 11  
 C = 12  
 D = 13  
 E = 14  
 F = 15

**Headway** <C+0+9=2.1>

**Low Priority Preemption (Bus Priority)**

Only available with *Program 233RV2.B* (and above)

Note: Also see "Time of Day Functions", Function E, Bit 5 (Disable Low Priority)

## Appendix B Traffic Counts

RANCHO SANTA FE - MELROSE TO SAN ELIJO

AM	NB	SB	EB	WB	PM	NB	SB	EB	WB
00:00	45	44			12:00	208	221		
00:15	48	23			12:15	208	238		
00:30	31	16			12:30	199	240		
00:45	31	155	26	109	12:45	228	843	225	924
01:00	18	25			13:00	186	229		
01:15	21	20			13:15	222	219		
01:30	23	9			13:30	244	221		
01:45	15	77	8	62	13:45	211	863	213	882
02:00	13	10			14:00	204	218		
02:15	19	7			14:15	248	187		
02:30	14	12			14:30	201	214		
02:45	12	58	7	36	14:45	222	875	201	820
03:00	7	7			15:00	235	207		
03:15	11	16			15:15	222	189		
03:30	10	11			15:30	212	201		
03:45	9	37	23	57	15:45	217	886	194	791
04:00	7	12			16:00	195	225		
04:15	6	19			16:15	228	207		
04:30	7	27			16:30	208	197		
04:45	14	34	24	82	16:45	218	849	184	813
05:00	10	31			17:00	231	172		
05:15	13	37			17:15	194	197		
05:30	15	44			17:30	159	207		
05:45	13	51	57	169	17:45	217	801	189	765
06:00	19	40			18:00	146	203		
06:15	22	54			18:15	163	161		
06:30	32	50			18:30	139	160		
06:45	41	114	84	228	18:45	135	583	164	688
07:00	43	73			19:00	133	125		
07:15	69	85			19:15	137	106		
07:30	56	130			19:30	102	95		
07:45	73	241	112	400	19:45	107	479	85	411
08:00	59	104			20:00	120	98		
08:15	86	106			20:15	111	79		
08:30	85	174			20:30	115	78		
08:45	110	340	190	574	20:45	104	450	79	334
09:00	115	142			21:00	85	69		
09:15	135	164			21:15	106	66		
09:30	110	190			21:30	92	72		
09:45	162	522	161	657	21:45	70	353	77	284
10:00	127	198			22:00	63	80		
10:15	193	203			22:15	52	60		
10:30	198	218			22:30	56	48		
10:45	189	707	253	872	22:45	44	215	47	235
11:00	179	192			23:00	42	52		
11:15	208	208			23:15	30	46		
11:30	207	183			23:30	32	41		
11:45	208	802	245	828	23:45	23	127	32	171

**Total Vol.** 3138 4074 **7212** 7324 7118 **14442**

		Daily Totals					
		NB	SB	EB	WB	Combined	
		10462	11192			21654	

	AM			PM		
Split %	43.5%	56.5%	<b>33.3%</b>	50.7%	49.3%	<b>66.7%</b>
Peak Hour	11:15	11:45	<b>11:45</b>	13:30	12:15	<b>12:45</b>
Volume	831	944	<b>1767</b>	907	932	<b>1774</b>
P.H.F.	1.00	0.96	<b>0.98</b>	0.88	0.97	<b>0.95</b>

RANCHO SANTA FE - MELROSE TO SAN ELIJO

AM	NB	SB	EB	WB		PM	NB	SB	EB	WB	
00:00	24	15				12:00	273	230			
00:15	23	17				12:15	243	259			
00:30	12	21				12:30	232	240			
00:45	10	69	7	60	129	12:45	229	977	268	997	1974
01:00	7	12				13:00	223	254			
01:15	9	8				13:15	243	244			
01:30	5	6				13:30	235	267			
01:45	8	29	6	32	61	13:45	226	927	253	1018	1945
02:00	9	7				14:00	231	253			
02:15	4	5				14:15	246	261			
02:30	5	6				14:30	324	279			
02:45	6	24	13	31	55	14:45	324	1125	263	1056	2181
03:00	7	7				15:00	266	270			
03:15	3	16				15:15	310	324			
03:30	4	17				15:30	376	308			
03:45	4	18	28	68	86	15:45	300	1252	286	1188	2440
04:00	9	19				16:00	397	280			
04:15	7	31				16:15	331	300			
04:30	18	39				16:30	367	314			
04:45	20	54	61	150	204	16:45	352	1447	326	1220	2667
05:00	30	56				17:00	362	315			
05:15	38	75				17:15	366	350			
05:30	43	113				17:30	359	352			
05:45	78	189	157	401	590	17:45	326	1413	292	1309	2722
06:00	69	179				18:00	294	242			
06:15	81	276				18:15	305	231			
06:30	81	271				18:30	256	208			
06:45	113	344	346	1072	1416	18:45	249	1104	213	894	1998
07:00	142	383				19:00	177	177			
07:15	192	431				19:15	234	164			
07:30	262	469				19:30	160	141			
07:45	240	836	408	1691	2527	19:45	137	708	127	609	1317
08:00	266	374				20:00	121	106			
08:15	222	408				20:15	134	128			
08:30	200	410				20:30	123	97			
08:45	220	908	361	1553	2461	20:45	137	515	98	429	944
09:00	188	283				21:00	105	129			
09:15	195	292				21:15	106	79			
09:30	171	292				21:30	91	82			
09:45	198	752	269	1136	1888	21:45	104	406	76	366	772
10:00	179	255				22:00	80	75			
10:15	194	286				22:15	83	51			
10:30	178	276				22:30	69	49			
10:45	162	713	253	1070	1783	22:45	76	308	35	210	518
11:00	211	243				23:00	42	26			
11:15	217	262				23:15	46	35			
11:30	188	261				23:30	37	34			
11:45	216	832	253	1019	1851	23:45	33	158	15	110	268

<b>Total Vol.</b>	4768	8283	<b>13051</b>		10340	9406		<b>19746</b>
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Daily Totals

NB	SB	EB	WB	Combined
15108	17689			<b>32797</b>

AM

PM

Split %	36.5%	63.5%	<b>39.8%</b>	52.4%	47.6%	<b>60.2%</b>
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<b>Peak Hour</b>	07:30	07:00	<b>07:30</b>	16:00	16:45	<b>16:45</b>
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<b>Volume</b>	990	1691	<b>2649</b>	1447	1343	<b>2782</b>
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<b>P.H.F.</b>	0.93	0.90	<b>0.91</b>	0.92	0.95	<b>0.97</b>
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RANCHO SANTA FE - SAN ELIJO TO AVENIDA SOLEDAD

AM					PM						
AM	NB	SB	EB	WB	PM	NB	SB	EB	WB		
00:00	66	46			12:00	293	291				
00:15	63	36			12:15	307	313				
00:30	65	18			12:30	294	322				
00:45	34	228	22	122	350	12:45	352	1246	316	1242	2488
01:00	21	21			13:00	298	319				
01:15	32	25			13:15	319	288				
01:30	27	10			13:30	352	297				
01:45	25	105	9	65	170	13:45	298	1267	281	1185	2452
02:00	26	10			14:00	334	288				
02:15	19	9			14:15	348	237				
02:30	18	16			14:30	326	243				
02:45	11	74	13	48	122	14:45	315	1323	229	997	2320
03:00	16	9			15:00	351	220				
03:15	15	10			15:15	330	241				
03:30	12	7			15:30	338	211				
03:45	12	55	23	49	104	15:45	313	1332	209	881	2213
04:00	6	17			16:00	288	223				
04:15	5	31			16:15	337	245				
04:30	9	31			16:30	331	221				
04:45	16	36	33	112	148	16:45	328	1284	206	895	2179
05:00	10	46			17:00	329	219				
05:15	11	40			17:15	279	206				
05:30	19	69			17:30	266	233				
05:45	19	59	72	227	286	17:45	300	1174	218	876	2050
06:00	28	65			18:00	233	212				
06:15	28	73			18:15	237	178				
06:30	44	87			18:30	244	177				
06:45	57	157	101	326	483	18:45	234	948	160	727	1675
07:00	47	134			19:00	202	163				
07:15	74	116			19:15	213	124				
07:30	84	176			19:30	152	110				
07:45	90	295	151	577	872	19:45	186	753	102	499	1252
08:00	91	161			20:00	182	94				
08:15	114	177			20:15	185	69				
08:30	112	289			20:30	188	86				
08:45	137	454	311	938	1392	20:45	156	711	82	331	1042
09:00	129	203			21:00	136	79				
09:15	177	233			21:15	144	71				
09:30	143	278			21:30	129	70				
09:45	225	674	268	982	1656	21:45	103	512	69	289	801
10:00	189	278			22:00	99	82				
10:15	230	315			22:15	76	62				
10:30	272	311			22:30	88	46				
10:45	249	940	341	1245	2185	22:45	58	321	46	236	557
11:00	275	297			23:00	62	48				
11:15	313	261			23:15	48	49				
11:30	312	317			23:30	45	39				
11:45	287	1187	329	1204	2391	23:45	30	185	28	164	349

**Total Vol.** 4264 5895 **10159** 11056 8322 **19378**

Daily Totals					Combined
NB	SB	EB	WB		
15320	14217				<b>29537</b>

Split %	AM			PM		
	42.0%	58.0%	<b>34.4%</b>	57.1%	42.9%	<b>65.6%</b>
<b>Peak Hour</b>	11:15	10:15	<b>11:30</b>	14:15	12:15	<b>12:45</b>
<b>Volume</b>	1205	1264	<b>2449</b>	1340	1270	<b>2541</b>
<b>P.H.F.</b>	0.96	0.93	<b>0.97</b>	0.94	0.99	<b>0.95</b>

RANCHO SANTA FE - SAN ELIJO TO AVENIDA SOLEDAD

AM	NB	SB	EB	WB		PM	NB	SB	EB	WB	
00:00	35	16				12:00	370	323			
00:15	27	12				12:15	343	347			
00:30	25	13				12:30	353	328			
00:45	15	102	8	49	151	12:45	314	1380	355	1353	2733
01:00	12	11				13:00	302	336			
01:15	11	9				13:15	360	322			
01:30	10	7				13:30	368	345			
01:45	11	44	4	31	75	13:45	351	1381	341	1344	2725
02:00	10	10				14:00	350	332			
02:15	7	6				14:15	377	344			
02:30	5	8				14:30	455	371			
02:45	6	28	13	37	65	14:45	450	1632	315	1362	2994
03:00	9	10				15:00	429	336			
03:15	2	16				15:15	475	335			
03:30	5	12				15:30	550	380			
03:45	6	22	33	71	93	15:45	487	1941	346	1397	3338
04:00	11	27				16:00	551	358			
04:15	11	35				16:15	567	364			
04:30	24	48				16:30	568	367			
04:45	21	67	71	181	248	16:45	563	2249	383	1472	3721
05:00	27	83				17:00	554	396			
05:15	48	125				17:15	587	416			
05:30	55	173				17:30	576	412			
05:45	94	224	241	622	846	17:45	518	2235	365	1589	3824
06:00	89	259				18:00	419	274			
06:15	100	402				18:15	470	299			
06:30	132	438				18:30	431	234			
06:45	152	473	578	1677	2150	18:45	348	1668	247	1054	2722
07:00	195	644				19:00	284	212			
07:15	227	623				19:15	335	171			
07:30	287	627				19:30	288	161			
07:45	266	975	646	2540	3515	19:45	259	1166	147	691	1857
08:00	300	591				20:00	222	130			
08:15	286	618				20:15	229	143			
08:30	269	624				20:30	187	111			
08:45	250	1105	562	2395	3500	20:45	207	845	113	497	1342
09:00	232	451				21:00	175	129			
09:15	244	423				21:15	166	107			
09:30	251	427				21:30	159	96			
09:45	249	976	389	1690	2666	21:45	139	639	94	426	1065
10:00	229	362				22:00	123	83			
10:15	246	391				22:15	125	71			
10:30	241	346				22:30	103	53			
10:45	235	951	326	1425	2376	22:45	85	436	50	257	693
11:00	271	338				23:00	71	31			
11:15	294	358				23:15	66	40			
11:30	272	338				23:30	48	33			
11:45	289	1126	331	1365	2491	23:45	52	237	20	124	361

**Total Vol.** 6093 12083 **18176** 15809 11566 **27375**

Daily Totals

NB	SB	EB	WB	Combined
21902	23649			45551

AM

PM

Split %	33.5%	66.5%	39.9%	57.7%	42.3%	60.1%
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**Peak Hour** 11:45 07:00 **07:30** 16:45 16:45 **16:45**

**Volume** 1355 2540 **3621** 2280 1607 **3887**

**P.H.F.** 0.92 0.98 **0.99** 0.98 0.97 **0.97**

SUNDAY - DECEMBER 15, 2019

AREA: SAN MARCOS

PROJECT: ETD19-1220-01

SAN ELIJO - RANCHO SANTA FE TO MELROSE

AM	NB	SB	EB	WB		PM	NB	SB	EB	WB			
00:00			32	16		12:00			141	98			
00:15			31	23		12:15			144	129			
00:30			31	17		12:30			144	134			
00:45			20	114	9	12:45			180	609	128	489	1098
01:00			12	12		13:00			136	133			
01:15			18	14		13:15			160	134			
01:30			8	9		13:30			169	123			
01:45			13	51	7	13:45			164	629	121	511	1140
02:00			14	11		14:00			157	124			
02:15			7	5		14:15			176	124			
02:30			6	3		14:30			162	125			
02:45			4	31	7	14:45			155	650	127	500	1150
03:00			7	4		15:00			185	119			
03:15			5	4		15:15			151	119			
03:30			4	4		15:30			169	131			
03:45			8	24	8	15:45			127	632	130	499	1131
04:00			5	9		16:00			153	122			
04:15			5	10		16:15			146	116			
04:30			5	7		16:30			162	131			
04:45			11	26	19	16:45			171	632	119	488	1120
05:00			6	17		17:00			146	139			
05:15			7	18		17:15			134	141			
05:30			8	25		17:30			138	112			
05:45			11	32	24	17:45			129	547	73	465	1012
06:00			11	24		18:00			116	88			
06:15			11	33		18:15			100	82			
06:30			23	41		18:30			134	86			
06:45			16	61	34	18:45			130	480	66	322	802
07:00			27	70		19:00			110	65			
07:15			28	53		19:15			96	49			
07:30			39	80		19:30			80	62			
07:45			48	142	74	19:45			95	381	44	220	601
08:00			55	61		20:00			85	58			
08:15			61	90		20:15			85	43			
08:30			66	152		20:30			95	55			
08:45			69	251	136	20:45			70	335	39	195	530
09:00			57	116		21:00			63	36			
09:15			83	116		21:15			65	31			
09:30			91	127		21:30			47	24			
09:45			108	339	139	21:45			41	216	33	124	340
10:00			105	124		22:00			42	34			
10:15			116	148		22:15			36	11			
10:30			126	144		22:30			39	16			
10:45			126	473	151	22:45			24	141	19	80	221
11:00			116	127		23:00			23	10			
11:15			163	119		23:15			23	14			
11:30			151	143		23:30			16	11			
11:45			135	565	150	23:45			14	76	9	44	120

**Total Vol.** 2109 2734 **4843** 5328 3937 **9265**

Daily Totals				
NB	SB	EB	WB	Combined
		7437	6671	<b>14108</b>

Split %	AM			PM		
	43.5%	56.5%	<b>34.3%</b>	57.5%	42.5%	<b>65.7%</b>
<b>Peak Hour</b>	11:15	10:15	<b>11:00</b>	14:15	16:30	<b>14:15</b>
<b>Volume</b>	590	570	<b>1104</b>	678	530	<b>1173</b>
<b>P.H.F.</b>	0.90	0.94	<b>0.94</b>	0.92	0.94	<b>0.96</b>

TUESDAY - DECEMBER 17, 2019

AREA: SAN MARCOS

PROJECT: ETD19-1220-01

SAN ELIJO - RANCHO SANTA FE TO MELROSE

AM	NB	SB	EB	WB	PM	NB	SB	EB	WB			
00:00			15	9	12:00			153	129			
00:15			7	4	12:15			143	127			
00:30			13	3	12:30			169	124			
00:45			7	42	6	22	64	148	613	126	506	1119
01:00			6	2	13:00			136	119			
01:15			3	2	13:15			169	136			
01:30			6	1	13:30			196	142			
01:45			5	20	1	6	26	173	674	133	530	1204
02:00			2	4	14:00			203	140			
02:15			5	1	14:15			207	139			
02:30			1	4	14:30			197	135			
02:45			2	10	3	12	22	243	850	129	543	1393
03:00			3	4	15:00			201	165			
03:15			0	6	15:15			272	150			
03:30			4	4	15:30			277	143			
03:45			5	12	8	22	34	247	997	156	614	1611
04:00			8	15	16:00			310	149			
04:15			10	14	16:15			291	167			
04:30			15	26	16:30			276	150			
04:45			11	44	42	97	141	290	1167	172	638	1805
05:00			14	46	17:00			313	159			
05:15			20	64	17:15			322	181			
05:30			27	80	17:30			282	171			
05:45			37	98	111	301	399	241	1158	162	673	1831
06:00			48	110	18:00			212	144			
06:15			56	169	18:15			248	124			
06:30			88	218	18:30			233	139			
06:45			109	301	297	794	1095	187	880	95	502	1382
07:00			140	311	19:00			137	77			
07:15			162	261	19:15			156	82			
07:30			163	288	19:30			149	54			
07:45			145	610	272	1132	1742	141	583	52	265	848
08:00			149	291	20:00			119	55			
08:15			124	280	20:15			117	60			
08:30			142	272	20:30			92	36			
08:45			131	546	238	1081	1627	93	421	34	185	606
09:00			120	218	21:00			89	40			
09:15			102	178	21:15			70	45			
09:30			107	182	21:30			85	37			
09:45			101	430	163	741	1171	51	295	28	150	445
10:00			100	147	22:00			62	35			
10:15			93	148	22:15			47	29			
10:30			95	108	22:30			47	39			
10:45			109	397	109	512	909	35	191	32	135	326
11:00			107	132	23:00			39	23			
11:15			120	136	23:15			25	10			
11:30			118	114	23:30			19	7			
11:45			116	461	115	497	958	24	107	8	48	155

**Total Vol.** 2971 5217 **8188** 7936 4789 **12725**

**Daily Totals**

NB	SB	EB	WB	Combined
		10907	10006	<b>20913</b>

**AM**

**Split %** 36.3% 63.7% **39.2%**

**PM**

**Split %** 62.4% 37.6% **60.8%**

Peak Hour	AM	PM	Combined
	07:15 06:45 <b>07:00</b>	16:45 16:45	<b>16:45</b>
<b>Volume</b>	619 1157 <b>1742</b>	1207 683	<b>1890</b>
<b>P.H.F.</b>	0.95 0.93 <b>0.97</b>	0.94 0.94	<b>0.94</b>



SAN ELIJO - PROJECT DWY TO BAKER

AM	NB	SB	EB	WB		PM	NB	SB	EB	WB			
00:00			16	14		12:00			176	171			
00:15			10	4		12:15			201	205			
00:30			13	4		12:30			177	186			
00:45			12	51	6	12:45			276	830	173	735	1565
01:00			7	2		13:00			193	203			
01:15			4	3		13:15			236	184			
01:30			5	2		13:30			240	187			
01:45			3	19	3	13:45			245	914	161	735	1649
02:00			2	2		14:00			294	189			
02:15			2	2		14:15			319	237			
02:30			3	5		14:30			318	406			
02:45			2	9	2	14:45			303	1234	235	1067	2301
03:00			3	3		15:00			299	230			
03:15			1	7		15:15			354	237			
03:30			3	6		15:30			419	282			
03:45			8	15	9	15:45			395	1467	233	982	2449
04:00			6	14		16:00			440	238			
04:15			8	12		16:15			408	230			
04:30			19	25		16:30			434	226			
04:45			10	43	35	16:45			425	1707	259	953	2660
05:00			13	48		17:00			443	228			
05:15			22	76		17:15			406	233			
05:30			30	103		17:30			412	237			
05:45			31	96	140	17:45			427	1688	221	919	2607
06:00			44	143		18:00			440	191			
06:15			63	205		18:15			295	181			
06:30			85	273		18:30			279	185			
06:45			162	354	386	18:45			222	1236	158	715	1951
07:00			193	453		19:00			199	121			
07:15			291	509		19:15			199	118			
07:30			333	559		19:30			189	93			
07:45			204	1021	502	19:45			162	749	94	426	1175
08:00			202	433		20:00			150	79			
08:15			144	403		20:15			141	89			
08:30			184	359		20:30			109	55			
08:45			159	689	368	20:45			111	511	51	274	785
09:00			160	292		21:00			104	57			
09:15			127	267		21:15			108	62			
09:30			139	254		21:30			91	42			
09:45			123	549	202	21:45			59	362	45	206	568
10:00			133	177		22:00			25	44			
10:15			105	178		22:15			3	39			
10:30			129	171		22:30			2	21			
10:45			129	496	137	22:45			2	32	25	129	161
11:00			151	159		23:00			2	22			
11:15			148	171		23:15			47	13			
11:30			165	144		23:30			35	11			
11:45			168	632	154	23:45			20	104	10	56	160

<b>Total Vol.</b>		3974	7426	<b>11400</b>				10834	7197	<b>18031</b>
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Daily Totals				
NB	SB	EB	WB	Combined
		14808	14623	<b>29431</b>

Split %	AM			PM		
			<b>38.7%</b>			<b>61.3%</b>
<b>Peak Hour</b>	07:15	07:00	<b>07:00</b>	16:15	14:15	<b>16:00</b>
<b>Volume</b>	1030	2023	<b>3044</b>	1710	1108	<b>2660</b>
<b>P.H.F.</b>	0.77	0.90	<b>0.85</b>	0.97	0.68	<b>0.97</b>

SUNDAY - DECEMBER 15, 2019

AREA: SAN MARCOS

PROJECT: ETD19-1220-01

SAN ELIJO SOUTH - BAKER TO ELFIN FOREST

AM					PM				
AM	NB	SB	EB	WB	PM	NB	SB	EB	WB
00:00			33		12:00			174	
00:15			38		12:15			206	
00:30			27		12:30			202	
00:45			29	127	12:45			222	804
01:00			11		13:00			203	
01:15			18		13:15			229	
01:30			15		13:30			208	
01:45			12	56	13:45			210	850
02:00			14		14:00			196	
02:15			7		14:15			228	
02:30			8		14:30			195	
02:45			5	34	14:45			191	810
03:00			8		15:00			210	
03:15			5		15:15			198	
03:30			4		15:30			203	
03:45			4	21	15:45			189	800
04:00			8		16:00			196	
04:15			0		16:15			213	
04:30			5		16:30			211	
04:45			3	16	16:45			191	811
05:00			7		17:00			221	
05:15			4		17:15			182	
05:30			6		17:30			202	
05:45			12	29	17:45			175	780
06:00			9		18:00			146	
06:15			21		18:15			152	
06:30			20		18:30			168	
06:45			32	82	18:45			155	621
07:00			31		19:00			141	
07:15			33		19:15			124	
07:30			54		19:30			101	
07:45			71	189	19:45			115	481
08:00			63		20:00			98	
08:15			82		20:15			102	
08:30			83		20:30			103	
08:45			83	311	20:45			98	401
09:00			99		21:00			70	
09:15			110		21:15			71	
09:30			128		21:30			62	
09:45			138	475	21:45			49	252
10:00			134		22:00			45	
10:15			144		22:15			50	
10:30			155		22:30			47	
10:45			159	592	22:45			31	173
11:00			151		23:00			27	
11:15			160		23:15			24	
11:30			180		23:30			12	
11:45			184	675	23:45			15	78

**Total Vol.** 2607 **2607** 6861 **6861**

Daily Totals				
NB	SB	EB	WB	Combined
		9468		<b>9468</b>

Split %	AM		PM	
	100.0%	27.5%	100.0%	72.5%
<b>Peak Hour</b>	11:45	<b>11:45</b>	12:45	<b>12:45</b>
<b>Volume</b>	766	<b>766</b>	862	<b>862</b>
<b>P.H.F.</b>	0.93	<b>0.93</b>	0.94	<b>0.94</b>

TUESDAY - DECEMBER 17, 2019

AREA: SAN MARCOS

PROJECT: ETD19-1220-01

SAN ELIJO SOUTH - BAKER TO ELFIN FOREST

AM	NB	SB	EB	WB	PM	NB	SB	EB	WB
00:00			16		12:00			167	
00:15			11		12:15			210	
00:30			11		12:30			176	
00:45			11	49	12:45			266	819
01:00			6		13:00			224	
01:15			4		13:15			252	
01:30			4		13:30			252	
01:45			3	17	13:45			250	978
02:00			2		14:00			272	
02:15			3		14:15			232	
02:30			3		14:30			318	
02:45			2	10	14:45			293	1115
03:00			3		15:00			306	
03:15			1		15:15			333	
03:30			3		15:30			435	
03:45			7	14	15:45			373	1447
04:00			7		16:00			419	
04:15			5		16:15			405	
04:30			16		16:30			428	
04:45			8	36	16:45			434	1686
05:00			9		17:00			421	
05:15			28		17:15			405	
05:30			27		17:30			390	
05:45			28	92	17:45			422	1638
06:00			41		18:00			403	
06:15			57		18:15			328	
06:30			82		18:30			303	
06:45			164	344	18:45			264	1298
07:00			182		19:00			204	
07:15			247		19:15			208	
07:30			256		19:30			185	
07:45			214	899	19:45			177	774
08:00			197		20:00			162	
08:15			160		20:15			154	
08:30			183		20:30			119	
08:45			166	706	20:45			106	541
09:00			152		21:00			124	
09:15			138		21:15			112	
09:30			154		21:30			93	
09:45			137	581	21:45			62	391
10:00			146		22:00			34	
10:15			129		22:15			5	
10:30			135		22:30			9	
10:45			130	540	22:45			6	54
11:00			166		23:00			6	
11:15			148		23:15			46	
11:30			167		23:30			35	
11:45			172	653	23:45			19	106

**Total Vol.** 3941 3941 10847 10847

Daily Totals				
NB	SB	EB	WB	Combined
		14788		14788

Split %	AM		PM	
	100.0%	26.6%	100.0%	73.4%
<b>Peak Hour</b>	07:15	07:15	16:15	16:15
<b>Volume</b>	914	914	1688	1688
<b>P.H.F.</b>	0.89	0.89	0.97	0.97

SAN ELIJO SOUTH - ELFIN FOREST TO SCHOOLHOUSE WAY

AM	NB	SB	EB	WB	PM	NB	SB	EB	WB
00:00			30		12:00			141	
00:15			29		12:15			174	
00:30			24		12:30			157	
00:45			18	101	12:45			178	650
01:00			12		13:00			162	
01:15			16		13:15			168	
01:30			9		13:30			161	
01:45			10	47	13:45			169	660
02:00			13		14:00			154	
02:15			6		14:15			164	
02:30			9		14:30			145	
02:45			4	32	14:45			143	606
03:00			8		15:00			160	
03:15			6		15:15			145	
03:30			1		15:30			155	
03:45			4	19	15:45			164	624
04:00			7		16:00			151	
04:15			3		16:15			160	
04:30			4		16:30			187	
04:45			4	18	16:45			154	652
05:00			9		17:00			186	
05:15			6		17:15			139	
05:30			6		17:30			147	
05:45			10	31	17:45			126	598
06:00			9		18:00			119	
06:15			19		18:15			124	
06:30			21		18:30			135	
06:45			28	77	18:45			124	502
07:00			32		19:00			123	
07:15			31		19:15			101	
07:30			51		19:30			85	
07:45			48	162	19:45			99	408
08:00			59		20:00			76	
08:15			54		20:15			82	
08:30			77		20:30			95	
08:45			75	265	20:45			72	325
09:00			83		21:00			47	
09:15			82		21:15			58	
09:30			119		21:30			51	
09:45			102	386	21:45			40	196
10:00			113		22:00			35	
10:15			114		22:15			36	
10:30			124		22:30			42	
10:45			128	479	22:45			20	133
11:00			113		23:00			23	
11:15			144		23:15			17	
11:30			169		23:30			14	
11:45			171	597	23:45			14	68

**Total Vol.** 2214 2214 5422 5422

Daily Totals				
NB	SB	EB	WB	Combined
		7636		7636

Split %	AM		PM	
	100.0%	29.0%	100.0%	71.0%
<b>Peak Hour</b>	11:30	11:30	16:15	16:15
<b>Volume</b>	655	655	687	687
<b>P.H.F.</b>	0.94	0.94	0.92	0.92

TUESDAY - DECEMBER 17, 2019

AREA: SAN MARCOS

PROJECT: ETD19-1220-01

SAN ELIJO SOUTH - ELFIN FOREST TO SCHOOLHOUSE WAY

AM	NB	SB	EB	WB	PM	NB	SB	EB	WB
00:00			14		12:00			144	
00:15			7		12:15			167	
00:30			8		12:30			151	
00:45			10	39	12:45			193	655
01:00			5		13:00			179	
01:15			6		13:15			197	
01:30			5		13:30			187	
01:45			4	20	13:45			194	757
02:00			1		14:00			185	
02:15			1		14:15			194	
02:30			3		14:30			255	
02:45			2	7	14:45			226	860
03:00			4		15:00			214	
03:15			2		15:15			207	
03:30			4		15:30			296	
03:45			4	14	15:45			258	975
04:00			4		16:00			267	
04:15			7		16:15			258	
04:30			13		16:30			293	
04:45			13	37	16:45			292	1110
05:00			16		17:00			293	
05:15			26		17:15			269	
05:30			30		17:30			271	
05:45			36	108	17:45			326	1159
06:00			33		18:00			279	
06:15			51		18:15			269	
06:30			63		18:30			224	
06:45			108	255	18:45			201	973
07:00			116		19:00			178	
07:15			142		19:15			159	
07:30			142		19:30			147	
07:45			165	565	19:45			134	618
08:00			134		20:00			127	
08:15			151		20:15			112	
08:30			138		20:30			104	
08:45			130	553	20:45			86	429
09:00			120		21:00			90	
09:15			114		21:15			84	
09:30			129		21:30			70	
09:45			109	472	21:45			53	297
10:00			114		22:00			23	
10:15			119		22:15			12	
10:30			123		22:30			21	
10:45			123	479	22:45			9	65
11:00			122		23:00			9	
11:15			131		23:15			42	
11:30			153		23:30			29	
11:45			121	527	23:45			17	97

**Total Vol.** 3076 **3076** 7995 **7995**

Daily Totals				
NB	SB	EB	WB	Combined
		11071		<b>11071</b>

Split %	AM		PM	
	100.0%	27.8%	100.0%	72.2%
<b>Peak Hour</b>	07:30	<b>07:30</b>	17:00	<b>17:00</b>
<b>Volume</b>	592	<b>592</b>	1159	<b>1159</b>
<b>P.H.F.</b>	0.90	<b>0.90</b>	0.89	<b>0.89</b>

SAN ELIJO NORTH - BAKER TO ELFIN FOREST

AM	NB	SB	EB	WB	PM	NB	SB	EB	WB		
00:00				20	12:00				166		
00:15				30	12:15				196		
00:30				16	12:30				204		
00:45				12	78	78			185	751	751
01:00				18	13:00				215		
01:15				16	13:15				199		
01:30				13	13:30				164		
01:45				7	54	54			170	748	748
02:00				10	14:00				174		
02:15				7	14:15				168		
02:30				2	14:30				181		
02:45				6	25	25			166	689	689
03:00				5	15:00				184		
03:15				4	15:15				181		
03:30				3	15:30				193		
03:45				7	19	19			184	742	742
04:00				10	16:00				173		
04:15				8	16:15				176		
04:30				6	16:30				212		
04:45				18	42	42			183	744	744
05:00				13	17:00				208		
05:15				16	17:15				186		
05:30				23	17:30				148		
05:45				34	86	86			112	654	654
06:00				32	18:00				129		
06:15				34	18:15				120		
06:30				37	18:30				113		
06:45				54	157	157			93	455	455
07:00				74	19:00				92		
07:15				81	19:15				88		
07:30				104	19:30				87		
07:45				91	350	350			82	349	349
08:00				108	20:00				74		
08:15				119	20:15				53		
08:30				177	20:30				80		
08:45				154	558	558			48	255	255
09:00				153	21:00				45		
09:15				189	21:15				40		
09:30				176	21:30				44		
09:45				192	710	710			49	178	178
10:00				191	22:00				44		
10:15				193	22:15				16		
10:30				206	22:30				26		
10:45				197	787	787			30	116	116
11:00				195	23:00				13		
11:15				172	23:15				14		
11:30				230	23:30				7		
11:45				200	797	797			10	44	44

**Total Vol.** 3663 **3663** 5725 **5725**

Daily Totals				
NB	SB	EB	WB	Combined
			9388	<b>9388</b>

Split %	AM		PM	
	100.0%	<b>39.0%</b>	100.0%	<b>61.0%</b>
<b>Peak Hour</b>	11:00	<b>11:00</b>	12:30	<b>12:30</b>
<b>Volume</b>	797	<b>797</b>	803	<b>803</b>
<b>P.H.F.</b>	0.87	<b>0.87</b>	0.93	<b>0.93</b>

TUESDAY - DECEMBER 17, 2019

AREA: SAN MARCOS

PROJECT: ETD19-1220-01

SAN ELIJO NORTH - BAKER TO ELFIN FOREST

AM	NB	SB	EB	WB	PM	NB	SB	EB	WB		
00:00				12	12:00				180		
00:15				5	12:15				196		
00:30				4	12:30				207		
00:45				6	27	27			165	748	748
01:00				2	13:00				206		
01:15				1	13:15				199		
01:30				3	13:30				202		
01:45				2	8	8			174	781	781
02:00				3	14:00				193		
02:15				1	14:15				235		
02:30				5	14:30				319		
02:45				2	11	11			208	955	955
03:00				4	15:00				233		
03:15				7	15:15				246		
03:30				8	15:30				279		
03:45				8	27	27			243	1001	1001
04:00				16	16:00				267		
04:15				12	16:15				235		
04:30				23	16:30				247		
04:45				37	88	88			268	1017	1017
05:00				45	17:00				240		
05:15				92	17:15				232		
05:30				106	17:30				279		
05:45				148	391	391			250	1001	1001
06:00				147	18:00				220		
06:15				214	18:15				181		
06:30				258	18:30				182		
06:45				389	1008	1008			153	736	736
07:00				430	19:00				135		
07:15				457	19:15				118		
07:30				449	19:30				102		
07:45				450	1786	1786			88	443	443
08:00				433	20:00				74		
08:15				396	20:15				100		
08:30				365	20:30				60		
08:45				357	1551	1551			65	299	299
09:00				306	21:00				54		
09:15				247	21:15				64		
09:30				260	21:30				48		
09:45				204	1017	1017			40	206	206
10:00				205	22:00				52		
10:15				177	22:15				43		
10:30				175	22:30				24		
10:45				148	705	705			28	147	147
11:00				166	23:00				21		
11:15				173	23:15				14		
11:30				157	23:30				14		
11:45				167	663	663			11	60	60

**Total Vol.** 7282 **7282** 7394 **7394**

Daily Totals				
NB	SB	EB	WB	Combined
			14676	<b>14676</b>

Split %	AM		PM	
	100.0%	<b>49.6%</b>	100.0%	<b>50.4%</b>
<b>Peak Hour</b>	07:15	<b>07:15</b>	15:15	<b>15:15</b>
<b>Volume</b>	1789	<b>1789</b>	1035	<b>1035</b>
<b>P.H.F.</b>	0.98	<b>0.98</b>	0.93	<b>0.93</b>

SUNDAY - DECEMBER 15, 2019

AREA: SAN MARCOS

PROJECT: ETD19-1220-01

SAN ELIJO NORTH - ELFIN FOREST TO SCHOOLHOUSE WAY

AM	NB	SB	EB	WB	PM	NB	SB	EB	WB		
00:00				18	12:00				117		
00:15				22	12:15				138		
00:30				14	12:30				164		
00:45				10	64	64			130	549	549
01:00				12	13:00				154		
01:15				16	13:15				159		
01:30				16	13:30				137		
01:45				8	52	52			129	579	579
02:00				9	14:00				136		
02:15				6	14:15				126		
02:30				3	14:30				143		
02:45				6	24	24			146	551	551
03:00				6	15:00				143		
03:15				6	15:15				142		
03:30				3	15:30				153		
03:45				5	20	20			162	600	600
04:00				9	16:00				142		
04:15				8	16:15				134		
04:30				6	16:30				176		
04:45				12	35	35			150	602	602
05:00				12	17:00				178		
05:15				16	17:15				161		
05:30				17	17:30				140		
05:45				27	72	72			110	589	589
06:00				17	18:00				117		
06:15				24	18:15				115		
06:30				30	18:30				89		
06:45				42	113	113			103	424	424
07:00				45	19:00				76		
07:15				54	19:15				90		
07:30				74	19:30				77		
07:45				71	244	244			79	322	322
08:00				68	20:00				73		
08:15				86	20:15				51		
08:30				123	20:30				75		
08:45				114	391	391			54	253	253
09:00				113	21:00				40		
09:15				122	21:15				38		
09:30				138	21:30				40		
09:45				135	508	508			39	157	157
10:00				129	22:00				43		
10:15				141	22:15				16		
10:30				150	22:30				22		
10:45				161	581	581			26	107	107
11:00				143	23:00				11		
11:15				126	23:15				13		
11:30				152	23:30				9		
11:45				148	569	569			4	37	37

**Total Vol.** 2673 2673 4770 4770

Daily Totals				
NB	SB	EB	WB	Combined
			7443	7443

Split %	AM		PM	
	100.0%	35.9%	100.0%	64.1%
<b>Peak Hour</b>	10:15	10:15	16:30	16:30
<b>Volume</b>	595	595	665	665
<b>P.H.F.</b>	0.92	0.92	0.93	0.93

TUESDAY - DECEMBER 17, 2019

AREA: SAN MARCOS

PROJECT: ETD19-1220-01

SAN ELIJO NORTH - ELFIN FOREST TO SCHOOLHOUSE WAY

AM	NB	SB	EB	WB	PM	NB	SB	EB	WB		
00:00				7	12:00				148		
00:15				3	12:15				160		
00:30				5	12:30				162		
00:45				5	20	20			142	612	612
01:00				5	13:00				178		
01:15				0	13:15				171		
01:30				3	13:30				154		
01:45				3	11	11			169	672	672
02:00				3	14:00				163		
02:15				1	14:15				205		
02:30				4	14:30				209		
02:45				2	10	10			145	722	722
03:00				4	15:00				198		
03:15				4	15:15				236		
03:30				7	15:30				248		
03:45				6	21	21			172	854	854
04:00				9	16:00				204		
04:15				12	16:15				210		
04:30				18	16:30				223		
04:45				28	67	67			184	821	821
05:00				36	17:00				205		
05:15				60	17:15				188		
05:30				88	17:30				189		
05:45				116	300	300			213	795	795
06:00				122	18:00				164		
06:15				158	18:15				154		
06:30				194	18:30				145		
06:45				261	735	735			151	614	614
07:00				254	19:00				113		
07:15				320	19:15				88		
07:30				274	19:30				102		
07:45				332	1180	1180			85	388	388
08:00				285	20:00				72		
08:15				302	20:15				96		
08:30				307	20:30				65		
08:45				276	1170	1170			54	287	287
09:00				191	21:00				44		
09:15				191	21:15				56		
09:30				174	21:30				50		
09:45				164	720	720			40	190	190
10:00				119	22:00				50		
10:15				133	22:15				55		
10:30				137	22:30				54		
10:45				115	504	504			43	202	202
11:00				123	23:00				31		
11:15				133	23:15				28		
11:30				123	23:30				11		
11:45				152	531	531			8	78	78

**Total Vol.** 5269 **5269** 6235 **6235**

Daily Totals				
NB	SB	EB	WB	Combined
			11504	<b>11504</b>

Split %	AM		PM	
	100.0%	<b>45.8%</b>	100.0%	<b>54.2%</b>
<b>Peak Hour</b>	07:45	<b>07:45</b>	15:15	<b>15:15</b>
<b>Volume</b>	1226	<b>1226</b>	860	<b>860</b>
<b>P.H.F.</b>	0.92	<b>0.92</b>	0.87	<b>0.87</b>

SUNDAY - DECEMBER 15, 2019

AREA: SAN MARCOS

PROJECT: ETD19-1220-01

SAN ELIJO - E/O SCHOOLHOUSE WAY

AM	NB	SB	EB	WB	PM	NB	SB	EB	WB				
00:00			26	21	12:00			143	115				
00:15			26	19	12:15			158	134				
00:30			25	15	12:30			145	151				
00:45			16	93	12	67	160	12:45	170	616	119	519	1135
01:00			13	12	13:00			149	146				
01:15			16	15	13:15			155	152				
01:30			7	15	13:30			152	126				
01:45			11	47	7	49	96	13:45	160	616	121	545	1161
02:00			11	9	14:00			147	132				
02:15			6	7	14:15			143	121				
02:30			8	3	14:30			129	147				
02:45			4	29	6	25	54	14:45	141	560	137	537	1097
03:00			7	5	15:00			140	136				
03:15			6	6	15:15			146	142				
03:30			1	1	15:30			149	142				
03:45			2	16	6	18	34	15:45	154	589	149	569	1158
04:00			7	8	16:00			147	139				
04:15			4	7	16:15			142	134				
04:30			4	6	16:30			184	180				
04:45			4	19	11	32	51	16:45	137	610	135	588	1198
05:00			7	13	17:00			176	168				
05:15			6	14	17:15			134	144				
05:30			5	17	17:30			132	125				
05:45			11	29	26	70	99	17:45	121	563	103	540	1103
06:00			9	16	18:00			114	112				
06:15			17	18	18:15			113	111				
06:30			17	29	18:30			132	92				
06:45			28	71	38	101	172	18:45	126	485	104	419	904
07:00			31	43	19:00			119	75				
07:15			32	48	19:15			92	89				
07:30			51	71	19:30			84	75				
07:45			42	156	75	237	393	19:45	92	387	75	314	701
08:00			50	68	20:00			74	69				
08:15			55	85	20:15			76	52				
08:30			74	115	20:30			86	73				
08:45			70	249	113	381	630	20:45	71	307	52	246	553
09:00			87	111	21:00			45	39				
09:15			79	123	21:15			54	37				
09:30			110	145	21:30			48	41				
09:45			102	378	145	524	902	21:45	36	183	39	156	339
10:00			108	126	22:00			37	43				
10:15			111	127	22:15			33	15				
10:30			119	139	22:30			37	23				
10:45			119	457	147	539	996	22:45	18	125	27	108	233
11:00			110	130	23:00			21	10				
11:15			141	113	23:15			14	17				
11:30			180	144	23:30			15	10				
11:45			179	610	135	522	1132	23:45	14	64	3	40	104

**Total Vol.** 2154 2565 **4719** 5105 4581 **9686**

**Daily Totals**

NB	SB	EB	WB	Combined
		7259	7146	<b>14405</b>

**AM**

**PM**

Split %	45.6%	54.4%	<b>32.8%</b>	52.7%	47.3%	<b>67.2%</b>
<b>Peak Hour</b>	11:30	09:30	<b>11:30</b>	16:15	16:30	<b>16:30</b>
<b>Volume</b>	660	543	<b>1188</b>	639	627	<b>1258</b>
<b>P.H.F.</b>	0.92	0.94	<b>0.92</b>	0.87	0.87	<b>0.86</b>

TUESDAY - DECEMBER 17, 2019

AREA: SAN MARCOS

PROJECT: ETD19-1220-01

SAN ELIJO - E/O SCHOOLHOUSE WAY

AM	NB	SB	EB	WB	PM	NB	SB	EB	WB			
00:00			15	6	12:00			132	140			
00:15			8	3	12:15			160	163			
00:30			7	6	12:30			144	146			
00:45			9	39	5	20	59	181	617	143	592	1209
01:00			7	5	13:00			172	177			
01:15			5	0	13:15			170	154			
01:30			5	3	13:30			168	154			
01:45			4	21	4	12	33	162	672	186	671	1343
02:00			1	2	14:00			152	179			
02:15			1	1	14:15			181	209			
02:30			3	4	14:30			268	220			
02:45			2	7	2	9	16	203	804	172	780	1584
03:00			3	4	15:00			196	215			
03:15			3	4	15:15			275	195			
03:30			5	7	15:30			298	213			
03:45			4	15	6	21	36	242	1011	172	795	1806
04:00			3	8	16:00			261	209			
04:15			8	10	16:15			269	200			
04:30			15	15	16:30			277	205			
04:45			12	38	27	60	98	285	1092	178	792	1884
05:00			15	34	17:00			275	201			
05:15			25	57	17:15			278	186			
05:30			33	86	17:30			259	177			
05:45			36	109	107	284	393	290	1102	221	785	1887
06:00			28	112	18:00			271	160			
06:15			51	168	18:15			238	148			
06:30			64	191	18:30			196	139			
06:45			99	242	268	739	981	189	894	149	596	1490
07:00			121	289	19:00			177	104			
07:15			142	344	19:15			134	89			
07:30			165	318	19:30			143	94			
07:45			181	609	295	1246	1855	123	577	88	375	952
08:00			127	322	20:00			119	64			
08:15			172	271	20:15			99	96			
08:30			148	286	20:30			94	70			
08:45			158	605	223	1102	1707	80	392	55	285	677
09:00			110	177	21:00			78	45			
09:15			114	182	21:15			76	51			
09:30			107	187	21:30			62	54			
09:45			111	442	148	694	1136	51	267	45	195	462
10:00			121	108	22:00			24	43			
10:15			110	122	22:15			10	58			
10:30			112	124	22:30			19	57			
10:45			115	458	103	457	915	13	66	41	199	265
11:00			104	113	23:00			9	32			
11:15			117	150	23:15			38	26			
11:30			141	137	23:30			27	12			
11:45			119	481	131	531	1012	16	90	8	78	168

**Total Vol.** 3066 5175 **8241** 7584 6143 **13727**

Daily Totals				
NB	SB	EB	WB	Combined
		10650	11318	<b>21968</b>

Split %	AM			PM		
	37.2%	62.8%	<b>37.5%</b>	55.2%	44.8%	<b>62.5%</b>
<b>Peak Hour</b>	07:30	07:15	<b>07:15</b>	16:30	14:15	<b>16:15</b>
<b>Volume</b>	645	1279	<b>1894</b>	1115	816	<b>1890</b>
<b>P.H.F.</b>	0.89	0.93	<b>0.97</b>	0.98	0.93	<b>0.98</b>









# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: ELITE TRAFFIC DYNAMICS, LLC

**DATE:**  
12/17/19  
TUESDAY

**LOCATION:**  
NORTH & SOUTH:  
EAST & WEST:

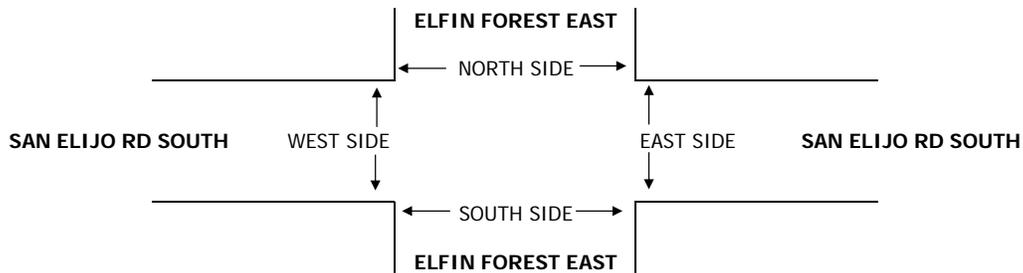
**SAN MARCOS**  
**ELFIN FOREST EAST**  
**SAN ELIJO RD SOUTH**

**PROJECT #:** ETD19-1220-01  
**LOCATION #:** 8  
**CONTROL:** SIGNAL

NOTES:  INCLUDES BIKE & PED			AM PM MD OTHER OTHER	◀ W      ▶ E ▲ N ▼ S
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	NORTHBOUND ELFIN FOREST EAST			SOUTHBOUND ELFIN FOREST EAST			EASTBOUND SAN ELIJO RD SOUTH			WESTBOUND SAN ELIJO RD SOUTH			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
<b>AM</b>													
7:00 AM		118	19				16	134					287
7:15 AM		128	16				41	126					311
7:30 AM		111	11				46	153					321
7:45 AM		129	16				49	153					347
8:00 AM		154	17				27	129					327
8:15 AM		117	20				14	121					272
8:30 AM		115	13				23	136					287
8:45 AM		81	7				22	105					215
VOLUMES	0	953	119	0	0	0	238	1,057	0	0	0	0	2,367
APPROACH %	0%	89%	11%	0%	0%	0%	18%	82%	0%	0%	0%	0%	
APP/DEPART	1,072	/	1,191	0	/	0	1,295	/	1,176	0	/	0	0
BEGIN PEAK HR		7:15 AM											
VOLUMES	0	522	60	0	0	0	163	561	0	0	0	0	1,306
APPROACH %	0%	90%	10%	0%	0%	0%	23%	77%	0%	0%	0%	0%	
PEAK HR FACTOR		0.851			0.000			0.896			0.000		0.941
APP/DEPART	582	/	685	0	/	0	724	/	621	0	/	0	0
<b>PM</b>													
4:00 PM		70	15				41	264					390
4:15 PM		57	15				46	239					357
4:30 PM		71	28				38	262					399
4:45 PM		80	19				38	261					398
5:00 PM		62	13				42	271					388
5:15 PM		64	19				51	246					380
5:30 PM		88	16				70	251					425
5:45 PM		60	27				71	286					444
VOLUMES	0	552	152	0	0	0	397	2,080	0	0	0	0	3,181
APPROACH %	0%	78%	22%	0%	0%	0%	16%	84%	0%	0%	0%	0%	
APP/DEPART	704	/	949	0	/	0	2,477	/	2,232	0	/	0	0
BEGIN PEAK HR		5:00 PM											
VOLUMES	0	274	75	0	0	0	234	1,054	0	0	0	0	1,637
APPROACH %	0%	79%	21%	0%	0%	0%	18%	82%	0%	0%	0%	0%	
PEAK HR FACTOR		0.839			0.000			0.902			0.000		0.922
APP/DEPART	349	/	508	0	/	0	1,288	/	1,129	0	/	0	0

U-TURNS				
NB	SB	EB	WB	TTL
X	X	X	X	
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0



		7:00 AM
		7:15 AM
AM	7:30 AM	
	7:45 AM	
	8:00 AM	
	8:15 AM	
	8:30 AM	
	8:45 AM	
	TOTAL	
		4:00 PM
		4:15 PM
PM	4:30 PM	
	4:45 PM	
	5:00 PM	
	5:15 PM	
	5:30 PM	
	5:45 PM	
TOTAL		

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
8	2	12		22
30	27	68	6	131
49	49	125	17	240
29	40	55	13	137
	5	5		10
4	4	5	2	15
	6	4		10
	1	2	1	4
120	134	276	39	569
9	2	3	6	20
1	1	2		4
2	6	4	5	17
	1			1
5		4	1	10
2	1	1		4
2	3	1	1	7
5	2	4	3	14
26	16	19	16	77

PEDESTRIAN ACTIVATIONS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
				0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
				0
				0
				0
				0
				0
				0
0	0	0	0	0

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
	1			1
				0
		1		1
				0
	2			2
	3			3
				0
		1		1
0	6	2	0	8
				0
	2			2
				0
			1	1
				0
			1	1
	1			1
0	3	0	2	5

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: ELITE TRAFFIC DYNAMICS, LLC

DATE: 12/17/19 TUESDAY

LOCATION: SAN MARCOS SAN ELIJO RD NORTH ELFIN FOREST EAST

PROJECT #: ETD19-1220-01 LOCATION #: 7 CONTROL: SIGNAL

NOTES: INCLUDES BIKE & PED. Includes a directional diagram with arrows for AM, PM, MD, OTHER and N, S, W, E.

Table with 4 main columns: NORTHBOUND (SAN ELIJO RD NORTH), SOUTHBOUND (SAN ELIJO RD NORTH), EASTBOUND (ELFIN FOREST EAST), WESTBOUND (ELFIN FOREST EAST). Sub-columns: NL, NT, NR, SL, ST, SR, EL, ET, ER, WL, WT, WR, TOTAL.

U-TURNS table with columns: NB, SB, EB, WB, TTL.

Main traffic volume table with AM and PM sections. Includes rows for VOLUMES, APPROACH %, APP/DEPART, BEGIN PEAK HR, and PEAK HR FACTOR.

U-TURNS table with data rows for AM and PM periods.

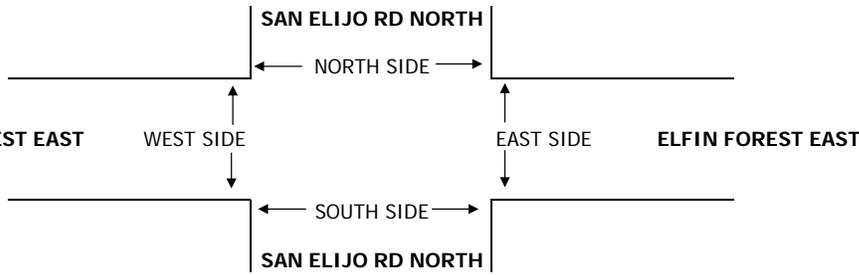


Table for AM and PM periods with time slots from 7:00 AM to 5:45 PM and a TOTAL row.

PEDESTRIAN CROSSINGS table with columns: N SIDE, S SIDE, E SIDE, W SIDE, TOTAL. Rows for AM and PM periods.

PEDESTRIAN ACTIVATIONS table with columns: N SIDE, S SIDE, E SIDE, W SIDE, TOTAL. Rows for AM and PM periods.

BICYCLE CROSSINGS table with columns: NS, SS, ES, WS, TOTAL. Rows for AM and PM periods.

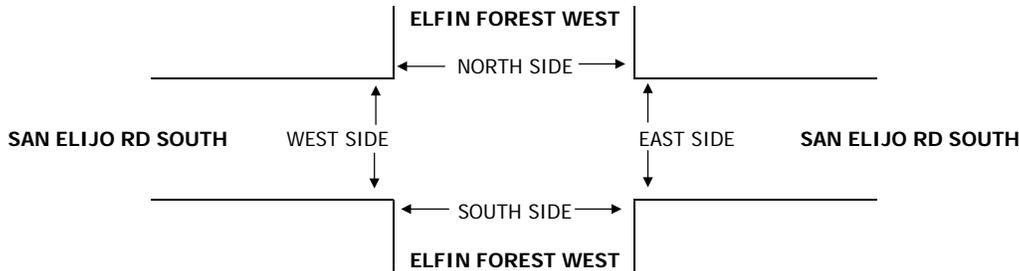
### INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: ELITE TRAFFIC DYNAMICS, LLC

<b>DATE:</b> 12/17/19 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	SAN MARCOS ELFIN FOREST WEST SAN ELIJO RD SOUTH	PROJECT #: LOCATION #: CONTROL:	ETD19-1220-01 10 SIGNAL
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NOTES:  <p style="text-align: center; color: blue;">INCLUDES BIKE &amp; PED</p>	AM PM MD OTHER OTHER	
---	----------------------------------	--

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL	U-TURNS					
	ELFIN FOREST WEST			ELFIN FOREST WEST			SAN ELIJO RD SOUTH			SAN ELIJO RD SOUTH				NB	SB	EB	WB	TTL	
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR		X	X	X	X		
AM	7:00 AM			24	23			118	67				232					0	
	7:15 AM			25	30			152	99				306					0	
	7:30 AM			31	29			175	81				316					0	
	7:45 AM			31	27			165	57				280					0	
	8:00 AM			23	54			135	64				276					0	
	8:15 AM			27	80			105	55				267					0	
	8:30 AM			28	73			131	55				287					0	
	8:45 AM			12	32			115	41				200					0	
	VOLUMES	0	0	0	201	348	0	0	1,096	519	0	0	0	2,164	0	0	0	0	0
	APPROACH %	0%	0%	0%	37%	63%	0%	0%	68%	32%	0%	0%	0%						
	APP/DEPART	0	/	0	549	/	867	1,615	/	1,297	0	/	0	0					
	BEGIN PEAK HR	7:15 AM																	
	VOLUMES	0	0	0	110	140	0	0	627	301	0	0	0	1,178					
	APPROACH %	0%	0%	0%	44%	56%	0%	0%	68%	32%	0%	0%	0%						
PEAK HR FACTOR	0.000			0.812			0.906			0.000			0.932						
APP/DEPART	0	/	0	250	/	441	928	/	737	0	/	0	0						
PM	4:00 PM			15	28			284	130				457					0	
	4:15 PM			23	23			265	155				466					0	
	4:30 PM			28	28			280	145				481					0	
	4:45 PM			20	21			289	143				473					0	
	5:00 PM			21	26			302	125				474					0	
	5:15 PM			20	18			279	127				444					0	
	5:30 PM			27	14			295	98				434					0	
	5:45 PM			36	15			327	72				450					0	
	VOLUMES	0	0	0	190	173	0	0	2,321	995	0	0	0	3,679	0	0	0	0	0
	APPROACH %	0%	0%	0%	52%	48%	0%	0%	70%	30%	0%	0%	0%						
	APP/DEPART	0	/	0	363	/	1,168	3,316	/	2,511	0	/	0	0					
	BEGIN PEAK HR	4:15 PM																	
	VOLUMES	0	0	0	92	98	0	0	1,136	568	0	0	0	1,894					
	APPROACH %	0%	0%	0%	48%	52%	0%	0%	67%	33%	0%	0%	0%						
PEAK HR FACTOR	0.000			0.848			0.986			0.000			0.984						
APP/DEPART	0	/	0	190	/	666	1,704	/	1,228	0	/	0	0						



	7:00 AM		
AM	7:15 AM		
	7:30 AM		
	7:45 AM		
	8:00 AM		
	8:15 AM		
	8:30 AM		
	8:45 AM		
	TOTAL		
PM	4:00 PM		
	4:15 PM		
	4:30 PM		
	4:45 PM		
	5:00 PM		
	5:15 PM		
	5:30 PM		
	5:45 PM		
TOTAL			

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
			2	2
12	5		9	26
27	11	2	9	49
2	6		1	9
2	2	3	3	10
	2	1	3	6
	1		4	5
3	1	2	3	9
46	28	8	34	116
2		2	5	9
5	6	5	5	21
2	7	3	10	22
5		9	11	25
10	6	7	11	34
8	2	3	9	22
6	4	6	7	23
9	4	9	7	29
47	29	44	65	185

PEDESTRIAN ACTIVATIONS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
				0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
				0
				0
				0
				0
				0
				0
0	0	0	0	0

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
	1			1
				0
	1	1		2
				0
	1			1
	2			2
				0
	1		1	2
0	6	1	1	8
				0
				0
	2			2
	1		1	2
				0
			1	1
				0
				0
0	3	0	2	5

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: ELITE TRAFFIC DYNAMICS, LLC

DATE: 12/17/19 TUESDAY

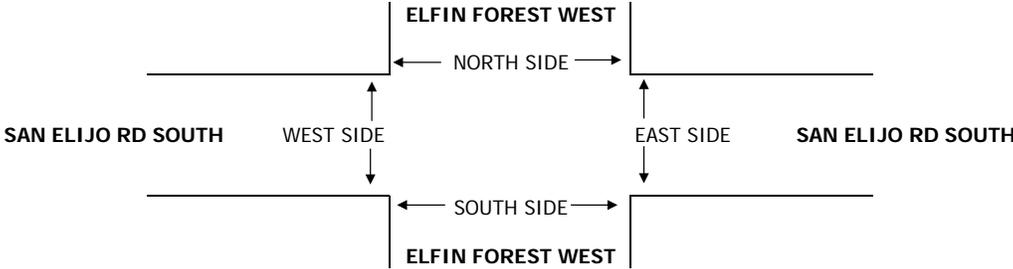
LOCATION: SAN MARCOS ELFIN FOREST WEST SAN ELIJO RD SOUTH

PROJECT #: ETD19-1220-01 LOCATION #: 9 CONTROL: SIGNAL

NOTES: INCLUDES BIKE & PED. Includes directional arrows and lane labels (AM, PM, MD, OTHER).

Main traffic volume table with columns for Northbound, Southbound, Eastbound, Westbound lanes and Total. Includes sub-totals for AM and PM peaks.

U-TURNS table with columns NB, SB, EB, WB, TTL and rows for AM and PM periods.



Summary table for pedestrian and bicycle crossings, organized by AM and PM periods.

PEDESTRIAN CROSSINGS table with columns N SIDE, S SIDE, E SIDE, W SIDE, TOTAL and rows for time intervals.

PEDESTRIAN ACTIVATIONS table with columns N SIDE, S SIDE, E SIDE, W SIDE, TOTAL and rows for time intervals.

BICYCLE CROSSINGS table with columns NS, SS, ES, WS, TOTAL and rows for time intervals.



EBT	PHV	EB Approach Total	Int Peak Total	PHF
438	1,694	1,708	2,667	
412	414 1,697	1,713	2,676	0.96236
433	437 1,683	1,703	2,669	
411	417 1,665	1,689	2,663	
441	445 1,673	1,694	2,640	
398	1,232	1,249	1,950	
415	834	845	1,311	
419	421	424	896	

EBR	PHV
2	14
2	16
4	20
6	24
4	21
6	17
8	11
3	3

WBL	PHV	WB Approach Total	PHF
0	3	947	
1	229 3	942	0.923529
0	222 2	942	
2	255 2	954	
0	236 0	927	
0	0	691	
0	0	462	
0	241	469	

WBT	PHV
241	944
228	939
222	940
253	952
236	927
229	691
234	462
228	228

NBL	PHV	NB Approach Total	PHF
0	3	12	
0	3 3	21	0.583333
2	5 3	24	
1	4 1	20	

0	9	0	19
0		0	10
0		0	4
0		0	3

NBR

0	9
3	18
3	21
3	19
9	19
6	10
1	4
3	3

NBL	PHV	NB Approach Total	Int Peak Total	PHF
11	53	83	1,119	
14	65	95	1,099	
11	70	99	1,101	
17	30 78	108	1,128	0.9
23	27 73	97	1,083	
19	25 50	70	817	
19	26 31	45	562	
12	16	24	537	

NBT	PHV
4	30
7	30
6	29
13	30
4	24
6	20
7	14
7	8

SBT	PHV	SB Approach Total	PHF
1	7	16	
0	7	22	
3	8	19	
3	5 6	17	0.607143
1	7 7	17	
1	1 6	10	
1	4 5	9	
4	4	23	

SBR	PHV
0	9
4	15
3	11
2	11
6	10
0	4
3	4
1	19

WBL	PHV	WB Approach Total	PHF
18	95	1,020	
24	104	982	
24	99	983	
29	272 106	1,003	0.921875

27	232	103	969
19	229	76	737
31	270	57	508
26		276	490

WBT

250		913	
199		867	
222		873	
242		883	
204		849	
205		645	
232		440	
208		210	

WBR

2		12	
5		11	
4		11	
1		14	
1		17	
5		16	
7		11	
4		4	

NBT	PHV	NB Approach Total	Int Peak Total	PHF
10			138	
10	34	49	140	0.921053
9	33	56	154	
14	35	62	166	
16	38	55	164	
17		39	126	
15		22	78	
7		33	65	
			941	

NBR	PHV
26	95
24	91
24	98
21	104
22	109
31	87
30	56
26	32

SBL	PHV	SB Approach Total	PHF
6		116	
12	32	44	0.928571
12	30	37	
8	33	33	
12	35	49	
5		37	
8		32	
24		39	

SBT	PHV
15	78
20	86
18	87
25	94
23	89
21	66
25	45
20	32

EBL	PHV	EB Approach Total	PHF
12		54	
13	410	52	0.9875
17	418	54	
12	420	50	
		1,665	
		1,659	
		1,649	
		1,611	

10	411	53	1,591
15		43	1,180
13		28	780
15		404	805

EBT

389		1,559
387		1,563
391		1,552
392		1,516
393		1,499
376		1,106
355		730
375		391

EBR

16		52
10		44
10		43
16		45
8		39
9		31
12		22
10		10

# Appendix C

## Peak Hour Intersection Capacity Worksheets

### Existing Conditions

Timings  
1: Dove Tail Drive/Melrose Drive & San Elijo Road

Existing Conditions  
AM Peak Hour

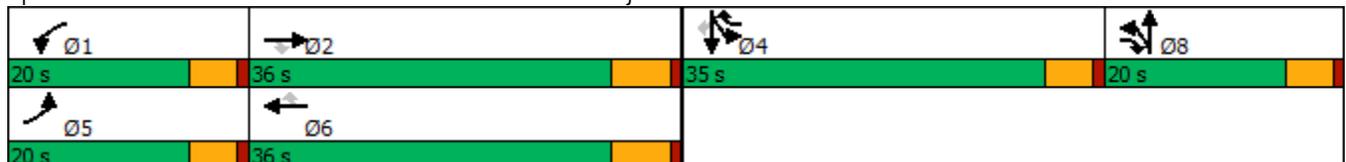


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	87	443	24	35	961	969	99	176	478	36	20
Future Volume (vph)	87	443	24	35	961	969	99	176	478	36	20
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Split	NA	Split	NA	Perm
Protected Phases	5	2	8	1	6	4	8	8	4	4	
Permitted Phases			2			6					4
Detector Phase	5	2	8	1	6	4	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	8.0	10.0	10.0	7.0	10.0	9.0	10.0	10.0	9.0	9.0	9.0
Minimum Split (s)	13.0	29.0	15.0	12.0	32.0	40.0	15.0	15.0	40.0	40.0	40.0
Total Split (s)	20.0	36.0	20.0	20.0	36.0	35.0	20.0	20.0	35.0	35.0	35.0
Total Split (%)	18.0%	32.4%	18.0%	18.0%	32.4%	31.5%	18.0%	18.0%	31.5%	31.5%	31.5%
Yellow Time (s)	4.0	5.0	4.0	4.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag						
Lead-Lag Optimize?											
Recall Mode	None	Min	None	None	Min	None	None	None	None	None	None
Act Effct Green (s)	10.5	35.4	51.1	7.5	30.2	62.4	14.7	14.7	31.1	31.1	31.1
Actuated g/C Ratio	0.10	0.34	0.49	0.07	0.29	0.60	0.14	0.14	0.30	0.30	0.30
v/c Ratio	0.54	0.40	0.03	0.30	1.01	1.00	0.44	0.90	0.71	0.69	0.05
Control Delay	57.6	29.0	0.1	55.2	69.5	42.9	49.7	79.4	43.1	42.3	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.6	29.0	0.1	55.2	69.5	42.9	49.7	79.4	43.1	42.3	0.1
LOS	E	C	A	E	E	D	D	E	D	D	A
Approach Delay		32.2			56.1			69.8		41.1	
Approach LOS		C			E			E		D	

Intersection Summary

Cycle Length: 111  
 Actuated Cycle Length: 104.7  
 Natural Cycle: 100  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.01  
 Intersection Signal Delay: 50.7  
 Intersection LOS: D  
 Intersection Capacity Utilization 90.8%  
 ICU Level of Service E  
 Analysis Period (min) 15

Splits and Phases: 1: Dove Tail Drive/Melrose Drive & San Elijo Road



HCM 6th Signalized Intersection Summary  
 1: Dove Tail Drive/Melrose Drive & San Elijo Road

Existing Conditions  
 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	443	24	35	961	969	99	176	32	478	36	20
Future Volume (veh/h)	87	443	24	35	961	969	99	176	32	478	36	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.97	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	95	482	24	38	1033	938	110	196	33	690	0	22
Peak Hour Factor	0.92	0.92	0.92	0.93	0.93	0.93	0.90	0.90	0.90	0.73	0.73	0.73
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	137	1225	755	83	1116	870	260	226	38	866	0	381
Arrive On Green	0.08	0.34	0.34	0.05	0.31	0.31	0.15	0.15	0.15	0.24	0.00	0.24
Sat Flow, veh/h	1781	3554	1521	1781	3554	1544	1781	1552	261	3563	0	1569
Grp Volume(v), veh/h	95	482	24	38	1033	938	110	0	229	690	0	22
Grp Sat Flow(s),veh/h/ln	1781	1777	1521	1781	1777	1544	1781	0	1813	1781	0	1569
Q Serve(g_s), s	5.0	9.8	0.8	2.0	26.8	30.0	5.4	0.0	11.8	17.4	0.0	1.0
Cycle Q Clear(g_c), s	5.0	9.8	0.8	2.0	26.8	30.0	5.4	0.0	11.8	17.4	0.0	1.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	137	1225	755	83	1116	870	260	0	265	866	0	381
V/C Ratio(X)	0.69	0.39	0.03	0.46	0.93	1.08	0.42	0.00	0.87	0.80	0.00	0.06
Avail Cap(c_a), veh/h	280	1225	755	280	1116	870	280	0	285	1119	0	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.0	23.7	12.6	44.4	31.7	16.0	37.1	0.0	39.9	33.9	0.0	27.8
Incr Delay (d2), s/veh	2.3	0.3	0.0	1.5	12.9	53.7	0.4	0.0	20.9	3.7	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	3.9	0.3	0.9	12.7	33.0	2.3	0.0	6.7	7.6	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.3	24.0	12.6	45.8	44.6	69.7	37.5	0.0	60.7	37.6	0.0	27.8
LnGrp LOS	D	C	B	D	D	F	D	A	E	D	A	C
Approach Vol, veh/h		601			2009			339			712	
Approach Delay, s/veh		26.9			56.4			53.2			37.3	
Approach LOS		C			E			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.4	38.9		28.2	12.4	36.0		18.9				
Change Period (Y+Rc), s	5.0	6.0		5.0	5.0	6.0		5.0				
Max Green Setting (Gmax), s	15.0	30.0		30.0	15.0	30.0		15.0				
Max Q Clear Time (g_c+I1), s	4.0	11.8		19.4	7.0	32.0		13.8				
Green Ext Time (p_c), s	0.0	3.9		3.1	0.1	0.0		0.1				

Intersection Summary

HCM 6th Ctrl Delay	47.5
HCM 6th LOS	D

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.

HCM 6th TWSC  
2: Street "E" & San Elijo Road

Existing Conditions  
AM Peak Hour

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑		↗
Traffic Vol, veh/h	1025	1	0	2013	0	1
Future Vol, veh/h	1025	1	0	2013	0	1
Conflicting Peds, #/hr	0	8	8	0	0	8
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	None
Storage Length	-	-	100	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	91	91	25	25
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1314	1	0	2212	0	4

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3	
Conflicting Flow All	0	-	1322	0	-	673
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.22	-	-	3.32
Pot Cap-1 Maneuver	-	0	519	-	0	398
Stage 1	-	0	-	-	0	-
Stage 2	-	0	-	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	515	-	-	392
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	14.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	392	-	515	-
HCM Lane V/C Ratio	0.01	-	-	-
HCM Control Delay (s)	14.3	-	0	-
HCM Lane LOS	B	-	A	-
HCM 95th %tile Q(veh)	0	-	0	-

Timings  
3: San Elijo Road SB & Cooke Street/Baker Street

Existing Conditions  
AM Peak Hour



Lane Group	EBT	WBL	WBT	SBT
Lane Configurations	↻		↻	↻↻
Traffic Volume (vph)	9	193	16	1768
Future Volume (vph)	9	193	16	1768
Turn Type	NA	Perm	NA	NA
Protected Phases	4		8	6
Permitted Phases		8		
Detector Phase	4	8	8	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	10.0
Minimum Split (s)	25.0	25.0	25.0	26.0
Total Split (s)	30.0	30.0	30.0	70.0
Total Split (%)	30.0%	30.0%	30.0%	70.0%
Yellow Time (s)	3.0	3.0	3.0	4.5
All-Red Time (s)	5.0	5.0	5.0	4.5
Lost Time Adjust (s)	0.0		0.0	0.0
Total Lost Time (s)	8.0		8.0	9.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	None	C-Max
Act Effect Green (s)	22.0		22.0	61.0
Actuated g/C Ratio	0.22		0.22	0.61
v/c Ratio	0.35		1.28	0.85
Control Delay	31.5		184.5	10.9
Queue Delay	0.0		0.0	2.1
Total Delay	31.5		184.5	13.0
LOS	C		F	B
Approach Delay	31.5		184.5	13.0
Approach LOS	C		F	B

Intersection Summary

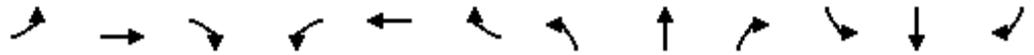
Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 33 (33%), Referenced to phase 6:SBTL, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.28  
 Intersection Signal Delay: 39.4  
 Intersection Capacity Utilization 82.2%  
 Analysis Period (min) 15  
 Intersection LOS: D  
 ICU Level of Service E

Splits and Phases: 3: San Elijo Road SB & Cooke Street/Baker Street



HCM 6th Signalized Intersection Summary  
 3: San Elijo Road SB & Cooke Street/Baker Street

Existing Conditions  
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		1			1						1	1
Traffic Volume (veh/h)	0	9	67	193	16	0	0	0	0	26	1768	7
Future Volume (veh/h)	0	9	67	193	16	0	0	0	0	26	1768	7
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	0.99		1.00				1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	15	99	316	26	0				27	1804	6
Peak Hour Factor	0.61	0.61	0.61	0.61	0.61	0.61				0.98	0.98	0.98
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	45	299	259	16	0				32	2239	8
Arrive On Green	0.00	0.22	0.22	0.22	0.22	0.00				0.20	0.20	0.20
Sat Flow, veh/h	0	206	1357	862	71	0				52	3670	13
Grp Volume(v), veh/h	0	0	114	342	0	0				962	0	875
Grp Sat Flow(s),veh/h/ln	0	0	1563	933	0	0				1868	0	1867
Q Serve(g_s), s	0.0	0.0	6.1	15.9	0.0	0.0				49.5	0.0	44.3
Cycle Q Clear(g_c), s	0.0	0.0	6.1	22.0	0.0	0.0				49.5	0.0	44.3
Prop In Lane	0.00		0.87	0.92		0.00				0.03		0.01
Lane Grp Cap(c), veh/h	0	0	344	275	0	0				1139	0	1139
V/C Ratio(X)	0.00	0.00	0.33	1.25	0.00	0.00				0.84	0.00	0.77
Avail Cap(c_a), veh/h	0	0	344	275	0	0				1139	0	1139
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				0.33	0.33	0.33
Upstream Filter(I)	0.00	0.00	1.00	0.70	0.00	0.00				0.48	0.00	0.48
Uniform Delay (d), s/veh	0.0	0.0	32.8	44.1	0.0	0.0				35.4	0.0	33.3
Incr Delay (d2), s/veh	0.0	0.0	0.2	130.2	0.0	0.0				3.9	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	2.4	16.8	0.0	0.0				25.9	0.0	22.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	33.0	174.3	0.0	0.0				39.3	0.0	35.7
LnGrp LOS	A	A	C	F	A	A				D	A	D
Approach Vol, veh/h		114			342						1837	
Approach Delay, s/veh		33.0			174.3						37.6	
Approach LOS		C			F						D	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				30.0		70.0		30.0				
Change Period (Y+Rc), s				8.0		9.0		8.0				
Max Green Setting (Gmax), s				22.0		61.0		22.0				
Max Q Clear Time (g_c+I1), s				8.1		51.5		24.0				
Green Ext Time (p_c), s				0.3		7.8		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			57.7									
HCM 6th LOS			E									

Timings  
4: San Elijo Road NB & Baker Street

Existing Conditions  
AM Peak Hour



Lane Group	EBL	EBT	WBT	NBT
Lane Configurations		↕	↔	↕↔
Traffic Volume (vph)	22	19	120	878
Future Volume (vph)	22	19	120	878
Turn Type	Perm	NA	NA	NA
Protected Phases		4	8	2
Permitted Phases	4			
Detector Phase	4	4	8	2
Switch Phase				
Minimum Initial (s)	8.0	8.0	8.0	10.0
Minimum Split (s)	24.5	24.5	24.5	24.5
Total Split (s)	35.0	35.0	35.0	55.0
Total Split (%)	38.9%	38.9%	38.9%	61.1%
Yellow Time (s)	3.0	3.0	3.0	3.0
All-Red Time (s)	4.5	4.5	4.5	4.5
Lost Time Adjust (s)		0.0	0.0	0.0
Total Lost Time (s)		7.5	7.5	7.5
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	None	C-Max
Act Effect Green (s)		15.1	15.1	59.9
Actuated g/C Ratio		0.17	0.17	0.67
v/c Ratio		0.24	0.66	0.48
Control Delay		33.7	42.8	8.8
Queue Delay		0.0	0.0	0.0
Total Delay		33.7	42.8	8.8
LOS		C	D	A
Approach Delay		33.7	42.8	8.8
Approach LOS		C	D	A

Intersection Summary

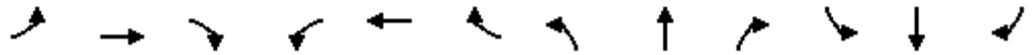
Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Yellow  
 Natural Cycle: 55  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.66  
 Intersection Signal Delay: 14.8  
 Intersection Capacity Utilization 59.6%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service B

Splits and Phases: 4: San Elijo Road NB & Baker Street



HCM 6th Signalized Intersection Summary  
 4: San Elijo Road NB & Baker Street

Existing Conditions  
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	19	0	0	120	25	53	878	21	0	0	0
Future Volume (veh/h)	22	19	0	0	120	25	53	878	21	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	0.98		1.00	1.00		0.93	1.00		0.97			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	26	22	0	0	171	32	62	1033	23			
Peak Hour Factor	0.85	0.85	0.85	0.70	0.70	0.70	0.85	0.85	0.85			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	103	70	0	0	244	46	132	2309	54			
Arrive On Green	0.16	0.16	0.00	0.00	0.16	0.16	0.67	0.67	0.67			
Sat Flow, veh/h	256	433	0	0	1512	283	197	3436	80			
Grp Volume(v), veh/h	48	0	0	0	0	203	586	0	532			
Grp Sat Flow(s),veh/h/ln	689	0	0	0	0	1795	1861	0	1853			
Q Serve(g_s), s	0.7	0.0	0.0	0.0	0.0	9.6	13.6	0.0	11.9			
Cycle Q Clear(g_c), s	10.3	0.0	0.0	0.0	0.0	9.6	13.6	0.0	11.9			
Prop In Lane	0.54		0.00	0.00		0.16	0.11		0.04			
Lane Grp Cap(c), veh/h	173	0	0	0	0	290	1250	0	1245			
V/C Ratio(X)	0.28	0.00	0.00	0.00	0.00	0.70	0.47	0.00	0.43			
Avail Cap(c_a), veh/h	374	0	0	0	0	549	1250	0	1245			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.95	0.00	0.00	0.00	0.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	33.9	0.0	0.0	0.0	0.0	35.7	7.1	0.0	6.8			
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.0	0.0	3.1	1.3	0.0	1.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.0	0.0	0.0	4.4	5.2	0.0	4.5			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.7	0.0	0.0	0.0	0.0	38.7	8.3	0.0	7.9			
LnGrp LOS	C	A	A	A	A	D	A	A	A			
Approach Vol, veh/h		48			203			1118				
Approach Delay, s/veh		34.7			38.7			8.1				
Approach LOS		C			D			A				
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		68.0		22.0				22.0				
Change Period (Y+Rc), s		7.5		7.5				7.5				
Max Green Setting (Gmax), s		47.5		27.5				27.5				
Max Q Clear Time (g_c+I1), s		15.6		12.3				11.6				
Green Ext Time (p_c), s		9.6		0.1				1.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				13.6								
HCM 6th LOS				B								

## Timings

### 5: San Elijo Road SB & Elfin Forest Road EB

Existing Conditions  
AM Peak Hour



Lane Group	EBT	SBT
Lane Configurations	↑↑	↑↑
Traffic Volume (vph)	148	1608
Future Volume (vph)	148	1608
Turn Type	NA	NA
Protected Phases	4	6
Permitted Phases		
Detector Phase	4	6
Switch Phase		
Minimum Initial (s)	5.0	10.0
Minimum Split (s)	25.0	26.0
Total Split (s)	30.0	70.0
Total Split (%)	30.0%	70.0%
Yellow Time (s)	3.0	4.5
All-Red Time (s)	5.0	4.5
Lost Time Adjust (s)	0.0	0.0
Total Lost Time (s)	8.0	9.0
Lead/Lag		
Lead-Lag Optimize?		
Recall Mode	None	C-Max
Act Effct Green (s)	19.4	63.6
Actuated g/C Ratio	0.19	0.64
v/c Ratio	0.92dr	0.81
Control Delay	47.5	14.1
Queue Delay	0.0	1.0
Total Delay	47.5	15.1
LOS	D	B
Approach Delay	47.5	15.1
Approach LOS	D	B

#### Intersection Summary

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 25 (25%), Referenced to phase 6:SBTL, Start of Yellow  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.81  
 Intersection Signal Delay: 21.5  
 Intersection LOS: C  
 Intersection Capacity Utilization 76.7%  
 ICU Level of Service D  
 Analysis Period (min) 15  
 dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 5: San Elijo Road SB & Elfin Forest Road EB



HCM 6th Signalized Intersection Summary  
5: San Elijo Road SB & Elfin Forest Road EB

Existing Conditions  
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑									↑↑	
Traffic Volume (veh/h)	0	148	238	0	0	0	0	0	0	109	1608	0
Future Volume (veh/h)	0	148	238	0	0	0	0	0	0	109	1608	0
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.88							1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00							1.00	1.00	1.00
Work Zone On Approach		No									No	
Adj Sat Flow, veh/h/ln	0	1870	1870							1870	1870	0
Adj Flow Rate, veh/h	0	174	252							116	1711	0
Peak Hour Factor	0.85	0.85	0.85							0.94	0.94	0.94
Percent Heavy Veh, %	0	2	2							2	2	0
Cap, veh/h	0	364	286							158	1972	0
Arrive On Green	0.00	0.07	0.07							0.20	0.20	0.00
Sat Flow, veh/h	0	1870	1395							193	3318	0
Grp Volume(v), veh/h	0	174	252							978	849	0
Grp Sat Flow(s),veh/h/ln	0	1777	1395							1809	1617	0
Q Serve(g_s), s	0.0	9.4	17.9							46.6	50.7	0.0
Cycle Q Clear(g_c), s	0.0	9.4	17.9							52.5	50.7	0.0
Prop In Lane	0.00		1.00							0.12		0.00
Lane Grp Cap(c), veh/h	0	364	286							1144	986	0
V/C Ratio(X)	0.00	0.48	0.88							0.86	0.86	0.00
Avail Cap(c_a), veh/h	0	391	307							1144	986	0
HCM Platoon Ratio	1.00	0.33	0.33							0.33	0.33	1.00
Upstream Filter(I)	0.00	1.00	1.00							0.68	0.68	0.00
Uniform Delay (d), s/veh	0.0	41.5	45.4							36.5	35.8	0.0
Incr Delay (d2), s/veh	0.0	1.0	23.3							5.8	6.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.6	8.6							27.2	23.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	42.4	68.7							42.3	42.7	0.0
LnGrp LOS	A	D	E							D	D	A
Approach Vol, veh/h		426									1827	
Approach Delay, s/veh		58.0									42.5	
Approach LOS		E									D	
Timer - Assigned Phs				4		6						
Phs Duration (G+Y+Rc), s				28.5		70.0						
Change Period (Y+Rc), s				8.0		9.0						
Max Green Setting (Gmax), s				22.0		61.0						
Max Q Clear Time (g_c+I1), s				19.9		54.5						
Green Ext Time (p_c), s				0.6		5.5						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			45.4									
HCM 6th LOS			D									

Timings  
6: San Elijo Road NB & Elfin Forest Road EB

Existing Conditions  
AM Peak Hour

	→	↑
Lane Group	EBT	NBT
Lane Configurations	↔↑↑	↑↑↔
Traffic Volume (vph)	140	627
Future Volume (vph)	140	627
Turn Type	NA	NA
Protected Phases	4	2
Permitted Phases		
Detector Phase	4	2
Switch Phase		
Minimum Initial (s)	5.0	10.0
Minimum Split (s)	25.0	25.0
Total Split (s)	30.0	60.0
Total Split (%)	33.3%	66.7%
Yellow Time (s)	3.5	3.0
All-Red Time (s)	4.5	5.0
Lost Time Adjust (s)	0.0	0.0
Total Lost Time (s)	8.0	8.0
Lead/Lag		
Lead-Lag Optimize?		
Recall Mode	None	C-Max
Act Effct Green (s)	11.8	62.2
Actuated g/C Ratio	0.13	0.69
v/c Ratio	0.55	0.45
Control Delay	23.2	1.4
Queue Delay	0.0	0.0
Total Delay	23.2	1.4
LOS	C	A
Approach Delay	23.2	1.4
Approach LOS	C	A

Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 8 (9%), Referenced to phase 2:NBT, Start of Yellow  
 Natural Cycle: 50  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.55  
 Intersection Signal Delay: 6.5  
 Intersection Capacity Utilization 48.8%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 6: San Elijo Road NB & Elfin Forest Road EB



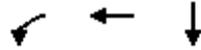
HCM 6th Signalized Intersection Summary  
6: San Elijo Road NB & Elfin Forest Road EB

Existing Conditions  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 						 				
Traffic Volume (veh/h)	110	140	0	0	0	0	0	627	301	0	0	0
Future Volume (veh/h)	110	140	0	0	0	0	0	627	301	0	0	0
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.96			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Work Zone On Approach		No						No				
Adj Sat Flow, veh/h/ln	1870	1870	0				0	1870	1870			
Adj Flow Rate, veh/h	136	173	0				0	689	298			
Peak Hour Factor	0.81	0.81	0.81				0.91	0.91	0.91			
Percent Heavy Veh, %	2	2	0				0	2	2			
Cap, veh/h	266	314	0				0	1567	678			
Arrive On Green	0.16	0.16	0.00				0.00	0.66	0.66			
Sat Flow, veh/h	1188	2005	0				0	2473	1029			
Grp Volume(v), veh/h	171	138	0				0	514	473			
Grp Sat Flow(s),veh/h/ln	1491	1617	0				0	1777	1632			
Q Serve(g_s), s	9.7	7.0	0.0				0.0	12.5	12.5			
Cycle Q Clear(g_c), s	9.7	7.0	0.0				0.0	12.5	12.5			
Prop In Lane	0.80		0.00				0.00		0.63			
Lane Grp Cap(c), veh/h	316	264	0				0	1170	1075			
V/C Ratio(X)	0.54	0.52	0.00				0.00	0.44	0.44			
Avail Cap(c_a), veh/h	436	395	0				0	1170	1075			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	0.54	0.54	0.00				0.00	0.87	0.87			
Uniform Delay (d), s/veh	35.6	34.4	0.0				0.0	7.4	7.4			
Incr Delay (d2), s/veh	0.8	0.9	0.0				0.0	1.0	1.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.6	2.8	0.0				0.0	4.6	4.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.3	35.3	0.0				0.0	8.4	8.5			
LnGrp LOS	D	D	A				A	A	A			
Approach Vol, veh/h		309						987				
Approach Delay, s/veh		35.9						8.5				
Approach LOS		D						A				
Timer - Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		67.3		22.7								
Change Period (Y+Rc), s		8.0		8.0								
Max Green Setting (Gmax), s		52.0		22.0								
Max Q Clear Time (g_c+I1), s		14.5		11.7								
Green Ext Time (p_c), s		8.8		1.3								
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			15.0									
HCM 6th LOS			B									

Timings  
7: San Elijo Road SB & Elfin Forest Road WB

Existing Conditions  
AM Peak Hour

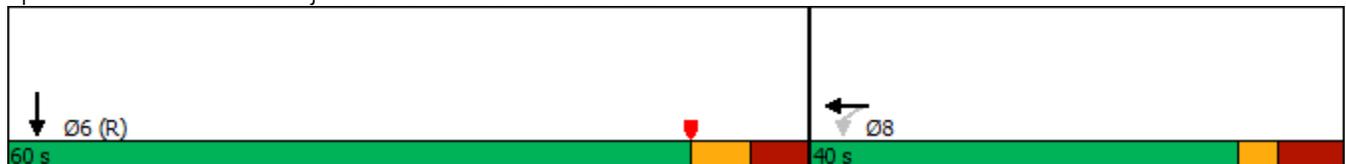


Lane Group	WBL	WBT	SBT
Lane Configurations	↶	↷	↷↶
Traffic Volume (vph)	569	107	1170
Future Volume (vph)	569	107	1170
Turn Type	Perm	NA	NA
Protected Phases		8	6
Permitted Phases	8		
Detector Phase	8	8	6
Switch Phase			
Minimum Initial (s)	10.0	10.0	10.0
Minimum Split (s)	25.0	25.0	26.0
Total Split (s)	40.0	40.0	60.0
Total Split (%)	40.0%	40.0%	60.0%
Yellow Time (s)	3.0	3.0	4.5
All-Red Time (s)	5.0	5.0	4.5
Lost Time Adjust (s)	0.0	0.0	0.0
Total Lost Time (s)	8.0	8.0	9.0
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	None	None	C-Max
Act Effct Green (s)	26.9	26.9	56.1
Actuated g/C Ratio	0.27	0.27	0.56
v/c Ratio	0.75	0.75	0.66
Control Delay	37.0	36.6	18.2
Queue Delay	3.5	3.7	0.6
Total Delay	40.5	40.4	18.7
LOS	D	D	B
Approach Delay		40.4	18.7
Approach LOS		D	B

Intersection Summary

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 16 (16%), Referenced to phase 6:SBT, Start of Yellow  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.75  
 Intersection Signal Delay: 26.7  
 Intersection Capacity Utilization 67.3%  
 Analysis Period (min) 15  
 Intersection LOS: C  
 ICU Level of Service C

Splits and Phases: 7: San Elijo Road SB & Elfin Forest Road WB



HCM 6th Signalized Intersection Summary  
7: San Elijo Road SB & Elfin Forest Road WB

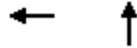
Existing Conditions  
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↶	↷						↶	↷
Traffic Volume (veh/h)	0	0	0	569	107	0	0	0	0	0	1170	60
Future Volume (veh/h)	0	0	0	569	107	0	0	0	0	0	1170	60
Initial Q (Qb), veh				0	0	0				0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00				1.00		0.92
Parking Bus, Adj				1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach				No						No		
Adj Sat Flow, veh/h/ln				1870	1870	0				0	1870	1870
Adj Flow Rate, veh/h				717	0	0				0	1219	56
Peak Hour Factor				0.90	0.90	0.90				0.96	0.96	0.96
Percent Heavy Veh, %				2	2	0				0	2	2
Cap, veh/h				1039	470	0				0	1757	81
Arrive On Green				0.25	0.00	0.00				0.00	0.51	0.51
Sat Flow, veh/h				3563	1870	0				0	3539	158
Grp Volume(v), veh/h				717	0	0				0	628	647
Grp Sat Flow(s),veh/h/ln				1781	1870	0				0	1777	1826
Q Serve(g_s), s				18.9	0.0	0.0				0.0	26.8	26.9
Cycle Q Clear(g_c), s				18.9	0.0	0.0				0.0	26.8	26.9
Prop In Lane				1.00		0.00				0.00		0.09
Lane Grp Cap(c), veh/h				1039	470	0				0	906	931
V/C Ratio(X)				0.69	0.00	0.00				0.00	0.69	0.69
Avail Cap(c_a), veh/h				1284	599	0				0	906	931
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				0.61	0.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				35.1	0.0	0.0				0.0	18.6	18.6
Incr Delay (d2), s/veh				1.2	0.0	0.0				0.0	4.3	4.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				8.3	0.0	0.0				0.0	11.7	12.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				36.3	0.0	0.0				0.0	22.9	22.9
LnGrp LOS				D	A	A				A	C	C
Approach Vol, veh/h					717						1275	
Approach Delay, s/veh					36.3						22.9	
Approach LOS					D						C	
Timer - Assigned Phs						6		8				
Phs Duration (G+Y+Rc), s						60.0		33.1				
Change Period (Y+Rc), s						9.0		8.0				
Max Green Setting (Gmax), s						51.0		32.0				
Max Q Clear Time (g_c+I1), s						28.9		20.9				
Green Ext Time (p_c), s						10.0		4.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay											27.7	
HCM 6th LOS											C	
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												

Timings  
8: San Elijo Road NB & Elfin Forest Road WB

Existing Conditions  
AM Peak Hour



Lane Group	WBT	NBT
Lane Configurations	↑↑	↑↑
Traffic Volume (vph)	522	561
Future Volume (vph)	522	561
Turn Type	NA	NA
Protected Phases	8	2
Permitted Phases		
Detector Phase	8	2
Switch Phase		
Minimum Initial (s)	5.0	10.0
Minimum Split (s)	25.5	25.0
Total Split (s)	40.0	50.0
Total Split (%)	44.4%	55.6%
Yellow Time (s)	3.5	3.0
All-Red Time (s)	5.0	5.0
Lost Time Adjust (s)	0.0	0.0
Total Lost Time (s)	8.5	8.0
Lead/Lag		
Lead-Lag Optimize?		
Recall Mode	None	C-Max
Act Effct Green (s)	25.1	48.4
Actuated g/C Ratio	0.28	0.54
v/c Ratio	0.73	0.44
Control Delay	33.0	9.3
Queue Delay	0.0	0.3
Total Delay	33.0	9.6
LOS	C	A
Approach Delay	33.0	9.6
Approach LOS	C	A

Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 16 (18%), Referenced to phase 2:NBT, Start of Yellow  
 Natural Cycle: 55  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.73  
 Intersection Signal Delay: 20.3  
 Intersection Capacity Utilization 67.3%  
 Analysis Period (min) 15

Intersection LOS: C  
 ICU Level of Service C

Splits and Phases: 8: San Elijo Road NB & Elfin Forest Road WB



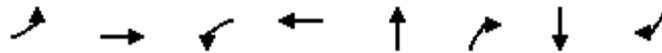
HCM 6th Signalized Intersection Summary  
8: San Elijo Road NB & Elfin Forest Road WB

Existing Conditions  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	522	60	163	561	0	0	0	0
Future Volume (veh/h)	0	0	0	0	522	60	163	561	0	0	0	0
Initial Q (Qb), veh				0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)				1.00		0.71	1.00		1.00			
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach				No			No					
Adj Sat Flow, veh/h/ln				0	1870	1870	1870	1870	0			
Adj Flow Rate, veh/h				0	614	64	181	623	0			
Peak Hour Factor				0.85	0.85	0.85	0.90	0.90	0.90			
Percent Heavy Veh, %				0	2	2	2	2	0			
Cap, veh/h				0	776	80	452	1458	0			
Arrive On Green				0.00	0.25	0.25	0.19	0.19	0.00			
Sat Flow, veh/h				0	3205	322	696	2655	0			
Grp Volume(v), veh/h				0	349	329	412	392	0			
Grp Sat Flow(s),veh/h/ln				0	1777	1657	1648	1617	0			
Q Serve(g_s), s				0.0	16.5	16.7	18.0	19.3	0.0			
Cycle Q Clear(g_c), s				0.0	16.5	16.7	19.8	19.3	0.0			
Prop In Lane				0.00		0.19	0.44		0.00			
Lane Grp Cap(c), veh/h				0	443	413	992	917	0			
V/C Ratio(X)				0.00	0.79	0.80	0.42	0.43	0.00			
Avail Cap(c_a), veh/h				0	622	580	992	917	0			
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00			
Upstream Filter(I)				0.00	1.00	1.00	0.90	0.90	0.00			
Uniform Delay (d), s/veh				0.0	31.5	31.6	23.8	23.7	0.0			
Incr Delay (d2), s/veh				0.0	4.5	5.2	1.2	1.3	0.0			
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln				0.0	7.5	7.2	9.0	8.6	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				0.0	36.0	36.8	24.9	25.0	0.0			
LnGrp LOS				A	D	D	C	C	A			
Approach Vol, veh/h					678			804				
Approach Delay, s/veh					36.4			24.9				
Approach LOS					D			C				
Timer - Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		59.1						30.9				
Change Period (Y+Rc), s		8.0						8.5				
Max Green Setting (Gmax), s		42.0						31.5				
Max Q Clear Time (g_c+I1), s		21.8						18.7				
Green Ext Time (p_c), s		5.4						3.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				30.2								
HCM 6th LOS				C								

Timings  
9: Schoolhouse Way & San Elijo Road

Existing Conditions  
AM Peak Hour

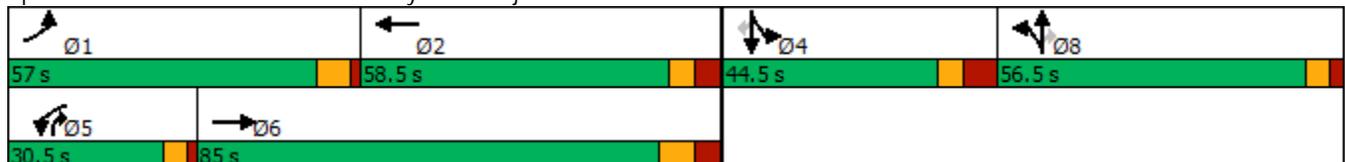


Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	34	412	312	946	14	180	33	98
Future Volume (vph)	34	412	312	946	14	180	33	98
Turn Type	Prot	NA	Prot	NA	NA	pm+ov	NA	Perm
Protected Phases	1	6	5	2	8	5	4	
Permitted Phases						8		4
Detector Phase	1	6	5	2	8	5	4	4
Switch Phase								
Minimum Initial (s)	5.0	15.0	6.0	15.0	6.0	6.0	6.0	6.0
Minimum Split (s)	12.0	35.0	11.5	35.5	12.5	11.5	44.5	44.5
Total Split (s)	57.0	85.0	30.5	58.5	56.5	30.5	44.5	44.5
Total Split (%)	26.3%	39.3%	14.1%	27.0%	26.1%	14.1%	20.6%	20.6%
Yellow Time (s)	5.5	5.5	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	4.5	1.5	4.5	2.5	1.5	5.5	5.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	10.0	5.5	8.5	6.5	5.5	9.5	9.5
Lead/Lag	Lead	Lag	Lead	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes		
Recall Mode	None	Min	None	Min	None	None	None	None
Act Effect Green (s)	9.1	39.4	26.3	60.2	23.2	50.5	22.3	22.3
Actuated g/C Ratio	0.06	0.27	0.18	0.42	0.16	0.35	0.15	0.15
v/c Ratio	0.36	0.80	1.09	0.73	0.73	0.42	0.24	0.39
Control Delay	82.9	56.7	130.8	43.3	76.1	39.2	57.7	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.9	56.7	130.8	43.3	76.1	39.2	57.7	10.6
LOS	F	E	F	D	E	D	E	B
Approach Delay		58.2		64.9	57.1		27.6	
Approach LOS		E		E	E		C	

Intersection Summary

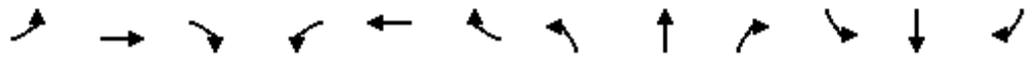
Cycle Length: 216.5  
 Actuated Cycle Length: 144.3  
 Natural Cycle: 135  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.09  
 Intersection Signal Delay: 59.4  
 Intersection LOS: E  
 Intersection Capacity Utilization 86.8%  
 ICU Level of Service E  
 Analysis Period (min) 15

Splits and Phases: 9: Schoolhouse Way & San Elijo Road



HCM 6th Signalized Intersection Summary  
 9: Schoolhouse Way & San Elijo Road

Existing Conditions  
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	412	141	312	946	7	155	14	180	23	33	98
Future Volume (veh/h)	34	412	141	312	946	7	155	14	180	23	33	98
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.63	1.00		0.99	1.00		0.81	1.00		0.86
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	40	485	150	351	1063	7	191	17	222	28	40	96
Peak Hour Factor	0.85	0.85	0.85	0.89	0.89	0.89	0.81	0.81	0.81	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	52	591	177	295	1374	9	275	24	479	155	221	278
Arrive On Green	0.03	0.25	0.25	0.17	0.38	0.38	0.17	0.17	0.17	0.20	0.20	0.20
Sat Flow, veh/h	1781	2334	700	1781	3619	24	1642	146	1291	755	1078	1355
Grp Volume(v), veh/h	40	366	269	351	522	548	208	0	222	68	0	96
Grp Sat Flow(s),veh/h/ln	1781	1777	1257	1781	1777	1866	1788	0	1291	1833	0	1355
Q Serve(g_s), s	3.4	29.2	30.7	25.0	38.9	38.9	16.5	0.0	20.9	4.6	0.0	9.1
Cycle Q Clear(g_c), s	3.4	29.2	30.7	25.0	38.9	38.9	16.5	0.0	20.9	4.6	0.0	9.1
Prop In Lane	1.00		0.56	1.00		0.01	0.92		1.00	0.41		1.00
Lane Grp Cap(c), veh/h	52	450	318	295	675	708	300	0	479	375	0	278
V/C Ratio(X)	0.76	0.81	0.85	1.19	0.77	0.77	0.69	0.00	0.46	0.18	0.00	0.35
Avail Cap(c_a), veh/h	590	883	624	295	675	708	592	0	690	425	0	314
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	72.7	53.0	53.5	63.0	41.1	41.1	59.2	0.0	40.5	49.6	0.0	51.4
Incr Delay (d2), s/veh	20.1	3.6	6.2	114.0	5.6	5.3	2.9	0.0	0.7	0.2	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	13.6	10.4	20.8	18.3	19.2	7.8	0.0	6.9	2.2	0.0	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	92.9	56.6	59.7	177.0	46.7	46.5	62.1	0.0	41.2	49.8	0.0	52.1
LnGrp LOS	F	E	E	F	D	D	E	A	D	D	A	D
Approach Vol, veh/h		675			1421			430			164	
Approach Delay, s/veh		60.0			78.8			51.3			51.2	
Approach LOS		E			E			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.4	67.3		40.4	30.5	48.2		31.8				
Change Period (Y+Rc), s	7.0	* 10		9.5	5.5	10.0		6.5				
Max Green Setting (Gmax), s	50.0	* 50		35.0	25.0	75.0		50.0				
Max Q Clear Time (g_c+I1), s	5.4	40.9		11.1	27.0	32.7		22.9				
Green Ext Time (p_c), s	0.1	4.7		0.7	0.0	5.5		2.4				

Intersection Summary

HCM 6th Ctrl Delay	68.0
HCM 6th LOS	E

Notes

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

Timings  
10: Rancho Santa Fe Road & San Elijo Road

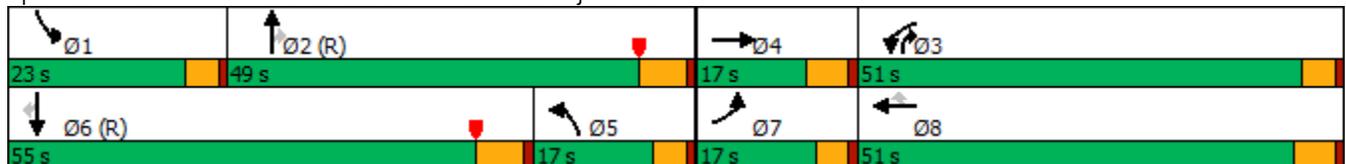
Existing Conditions  
AM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	17	8	954	24	146	9	848	279	120	1512	14
Future Volume (vph)	17	8	954	24	146	9	848	279	120	1512	14
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2	3	1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	3	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	6.0	6.0	4.0	6.0	5.0	4.0	6.0	6.0
Minimum Split (s)	9.5	53.5	9.5	53.5	53.5	8.5	44.0	9.5	8.5	37.0	37.0
Total Split (s)	17.0	17.0	51.0	51.0	51.0	17.0	49.0	51.0	23.0	55.0	55.0
Total Split (%)	12.1%	12.1%	36.4%	36.4%	36.4%	12.1%	35.0%	36.4%	16.4%	39.3%	39.3%
Yellow Time (s)	3.5	4.5	3.5	4.5	4.5	3.5	5.0	3.5	3.5	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.5	4.5	5.5	5.5	4.5	6.0	4.5	4.5	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes										
Recall Mode	None	None	None	None	None	None	C-Max	None	None	C-Max	C-Max
Act Effect Green (s)	6.5	7.7	44.4	45.2	45.2	6.5	62.0	107.9	9.6	72.7	72.7
Actuated g/C Ratio	0.05	0.06	0.32	0.32	0.32	0.05	0.44	0.77	0.07	0.52	0.52
v/c Ratio	0.29	0.23	0.93	0.04	0.26	0.12	0.40	0.23	0.54	0.61	0.02
Control Delay	72.8	42.1	61.3	30.8	5.5	65.0	29.1	0.8	71.5	27.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.8	42.1	61.3	30.8	5.5	65.0	29.1	0.8	71.5	27.7	0.1
LOS	E	D	E	C	A	E	C	A	E	C	A
Approach Delay		57.4		53.4			22.5			30.7	
Approach LOS		E		D			C			C	

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 110 (79%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 150  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.93  
 Intersection Signal Delay: 35.1  
 Intersection Capacity Utilization 84.2%  
 Analysis Period (min) 15  
 Intersection LOS: D  
 ICU Level of Service E

Splits and Phases: 10: Rancho Santa Fe Road & San Elijo Road



HCM 6th Signalized Intersection Summary  
 10: Rancho Santa Fe Road & San Elijo Road

Existing Conditions  
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶↷	↶	↷	↶	↶↷↶	↷	↶↷	↶↷↶	↷
Traffic Volume (veh/h)	17	8	9	954	24	146	9	848	279	120	1512	14
Future Volume (veh/h)	17	8	9	954	24	146	9	848	279	120	1512	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	11	12	1015	26	124	10	902	267	128	1609	12
Peak Hour Factor	0.71	0.71	0.71	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	39	37	40	1069	637	534	233	2247	1183	177	1787	542
Arrive On Green	0.02	0.05	0.05	0.31	0.34	0.34	0.13	0.44	0.44	0.05	0.35	0.35
Sat Flow, veh/h	1781	807	880	3456	1870	1570	1781	5106	1574	3456	5106	1547
Grp Volume(v), veh/h	24	0	23	1015	26	124	10	902	267	128	1609	12
Grp Sat Flow(s),veh/h/ln	1781	0	1687	1728	1870	1570	1781	1702	1574	1728	1702	1547
Q Serve(g_s), s	1.9	0.0	1.8	40.2	1.3	7.9	0.7	16.8	2.4	5.1	41.9	0.6
Cycle Q Clear(g_c), s	1.9	0.0	1.8	40.2	1.3	7.9	0.7	16.8	2.4	5.1	41.9	0.6
Prop In Lane	1.00		0.52	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	39	0	77	1069	637	534	233	2247	1183	177	1787	542
V/C Ratio(X)	0.62	0.00	0.30	0.95	0.04	0.23	0.04	0.40	0.23	0.72	0.90	0.02
Avail Cap(c_a), veh/h	159	0	139	1148	637	534	233	2247	1183	457	1787	542
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.24	0.24	0.24	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.9	0.0	64.7	47.3	30.9	33.1	53.2	26.7	1.2	65.4	43.2	21.6
Incr Delay (d2), s/veh	5.9	0.0	0.8	4.9	0.0	0.0	0.0	0.5	0.4	2.1	7.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.8	17.4	0.6	3.0	0.3	6.6	0.9	2.2	17.9	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.9	0.0	65.5	52.2	30.9	33.1	53.2	27.2	1.6	67.5	50.9	21.7
LnGrp LOS	E	A	E	D	C	C	D	C	A	E	D	C
Approach Vol, veh/h		47			1165			1179			1749	
Approach Delay, s/veh		69.7			49.7			21.6			51.9	
Approach LOS		E			D			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.7	67.6	48.8	11.9	24.3	55.0	7.5	53.2				
Change Period (Y+Rc), s	4.5	6.0	5.5	* 5.5	6.0	* 6	4.5	5.5				
Max Green Setting (Gmax), s	18.5	43.0	46.5	* 12	12.5	* 49	12.5	45.5				
Max Q Clear Time (g_c+I1), s	7.1	18.8	42.2	3.8	2.7	43.9	3.9	9.9				
Green Ext Time (p_c), s	0.1	4.0	1.1	0.0	0.0	3.1	0.0	0.3				

Intersection Summary

HCM 6th Ctrl Delay	42.9
HCM 6th LOS	D

Notes

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

Timings  
1: Dove Tail Drive/Melrose Drive & San Elijo Road

Existing Conditions  
PM Peak Hour

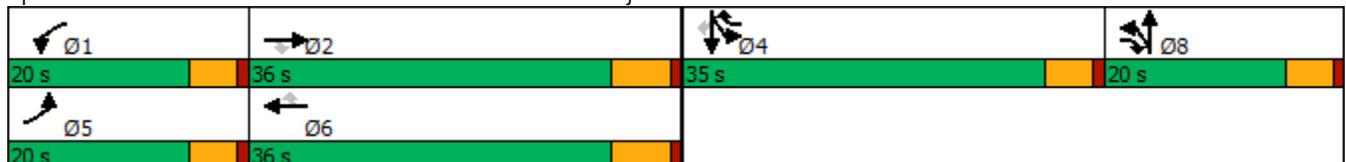


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	35	1089	84	59	561	321	46	57	740	59	49
Future Volume (vph)	35	1089	84	59	561	321	46	57	740	59	49
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Split	NA	Split	NA	Perm
Protected Phases	5	2	8	1	6	4	8	8	4	4	
Permitted Phases			2			6					4
Detector Phase	5	2	8	1	6	4	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	8.0	10.0	10.0	7.0	10.0	9.0	10.0	10.0	9.0	9.0	9.0
Minimum Split (s)	13.0	29.0	15.0	12.0	32.0	40.0	15.0	15.0	40.0	40.0	40.0
Total Split (s)	20.0	36.0	20.0	20.0	36.0	35.0	20.0	20.0	35.0	35.0	35.0
Total Split (%)	18.0%	32.4%	18.0%	18.0%	32.4%	31.5%	18.0%	18.0%	31.5%	31.5%	31.5%
Yellow Time (s)	4.0	5.0	4.0	4.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag						
Lead-Lag Optimize?											
Recall Mode	None	Min	None	None	Min	None	None	None	None	None	None
Act Effct Green (s)	8.3	30.2	41.9	8.3	33.0	65.1	10.7	10.7	31.1	31.1	31.1
Actuated g/C Ratio	0.08	0.31	0.42	0.08	0.33	0.66	0.11	0.11	0.32	0.32	0.32
v/c Ratio	0.26	1.09	0.13	0.43	0.51	0.30	0.29	0.42	0.87	0.86	0.10
Control Delay	49.4	90.6	2.9	53.9	29.6	1.5	46.9	45.0	51.4	50.1	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.4	90.6	2.9	53.9	29.6	1.5	46.9	45.0	51.4	50.1	0.3
LOS	D	F	A	D	C	A	D	D	D	D	A
Approach Delay		83.3			21.5			45.7		47.9	
Approach LOS		F			C			D		D	

Intersection Summary

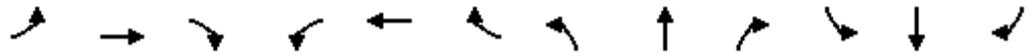
Cycle Length: 111  
 Actuated Cycle Length: 98.6  
 Natural Cycle: 100  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.09  
 Intersection Signal Delay: 53.6  
 Intersection LOS: D  
 Intersection Capacity Utilization 78.1%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 1: Dove Tail Drive/Melrose Drive & San Elijo Road



HCM 6th Signalized Intersection Summary  
 1: Dove Tail Drive/Melrose Drive & San Elijo Road

Existing Conditions  
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	1089	84	59	561	321	46	57	15	740	59	49
Future Volume (veh/h)	35	1089	84	59	561	321	46	57	15	740	59	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	1184	82	63	603	311	55	68	16	900	0	45
Peak Hour Factor	0.92	0.92	0.92	0.93	0.93	0.93	0.84	0.84	0.84	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	95	1135	653	107	1158	965	185	151	36	1045	0	453
Arrive On Green	0.05	0.32	0.32	0.06	0.33	0.33	0.10	0.10	0.10	0.29	0.00	0.29
Sat Flow, veh/h	1781	3554	1529	1781	3554	1535	1781	1457	343	3563	0	1543
Grp Volume(v), veh/h	38	1184	82	63	603	311	55	0	84	900	0	45
Grp Sat Flow(s),veh/h/ln	1781	1777	1529	1781	1777	1535	1781	0	1800	1781	0	1543
Q Serve(g_s), s	1.9	30.0	3.1	3.2	12.9	9.1	2.7	0.0	4.1	22.4	0.0	2.0
Cycle Q Clear(g_c), s	1.9	30.0	3.1	3.2	12.9	9.1	2.7	0.0	4.1	22.4	0.0	2.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	95	1135	653	107	1158	965	185	0	187	1045	0	453
V/C Ratio(X)	0.40	1.04	0.13	0.59	0.52	0.32	0.30	0.00	0.45	0.86	0.00	0.10
Avail Cap(c_a), veh/h	284	1135	653	284	1158	965	284	0	287	1138	0	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.0	32.0	16.5	43.0	25.7	8.5	38.9	0.0	39.6	31.4	0.0	24.2
Incr Delay (d2), s/veh	1.0	38.7	0.1	1.9	0.6	0.3	0.3	0.0	0.6	6.9	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	17.9	1.3	1.4	5.2	5.5	1.2	0.0	1.8	10.1	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.0	70.6	16.6	44.9	26.3	8.8	39.3	0.0	40.2	38.2	0.0	24.3
LnGrp LOS	D	F	B	D	C	A	D	A	D	D	A	C
Approach Vol, veh/h		1304			977			139				945
Approach Delay, s/veh		66.5			21.9			39.8				37.6
Approach LOS		E			C			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.6	36.0		32.5	10.0	36.6		14.7				
Change Period (Y+Rc), s	5.0	6.0		5.0	5.0	6.0		5.0				
Max Green Setting (Gmax), s	15.0	30.0		30.0	15.0	30.0		15.0				
Max Q Clear Time (g_c+I1), s	5.2	32.0		24.4	3.9	14.9		6.1				
Green Ext Time (p_c), s	0.0	0.0		2.6	0.0	5.9		0.2				

Intersection Summary

HCM 6th Ctrl Delay	44.3
HCM 6th LOS	D

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.

HCM 6th TWSC  
2: Street "E" & San Elijo Road

Existing Conditions  
PM Peak Hour

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑		↖
Traffic Vol, veh/h	1697	16	3	942	0	21
Future Vol, veh/h	1697	16	3	942	0	21
Conflicting Peds, #/hr	0	8	8	0	0	8
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	None
Storage Length	-	-	100	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	92	92	58	58
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1768	17	3	1024	0	36

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3	
Conflicting Flow All	0	-	1776	0	-	900
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.22	-	-	3.32
Pot Cap-1 Maneuver	-	0	346	-	0	282
Stage 1	-	0	-	-	0	-
Stage 2	-	0	-	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	343	-	-	278
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	19.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	278	-	343	-
HCM Lane V/C Ratio	0.13	-	0.01	-
HCM Control Delay (s)	19.9	-	15.6	-
HCM Lane LOS	C	-	C	-
HCM 95th %tile Q(veh)	0.4	-	0	-

Timings  
3: San Elijo Road SB & Cooke Street/Baker Street

Existing Conditions  
PM Peak Hour



Lane Group	EBT	WBL	WBT	SBT
Lane Configurations	↻		↻	↻↻
Traffic Volume (vph)	6	81	30	883
Future Volume (vph)	6	81	30	883
Turn Type	NA	Perm	NA	NA
Protected Phases	4		8	6
Permitted Phases		8		
Detector Phase	4	8	8	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	10.0
Minimum Split (s)	25.0	25.0	25.0	26.0
Total Split (s)	35.0	35.0	35.0	65.0
Total Split (%)	35.0%	35.0%	35.0%	65.0%
Yellow Time (s)	3.0	3.0	3.0	4.5
All-Red Time (s)	5.0	5.0	5.0	4.5
Lost Time Adjust (s)	0.0		0.0	0.0
Total Lost Time (s)	8.0		8.0	9.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	None	C-Max
Act Effect Green (s)	14.0		14.0	69.0
Actuated g/C Ratio	0.14		0.14	0.69
v/c Ratio	0.11		0.61	0.45
Control Delay	20.6		48.1	3.7
Queue Delay	0.0		0.0	0.1
Total Delay	20.6		48.1	3.8
LOS	C		D	A
Approach Delay	20.6		48.1	3.8
Approach LOS	C		D	A

Intersection Summary

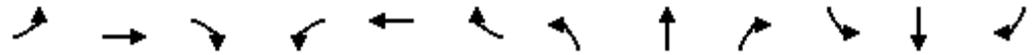
Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 33 (33%), Referenced to phase 6:SBTL, Start of Yellow  
 Natural Cycle: 55  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.61  
 Intersection Signal Delay: 8.6  
 Intersection Capacity Utilization 54.8%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 3: San Elijo Road SB & Cooke Street/Baker Street



HCM 6th Signalized Intersection Summary  
 3: San Elijo Road SB & Cooke Street/Baker Street

Existing Conditions  
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔						↔↔	
Traffic Volume (veh/h)	0	6	11	81	30	0	0	0	0	106	883	14
Future Volume (veh/h)	0	6	11	81	30	0	0	0	0	106	883	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00				1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	10	16	90	33	0				115	960	14
Peak Hour Factor	0.61	0.61	0.61	0.90	0.90	0.90				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	72	116	170	48	0				210	1841	28
Arrive On Green	0.00	0.11	0.11	0.11	0.11	0.00				0.18	0.18	0.18
Sat Flow, veh/h	0	639	1022	952	424	0				374	3287	50
Grp Volume(v), veh/h	0	0	26	123	0	0				569	0	520
Grp Sat Flow(s),veh/h/ln	0	0	1661	1376	0	0				1852	0	1859
Q Serve(g_s), s	0.0	0.0	1.4	7.5	0.0	0.0				27.9	0.0	25.1
Cycle Q Clear(g_c), s	0.0	0.0	1.4	8.9	0.0	0.0				27.9	0.0	25.1
Prop In Lane	0.00		0.62	0.73		0.00				0.20		0.03
Lane Grp Cap(c), veh/h	0	0	188	218	0	0				1037	0	1041
V/C Ratio(X)	0.00	0.00	0.14	0.56	0.00	0.00				0.55	0.00	0.50
Avail Cap(c_a), veh/h	0	0	449	451	0	0				1037	0	1041
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				0.33	0.33	0.33
Upstream Filter(I)	0.00	0.00	1.00	0.70	0.00	0.00				0.90	0.00	0.90
Uniform Delay (d), s/veh	0.0	0.0	39.9	43.6	0.0	0.0				29.3	0.0	28.2
Incr Delay (d2), s/veh	0.0	0.0	0.1	1.6	0.0	0.0				1.9	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.6	3.1	0.0	0.0				14.3	0.0	12.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	40.0	45.2	0.0	0.0				31.2	0.0	29.7
LnGrp LOS	A	A	D	D	A	A				C	A	C
Approach Vol, veh/h		26			123						1089	
Approach Delay, s/veh		40.0			45.2						30.5	
Approach LOS		D			D						C	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				19.3		65.0		19.3				
Change Period (Y+Rc), s				8.0		9.0		8.0				
Max Green Setting (Gmax), s				27.0		56.0		27.0				
Max Q Clear Time (g_c+I1), s				3.4		29.9		10.9				
Green Ext Time (p_c), s				0.1		8.7		0.5				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			32.1									
HCM 6th LOS			C									

Timings  
4: San Elijo Road NB & Baker Street

Existing Conditions  
PM Peak Hour

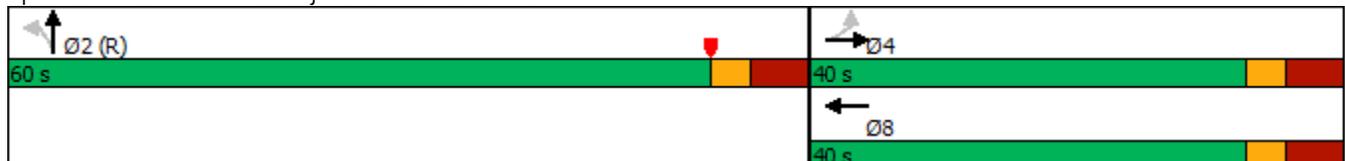


Lane Group	EBL	EBT	WBT	NBT
Lane Configurations		↔	↔	↔↔
Traffic Volume (vph)	44	86	49	1563
Future Volume (vph)	44	86	49	1563
Turn Type	Perm	NA	NA	NA
Protected Phases		4	8	2
Permitted Phases	4			
Detector Phase	4	4	8	2
Switch Phase				
Minimum Initial (s)	8.0	8.0	8.0	10.0
Minimum Split (s)	24.5	24.5	24.5	24.5
Total Split (s)	40.0	40.0	40.0	60.0
Total Split (%)	40.0%	40.0%	40.0%	60.0%
Yellow Time (s)	3.0	3.0	3.0	3.0
All-Red Time (s)	4.5	4.5	4.5	4.5
Lost Time Adjust (s)		0.0	0.0	0.0
Total Lost Time (s)		7.5	7.5	7.5
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	None	C-Max
Act Effect Green (s)		14.8	14.8	70.2
Actuated g/C Ratio		0.15	0.15	0.70
v/c Ratio		0.65	0.66	0.68
Control Delay		44.8	48.9	11.1
Queue Delay		0.0	0.0	0.4
Total Delay		44.8	48.9	11.5
LOS		D	D	B
Approach Delay		44.8	48.9	11.5
Approach LOS		D	D	B

Intersection Summary

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 0 (0%), Referenced to phase 2:NBT, Start of Yellow  
 Natural Cycle: 65  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.68  
 Intersection Signal Delay: 16.7  
 Intersection Capacity Utilization 86.1%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service E

Splits and Phases: 4: San Elijo Road NB & Baker Street



HCM 6th Signalized Intersection Summary  
 4: San Elijo Road NB & Baker Street

Existing Conditions  
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	86	0	0	49	91	55	1563	44	0	0	0
Future Volume (veh/h)	44	86	0	0	49	91	55	1563	44	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	0.89		1.00	1.00		0.80	1.00		0.95			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	47	92	0	0	53	89	56	1579	40			
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.99	0.99	0.99			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	88	150	0	0	91	153	81	2383	63			
Arrive On Green	0.17	0.17	0.00	0.00	0.17	0.17	0.68	0.68	0.68			
Sat Flow, veh/h	238	885	0	0	538	903	119	3501	93			
Grp Volume(v), veh/h	139	0	0	0	0	142	879	0	796			
Grp Sat Flow(s),veh/h/ln	1123	0	0	0	0	1441	1864	0	1848			
Q Serve(g_s), s	4.1	0.0	0.0	0.0	0.0	9.1	28.5	0.0	24.2			
Cycle Q Clear(g_c), s	13.2	0.0	0.0	0.0	0.0	9.1	28.5	0.0	24.2			
Prop In Lane	0.34		0.00	0.00		0.63	0.06		0.05			
Lane Grp Cap(c), veh/h	238	0	0	0	0	244	1269	0	1258			
V/C Ratio(X)	0.58	0.00	0.00	0.00	0.00	0.58	0.69	0.00	0.63			
Avail Cap(c_a), veh/h	475	0	0	0	0	468	1269	0	1258			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	39.6	0.0	0.0	0.0	0.0	38.3	9.6	0.0	9.0			
Incr Delay (d2), s/veh	2.3	0.0	0.0	0.0	0.0	2.2	3.1	0.0	2.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.5	0.0	0.0	0.0	0.0	3.4	11.4	0.0	9.5			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.9	0.0	0.0	0.0	0.0	40.5	12.8	0.0	11.4			
LnGrp LOS	D	A	A	A	A	D	B	A	B			
Approach Vol, veh/h		139			142			1675				
Approach Delay, s/veh		41.9			40.5			12.1				
Approach LOS		D			D			B				
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		75.6		24.4				24.4				
Change Period (Y+Rc), s		7.5		7.5				7.5				
Max Green Setting (Gmax), s		52.5		32.5				32.5				
Max Q Clear Time (g_c+I1), s		30.5		15.2				11.1				
Green Ext Time (p_c), s		14.1		0.7				0.9				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			16.3									
HCM 6th LOS			B									

Timings  
5: San Elijo Road SB & Elfin Forest Road EB

Existing Conditions  
PM Peak Hour



Lane Group	EBT	SBT
Lane Configurations	↑↑	↑↑
Traffic Volume (vph)	99	926
Future Volume (vph)	99	926
Turn Type	NA	NA
Protected Phases	4	6
Permitted Phases		
Detector Phase	4	6
Switch Phase		
Minimum Initial (s)	5.0	10.0
Minimum Split (s)	25.0	26.0
Total Split (s)	30.0	70.0
Total Split (%)	30.0%	70.0%
Yellow Time (s)	3.0	4.5
All-Red Time (s)	5.0	4.5
Lost Time Adjust (s)	0.0	0.0
Total Lost Time (s)	8.0	9.0
Lead/Lag		
Lead-Lag Optimize?		
Recall Mode	None	C-Max
Act Effct Green (s)	11.5	71.5
Actuated g/C Ratio	0.12	0.72
v/c Ratio	0.55	0.43
Control Delay	35.9	3.8
Queue Delay	0.0	0.1
Total Delay	35.9	3.9
LOS	D	A
Approach Delay	35.9	3.9
Approach LOS	D	A

Intersection Summary

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 25 (25%), Referenced to phase 6:SBTL, Start of Yellow  
 Natural Cycle: 55  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.55  
 Intersection Signal Delay: 10.1  
 Intersection Capacity Utilization 55.5%  
 Analysis Period (min) 15

Intersection LOS: B  
 ICU Level of Service B

Splits and Phases: 5: San Elijo Road SB & Elfin Forest Road EB



HCM 6th Signalized Intersection Summary  
5: San Elijo Road SB & Elfin Forest Road EB

Existing Conditions  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 									 	
Traffic Volume (veh/h)	0	99	123	0	0	0	0	0	0	108	926	0
Future Volume (veh/h)	0	99	123	0	0	0	0	0	0	108	926	0
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90							1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00							1.00	1.00	1.00
Work Zone On Approach		No									No	
Adj Sat Flow, veh/h/ln	0	1870	1870							1870	1870	0
Adj Flow Rate, veh/h	0	116	131							114	975	0
Peak Hour Factor	0.85	0.85	0.85							0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2							2	2	0
Cap, veh/h	0	252	203							236	1873	0
Arrive On Green	0.00	0.05	0.05							0.20	0.20	0.00
Sat Flow, veh/h	0	1870	1431							316	3156	0
Grp Volume(v), veh/h	0	116	131							571	518	0
Grp Sat Flow(s),veh/h/ln	0	1777	1431							1770	1617	0
Q Serve(g_s), s	0.0	6.4	9.0							22.5	28.6	0.0
Cycle Q Clear(g_c), s	0.0	6.4	9.0							28.6	28.6	0.0
Prop In Lane	0.00		1.00							0.20		0.00
Lane Grp Cap(c), veh/h	0	252	203							1123	986	0
V/C Ratio(X)	0.00	0.46	0.65							0.51	0.52	0.00
Avail Cap(c_a), veh/h	0	391	315							1123	986	0
HCM Platoon Ratio	1.00	0.33	0.33							0.33	0.33	1.00
Upstream Filter(I)	0.00	1.00	1.00							0.88	0.88	0.00
Uniform Delay (d), s/veh	0.0	43.9	45.2							26.9	27.0	0.0
Incr Delay (d2), s/veh	0.0	1.3	3.4							1.5	1.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.0	3.6							14.1	12.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	45.2	48.6							28.3	28.7	0.0
LnGrp LOS	A	D	D							C	C	A
Approach Vol, veh/h		247									1089	
Approach Delay, s/veh		47.0									28.5	
Approach LOS		D									C	
Timer - Assigned Phs				4		6						
Phs Duration (G+Y+Rc), s				22.2		70.0						
Change Period (Y+Rc), s				8.0		9.0						
Max Green Setting (Gmax), s				22.0		61.0						
Max Q Clear Time (g_c+I1), s				11.0		30.6						
Green Ext Time (p_c), s				1.1		9.1						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			31.9									
HCM 6th LOS			C									

Timings  
6: San Elijo Road NB & Elfin Forest Road EB

Existing Conditions  
PM Peak Hour

	→	↑
Lane Group	EBT	NBT
Lane Configurations	↔↑	↑↔
Traffic Volume (vph)	98	1136
Future Volume (vph)	98	1136
Turn Type	NA	NA
Protected Phases	4	2
Permitted Phases		
Detector Phase	4	2
Switch Phase		
Minimum Initial (s)	5.0	10.0
Minimum Split (s)	25.0	25.0
Total Split (s)	30.0	70.0
Total Split (%)	30.0%	70.0%
Yellow Time (s)	3.5	3.0
All-Red Time (s)	4.5	5.0
Lost Time Adjust (s)	0.0	0.0
Total Lost Time (s)	8.0	8.0
Lead/Lag		
Lead-Lag Optimize?		
Recall Mode	None	C-Max
Act Effct Green (s)	11.4	72.6
Actuated g/C Ratio	0.11	0.73
v/c Ratio	0.48	0.74
Control Delay	32.1	3.8
Queue Delay	0.0	0.1
Total Delay	32.1	3.9
LOS	C	A
Approach Delay	32.1	3.9
Approach LOS	C	A

Intersection Summary

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 8 (8%), Referenced to phase 2:NBT, Start of Yellow  
 Natural Cycle: 70  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.74  
 Intersection Signal Delay: 7.1  
 Intersection Capacity Utilization 70.2%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service C

Splits and Phases: 6: San Elijo Road NB & Elfin Forest Road EB



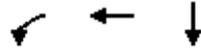
HCM 6th Signalized Intersection Summary  
6: San Elijo Road NB & Elfin Forest Road EB

Existing Conditions  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 						 				
Traffic Volume (veh/h)	92	98	0	0	0	0	0	1136	568	0	0	0
Future Volume (veh/h)	92	98	0	0	0	0	0	1136	568	0	0	0
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.95			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Work Zone On Approach		No						No				
Adj Sat Flow, veh/h/ln	1870	1870	0				0	1870	1870			
Adj Flow Rate, veh/h	108	115	0				0	1147	516			
Peak Hour Factor	0.85	0.85	0.85				0.99	0.99	0.99			
Percent Heavy Veh, %	2	2	0				0	2	2			
Cap, veh/h	240	252	0				0	1671	714			
Arrive On Green	0.14	0.14	0.00				0.00	0.70	0.70			
Sat Flow, veh/h	1259	1911	0				0	2474	1017			
Grp Volume(v), veh/h	126	97	0				0	841	822			
Grp Sat Flow(s),veh/h/ln	1468	1617	0				0	1777	1620			
Q Serve(g_s), s	8.1	5.5	0.0				0.0	26.8	30.7			
Cycle Q Clear(g_c), s	8.1	5.5	0.0				0.0	26.8	30.7			
Prop In Lane	0.86		0.00				0.00		0.63			
Lane Grp Cap(c), veh/h	269	223	0				0	1248	1138			
V/C Ratio(X)	0.47	0.44	0.00				0.00	0.67	0.72			
Avail Cap(c_a), veh/h	390	356	0				0	1248	1138			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	0.81	0.81	0.00				0.00	0.67	0.67			
Uniform Delay (d), s/veh	40.7	39.5	0.0				0.0	8.4	9.0			
Incr Delay (d2), s/veh	1.0	1.1	0.0				0.0	2.0	2.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.0	2.3	0.0				0.0	9.6	10.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.7	40.6	0.0				0.0	10.4	11.7			
LnGrp LOS	D	D	A				A	B	B			
Approach Vol, veh/h		223						1663				
Approach Delay, s/veh		41.2						11.0				
Approach LOS		D						B				
Timer - Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		78.2		21.8								
Change Period (Y+Rc), s		8.0		8.0								
Max Green Setting (Gmax), s		62.0		22.0								
Max Q Clear Time (g_c+I1), s		32.7		10.1								
Green Ext Time (p_c), s		17.3		0.9								
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			14.6									
HCM 6th LOS			B									

Timings  
7: San Elijo Road SB & Elfin Forest Road WB

Existing Conditions  
PM Peak Hour

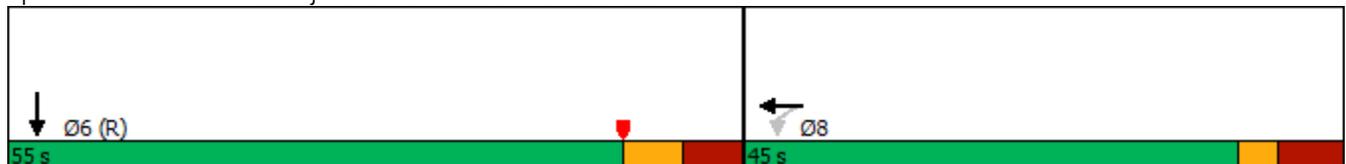


Lane Group	WBL	WBT	SBT
Lane Configurations	↶	↷	↷↶
Traffic Volume (vph)	271	237	713
Future Volume (vph)	271	237	713
Turn Type	Perm	NA	NA
Protected Phases		8	6
Permitted Phases	8		
Detector Phase	8	8	6
Switch Phase			
Minimum Initial (s)	10.0	10.0	10.0
Minimum Split (s)	25.0	25.0	26.0
Total Split (s)	45.0	45.0	55.0
Total Split (%)	45.0%	45.0%	55.0%
Yellow Time (s)	3.0	3.0	4.5
All-Red Time (s)	5.0	5.0	4.5
Lost Time Adjust (s)	0.0	0.0	0.0
Total Lost Time (s)	8.0	8.0	9.0
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	None	None	C-Max
Act Effct Green (s)	24.3	24.3	58.7
Actuated g/C Ratio	0.24	0.24	0.59
v/c Ratio	0.63	0.69	0.40
Control Delay	15.5	23.5	12.8
Queue Delay	0.1	0.2	0.0
Total Delay	15.7	23.7	12.8
LOS	B	C	B
Approach Delay		19.8	12.8
Approach LOS		B	B

Intersection Summary

Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 16 (16%), Referenced to phase 6:SBT, Start of Yellow	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 15.9	Intersection LOS: B
Intersection Capacity Utilization 92.8%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 7: San Elijo Road SB & Elfin Forest Road WB



HCM 6th Signalized Intersection Summary  
7: San Elijo Road SB & Elfin Forest Road WB

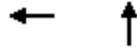
Existing Conditions  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↗						↕	↘
Traffic Volume (veh/h)	0	0	0	271	237	0	0	0	0	0	713	76
Future Volume (veh/h)	0	0	0	271	237	0	0	0	0	0	713	76
Initial Q (Qb), veh				0	0	0				0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00				1.00		0.95
Parking Bus, Adj				1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach				No							No	
Adj Sat Flow, veh/h/ln				1870	1870	0				0	1870	1870
Adj Flow Rate, veh/h				318	326	0				0	743	71
Peak Hour Factor				0.80	0.80	0.80				0.96	0.96	0.96
Percent Heavy Veh, %				2	2	0				0	2	2
Cap, veh/h				485	434	0				0	1501	143
Arrive On Green				0.23	0.23	0.00				0.00	0.46	0.46
Sat Flow, veh/h				1781	1870	0				0	3356	312
Grp Volume(v), veh/h				318	326	0				0	404	410
Grp Sat Flow(s),veh/h/ln				1781	1870	0				0	1777	1797
Q Serve(g_s), s				16.7	16.2	0.0				0.0	15.9	15.9
Cycle Q Clear(g_c), s				16.7	16.2	0.0				0.0	15.9	15.9
Prop In Lane				1.00		0.00				0.00		0.17
Lane Grp Cap(c), veh/h				485	434	0				0	817	827
V/C Ratio(X)				0.66	0.75	0.00				0.00	0.49	0.50
Avail Cap(c_a), veh/h				731	692	0				0	817	827
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				0.67	0.67	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				35.9	35.7	0.0				0.0	18.9	18.9
Incr Delay (d2), s/veh				2.2	3.8	0.0				0.0	2.1	2.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				7.5	7.8	0.0				0.0	6.9	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				38.1	39.5	0.0				0.0	21.0	21.0
LnGrp LOS				D	D	A				A	C	C
Approach Vol, veh/h					644						814	
Approach Delay, s/veh					38.8						21.0	
Approach LOS					D						C	
Timer - Assigned Phs					6			8				
Phs Duration (G+Y+Rc), s					55.0			31.2				
Change Period (Y+Rc), s					9.0			8.0				
Max Green Setting (Gmax), s					46.0			37.0				
Max Q Clear Time (g_c+I1), s					17.9			18.7				
Green Ext Time (p_c), s					6.1			4.5				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				28.9								
HCM 6th LOS				C								
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												

Timings  
8: San Elijo Road NB & Elfin Forest Road WB

Existing Conditions  
PM Peak Hour



Lane Group	WBT	NBT
Lane Configurations	↑↑	↑↑
Traffic Volume (vph)	274	1054
Future Volume (vph)	274	1054
Turn Type	NA	NA
Protected Phases	8	2
Permitted Phases		
Detector Phase	8	2
Switch Phase		
Minimum Initial (s)	5.0	10.0
Minimum Split (s)	25.5	25.0
Total Split (s)	40.0	60.0
Total Split (%)	40.0%	60.0%
Yellow Time (s)	3.5	3.0
All-Red Time (s)	5.0	5.0
Lost Time Adjust (s)	0.0	0.0
Total Lost Time (s)	8.5	8.0
Lead/Lag		
Lead-Lag Optimize?		
Recall Mode	None	C-Max
Act Effct Green (s)	17.0	66.5
Actuated g/C Ratio	0.17	0.66
v/c Ratio	0.69	0.61
Control Delay	41.2	5.2
Queue Delay	0.0	0.8
Total Delay	41.2	6.0
LOS	D	A
Approach Delay	41.2	6.0
Approach LOS	D	A

Intersection Summary

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 16 (16%), Referenced to phase 2:NBTL, Start of Yellow  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.69  
 Intersection Signal Delay: 13.9  
 Intersection Capacity Utilization 78.6%  
 Analysis Period (min) 15

Intersection LOS: B  
 ICU Level of Service D

Splits and Phases: 8: San Elijo Road NB & Elfin Forest Road WB



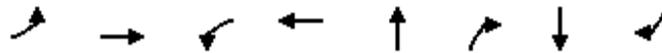
HCM 6th Signalized Intersection Summary  
8: San Elijo Road NB & Elfin Forest Road WB

Existing Conditions  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	274	75	234	1054	0	0	0	0
Future Volume (veh/h)	0	0	0	0	274	75	234	1054	0	0	0	0
Initial Q (Qb), veh				0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)				1.00		0.92	1.00		1.00			
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach				No			No					
Adj Sat Flow, veh/h/ln				0	1870	1870	1870	1870	0			
Adj Flow Rate, veh/h				0	326	79	260	1171	0			
Peak Hour Factor				0.84	0.84	0.84	0.90	0.90	0.90			
Percent Heavy Veh, %				0	2	2	2	2	0			
Cap, veh/h				0	454	108	445	1823	0			
Arrive On Green				0.00	0.16	0.16	0.22	0.22	0.00			
Sat Flow, veh/h				0	2891	663	589	2796	0			
Grp Volume(v), veh/h				0	204	201	743	688	0			
Grp Sat Flow(s),veh/h/ln				0	1777	1684	1682	1617	0			
Q Serve(g_s), s				0.0	10.9	11.3	40.2	38.5	0.0			
Cycle Q Clear(g_c), s				0.0	10.9	11.3	40.2	38.5	0.0			
Prop In Lane				0.00		0.39	0.35		0.00			
Lane Grp Cap(c), veh/h				0	288	273	1180	1088	0			
V/C Ratio(X)				0.00	0.71	0.73	0.63	0.63	0.00			
Avail Cap(c_a), veh/h				0	560	530	1180	1088	0			
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00			
Upstream Filter(I)				0.00	1.00	1.00	0.60	0.60	0.00			
Uniform Delay (d), s/veh				0.0	39.7	39.8	28.4	27.7	0.0			
Incr Delay (d2), s/veh				0.0	3.2	3.8	1.5	1.7	0.0			
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln				0.0	5.0	5.0	18.6	17.1	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				0.0	42.9	43.6	29.9	29.4	0.0			
LnGrp LOS				A	D	D	C	C	A			
Approach Vol, veh/h					405			1431				
Approach Delay, s/veh					43.2			29.7				
Approach LOS					D			C				
Timer - Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		75.3						24.7				
Change Period (Y+Rc), s		8.0						8.5				
Max Green Setting (Gmax), s		52.0						31.5				
Max Q Clear Time (g_c+I1), s		42.2						13.3				
Green Ext Time (p_c), s		6.6						2.4				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay					32.7							
HCM 6th LOS					C							

Timings  
9: Schoolhouse Way & San Elijo Road

Existing Conditions  
PM Peak Hour

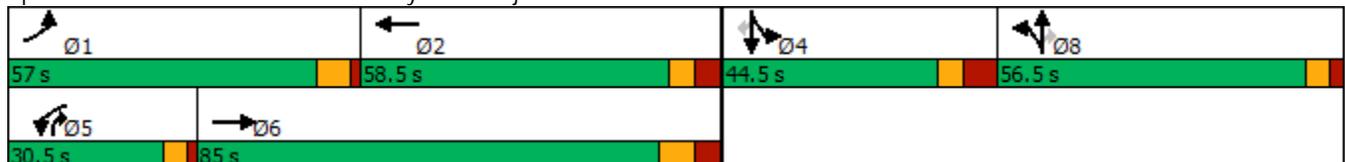


Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	65	1040	35	725	10	51	3	58
Future Volume (vph)	65	1040	35	725	10	51	3	58
Turn Type	Prot	NA	Prot	NA	NA	pm+ov	NA	Perm
Protected Phases	1	6	5	2	8	5	4	
Permitted Phases						8		4
Detector Phase	1	6	5	2	8	5	4	4
Switch Phase								
Minimum Initial (s)	5.0	15.0	6.0	15.0	6.0	6.0	6.0	6.0
Minimum Split (s)	12.0	37.0	11.5	35.5	12.5	11.5	44.5	44.5
Total Split (s)	57.0	85.0	30.5	58.5	56.5	30.5	44.5	44.5
Total Split (%)	26.3%	39.3%	14.1%	27.0%	26.1%	14.1%	20.6%	20.6%
Yellow Time (s)	5.5	5.5	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	4.5	1.5	4.5	2.5	1.5	5.5	5.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	10.0	5.5	8.5	6.5	5.5	9.5	9.5
Lead/Lag	Lead	Lag	Lead	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes		
Recall Mode	None	Min	None	Min	None	None	None	None
Act Effct Green (s)	11.7	53.2	9.0	50.5	15.6	25.7	21.2	21.2
Actuated g/C Ratio	0.09	0.40	0.07	0.38	0.12	0.19	0.16	0.16
v/c Ratio	0.45	0.80	0.31	0.60	0.56	0.29	0.12	0.23
Control Delay	77.0	41.8	77.7	36.8	73.4	10.2	52.6	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.0	41.8	77.7	36.8	73.4	10.2	52.6	1.8
LOS	E	D	E	D	E	B	D	A
Approach Delay		43.8		38.6	41.8		17.1	
Approach LOS		D		D	D		B	

Intersection Summary

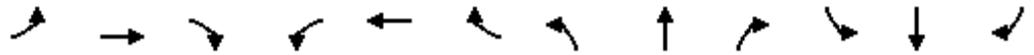
Cycle Length: 216.5  
 Actuated Cycle Length: 133.3  
 Natural Cycle: 110  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.80  
 Intersection Signal Delay: 40.5  
 Intersection LOS: D  
 Intersection Capacity Utilization 68.9%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 9: Schoolhouse Way & San Elijo Road



HCM 6th Signalized Intersection Summary  
 9: Schoolhouse Way & San Elijo Road

Existing Conditions  
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↖	↗		↖	↗
Traffic Volume (veh/h)	65	1040	23	35	725	32	41	10	51	22	3	58
Future Volume (veh/h)	65	1040	23	35	725	32	41	10	51	22	3	58
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	69	1106	22	37	771	31	93	23	93	31	4	64
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.44	0.44	0.44	0.72	0.72	0.72
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	91	1428	28	73	1298	52	140	35	211	156	20	148
Arrive On Green	0.05	0.40	0.40	0.04	0.37	0.37	0.10	0.10	0.10	0.10	0.10	0.10
Sat Flow, veh/h	1781	3560	71	1781	3478	140	1442	357	1508	1586	205	1506
Grp Volume(v), veh/h	69	552	576	37	394	408	116	0	93	35	0	64
Grp Sat Flow(s),veh/h/ln	1781	1777	1854	1781	1777	1841	1798	0	1508	1791	0	1506
Q Serve(g_s), s	3.3	23.4	23.5	1.8	15.5	15.5	5.4	0.0	4.9	1.6	0.0	3.5
Cycle Q Clear(g_c), s	3.3	23.4	23.5	1.8	15.5	15.5	5.4	0.0	4.9	1.6	0.0	3.5
Prop In Lane	1.00		0.04	1.00		0.08	0.80		1.00	0.89		1.00
Lane Grp Cap(c), veh/h	91	713	743	73	663	687	175	0	211	176	0	148
V/C Ratio(X)	0.75	0.77	0.77	0.51	0.59	0.59	0.66	0.00	0.44	0.20	0.00	0.43
Avail Cap(c_a), veh/h	1025	1534	1601	513	1023	1059	1035	0	933	722	0	607
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.7	22.6	22.6	40.8	21.9	21.9	37.8	0.0	34.4	36.0	0.0	36.9
Incr Delay (d2), s/veh	11.8	1.8	1.8	5.4	0.9	0.8	4.3	0.0	1.4	0.5	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	9.5	9.9	0.9	6.2	6.5	2.6	0.0	1.9	0.7	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.5	24.4	24.4	46.2	22.8	22.8	42.1	0.0	35.8	36.6	0.0	38.9
LnGrp LOS	D	C	C	D	C	C	D	A	D	D	A	D
Approach Vol, veh/h		1197			839			209				99
Approach Delay, s/veh		26.0			23.8			39.3				38.0
Approach LOS		C			C			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.5	42.4		18.0	9.0	44.8		14.9				
Change Period (Y+Rc), s	7.0	* 10		9.5	5.5	10.0		6.5				
Max Green Setting (Gmax), s	50.0	* 50		35.0	25.0	75.0		50.0				
Max Q Clear Time (g_c+I1), s	5.3	17.5		5.5	3.8	25.5		7.4				
Green Ext Time (p_c), s	0.2	5.5		0.4	0.1	9.4		1.1				

Intersection Summary

HCM 6th Ctrl Delay	26.9
HCM 6th LOS	C

Notes

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

Timings  
10: Rancho Santa Fe Road & San Elijo Road

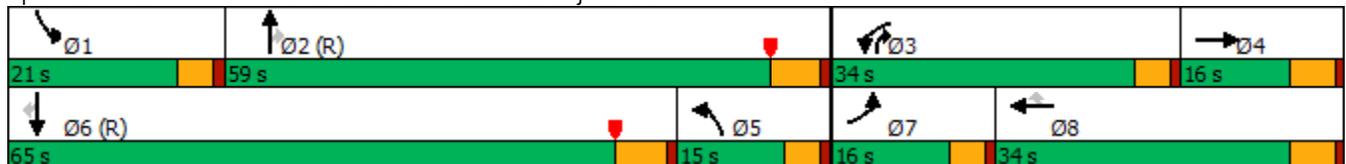
Existing Conditions  
PM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	16	16	571	24	59	16	1349	902	270	1046	40
Future Volume (vph)	16	16	571	24	59	16	1349	902	270	1046	40
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2	3	1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	3	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	6.0	6.0	4.0	6.0	5.0	4.0	6.0	6.0
Minimum Split (s)	9.5	53.5	9.5	53.5	53.5	8.5	44.0	9.5	8.5	37.0	37.0
Total Split (s)	16.0	16.0	34.0	34.0	34.0	15.0	59.0	34.0	21.0	65.0	65.0
Total Split (%)	12.3%	12.3%	26.2%	26.2%	26.2%	11.5%	45.4%	26.2%	16.2%	50.0%	50.0%
Yellow Time (s)	3.5	4.5	3.5	4.5	4.5	3.5	5.0	3.5	3.5	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.5	4.5	5.5	5.5	4.5	6.0	4.5	4.5	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes										
Recall Mode	None	None	None	None	None	None	C-Max	None	None	C-Max	C-Max
Act Effct Green (s)	6.4	7.4	27.6	28.3	28.3	7.2	64.1	93.2	14.6	77.1	77.1
Actuated g/C Ratio	0.05	0.06	0.21	0.22	0.22	0.06	0.49	0.72	0.11	0.59	0.59
v/c Ratio	0.27	0.31	0.87	0.07	0.14	0.17	0.57	0.79	0.76	0.37	0.04
Control Delay	66.6	50.0	62.7	38.9	0.6	60.9	26.4	13.8	68.8	16.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.6	50.0	62.7	38.9	0.6	60.9	26.4	13.8	68.8	16.9	0.1
LOS	E	D	E	D	A	E	C	B	E	B	A
Approach Delay		56.7		56.2			21.6			26.7	
Approach LOS		E		E			C			C	

Intersection Summary

Cycle Length: 130  
 Actuated Cycle Length: 130  
 Offset: 50 (38%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 150  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.87  
 Intersection Signal Delay: 29.0  
 Intersection LOS: C  
 Intersection Capacity Utilization 81.1%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 10: Rancho Santa Fe Road & San Elijo Road



HCM 6th Signalized Intersection Summary  
 10: Rancho Santa Fe Road & San Elijo Road

Existing Conditions  
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				  		 	  	
Traffic Volume (veh/h)	16	16	8	571	24	59	16	1349	902	270	1046	40
Future Volume (veh/h)	16	16	8	571	24	59	16	1349	902	270	1046	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	23	23	10	634	27	53	17	1435	941	290	1125	34
Peak Hour Factor	0.71	0.71	0.71	0.90	0.90	0.90	0.94	0.94	0.94	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	39	48	21	691	406	344	246	2574	1115	343	2317	703
Arrive On Green	0.02	0.04	0.04	0.20	0.22	0.22	0.14	0.50	0.50	0.10	0.45	0.45
Sat Flow, veh/h	1781	1221	531	3456	1870	1585	1781	5106	1584	3456	5106	1549
Grp Volume(v), veh/h	23	0	33	634	27	53	17	1435	941	290	1125	34
Grp Sat Flow(s),veh/h/ln	1781	0	1751	1728	1870	1585	1781	1702	1584	1728	1702	1549
Q Serve(g_s), s	1.7	0.0	2.4	23.4	1.5	3.5	1.1	25.2	56.3	10.7	20.1	1.3
Cycle Q Clear(g_c), s	1.7	0.0	2.4	23.4	1.5	3.5	1.1	25.2	56.3	10.7	20.1	1.3
Prop In Lane	1.00		0.30	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	39	0	68	691	406	344	246	2574	1115	343	2317	703
V/C Ratio(X)	0.60	0.00	0.48	0.92	0.07	0.15	0.07	0.56	0.84	0.84	0.49	0.05
Avail Cap(c_a), veh/h	158	0	141	784	410	347	246	2574	1115	439	2317	703
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.89	0.89	0.89	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.0	0.0	61.2	51.0	40.4	41.2	48.8	22.2	14.0	57.6	24.9	13.1
Incr Delay (d2), s/veh	5.3	0.0	2.0	12.5	0.0	0.1	0.0	0.9	7.8	9.4	0.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	1.1	11.0	0.7	1.4	0.5	9.4	18.9	5.0	7.7	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.4	0.0	63.2	63.5	40.4	41.3	48.8	23.1	21.9	67.0	25.6	13.2
LnGrp LOS	E	A	E	E	D	D	D	C	C	E	C	B
Approach Vol, veh/h		56			714			2393			1449	
Approach Delay, s/veh		65.3			61.0			22.8			33.6	
Approach LOS		E			E			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.4	71.5	30.5	10.6	24.0	65.0	7.3	33.7				
Change Period (Y+Rc), s	4.5	6.0	4.5	5.5	6.0	* 6	4.5	5.5				
Max Green Setting (Gmax), s	16.5	53.0	29.5	10.5	10.5	* 59	11.5	28.5				
Max Q Clear Time (g_c+I1), s	12.7	58.3	25.4	4.4	3.1	22.1	3.7	5.5				
Green Ext Time (p_c), s	0.2	0.0	0.6	0.0	0.0	5.0	0.0	0.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			32.6									
HCM 6th LOS			C									
<b>Notes</b>												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

## Appendix D Cumulative Project Information



#	Status	Project	Location	Land Use	Intensity	Unit	Buildout Year
1	Condos Only Under	Corner @ 2 Oaks	SW corner of San Marcos Blvd & N Twin Oaks Valley Rd	Office/retail	13,499	SF	2020
				Townhouse Condominiums	118	DU	2019
2	Proposed	Block 3 Student Housing	NE Corner of Barham Drive & June Way	36 Unit Student Housing	342	BEDS	2021
3	Proposed	Kaiser Permanente	Craven Rd	206 Bed Hospital	428,500	SF	2023
4	Approved	Fenton North	Craven Rd	Office/Commercial/Residential	41	AC	
5	Proposed	Main Square	SE corner of San Marcos Blvd & McMahr Rd	Apartments*	468	DU	2021
				Commercial	44,007	SF	2021
6	Proposed	Raising Canes	105 S. Las Posas Rd.	Drive-thru Resturant (demolition of existing 7,897 SF sit-down restaurant to accommodate new buidling)	4,185	SF	2021
7	Proposed	Woodsprings Suites	NE corner of Grand Ave & Pacific St	Hotel	122	ROOM	2020
8	Under Construction	Brookfield Residential	S Twin Oaks Valley Rd	Single-Family Residential	346	DU	2019
9	Under Construction	Brookfield Residential	S Twin Oaks Valley Rd	Multi-family Residential	220	DU	2021
10	Approved	San Marcos Highlands Highlands	North end of N Las Posas Rd	Single-Family Residential	187	DU	2023
11	Approved	The Marc (Dahvia Village)	1045 Armorlite Drive	Multi-Family Residential	416	DU	2019
				Commercial Retail	15,000	SF	2019
				Park	1.37	AC	2019
12	Approved	El Dorado II Specific Plan	SW corner of Richmar Ave & Pleasant Wy	Apartment	72	DU	2021
				Specialty Retail	2,000	SF	2021
13	Approved	Borden Rd 22	Borden Rd	Single-Family Residential	22	DU	2021
14	Approved	Villa Serena	Richmar Ave & Marcos St	Apartments	12	DU	
15	Approved	San Elijo Hills Town Center	San Elijo Rd & Elfin Forest Rd	Attached Condominiums	12	DU	2020
				Commercial	22,900	SF	2020
16	Approved	Montiel Rd Partners	Montiel Rd	9-lot Subdivision -SFR	8	DU	2021
17	Proposed	Sandy Lane Estates	Sandy Ln	8-lot Subdivision -SFR	8	DU	2021
18	Approved	Meadowlark Canyon LLC	San Marcos Blvd	Single-Family Residential	33	DU	
19	Approved	JR Legacy II, LLC/Global Carte	Montiel Rd	Hotel	128	ROOM	2019
20	Approved	Mariposa II- Affirmed Housing	Richmar Ave & Los Olivos Dr	Apartments	60	DU	2019
21	Approved	Murai-Sab	N. Las Posas Rd	Single-Family Residential	89	DU	2021

22	Proposed	Copper Hills Specific Plan	San Elijo Rd	Commercial/Light Industrial Park	139,000	SF	
				Attached Condominiums	120	DU	
				Detached Condominiums	42	DU	
				Apartments	189	DU	
23	Proposed	Pacifica San Marcos	S. Rancho Santa Fe Rd & Creek St	Apartments	31	DU	
				Commercial	4,375	SF	2019
24	Approved	Fenton South	Future Discovery St	Single-Family Residential	220	DU	2021
25	Under Construction	Windy Pointe Phase II	Windy Pointe Dr	Office	15,000	SF	2020
				Multi-tenant Industrial	18,600	SF	2020
26	Under Construction	Fitzpatrick	Fitzpatrick Road	Apartments	78	DU	2020
				Single-Family Residential	2	DU	2020
27	Approved	Southlake Park Phase 1	Twin Oaks Valley Rd, South of Village Dr	Parking Lot, Fishing Dock	1.5	AC	
28	Approved	MacDonald Group	San Marcos Blvd (Former Sears site)	Apartments	82	UNITS	
				Commercial	5,000	SF	
29	Approved	Mission 24	Mission Rd at Avenida Chapala	MF Condominiums	24	DU	2020
30	Approved	Mission 316 West	Mission Rd at Woodward St (east side)	MF Condominiums	67	DU	2021
31	Proposed	Lanikai	Mission Rd at Woodward St (west side)	Senior Living Complex	115	UNITS	
32	Under Construction	Mesa Rim Climbing Gym	285 Industrial St	Recreation/Entertainment	28000	SF	2020
33	Proposed	Breakers Real Estate	SE Corner of N. Twin Oaks Valley Rd.& Richmar Ave.	Assisted Living Facility	110,317	SF	2021
34	Approved	Artis Senior Housing	San Elijo Rd at Paseo Plomo	Senior Living Complex	64	BED	
					39,951	SF	
35	Proposed	Sunrise	Barham Drive (near east City limit)	MF Condominiums	192	DU	2021
36	Proposed	Jump Ball LLC	W. San Marcos Blvd. at Bent Ave.	Drive-thru Restaurant	3,233	SF	2020
37	Approved	Lomas San Marcos	1601 San Elijo	Commercial	179,535	SF	2019
38	Proposed	Montiel Commercial	2355/2357 Montiel Rd	Office	32,971	SF	
39	Proposed	California Allstars	East side of Twin Oaks Valley Rd	Industrial Building	28,137	SF	2022
40	Proposed	Budhi Hill Buddhist Center	Poinsettia Ave. s/o Linda Vista Dr	Fellowship Hall	36,501	SF	2024
				Monk Dormitory	7,612	SF	2023
41	Proposed	Mercy Hill and Marian Center	Borden Rd	Christian Center	22,830		
42	Under Construction	West Health Pace	1706 Descanso Ave	Senior Center	20,156	SF	2019
43	Approved	Karl Strauss Brewery	Las Posas Rd & Los Vallecitos Blvd.	Tasting Room, Commercial Kitchen, Entertainment Room within existing commercial building	10,528	SF	2020
44	Approved	C3 Church	1760 Descanso Ave	Assembly Use - 825 seat	74,938	SF	2019
45	Funded	San Marcos Creek Phase 1 CIP - various numbers	Via Vera Crux Bridge, Bent Avenue Bridge, Discovery Street widening, Levee construction, Promenade, and Creek Channel Wetland Restoration.	San Marcos Creek Phase 1 Infrastructure, Discovery Street (east/west segment), Bent Avenue to Discovery Street (north/south segment)	35	AC	2021
46	Funded	CIP 88179	Smilax Road/South Santa Fe Avenue Intersection	Intersection re-alignment			2020
47	Funded	CIP 86002	San Marcos Boulevard at Discovery Street Intersection.	Intersection improvements 300' west, and 920' east, of intersection.	1220	LF	2020

48	Funded	PARK CIP	Rancho Tesoro Park Improvements - 2 acres of 41 acre park	City Park - Phase 2 Multi-Use Field and Parking Lot Improvements	2	AC	2021
49	Funded	ST006	San Marcos Boulevard Slope Stabilization Project	South side of San Marcos Boulevard, 500' east of Acacia Dr.	500	LF	2020

Notes:

SF: SQUARE FEET; DU: DWELLING UNITS;LF: LINEAL

\*Apartments include live/work units.

Other Projects to consider outside of City jurisdiction/land use authority: CSUSM Master Plan & Palomar Master Plan.

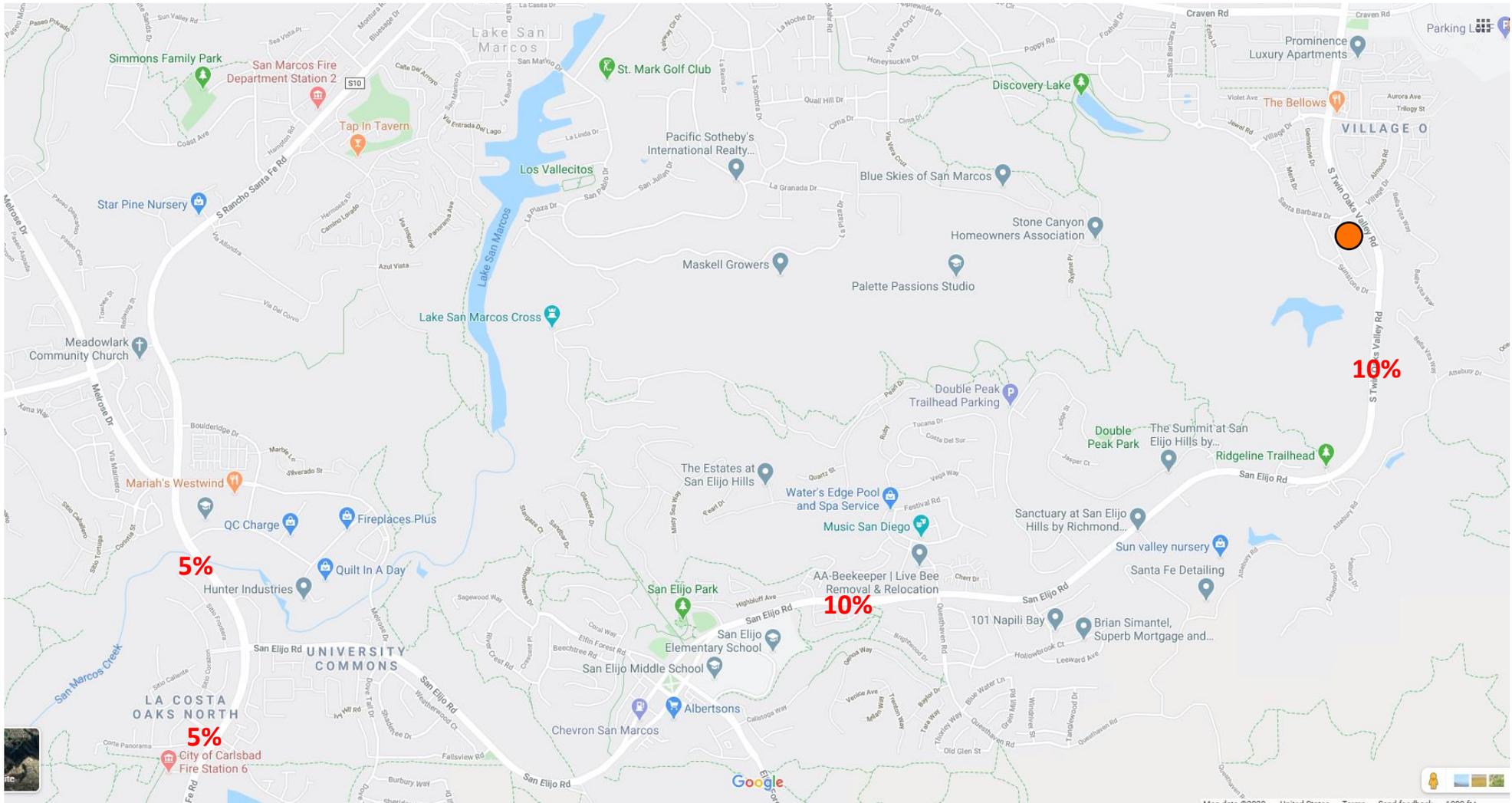
# CORNER @ 2 OAKS

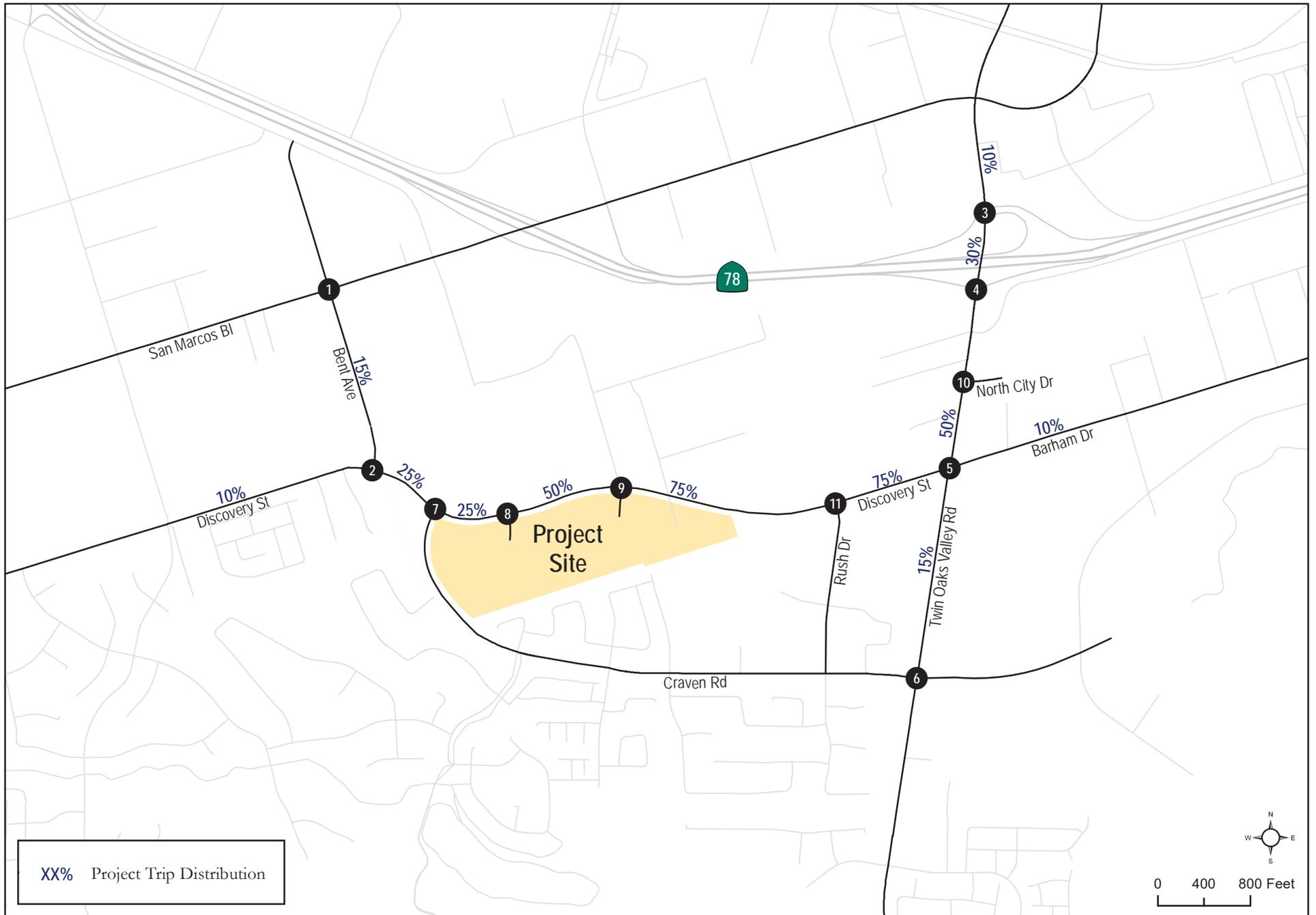


# KAISER PERMANENTE



# BROOKFIELD RESIDENTIAL (MULTI-FAMILY)

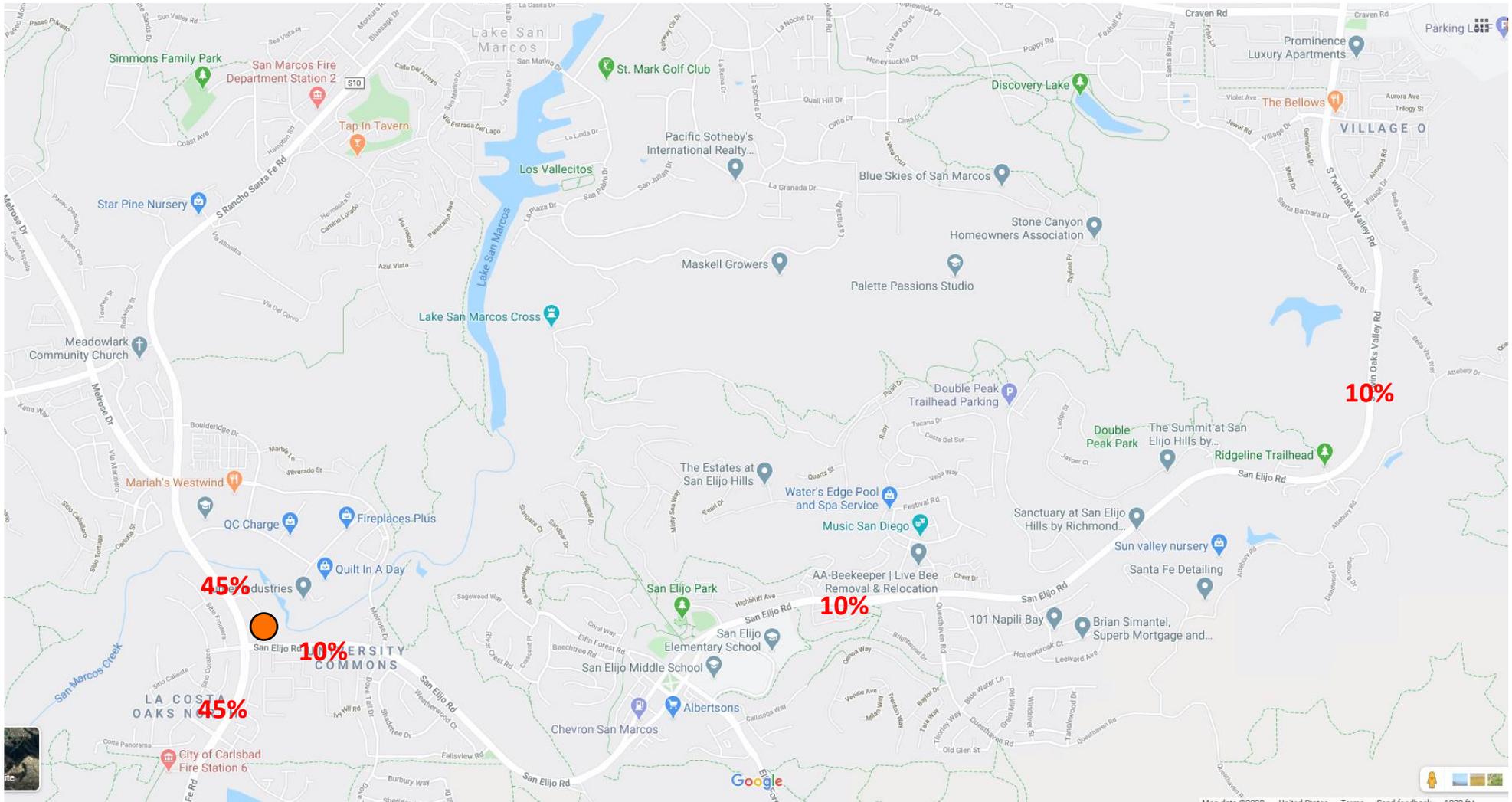




# MESA RIM CLIMBING GYM



# ARTIS SENIOR LIVING



# Off-Campus Student Apartment (Low-Rise) Adjacent to Campus (225)

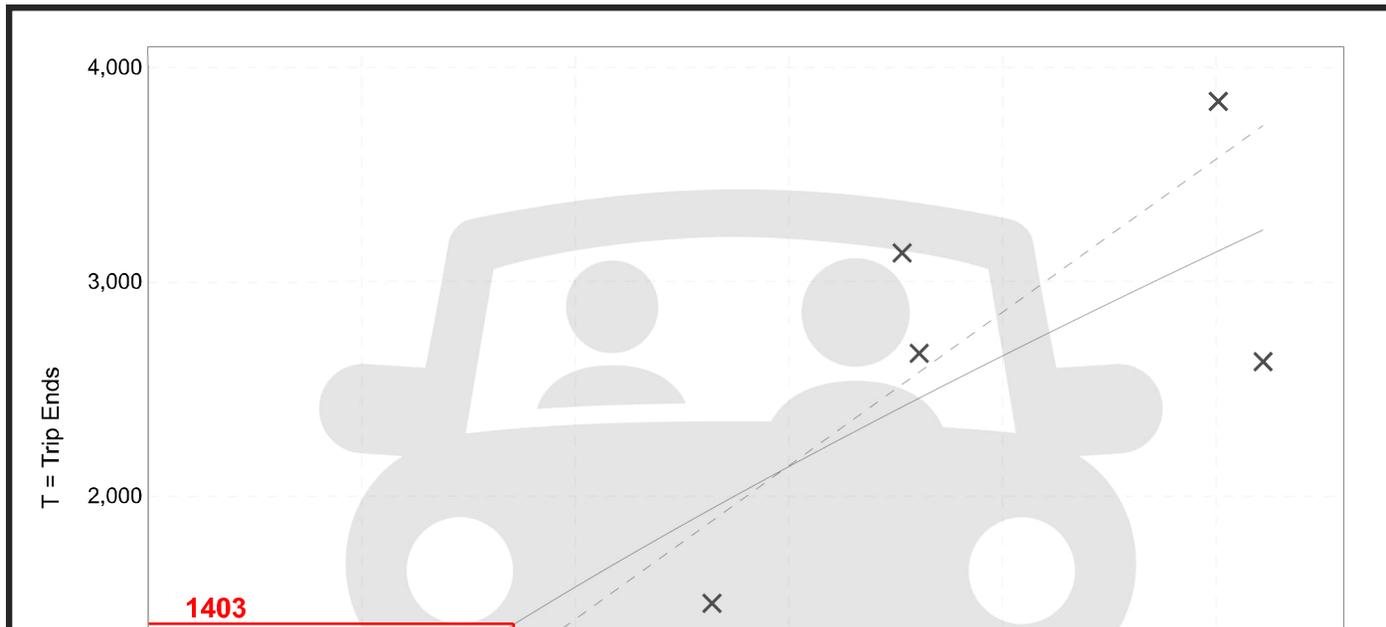
**Vehicle Trip Ends vs: Bedrooms**  
**On a: Weekday**

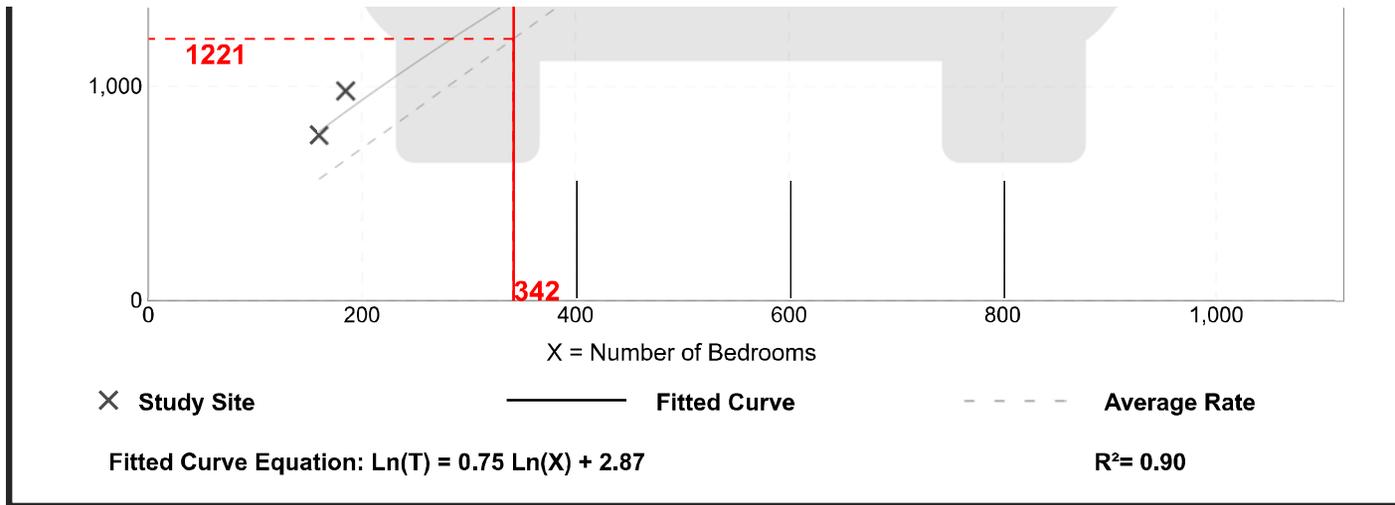
**Setting/Location: General Urban/Suburban**  
Number of Studies: 7  
Avg. Num. of Bedrooms: 621  
Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per Bedroom

Average Rate	Range of Rates	Standard Deviation
3.57	2.52 - 5.30	0.88

## Data Plot and Equation





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● Institute of Transportation Engineers

## Off-Campus Student Apartment (Low-Rise) Adjacent to Campus (225)

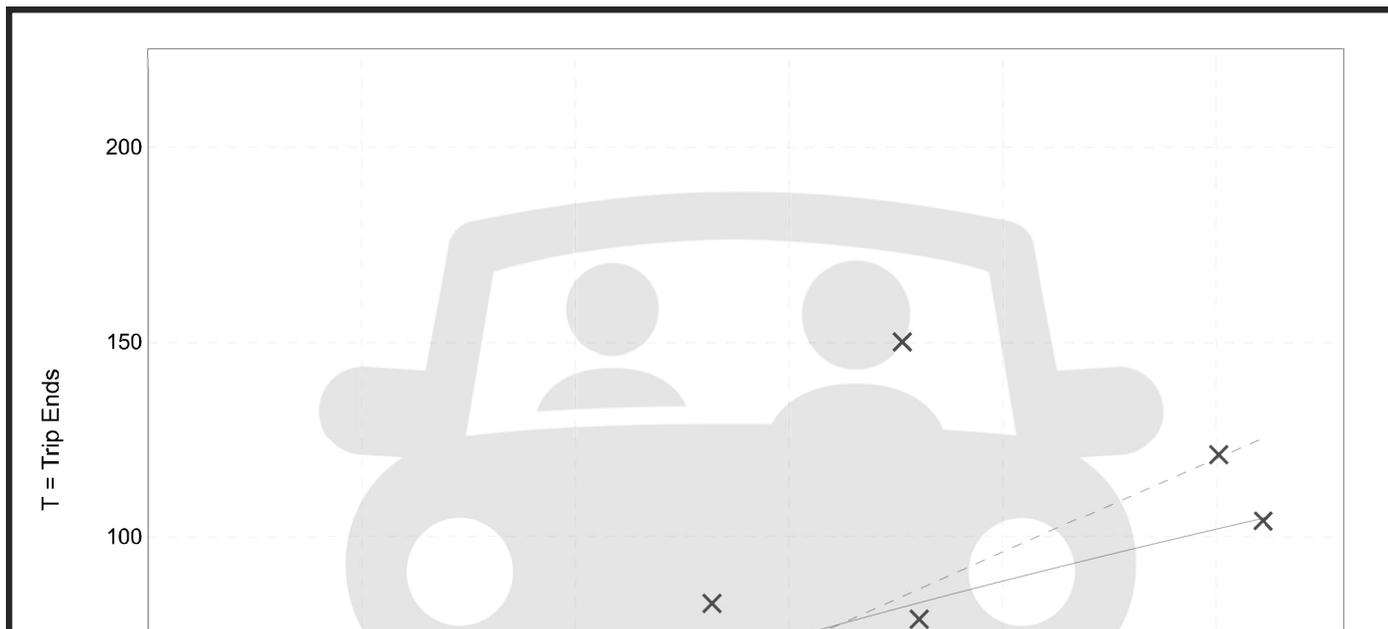
**Vehicle Trip Ends vs: Bedrooms**  
**On a: Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 7 and 9 a.m.**

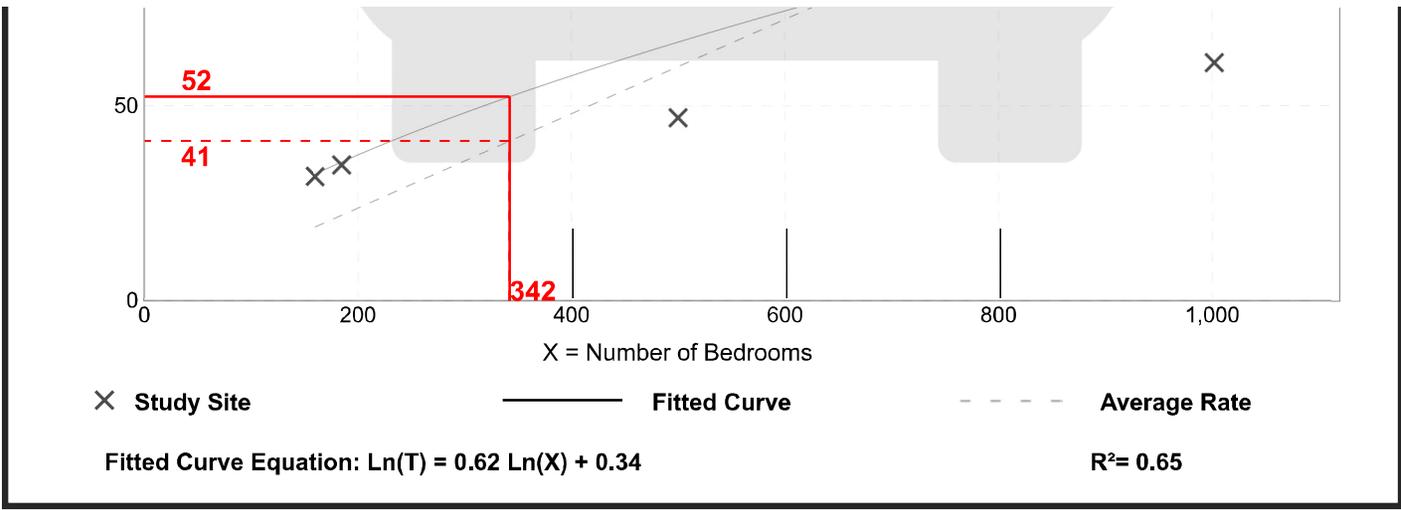
**Setting/Location: General Urban/Suburban**  
 Number of Studies: 9  
 Avg. Num. of Bedrooms: 650  
 Directional Distribution: 38% entering, 62% exiting

### Vehicle Trip Generation per Bedroom

Average Rate	Range of Rates	Standard Deviation
0.12	0.06 - 0.21	0.05

### Data Plot and Equation





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## Off-Campus Student Apartment (Low-Rise) Adjacent to Campus (225)

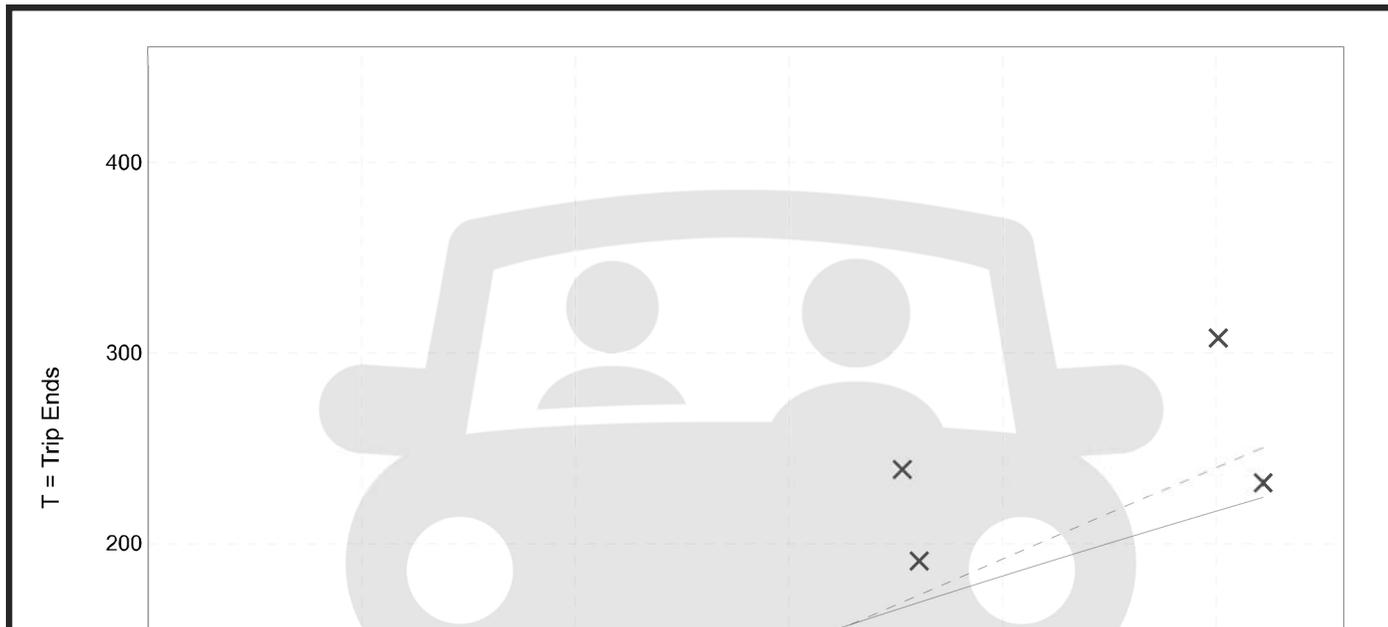
**Vehicle Trip Ends vs: Bedrooms**  
**On a: Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 4 and 6 p.m.**

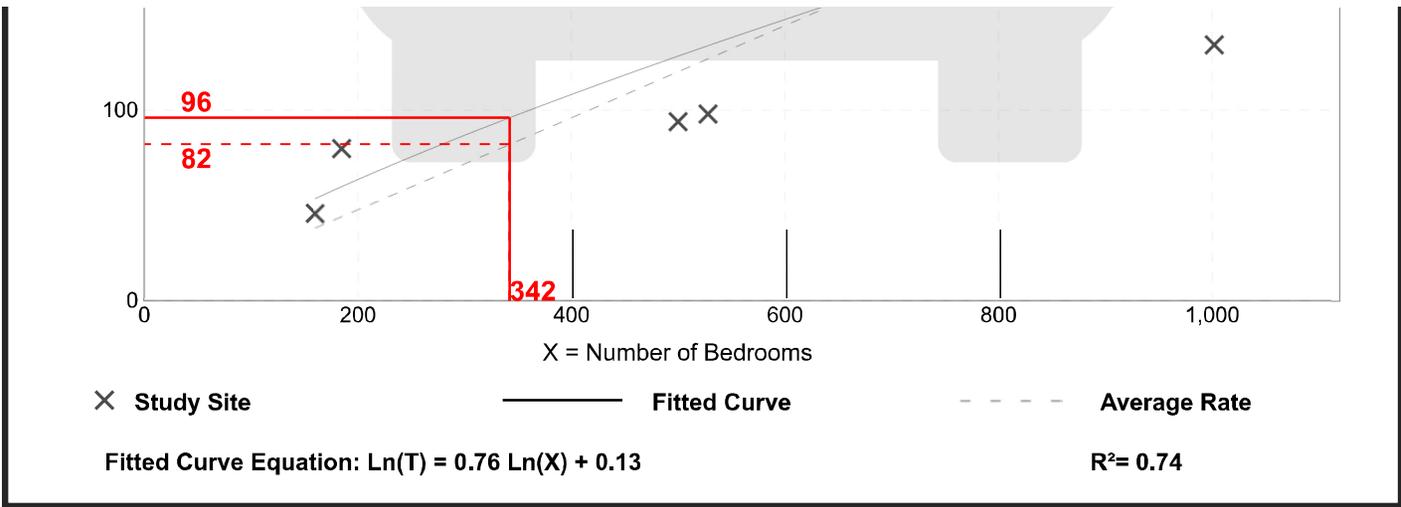
**Setting/Location: General Urban/Suburban**  
 Number of Studies: 9  
 Avg. Num. of Bedrooms: 650  
 Directional Distribution: 50% entering, 50% exiting

### Vehicle Trip Generation per Bedroom

Average Rate	Range of Rates	Standard Deviation
0.24	0.13 - 0.43	0.08

### Data Plot and Equation





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# BLOCK 3 STUDENT HOUSING (CSUSM)



## Loma San Marcos Specific Plan – Phase 1A, 1B, and Phase 2 Trip Generation

Neither the SANDAG Not So Brief Guide to Vehicular Trip Generation nor the latest ITE Trip Generation Manual contain trip rates for land uses similar to this facility, the following trip rates are proposed:

- 61,650 sq.ft. of Movie Production - Although the proposed project land use is classified as “Movie Production”, the square footage would be used to build 5 youth sports courts, therefore, it is proposed as a conservative approach that the “Soccer Complex” land use trip rate from ITE Trip Generation Manual, 9th Edition was utilized to determine the number of trips generated.
- 9,750 sq.ft of Media Office – Based on conversations with the project applicant (December 2017), the “Media Office” land use would operate similarly to that of an “Industrial Park” land use because of all the operations being confined within the proposed project. Therefore, the “Industrial Park” trip rate found in the SANDAG Not So Brief Guide to Vehicular Trip Generation was utilized to determine the number of trips generated.
- 108,135 sq.ft. of Storage – The proposed project site currently has storage operations and based on counts conducted on November 29, 2017, it was determined that 2 trips during the PM peak hour egressed from the project driveway. The proposed project would not cause the existing storage trip generation to increase, however, it would restrict storage operations to off peak hours. Therefore, the trips associated with the existing storage land use would be removed from the transportation network during peak hours.

Table 1 displays the proposed project trip generation.

**Table 1: Proposed Project Trip Generation – Phase 1A**

Land Use	Quantity	Trip Rate	Daily Trips		PM Peak Hour
Soccer Complex	5	71.33 trips <sup>1</sup> / Field	357	26%	93 (39-in / 54-out)
Industrial Park	9,750 sf	8 trips <sup>2</sup> / 1,000 sf	78	12%	5 (1-in / 4-out) <sup>3</sup>
Storage	108,135 sf	Based on driveway counts	4	50%	Trips will not occur during the PM peak hour <sup>4</sup>
<b>Proposed Project Total</b>			<b>439</b>	<b>-</b>	<b>98</b> (40-in / 58-out)

Source: SANDAG's Not So Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, April 2002. ITE Trip Generation Manual, 9th Edition.

**Notes:**

<sup>1</sup> ITE Trip Generation Manual, 9th Edition Soccer Complex Rates were utilized.

<sup>2</sup> SANDAG Trip Generation Rates for Industrial Park were utilized.

<sup>3</sup> Workers would work between 2pm and 10pm. However, for a conservative analysis, it is assumed that 50% of the trips generated by the “Media Office” land use would occur during the PM peak hour.

<sup>4</sup> Existing storage trips would be restricted to non-peak hour operations.

During Phase 1B, the youth sports facilities are removed and full build-out and operations of the movie studio facility occur. Neither the SANDAG *Not So Brief Guide to Vehicular Trip Generation* nor the latest ITE Trip Generation Manual contain trip rates for land uses similar to the Movie Production uses. Therefore, the following trip rates are proposed:

- 213,361 sq.ft. of Movie Production – Based on the Phase 2 description of land uses, the “Movie Production” land use would operate similarly to that of an “Industrial Park”. An Industrial Park has a mix of manufacturing (prop construction), service, and warehouse facilities. Therefore, the “Industrial Park” trip rate found in SANDAG’s *Not So Brief Guide to Vehicular Trip Generation* was utilized to determine the number of trips generated.

**Table 2: Proposed Project Trip Generation – Phase 1B**

Land Use	Quantity	Trip Rate	Daily Trips	%	AM Peak Hour	%	PM Peak Hour
Movie Production (LU 130)	213,361 sf	8 trips <sup>1</sup> / 1,000 sf	1,707	11%	188 (170-in / 18-out)	12%	205 (41-in / 164-out)
<b>Proposed Project Total</b>			<b>1,707</b>	<b>-</b>	<b>188</b> <b>(170-in / 18-out)</b>	<b>-</b>	<b>205</b> <b>(41-in / 164-out)</b>

Source: SANDAG’s *Not So Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, April 2002.*

Notes:

<sup>1</sup> SANDAG Trip Generation Rates for Industrial Park were utilized.

During Phase 2, the same Movie Production activities from 1B continue with the addition of a 6-story office building.

- 120,000 sq.ft. of Office Space – A 6-story building is proposed to be constructed for office uses for tenants involved in the movie industry. While the operations of an office associated with the movie industry may not necessarily reflect those of a “typical office”, as a conservative approach, the “Large (High-Rise) Commercial Office” trip rate found in SANDAG’s *Not So Brief Guide to Vehicular Trip Generation* was utilized to determine the number of trips generated.

**Table 3: Proposed Project Trip Generation – Phase 2**

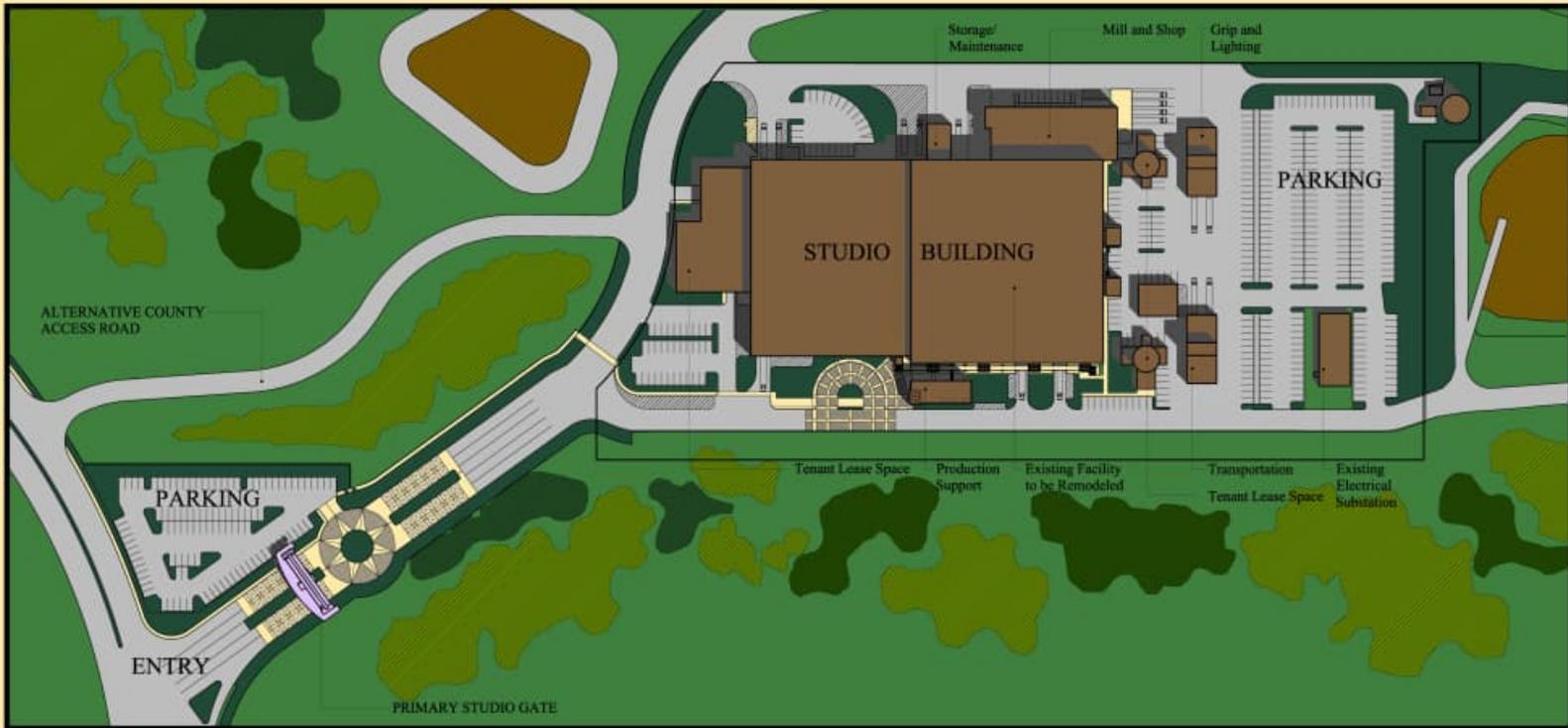
Land Use	Quantity	Trip Rate	Daily Trips	%	AM Peak Hour	%	PM Peak Hour
Movie Production	213,361 sf	8 trips <sup>1</sup> / 1,000 sf	1,707	11%	188 (170-in / 18-out)	12%	205 (41-in / 164-out)
Office Space	120,000 sf	17 trips <sup>2</sup> / 1,000 sf	2,040	13%	266 (240-in / 26-out)	14%	286 (57-in / 229-out)
<b>Proposed Project Total</b>			<b>3,747</b>	<b>-</b>	<b>454</b> <b>(410-in / 44-out)</b>	<b>-</b>	<b>491</b> <b>(98-in / 393-out)</b>

Source: SANDAG’s *Not So Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, April 2002.*

Notes:

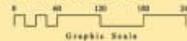
<sup>1</sup> SANDAG Trip Generation Rate for Industrial Park was utilized.

<sup>2</sup> Large (High-Rise) Commercial Office trip generation rate was utilized based on the office building being 6 stories.



LEVEL 1	USABLE AREA	LEVEL 2	USABLE AREA	LEVEL 3	USABLE AREA	LEVELS 4, 5 and 6	USABLE AREA	TOTALS
Sound Stages	89,715 s.f.	Sound Stages	0 s.f.	Sound Stages	0 s.f.	Sound Stages	0 s.f.	89,715 s.f.
Production Support	23,320 s.f.	Production Support	19,200 s.f.	Production Support	0 s.f.	Production Support	0 s.f.	42,520 s.f.
Tenant Lease	22,026 s.f.	Tenant Lease	0 s.f.	Tenant Lease	17,950 s.f.	Tenant Lease (4)	17,950 s.f.	57,926 s.f.
Mill and Workshops	19,380 s.f.	Mill and Workshops	3,820 s.f.	Mill and Workshops	0 s.f.	Mill and Workshops	0 s.f.	23,200 s.f.
<b>Net Usable</b>	<b>154,441 s.f.</b>	<b>Net Usable</b>	<b>23,020 s.f.</b>	<b>Net Usable</b>	<b>17,950 s.f.</b>	<b>Net Usable</b>	<b>17,950 s.f.</b>	<b>213,361 s.f.</b>
Core, Storage and Walls	33,741 s.f.	Core, Storage and Walls	4,437 s.f.	Core, Storage and Walls	2,885 s.f.	Core, Storage and Walls	2,885 s.f.	43,948 s.f.
<b>Total Gross</b>	<b>188,182 s.f.</b>	<b>Total Gross</b>	<b>27,457 s.f.</b>	<b>Total Gross</b>	<b>20,835 s.f.</b>	<b>Total Gross</b>	<b>20,835 s.f.</b>	<b>257,309 s.f.</b>

SITE MASTERPLAN - PHASE 1B



PARKING PROVIDED

Studio	490 Cars	Ratio 1:435 Usable s.f.
Office	NA	Ratio NA
<b>Total</b>	<b>490 Cars</b>	<b>Ratio 1:435 Usable s.f.</b>



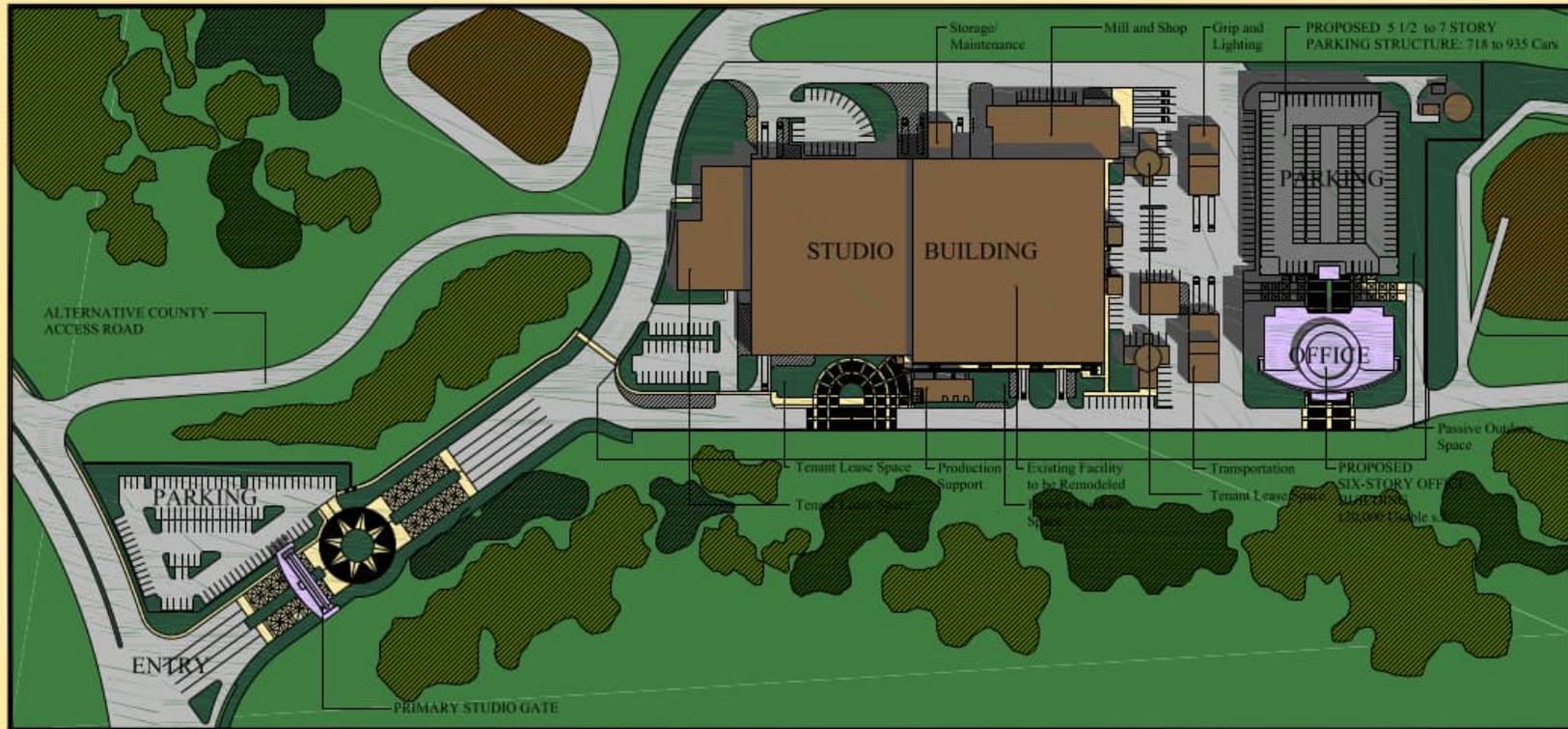
**Loma San Marcos**  
San Marcos, California

Exhibit 6C

31 October 2003

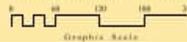
Drawings, specifications and other documents, including those to which reference is made, are prepared by the architect and the architect's consultants and shall remain the property of the architect and its consultants. The architect and its consultants shall be deemed to have been authorized to prepare the drawings, specifications and other documents and shall retain the right to alter, modify and otherwise use the drawings, specifications and other documents, including those to which reference is made, in whole or in part, without limitation, for any project, in any medium, at any time, without the need for the client's consent.

**BASTIEN AND ASSOCIATES, INC.**  
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SAN MARCOS, CALIFORNIA 92078-1000  
PHONE (949) 467-0001 FAX (949) 467-0112  
WWW.BASTIENANDASSOCIATES.COM



LEVEL 1	USABLE AREA	LEVEL 2	USABLE AREA	LEVEL 3	USABLE AREA	LEVELS 4, 5 and 6	USABLE AREA	TOTALS
Sound Stages	89,715 s.f.	Sound Stages	0 s.f.	Sound Stages	0 s.f.	Sound Stages	0 s.f.	89,715 s.f.
Production Support	23,320 s.f.	Production Support	19,200 s.f.	Production Support	0 s.f.	Production Support	0 s.f.	42,520 s.f.
Tenant Lease	22,026 s.f.	Tenant Lease	0 s.f.	Tenant Lease	17,950 s.f.	Tenant Lease (4)	17,950 s.f.	57,926 s.f.
Mill and Workshops	19,380 s.f.	Mill and Workshops	3,820 s.f.	Mill and Workshops	0 s.f.	Mill and Workshops	0 s.f.	23,200 s.f.
Office Building	20,000 s.f.	Office Building	20,000 s.f.	Office Building	20,000 s.f.	Office Building	60,000 s.f.	120,000 s.f.
<b>Net Usable</b>	<b>174,441 s.f.</b>	<b>Net Usable</b>	<b>43,020 s.f.</b>	<b>Net Usable</b>	<b>37,950 s.f.</b>	<b>Net Usable</b>	<b>77,950 s.f.</b>	<b>333,361 s.f.</b>
Core, Storage and Walls	35,741 s.f.	Core, Storage and Walls	6,437 s.f.	Core, Storage and Walls	4,885 s.f.	Core, Storage and Walls	8,885 s.f.	55,948 s.f.
<b>Total Gross</b>	<b>210,182 s.f.</b>	<b>Total Gross</b>	<b>49,457 s.f.</b>	<b>Total Gross</b>	<b>42,835 s.f.</b>	<b>Total Gross</b>	<b>86,835 s.f.</b>	<b>389,309 s.f.</b>

SITE MASTERPLAN - PHASE 2



PARKING PROVIDED

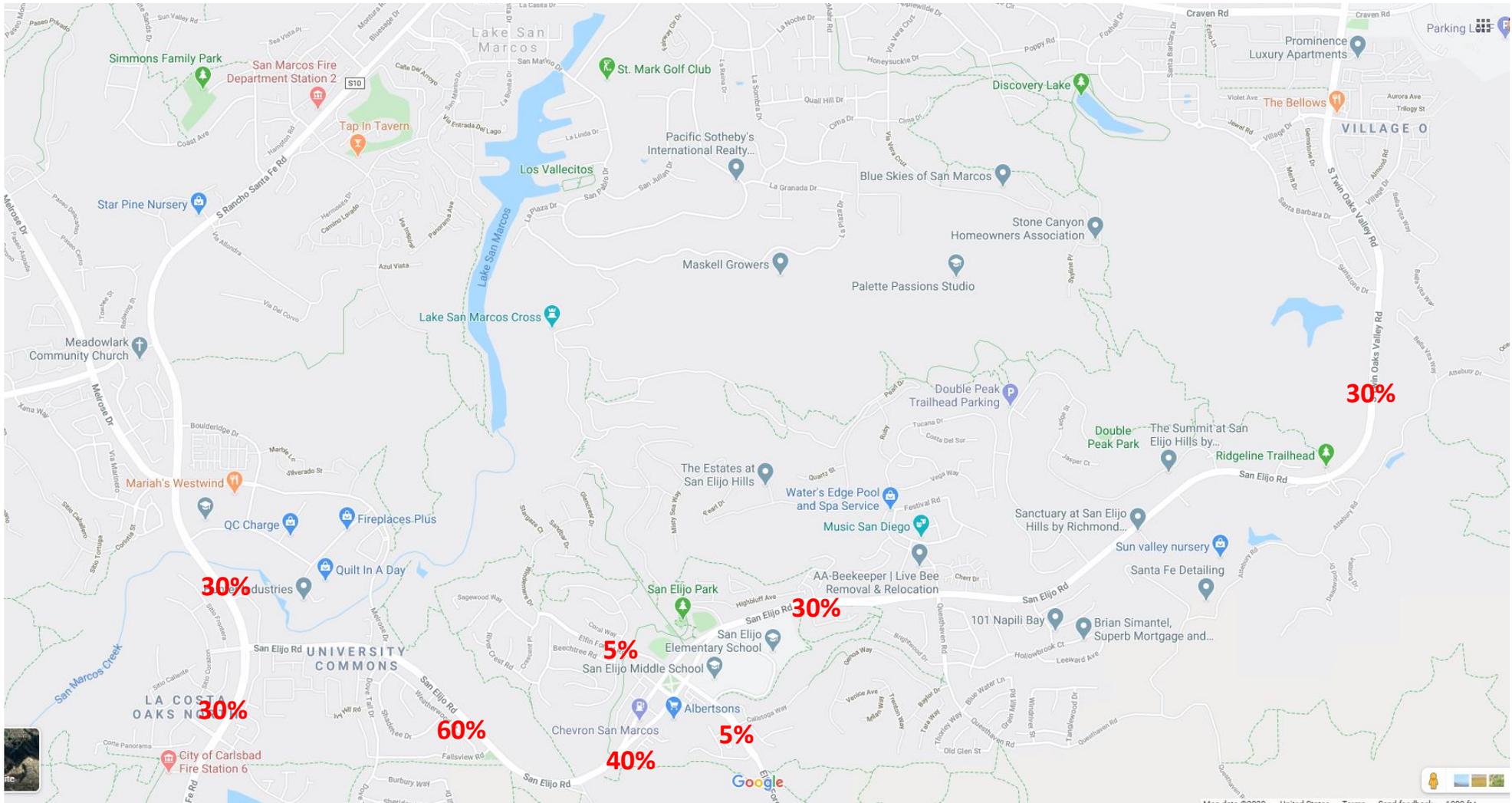
Studio	490 Cars	Ratio 1:435 Usable s.f.
Office	481 Cars	Ratio 1:250 Usable s.f.
<b>Total</b>	<b>971 Cars</b>	<b>Ratio 1:343 Usable s.f.</b>



SAN MARCOS STUDIOS  
San Marcos, California

Exhibit 7

# LOMA SAN MARCOS



# Appendix E

## Peak Hour Intersection Capacity Worksheets

### Near-Term Year 2024 Base Conditions

HCM 6th Signalized Intersection Summary  
 1: Dove Tail Drive/Melrose Drive & San Elijo Road

Near-Term Year 2024 Conditions  
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↗		↘	↗	↗
Traffic Volume (veh/h)	87	800	24	35	1169	969	99	176	32	478	36	20
Future Volume (veh/h)	87	800	24	35	1169	969	99	176	32	478	36	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.97	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	95	870	24	38	1257	938	110	196	33	690	0	22
Peak Hour Factor	0.92	0.92	0.92	0.93	0.93	0.93	0.90	0.90	0.90	0.73	0.73	0.73
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	137	1225	755	83	1116	870	260	226	38	866	0	381
Arrive On Green	0.08	0.34	0.34	0.05	0.31	0.31	0.15	0.15	0.15	0.24	0.00	0.24
Sat Flow, veh/h	1781	3554	1521	1781	3554	1544	1781	1552	261	3563	0	1569
Grp Volume(v), veh/h	95	870	24	38	1257	938	110	0	229	690	0	22
Grp Sat Flow(s),veh/h/ln	1781	1777	1521	1781	1777	1544	1781	0	1813	1781	0	1569
Q Serve(g_s), s	5.0	20.3	0.8	2.0	30.0	30.0	5.4	0.0	11.8	17.4	0.0	1.0
Cycle Q Clear(g_c), s	5.0	20.3	0.8	2.0	30.0	30.0	5.4	0.0	11.8	17.4	0.0	1.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	137	1225	755	83	1116	870	260	0	265	866	0	381
V/C Ratio(X)	0.69	0.71	0.03	0.46	1.13	1.08	0.42	0.00	0.87	0.80	0.00	0.06
Avail Cap(c_a), veh/h	280	1225	755	280	1116	870	280	0	285	1119	0	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.0	27.2	12.6	44.4	32.7	16.0	37.1	0.0	39.9	33.9	0.0	27.8
Incr Delay (d2), s/veh	2.3	2.1	0.0	1.5	68.6	53.7	0.4	0.0	20.9	3.7	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	8.3	0.3	0.9	22.5	33.0	2.3	0.0	6.7	7.6	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.3	29.3	12.6	45.8	101.3	69.7	37.5	0.0	60.7	37.6	0.0	27.8
LnGrp LOS	D	C	B	D	F	F	D	A	E	D	A	C
Approach Vol, veh/h		989			2233			339			712	
Approach Delay, s/veh		30.4			87.1			53.2			37.3	
Approach LOS		C			F			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.4	38.9		28.2	12.4	36.0		18.9				
Change Period (Y+Rc), s	5.0	6.0		5.0	5.0	6.0		5.0				
Max Green Setting (Gmax), s	15.0	30.0		30.0	15.0	30.0		15.0				
Max Q Clear Time (g_c+I1), s	4.0	22.3		19.4	7.0	32.0		13.8				
Green Ext Time (p_c), s	0.0	4.1		3.1	0.1	0.0		0.1				

Intersection Summary

HCM 6th Ctrl Delay	63.0
HCM 6th LOS	E

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.

HCM 6th TWSC  
2: Street "E" & San Elijo Road

Near-Term Year 2024 Conditions  
AM Peak Hour

Intersection						
Int Delay, s/veh	1.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑		↗
Traffic Vol, veh/h	1053	329	82	2091	0	45
Future Vol, veh/h	1053	329	82	2091	0	45
Conflicting Peds, #/hr	0	8	8	0	0	8
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	None
Storage Length	-	-	100	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	91	91	25	25
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1350	422	90	2298	0	180

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3	
Conflicting Flow All	0	-	1358	0	-	691
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.22	-	-	3.32
Pot Cap-1 Maneuver	-	0	502	-	0	387
Stage 1	-	0	-	-	0	-
Stage 2	-	0	-	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	498	-	-	381
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	22.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	381	-	498	-
HCM Lane V/C Ratio	0.472	-	0.181	-
HCM Control Delay (s)	22.6	-	13.8	-
HCM Lane LOS	C	-	B	-
HCM 95th %tile Q(veh)	2.4	-	0.7	-

HCM 6th Signalized Intersection Summary  
 3: San Elijo Road SB & Cooke Street/Baker Street

Near-Term Year 2024 Conditions  
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔						↔↔	
Traffic Volume (veh/h)	0	9	67	228	16	0	0	0	0	26	1894	7
Future Volume (veh/h)	0	9	67	228	16	0	0	0	0	26	1894	7
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	0.99		1.00				1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	15	99	374	26	0				27	1933	6
Peak Hour Factor	0.61	0.61	0.61	0.61	0.61	0.61				0.98	0.98	0.98
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	45	299	261	13	0				30	2241	7
Arrive On Green	0.00	0.22	0.22	0.22	0.22	0.00				0.20	0.20	0.20
Sat Flow, veh/h	0	206	1357	869	60	0				49	3674	12
Grp Volume(v), veh/h	0	0	114	400	0	0				1029	0	937
Grp Sat Flow(s),veh/h/ln	0	0	1563	930	0	0				1868	0	1868
Q Serve(g_s), s	0.0	0.0	6.1	15.9	0.0	0.0				53.8	0.0	48.0
Cycle Q Clear(g_c), s	0.0	0.0	6.1	22.0	0.0	0.0				53.8	0.0	48.0
Prop In Lane	0.00		0.87	0.93		0.00				0.03		0.01
Lane Grp Cap(c), veh/h	0	0	344	274	0	0				1139	0	1139
V/C Ratio(X)	0.00	0.00	0.33	1.46	0.00	0.00				0.90	0.00	0.82
Avail Cap(c_a), veh/h	0	0	344	274	0	0				1139	0	1139
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				0.33	0.33	0.33
Upstream Filter(I)	0.00	0.00	1.00	0.70	0.00	0.00				0.37	0.00	0.37
Uniform Delay (d), s/veh	0.0	0.0	32.8	44.1	0.0	0.0				37.1	0.0	34.7
Incr Delay (d2), s/veh	0.0	0.0	0.2	220.1	0.0	0.0				4.9	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	2.4	23.6	0.0	0.0				28.4	0.0	24.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	33.0	264.2	0.0	0.0				42.0	0.0	37.4
LnGrp LOS	A	A	C	F	A	A				D	A	D
Approach Vol, veh/h		114			400						1966	
Approach Delay, s/veh		33.0			264.2						39.8	
Approach LOS		C			F						D	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				30.0		70.0		30.0				
Change Period (Y+Rc), s				8.0		9.0		8.0				
Max Green Setting (Gmax), s				22.0		61.0		22.0				
Max Q Clear Time (g_c+I1), s				8.1		55.8		24.0				
Green Ext Time (p_c), s				0.3		4.7		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			75.7									
HCM 6th LOS			E									

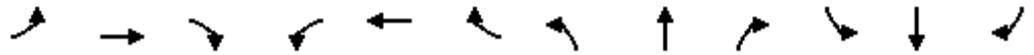
HCM 6th Signalized Intersection Summary  
4: San Elijo Road NB & Baker Street

Near-Term Year 2024 Conditions  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	19	0	0	120	25	88	915	21	0	0	0
Future Volume (veh/h)	22	19	0	0	120	25	88	915	21	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	0.98		1.00	1.00		0.93	1.00		0.97			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	26	22	0	0	171	32	104	1076	23			
Peak Hour Factor	0.85	0.85	0.85	0.70	0.70	0.70	0.85	0.85	0.85			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	103	70	0	0	244	46	206	2236	50			
Arrive On Green	0.16	0.16	0.00	0.00	0.16	0.16	0.67	0.67	0.67			
Sat Flow, veh/h	256	433	0	0	1512	283	306	3328	74			
Grp Volume(v), veh/h	48	0	0	0	0	203	630	0	573			
Grp Sat Flow(s),veh/h/ln	689	0	0	0	0	1795	1855	0	1854			
Q Serve(g_s), s	0.7	0.0	0.0	0.0	0.0	9.6	15.2	0.0	13.2			
Cycle Q Clear(g_c), s	10.3	0.0	0.0	0.0	0.0	9.6	15.2	0.0	13.2			
Prop In Lane	0.54		0.00	0.00		0.16	0.17		0.04			
Lane Grp Cap(c), veh/h	173	0	0	0	0	290	1246	0	1246			
V/C Ratio(X)	0.28	0.00	0.00	0.00	0.00	0.70	0.51	0.00	0.46			
Avail Cap(c_a), veh/h	374	0	0	0	0	549	1246	0	1246			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.95	0.00	0.00	0.00	0.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	33.9	0.0	0.0	0.0	0.0	35.7	7.3	0.0	7.0			
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.0	0.0	3.1	1.5	0.0	1.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.0	0.0	0.0	4.4	5.8	0.0	5.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.7	0.0	0.0	0.0	0.0	38.7	8.8	0.0	8.2			
LnGrp LOS	C	A	A	A	A	D	A	A	A			
Approach Vol, veh/h		48			203			1203				
Approach Delay, s/veh		34.7			38.7			8.5				
Approach LOS		C			D			A				
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		68.0		22.0				22.0				
Change Period (Y+Rc), s		7.5		7.5				7.5				
Max Green Setting (Gmax), s		47.5		27.5				27.5				
Max Q Clear Time (g_c+I1), s		17.2		12.3				11.6				
Green Ext Time (p_c), s		10.6		0.1				1.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				13.6								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary  
 5: San Elijo Road SB & Elfin Forest Road EB

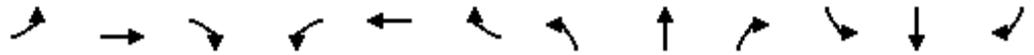
Near-Term Year 2024 Conditions  
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑									↔↑	
Traffic Volume (veh/h)	0	148	238	0	0	0	0	0	0	109	1734	0
Future Volume (veh/h)	0	148	238	0	0	0	0	0	0	109	1734	0
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.88							1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00							1.00	1.00	1.00
Work Zone On Approach		No									No	
Adj Sat Flow, veh/h/ln	0	1870	1870							1870	1870	0
Adj Flow Rate, veh/h	0	174	252							116	1845	0
Peak Hour Factor	0.85	0.85	0.85							0.94	0.94	0.94
Percent Heavy Veh, %	0	2	2							2	2	0
Cap, veh/h	0	364	286							150	1983	0
Arrive On Green	0.00	0.07	0.07							0.20	0.20	0.00
Sat Flow, veh/h	0	1870	1395							180	3335	0
Grp Volume(v), veh/h	0	174	252							1054	907	0
Grp Sat Flow(s),veh/h/ln	0	1777	1395							1813	1617	0
Q Serve(g_s), s	0.0	9.4	17.9							51.5	55.0	0.0
Cycle Q Clear(g_c), s	0.0	9.4	17.9							57.4	55.0	0.0
Prop In Lane	0.00		1.00							0.11		0.00
Lane Grp Cap(c), veh/h	0	364	286							1146	986	0
V/C Ratio(X)	0.00	0.48	0.88							0.92	0.92	0.00
Avail Cap(c_a), veh/h	0	391	307							1146	986	0
HCM Platoon Ratio	1.00	0.33	0.33							0.33	0.33	1.00
Upstream Filter(I)	0.00	1.00	1.00							0.61	0.61	0.00
Uniform Delay (d), s/veh	0.0	41.5	45.4							38.4	37.5	0.0
Incr Delay (d2), s/veh	0.0	1.0	23.3							8.8	10.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.6	8.6							30.6	26.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	42.4	68.7							47.2	47.6	0.0
LnGrp LOS	A	D	E							D	D	A
Approach Vol, veh/h		426									1961	
Approach Delay, s/veh		58.0									47.4	
Approach LOS		E									D	
Timer - Assigned Phs				4		6						
Phs Duration (G+Y+Rc), s				28.5		70.0						
Change Period (Y+Rc), s				8.0		9.0						
Max Green Setting (Gmax), s				22.0		61.0						
Max Q Clear Time (g_c+I1), s				19.9		59.4						
Green Ext Time (p_c), s				0.6		1.5						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			49.3									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary  
6: San Elijo Road NB & Elfin Forest Road EB

Near-Term Year 2024 Conditions  
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔						↔↔				
Traffic Volume (veh/h)	110	140	0	0	0	0	0	665	301	0	0	0
Future Volume (veh/h)	110	140	0	0	0	0	0	665	301	0	0	0
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.96			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Work Zone On Approach		No						No				
Adj Sat Flow, veh/h/ln	1870	1870	0				0	1870	1870			
Adj Flow Rate, veh/h	136	173	0				0	731	298			
Peak Hour Factor	0.81	0.81	0.81				0.91	0.91	0.91			
Percent Heavy Veh, %	2	2	0				0	2	2			
Cap, veh/h	266	314	0				0	1599	652			
Arrive On Green	0.16	0.16	0.00				0.00	0.66	0.66			
Sat Flow, veh/h	1188	2005	0				0	2522	990			
Grp Volume(v), veh/h	171	138	0				0	535	494			
Grp Sat Flow(s),veh/h/ln	1491	1617	0				0	1777	1641			
Q Serve(g_s), s	9.7	7.0	0.0				0.0	13.2	13.2			
Cycle Q Clear(g_c), s	9.7	7.0	0.0				0.0	13.2	13.2			
Prop In Lane	0.80		0.00				0.00		0.60			
Lane Grp Cap(c), veh/h	316	264	0				0	1170	1081			
V/C Ratio(X)	0.54	0.52	0.00				0.00	0.46	0.46			
Avail Cap(c_a), veh/h	436	395	0				0	1170	1081			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	0.54	0.54	0.00				0.00	0.85	0.85			
Uniform Delay (d), s/veh	35.6	34.4	0.0				0.0	7.5	7.5			
Incr Delay (d2), s/veh	0.8	0.9	0.0				0.0	1.1	1.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.6	2.8	0.0				0.0	4.9	4.5			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.3	35.3	0.0				0.0	8.6	8.7			
LnGrp LOS	D	D	A				A	A	A			
Approach Vol, veh/h		309						1029				
Approach Delay, s/veh		35.9						8.6				
Approach LOS		D						A				
Timer - Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		67.3		22.7								
Change Period (Y+Rc), s		8.0		8.0								
Max Green Setting (Gmax), s		52.0		22.0								
Max Q Clear Time (g_c+I1), s		15.2		11.7								
Green Ext Time (p_c), s		9.3		1.3								
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			14.9									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary  
 7: San Elijo Road SB & Elfin Forest Road WB

Near-Term Year 2024 Conditions  
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↗						↕	↘
Traffic Volume (veh/h)	0	0	0	569	107	0	0	0	0	0	1295	60
Future Volume (veh/h)	0	0	0	569	107	0	0	0	0	0	1295	60
Initial Q (Qb), veh				0	0	0				0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00				1.00		0.92
Parking Bus, Adj				1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach				No							No	
Adj Sat Flow, veh/h/ln				1870	1870	0				0	1870	1870
Adj Flow Rate, veh/h				717	0	0				0	1349	56
Peak Hour Factor				0.90	0.90	0.90				0.96	0.96	0.96
Percent Heavy Veh, %				2	2	0				0	2	2
Cap, veh/h				1039	470	0				0	1767	73
Arrive On Green				0.25	0.00	0.00				0.00	0.51	0.51
Sat Flow, veh/h				3563	1870	0				0	3557	143
Grp Volume(v), veh/h				717	0	0				0	691	714
Grp Sat Flow(s),veh/h/ln				1781	1870	0				0	1777	1831
Q Serve(g_s), s				18.9	0.0	0.0				0.0	31.2	31.4
Cycle Q Clear(g_c), s				18.9	0.0	0.0				0.0	31.2	31.4
Prop In Lane				1.00		0.00				0.00		0.08
Lane Grp Cap(c), veh/h				1039	470	0				0	906	934
V/C Ratio(X)				0.69	0.00	0.00				0.00	0.76	0.77
Avail Cap(c_a), veh/h				1284	599	0				0	906	934
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				0.61	0.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				35.1	0.0	0.0				0.0	19.6	19.7
Incr Delay (d2), s/veh				1.2	0.0	0.0				0.0	6.0	6.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				8.3	0.0	0.0				0.0	13.9	14.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				36.3	0.0	0.0				0.0	25.7	25.6
LnGrp LOS				D	A	A				A	C	C
Approach Vol, veh/h					717						1405	
Approach Delay, s/veh					36.3						25.7	
Approach LOS					D						C	
Timer - Assigned Phs						6		8				
Phs Duration (G+Y+Rc), s						60.0		33.1				
Change Period (Y+Rc), s						9.0		8.0				
Max Green Setting (Gmax), s						51.0		32.0				
Max Q Clear Time (g_c+I1), s						33.4		20.9				
Green Ext Time (p_c), s						9.9		4.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				29.3								
HCM 6th LOS				C								
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												

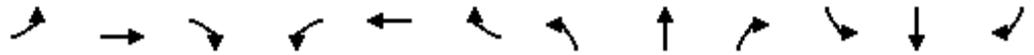
HCM 6th Signalized Intersection Summary  
8: San Elijo Road NB & Elfin Forest Road WB

Near-Term Year 2024 Conditions  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	522	60	163	599	0	0	0	0
Future Volume (veh/h)	0	0	0	0	522	60	163	599	0	0	0	0
Initial Q (Qb), veh				0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)				1.00		0.71	1.00		1.00			
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach				No			No					
Adj Sat Flow, veh/h/ln				0	1870	1870	1870	1870	0			
Adj Flow Rate, veh/h				0	614	64	181	666	0			
Peak Hour Factor				0.85	0.85	0.85	0.90	0.90	0.90			
Percent Heavy Veh, %				0	2	2	2	2	0			
Cap, veh/h				0	776	80	433	1481	0			
Arrive On Green				0.00	0.25	0.25	0.19	0.19	0.00			
Sat Flow, veh/h				0	3205	322	664	2697	0			
Grp Volume(v), veh/h				0	349	329	434	413	0			
Grp Sat Flow(s),veh/h/ln				0	1777	1657	1658	1617	0			
Q Serve(g_s), s				0.0	16.5	16.7	19.0	20.4	0.0			
Cycle Q Clear(g_c), s				0.0	16.5	16.7	20.8	20.4	0.0			
Prop In Lane				0.00		0.19	0.42		0.00			
Lane Grp Cap(c), veh/h				0	443	413	997	917	0			
V/C Ratio(X)				0.00	0.79	0.80	0.44	0.45	0.00			
Avail Cap(c_a), veh/h				0	622	580	997	917	0			
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00			
Upstream Filter(I)				0.00	1.00	1.00	0.88	0.88	0.00			
Uniform Delay (d), s/veh				0.0	31.5	31.6	24.2	24.1	0.0			
Incr Delay (d2), s/veh				0.0	4.5	5.2	1.2	1.4	0.0			
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln				0.0	7.5	7.2	9.6	9.1	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				0.0	36.0	36.8	25.4	25.5	0.0			
LnGrp LOS				A	D	D	C	C	A			
Approach Vol, veh/h					678			847				
Approach Delay, s/veh					36.4			25.5				
Approach LOS					D			C				
Timer - Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		59.1						30.9				
Change Period (Y+Rc), s		8.0						8.5				
Max Green Setting (Gmax), s		42.0						31.5				
Max Q Clear Time (g_c+I1), s		22.8						18.7				
Green Ext Time (p_c), s		5.6						3.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				30.3								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary  
 9: Schoolhouse Way & San Elijo Road

Near-Term Year 2024 Conditions  
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↖	↗		↖	↗
Traffic Volume (veh/h)	34	450	141	312	1071	7	155	14	180	23	33	98
Future Volume (veh/h)	34	450	141	312	1071	7	155	14	180	23	33	98
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.64	1.00		0.99	1.00		0.81	1.00		0.85
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	40	529	150	351	1203	7	191	17	222	28	40	96
Peak Hour Factor	0.85	0.85	0.85	0.89	0.89	0.89	0.81	0.81	0.81	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	52	636	177	289	1400	8	275	24	474	152	218	273
Arrive On Green	0.03	0.26	0.26	0.16	0.39	0.39	0.17	0.17	0.17	0.20	0.20	0.20
Sat Flow, veh/h	1781	2414	671	1781	3622	21	1642	146	1291	755	1078	1353
Grp Volume(v), veh/h	40	387	292	351	590	620	208	0	222	68	0	96
Grp Sat Flow(s),veh/h/ln	1781	1777	1307	1781	1777	1866	1788	0	1291	1833	0	1353
Q Serve(g_s), s	3.4	31.5	32.7	25.0	46.9	47.0	16.9	0.0	21.4	4.7	0.0	9.4
Cycle Q Clear(g_c), s	3.4	31.5	32.7	25.0	46.9	47.0	16.9	0.0	21.4	4.7	0.0	9.4
Prop In Lane	1.00		0.51	1.00		0.01	0.92		1.00	0.41		1.00
Lane Grp Cap(c), veh/h	52	468	344	289	687	722	300	0	474	370	0	273
V/C Ratio(X)	0.76	0.83	0.85	1.21	0.86	0.86	0.69	0.00	0.47	0.18	0.00	0.35
Avail Cap(c_a), veh/h	579	866	637	289	687	722	581	0	677	417	0	308
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	74.2	53.4	53.8	64.5	43.4	43.4	60.3	0.0	41.7	50.9	0.0	52.8
Incr Delay (d2), s/veh	20.1	3.8	5.9	123.4	10.6	10.2	2.9	0.0	0.7	0.2	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	14.7	11.4	21.4	22.9	23.9	8.0	0.0	7.1	2.2	0.0	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	94.3	57.1	59.7	187.9	54.0	53.6	63.2	0.0	42.4	51.1	0.0	53.5
LnGrp LOS	F	E	E	F	D	D	E	A	D	D	A	D
Approach Vol, veh/h		719			1561			430			164	
Approach Delay, s/veh		60.2			83.9			52.5			52.5	
Approach LOS		E			F			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.5	69.5		40.6	30.5	50.5		32.3				
Change Period (Y+Rc), s	7.0	* 10		9.5	5.5	10.0		6.5				
Max Green Setting (Gmax), s	50.0	* 50		35.0	25.0	75.0		50.0				
Max Q Clear Time (g_c+I1), s	5.4	49.0		11.4	27.0	34.7		23.4				
Green Ext Time (p_c), s	0.1	0.8		0.7	0.0	5.9		2.4				

Intersection Summary

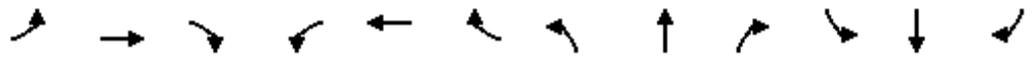
HCM 6th Ctrl Delay	71.5
HCM 6th LOS	E

Notes

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

HCM 6th Signalized Intersection Summary  
 1: Dove Tail Drive/Melrose Drive & San Elijo Road

Near-Term Year 2024 Conditions  
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	1222	84	59	1284	321	46	57	15	740	59	49
Future Volume (veh/h)	35	1222	84	59	1284	321	46	57	15	740	59	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	1328	82	63	1381	311	55	68	16	900	0	45
Peak Hour Factor	0.92	0.92	0.92	0.93	0.93	0.93	0.84	0.84	0.84	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	95	1135	653	107	1158	965	185	151	36	1045	0	453
Arrive On Green	0.05	0.32	0.32	0.06	0.33	0.33	0.10	0.10	0.10	0.29	0.00	0.29
Sat Flow, veh/h	1781	3554	1529	1781	3554	1535	1781	1457	343	3563	0	1543
Grp Volume(v), veh/h	38	1328	82	63	1381	311	55	0	84	900	0	45
Grp Sat Flow(s),veh/h/ln	1781	1777	1529	1781	1777	1535	1781	0	1800	1781	0	1543
Q Serve(g_s), s	1.9	30.0	3.1	3.2	30.6	9.1	2.7	0.0	4.1	22.4	0.0	2.0
Cycle Q Clear(g_c), s	1.9	30.0	3.1	3.2	30.6	9.1	2.7	0.0	4.1	22.4	0.0	2.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	95	1135	653	107	1158	965	185	0	187	1045	0	453
V/C Ratio(X)	0.40	1.17	0.13	0.59	1.19	0.32	0.30	0.00	0.45	0.86	0.00	0.10
Avail Cap(c_a), veh/h	284	1135	653	284	1158	965	284	0	287	1138	0	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.0	32.0	16.5	43.0	31.7	8.5	38.9	0.0	39.6	31.4	0.0	24.2
Incr Delay (d2), s/veh	1.0	86.2	0.1	1.9	95.3	0.3	0.3	0.0	0.6	6.9	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	25.4	1.3	1.4	27.4	5.5	1.2	0.0	1.8	10.1	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.0	118.2	16.6	44.9	126.9	8.8	39.3	0.0	40.2	38.2	0.0	24.3
LnGrp LOS	D	F	B	D	F	A	D	A	D	D	A	C
Approach Vol, veh/h		1448			1755			139			945	
Approach Delay, s/veh		110.5			103.0			39.8			37.6	
Approach LOS		F			F			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.6	36.0		32.5	10.0	36.6		14.7				
Change Period (Y+Rc), s	5.0	6.0		5.0	5.0	6.0		5.0				
Max Green Setting (Gmax), s	15.0	30.0		30.0	15.0	30.0		15.0				
Max Q Clear Time (g_c+I1), s	5.2	32.0		24.4	3.9	32.6		6.1				
Green Ext Time (p_c), s	0.0	0.0		2.6	0.0	0.0		0.2				

Intersection Summary

HCM 6th Ctrl Delay	89.1
HCM 6th LOS	F

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.

HCM 6th TWSC  
2: Street "E" & San Elijo Road

Near-Term Year 2024 Conditions  
PM Peak Hour

Intersection						
Int Delay, s/veh	143.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑		↖
Traffic Vol, veh/h	1750	94	23	1291	0	414
Future Vol, veh/h	1750	94	23	1291	0	414
Conflicting Peds, #/hr	0	8	8	0	0	8
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	None
Storage Length	-	-	100	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	92	92	58	58
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1823	98	25	1403	0	714

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	-	1831
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.22
Pot Cap-1 Maneuver	-	0	329
Stage 1	-	0	-
Stage 2	-	0	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	326
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

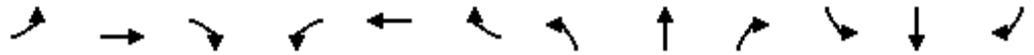
Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	\$ 797.1
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	266	-	326	-
HCM Lane V/C Ratio	2.683	-	0.077	-
HCM Control Delay (s)	\$ 797.1	-	17	-
HCM Lane LOS	F	-	C	-
HCM 95th %tile Q(veh)	60.4	-	0.2	-

Notes  
 -: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

HCM 6th Signalized Intersection Summary  
 3: San Elijo Road SB & Cooke Street/Baker Street

Near-Term Year 2024 Conditions  
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↻			↻						↻↻	
Traffic Volume (veh/h)	0	6	11	395	30	0	0	0	0	106	938	14
Future Volume (veh/h)	0	6	11	395	30	0	0	0	0	106	938	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00				1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	10	16	439	33	0				115	1020	14
Peak Hour Factor	0.61	0.61	0.61	0.90	0.90	0.90				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	173	277	408	25	0				199	1854	27
Arrive On Green	0.00	0.27	0.27	0.27	0.27	0.00				0.18	0.18	0.18
Sat Flow, veh/h	0	641	1026	1254	94	0				355	3310	47
Grp Volume(v), veh/h	0	0	26	472	0	0				600	0	549
Grp Sat Flow(s),veh/h/ln	0	0	1667	1349	0	0				1853	0	1860
Q Serve(g_s), s	0.0	0.0	1.2	25.8	0.0	0.0				29.6	0.0	26.6
Cycle Q Clear(g_c), s	0.0	0.0	1.2	27.0	0.0	0.0				29.6	0.0	26.6
Prop In Lane	0.00		0.62	0.93		0.00				0.19		0.03
Lane Grp Cap(c), veh/h	0	0	450	434	0	0				1037	0	1042
V/C Ratio(X)	0.00	0.00	0.06	1.09	0.00	0.00				0.58	0.00	0.53
Avail Cap(c_a), veh/h	0	0	450	434	0	0				1037	0	1042
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				0.33	0.33	0.33
Upstream Filter(I)	0.00	0.00	1.00	0.70	0.00	0.00				0.89	0.00	0.89
Uniform Delay (d), s/veh	0.0	0.0	27.1	39.1	0.0	0.0				30.0	0.0	28.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	62.6	0.0	0.0				2.1	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.5	18.4	0.0	0.0				15.2	0.0	13.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	27.1	101.8	0.0	0.0				32.1	0.0	30.5
LnGrp LOS	A	A	C	F	A	A				C	A	C
Approach Vol, veh/h		26			472						1149	
Approach Delay, s/veh		27.1			101.8						31.3	
Approach LOS		C			F						C	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				35.0		65.0		35.0				
Change Period (Y+Rc), s				8.0		9.0		8.0				
Max Green Setting (Gmax), s				27.0		56.0		27.0				
Max Q Clear Time (g_c+I1), s				3.2		31.6		29.0				
Green Ext Time (p_c), s				0.1		9.1		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			51.4									
HCM 6th LOS			D									

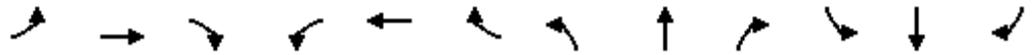
HCM 6th Signalized Intersection Summary  
 4: San Elijo Road NB & Baker Street

Near-Term Year 2024 Conditions  
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	86	0	0	49	91	369	1695	44	0	0	0
Future Volume (veh/h)	44	86	0	0	49	91	369	1695	44	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	0.89		1.00	1.00		0.80	1.00		0.95			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	47	92	0	0	53	89	373	1712	40			
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.99	0.99	0.99			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	88	150	0	0	91	153	420	2044	50			
Arrive On Green	0.17	0.17	0.00	0.00	0.17	0.17	0.68	0.68	0.68			
Sat Flow, veh/h	238	885	0	0	538	903	617	3003	73			
Grp Volume(v), veh/h	139	0	0	0	0	142	1113	0	1012			
Grp Sat Flow(s),veh/h/ln	1123	0	0	0	0	1441	1840	0	1853			
Q Serve(g_s), s	4.1	0.0	0.0	0.0	0.0	9.1	48.9	0.0	38.4			
Cycle Q Clear(g_c), s	13.2	0.0	0.0	0.0	0.0	9.1	48.9	0.0	38.4			
Prop In Lane	0.34		0.00	0.00		0.63	0.34		0.04			
Lane Grp Cap(c), veh/h	238	0	0	0	0	244	1252	0	1261			
V/C Ratio(X)	0.58	0.00	0.00	0.00	0.00	0.58	0.89	0.00	0.80			
Avail Cap(c_a), veh/h	475	0	0	0	0	468	1252	0	1261			
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	0.00	0.00	0.00	1.00	0.39	0.00	0.39			
Uniform Delay (d), s/veh	39.6	0.0	0.0	0.0	0.0	38.3	12.9	0.0	11.2			
Incr Delay (d2), s/veh	2.3	0.0	0.0	0.0	0.0	2.2	4.1	0.0	2.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.5	0.0	0.0	0.0	0.0	3.4	18.9	0.0	14.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.9	0.0	0.0	0.0	0.0	40.5	17.0	0.0	13.4			
LnGrp LOS	D	A	A	A	A	D	B	A	B			
Approach Vol, veh/h		139			142			2125				
Approach Delay, s/veh		41.9			40.5			15.3				
Approach LOS		D			D			B				
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		75.6		24.4				24.4				
Change Period (Y+Rc), s		7.5		7.5				7.5				
Max Green Setting (Gmax), s		52.5		32.5				32.5				
Max Q Clear Time (g_c+I1), s		50.9		15.2				11.1				
Green Ext Time (p_c), s		1.6		0.7				0.9				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				18.3								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary  
 5: San Elijo Road SB & Elfin Forest Road EB

Near-Term Year 2024 Conditions  
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑									↔↑	
Traffic Volume (veh/h)	0	99	123	0	0	0	0	0	0	108	981	0
Future Volume (veh/h)	0	99	123	0	0	0	0	0	0	108	981	0
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90							1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00							1.00	1.00	1.00
Work Zone On Approach		No									No	
Adj Sat Flow, veh/h/ln	0	1870	1870							1870	1870	0
Adj Flow Rate, veh/h	0	116	131							114	1033	0
Peak Hour Factor	0.85	0.85	0.85							0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2							2	2	0
Cap, veh/h	0	252	203							226	1886	0
Arrive On Green	0.00	0.05	0.05							0.20	0.20	0.00
Sat Flow, veh/h	0	1870	1431							300	3176	0
Grp Volume(v), veh/h	0	116	131							603	544	0
Grp Sat Flow(s),veh/h/ln	0	1777	1431							1774	1617	0
Q Serve(g_s), s	0.0	6.4	9.0							24.2	30.2	0.0
Cycle Q Clear(g_c), s	0.0	6.4	9.0							30.3	30.2	0.0
Prop In Lane	0.00		1.00							0.19		0.00
Lane Grp Cap(c), veh/h	0	252	203							1125	986	0
V/C Ratio(X)	0.00	0.46	0.65							0.54	0.55	0.00
Avail Cap(c_a), veh/h	0	391	315							1125	986	0
HCM Platoon Ratio	1.00	0.33	0.33							0.33	0.33	1.00
Upstream Filter(I)	0.00	1.00	1.00							0.87	0.87	0.00
Uniform Delay (d), s/veh	0.0	43.9	45.2							27.6	27.7	0.0
Incr Delay (d2), s/veh	0.0	1.3	3.4							1.6	1.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.0	3.6							14.9	13.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	45.2	48.6							29.2	29.6	0.0
LnGrp LOS	A	D	D							C	C	A
Approach Vol, veh/h		247									1147	
Approach Delay, s/veh		47.0									29.4	
Approach LOS		D									C	
Timer - Assigned Phs				4		6						
Phs Duration (G+Y+Rc), s				22.2		70.0						
Change Period (Y+Rc), s				8.0		9.0						
Max Green Setting (Gmax), s				22.0		61.0						
Max Q Clear Time (g_c+I1), s				11.0		32.3						
Green Ext Time (p_c), s				1.1		9.6						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			32.5									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary  
6: San Elijo Road NB & Elfin Forest Road EB

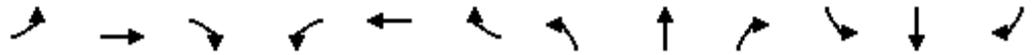
Near-Term Year 2024 Conditions  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔						↔↔				
Traffic Volume (veh/h)	92	98	0	0	0	0	0	1267	568	0	0	0
Future Volume (veh/h)	92	98	0	0	0	0	0	1267	568	0	0	0
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.95			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Work Zone On Approach		No						No				
Adj Sat Flow, veh/h/ln	1870	1870	0				0	1870	1870			
Adj Flow Rate, veh/h	108	115	0				0	1280	516			
Peak Hour Factor	0.85	0.85	0.85				0.99	0.99	0.99			
Percent Heavy Veh, %	2	2	0				0	2	2			
Cap, veh/h	240	252	0				0	1742	658			
Arrive On Green	0.14	0.14	0.00				0.00	0.70	0.70			
Sat Flow, veh/h	1259	1911	0				0	2574	937			
Grp Volume(v), veh/h	126	97	0				0	893	903			
Grp Sat Flow(s),veh/h/ln	1468	1617	0				0	1777	1640			
Q Serve(g_s), s	8.1	5.5	0.0				0.0	30.1	36.5			
Cycle Q Clear(g_c), s	8.1	5.5	0.0				0.0	30.1	36.5			
Prop In Lane	0.86		0.00				0.00		0.57			
Lane Grp Cap(c), veh/h	269	223	0				0	1248	1152			
V/C Ratio(X)	0.47	0.44	0.00				0.00	0.72	0.78			
Avail Cap(c_a), veh/h	390	356	0				0	1248	1152			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	0.81	0.81	0.00				0.00	0.36	0.36			
Uniform Delay (d), s/veh	40.7	39.5	0.0				0.0	8.9	9.9			
Incr Delay (d2), s/veh	1.0	1.1	0.0				0.0	1.3	2.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.0	2.3	0.0				0.0	10.5	11.9			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.7	40.6	0.0				0.0	10.2	11.9			
LnGrp LOS	D	D	A				A	B	B			
Approach Vol, veh/h		223						1796				
Approach Delay, s/veh		41.2						11.0				
Approach LOS		D						B				
Timer - Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		78.2		21.8								
Change Period (Y+Rc), s		8.0		8.0								
Max Green Setting (Gmax), s		62.0		22.0								
Max Q Clear Time (g_c+I1), s		38.5		10.1								
Green Ext Time (p_c), s		16.4		0.9								
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			14.4									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary  
 7: San Elijo Road SB & Elfin Forest Road WB

Near-Term Year 2024 Conditions  
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↗						↕	↕
Traffic Volume (veh/h)	0	0	0	271	237	0	0	0	0	0	767	76
Future Volume (veh/h)	0	0	0	271	237	0	0	0	0	0	767	76
Initial Q (Qb), veh				0	0	0					0	0
Ped-Bike Adj(A_pbT)				1.00		1.00				1.00		0.95
Parking Bus, Adj				1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach				No							No	
Adj Sat Flow, veh/h/ln				1870	1870	0				0	1870	1870
Adj Flow Rate, veh/h				318	326	0				0	799	71
Peak Hour Factor				0.80	0.80	0.80				0.96	0.96	0.96
Percent Heavy Veh, %				2	2	0				0	2	2
Cap, veh/h				485	434	0				0	1512	134
Arrive On Green				0.23	0.23	0.00				0.00	0.46	0.46
Sat Flow, veh/h				1781	1870	0				0	3380	292
Grp Volume(v), veh/h				318	326	0				0	432	438
Grp Sat Flow(s),veh/h/ln				1781	1870	0				0	1777	1802
Q Serve(g_s), s				16.7	16.2	0.0				0.0	17.3	17.4
Cycle Q Clear(g_c), s				16.7	16.2	0.0				0.0	17.3	17.4
Prop In Lane				1.00		0.00				0.00		0.16
Lane Grp Cap(c), veh/h				485	434	0				0	817	829
V/C Ratio(X)				0.66	0.75	0.00				0.00	0.53	0.53
Avail Cap(c_a), veh/h				731	692	0				0	817	829
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				0.67	0.67	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				35.9	35.7	0.0				0.0	19.3	19.3
Incr Delay (d2), s/veh				2.2	3.8	0.0				0.0	2.4	2.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				7.5	7.8	0.0				0.0	7.6	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				38.1	39.5	0.0				0.0	21.7	21.7
LnGrp LOS				D	D	A				A	C	C
Approach Vol, veh/h					644						870	
Approach Delay, s/veh					38.8						21.7	
Approach LOS					D						C	
Timer - Assigned Phs						6		8				
Phs Duration (G+Y+Rc), s						55.0		31.2				
Change Period (Y+Rc), s						9.0		8.0				
Max Green Setting (Gmax), s						46.0		37.0				
Max Q Clear Time (g_c+I1), s						19.4		18.7				
Green Ext Time (p_c), s						6.6		4.5				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				29.0								
HCM 6th LOS				C								
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												

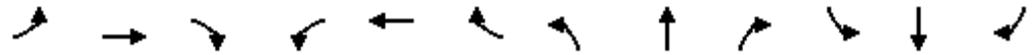
HCM 6th Signalized Intersection Summary  
 8: San Elijo Road NB & Elfin Forest Road WB

Near-Term Year 2024 Conditions  
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	274	75	234	1185	0	0	0	0
Future Volume (veh/h)	0	0	0	0	274	75	234	1185	0	0	0	0
Initial Q (Qb), veh				0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)				1.00		0.92	1.00		1.00			
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach				No			No					
Adj Sat Flow, veh/h/ln				0	1870	1870	1870	1870	0			
Adj Flow Rate, veh/h				0	326	79	260	1317	0			
Peak Hour Factor				0.84	0.84	0.84	0.90	0.90	0.90			
Percent Heavy Veh, %				0	2	2	2	2	0			
Cap, veh/h				0	454	108	407	1872	0			
Arrive On Green				0.00	0.16	0.16	0.22	0.22	0.00			
Sat Flow, veh/h				0	2891	663	534	2867	0			
Grp Volume(v), veh/h				0	204	201	827	750	0			
Grp Sat Flow(s),veh/h/ln				0	1777	1684	1700	1617	0			
Q Serve(g_s), s				0.0	10.9	11.3	45.1	42.6	0.0			
Cycle Q Clear(g_c), s				0.0	10.9	11.3	45.1	42.6	0.0			
Prop In Lane				0.00		0.39	0.31		0.00			
Lane Grp Cap(c), veh/h				0	288	273	1191	1088	0			
V/C Ratio(X)				0.00	0.71	0.73	0.69	0.69	0.00			
Avail Cap(c_a), veh/h				0	560	530	1191	1088	0			
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00			
Upstream Filter(I)				0.00	1.00	1.00	0.51	0.51	0.00			
Uniform Delay (d), s/veh				0.0	39.7	39.8	30.3	29.3	0.0			
Incr Delay (d2), s/veh				0.0	3.2	3.8	1.7	1.8	0.0			
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln				0.0	5.0	5.0	21.0	18.9	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				0.0	42.9	43.6	32.0	31.1	0.0			
LnGrp LOS				A	D	D	C	C	A			
Approach Vol, veh/h					405			1577				
Approach Delay, s/veh					43.2			31.6				
Approach LOS					D			C				
Timer - Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		75.3						24.7				
Change Period (Y+Rc), s		8.0						8.5				
Max Green Setting (Gmax), s		52.0						31.5				
Max Q Clear Time (g_c+I1), s		47.1						13.3				
Green Ext Time (p_c), s		3.9						2.4				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				34.0								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary  
 9: Schoolhouse Way & San Elijo Road

Near-Term Year 2024 Conditions  
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↖	↗		↖	↗
Traffic Volume (veh/h)	65	1171	23	35	779	32	41	10	51	22	3	58
Future Volume (veh/h)	65	1171	23	35	779	32	41	10	51	22	3	58
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	69	1246	22	37	829	31	93	23	93	31	4	64
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.44	0.44	0.44	0.72	0.72	0.72
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	91	1569	28	70	1437	54	136	34	205	152	20	144
Arrive On Green	0.05	0.44	0.44	0.04	0.41	0.41	0.09	0.09	0.09	0.10	0.10	0.10
Sat Flow, veh/h	1781	3570	63	1781	3489	130	1442	357	1506	1586	205	1505
Grp Volume(v), veh/h	69	620	648	37	422	438	116	0	93	35	0	64
Grp Sat Flow(s),veh/h/ln	1781	1777	1856	1781	1777	1843	1798	0	1506	1791	0	1505
Q Serve(g_s), s	3.6	28.6	28.6	1.9	17.4	17.4	5.9	0.0	5.4	1.7	0.0	3.8
Cycle Q Clear(g_c), s	3.6	28.6	28.6	1.9	17.4	17.4	5.9	0.0	5.4	1.7	0.0	3.8
Prop In Lane	1.00		0.03	1.00		0.07	0.80		1.00	0.89		1.00
Lane Grp Cap(c), veh/h	91	781	816	70	732	759	170	0	205	171	0	144
V/C Ratio(X)	0.76	0.79	0.79	0.53	0.58	0.58	0.68	0.00	0.45	0.20	0.00	0.45
Avail Cap(c_a), veh/h	936	1400	1463	468	934	968	945	0	854	659	0	553
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.6	23.0	23.0	44.8	21.6	21.6	41.7	0.0	38.0	39.7	0.0	40.6
Incr Delay (d2), s/veh	11.9	1.9	1.8	6.0	0.7	0.7	4.8	0.0	1.6	0.6	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	11.6	12.1	1.0	7.0	7.3	2.9	0.0	2.1	0.8	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.4	24.8	24.8	50.9	22.3	22.3	46.5	0.0	39.6	40.3	0.0	42.8
LnGrp LOS	E	C	C	D	C	C	D	A	D	D	A	D
Approach Vol, veh/h		1337			897			209				99
Approach Delay, s/veh		26.4			23.5			43.4				41.9
Approach LOS		C			C			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.9	49.2		18.6	9.2	51.8		15.5				
Change Period (Y+Rc), s	7.0	* 10		9.5	5.5	10.0		6.5				
Max Green Setting (Gmax), s	50.0	* 50		35.0	25.0	75.0		50.0				
Max Q Clear Time (g_c+I1), s	5.6	19.4		5.8	3.9	30.6		7.9				
Green Ext Time (p_c), s	0.2	5.9		0.4	0.1	11.2		1.1				

Intersection Summary

HCM 6th Ctrl Delay	27.4
HCM 6th LOS	C

Notes

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

HCM 6th Signalized Intersection Summary  
 10: Rancho Santa Fe Road & San Elijo Road

Near-Term Year 2024 Conditions  
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				  		 	  	
Traffic Volume (veh/h)	16	16	8	736	24	262	16	1352	1103	517	1046	40
Future Volume (veh/h)	16	16	8	736	24	262	16	1352	1103	517	1046	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	23	23	10	818	27	278	17	1438	1056	556	1125	34
Peak Hour Factor	0.71	0.71	0.71	0.90	0.90	0.90	0.94	0.94	0.94	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	39	48	21	882	510	432	216	2111	1060	465	2121	643
Arrive On Green	0.02	0.04	0.04	0.26	0.27	0.27	0.12	0.41	0.41	0.13	0.42	0.42
Sat Flow, veh/h	1781	1221	531	3456	1870	1585	1781	5106	1584	3456	5106	1549
Grp Volume(v), veh/h	23	0	33	818	27	278	17	1438	1056	556	1125	34
Grp Sat Flow(s),veh/h/ln	1781	0	1751	1728	1870	1585	1781	1702	1584	1728	1702	1549
Q Serve(g_s), s	1.7	0.0	2.4	30.0	1.4	20.1	1.1	29.9	53.7	17.5	21.5	1.4
Cycle Q Clear(g_c), s	1.7	0.0	2.4	30.0	1.4	20.1	1.1	29.9	53.7	17.5	21.5	1.4
Prop In Lane	1.00		0.30	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	39	0	68	882	510	432	216	2111	1060	465	2121	643
V/C Ratio(X)	0.60	0.00	0.48	0.93	0.05	0.64	0.08	0.68	1.00	1.20	0.53	0.05
Avail Cap(c_a), veh/h	267	0	114	1050	510	432	216	2111	1060	465	2121	643
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.0	0.0	61.2	47.2	34.9	41.7	50.7	31.1	21.4	56.2	28.5	15.4
Incr Delay (d2), s/veh	5.3	0.0	2.0	1.3	0.0	0.2	0.1	1.8	26.9	107.2	1.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	1.1	12.7	0.6	7.7	0.5	11.8	34.5	14.2	8.4	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.4	0.0	63.2	48.5	34.9	41.9	50.8	32.9	48.3	163.5	29.4	15.6
LnGrp LOS	E	A	E	D	C	D	D	C	D	F	C	B
Approach Vol, veh/h		56			1123			2511			1715	
Approach Delay, s/veh		65.3			46.6			39.5			72.6	
Approach LOS		E			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.0	59.7	37.7	10.6	21.7	60.0	7.3	40.9				
Change Period (Y+Rc), s	4.5	6.0	4.5	5.5	6.0	* 6	4.5	5.5				
Max Green Setting (Gmax), s	17.5	44.0	39.5	8.5	7.5	* 54	19.5	28.5				
Max Q Clear Time (g_c+I1), s	19.5	55.7	32.0	4.4	3.1	23.5	3.7	22.1				
Green Ext Time (p_c), s	0.0	0.0	1.2	0.0	0.0	4.9	0.0	0.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			51.8									
HCM 6th LOS			D									
<b>Notes</b>												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

# Appendix F

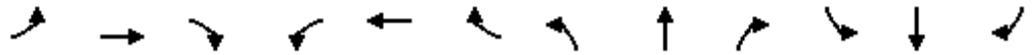
## Peak Hour Intersection Capacity Worksheets

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

# HCM 6th Signalized Intersection Summary Near-Term Year 2024 with Project Conditions (AM)

## 1: Dove Tail Drive/Melrose Drive & San Elijo Road

AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	813	24	35	1197	972	99	176	32	479	36	20
Future Volume (veh/h)	87	813	24	35	1197	972	99	176	32	479	36	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.97	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	95	884	24	38	1287	941	110	196	33	691	0	22
Peak Hour Factor	0.92	0.92	0.92	0.93	0.93	0.93	0.90	0.90	0.90	0.73	0.73	0.73
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	137	1224	755	83	1116	870	260	226	38	866	0	382
Arrive On Green	0.08	0.34	0.34	0.05	0.31	0.31	0.15	0.15	0.15	0.24	0.00	0.24
Sat Flow, veh/h	1781	3554	1521	1781	3554	1544	1781	1552	261	3563	0	1569
Grp Volume(v), veh/h	95	884	24	38	1287	941	110	0	229	691	0	22
Grp Sat Flow(s),veh/h/ln	1781	1777	1521	1781	1777	1544	1781	0	1813	1781	0	1569
Q Serve(g_s), s	5.0	20.7	0.8	2.0	30.0	30.0	5.4	0.0	11.8	17.4	0.0	1.0
Cycle Q Clear(g_c), s	5.0	20.7	0.8	2.0	30.0	30.0	5.4	0.0	11.8	17.4	0.0	1.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	137	1224	755	83	1116	870	260	0	265	866	0	382
V/C Ratio(X)	0.69	0.72	0.03	0.46	1.15	1.08	0.42	0.00	0.87	0.80	0.00	0.06
Avail Cap(c_a), veh/h	280	1224	755	280	1116	870	280	0	285	1119	0	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.0	27.3	12.6	44.4	32.8	16.0	37.1	0.0	39.9	33.9	0.0	27.7
Incr Delay (d2), s/veh	2.3	2.3	0.0	1.5	79.5	54.8	0.4	0.0	20.9	3.7	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	8.5	0.3	0.9	24.2	33.2	2.3	0.0	6.7	7.6	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.3	29.6	12.6	45.8	112.2	70.8	37.5	0.0	60.8	37.6	0.0	27.8
LnGrp LOS	D	C	B	D	F	F	D	A	E	D	A	C
Approach Vol, veh/h		1003			2266			339			713	
Approach Delay, s/veh		30.7			93.9			53.2			37.3	
Approach LOS		C			F			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.4	38.9		28.2	12.4	36.0		18.9				
Change Period (Y+Rc), s	5.0	6.0		5.0	5.0	6.0		5.0				
Max Green Setting (Gmax), s	15.0	30.0		30.0	15.0	30.0		15.0				
Max Q Clear Time (g_c+I1), s	4.0	22.7		19.4	7.0	32.0		13.8				
Green Ext Time (p_c), s	0.0	4.0		3.1	0.1	0.0		0.1				

### Intersection Summary

HCM 6th Ctrl Delay	66.7
HCM 6th LOS	E

### Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.

HCM 6th TWSC  
2: Street "E" & San Elijo Road

Near-Term Year 2024 with Project Conditions (AM)  
AM Peak Hour

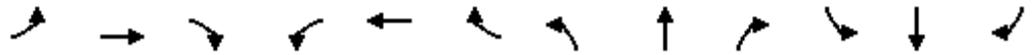
Intersection						
Int Delay, s/veh	5.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑		↑
Traffic Vol, veh/h	1063	336	91	2122	0	86
Future Vol, veh/h	1063	336	91	2122	0	86
Conflicting Peds, #/hr	0	8	8	0	0	8
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	None
Storage Length	-	-	100	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	91	91	25	25
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1363	431	100	2332	0	344

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3	
Conflicting Flow All	0	-	1371	0	-	698
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.22	-	-	3.32
Pot Cap-1 Maneuver	-	0	497	-	0	383
Stage 1	-	0	-	-	0	-
Stage 2	-	0	-	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	493	-	-	377
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	60.5
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	377	-	493	-
HCM Lane V/C Ratio	0.912	-	0.203	-
HCM Control Delay (s)	60.5	-	14.2	-
HCM Lane LOS	F	-	B	-
HCM 95th %tile Q(veh)	9.5	-	0.8	-

HCM 6th Signalized Intersection Summary Near-Term Year 2024 with Project Conditions (AM)  
 3: San Elijo Road SB & Cooke Street/Baker Street AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↻			↻						↻↻	
Traffic Volume (veh/h)	0	9	67	259	16	0	0	0	0	26	1903	7
Future Volume (veh/h)	0	9	67	259	16	0	0	0	0	26	1903	7
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	0.99		1.00				1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	15	99	425	26	0				27	1942	6
Peak Hour Factor	0.61	0.61	0.61	0.61	0.61	0.61				0.98	0.98	0.98
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	45	299	262	12	0				30	2242	7
Arrive On Green	0.00	0.22	0.22	0.22	0.22	0.00				0.20	0.20	0.20
Sat Flow, veh/h	0	206	1357	874	53	0				49	3675	12
Grp Volume(v), veh/h	0	0	114	451	0	0				1034	0	941
Grp Sat Flow(s),veh/h/ln	0	0	1563	928	0	0				1868	0	1868
Q Serve(g_s), s	0.0	0.0	6.1	15.9	0.0	0.0				54.1	0.0	48.3
Cycle Q Clear(g_c), s	0.0	0.0	6.1	22.0	0.0	0.0				54.1	0.0	48.3
Prop In Lane	0.00		0.87	0.94		0.00				0.03		0.01
Lane Grp Cap(c), veh/h	0	0	344	274	0	0				1139	0	1139
V/C Ratio(X)	0.00	0.00	0.33	1.65	0.00	0.00				0.91	0.00	0.83
Avail Cap(c_a), veh/h	0	0	344	274	0	0				1139	0	1139
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				0.33	0.33	0.33
Upstream Filter(I)	0.00	0.00	1.00	0.70	0.00	0.00				0.36	0.00	0.36
Uniform Delay (d), s/veh	0.0	0.0	32.8	44.1	0.0	0.0				37.2	0.0	34.9
Incr Delay (d2), s/veh	0.0	0.0	0.2	302.0	0.0	0.0				5.0	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	2.4	29.9	0.0	0.0				28.5	0.0	24.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	33.0	346.1	0.0	0.0				42.2	0.0	37.5
LnGrp LOS	A	A	C	F	A	A				D	A	D
Approach Vol, veh/h		114		451							1975	
Approach Delay, s/veh		33.0		346.1							39.9	
Approach LOS		C		F							D	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				30.0		70.0		30.0				
Change Period (Y+Rc), s				8.0		9.0		8.0				
Max Green Setting (Gmax), s				22.0		61.0		22.0				
Max Q Clear Time (g_c+I1), s				8.1		56.1		24.0				
Green Ext Time (p_c), s				0.3		4.4		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			94.0									
HCM 6th LOS			F									

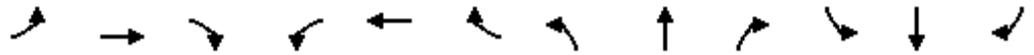
# HCM 6th Signalized Intersection Summary Near-Term Year 2024 with Project Conditions (AM)

## 4: San Elijo Road NB & Baker Street

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	19	0	0	120	25	119	935	21	0	0	0
Future Volume (veh/h)	22	19	0	0	120	25	119	935	21	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	0.98		1.00	1.00		0.93	1.00		0.97			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	26	22	0	0	171	32	140	1100	23			
Peak Hour Factor	0.85	0.85	0.85	0.70	0.70	0.70	0.85	0.85	0.85			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	103	70	0	0	244	46	264	2179	48			
Arrive On Green	0.16	0.16	0.00	0.00	0.16	0.16	0.67	0.67	0.67			
Sat Flow, veh/h	256	433	0	0	1512	283	392	3243	71			
Grp Volume(v), veh/h	48	0	0	0	0	203	661	0	602			
Grp Sat Flow(s),veh/h/ln	689	0	0	0	0	1795	1851	0	1855			
Q Serve(g_s), s	0.7	0.0	0.0	0.0	0.0	9.6	16.4	0.0	14.2			
Cycle Q Clear(g_c), s	10.3	0.0	0.0	0.0	0.0	9.6	16.4	0.0	14.2			
Prop In Lane	0.54		0.00	0.00		0.16	0.21		0.04			
Lane Grp Cap(c), veh/h	173	0	0	0	0	290	1243	0	1246			
V/C Ratio(X)	0.28	0.00	0.00	0.00	0.00	0.70	0.53	0.00	0.48			
Avail Cap(c_a), veh/h	374	0	0	0	0	549	1243	0	1246			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.94	0.00	0.00	0.00	0.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	33.9	0.0	0.0	0.0	0.0	35.7	7.5	0.0	7.2			
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.0	0.0	3.1	1.6	0.0	1.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.0	0.0	0.0	4.4	6.3	0.0	5.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.7	0.0	0.0	0.0	0.0	38.7	9.2	0.0	8.5			
LnGrp LOS	C	A	A	A	A	D	A	A	A			
Approach Vol, veh/h		48			203			1263				
Approach Delay, s/veh		34.7			38.7			8.9				
Approach LOS		C			D			A				
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		68.0		22.0				22.0				
Change Period (Y+Rc), s		7.5		7.5				7.5				
Max Green Setting (Gmax), s		47.5		27.5				27.5				
Max Q Clear Time (g_c+I1), s		18.4		12.3				11.6				
Green Ext Time (p_c), s		11.2		0.1				1.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				13.7								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary Near-Term Year 2024 with Project Conditions (AM)  
 5: San Elijo Road SB & Elfin Forest Road EB AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑									↔↑	
Traffic Volume (veh/h)	0	148	238	0	0	0	0	0	0	109	1743	0
Future Volume (veh/h)	0	148	238	0	0	0	0	0	0	109	1743	0
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.88							1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00							1.00	1.00	1.00
Work Zone On Approach		No									No	
Adj Sat Flow, veh/h/ln	0	1870	1870							1870	1870	0
Adj Flow Rate, veh/h	0	174	252							116	1854	0
Peak Hour Factor	0.85	0.85	0.85							0.94	0.94	0.94
Percent Heavy Veh, %	0	2	2							2	2	0
Cap, veh/h	0	364	286							149	1983	0
Arrive On Green	0.00	0.07	0.07							0.20	0.20	0.00
Sat Flow, veh/h	0	1870	1395							179	3336	0
Grp Volume(v), veh/h	0	174	252							1058	912	0
Grp Sat Flow(s),veh/h/ln	0	1777	1395							1813	1617	0
Q Serve(g_s), s	0.0	9.4	17.9							51.8	55.3	0.0
Cycle Q Clear(g_c), s	0.0	9.4	17.9							57.7	55.3	0.0
Prop In Lane	0.00		1.00							0.11		0.00
Lane Grp Cap(c), veh/h	0	364	286							1146	986	0
V/C Ratio(X)	0.00	0.48	0.88							0.92	0.92	0.00
Avail Cap(c_a), veh/h	0	391	307							1146	986	0
HCM Platoon Ratio	1.00	0.33	0.33							0.33	0.33	1.00
Upstream Filter(I)	0.00	1.00	1.00							0.61	0.61	0.00
Uniform Delay (d), s/veh	0.0	41.5	45.4							38.5	37.7	0.0
Incr Delay (d2), s/veh	0.0	1.0	23.3							9.1	10.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.6	8.6							30.8	26.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	42.4	68.7							47.7	48.1	0.0
LnGrp LOS	A	D	E							D	D	A
Approach Vol, veh/h		426									1970	
Approach Delay, s/veh		58.0									47.9	
Approach LOS		E									D	
Timer - Assigned Phs				4		6						
Phs Duration (G+Y+Rc), s				28.5		70.0						
Change Period (Y+Rc), s				8.0		9.0						
Max Green Setting (Gmax), s				22.0		61.0						
Max Q Clear Time (g_c+I1), s				19.9		59.7						
Green Ext Time (p_c), s				0.6		1.2						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			49.7									
HCM 6th LOS			D									

# HCM 6th Signalized Intersection Summary Near-Term Year 2024 with Project Conditions (AM)

## 6: San Elijo Road NB & Elfin Forest Road EB

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔						↔↔				
Traffic Volume (veh/h)	110	140	0	0	0	0	0	685	301	0	0	0
Future Volume (veh/h)	110	140	0	0	0	0	0	685	301	0	0	0
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.96			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Work Zone On Approach		No						No				
Adj Sat Flow, veh/h/ln	1870	1870	0				0	1870	1870			
Adj Flow Rate, veh/h	136	173	0				0	753	298			
Peak Hour Factor	0.81	0.81	0.81				0.91	0.91	0.91			
Percent Heavy Veh, %	2	2	0				0	2	2			
Cap, veh/h	266	314	0				0	1615	639			
Arrive On Green	0.16	0.16	0.00				0.00	0.66	0.66			
Sat Flow, veh/h	1188	2005	0				0	2546	970			
Grp Volume(v), veh/h	171	138	0				0	545	506			
Grp Sat Flow(s),veh/h/ln	1491	1617	0				0	1777	1646			
Q Serve(g_s), s	9.7	7.0	0.0				0.0	13.6	13.6			
Cycle Q Clear(g_c), s	9.7	7.0	0.0				0.0	13.6	13.6			
Prop In Lane	0.80		0.00				0.00		0.59			
Lane Grp Cap(c), veh/h	316	264	0				0	1170	1084			
V/C Ratio(X)	0.54	0.52	0.00				0.00	0.47	0.47			
Avail Cap(c_a), veh/h	436	395	0				0	1170	1084			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	0.54	0.54	0.00				0.00	0.82	0.82			
Uniform Delay (d), s/veh	35.6	34.4	0.0				0.0	7.6	7.6			
Incr Delay (d2), s/veh	0.8	0.9	0.0				0.0	1.1	1.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.6	2.8	0.0				0.0	5.0	4.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.3	35.3	0.0				0.0	8.7	8.8			
LnGrp LOS	D	D	A				A	A	A			
Approach Vol, veh/h		309						1051				
Approach Delay, s/veh		35.9						8.7				
Approach LOS		D						A				
Timer - Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		67.3		22.7								
Change Period (Y+Rc), s		8.0		8.0								
Max Green Setting (Gmax), s		52.0		22.0								
Max Q Clear Time (g_c+I1), s		15.6		11.7								
Green Ext Time (p_c), s		9.5		1.3								
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			14.9									
HCM 6th LOS			B									

# HCM 6th Signalized Intersection Summary Near-Term Year 2024 with Project Conditions (AM)

## 7: San Elijo Road SB & Elfin Forest Road WB

AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↗						↕	↘
Traffic Volume (veh/h)	0	0	0	569	107	0	0	0	0	0	1304	60
Future Volume (veh/h)	0	0	0	569	107	0	0	0	0	0	1304	60
Initial Q (Qb), veh				0	0	0				0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00				1.00		0.92
Parking Bus, Adj				1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach				No							No	
Adj Sat Flow, veh/h/ln				1870	1870	0				0	1870	1870
Adj Flow Rate, veh/h				717	0	0				0	1358	56
Peak Hour Factor				0.90	0.90	0.90				0.96	0.96	0.96
Percent Heavy Veh, %				2	2	0				0	2	2
Cap, veh/h				1039	470	0				0	1767	73
Arrive On Green				0.25	0.00	0.00				0.00	0.51	0.51
Sat Flow, veh/h				3563	1870	0				0	3559	143
Grp Volume(v), veh/h				717	0	0				0	695	719
Grp Sat Flow(s),veh/h/ln				1781	1870	0				0	1777	1831
Q Serve(g_s), s				18.9	0.0	0.0				0.0	31.5	31.7
Cycle Q Clear(g_c), s				18.9	0.0	0.0				0.0	31.5	31.7
Prop In Lane				1.00		0.00				0.00		0.08
Lane Grp Cap(c), veh/h				1039	470	0				0	906	934
V/C Ratio(X)				0.69	0.00	0.00				0.00	0.77	0.77
Avail Cap(c_a), veh/h				1284	599	0				0	906	934
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				0.61	0.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				35.1	0.0	0.0				0.0	19.7	19.8
Incr Delay (d2), s/veh				1.2	0.0	0.0				0.0	6.2	6.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				8.3	0.0	0.0				0.0	14.0	14.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				36.3	0.0	0.0				0.0	25.9	25.9
LnGrp LOS				D	A	A				A	C	C
Approach Vol, veh/h					717						1414	
Approach Delay, s/veh					36.3						25.9	
Approach LOS					D						C	
Timer - Assigned Phs						6		8				
Phs Duration (G+Y+Rc), s						60.0		33.1				
Change Period (Y+Rc), s						9.0		8.0				
Max Green Setting (Gmax), s						51.0		32.0				
Max Q Clear Time (g_c+I1), s						33.7		20.9				
Green Ext Time (p_c), s						9.8		4.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				29.4								
HCM 6th LOS				C								
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												

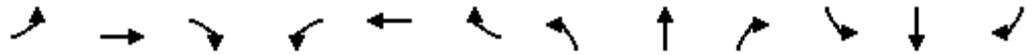
HCM 6th Signalized Intersection Summary Near-Term Year 2024 with Project Conditions (AM)  
 8: San Elijo Road NB & Elfin Forest Road WB AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	522	60	163	619	0	0	0	0
Future Volume (veh/h)	0	0	0	0	522	60	163	619	0	0	0	0
Initial Q (Qb), veh				0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)				1.00		0.71	1.00		1.00			
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach				No			No					
Adj Sat Flow, veh/h/ln				0	1870	1870	1870	1870	0			
Adj Flow Rate, veh/h				0	614	64	181	688	0			
Peak Hour Factor				0.85	0.85	0.85	0.90	0.90	0.90			
Percent Heavy Veh, %				0	2	2	2	2	0			
Cap, veh/h				0	776	80	424	1493	0			
Arrive On Green				0.00	0.25	0.25	0.19	0.19	0.00			
Sat Flow, veh/h				0	3205	322	648	2717	0			
Grp Volume(v), veh/h				0	349	329	446	423	0			
Grp Sat Flow(s),veh/h/ln				0	1777	1657	1663	1617	0			
Q Serve(g_s), s				0.0	16.5	16.7	19.6	20.9	0.0			
Cycle Q Clear(g_c), s				0.0	16.5	16.7	21.4	20.9	0.0			
Prop In Lane				0.00		0.19	0.41		0.00			
Lane Grp Cap(c), veh/h				0	443	413	1000	917	0			
V/C Ratio(X)				0.00	0.79	0.80	0.45	0.46	0.00			
Avail Cap(c_a), veh/h				0	622	580	1000	917	0			
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00			
Upstream Filter(I)				0.00	1.00	1.00	0.88	0.88	0.00			
Uniform Delay (d), s/veh				0.0	31.5	31.6	24.4	24.3	0.0			
Incr Delay (d2), s/veh				0.0	4.5	5.2	1.3	1.5	0.0			
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln				0.0	7.5	7.2	9.9	9.4	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				0.0	36.0	36.8	25.7	25.8	0.0			
LnGrp LOS				A	D	D	C	C	A			
Approach Vol, veh/h					678			869				
Approach Delay, s/veh					36.4			25.8				
Approach LOS					D			C				
Timer - Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		59.1						30.9				
Change Period (Y+Rc), s		8.0						8.5				
Max Green Setting (Gmax), s		42.0						31.5				
Max Q Clear Time (g_c+I1), s		23.4						18.7				
Green Ext Time (p_c), s		5.7						3.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				30.4								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary Near-Term Year 2024 with Project Conditions (AM)

9: Schoolhouse Way & San Elijo Road

AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕			↕	↗		↖	↗
Traffic Volume (veh/h)	34	465	146	312	1078	7	157	14	180	23	33	98
Future Volume (veh/h)	34	465	146	312	1078	7	157	14	180	23	33	98
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.65	1.00		0.99	1.00		0.81	1.00		0.85
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	40	547	156	351	1211	7	194	17	222	28	40	96
Peak Hour Factor	0.85	0.85	0.85	0.89	0.89	0.89	0.81	0.81	0.81	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	52	653	183	285	1417	8	276	24	471	151	216	270
Arrive On Green	0.03	0.27	0.27	0.16	0.39	0.39	0.17	0.17	0.17	0.20	0.20	0.20
Sat Flow, veh/h	1781	2417	678	1781	3622	21	1644	144	1292	755	1078	1351
Grp Volume(v), veh/h	40	400	303	351	594	624	211	0	222	68	0	96
Grp Sat Flow(s),veh/h/ln	1781	1777	1318	1781	1777	1866	1788	0	1292	1833	0	1351
Q Serve(g_s), s	3.5	33.0	34.0	25.0	47.7	47.7	17.4	0.0	21.8	4.8	0.0	9.5
Cycle Q Clear(g_c), s	3.5	33.0	34.0	25.0	47.7	47.7	17.4	0.0	21.8	4.8	0.0	9.5
Prop In Lane	1.00		0.51	1.00		0.01	0.92		1.00	0.41		1.00
Lane Grp Cap(c), veh/h	52	480	356	285	695	730	300	0	471	367	0	270
V/C Ratio(X)	0.76	0.83	0.85	1.23	0.85	0.85	0.70	0.00	0.47	0.19	0.00	0.36
Avail Cap(c_a), veh/h	571	854	634	285	695	730	573	0	668	411	0	303
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	75.2	53.6	54.0	65.5	43.4	43.4	61.3	0.0	42.5	51.8	0.0	53.7
Incr Delay (d2), s/veh	20.1	3.8	5.8	130.1	10.2	9.7	3.0	0.0	0.7	0.2	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	15.4	12.0	21.8	23.1	24.2	8.2	0.0	7.2	2.3	0.0	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	95.3	57.5	59.8	195.6	53.6	53.1	64.3	0.0	43.3	52.1	0.0	54.5
LnGrp LOS	F	E	E	F	D	D	E	A	D	D	A	D
Approach Vol, veh/h		743			1569			433			164	
Approach Delay, s/veh		60.4			85.2			53.5			53.5	
Approach LOS		E			F			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.6	71.0		40.7	30.5	52.1		32.7				
Change Period (Y+Rc), s	7.0	* 10		9.5	5.5	10.0		6.5				
Max Green Setting (Gmax), s	50.0	* 50		35.0	25.0	75.0		50.0				
Max Q Clear Time (g_c+I1), s	5.5	49.7		11.5	27.0	36.0		23.8				
Green Ext Time (p_c), s	0.1	0.2		0.7	0.0	6.1		2.4				

Intersection Summary

HCM 6th Ctrl Delay	72.4
HCM 6th LOS	E

Notes

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

HCM 6th TWSC  
 10: Street "D" & San Elijo Road

Near-Term Year 2024 with Project Conditions (AM)

AM Peak Hour

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	1380	7	0	2216	0	10
Future Vol, veh/h	1380	7	0	2216	0	10
Conflicting Peds, #/hr	0	0	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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, %	2	2	2	2	2	2
Mvmt Flow	1500	8	0	2409	0	11

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	-	-	754
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	352
Stage 1	-	-	0	-	-
Stage 2	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	352
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

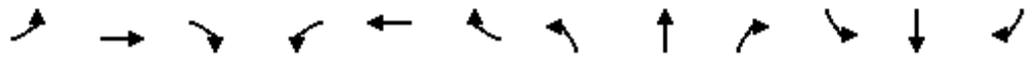
Approach	EB	WB	NB
HCM Control Delay, s	0	0	15.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	352	-	-	-
HCM Lane V/C Ratio	0.031	-	-	-
HCM Control Delay (s)	15.6	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

# HCM 6th Signalized Intersection Summary Near-Term Year 2024 with Project Conditions (PM)

## 1: Dove Tail Drive/Melrose Drive & San Elijo Road

PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	1258	84	59	1299	322	46	57	15	743	59	49
Future Volume (veh/h)	35	1258	84	59	1299	322	46	57	15	743	59	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	1367	82	63	1397	312	55	68	16	903	0	45
Peak Hour Factor	0.92	0.92	0.92	0.93	0.93	0.93	0.84	0.84	0.84	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	95	1134	652	107	1158	966	184	151	36	1046	0	453
Arrive On Green	0.05	0.32	0.32	0.06	0.33	0.33	0.10	0.10	0.10	0.29	0.00	0.29
Sat Flow, veh/h	1781	3554	1529	1781	3554	1535	1781	1457	343	3563	0	1543
Grp Volume(v), veh/h	38	1367	82	63	1397	312	55	0	84	903	0	45
Grp Sat Flow(s),veh/h/ln	1781	1777	1529	1781	1777	1535	1781	0	1800	1781	0	1543
Q Serve(g_s), s	1.9	30.0	3.1	3.2	30.6	9.1	2.7	0.0	4.1	22.5	0.0	2.0
Cycle Q Clear(g_c), s	1.9	30.0	3.1	3.2	30.6	9.1	2.7	0.0	4.1	22.5	0.0	2.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	95	1134	652	107	1158	966	184	0	186	1046	0	453
V/C Ratio(X)	0.40	1.21	0.13	0.59	1.21	0.32	0.30	0.00	0.45	0.86	0.00	0.10
Avail Cap(c_a), veh/h	284	1134	652	284	1158	966	284	0	287	1137	0	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.0	32.0	16.5	43.0	31.7	8.5	39.0	0.0	39.6	31.4	0.0	24.1
Incr Delay (d2), s/veh	1.0	100.9	0.1	1.9	101.4	0.3	0.3	0.0	0.6	7.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	27.7	1.3	1.4	28.4	5.6	1.2	0.0	1.8	10.1	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.0	132.9	16.7	44.9	133.1	8.8	39.3	0.0	40.2	38.4	0.0	24.3
LnGrp LOS	D	F	B	D	F	A	D	A	D	D	A	C
Approach Vol, veh/h		1487			1772			139			948	
Approach Delay, s/veh		124.2			108.1			39.9			37.7	
Approach LOS		F			F			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.6	36.0		32.6	10.0	36.6		14.7				
Change Period (Y+Rc), s	5.0	6.0		5.0	5.0	6.0		5.0				
Max Green Setting (Gmax), s	15.0	30.0		30.0	15.0	30.0		15.0				
Max Q Clear Time (g_c+I1), s	5.2	32.0		24.5	3.9	32.6		6.1				
Green Ext Time (p_c), s	0.0	0.0		2.6	0.0	0.0		0.2				

### Intersection Summary

HCM 6th Ctrl Delay	96.1
HCM 6th LOS	F

### Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.

HCM 6th TWSC  
2: Street "E" & San Elijo Road

Near-Term Year 2024 with Project Conditions (PM)

PM Peak Hour

Intersection						
Int Delay, s/veh	162.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑		↗
Traffic Vol, veh/h	1756	114	49	1308	0	437
Future Vol, veh/h	1756	114	49	1308	0	437
Conflicting Peds, #/hr	0	8	8	0	0	8
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	None
Storage Length	-	-	100	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	92	92	58	58
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1829	119	53	1422	0	753

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	-	1837
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.22
Pot Cap-1 Maneuver	-	0	328
Stage 1	-	0	-
Stage 2	-	0	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	326
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	\$ 873.4
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	264	-	326	-
HCM Lane V/C Ratio	2.854	-	0.163	-
HCM Control Delay (s)	\$ 873.4	-	18.2	-
HCM Lane LOS	F	-	C	-
HCM 95th %tile Q(veh)	65.5	-	0.6	-

Notes  
 -: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

# HCM 6th Signalized Intersection Summary Near-Term Year 2024 with Project Conditions (PM)

## 3: San Elijo Road SB & Cooke Street/Baker Street

PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↻			↻						↻↻	
Traffic Volume (veh/h)	0	6	11	412	30	0	0	0	0	106	964	14
Future Volume (veh/h)	0	6	11	412	30	0	0	0	0	106	964	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00				1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	10	16	458	33	0				115	1048	14
Peak Hour Factor	0.61	0.61	0.61	0.90	0.90	0.90				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	173	277	409	24	0				194	1859	26
Arrive On Green	0.00	0.27	0.27	0.27	0.27	0.00				0.18	0.18	0.18
Sat Flow, veh/h	0	641	1026	1257	91	0				346	3320	46
Grp Volume(v), veh/h	0	0	26	491	0	0				615	0	562
Grp Sat Flow(s),veh/h/ln	0	0	1667	1348	0	0				1853	0	1860
Q Serve(g_s), s	0.0	0.0	1.2	25.8	0.0	0.0				30.4	0.0	27.3
Cycle Q Clear(g_c), s	0.0	0.0	1.2	27.0	0.0	0.0				30.4	0.0	27.3
Prop In Lane	0.00		0.62	0.93		0.00				0.19		0.02
Lane Grp Cap(c), veh/h	0	0	450	433	0	0				1038	0	1042
V/C Ratio(X)	0.00	0.00	0.06	1.13	0.00	0.00				0.59	0.00	0.54
Avail Cap(c_a), veh/h	0	0	450	433	0	0				1038	0	1042
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				0.33	0.33	0.33
Upstream Filter(I)	0.00	0.00	1.00	0.70	0.00	0.00				0.88	0.00	0.88
Uniform Delay (d), s/veh	0.0	0.0	27.1	39.2	0.0	0.0				30.3	0.0	29.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	78.6	0.0	0.0				2.2	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.5	20.3	0.0	0.0				15.7	0.0	14.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	27.1	117.8	0.0	0.0				32.5	0.0	30.8
LnGrp LOS	A	A	C	F	A	A				C	A	C
Approach Vol, veh/h		26			491							1177
Approach Delay, s/veh		27.1			117.8							31.7
Approach LOS		C			F							C
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				35.0		65.0		35.0				
Change Period (Y+Rc), s				8.0		9.0		8.0				
Max Green Setting (Gmax), s				27.0		56.0		27.0				
Max Q Clear Time (g_c+I1), s				3.2		32.4		29.0				
Green Ext Time (p_c), s				0.1		9.3		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			56.6									
HCM 6th LOS			E									

# HCM 6th Signalized Intersection Summary Near-Term Year 2024 with Project Conditions (PM)

## 4: San Elijo Road NB & Baker Street

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	86	0	0	49	91	386	1706	44	0	0	0
Future Volume (veh/h)	44	86	0	0	49	91	386	1706	44	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	0.89		1.00	1.00		0.80	1.00		0.95			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	47	92	0	0	53	89	390	1723	40			
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.99	0.99	0.99			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	88	150	0	0	91	153	433	2031	49			
Arrive On Green	0.17	0.17	0.00	0.00	0.17	0.17	0.68	0.68	0.68			
Sat Flow, veh/h	238	885	0	0	538	903	636	2983	72			
Grp Volume(v), veh/h	139	0	0	0	0	142	1127	0	1026			
Grp Sat Flow(s),veh/h/ln	1123	0	0	0	0	1441	1839	0	1853			
Q Serve(g_s), s	4.1	0.0	0.0	0.0	0.0	9.1	50.6	0.0	39.6			
Cycle Q Clear(g_c), s	13.2	0.0	0.0	0.0	0.0	9.1	50.6	0.0	39.6			
Prop In Lane	0.34		0.00	0.00		0.63	0.35		0.04			
Lane Grp Cap(c), veh/h	238	0	0	0	0	244	1252	0	1262			
V/C Ratio(X)	0.58	0.00	0.00	0.00	0.00	0.58	0.90	0.00	0.81			
Avail Cap(c_a), veh/h	475	0	0	0	0	468	1252	0	1262			
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	0.00	0.00	0.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	39.6	0.0	0.0	0.0	0.0	38.3	13.2	0.0	11.4			
Incr Delay (d2), s/veh	2.3	0.0	0.0	0.0	0.0	2.2	10.5	0.0	5.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.5	0.0	0.0	0.0	0.0	3.4	21.8	0.0	16.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.9	0.0	0.0	0.0	0.0	40.5	23.7	0.0	17.2			
LnGrp LOS	D	A	A	A	A	D	C	A	B			
Approach Vol, veh/h		139			142			2153				
Approach Delay, s/veh		41.9			40.5			20.6				
Approach LOS		D			D			C				
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		75.6		24.4				24.4				
Change Period (Y+Rc), s		7.5		7.5				7.5				
Max Green Setting (Gmax), s		52.5		32.5				32.5				
Max Q Clear Time (g_c+I1), s		52.6		15.2				11.1				
Green Ext Time (p_c), s		0.0		0.7				0.9				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				23.0								
HCM 6th LOS				C								

# HCM 6th Signalized Intersection Summary Near-Term Year 2024 with Project Conditions (PM)

## 5: San Elijo Road SB & Elfin Forest Road EB

PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑									↔↑	
Traffic Volume (veh/h)	0	99	123	0	0	0	0	0	0	108	1007	0
Future Volume (veh/h)	0	99	123	0	0	0	0	0	0	108	1007	0
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90							1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00							1.00	1.00	1.00
Work Zone On Approach		No									No	
Adj Sat Flow, veh/h/ln	0	1870	1870							1870	1870	0
Adj Flow Rate, veh/h	0	116	131							114	1060	0
Peak Hour Factor	0.85	0.85	0.85							0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2							2	2	0
Cap, veh/h	0	252	203							222	1891	0
Arrive On Green	0.00	0.05	0.05							0.20	0.20	0.00
Sat Flow, veh/h	0	1870	1431							293	3185	0
Grp Volume(v), veh/h	0	116	131							617	557	0
Grp Sat Flow(s),veh/h/ln	0	1777	1431							1777	1617	0
Q Serve(g_s), s	0.0	6.4	9.0							25.0	31.0	0.0
Cycle Q Clear(g_c), s	0.0	6.4	9.0							31.2	31.0	0.0
Prop In Lane	0.00		1.00							0.18		0.00
Lane Grp Cap(c), veh/h	0	252	203							1126	986	0
V/C Ratio(X)	0.00	0.46	0.65							0.55	0.56	0.00
Avail Cap(c_a), veh/h	0	391	315							1126	986	0
HCM Platoon Ratio	1.00	0.33	0.33							0.33	0.33	1.00
Upstream Filter(I)	0.00	1.00	1.00							0.86	0.86	0.00
Uniform Delay (d), s/veh	0.0	43.9	45.2							27.9	28.0	0.0
Incr Delay (d2), s/veh	0.0	1.3	3.4							1.7	2.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.0	3.6							15.4	13.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	45.2	48.6							29.5	30.0	0.0
LnGrp LOS	A	D	D							C	C	A
Approach Vol, veh/h		247									1174	
Approach Delay, s/veh		47.0									29.7	
Approach LOS		D									C	
Timer - Assigned Phs				4		6						
Phs Duration (G+Y+Rc), s				22.2		70.0						
Change Period (Y+Rc), s				8.0		9.0						
Max Green Setting (Gmax), s				22.0		61.0						
Max Q Clear Time (g_c+I1), s				11.0		33.2						
Green Ext Time (p_c), s				1.1		9.8						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			32.7									
HCM 6th LOS			C									

# HCM 6th Signalized Intersection Summary Near-Term Year 2024 with Project Conditions (PM)

## 6: San Elijo Road NB & Elfin Forest Road EB

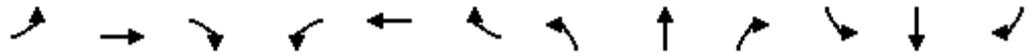
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	98	0	0	0	0	0	1278	568	0	0	0
Future Volume (veh/h)	92	98	0	0	0	0	0	1278	568	0	0	0
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.95			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Work Zone On Approach		No						No				
Adj Sat Flow, veh/h/ln	1870	1870	0				0	1870	1870			
Adj Flow Rate, veh/h	108	115	0				0	1291	516			
Peak Hour Factor	0.85	0.85	0.85				0.99	0.99	0.99			
Percent Heavy Veh, %	2	2	0				0	2	2			
Cap, veh/h	240	252	0				0	1747	653			
Arrive On Green	0.14	0.14	0.00				0.00	0.70	0.70			
Sat Flow, veh/h	1259	1911	0				0	2581	931			
Grp Volume(v), veh/h	126	97	0				0	897	910			
Grp Sat Flow(s),veh/h/ln	1468	1617	0				0	1777	1642			
Q Serve(g_s), s	8.1	5.5	0.0				0.0	30.3	37.1			
Cycle Q Clear(g_c), s	8.1	5.5	0.0				0.0	30.3	37.1			
Prop In Lane	0.86		0.00				0.00		0.57			
Lane Grp Cap(c), veh/h	269	223	0				0	1248	1153			
V/C Ratio(X)	0.47	0.44	0.00				0.00	0.72	0.79			
Avail Cap(c_a), veh/h	390	356	0				0	1248	1153			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	0.81	0.81	0.00				0.00	0.34	0.34			
Uniform Delay (d), s/veh	40.7	39.5	0.0				0.0	9.0	10.0			
Incr Delay (d2), s/veh	1.0	1.1	0.0				0.0	1.2	2.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.0	2.3	0.0				0.0	10.6	12.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.7	40.6	0.0				0.0	10.2	11.9			
LnGrp LOS	D	D	A				A	B	B			
Approach Vol, veh/h		223						1807				
Approach Delay, s/veh		41.2						11.1				
Approach LOS		D						B				
Timer - Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		78.2		21.8								
Change Period (Y+Rc), s		8.0		8.0								
Max Green Setting (Gmax), s		62.0		22.0								
Max Q Clear Time (g_c+I1), s		39.1		10.1								
Green Ext Time (p_c), s		16.2		0.9								
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			14.4									
HCM 6th LOS			B									

# HCM 6th Signalized Intersection Summary Near-Term Year 2024 with Project Conditions (PM)

## 7: San Elijo Road SB & Elfin Forest Road WB

PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↗						↖	↗
Traffic Volume (veh/h)	0	0	0	271	237	0	0	0	0	0	793	76
Future Volume (veh/h)	0	0	0	271	237	0	0	0	0	0	793	76
Initial Q (Qb), veh				0	0	0				0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00				1.00		0.95
Parking Bus, Adj				1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach				No							No	
Adj Sat Flow, veh/h/ln				1870	1870	0				0	1870	1870
Adj Flow Rate, veh/h				318	326	0				0	826	71
Peak Hour Factor				0.80	0.80	0.80				0.96	0.96	0.96
Percent Heavy Veh, %				2	2	0				0	2	2
Cap, veh/h				485	434	0				0	1517	130
Arrive On Green				0.23	0.23	0.00				0.00	0.46	0.46
Sat Flow, veh/h				1781	1870	0				0	3391	283
Grp Volume(v), veh/h				318	326	0				0	445	452
Grp Sat Flow(s),veh/h/ln				1781	1870	0				0	1777	1804
Q Serve(g_s), s				16.7	16.2	0.0				0.0	18.0	18.1
Cycle Q Clear(g_c), s				16.7	16.2	0.0				0.0	18.0	18.1
Prop In Lane				1.00		0.00				0.00		0.16
Lane Grp Cap(c), veh/h				485	434	0				0	817	830
V/C Ratio(X)				0.66	0.75	0.00				0.00	0.54	0.54
Avail Cap(c_a), veh/h				731	692	0				0	817	830
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				0.67	0.67	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				35.9	35.7	0.0				0.0	19.5	19.5
Incr Delay (d2), s/veh				2.2	3.8	0.0				0.0	2.6	2.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				7.5	7.8	0.0				0.0	7.9	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				38.1	39.5	0.0				0.0	22.1	22.0
LnGrp LOS				D	D	A				A	C	C
Approach Vol, veh/h					644						897	
Approach Delay, s/veh					38.8						22.0	
Approach LOS					D						C	
Timer - Assigned Phs						6		8				
Phs Duration (G+Y+Rc), s						55.0		31.2				
Change Period (Y+Rc), s						9.0		8.0				
Max Green Setting (Gmax), s						46.0		37.0				
Max Q Clear Time (g_c+I1), s						20.1		18.7				
Green Ext Time (p_c), s						6.8		4.5				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				29.0								
HCM 6th LOS				C								
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												

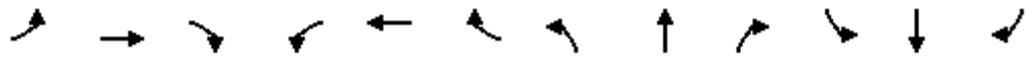
HCM 6th Signalized Intersection Summary Near-Term Year 2024 with Project Conditions (PM)  
 8: San Elijo Road NB & Elfin Forest Road WB PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	274	75	234	1196	0	0	0	0
Future Volume (veh/h)	0	0	0	0	274	75	234	1196	0	0	0	0
Initial Q (Qb), veh				0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)				1.00		0.92	1.00		1.00			
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach				No			No					
Adj Sat Flow, veh/h/ln				0	1870	1870	1870	1870	0			
Adj Flow Rate, veh/h				0	326	79	260	1329	0			
Peak Hour Factor				0.84	0.84	0.84	0.90	0.90	0.90			
Percent Heavy Veh, %				0	2	2	2	2	0			
Cap, veh/h				0	454	108	404	1875	0			
Arrive On Green				0.00	0.16	0.16	0.22	0.22	0.00			
Sat Flow, veh/h				0	2891	663	530	2873	0			
Grp Volume(v), veh/h				0	204	201	834	755	0			
Grp Sat Flow(s),veh/h/ln				0	1777	1684	1701	1617	0			
Q Serve(g_s), s				0.0	10.9	11.3	45.5	42.9	0.0			
Cycle Q Clear(g_c), s				0.0	10.9	11.3	45.5	42.9	0.0			
Prop In Lane				0.00		0.39	0.31		0.00			
Lane Grp Cap(c), veh/h				0	288	273	1192	1088	0			
V/C Ratio(X)				0.00	0.71	0.73	0.70	0.69	0.00			
Avail Cap(c_a), veh/h				0	560	530	1192	1088	0			
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00			
Upstream Filter(I)				0.00	1.00	1.00	0.50	0.50	0.00			
Uniform Delay (d), s/veh				0.0	39.7	39.8	30.4	29.4	0.0			
Incr Delay (d2), s/veh				0.0	3.2	3.8	1.7	1.9	0.0			
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln				0.0	5.0	5.0	21.2	19.1	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				0.0	42.9	43.6	32.2	31.3	0.0			
LnGrp LOS				A	D	D	C	C	A			
Approach Vol, veh/h					405			1589				
Approach Delay, s/veh					43.2			31.8				
Approach LOS					D			C				
Timer - Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		75.3						24.7				
Change Period (Y+Rc), s		8.0						8.5				
Max Green Setting (Gmax), s		52.0						31.5				
Max Q Clear Time (g_c+I1), s		47.5						13.3				
Green Ext Time (p_c), s		3.6						2.4				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay					34.1							
HCM 6th LOS					C							

# HCM 6th Signalized Intersection Summary Near-Term Year 2024 with Project Conditions (PM)

## 9: Schoolhouse Way & San Elijo Road

PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	1179	26	35	799	32	48	10	51	22	3	58
Future Volume (veh/h)	65	1179	26	35	799	32	48	10	51	22	3	58
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	69	1254	26	37	850	31	109	23	93	31	4	64
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.44	0.44	0.44	0.72	0.72	0.72
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	91	1568	33	69	1444	53	154	32	218	151	19	143
Arrive On Green	0.05	0.44	0.44	0.04	0.41	0.41	0.10	0.10	0.10	0.10	0.10	0.10
Sat Flow, veh/h	1781	3556	74	1781	3493	127	1483	313	1511	1586	205	1504
Grp Volume(v), veh/h	69	626	654	37	432	449	132	0	93	35	0	64
Grp Sat Flow(s),veh/h/ln	1781	1777	1853	1781	1777	1843	1796	0	1511	1791	0	1504
Q Serve(g_s), s	3.7	29.8	29.8	2.0	18.5	18.5	7.0	0.0	5.5	1.8	0.0	3.9
Cycle Q Clear(g_c), s	3.7	29.8	29.8	2.0	18.5	18.5	7.0	0.0	5.5	1.8	0.0	3.9
Prop In Lane	1.00		0.04	1.00		0.07	0.83		1.00	0.89		1.00
Lane Grp Cap(c), veh/h	91	784	817	69	734	762	186	0	218	170	0	143
V/C Ratio(X)	0.76	0.80	0.80	0.53	0.59	0.59	0.71	0.00	0.43	0.21	0.00	0.45
Avail Cap(c_a), veh/h	909	1361	1419	455	907	941	917	0	833	640	0	538
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.9	23.6	23.6	46.2	22.3	22.3	42.5	0.0	38.4	40.9	0.0	41.9
Incr Delay (d2), s/veh	11.9	1.9	1.9	6.3	0.8	0.7	4.9	0.0	1.3	0.6	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	12.1	12.6	1.0	7.5	7.8	3.4	0.0	0.1	0.8	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.8	25.6	25.5	52.5	23.0	23.0	47.4	0.0	39.7	41.5	0.0	44.1
LnGrp LOS	E	C	C	D	C	C	D	A	D	D	A	D
Approach Vol, veh/h		1349			918			225				99
Approach Delay, s/veh		27.2			24.2			44.2				43.2
Approach LOS		C			C			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	50.5		18.8	9.3	53.2		16.6				
Change Period (Y+Rc), s	7.0	* 10		9.5	5.5	10.0		6.5				
Max Green Setting (Gmax), s	50.0	* 50		35.0	25.0	75.0		50.0				
Max Q Clear Time (g_c+I1), s	5.7	20.5		5.9	4.0	31.8		9.0				
Green Ext Time (p_c), s	0.2	6.1		0.4	0.1	11.3		1.2				

### Intersection Summary

HCM 6th Ctrl Delay	28.2
HCM 6th LOS	C

### Notes

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

HCM 6th TWSC  
 10: Street "D" & San Elijo Road

Near-Term Year 2024 with Project Conditions (PM)

PM Peak Hour

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	2225	20	0	1364	0	6
Future Vol, veh/h	2225	20	0	1364	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2418	22	0	1483	0	7

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	- - - 1220
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - - 6.94
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - - 3.32
Pot Cap-1 Maneuver	-	-	0 - 0 172
Stage 1	-	-	0 - 0 -
Stage 2	-	-	0 - 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - - 172
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	26.8
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	172	-	-	-
HCM Lane V/C Ratio	0.038	-	-	-
HCM Control Delay (s)	26.8	-	-	-
HCM Lane LOS	D	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

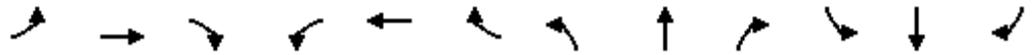
# Appendix G

## Peak Hour Intersection Capacity Worksheets

### Near-Term Year 2024 Base with Project with Improvement Conditions

HCM 6th Signalized Intersection Summary  
 1: Dove Tail Drive/Melrose Drive & San Elijo Road

NT Year 2024 with Project & Imp. Conditions  
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (veh/h)	87	813	24	35	1197	972	99	176	32	479	36	20
Future Volume (veh/h)	87	813	24	35	1197	972	99	176	32	479	36	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.98	1.00		0.96	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	95	884	24	38	1287	941	110	196	33	656	49	22
Peak Hour Factor	0.92	0.92	0.92	0.93	0.93	0.93	0.90	0.90	0.90	0.73	0.73	0.73
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	121	1431	814	77	1343	963	224	195	33	826	291	131
Arrive On Green	0.07	0.40	0.40	0.04	0.38	0.38	0.13	0.13	0.13	0.24	0.24	0.24
Sat Flow, veh/h	1781	3554	1525	1781	3554	1546	1781	1551	261	3456	1218	547
Grp Volume(v), veh/h	95	884	24	38	1287	941	110	0	229	656	0	71
Grp Sat Flow(s),veh/h/ln	1781	1777	1525	1781	1777	1546	1781	0	1812	1728	0	1765
Q Serve(g_s), s	5.8	22.0	0.8	2.3	39.2	42.0	6.4	0.0	14.0	19.8	0.0	3.5
Cycle Q Clear(g_c), s	5.8	22.0	0.8	2.3	39.2	42.0	6.4	0.0	14.0	19.8	0.0	3.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		0.31
Lane Grp Cap(c), veh/h	121	1431	814	77	1343	963	224	0	228	826	0	422
V/C Ratio(X)	0.78	0.62	0.03	0.49	0.96	0.98	0.49	0.00	1.00	0.79	0.00	0.17
Avail Cap(c_a), veh/h	128	1431	814	112	1343	963	224	0	228	1088	0	556
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.0	26.4	12.5	51.9	33.7	16.2	45.2	0.0	48.6	39.7	0.0	33.5
Incr Delay (d2), s/veh	22.7	1.0	0.0	1.8	15.8	23.6	0.6	0.0	60.4	3.7	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	8.9	0.4	1.0	18.7	32.0	2.9	0.0	10.1	8.6	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.6	27.3	12.6	53.7	49.5	39.8	45.9	0.0	108.9	43.4	0.0	33.8
LnGrp LOS	E	C	B	D	D	D	D	A	F	D	A	C
Approach Vol, veh/h		1003			2266			339			727	
Approach Delay, s/veh		31.4			45.5			88.5			42.4	
Approach LOS		C			D			F			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.8	50.7		31.5	12.6	48.0		19.0				
Change Period (Y+Rc), s	5.0	6.0		5.0	5.0	6.0		5.0				
Max Green Setting (Gmax), s	7.0	43.0		35.0	8.0	42.0		14.0				
Max Q Clear Time (g_c+I1), s	4.3	24.0		21.8	7.8	44.0		16.0				
Green Ext Time (p_c), s	0.0	7.6		3.6	0.0	0.0		0.0				

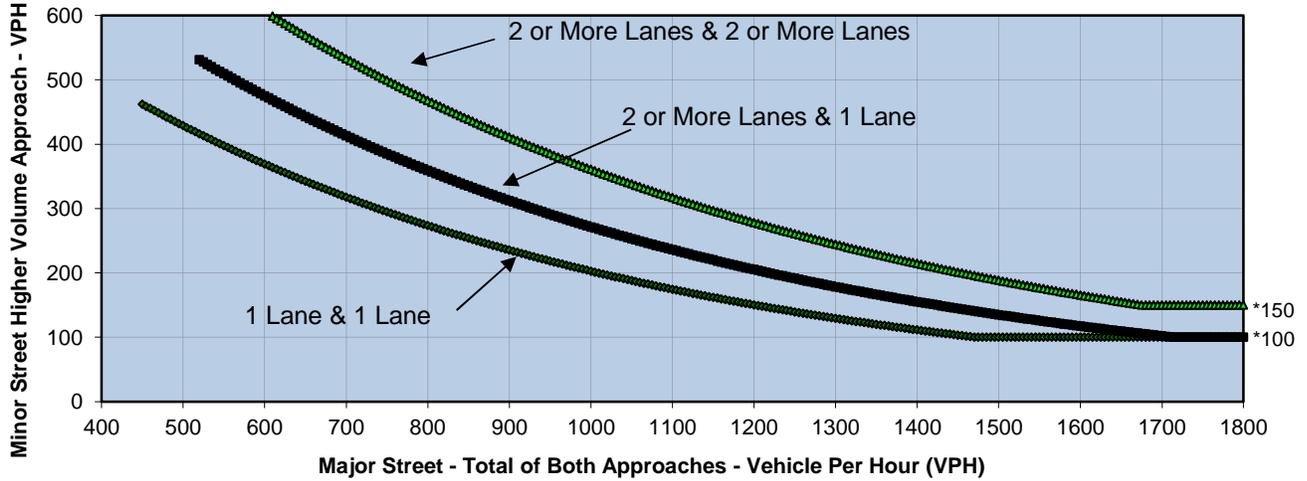
Intersection Summary

HCM 6th Ctrl Delay	45.1
HCM 6th LOS	D

Notes

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

**Figure 4C-3  
Warrant 3, Peak Hour**



\* Note: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2006

Major Street **San Elijo Road**  
 Minor Street **Project Driveway**

Project **Questhaven**  
 Scenario **Near-Term Year 2024**  
 Peak Hour **AM**

Turn Movement Volumes

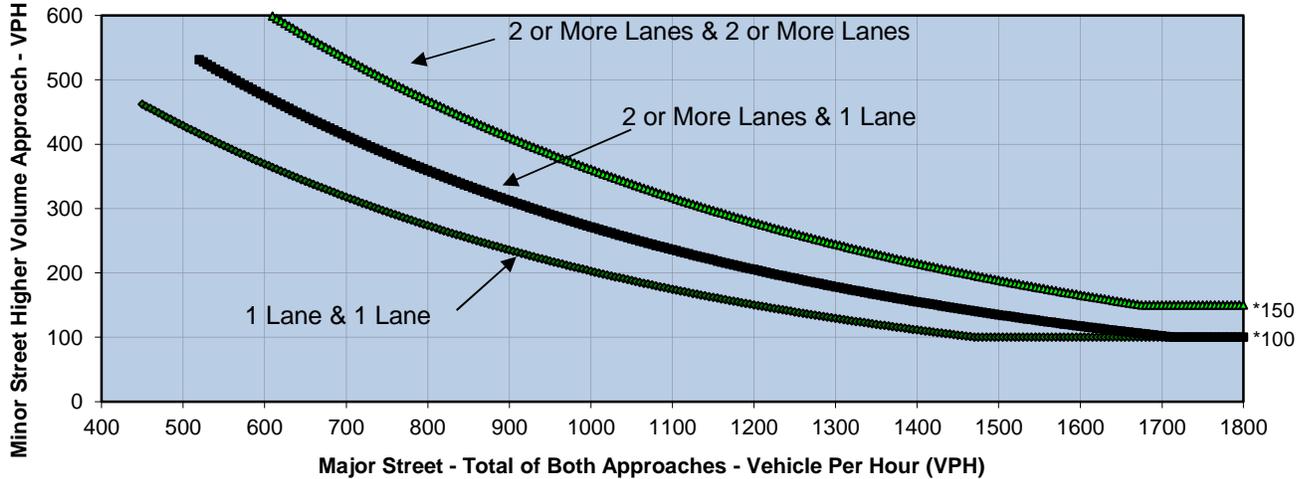
	NB	SB	EB	WB
Left	0	0	0	91
Through	0	0	1,063	2,122
Right	86	0	336	0
Total	86	0	1,399	2,213

Major Street Direction

	North/South
X	East/West

	Major Street	Minor Street	<u>Warrant Met</u>
	San Elijo Road	Project Driveway	
<b>Number of Approach Lanes</b>	<b>2</b>	<b>1</b>	<b><u>NO</u></b>
<b>Traffic Volume (VPH) *</b>	<b>3,612</b>	<b>86</b>	

**Figure 4C-3  
Warrant 3, Peak Hour**



\* Note: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2006

Major Street **San Elijo Road**  
 Minor Street **Project Driveway**

Project **Questhaven**  
 Scenario **Near-Term Year 2024**  
 Peak Hour **PM**

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	0	49
Through	0	0	1,756	1,308
Right	437	0	114	0
Total	437	0	1,870	1,357

Major Street Direction

	North/South
X	East/West

	Major Street	Minor Street	<u>Warrant Met</u>
	San Elijo Road	Project Driveway	
<b>Number of Approach Lanes</b>	<b>2</b>	<b>1</b>	<u><b>YES</b></u>
<b>Traffic Volume (VPH) *</b>	<b>3,227</b>	<b>437</b>	

HCM 6th Signalized Intersection Summary  
2: Street E" & San Elijo Road

NT Year 2024 with Project & Imp. Conditions  
AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵↵	↵
Traffic Volume (veh/h)	1063	336	91	2056	66	20
Future Volume (veh/h)	1063	336	91	2056	66	20
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1363	0	100	2259	264	80
Peak Hour Factor	0.78	0.78	0.91	0.91	0.25	0.25
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2193		122	2681	373	171
Arrive On Green	0.62	0.00	0.07	0.75	0.11	0.11
Sat Flow, veh/h	3741	0	1781	3647	3456	1585
Grp Volume(v), veh/h	1363	0	100	2259	264	80
Grp Sat Flow(s),veh/h/ln	1777	0	1781	1777	1728	1585
Q Serve(g_s), s	20.8	0.0	4.8	37.4	6.4	4.1
Cycle Q Clear(g_c), s	20.8	0.0	4.8	37.4	6.4	4.1
Prop In Lane		0.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2193		122	2681	373	171
V/C Ratio(X)	0.62		0.82	0.84	0.71	0.47
Avail Cap(c_a), veh/h	2647		122	3135	832	381
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	10.4	0.0	40.1	7.2	37.6	36.6
Incr Delay (d2), s/veh	0.3	0.0	33.2	2.0	2.5	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	0.0	3.1	8.2	2.8	1.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.7	0.0	73.3	9.2	40.1	38.5
LnGrp LOS	B		E	A	D	D
Approach Vol, veh/h	1363			2359	344	
Approach Delay, s/veh	10.7			11.9	39.7	
Approach LOS	B			B	D	
Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		15.4	12.0	59.8		71.8
Change Period (Y+Rc), s		6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s		21.0	6.0	65.0		77.0
Max Q Clear Time (g_c+I1), s		8.4	6.8	22.8		39.4
Green Ext Time (p_c), s		1.0	0.0	12.7		26.5

Intersection Summary

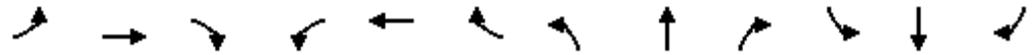
HCM 6th Ctrl Delay	13.9
HCM 6th LOS	B

Notes

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

HCM 6th Signalized Intersection Summary  
 3: San Elijo Road SB & Cooke Street/Baker Street

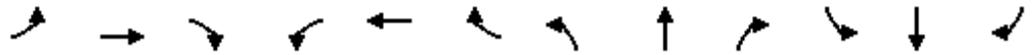
NT Year 2024 with Project & Imp. Conditions  
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↻			↻						↻↻	
Traffic Volume (veh/h)	0	9	67	193	16	0	0	0	0	26	1903	7
Future Volume (veh/h)	0	9	67	193	16	0	0	0	0	26	1903	7
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	0.99		1.00				1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	15	99	316	26	0				27	1942	6
Peak Hour Factor	0.61	0.61	0.61	0.61	0.61	0.61				0.98	0.98	0.98
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	56	368	324	21	0				27	2058	7
Arrive On Green	0.00	0.27	0.27	0.27	0.27	0.00				0.18	0.18	0.18
Sat Flow, veh/h	0	207	1363	945	78	0				49	3675	12
Grp Volume(v), veh/h	0	0	114	342	0	0				1034	0	941
Grp Sat Flow(s),veh/h/ln	0	0	1570	1023	0	0				1868	0	1868
Q Serve(g_s), s	0.0	0.0	5.7	21.3	0.0	0.0				55.2	0.0	49.3
Cycle Q Clear(g_c), s	0.0	0.0	5.7	27.0	0.0	0.0				55.2	0.0	49.3
Prop In Lane	0.00		0.87	0.92		0.00				0.03		0.01
Lane Grp Cap(c), veh/h	0	0	424	345	0	0				1046	0	1046
V/C Ratio(X)	0.00	0.00	0.27	0.99	0.00	0.00				0.99	0.00	0.90
Avail Cap(c_a), veh/h	0	0	424	345	0	0				1046	0	1046
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				0.33	0.33	0.33
Upstream Filter(I)	0.00	0.00	1.00	0.70	0.00	0.00				0.36	0.00	0.36
Uniform Delay (d), s/veh	0.0	0.0	28.7	41.4	0.0	0.0				40.4	0.0	38.0
Incr Delay (d2), s/veh	0.0	0.0	0.1	37.8	0.0	0.0				14.2	0.0	5.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	2.2	12.2	0.0	0.0				31.7	0.0	26.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	28.9	79.2	0.0	0.0				54.7	0.0	43.0
LnGrp LOS	A	A	C	E	A	A				D	A	D
Approach Vol, veh/h		114			342						1975	
Approach Delay, s/veh		28.9			79.2						49.1	
Approach LOS		C			E						D	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				35.0		65.0		35.0				
Change Period (Y+Rc), s				8.0		9.0		8.0				
Max Green Setting (Gmax), s				27.0		56.0		27.0				
Max Q Clear Time (g_c+I1), s				7.7		57.2		29.0				
Green Ext Time (p_c), s				0.4		0.0		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			52.4									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary  
 1: Dove Tail Drive/Melrose Drive & San Elijo Road

NT Year 2024 with Project & Imp. Conditions  
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↗		↗↘	↗	
Traffic Volume (veh/h)	35	1258	84	59	1299	322	46	57	15	743	59	49
Future Volume (veh/h)	35	1258	84	59	1299	322	46	57	15	743	59	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	1367	82	63	1397	312	55	68	16	854	68	45
Peak Hour Factor	0.92	0.92	0.92	0.93	0.93	0.93	0.84	0.84	0.84	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	1616	817	85	1624	1123	133	109	26	915	275	182
Arrive On Green	0.05	0.45	0.45	0.05	0.46	0.46	0.07	0.07	0.07	0.26	0.26	0.26
Sat Flow, veh/h	1781	3554	1536	1781	3554	1540	1781	1456	343	3456	1037	686
Grp Volume(v), veh/h	38	1367	82	63	1397	312	55	0	84	854	0	113
Grp Sat Flow(s),veh/h/ln	1781	1777	1536	1781	1777	1540	1781	0	1798	1728	0	1723
Q Serve(g_s), s	2.8	45.3	3.5	4.6	46.7	9.4	3.9	0.0	6.0	32.1	0.0	6.9
Cycle Q Clear(g_c), s	2.8	45.3	3.5	4.6	46.7	9.4	3.9	0.0	6.0	32.1	0.0	6.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.19	1.00		0.40
Lane Grp Cap(c), veh/h	81	1616	817	85	1624	1123	133	0	135	915	0	456
V/C Ratio(X)	0.47	0.85	0.10	0.74	0.86	0.28	0.41	0.00	0.62	0.93	0.00	0.25
Avail Cap(c_a), veh/h	107	1766	882	94	1739	1173	134	0	135	937	0	467
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	61.8	32.1	15.5	62.5	32.3	6.5	58.7	0.0	59.6	47.7	0.0	38.4
Incr Delay (d2), s/veh	1.6	4.0	0.1	20.7	4.6	0.2	0.8	0.0	6.5	15.8	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	19.3	1.4	2.5	20.0	6.5	1.8	0.0	3.0	15.5	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.4	36.1	15.6	83.1	36.9	6.6	59.4	0.0	66.1	63.5	0.0	38.8
LnGrp LOS	E	D	B	F	D	A	E	A	E	E	A	D
Approach Vol, veh/h		1487			1772			139				967
Approach Delay, s/veh		35.6			33.2			63.4				60.6
Approach LOS		D			C			E				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.3	66.4		40.2	11.0	66.7		14.9				
Change Period (Y+Rc), s	5.0	6.0		5.0	5.0	6.0		5.0				
Max Green Setting (Gmax), s	7.0	66.0		36.0	8.0	65.0		10.0				
Max Q Clear Time (g_c+I1), s	6.6	47.3		34.1	4.8	48.7		8.0				
Green Ext Time (p_c), s	0.0	12.1		1.1	0.0	12.0		0.1				

Intersection Summary

HCM 6th Ctrl Delay	41.1
HCM 6th LOS	D

Notes

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

HCM 6th Signalized Intersection Summary  
2: Street "E" & San Elijo Road

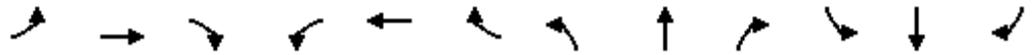
NT Year 2024 with Project & Imp. Conditions  
PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵↵	↵
Traffic Volume (veh/h)	1756	114	49	977	331	106
Future Volume (veh/h)	1756	114	49	977	331	106
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1829	0	53	1062	571	149
Peak Hour Factor	0.96	0.96	0.92	0.92	0.58	0.58
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2104		69	2456	649	298
Arrive On Green	0.59	0.00	0.04	0.69	0.19	0.19
Sat Flow, veh/h	3741	0	1781	3647	3456	1585
Grp Volume(v), veh/h	1829	0	53	1062	571	149
Grp Sat Flow(s),veh/h/ln	1777	0	1781	1777	1728	1585
Q Serve(g_s), s	42.9	0.0	2.9	13.0	15.9	8.4
Cycle Q Clear(g_c), s	42.9	0.0	2.9	13.0	15.9	8.4
Prop In Lane		0.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2104		69	2456	649	298
V/C Ratio(X)	0.87		0.77	0.43	0.88	0.50
Avail Cap(c_a), veh/h	2366		108	2796	697	320
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	17.0	0.0	47.2	6.7	39.2	36.1
Incr Delay (d2), s/veh	3.5	0.0	16.2	0.1	11.9	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.5	0.0	1.6	3.8	7.8	3.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	20.5	0.0	63.4	6.9	51.1	37.4
LnGrp LOS	C		E	A	D	D
Approach Vol, veh/h	1829			1115	720	
Approach Delay, s/veh	20.5			9.6	48.3	
Approach LOS	C			A	D	
Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		24.6	9.8	64.7		74.5
Change Period (Y+Rc), s		6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s		20.0	6.0	66.0		78.0
Max Q Clear Time (g_c+I1), s		17.9	4.9	44.9		15.0
Green Ext Time (p_c), s		0.7	0.0	13.8		8.9
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			22.6			
HCM 6th LOS			C			
<b>Notes</b>						
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.						

HCM 6th Signalized Intersection Summary  
 3: San Elijo Road SB & Cooke Street/Baker Street

NT Year 2024 with Project & Imp. Conditions  
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↻			↻						↻↻	
Traffic Volume (veh/h)	0	6	11	81	30	0	0	0	0	106	964	14
Future Volume (veh/h)	0	6	11	81	30	0	0	0	0	106	964	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00				1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	10	16	90	33	0				115	1048	14
Peak Hour Factor	0.61	0.61	0.61	0.90	0.90	0.90				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	72	116	170	48	0				194	1859	26
Arrive On Green	0.00	0.11	0.11	0.11	0.11	0.00				0.18	0.18	0.18
Sat Flow, veh/h	0	639	1022	952	424	0				346	3320	46
Grp Volume(v), veh/h	0	0	26	123	0	0				615	0	562
Grp Sat Flow(s),veh/h/ln	0	0	1661	1376	0	0				1853	0	1860
Q Serve(g_s), s	0.0	0.0	1.4	7.5	0.0	0.0				30.4	0.0	27.3
Cycle Q Clear(g_c), s	0.0	0.0	1.4	8.9	0.0	0.0				30.4	0.0	27.3
Prop In Lane	0.00		0.62	0.73		0.00				0.19		0.02
Lane Grp Cap(c), veh/h	0	0	188	218	0	0				1038	0	1042
V/C Ratio(X)	0.00	0.00	0.14	0.56	0.00	0.00				0.59	0.00	0.54
Avail Cap(c_a), veh/h	0	0	449	451	0	0				1038	0	1042
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				0.33	0.33	0.33
Upstream Filter(I)	0.00	0.00	1.00	0.70	0.00	0.00				0.88	0.00	0.88
Uniform Delay (d), s/veh	0.0	0.0	39.9	43.6	0.0	0.0				30.3	0.0	29.1
Incr Delay (d2), s/veh	0.0	0.0	0.1	1.6	0.0	0.0				2.2	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.6	3.1	0.0	0.0				15.7	0.0	14.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	40.0	45.2	0.0	0.0				32.5	0.0	30.8
LnGrp LOS	A	A	D	D	A	A				C	A	C
Approach Vol, veh/h		26			123							1177
Approach Delay, s/veh		40.0			45.2							31.7
Approach LOS		D			D							C
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				19.3		65.0		19.3				
Change Period (Y+Rc), s				8.0		9.0		8.0				
Max Green Setting (Gmax), s				27.0		56.0		27.0				
Max Q Clear Time (g_c+I1), s				3.4		32.4		10.9				
Green Ext Time (p_c), s				0.1		9.3		0.5				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			33.1									
HCM 6th LOS			C									

# Appendix H

## Transportation Forecast Information Center (TFIC) Volumes

### Horizon Year Roadway Volumes

Roadway	Segment	Series	Series	Δ Total Volume	Series	Existing Counts (2019)	2035 Higher than 2019?	Adjustment	Adjusted Volume	Future
		13 TFIC 2012	13 TFIC 2035		13 Growth Rate			% per year from 2019 to 2035*		Year 2035
Rancho Santa Fe Road	Melrose Drive to San Elijo Road	31,000	36,100	5,100	16.4 %	32,797	Yes	N/A	N/A	<b>36,100</b>
Rancho Santa Fe Road	San Elijo Road to Avenida Soledad	43,200	47,900	4,700	10.9%	45,551	Yes	N/A	N/A	<b>47,900</b>
San Elijo Road	Rancho Santa Fe Road to Melrose Drive	24,800	27,200	2,400	9.7%	20,913	Yes	N/A	N/A	<b>27,200</b>
San Elijo Road	Melrose Drive to Baker Street	29,400	33,500	4,100	13.9%	29,431	Yes	N/A	N/A	<b>33,500</b>
San Elijo Road (NB)	Baker Street to Elfin Forest Road	12,900	14,900	2,000	15.5%	14,788	Yes	N/A	N/A	<b>14,900</b>
San Elijo Road (NB)	Elfin Forest Road to Schoolhouse Way	9,400	10,800	1,400	14.9%	11,071	No	*2.5%	15,499	<b>15,500</b>
San Elijo Road	East of Schoolhouse Way	14,900	17,500	2,600	17.4%	21,968	No	*6.7%	45,518	<b>45,500</b>
San Elijo Road (SB)	Elfin Forest Road to Schoolhouse Way	9,400	10,500	1,100	11.7%	11,504	No	*3.2%	17,394	<b>17,400</b>
San Elijo Road (SB)	Baker Street to Elfin Forest Road	13,700	14,700	1,000	7.3%	14,676	Yes	N/A	N/A	<b>14,700</b>

\* = (2019-2012) / (2012) / (7) = % increase per year between 2019 and 2035