APPENDIX N

Local Traffic Analysis

LINSCOTT LAW & GREENSPAN engineers

LOCAL TRANSPORTATION ASSESSMENT

THE CONCORDIA COLLECTION AT CYPRESS POINT

Oceanside, California
March 12, 2021

LLG Ref. 3-20-3287

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EXECUTIVE SUMMARY

Linscott, Law & Greenspan, Engineers (LLG) has prepared the following Local Transportation Assessment (LTA) to determine and evaluate the potential effects to the local roadway system due to the proposed Concordia Collection at Cypress Point project, consistent with the City of Oceanside *Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment*, August 2020. This City document provides guidance for the preparation of LTAs to identify any off-site infrastructure improvements in the project vicinity that may be triggered with the development of the project as well as to analyze site access and circulation and evaluate the local multi-model network available to serve to project.

The Project site is located at the terminus of Pala Road and Los Arbolitos Boulevard in the City of Oceanside. The Project proposes the development of 54 single family homes. Access is proposed via Pala Road.

The Project is calculated to generate 540 daily trips with 42 trips during the AM peak hour (13 inbound/ 29 outbound trips) and 53 trips during PM peak hour (37 inbound/ 16 outbound trips).

The LTA study area includes five intersections and five street segments. The analysis determines the transportation impacts of the Project in existing and near-term cumulative conditions. Three cumulative projects were identified and added to near-term cumulative conditions.

Per the City of Oceanside's thresholds for the determination of the need for roadway improvements, and the analysis methodology presented in this report, roadway improvements are not required since the increase in Project related delay does not exceed the allowable thresholds.

The Project is consistent with the City's adopted General Plan and is calculated to generate fewer than 1,000 ADT. Therefore, per the City's *Traffic Impact Analysis Guidelines*, a Transportation VMT CEQA Analysis is not required and was therefore not prepared for this Project.

TABLE OF CONTENTS

SECTION			PAGE
1.0	**Introduction**		**1**
2.0	**Project Description**		**2**
	2.1	Site Access	2
3.0	**CEQA VMT Screening Process**		**6**
4.0	**Local Transportation Assessment Methodology & Thresholds**		**7**
	4.1	Study Area	7
	4.2	Analysis Scenarios	8
	4.3	Analysis Methodology	8
		4.3.1 Intersections	8
		4.3.2 Street Segments	8
	4.4	Thresholds for the Determination of the Need for Roadway Improvements	8
5.0	**Existing Vehicular Conditions**		**10**
	5.1	Existing Street Network	10
	5.2	Existing Traffic Volumes	10
6.0	**Analysis of Existing Conditions**		**13**
	6.1	Peak Hour Intersection Analysis	13
	6.2	Daily Street Segment Operations	13
7.0	**Cumulative Projects**		**16**
	7.1	Summary of Cumulative Projects	16
8.0	**Trip Generation/Distribution/Assignment**		**18**
	8.1	Trip Generation	18
	8.2	Trip Distribution and Assignment	18
9.0	**Analysis of Existing + Project Conditions**		**22**
	9.1	Peak Hour Intersection Analysis	22
	9.2	Daily Street Segment Operations	22
10.0	**Analysis of Near-Term Conditions**		**25**
	10.1	Near-Term Traffic Volumes	25
	10.2	Near-Term without Project Conditions	25
		10.2.1 Peak Hour Intersection Analysis	25
		10.2.2 Daily Street Segment Operations	25
	10.3	Near-Term with Project Conditions	25

10.3.1 Peak Hour Intersection Analysis 25
10.3.2 Daily Street Segment Operations 25

11.0 Pedestrian, Transit and Bicycle Mobility 30
11.1 Bicycle and Pedestrian Access 30
11.2 Transit Access 30

12.0 Conclusions 31

APPENDICES

APPENDIX	
A.	Intersection and Segment Count Sheets, Signal Timing Plans, & Growth Rate Factor Calculations
B.	City of Oceanside Roadway Classification Table
C.	Peak Hour Intersection Analysis Worksheets – Existing Conditions
D.	Peak Hour Intersection Analysis Worksheets – Existing + Project
E.	Peak Hour Intersection Analysis Worksheets – Near-Term
F.	Peak Hour Intersection Analysis Worksheets – Near-Term + Project

LIST OF FIGURES

SECTION—FIGURE #		PAGE
Figure 2–1	Vicinity Map	3
Figure 2–2	Project Area Map	4
Figure 2–3	Site Plan	5
Figure 5–1	Existing Conditions Diagram	11
Figure 5–2	Existing Traffic Volumes	12
Figure 7-1	Total Cumulative Traffic Volumes	17
Figure 8–1	Project Traffic Distribution	19
Figure 8–2	Project Traffic Volumes	20
Figure 8–3	Existing with Project Traffic Volumes	21
Figure 10–1	Near-Term Traffic Volumes	28
Figure 10–2	Near-Term + Project Traffic Volumes	29

LIST OF TABLES

SECTION—TABLE #	PAGE
Table 4–1 City of Oceanside Determination of the Need for Roadway Improvements	9
Table 6–1 Existing Conditions Intersection Operations	14
Table 6–2 Existing Conditions Street Segment Operations	15
Table 7–1 Cumulative Projects	16
Table 8–1 Project Trip Generation	18
Table 9–1 Existing with Project Intersection Operations	23
Table 9-2 Existing with Project Street Segment Operations	24
Table 10–1 Near-Term Intersection Operations	26
Table 10-2 Near-Term Street Segment Operations	27

LOCAL TRANSPORTATION ASSESSMENT

THE CONCORDIA COLLECTION AT CYPRESS POINT

Oceanside, California
March 12, 2021

1.0 INTRODUCTION

Linscott, Law & Greenspan Engineers (LLG) has prepared this Local Transportation Assessment (LTA) to assess the potential impacts associated with the Concordia Collection at Cypress Point project (Project) in the City of Oceanside. The Project site is located at the terminus of Pala Road and Los Arbolitos Boulevard in the City of Oceanside. The Project proposes the development of 54 single family homes. This report addresses the potential transportation impacts and effects from the proposed Project.

The following sections are included in this report:

- Project Description
- CEQA VMT Screening Process
- Local Transportation Assessment Methodology & Thresholds
- Existing Conditions Description
- Analysis of Existing Conditions
- Cumulative Projects
- Project Trip Generation/Distribution/Assignment
- Analysis of Existing + Project Conditions
- Analysis of Near-Term Conditions
- Pedestrian, Transit and Bicycle Mobility
- Conclusions

2.0 PROJECT DESCRIPTION

The Project site (APN 158-301-46-00) is a vacant parcel of approximately 7.3 acres recently purchased from the City of Oceanside, located west of Los Arbolitos Boulevard at the Aspen Street and Pala Road intersections. The site is bordered on the north and west by the San Luis Rey River and on the south and east by existing residential developments.

This property is zoned RS-Single family residential, corresponding with the General Plan designation of SFD-R. Surrounding areas are zoned open space in the areas adjacent to the river, and a variety of residential zones, including RS, RM-A, RM-B, and RH, in the nearby neighborhoods. Commercial zones are located alongside Highway 76, which is less than a mile south of the project site.

2.1 Site Access

The Project includes 54 single-family homes ranging from about 1,200 to 1,700 square feet located around a private loop road within the Project site. Primary site access is proposed to be taken from a westerly extension of Pala Road at the southern edge of the Project site. Secondary access would be available via Aspen Street, at the midpoint of the Project on the east side. Both public road entries lead to the private road with frontage for residences and guest parking areas with a total of 30 spaces.

Sidewalk improvements proposed for Aspen Street include extending the curb, gutter, and sidewalk on both sides leading into the Project site with ADA-accessible corner curbs. These connect to the decomposed granite (DG) path that winds through a landscaped area along the eastern edge of the Project from Pala Road at the south up to a DG access easement driveway on the northeastern corner of the site. This DG path will be open to the public, leading up to the north to a 13-acre open space site. Multiple existing dirt trails are to the west of the Project heading in a north to south direction and also lead to the 13 acres of open space. A 5-foot curb, gutter, and sidewalk surround the homes on the interior side of the loop road, with an additional sidewalk along the Pala Road extension into the Project site that connects with corner curbs to the inner loop sidewalk.

Each residence will include a two-car garage, with driveways designed to allow for two full size parked cars, effectively allowing for parking for four cars per home.

Figure 2–1 shows the Project's Vicinity Map and ***Figure 2-2*** shows a more detailed Project Area Map. ***Figure 2–3*** shows the Project's site plan.

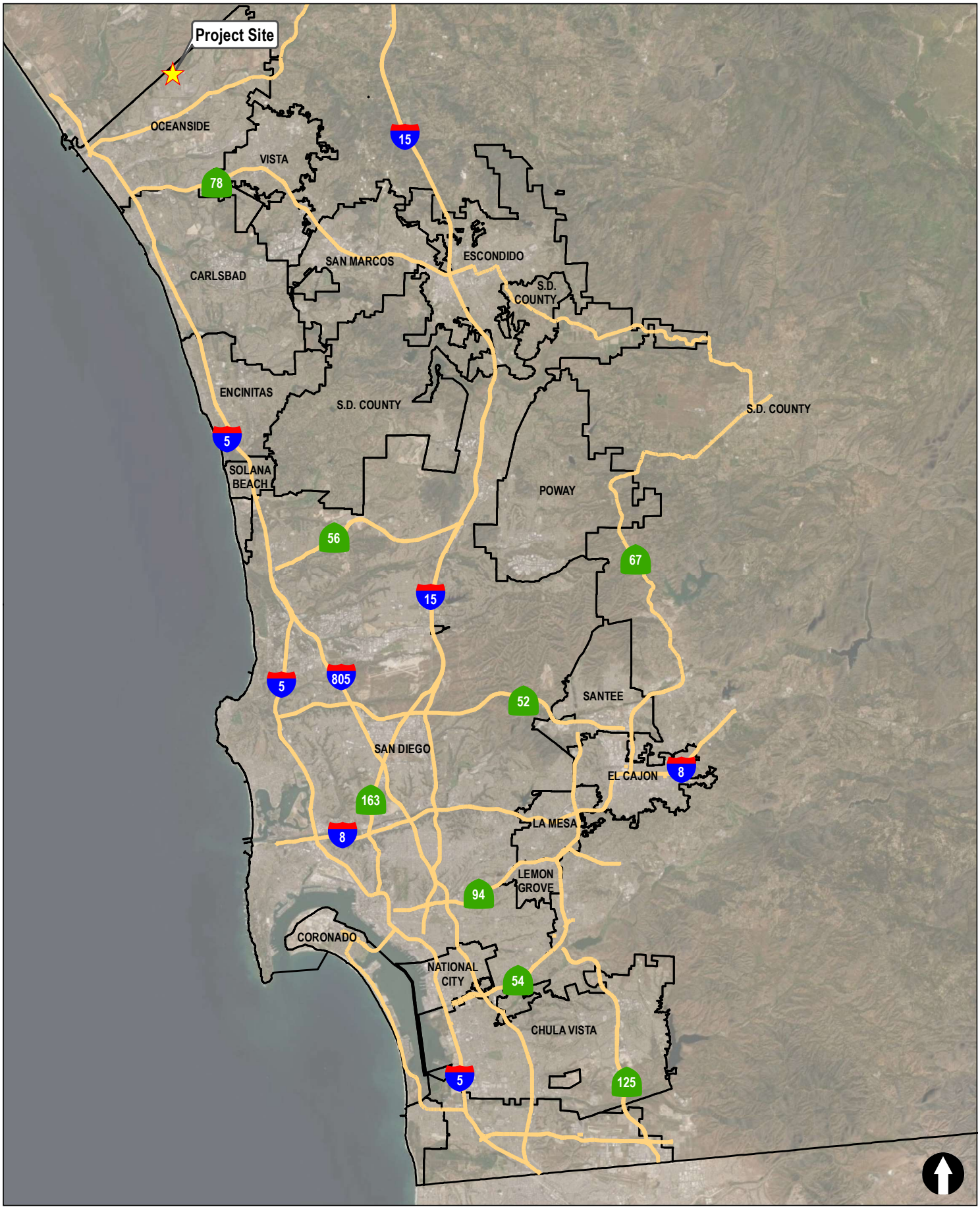

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Figure 2-1

Vicinity Map

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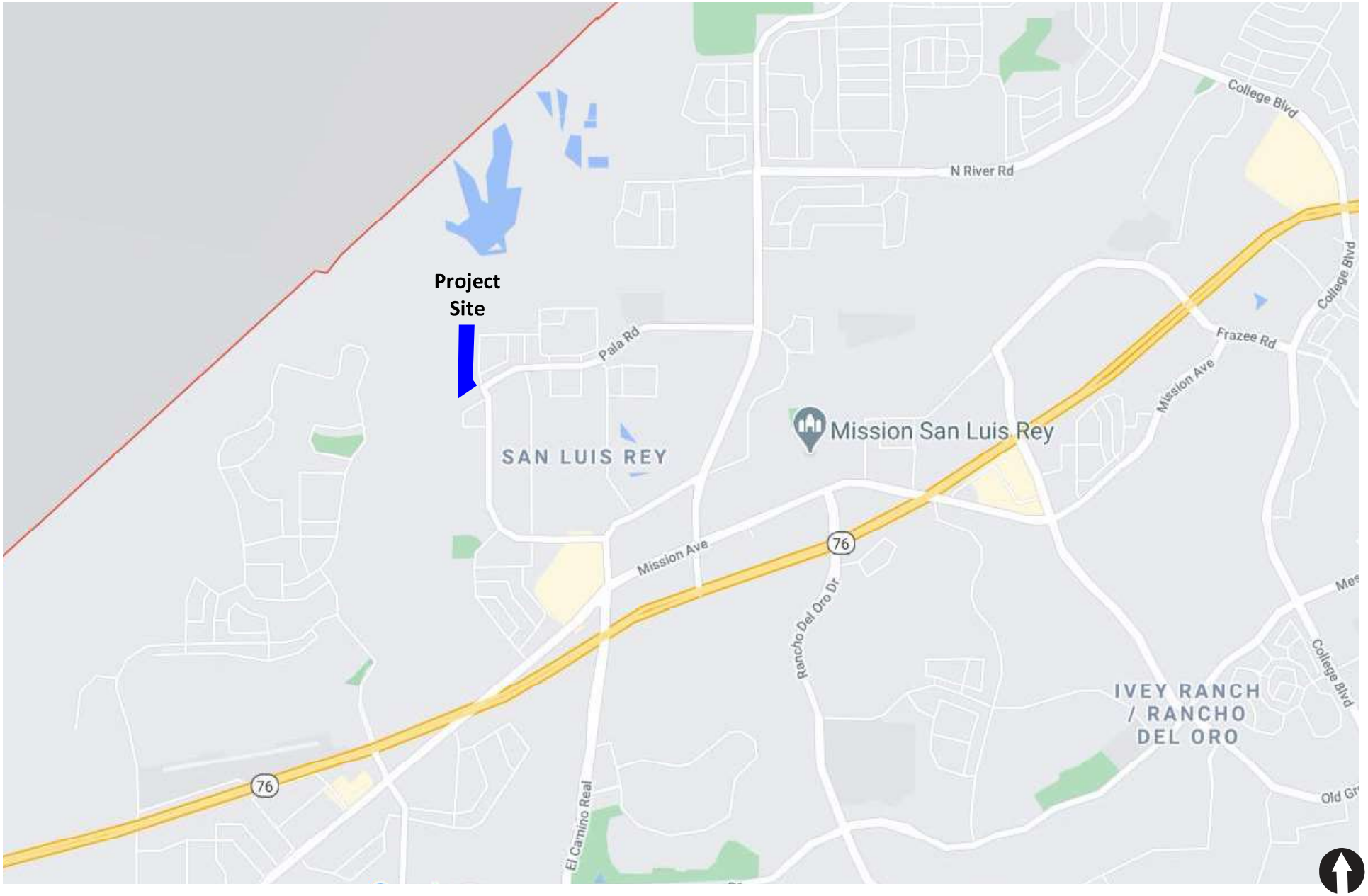

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Figure 2-2

Project Area Map

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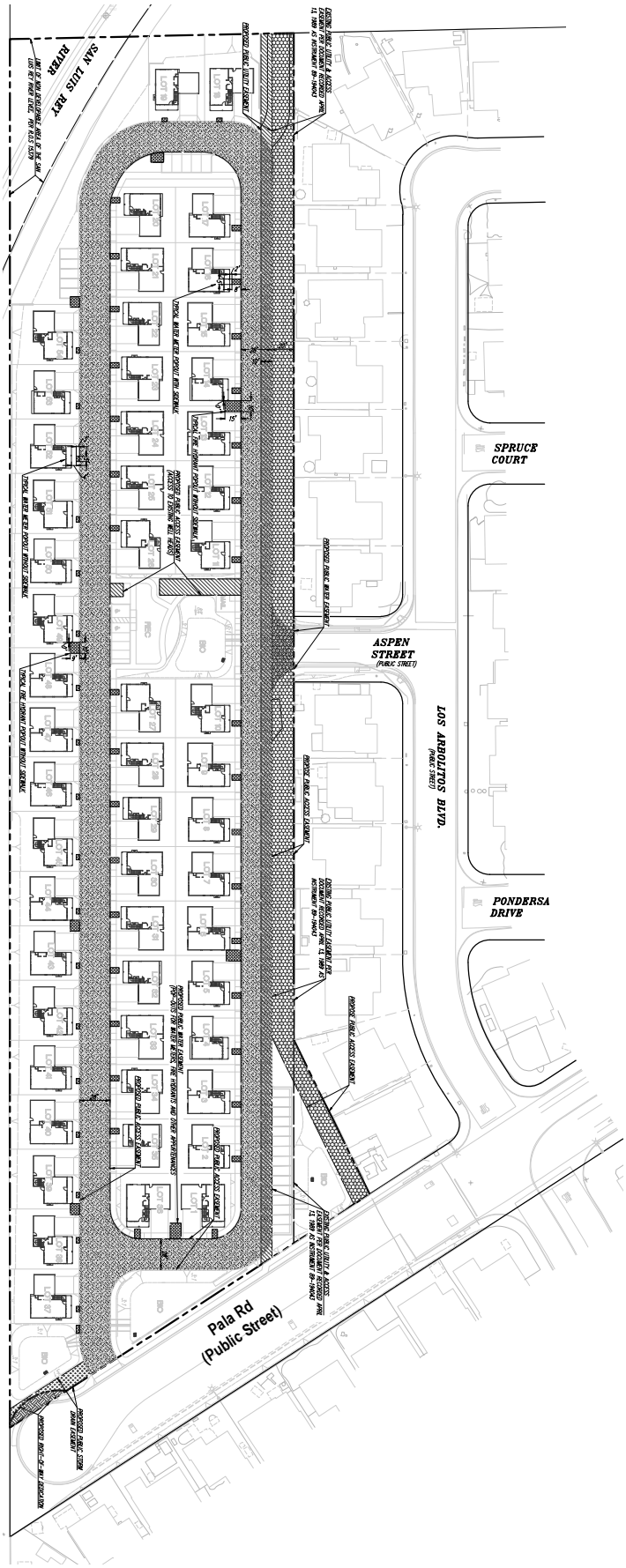

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Figure 2-3

Site Plan

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3.0 CEQA VMT SCREENING PROCESS

An assessment was conducted to determine the impacts on Vehicle Miles Traveled (VMT) for the Project. This assessment utilizes methodologies presented within the Governor's Office of Planning and Research (OPR) Technical Advisory developed to assist with implementation of Senate Bill 743 (SB 743), which resulted in a shift in the measure of effectiveness for determining transportation impacts from Level of Service (LOS) and vehicular delay to VMT. VMT analyses are required in all California Environmental Quality Act (CEQA) documents as of July 1, 2020.

The City of Oceanside utilizes the Institute of Transportation Engineers (ITE) *San Diego Regional Guidelines* (May 2019) to establish thresholds and methodology for VMT analysis. Based on the recommendations of ITE for the San Diego region, a VMT analysis for CEQA is not required for projects consistent with the City's adopted General Plan and calculated to generate less than 1,000 Average Daily Trips (ADT). This is based on keeping consistent with the thresholds previously used and *SANDAG's Not So Brief Guide Trip Generation* (2002). These thresholds are based on the understanding that SANDAG trip generation rates differ from ITE trip generation rates which OPR's recommendations are based on.

The City's adopted General Plan represents the vision and goals the City has for the community. VMT analysis is not needed for projects that support these goals and generate fewer than 1,000 ADT, as noted in Table 3 of the City of Oceanside *Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment* (August 2020). The Project is consistent with the City's adopted General Plan and is calculated to generate fewer than 1,000 ADT, as further discussed in *Section 8*. Therefore, a Transportation VMT CEQA Analysis is not required and was therefore not prepared for this Project.

4.0 LOCAL TRANSPORTATION ASSESSMENT METHODOLOGY & THRESHOLDS

A Project-Specific Local Transportation Assessment was prepared that analyzes automobile delay and LOS. The LOS analysis was conducted to identify Project effects on the roadway operations in the Project study area and to recommend Project improvements to address noted deficiencies; however, the CEQA impact significance determination for the proposed Project is based only on VMT and not on LOS.

The proposed Project generates over 200 ADT but less than 1,000 ADT (see *Section 8.1*) and is consistent with the City's adopted General Plan. Therefore, a Local Transportation Assessment (LTA) was prepared consistent with City guidelines.

4.1 Study Area

The following study area was developed based on the anticipated assignment of Project traffic and locations which will carry the most Project traffic, per City of Oceanside staff coordination and scoping meetings. The study area meets and exceeds the trip-based criteria from the City's guidelines, which state that:

- All signalized intersections and project driveways shall be analyzed if the project will add 50 or more new peak hour trips in either direction.
- All unsignalized intersections and project driveways shall be analyzed if the project will add 50 or more new peak hour trips in either direction.
- All freeway ramp intersections and signalized ramp meters shall be analyzed if the project all 20 or more new peak hour trips in either direction.

INTERSECTIONS

1. Los Arbolitos Boulevard / Pala Road
2. Fredricks Avenue / Pala Road
3. Fredricks Avenue / Los Arbolitos Boulevard
4. N. El Camino Real / Los Arbolitos Boulevard
5. N. El Camino Real / Mission Avenue

STREET SEGMENTS

Pala Road

1. Los Arbolitos Boulevard to Fredricks Avenue

Fredricks Avenue

2. Los Arbolitos Boulevard to Pala Road

Los Arbolitos Boulevard

3. Pala Road to Fredricks Avenue
4. Fredricks Avenue to N. El Camino Real

N. El Camino Real

5. Los Arbolitos Boulevard to Mission Avenue

4.2 Analysis Scenarios

This study includes analysis of the following scenarios:

- Existing Conditions
- Existing Conditions + Project
- Existing Conditions + Near-Term Cumulative Projects
- Existing Conditions + Near-Term Cumulative Projects + Project

4.3 Analysis Methodology

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

4.3.1 *Intersections*

Intersections were analyzed under AM and PM peak hour conditions. Average vehicle delay was determined utilizing the methodology found in Chapter 18 of the *Highway Capacity Manual (HCM),* with the assistance of the *Synchro* (version 10) computer software. The delay values (represented in seconds) were qualified with a corresponding intersection Level of Service (LOS).

4.3.2 *Street Segments*

Street segment analysis is based upon the comparison of daily traffic volumes (ADTs) to the City of Oceanside's *Circulation Element Roadway Classification LOS & Capacity* table (Table 12 in the City of Oceanside *Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment,* August 2020. This table provides segment capacities for different street classifications, based on traffic volumes and roadway characteristics. The roadway classification table is attached in ***Appendix B***.

4.4 Thresholds for the Determination of the Need for Roadway Improvements

The City of Oceanside uses the published SANTEC/ITE guidelines to establish thresholds and methodology for this Local Transportation Assessment (LTA). ***Table 4–1*** below indicates when a project's effect on the roadway system is considered to justify the need for roadway improvements. That is, if a project's traffic effect causes the values in this table to be exceeded, roadway improvements should be considered as follows on a case-by-case basis:

- Improvements should be consistent with the General Plan
- Improvements for transit, bike and pedestrian facilities should be given priority in Transit Priority Areas or Smart Growth Opportunity Areas as identified by SANDAG.

- Projects in Transit Priority Areas or Smart Growth Opportunity Areas as identified by SANDAG, that are consistent with the General Plan at the time of project application, should not be denied due to the inability to provide roadway improvements (i.e., existing right of way is constrained, etc.)

TABLE 4–1
CITY OF OCEANSIDE
DETERMINATION OF THE NEED FOR ROADWAY IMPROVEMENTS

Level of Service with Project [a]	Allowable Change Due to Project Effect	
	Roadway Segments	Intersections
	V/C	Delay (sec.)
E & F	0.02	2.0

Source: SANTEC/ITE *Guidelines for Traffic Impact Studies in the San Diego Region*, May 2019.

Footnotes:

a. All level of service measurements are based upon HCM procedures for peak-hour conditions. However, V/C ratios for Roadway Segments may be estimated on an ADT/24-hour traffic volume basis (using Table 2 or a similar LOS chart for each jurisdiction). The acceptable LOS for roadways and intersections is generally "D" ("C" for undeveloped or not densely developed locations per jurisdiction definitions).

General Notes:

1. V/C = Volume to Capacity Ratio
2. Delay = Average stopped delay per vehicle measured in seconds for intersections.

5.0 EXISTING VEHICULAR CONDITIONS

Effective evaluation of the traffic effects associated with the proposed Project requires an understanding of the existing transportation system within the project area. ***Figure 5–1*** shows an existing conditions diagram, including intersections and lane configurations.

5.1 Existing Street Network

The following is a description of the existing street network in the study area. The roadway classifications are based on field observations and a review of the Oceanside Circulation Element.

EL CAMINO REAL is classified as a 4-Lane Major Arterial between Los Arbolitos Boulevard and Mesa Drive on the *City of Oceanside Circulation Element*. It is currently constructed as a 4-lane divided roadway with a raised center median. The posted speed limit is 40 mph from Los Arbolitos Boulevard to Mission Avenue and 45 mph from Mission Avenue to Mesa Drive. On-street parking is not permitted, and Class II bicycle lanes are striped along both sides of the street within the study area.

LOS ARBOLITOS BOULEVARD is an unclassified roadway on the *City of Oceanside Circulation Element*. It is currently constructed as a 2-lane undivided roadway with a two-way left-turn lane between El Camino Real and Pala Road. Bike lanes are not provided within the study area and the posted speed limit is 30 mph. On-street parking and sidewalks are provided on both sides of the roadway.

PALA ROAD is classified as a 2-Lane Collector on the *City of Oceanside Circulation Element*. It is currently constructed as a 2-lane roadway with a continuous two-way left turn lane. Class II bike lanes and sidewalks are provided in both directions within the study area. On-street parking is permitted along certain parts of the street and the posted speed limit is 35 mph.

FREDRICKS AVENUE is an unclassified roadway on the *City of Oceanside Circulation Element*. It is currently constructed as a 2-lane undivided roadway. Bike lanes are not provided and the posted speed limit is 25 mph. On-street parking and sidewalks are provided on both sides of the roadway.

5.2 Existing Traffic Volumes

Daily segment counts and peak hour (7:00-9:00 AM and 4:00-6:00 PM) intersection turning movement counts were conducted in October 2020 within the Project study area. Due to the ongoing Covid-19 pandemic, which has altered traffic patterns, a growth rate of 20% was applied to the October 2020 traffic counts in order to replicate pre-pandemic traffic levels. This growth rate is based on historical traffic data. Daily traffic counts were compared between the pre- and post-Covid time frames to assist in determining the proper factor. Additional information on how this rate was calculated in included in ***Appendix A***.

Figure 5–2 shows the Existing Traffic Volumes. *Appendix A* contains the manual count sheets and signal timing plans.

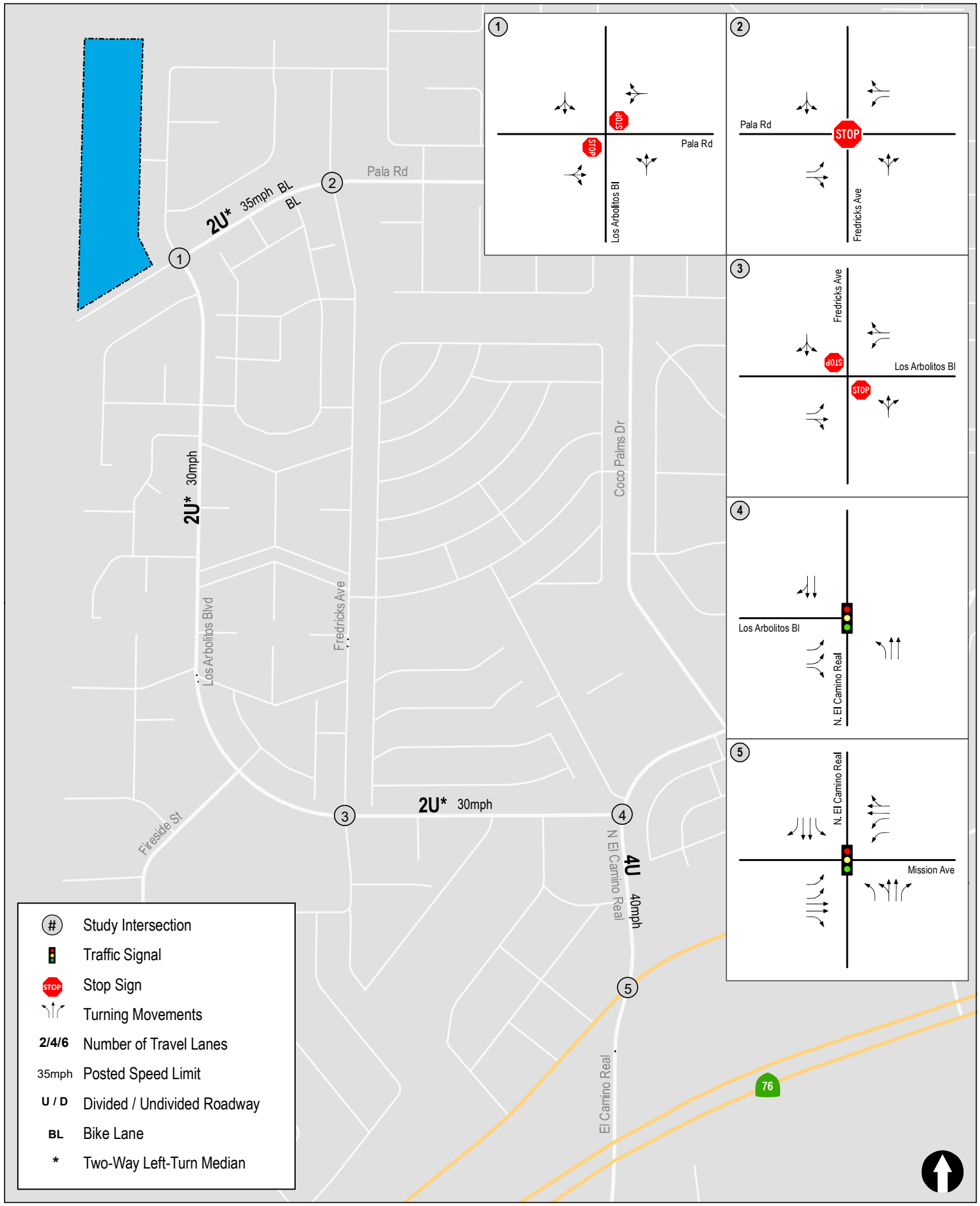

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Figure 5-1

Existing Conditions Diagram

Cypress Point

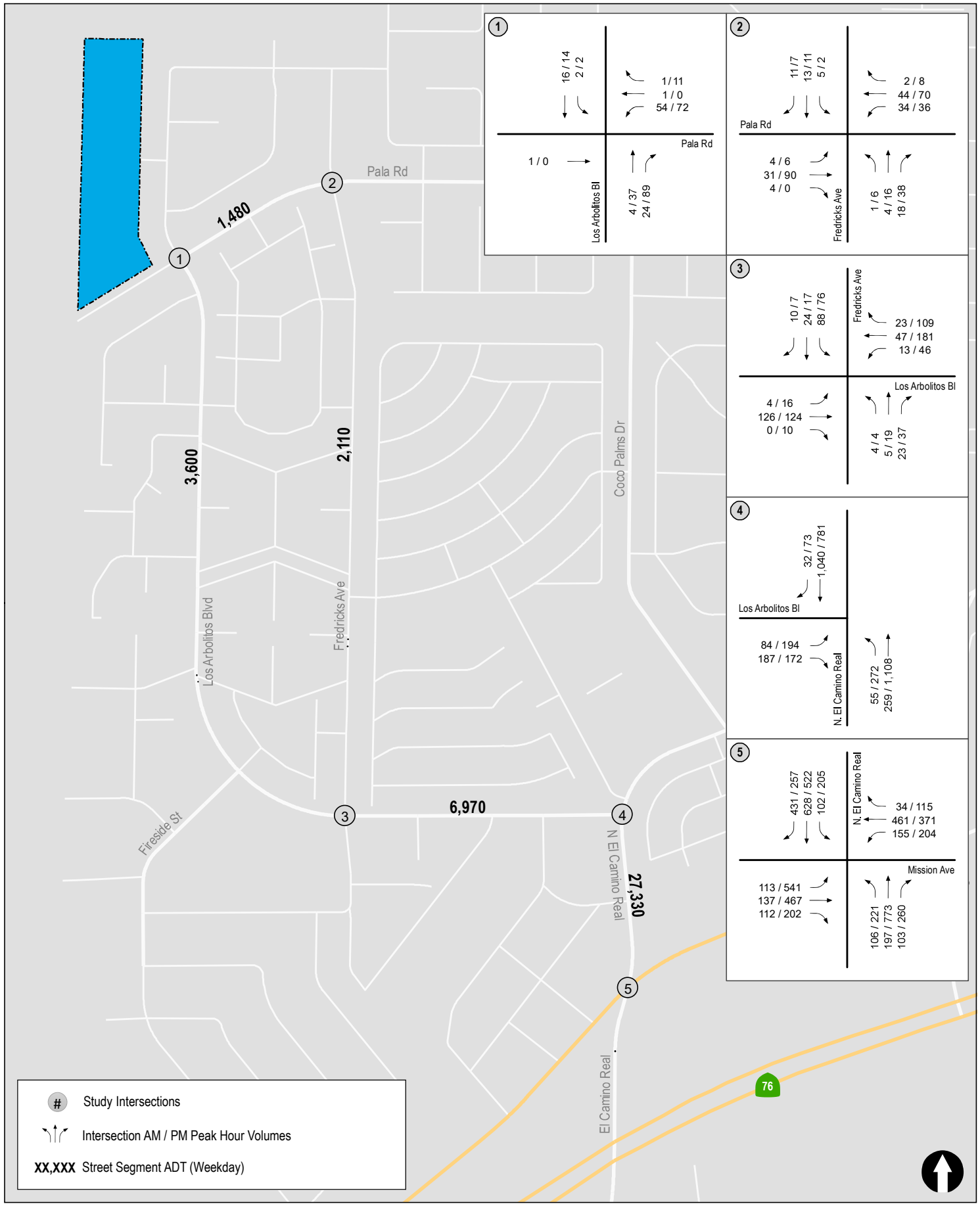

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Figure 5-2

Existing Traffic Volumes

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6.0 ANALYSIS OF EXISTING CONDITIONS

6.1 Peak Hour Intersection Analysis

Table 6–1 summarizes the peak hour intersection operations under Existing Conditions in the study area. As shown, the study area intersections are calculated to currently operate acceptably at LOS D or better during the AM and PM peak hours.

Appendix C contains the Existing Conditions intersection analysis worksheets.

6.2 Daily Street Segment Operations

Table 6–2 summarizes the Existing Conditions street segment operations along the study area roadways. As shown, the study area street segments are calculated to currently operate acceptably at LOS C or better.

TABLE 6–1
EXISTING CONDITIONS INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Existing	
			Delay[a]	LOS[b]
1. Los Arbolitos Boulevard / Pala Road	MSSC[c]	AM	8.3	A
		PM	8.5	A
2. Fredricks Avenue / Pala Road	AWSC[d]	AM	8.3	A
		PM	8.4	A
3. Fredricks Avenue / Los Arbolitos Boulevard	MSSC[c]	AM	12.1	B
		PM	18.0	C
4. N. El Camino Real / Los Arbolitos Boulevard	Signal	AM	11.6	B
		PM	12.8	B
5. N. El Camino Real / Mission Avenue	Signal	AM	25.0	C
		PM	43.1	D

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. MSSC = Minor Street Stop Controlled. Worst-Case delay reported.
d. AWSC = All Way Stop Controlled Intersection.

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

TABLE 6–2
EXISTING CONDITIONS STREET SEGMENT OPERATIONS

Street Segment	Functional Classification	Capacity (LOS C) [a]	Existing		
			ADT[b]	LOS[c]	V/C[d]
Pala Road					
Los Arbolitos Boulevard to Fredricks Avenue	2-Lane Collector w/ TWLTL[e]	15,000	1,480	A	0.099
Fredricks Avenue					
Los Arbolitos Boulevard to Pala Road	2-Lane Collector	10,000	2,110	A	0.211
Los Arbolitos Boulevard					
Pala Road to Fredricks Avenue	2-Lane Collector w/ TWLTL	15,000	3,600	A	0.240
Fredricks Avenue to N. El Camino Real	2-Lane Collector w/ TWLTL	15,000	6,970	B	0.465
N. El Camino Real					
Los Arbolitos Boulevard to Mission Avenue	4-Lane Major	40,000	27,330	C	0.683

Footnotes:

a. Capacities based on City of Oceanside *Circulation Element Roadway Classification LOS & Capacity* table (See *Appendix B*).
b. Average Daily Traffic Volumes.
c. Level of Service.
d. Volume to Capacity ratio.
e. TWLTL = Two-Way Left-Turn Lane.

7.0 CUMULATIVE PROJECTS

7.1 Summary of Cumulative Projects

Cumulative projects are other projects in the study area that will add traffic to the local circulation system in the near future. Based on information from City of Oceanside staff, the following projects, presented in ***Table 7-1***, were identified for inclusion in the near-term cumulative analysis.

Figure 7–1 shows the Cumulative Projects only traffic volumes on the existing street network.

TABLE 7–1
CUMULATIVE PROJECTS

Project Name	Type of Development	Project Size	ADT
1. Ocean Kamp[a]	Hotel Multi-Family Residential Commercial / Retail	150 Rooms 350 DU 63,000 SF	9,520
2. Mission Flats	Multi-Family Residential Commercial / Retail	137 DU 4,200 SF	990
3. Oceanpointe Multi-Family	Multi-Family Residential	158 DU	1,264

Footnotes:
a. 50% of the Ocean Kamp project assumed to be constructed and occupied under near-term conditions.

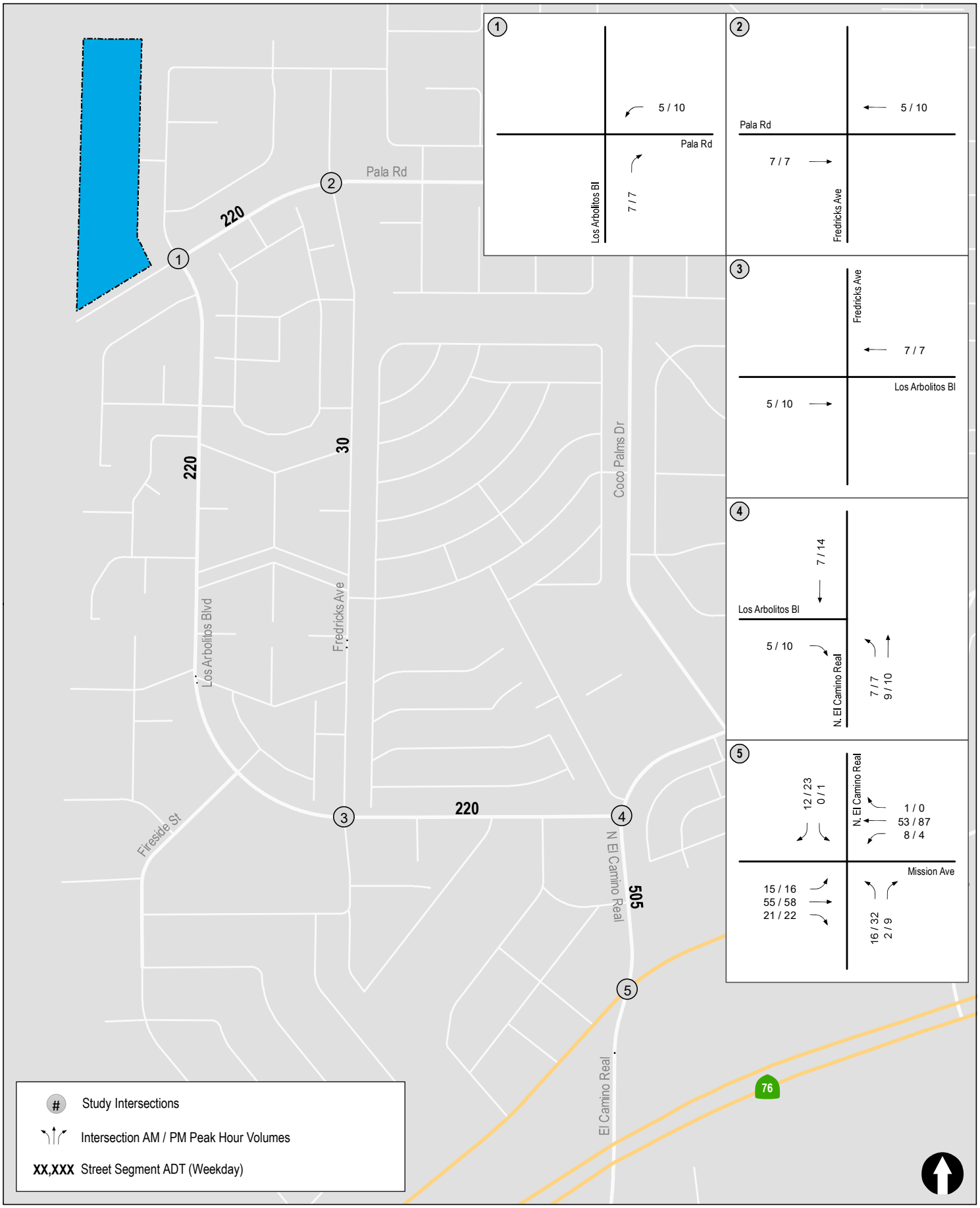

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Figure 7-1

Total Cumulative Traffic Volumes

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8.0 TRIP GENERATION/DISTRIBUTION/ASSIGNMENT

8.1 Trip Generation

Trip generation rates were obtained from the (Not So) *Brief guide of Vehicular Traffic Generation Rates for the San Diego Region* (April 2002) by SANDAG. The "Residential, Single Family Detached (average 3-6 DU/acre)" trip rate was used to estimate the Project trip generation.

Table 8–1 summarizes the trip generation for the Project. As shown in *Table 8–1*, the Project is calculated to generate 540 daily trips with 42 trips during the AM peak hour (13 inbound/ 29 outbound trips) and 53 trips during PM peak hour (37 inbound/ 16 outbound trips).

TABLE 8–1
PROJECT TRIP GENERATION

Use	Quantity	Daily Trip Ends (ADT)[a]		AM Peak Hour				PM Peak Hour			
		Rate [b]	Volume	% of ADT	In:Out Split	Volume		% of ADT	In:Out Split	Volume	
						In	Out			In	Out
Residential – Single Family Detached	54 DU	10/DU	540	8%	30:70	13	29	10%	70:30	37	16

Footnotes:

b. Average Daily Trips

c. Trip Generation Rate from the SANDAG's *Not So Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region,* 2002.

8.2 Trip Distribution and Assignment

Project traffic was distributed to the street system based on existing traffic patterns in the area, the Project's proximity to freeways and arterials, locations of retail, places of employment, schools, and other shopping opportunities.

Figure 8–1 shows the distribution of the Project trips. ***Figure 8–2*** shows the Project traffic volumes. ***Figure 8-3*** shows the Existing + Project traffic volumes.

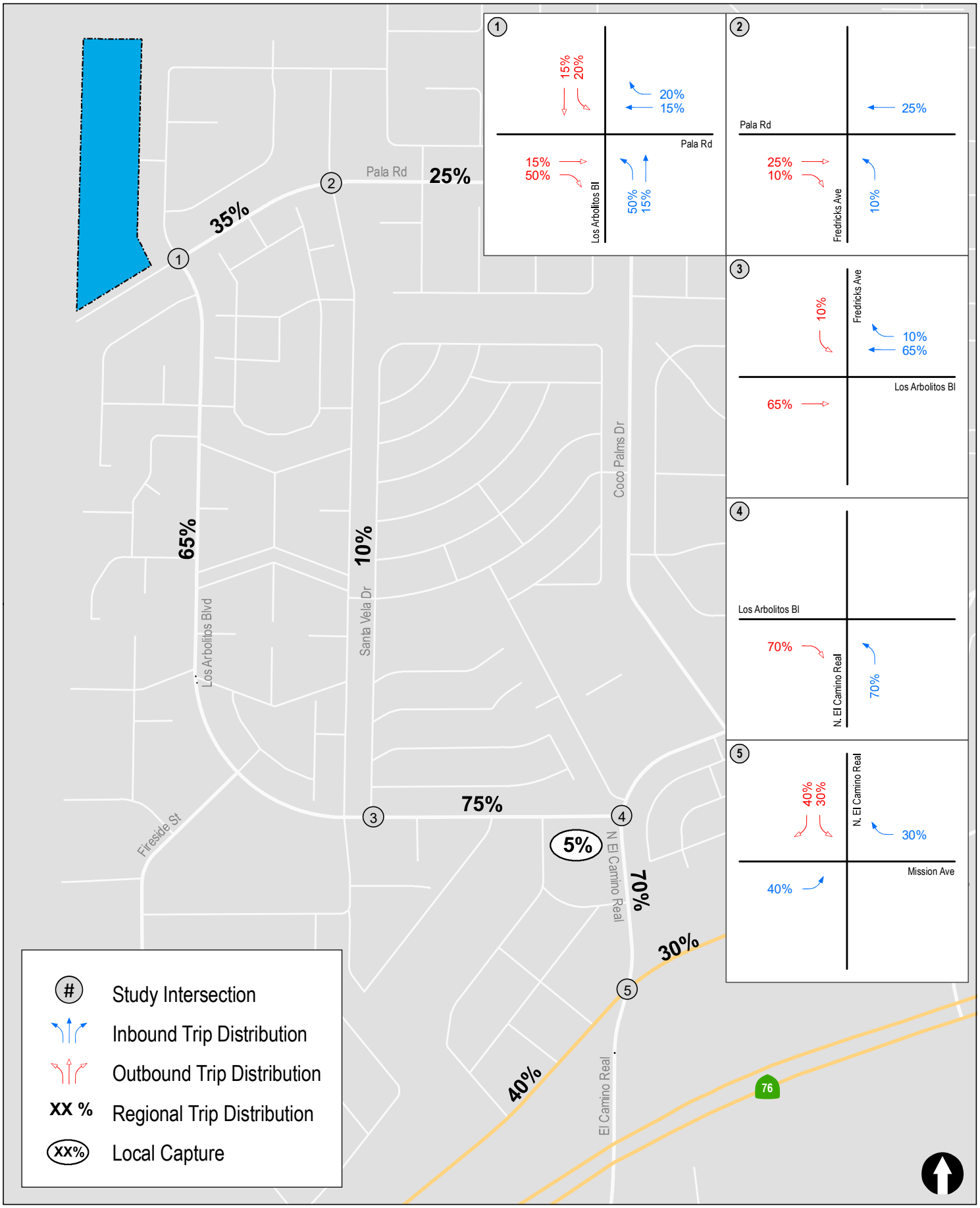

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Figure 8-1

Project Traffic Distribution

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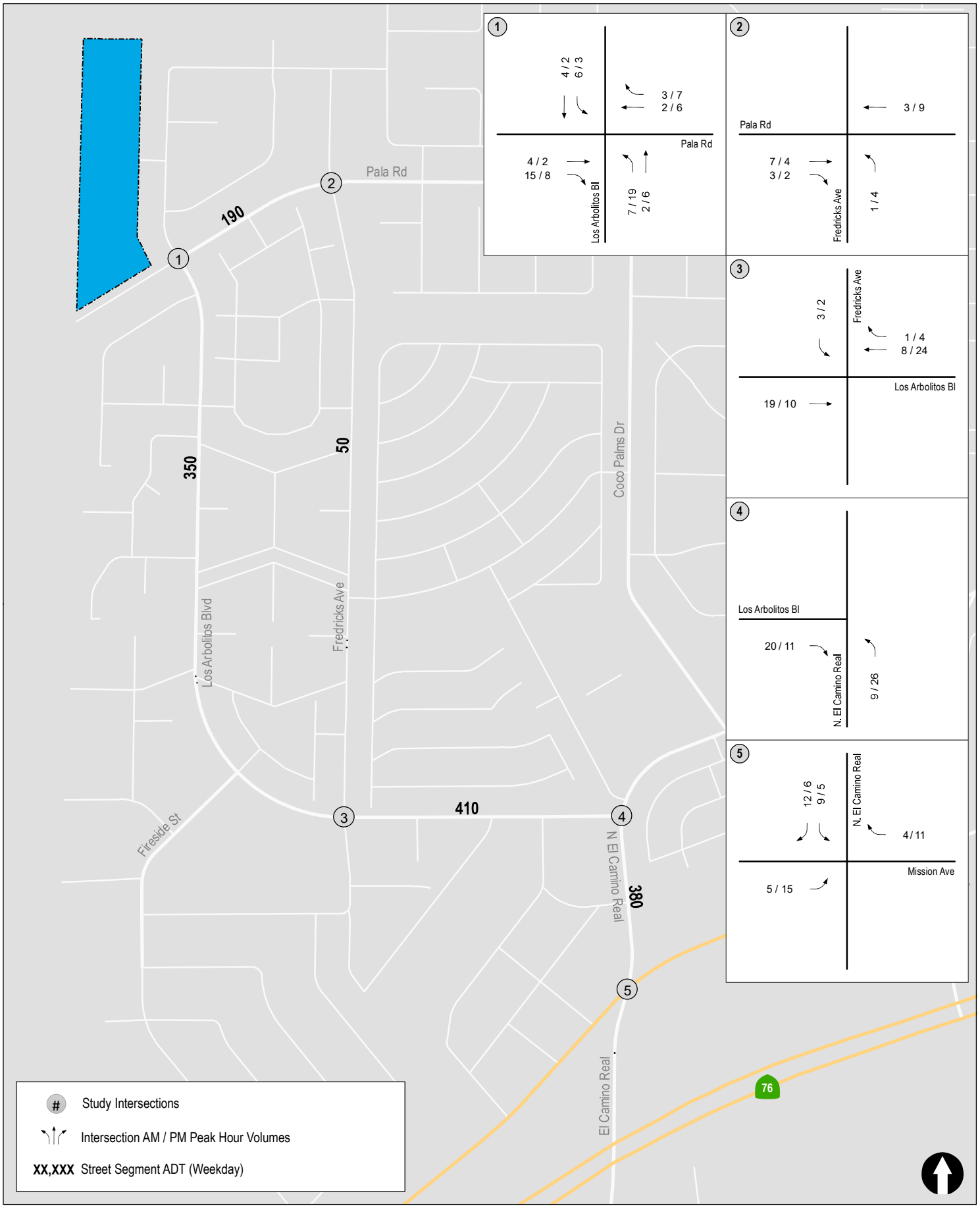

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Figure 8-2

Project Traffic Volumes

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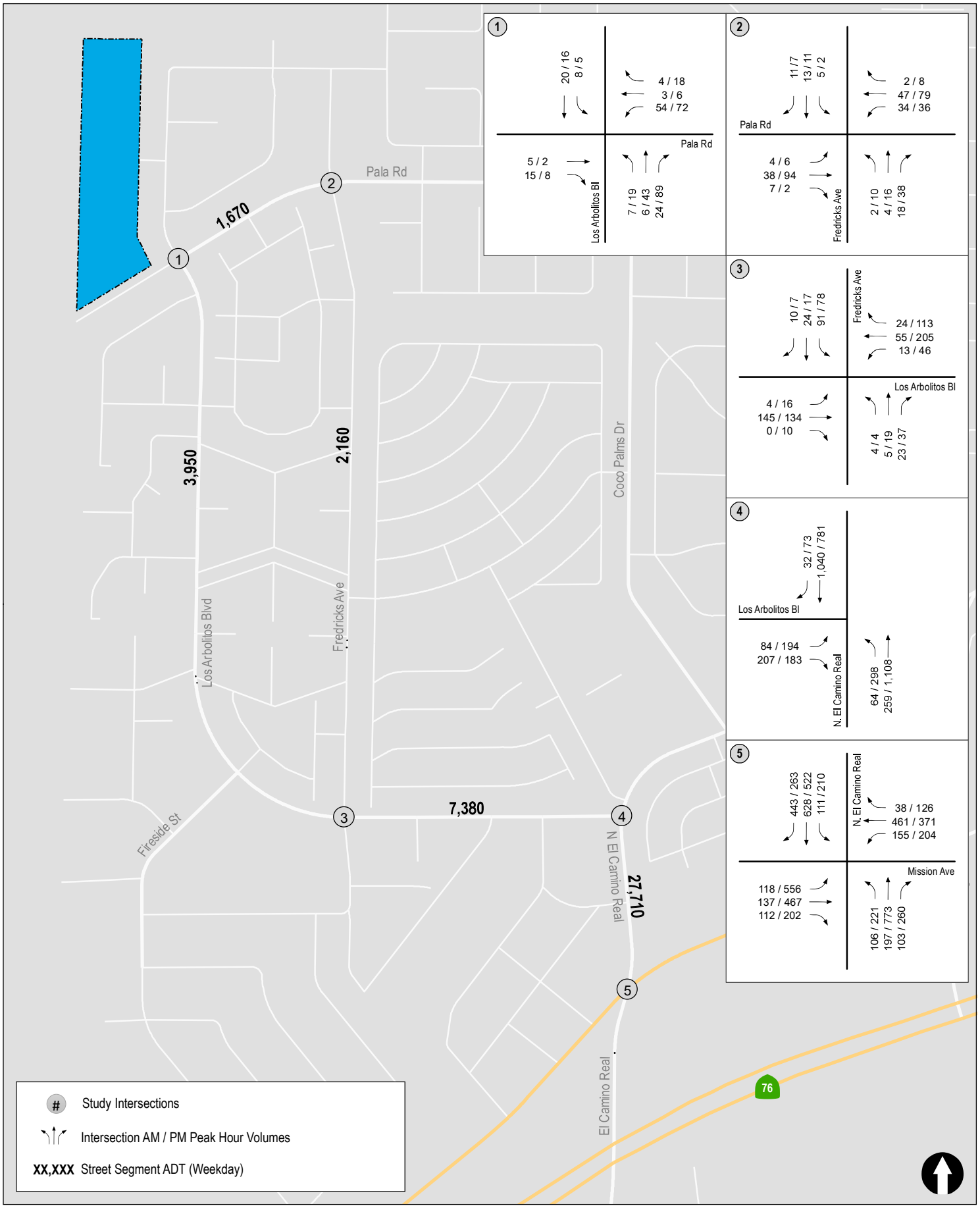

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Figure 8-3

Existing + Project Traffic Volumes

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9.0 ANALYSIS OF EXISTING + PROJECT CONDITIONS

9.1 Peak Hour Intersection Analysis

Table 9–1 summarizes the peak hour intersection operations under Existing + Project conditions in the study area. As shown, the study area intersections are calculated to continue to operate acceptably at LOS D or better during the AM and PM peak hours with the addition of Project trips and therefore, based on the City of Oceanside's traffic thresholds and methodology summarized in *Section 4*, roadway improvements are not required.

Appendix D contains the Existing + Project intersection analysis worksheets.

9.2 Daily Street Segment Operations

Table 9–2 summarizes the Existing + Project street segment operations along the study area roadways. As shown, the study area street segments are calculated to continue to operate acceptably at LOS C or better with the addition of Project trips and therefore, based on the City of Oceanside's traffic thresholds and methodology summarized in *Section 4,* roadway improvements are not required.

TABLE 9–1
EXISTING WITH PROJECT INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Existing		Existing with Project		Delay Δ [c]	Improvement Required?
			Delay[a]	LOS[b]	Delay	LOS		
1. Los Arbolitos Boulevard / Pala Road	MSSC[d]	AM	8.3	A	8.4	A	0.1	No
		PM	8.5	A	8.5	A	0.0	
2. Fredricks Avenue / Pala Road	AWSC[e]	AM	8.3	A	8.3	A	0.0	No
		PM	8.4	A	8.5	A	0.1	
3. Fredricks Avenue / Los Arbolitos Boulevard	MSSC[d]	AM	12.1	B	12.6	B	0.5	No
		PM	18.0	C	19.4	C	1.4	
4. N. El Camino Real / Los Arbolitos Boulevard	Signal	AM	11.6	B	12.4	B	0.8	No
		PM	12.8	B	13.6	B	0.8	
5. N. El Camino Real / Mission Avenue	Signal	AM	25.0	C	25.4	C	0.4	No
		PM	43.1	D	44.9	D	1.8	

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. Δ denotes the increase in delay due to Project.
d. MSSC = Minor Street Stop Controlled. Worst-Case delay reported.
e. AWSC = All Way Stop Controlled Intersection.

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

TABLE 9-2
EXISTING WITH PROJECT STREET SEGMENT OPERATIONS

Street Segment	Capacity (LOS C) [a]	Existing			Existing with Project			V/C Δ [c]	Improvement Required?
		ADT[b]	LOS[c]	V/C	ADT	LOS	V/C		
Pala Road									
Los Arbolitos Boulevard to Fredricks Avenue	15,000	1,480	A	0.099	1,670	A	0.111	0.012	No
Fredricks Avenue									
Los Arbolitos Boulevard to Pala Road	10,000	2,110	A	0.211	2,160	A	0.216	0.005	No
Los Arbolitos Boulevard									
Pala Road to Fredricks Avenue	15,000	3,600	A	0.240	3,950	A	0.263	0.023	No
Fredricks Avenue to N. El Camino Real	15,000	6,970	B	0.465	7,380	C	0.492	0.027	No
N. El Camino Real									
Los Arbolitos Boulevard to Mission Avenue	40,000	27,330	C	0.683	27,710	C	0.693	0.010	No

Footnotes:

a. Capacities based on City of Oceanside *Circulation Element Roadway Classification LOS & Capacity* table (See *Appendix B*).
b. Average Daily Traffic Volumes.
c. Level of Service
d. Δ denotes the increase in V/C due to Project.

10.0 ANALYSIS OF NEAR-TERM CONDITIONS

The following section presents the analysis of study area intersections and street segments under Near-Term conditions without and with the proposed Project.

10.1 Near-Term Traffic Volumes

Near-Term without Project traffic volumes were calculated by adding the cumulative projects traffic volumes onto the Existing traffic volumes. Near-Term + Project traffic volumes were calculated by then adding the Project traffic volumes.

Figure 10–1 shows the Near-Term traffic volumes. ***Figure 10–2*** shows the Near-Term + Project traffic volumes.

10.2 Near-Term without Project Conditions

10.2.1 *Peak Hour Intersection Analysis*

Table 10–1 summarizes the peak hour intersection operations under Near-Term conditions. As shown, the study area intersections are calculated to operate acceptably at LOS D or better during the AM and PM peak hours.

Appendix E contains the Near-Term intersection analysis worksheets.

10.2.2 *Daily Street Segment Operations*

Table 10–2 summarizes the Near-Term street segment operations along the study area roadways. As shown, the study area street segments are calculated to operate acceptably at LOS C or better.

10.3 Near-Term with Project Conditions

10.3.1 *Peak Hour Intersection Analysis*

Table 10–1 summarizes the peak hour intersection operations under Near-Term + Project conditions. As shown, the study area intersections are calculated to continue to operate acceptably at LOS D or better during the AM and PM peak hours with the addition of Project trips and therefore, based on the City of Oceanside's traffic thresholds and methodology summarized in *Section 4*, roadway improvements are not required.

Appendix F contains the Near-Term + Project intersection analysis worksheets.

10.3.2 *Daily Street Segment Operations*

Table 10–2 summarizes the Near-Term + Project street segment operations along the study area roadways. As shown, the study area street segments are calculated to continue to operate acceptably at LOS C or better with the addition of Project trips and therefore, based on the City of Oceanside's traffic thresholds and methodology summarized in *Section 4*, roadway improvements are not required.

TABLE 10–1
NEAR-TERM INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Near-Term		Near-Term with Project		Delay Δ [c]	Improvement Required?
			Delay[a]	LOS [b]	Delay	LOS		
1. Los Arbolitos Boulevard / Pala Road	MSSC[d]	AM	8.3	A	8.4	A	0.1	No
		PM	8.6	A	8.6	A	0.0	
2. Fredricks Avenue / Pala Road	AWSC[e]	AM	8.3	A	8.3	A	0.0	No
		PM	8.5	A	8.6	A	0.1	
3. Fredricks Avenue / Los Arbolitos Boulevard	MSSC[d]	AM	12.3	B	12.8	B	0.5	No
		PM	18.5	C	20.0	C	1.5	
4. N. El Camino Real / Los Arbolitos Boulevard	Signal	AM	11.9	B	12.7	B	0.8	No
		PM	13.2	B	14.0	B	0.8	
5. N. El Camino Real / Mission Avenue	Signal	AM	26.6	C	27.0	C	0.4	No
		PM	50.7	D	52.9	D	2.2	

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. Δ denotes the increase in delay due to Project.
d. MSSC = Minor Street Stop Controlled. Worst-Case delay reported.
e. AWSC = All Way Stop Controlled Intersection

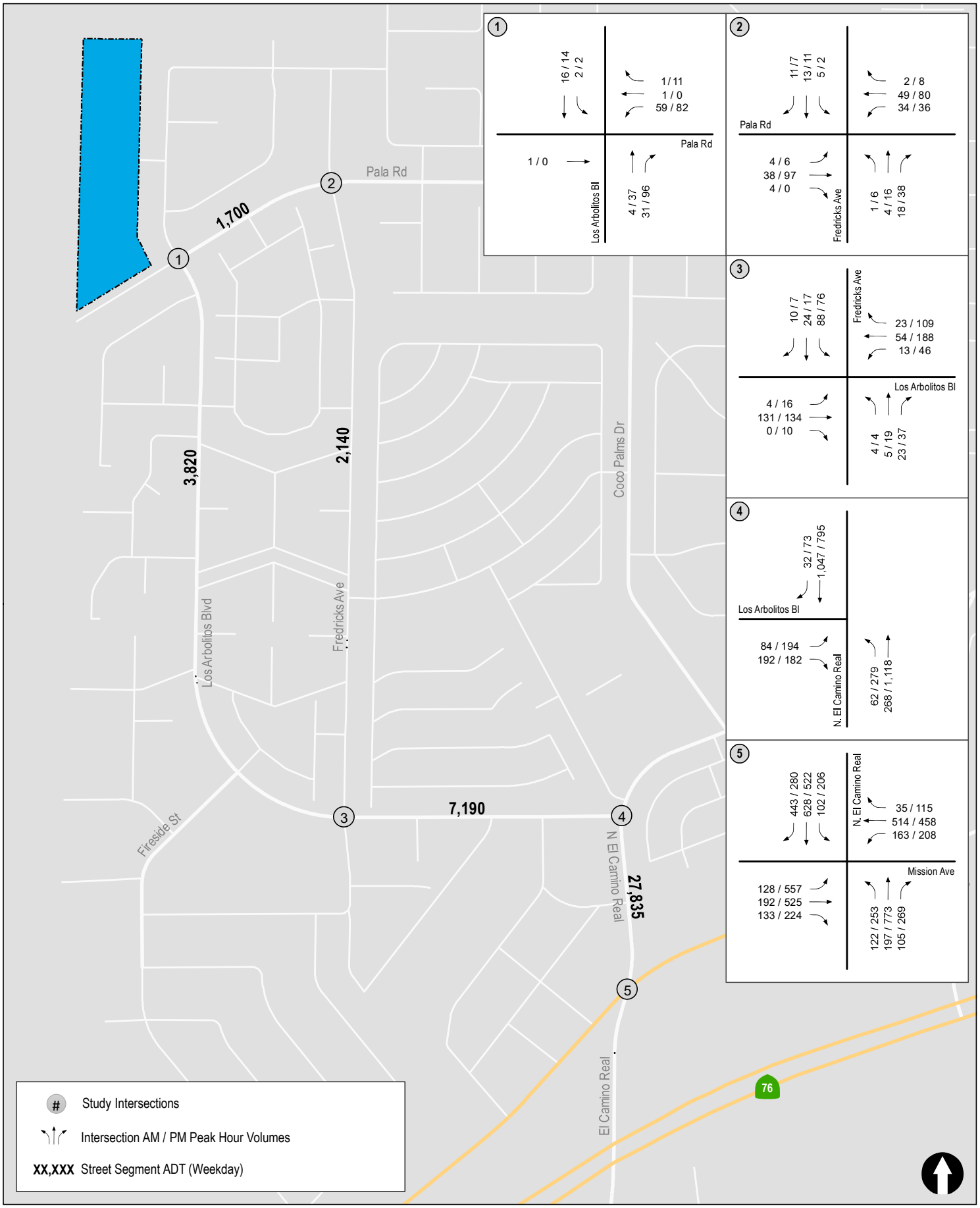
SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

TABLE 10-2
NEAR-TERM STREET SEGMENT OPERATIONS

Street Segment	Capacity (LOS C) [a]	Near-Term			Near-Term with Project			V/C Δ [c]	Improvement Required?
		ADT[b]	LOS[c]	V/C	ADT	LOS	V/C		
Pala Road									
Los Arbolitos Boulevard to Fredricks Avenue	15,000	1,700	A	0.113	1,890	A	0.126	0.013	No
Fredricks Avenue									
Los Arbolitos Boulevard to Pala Road	10,000	2,140	A	0.214	2,190	A	0.219	0.005	No
Los Arbolitos Boulevard									
Pala Road to Fredricks Avenue	15,000	3,820	A	0.255	4,170	A	0.278	0.023	No
Fredricks Avenue to N. El Camino Real	15,000	7,190	C	0.479	7,600	C	0.507	0.028	No
N. El Camino Real									
Los Arbolitos Boulevard to Mission Avenue	40,000	27,835	C	0.696	28,215	C	0.705	0.009	No

Footnotes:

a. Capacities based on City of Oceanside *Circulation Element Roadway Classification LOS & Capacity* table (See *Appendix B*)le.
b. Average Daily Traffic Volumes.
c. Level of Service
d. Δ denotes the increase in V/C due to Project.



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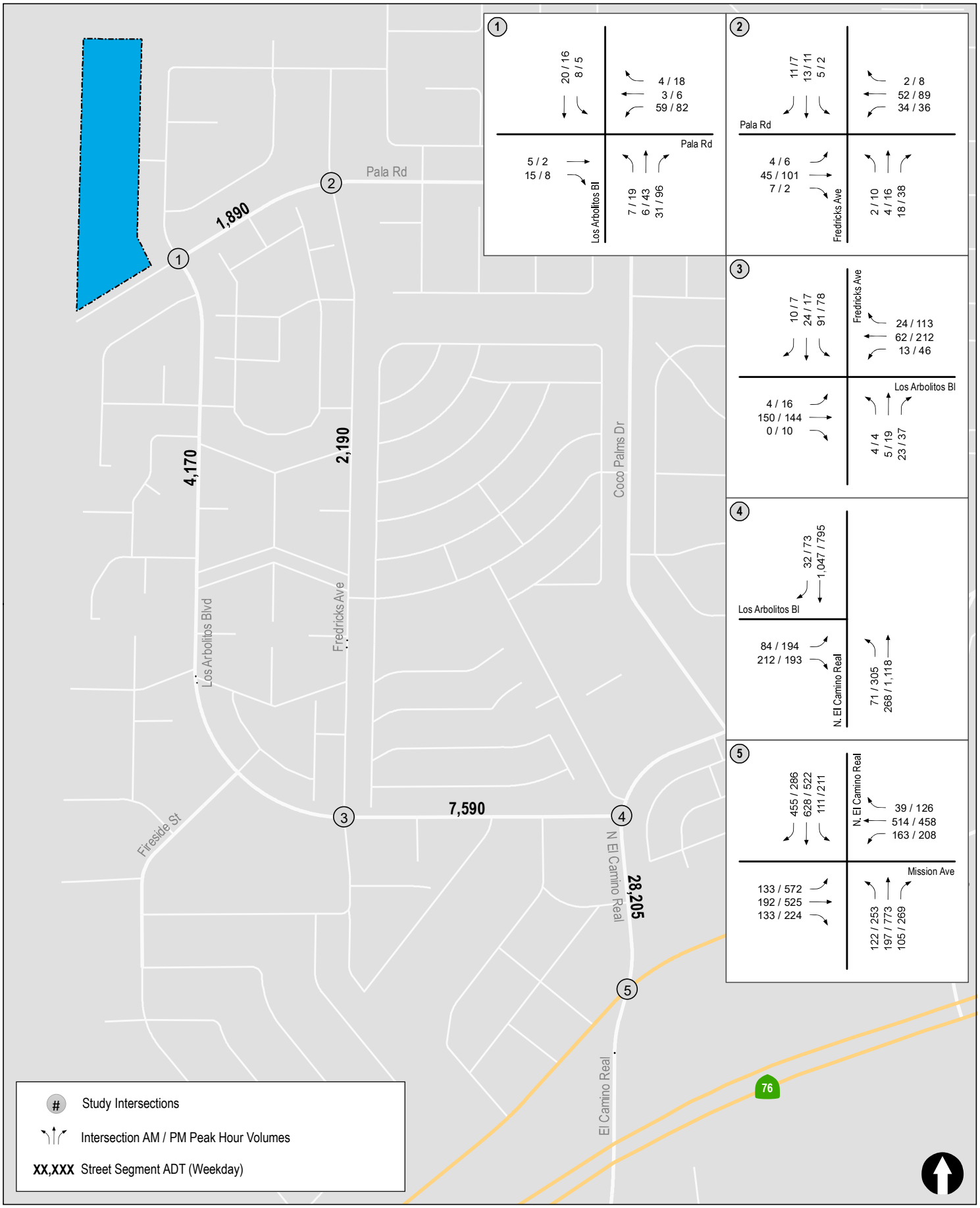
Date: 3/11/2021
Time: 11:40 AM

Figure 10-1

Near-Term Traffic Volumes

CYPRESS POINT



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Date: 3/11/2021
Time: 11:40 AM

Figure 10-2

Near-Term + Project Traffic Volumes

CYPRESS POINT

11.0 PEDESTRIAN, TRANSIT AND BICYCLE MOBILITY

11.1 Bicycle and Pedestrian Access

There are currently Class II bike lanes in each direction of travel on Pala Road, Mission Avenue, and El Camino Real (south of Mission Avenue) in the vicinity of the Project site, consistent with the *Oceanside General Plan Circulation Element*, September 2012.

Sidewalks are provided in each direction of travel along the following roadways: Los Arbolitos Boulevard, Pala Road, Fredricks Avenue, El Camino Real, and Mission Avenue.

11.2 Transit Access

The Project area is provided transit service via the North County Transit District (NCTD). There are 12 bus routes operated by the NCTD in Oceanside. The routes that operate near the Project area are 303, 309, and 311. Bus stops within a 1-mile radius of the Project site include the stops located at Pala Road & Fredricks Avenue, Los Arbolitos Boulevard & Orr Street, and El Camino Real & Mission Avenue. A summary of bus routes 303, 309, and 311 is provided below.

Route 303 has endpoints at the Oceanside Transit Center and the Vista Transit Center. Route 303 serves the following major corridors: Mission Avenue, Douglas Drive, N. River Road, and N. Santa Fe Avenue. Route 303 has a weekday frequency of 15 minutes.

Route 309 has endpoints at College Boulevard Town Center North and Encinitas Station. Route 309 serves the following major corridors: El Camino Real, and Douglas Drive. Route 309 has a weekday frequency of 30 minutes.

Route 311 has endpoints at the San Luis Rey Transit Center and the Rancho Del Oro Transit Station. Route 311 serves the following major corridors: Douglas Drive, El Camino Real, Mission Avenue, and Rancho Del Oro Drive. Route 311 has a weekday frequency of 30 minutes to 1 hour.

12.0 CONCLUSIONS

Based on the City of Oceanside's traffic thresholds and methodology summarized in *Section 4*, and the analysis presented in this report, roadway improvements are not required since the increase in Project related delay does not exceed the allowable thresholds.

A Transportation VMT CEQA Analysis is not required based on City guidelines.

LINSCOTT LAW & GREENSPAN
engineers

TECHNICAL APPENDICES

THE CONCORDIA COLLECTION AT CYPRESS POINT

Oceanside, California
March 12, 2021

LLG Ref. 3-20-3287

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APPENDIX A

INTERSECTION AND SEGMENT COUNT

GROWTH RATE FACTOR CALCULATIONS

Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#01	File Name:	ITM-20-037-01
Intersection:	Los Arbolitos Boulevard & Pala Road	Project:	LLG Ref. 3-20-3287
Date of Count:	Wednesday, October 07, 2020		Oceanside

AM	Los Arbolitos Boulevard Southbound			Pala Road Westbound			Los Arbolitos Boulevard Northbound			Pala Road Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00	0	4	0	18	0	0	0	1	10	0	0	0	33
7:15	0	1	0	11	0	0	0	1	5	0	0	0	18
7:30	1	2	0	7	1	1	0	1	5	0	0	0	18
7:45	1	6	0	9	0	0	0	0	0	0	0	0	16
8:00	2	4	0	6	0	2	0	2	5	0	0	0	21
8:15	0	6	0	8	0	2	0	1	6	0	1	0	24
8:30	1	6	0	5	0	0	0	2	5	0	0	0	19
8:45	0	0	0	5	0	0	0	1	4	0	0	0	10
Total	5	29	0	69	1	5	0	9	40	0	1	0	159
Approach%	14.7	85.3	-	92.0	1.3	6.7	-	18.4	81.6	-	100.0	-	
Total%	3.1	18.2	-	43.4	0.6	3.1	-	5.7	25.2	-	0.6	-	

AM Intersection Peak Hour: **07:00 to 08:00**

Volume	2	13	-	45	1	1	-	3	20	-	-	-	85
Approach%	13.3	86.7	-	95.7	2.1	2.1	-	13.0	87.0	-	-	-	
Total%	2.4	15.3	-	52.9	1.2	1.2	-	3.5	23.5	-	-	-	
PHF			0.54			0.65			0.52			#DIV/0!	0.00

PM	Los Arbolitos Boulevard Southbound			Pala Road Westbound			Los Arbolitos Boulevard Northbound			Pala Road Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
16:00	1	4	0	9	0	1	0	6	12	0	0	0	33
16:15	0	5	0	15	0	3	0	8	15	0	0	0	46
16:30	2	4	0	12	0	4	0	8	22	0	0	0	52
16:45	0	2	0	13	0	1	0	8	16	0	0	0	40
17:00	0	1	0	20	0	1	0	7	21	0	0	0	50
17:15	0	3	0	8	0	0	0	6	13	0	0	0	30
17:30	1	2	1	14	0	3	0	4	9	0	0	1	35
17:45	2	4	1	6	1	1	0	7	14	0	1	0	37
Total	6	25	2	97	1	14	0	54	122	0	1	1	323
Approach%	18.2	75.8	6.1	86.6	0.9	12.5	-	30.7	69.3	-	50.0	50.0	
Total%	1.9	7.7	0.6	30.0	0.3	4.3	-	16.7	37.8	-	0.3	0.3	

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

Volume	2	12	-	60	-	9	-	31	74	-	-	-	188
Approach%	14.3	85.7	-	87.0	-	13.0	-	29.5	70.5	-	-	-	
Total%	1.1	6.4	-	31.9	-	4.8	-	16.5	39.4	-	-	-	
PHF			0.58			0.82			0.88			#DIV/0!	0.00

Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

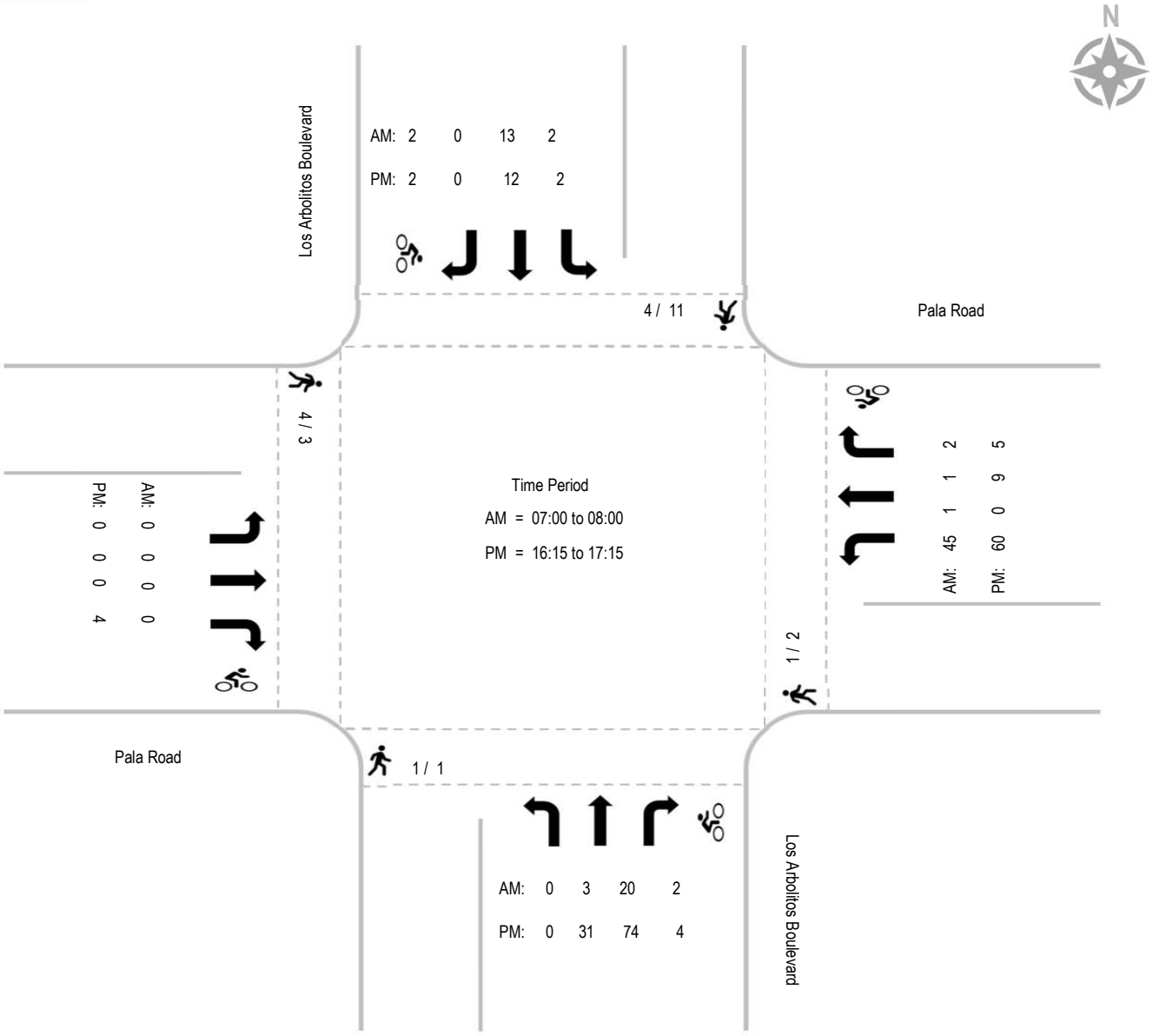
Location:	#01	File Name:	ITM-20-037-01
Intersection:	Los Arbolitos Boulevard & Pala Road	Project:	LLG Ref. 3-20-3287
Date of Count:	Wednesday, October 07, 2020		Oceanside

AM	Los Arbolitos Boulevard Southbound				Pala Road Westbound				Los Arbolitos Boulevard Northbound				Pala Road Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0
7:15	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
7:30	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	2	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	3	1
8:30	0	0	1	0	0	0	0	0	1	0	1	0	1	0	0	0	2	2
8:45	1	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	3	1
Ped Total	4				1				1				4				10	
Bike Total		0	2	0		0	1	1		0	2	0		0	0	0		6

PM	Los Arbolitos Boulevard Southbound				Pala Road Westbound				Los Arbolitos Boulevard Northbound				Pala Road Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
16:15	1	1	0	0	0	0	0	2	0	0	0	0	0	0	1	0	1	4
16:30	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
16:45	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
17:00	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
17:15	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	3	1
17:30	2	0	0	0	0	0	0	0	1	0	0	1	2	0	0	0	5	1
17:45	4	0	0	0	1	0	2	0	0	0	1	0	1	0	1	0	6	4
Ped Total	11				2				1				3				17	
Bike Total		1	1	0		1	2	2		0	2	2		0	4	0		15

Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location:	#01	File Name:	ITM-20-037-01
	Intersection:	Los Arbolitos Boulevard & Pala Road	Project:	LLG Ref. 3-20-3287
	Date of Count:	Wednesday, October 07, 2020		Oceanside



Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#02	File Name:	ITM-20-037-02
Intersection:	Fredricks Avenue & Pala Road	Project:	LLG Ref. 3-20-3287
Date of Count:	Wednesday, October 07, 2020		Oceanside

AM	Fredricks Avenue Southbound			Pala Road Westbound			Fredricks Avenue Northbound			Pala Road Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00	2	2	4	8	13	0	0	1	5	1	8	0	44
7:15	0	2	2	8	8	0	1	1	5	0	5	0	32
7:30	0	5	1	4	7	1	0	1	4	1	7	1	32
7:45	2	2	2	8	9	1	0	0	1	1	6	2	34
8:00	0	2	1	5	7	1	1	1	3	1	6	0	28
8:15	1	0	2	4	9	0	1	1	9	0	8	0	35
8:30	0	2	1	8	6	1	0	1	5	0	4	0	28
8:45	0	3	0	5	5	0	1	3	1	0	4	0	22
Total	5	18	13	50	64	4	4	9	33	4	48	3	255
Approach%	13.9	50.0	36.1	42.4	54.2	3.4	8.7	19.6	71.7	7.3	87.3	5.5	
Total%	2.0	7.1	5.1	19.6	25.1	1.6	1.6	3.5	12.9	1.6	18.8	1.2	

AM Intersection Peak Hour: **07:00 to 08:00**

Volume	4	11	9	28	37	2	1	3	15	3	26	3	142
Approach%	16.7	45.8	37.5	41.8	55.2	3.0	5.3	15.8	78.9	9.4	81.3	9.4	
Total%	2.8	7.7	6.3	19.7	26.1	1.4	0.7	2.1	10.6	2.1	18.3	2.1	
PHF			0.75			0.80			0.68			0.89	0.00

PM	Fredricks Avenue Southbound			Pala Road Westbound			Fredricks Avenue Northbound			Pala Road Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
16:00	0	2	0	6	12	1	1	2	7	2	11	0	44
16:15	0	4	2	7	14	2	1	3	9	2	15	0	59
16:30	0	1	0	6	16	1	1	3	9	1	23	0	61
16:45	1	0	1	9	13	4	2	4	7	0	15	0	56
17:00	1	4	3	8	15	0	1	3	7	2	22	0	66
17:15	0	3	0	4	8	0	0	3	9	2	11	0	40
17:30	1	1	1	8	16	2	0	1	6	0	10	0	46
17:45	3	1	0	3	6	1	0	7	10	1	18	0	50
Total	6	16	7	51	100	11	6	26	64	10	125	0	422
Approach%	20.7	55.2	24.1	31.5	61.7	6.8	6.3	27.1	66.7	7.4	92.6	-	
Total%	1.4	3.8	1.7	12.1	23.7	2.6	1.4	6.2	15.2	2.4	29.6	-	

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

Volume	2	9	6	30	58	7	5	13	32	5	75	-	242
Approach%	11.8	52.9	35.3	31.6	61.1	7.4	10.0	26.0	64.0	6.3	93.8	-	
Total%	0.8	3.7	2.5	12.4	24.0	2.9	2.1	5.4	13.2	2.1	31.0	-	
PHF			0.53			0.91			0.96			0.83	0.00

Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

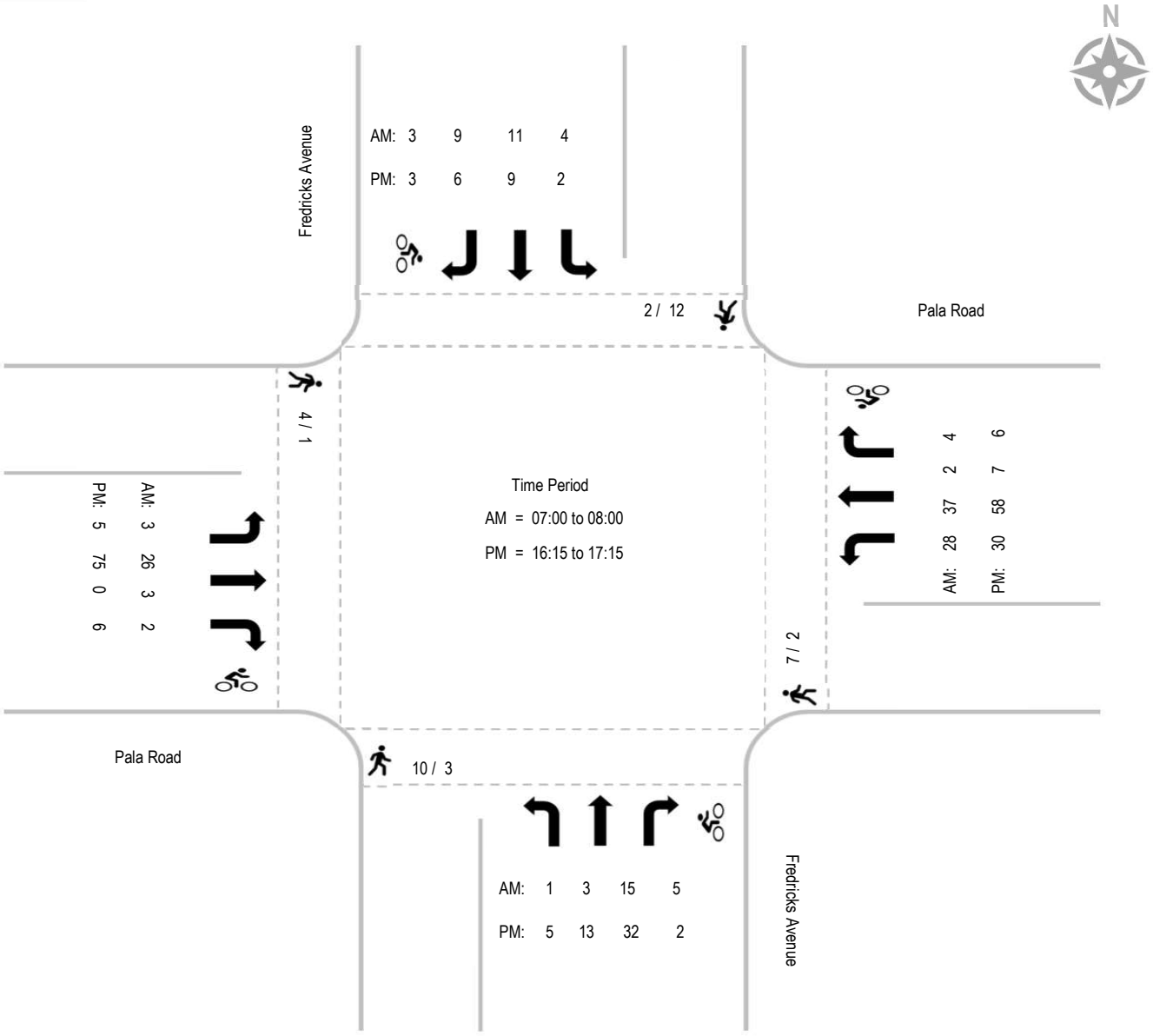
Location:	#02	File Name:	ITM-20-037-02
Intersection:	Fredricks Avenue & Pala Road	Project:	LLG Ref. 3-20-3287
Date of Count:	Wednesday, October 07, 2020		Oceanside

AM	Fredricks Avenue Southbound				Pala Road Westbound				Fredricks Avenue Northbound				Pala Road Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	3	0
7:15	0	0	0	0	1	0	1	0	1	0	0	0	0	0	1	0	2	2
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	0
8:00	1	0	0	0	2	0	1	0	4	0	0	0	0	0	0	0	7	1
8:15	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3	0
8:30	0	0	0	0	2	0	0	0	0	0	3	0	0	0	1	0	2	4
8:45	0	0	3	0	2	2	0	0	0	0	0	2	0	0	0	0	2	7
Ped Total	2				7				10				4				23	
Bike Total		0	3	0		2	2	0		0	3	2		0	2	0		14

PM	Fredricks Avenue Southbound				Pala Road Westbound				Fredricks Avenue Northbound				Pala Road Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
16:15	1	0	0	0	0	0	4	0	0	0	0	0	0	0	2	0	1	6
16:30	1	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	1	3
16:45	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
17:00	3	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	4	1
17:15	2	0	0	1	1	0	0	0	1	0	0	0	0	1	0	0	4	2
17:30	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	1	2
17:45	4	0	0	0	0	0	0	0	1	0	1	0	1	0	1	0	6	2
Ped Total	12				2				3				1				18	
Bike Total		0	1	2		2	4	0		0	1	1		1	5	0		17

Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location:	#02	File Name:	ITM-20-037-02
	Intersection:	Fredricks Avenue & Pala Road	Project:	LLG Ref. 3-20-3287
	Date of Count:	Wednesday, October 07, 2020		Oceanside



Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#03	File Name:	ITM-20-037-03
Intersection:	Fredricks Avenue & Los Arbolitos Boulevard	Project:	LLG Ref. 3-20-3287
Date of Count:	Wednesday, October 07, 2020		Oceanside

AM	Fredricks Avenue Southbound			Los Arbolitos Boulevard Westbound			Fredricks Avenue Northbound			Los Arbolitos Boulevard Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00	9	5	1	2	9	6	0	1	5	0	22	0	60
7:15	25	6	2	1	7	11	0	1	5	1	26	0	85
7:30	18	7	3	3	11	1	1	2	5	0	30	0	81
7:45	13	2	1	2	9	3	1	0	4	0	24	0	59
8:00	17	5	2	5	12	4	1	1	5	2	25	0	79
8:15	9	2	0	4	9	9	0	0	4	0	23	0	60
8:30	15	2	1	3	9	9	0	1	2	0	15	0	57
8:45	8	1	1	3	5	5	1	1	2	1	14	0	42
Total	114	30	11	23	71	48	4	7	32	4	179	0	523
Approach%	73.5	19.4	7.1	16.2	50.0	33.8	9.3	16.3	74.4	2.2	97.8	-	
Total%	21.8	5.7	2.1	4.4	13.6	9.2	0.8	1.3	6.1	0.8	34.2	-	

AM Intersection Peak Hour: **07:15 to 08:15**

Volume	73	20	8	11	39	19	3	4	19	3	105	-	304
Approach%	72.3	19.8	7.9	15.9	56.5	27.5	11.5	15.4	73.1	2.8	97.2	-	
Total%	24.0	6.6	2.6	3.6	12.8	6.3	1.0	1.3	6.3	1.0	34.5	-	
PHF			0.77			0.82			0.81			0.90	0.00

PM	Fredricks Avenue Southbound			Los Arbolitos Boulevard Westbound			Fredricks Avenue Northbound			Los Arbolitos Boulevard Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
16:00	18	2	1	11	37	15	1	3	6	1	28	0	123
16:15	11	2	1	12	31	32	1	2	8	2	18	2	122
16:30	25	0	0	11	32	19	2	2	9	3	26	0	129
16:45	9	1	2	8	37	28	1	4	12	2	26	3	133
17:00	16	6	3	7	42	20	0	7	4	2	27	2	136
17:15	13	7	1	12	40	24	0	3	6	6	24	3	139
17:30	18	1	2	8	25	28	2	0	12	0	22	1	119
17:45	14	3	3	8	43	29	0	9	2	3	20	0	134
Total	124	22	13	77	287	195	7	30	59	19	191	11	1035
Approach%	78.0	13.8	8.2	13.8	51.3	34.9	7.3	31.3	61.5	8.6	86.4	5.0	
Total%	12.0	2.1	1.3	7.4	27.7	18.8	0.7	2.9	5.7	1.8	18.5	1.1	

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

Volume	63	14	6	38	151	91	3	16	31	13	103	8	537
Approach%	75.9	16.9	7.2	13.6	53.9	32.5	6.0	32.0	62.0	10.5	83.1	6.5	
Total%	11.7	2.6	1.1	7.1	28.1	16.9	0.6	3.0	5.8	2.4	19.2	1.5	
PHF			0.83			0.92			0.74			0.94	0.00

Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

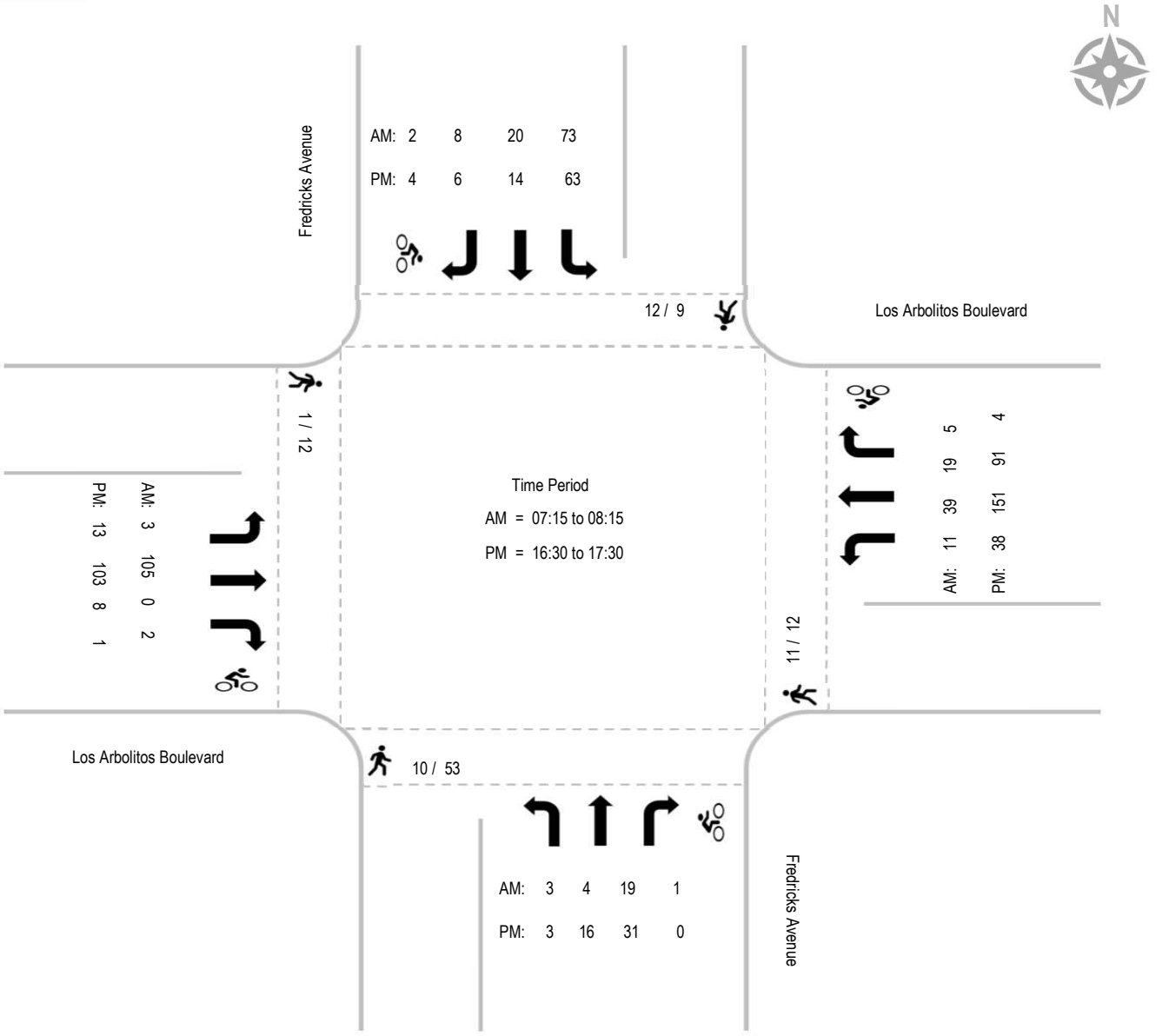
Location:	#03	File Name:	ITM-20-037-03
Intersection:	Fredricks Avenue & Los Arbolitos Boulevard	Project:	LLG Ref. 3-20-3287
Date of Count:	Wednesday, October 07, 2020		Oceanside

AM	Fredricks Avenue Southbound				Los Arbolitos Boulevard Westbound				Fredricks Avenue Northbound				Los Arbolitos Boulevard Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	1	0	0	0	0	0	0	1	1	0	0	0	1	0	1	0	3	2
7:15	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	2	1
7:30	2	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	4	0
7:45	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	5	0
8:00	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0	0	2	1
8:15	4	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	7	0
8:30	2	0	0	0	1	0	0	2	2	0	0	0	0	0	1	0	5	3
8:45	1	0	2	0	3	1	0	0	2	0	0	0	0	0	0	0	6	3
Ped Total	12				11				10				1				34	
Bike Total		0	2	0		1	0	4		0	1	0		0	2	0		10

PM	Fredricks Avenue Southbound				Los Arbolitos Boulevard Westbound				Fredricks Avenue Northbound				Los Arbolitos Boulevard Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	5	0	0	0	3	0	0	0	8	0
16:15	1	0	0	0	2	0	1	0	3	0	0	0	2	0	0	0	8	1
16:30	1	1	0	0	0	0	0	0	6	0	0	0	1	0	0	0	8	1
16:45	1	0	0	0	2	0	0	0	7	0	0	0	2	0	0	0	12	0
17:00	1	2	1	0	0	0	0	1	8	0	0	0	2	0	0	0	11	4
17:15	1	0	0	0	7	0	0	0	1	0	0	0	0	0	0	0	9	0
17:30	3	0	0	0	1	0	1	0	14	0	0	0	0	0	1	0	18	2
17:45	1	0	0	0	0	0	0	1	9	0	0	0	2	0	0	0	12	1
Ped Total	9				12				53				12				86	
Bike Total		3	1	0		0	2	2		0	0	0		0	1	0		9

Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location:	#03	File Name:	ITM-20-037-03
	Intersection:	Fredricks Avenue & Los Arbolitos Boulevard	Project:	LLG Ref. 3-20-3287
	Date of Count:	Wednesday, October 07, 2020		Oceanside



Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#04 A	File Name:	ITM-20-037-04 A
Intersection:	N. El Camino Real / Los Arbolitos Boulevard	Project:	LLG Ref. 3-20-3287
Date of Count:	Wednesday, October 07, 2020		Oceanside

AM	N. El Camino Real Southbound			- Westbound			N. El Camino Real Northbound			Los Arbolitos Boulevard Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00	0	178	6	0	0	0	11	39	0	17	0	29	280
7:15	0	224	1	0	0	0	12	41	0	17	0	38	333
7:30	0	229	0	0	0	0	11	54	0	10	0	45	349
7:45	0	244	6	0	0	0	10	61	0	21	0	28	370
8:00	0	170	20	0	0	0	13	60	0	22	0	45	330
8:15	0	184	5	0	0	0	11	67	0	26	0	40	333
8:30	0	155	12	0	0	0	12	59	0	20	0	31	289
8:45	0	174	7	0	0	0	9	46	0	17	0	26	279
Total	0	1558	57	0	0	0	89	427	0	150	0	282	2563
Approach%	-	96.5	3.5	-	-	-	17.2	82.8	-	34.7	-	65.3	
Total%	-	60.8	2.2	-	-	-	3.5	16.7	-	5.9	-	11.0	

AM Intersection Peak Hour: **07:15 to 08:15**

Volume	-	867	27	-	-	-	46	216	-	70	-	156	1,382
Approach%	-	97.0	3.0	-	-	-	17.6	82.4	-	31.0	-	69.0	
Total%	-	62.7	2.0	-	-	-	3.3	15.6	-	5.1	-	11.3	
PHF			0.89			#DIV/0!			0.90			0.84	0.00

PM	N. El Camino Real Southbound			- Westbound			N. El Camino Real Northbound			Los Arbolitos Boulevard Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
16:00	0	140	24	0	0	0	23	189	0	53	0	54	483
16:15	0	126	30	0	0	0	25	189	0	45	0	30	445
16:30	0	166	18	0	0	0	43	246	0	46	0	62	581
16:45	0	145	26	0	0	0	43	208	0	53	0	45	520
17:00	0	148	18	0	0	0	56	247	0	46	0	41	556
17:15	0	147	11	0	0	0	56	216	0	31	0	31	492
17:30	0	166	17	0	0	0	46	242	0	43	0	41	555
17:45	0	190	15	0	0	0	69	218	0	42	0	30	564
Total	0	1228	159	0	0	0	361	1755	0	359	0	334	4196
Approach%	-	88.5	11.5	-	-	-	17.1	82.9	-	51.8	-	48.2	
Total%	-	29.3	3.8	-	-	-	8.6	41.8	-	8.6	-	8.0	

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

Volume	-	651	61	-	-	-	227	923	-	162	-	143	2,167
Approach%	-	91.4	8.6	-	-	-	19.7	80.3	-	53.1	-	46.9	
Total%	-	30.0	2.8	-	-	-	10.5	42.6	-	7.5	-	6.6	
PHF			0.87			#DIV/0!			0.95			0.88	0.00

Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

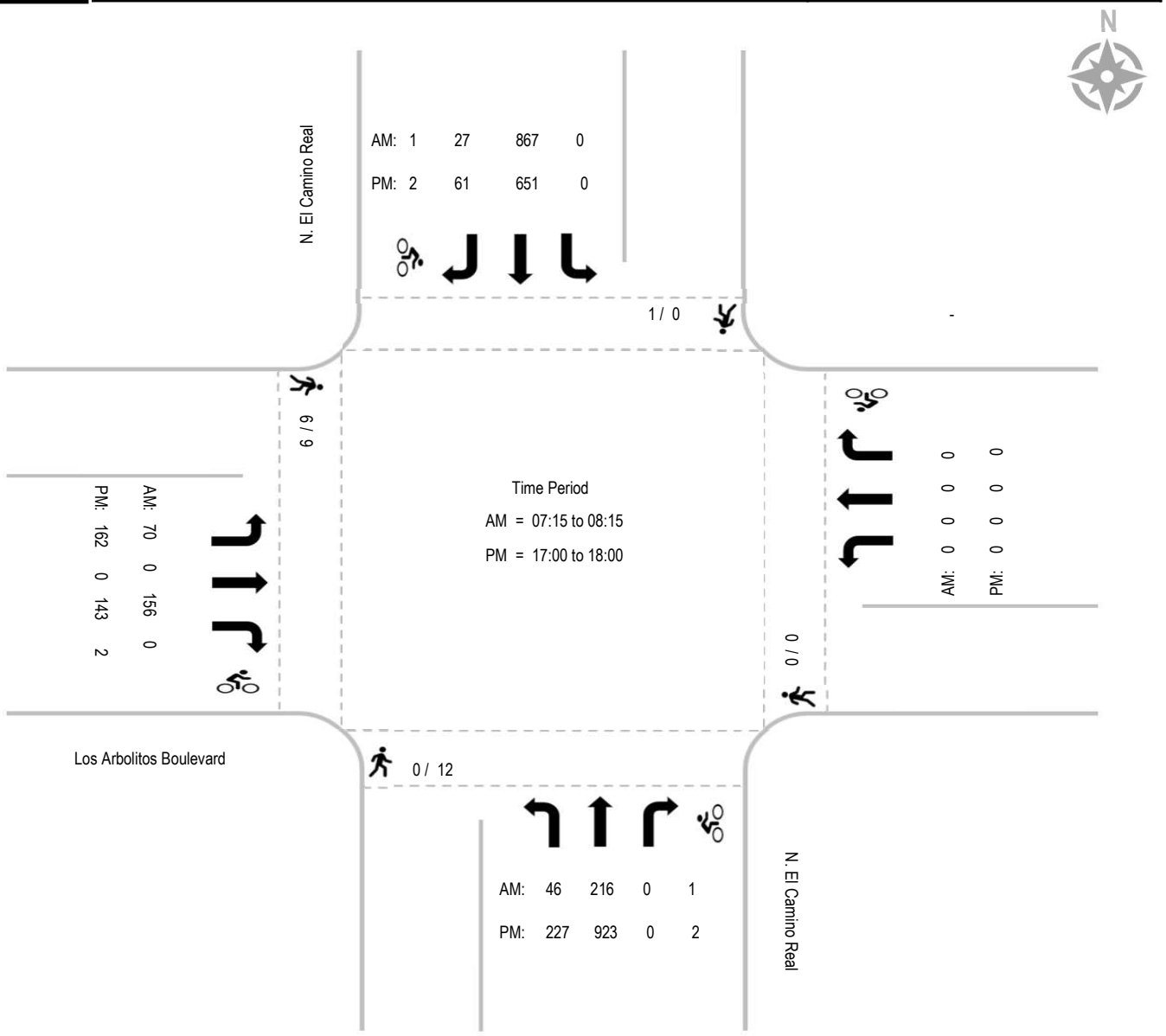
Location:	#04 A	File Name:	ITM-20-037-04 A
Intersection:	N. El Camino Real / Los Arbolitos Boulevard	Project:	LLG Ref. 3-20-3287
Date of Count:	Wednesday, October 07, 2020		Oceanside

AM	N. El Camino Real Southbound				- Westbound				N. El Camino Real Northbound				Los Arbolitos Boulevard Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
7:15	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0
8:30	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	2	1
8:45	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Ped Total	1				0				0				6				7	
Bike Total		0	1	0		0	0	0		0	1	0		0	0	0		2

PM	N. El Camino Real Southbound				- Westbound				N. El Camino Real Northbound				Los Arbolitos Boulevard Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	1	0	0	0	0	0	0	0	0	0	4	0	0	0	4	1
16:15	0	0	0	0	0	0	0	0	3	0	0	0	0	1	0	0	3	1
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	1	0	0	0	0	3	1	0	0	0	0	0	0	3	2
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
17:15	0	0	0	0	0	0	0	0	5	0	1	0	4	0	0	0	9	1
17:30	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
17:45	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
Ped Total	0				0				12				9				21	
Bike Total		0	1	1		0	0	0		1	1	0		1	0	1		6

Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location:	#04 A	File Name:	ITM-20-037-04 A
	Intersection:	N. El Camino Real / Los Arbolitos Boulevard	Project:	LLG Ref. 3-20-3287
	Date of Count:	Wednesday, October 07, 2020		Oceanside



Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#04 B	File Name:	ITM-20-037-04 B
Intersection:	N. El Camino Real / Santa Clara	Project:	LLG Ref. 3-20-3287
Date of Count:	Wednesday, October 07, 2020		Oceanside

AM	N. El Camino Real Southbound			- Westbound			N. El Camino Real Northbound			Santa Clara Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00	0	179	0	0	0	0	2	42	0	2	0	5	230
7:15	0	222	0	0	0	0	1	57	0	3	0	4	287
7:30	0	227	0	0	0	0	0	67	0	3	0	6	303
7:45	0	242	0	0	0	0	3	81	0	1	0	8	335
8:00	0	187	2	0	0	0	2	82	0	1	0	4	278
8:15	0	133	0	0	0	0	1	91	0	3	0	3	231
8:30	0	163	2	0	0	0	5	77	0	2	0	5	254
8:45	0	173	1	0	0	0	4	61	0	3	0	7	249
Total	0	1526	5	0	0	0	18	558	0	18	0	42	2167
Approach%	-	99.7	0.3	-	-	-	3.1	96.9	-	30.0	-	70.0	
Total%	-	70.4	0.2	-	-	-	0.8	25.7	-	0.8	-	1.9	

AM Intersection Peak Hour: **07:15 to 08:15**

Volume	-	878	2	-	-	-	6	287	-	8	-	22	1,203
Approach%	-	99.8	0.2	-	-	-	2.0	98.0	-	26.7	-	73.3	
Total%	-	73.0	0.2	-	-	-	0.5	23.9	-	0.7	-	1.8	
PHF			0.91			#DIV/0!			0.87			0.83	0.00

PM	N. El Camino Real Southbound			- Westbound			N. El Camino Real Northbound			Santa Clara Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
16:00	0	161	2	0	0	0	8	231	0	4	0	5	411
16:15	0	151	3	0	0	0	11	225	0	3	0	3	396
16:30	0	175	4	0	0	0	10	281	0	1	0	10	481
16:45	0	165	3	0	0	0	8	256	0	6	0	9	447
17:00	0	165	1	0	0	0	7	277	0	4	0	4	458
17:15	0	160	5	0	0	0	9	253	0	1	0	2	430
17:30	0	174	2	0	0	0	7	281	0	3	0	4	471
17:45	0	201	1	0	0	0	10	257	0	1	0	3	473
Total	0	1352	21	0	0	0	70	2061	0	23	0	40	3567
Approach%	-	98.5	1.5	-	-	-	3.3	96.7	-	36.5	-	63.5	
Total%	-	37.9	0.6	-	-	-	2.0	57.8	-	0.6	-	1.1	

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

Volume	-	700	9	-	-	-	33	1,068	-	9	-	13	1,832
Approach%	-	98.7	1.3	-	-	-	3.0	97.0	-	40.9	-	59.1	
Total%	-	38.2	0.5	-	-	-	1.8	58.3	-	0.5	-	0.7	
PHF			0.88			#DIV/0!			0.96			0.69	0.00

Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

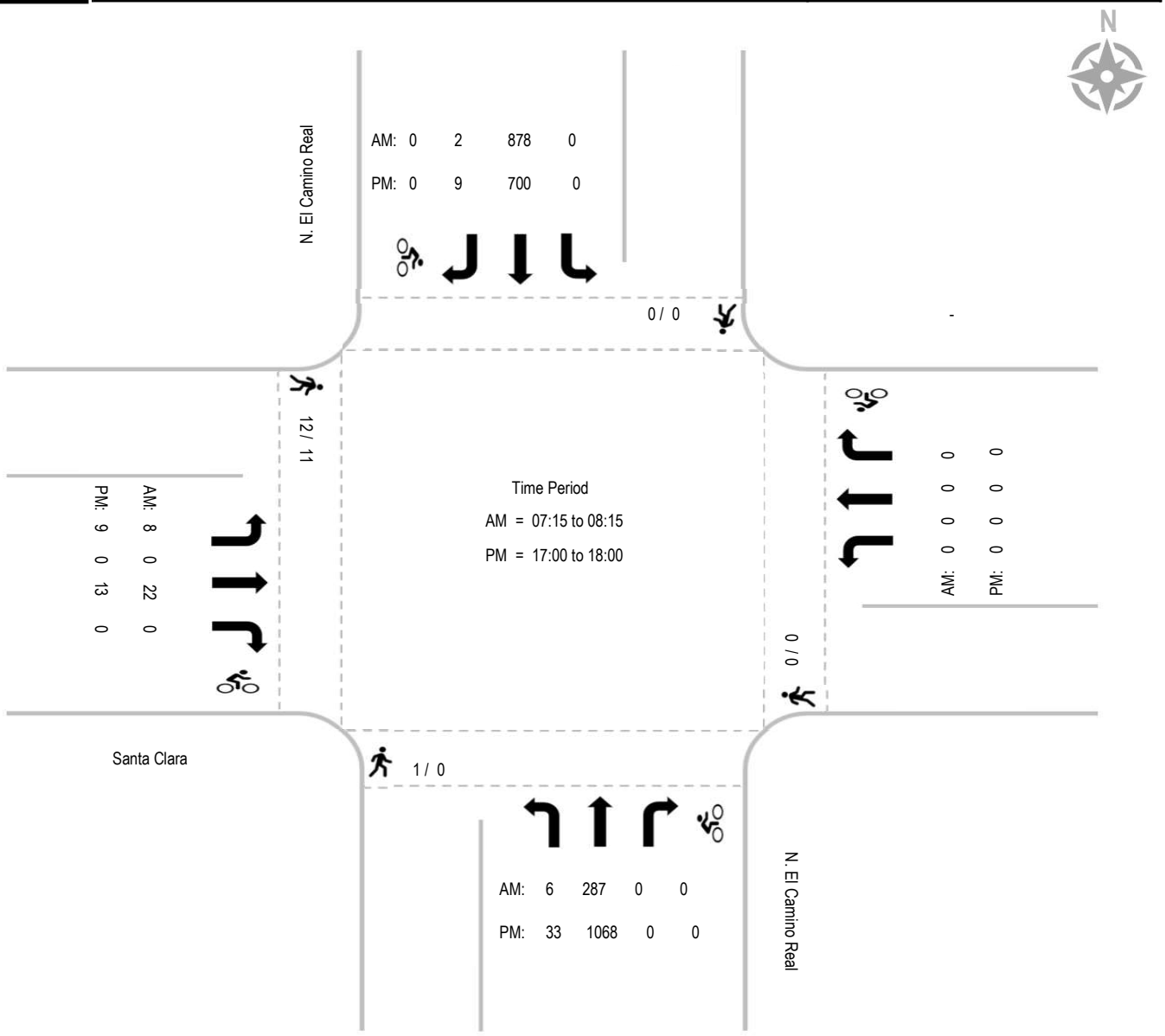
Location:	#04 B	File Name:	ITM-20-037-04 B
Intersection:	N. El Camino Real / Santa Clara	Project:	LLG Ref. 3-20-3287
Date of Count:	Wednesday, October 07, 2020		Oceanside

AM	N. El Camino Real Southbound				- Westbound				N. El Camino Real Northbound				Santa Clara Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	3	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
Ped Total	0				0				1				12				13	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

PM	N. El Camino Real Southbound				- Westbound				N. El Camino Real Northbound				Santa Clara Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				0				11				11	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location:	#04 B	File Name:	ITM-20-037-04 B
	Intersection:	N. El Camino Real / Santa Clara	Project:	LLG Ref. 3-20-3287
	Date of Count:	Wednesday, October 07, 2020		Oceanside



Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#05	File Name:	ITM-20-037-05
Intersection:	N. El Camino Real / Mission Avenue	Project:	LLG Ref. 3-20-3287
Date of Count:	Wednesday, October 07, 2020		Oceanside

AM	N. El Camino Real Southbound			Mission Avenue Westbound			N. El Camino Real Northbound			Mission Avenue Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00	16	117	60	25	163	4	19	31	20	14	23	20	512
7:15	11	148	97	29	116	4	23	37	15	14	19	28	541
7:30	22	138	112	31	91	8	16	43	13	19	22	23	538
7:45	26	127	78	37	91	6	25	42	26	29	39	21	547
8:00	26	110	72	32	86	10	24	42	32	32	34	21	521
8:15	26	103	63	20	54	10	27	53	12	22	32	23	445
8:30	16	102	59	31	59	21	19	42	20	25	31	25	450
8:45	19	95	62	35	64	5	25	42	23	18	30	25	443
Total	162	940	603	240	724	68	178	332	161	173	230	186	3997
Approach%	9.5	55.1	35.4	23.3	70.2	6.6	26.5	49.5	24.0	29.4	39.0	31.6	
Total%	4.1	23.5	15.1	6.0	18.1	1.7	4.5	8.3	4.0	4.3	5.8	4.7	

AM Intersection Peak Hour: **07:15 to 08:15**

Volume	85	523	359	129	384	28	88	164	86	94	114	93	2,147
Approach%	8.8	54.1	37.1	23.8	71.0	5.2	26.0	48.5	25.4	31.2	37.9	30.9	
Total%	4.0	24.4	16.7	6.0	17.9	1.3	4.1	7.6	4.0	4.4	5.3	4.3	
PHF			0.89			0.91			0.86			0.85	0.00

PM	N. El Camino Real Southbound			Mission Avenue Westbound			N. El Camino Real Northbound			Mission Avenue Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
16:00	28	93	58	57	93	23	48	136	48	85	94	47	810
16:15	44	103	49	43	77	14	51	122	39	99	92	50	783
16:30	55	118	53	50	66	22	62	163	54	110	81	35	869
16:45	50	115	58	39	91	29	40	147	64	85	86	49	853
17:00	42	94	54	49	76	25	37	154	40	130	108	43	852
17:15	24	108	49	32	76	20	45	180	59	126	114	41	874
17:30	47	113	63	36	55	22	33	147	42	127	117	31	833
17:45	35	106	74	44	89	32	37	160	49	94	86	0	806
Total	325	850	458	350	623	187	353	1209	395	856	778	296	6680
Approach%	19.9	52.1	28.0	30.2	53.7	16.1	18.0	61.8	20.2	44.4	40.3	15.3	
Total%	4.9	12.7	6.9	5.2	9.3	2.8	5.3	18.1	5.9	12.8	11.6	4.4	

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

Volume	171	435	214	170	309	96	184	644	217	451	389	168	3,448
Approach%	20.9	53.0	26.1	29.6	53.7	16.7	17.6	61.6	20.8	44.7	38.6	16.7	
Total%	5.0	12.6	6.2	4.9	9.0	2.8	5.3	18.7	6.3	13.1	11.3	4.9	
PHF			0.91			0.90			0.92			0.90	0.00

Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

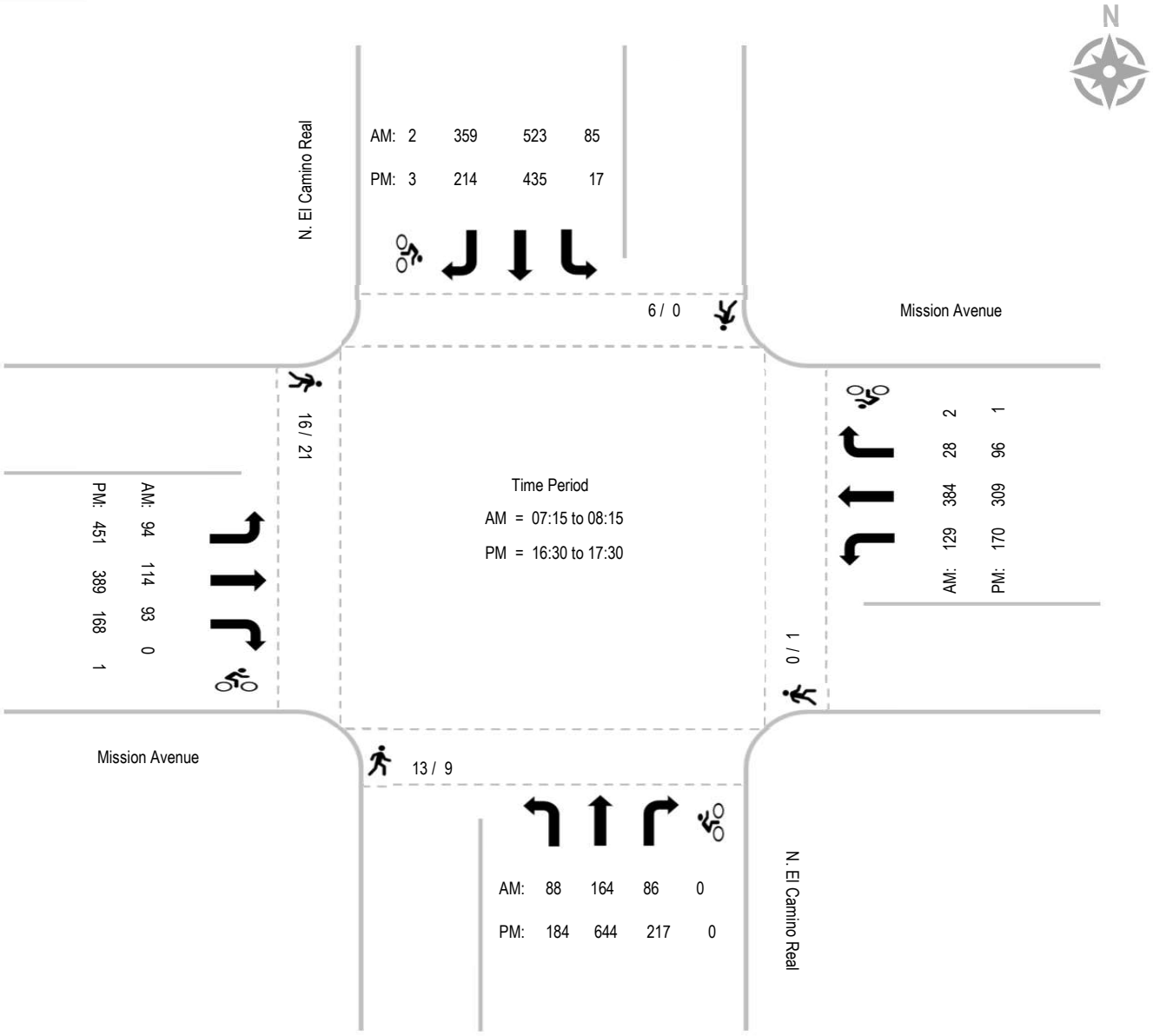
Location:	#05	File Name:	ITM-20-037-05
Intersection:	N. El Camino Real / Mission Avenue	Project:	LLG Ref. 3-20-3287
Date of Count:	Wednesday, October 07, 2020		Oceanside

AM	N. El Camino Real Southbound				Mission Avenue Westbound				N. El Camino Real Northbound				Mission Avenue Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	2	0	0	0	3	0	0	0	5	0
7:15	1	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	4	0
7:30	1	0	1	0	0	0	1	0	1	0	0	0	2	0	0	0	4	2
7:45	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0
8:00	0	0	0	0	0	0	0	0	5	0	0	0	4	0	0	0	9	0
8:15	2	0	0	0	0	0	0	0	1	0	0	0	3	0	0	0	6	0
8:30	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	2	1
8:45	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	2	1
Ped Total	6				0				13				16				35	
Bike Total		0	2	0		0	2	0		0	0	0		0	0	0		4

PM	N. El Camino Real Southbound				Mission Avenue Westbound				N. El Camino Real Northbound				Mission Avenue Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	1	0	0	0	0	0	1	0	0	0	4	0	0	0	5	1
16:15	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0
16:30	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	2	1
16:45	0	0	0	0	0	0	0	0	1	0	0	0	4	0	0	0	5	0
17:00	0	0	0	0	1	0	0	0	3	0	0	0	2	0	0	0	6	0
17:15	0	0	0	0	0	0	1	0	1	0	0	0	4	0	0	0	5	1
17:30	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	2	1
17:45	0	0	0	1	0	0	0	0	2	0	0	0	2	0	0	0	4	1
Ped Total	0				1				9				21				31	
Bike Total		0	2	1		0	1	0		0	0	0		0	1	0		5

Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location:	#05	File Name:	ITM-20-037-05
	Intersection:	N. El Camino Real / Mission Avenue	Project:	LLG Ref. 3-20-3287
	Date of Count:	Wednesday, October 07, 2020		Oceanside



Linscott, Law & Greenspan, Engineers

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

Average Daily Traffic

Location: **Pala Road, between Los Arbolitos Boulevard and Fredricks Avenue**

Date: **Wednesday, October 7, 2020** Total Daily Volume: **1232** Description: **Total Volume**

0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
4	5	3	2	7	25	51	80	53	65	55	64	80	66	90	82	126	120	88	56	42	36	17	15
3	1	0	0	1	3	8	26	18	13	18	21	24	16	28	21	23	46	27	15	14	9	2	1
1	1	0	1	2	4	9	17	16	18	12	13	20	15	19	9	36	18	20	12	11	5	4	8
0	0	1	0	2	11	18	18	10	20	10	12	24	14	19	26	37	29	21	13	9	12	3	4
0	3	2	1	2	7	16	19	9	14	15	18	12	21	24	26	30	27	20	16	8	10	8	2

Date: **Wednesday, October 7, 2020** Total Daily Volume: **621** Description: **Eastbound Volume**

0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
1	4	3	1	5	14	17	28	25	31	21	40	41	34	43	39	67	66	55	28	21	20	7	10
1	1	0	0	1	2	6	9	10	2	5	11	9	7	8	12	13	25	17	8	8	4	0	1
0	1	0	0	2	1	3	4	7	6	6	8	13	8	9	4	16	10	9	7	5	3	4	4
0	0	1	0	1	6	4	8	4	16	4	10	15	9	12	13	21	13	16	4	3	5	1	3
0	2	2	1	1	5	4	7	4	7	6	11	4	10	14	10	17	18	13	9	5	8	2	2

Date: **Wednesday, October 7, 2020** Total Daily Volume: **611** Description: **Westbound Volume**

0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
3	1	0	1	2	11	34	52	28	34	34	24	39	32	47	43	59	54	33	28	21	16	10	5
2	0	0	0	0	1	2	17	8	11	13	10	15	9	20	9	10	21	10	7	6	5	2	0
1	0	0	1	0	3	6	13	9	12	6	5	7	7	10	5	20	8	11	5	6	2	0	4
0	0	0	0	1	5	14	10	6	4	6	2	9	5	7	13	16	16	5	9	6	7	2	1
0	1	0	0	1	2	12	12	5	7	9	7	8	11	10	16	13	9	7	7	3	2	6	0

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

Average Daily Traffic

Location: **Fredricks Avenue, between Los Arbolitos Boulevard and Pala Road**

Date: **Wednesday, October 7, 2020** Total Daily Volume: **1761** Description: **Total Volume**

0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
12	9	3	7	14	39	70	83	69	72	80	99	109	101	103	119	131	157	143	131	73	65	47	25
0	3	1	3	1	5	15	16	19	22	16	28	22	24	20	35	32	41	44	33	20	22	19	4
6	1	1	0	1	9	14	35	13	15	16	25	26	19	18	33	35	42	35	25	17	15	12	4
6	1	0	3	4	16	20	22	23	14	26	21	30	26	33	25	33	40	29	41	14	18	7	13
0	4	1	1	8	9	21	10	14	21	22	25	31	32	32	26	31	34	35	32	22	10	9	4

Date: **Wednesday, October 7, 2020** Total Daily Volume: **903** Description: **Northbound Volume**

0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
7	5	1	1	5	8	15	24	25	25	37	47	65	44	63	71	76	98	85	78	47	31	31	14
0	2	0	1	0	1	5	6	5	7	5	15	13	8	12	22	15	21	28	16	13	11	12	2
3	0	1	0	1	0	1	11	8	5	8	10	17	7	7	19	23	28	20	19	10	8	8	2
4	0	0	0	2	5	4	7	8	4	15	14	15	11	20	13	15	24	16	25	8	8	5	7
0	3	0	0	2	2	5	0	4	9	9	8	20	18	24	17	23	25	21	18	16	4	6	3

Date: **Wednesday, October 7, 2020** Total Daily Volume: **858** Description: **Southbound Volume**

0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
5	4	2	6	9	31	55	59	44	47	43	52	44	57	40	48	55	59	58	53	26	34	16	11
0	1	1	2	1	4	10	10	14	15	11	13	9	16	8	13	17	20	16	17	7	11	7	2
3	1	0	0	0	9	13	24	5	10	8	15	9	12	11	14	12	14	15	6	7	7	4	2
2	1	0	3	2	11	16	15	15	10	11	7	15	15	13	12	18	16	13	16	6	10	2	6
0	1	1	1	6	7	16	10	10	12	13	17	11	14	8	9	8	9	14	14	6	6	3	1

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

Average Daily Traffic

Location: **Los Arbolitos Boulevard, between Pala Road and Frericks Avenue**

Date: **Wednesday, October 7, 2020** Total Daily Volume: **2999** Description: **Total Volume**

0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
12	18	6	11	34	64	128	171	130	148	138	167	162	181	194	212	277	273	222	150	96	95	74	36
4	6	1	0	13	10	24	34	44	39	48	45	40	41	55	48	64	79	61	49	32	27	21	6
4	2	0	2	3	23	16	40	37	29	30	40	32	34	37	50	69	70	58	37	25	18	24	11
1	7	2	4	5	17	40	43	31	43	25	43	60	47	32	62	72	52	51	26	23	25	13	6
3	3	3	5	13	14	48	54	18	37	35	39	30	59	70	52	72	72	52	38	16	25	16	13

Date: **Wednesday, October 7, 2020** Total Daily Volume: **1428** Description: **Northbound Volume**

0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
7	12	3	3	8	17	30	53	46	50	58	87	71	88	98	109	148	158	122	85	57	58	35	25
2	5	0	0	6	4	7	7	15	13	20	21	12	19	20	21	32	49	33	31	19	17	9	4
3	1	0	0	1	5	3	13	14	6	13	18	18	20	18	22	37	39	31	17	17	11	12	11
1	3	1	2	0	4	11	18	10	20	11	22	30	25	23	39	42	26	32	16	9	15	7	3
1	3	2	1	1	4	9	15	7	11	14	26	11	24	37	27	37	44	26	21	12	15	7	7

Date: **Wednesday, October 7, 2020** Total Daily Volume: **1571** Description: **Southbound Volume**

0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
5	6	3	8	26	47	98	118	84	98	80	80	91	93	96	103	129	115	100	65	39	37	39	11
2	1	1	0	7	6	17	27	29	26	28	24	28	22	35	27	32	30	28	18	13	10	12	2
1	1	0	2	2	18	13	27	23	23	17	22	14	14	19	28	32	31	27	20	8	7	12	0
0	4	1	2	5	13	29	25	21	23	14	21	30	22	9	23	30	26	19	10	14	10	6	3
2	0	1	4	12	10	39	39	11	26	21	13	19	35	33	25	35	28	26	17	4	10	9	6

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

Average Daily Traffic

Location: **Los Arbolitos Boulevard. between Fredricks Avenue and N. El Camino Real**

Date: **Wednesday, October 7, 2020** Total Daily Volume: **5806** Description: **Total Volume**

0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
48	26	23	31	43	112	209	267	240	251	254	318	336	340	360	434	515	509	461	377	259	190	119	84
13	8	3	7	7	10	44	53	73	55	70	82	81	87	76	120	118	134	152	114	70	46	36	21
9	2	4	10	7	31	41	85	67	58	55	71	70	65	89	108	123	133	109	81	69	64	28	22
12	9	6	9	11	40	64	75	59	60	71	83	94	91	99	100	135	118	99	94	62	46	35	23
14	7	10	5	18	31	60	54	41	78	58	82	91	97	96	106	139	124	101	88	58	34	20	18

Date: **Wednesday, October 7, 2020** Total Daily Volume: **2740** Description: **Eastbound Volume**

0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
20	8	9	24	39	99	161	195	147	147	132	157	167	162	155	166	201	184	177	146	102	77	44	21
6	2	2	5	6	6	32	36	50	28	33	46	49	38	35	53	49	46	56	45	35	21	12	7
4	1	2	7	5	29	36	62	38	37	33	36	24	35	44	48	38	48	36	34	21	21	10	4
4	3	1	7	11	35	47	58	33	38	39	35	45	45	38	28	63	54	46	36	29	19	14	7
6	2	4	5	17	29	46	39	26	44	27	40	49	44	38	37	51	36	39	31	17	16	8	3

Date: **Wednesday, October 7, 2020** Total Daily Volume: **3066** Description: **Westbound Volume**

0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
28	18	14	7	4	13	48	72	93	104	122	161	169	178	205	268	314	325	284	231	157	113	75	63
7	6	1	2	1	4	12	17	23	27	37	36	32	49	41	67	69	88	96	69	35	25	24	14
5	1	2	3	2	2	5	23	29	21	22	35	46	30	45	60	85	85	73	47	48	43	18	18
8	6	5	2	0	5	17	17	26	22	32	48	49	46	61	72	72	64	53	58	33	27	21	16
8	5	6	0	1	2	14	15	15	34	31	42	42	53	58	69	88	88	62	57	41	18	12	15

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Average Daily Traffic

Location: **N. El Camino Real, between Los Arbolitos Boulevard and Mission Avenue**

Date: **Wednesday, October 7, 2020** Total Daily Volume: **22774** Description: **Total Volume**

0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
117	81	48	86	212	548	989	1356	1188	1061	1099	1248	1325	1360	1552	1646	1883	2049	1662	1146	860	614	392	252
39	22	13	18	20	71	180	261	338	252	236	286	315	337	370	402	436	523	483	312	233	194	113	78
33	28	14	13	44	129	211	368	255	239	302	301	310	346	390	412	438	529	400	293	231	126	101	66
31	20	13	31	71	175	294	355	304	283	297	331	342	344	404	417	488	495	416	275	198	165	105	65
14	11	8	24	77	173	304	372	291	287	264	330	358	333	388	415	521	502	363	266	198	129	73	43

Date: **Wednesday, October 7, 2020** Total Daily Volume: **11221** Description: **Northbound Volume**

0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
84	54	29	19	29	85	191	326	380	387	519	590	658	613	820	934	1101	1253	1012	730	566	381	280	180
28	13	6	9	4	15	33	55	103	93	100	132	163	143	189	210	242	337	305	196	152	120	75	56
24	21	11	3	6	10	45	90	80	83	140	141	165	166	210	235	272	334	239	185	147	83	78	44
20	14	7	4	6	22	48	84	105	111	140	154	159	158	208	263	269	295	232	180	132	96	72	51
12	6	5	3	13	38	65	97	92	100	139	163	171	146	213	226	318	287	236	169	135	82	55	29

Date: **Wednesday, October 7, 2020** Total Daily Volume: **11553** Description: **Southbound Volume**

0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
33	27	19	67	183	463	798	1030	808	674	580	658	667	747	732	712	782	796	650	416	294	233	112	72
11	9	7	9	16	56	147	206	235	159	136	154	152	194	181	192	194	186	178	116	81	74	38	22
9	7	3	10	38	119	166	278	175	156	162	160	145	180	180	177	166	195	161	108	84	43	23	22
11	6	6	27	65	153	246	271	199	172	157	177	183	186	196	154	219	200	184	95	66	69	33	14
2	5	3	21	64	135	239	275	199	187	125	167	187	187	175	189	203	215	127	97	63	47	18	14

Cypress Point

Covid Factor

Segment	Year 2020 (Covid) Counts	Year 2017 (Pre Covid) Counts	Increase %
Los Arbolitos Boulevard			
Pala Road to Fredricks Ave	2,999	6,240	208%
N. El Camino Real			
Los Arbolitos Blvd to Mission Ave	22,774	25,070	110%
Average			**159%**
Use			**160%**

INTERSECTION	DIRECTION	RAW EXISTING						EXISTING (20% GROWTH)					
		Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm
1. Los Arbolitos Boulevard / Pala Road	Sb	0	0	13	12	2	2	0	0	16	14	2	2
	Wb	1	9	1	0	45	60	1	11	1	0	54	72
	Nb	20	74	3	31	0	0	24	89	4	37	0	0
	Eb	0	0	1	0	0	0	0	0	1	0	0	0
2. Fredricks Avenue / Pala Road	Sb	9	6	11	9	4	2	11	7	13	11	5	2
	Wb	2	7	37	58	28	30	2	8	44	70	34	36
	Nb	15	32	3	13	1	5	18	38	4	16	1	6
	Eb	3	0	26	75	3	5	4	0	31	90	4	6
3. Fredricks Avenue / Los Arbolitos Boulevard	Sb	8	6	20	14	73	63	10	7	24	17	88	76
	Wb	19	91	39	151	11	38	23	109	47	181	13	46
	Nb	19	31	4	16	3	3	23	37	5	19	4	4
	Eb	0	8	105	103	3	13	0	10	126	124	4	16
4. N. El Camino Real / Los Arbolitos Boulevard	Sb	27	61	867	651	0	0	32	73	1040	781	0	0
	Wb	0	0	0	0	0	0	0	0	0	0	0	0
	Nb	0	0	216	923	46	227	0	0	259	1108	55	272
	Eb	156	143	0	0	70	162	187	172	0	0	84	194
5. N. El Camino Real / Mission Avenue	Sb	359	214	523	435	85	171	431	257	628	522	102	205
	Wb	28	96	384	309	129	170	34	115	461	371	155	204
	Nb	86	217	164	644	88	184	103	260	197	773	106	221
	Eb	93	168	114	389	94	451	112	202	137	467	113	541

APPENDIX A-1

SIGNAL TIMING PLANS

INTERSECTION: El Camino and Mission

Group Assignment: **NONE**
Field Master Assignment: **NONE**
System Reference Number: **24**

N/S Street Name: **Not Assigned**
E/W Street Name: **Not Assigned**

Last Database Change: **1/22/2018 12:17**

Change Record					
Change	By	Date	Change	By	Date

Notes:

Drop Number	18	<C+0+0>
Zone Number		<C+0+1>
Area Number	1	<C+0+2>
Area Address	24	<C+0+3>
QuicNet Channel	Serial:COM40:	(QuicNet)

Communication Addresses

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

Manual Selection

Max Initial	20	<F+0+E>
Red Revert	2.0	<F+0+F>
All Red Start	5.0	<F+C+0>

Start / Revert Times

Row	Column Numbers ----> / Phase Names ---->	Phase 1	2	3	4	5	6	7	8
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	37	0	48	0	37	0	10
2	Min Green	10	10	10	10	10	10	3	7
3	Type 3 Limit	0	99	0	0	0	99	0	0
4	Added Initial	0.0	2.0	0.0	0.0	0.0	2.0	0.0	1.2
5	Veh Extension	3.0	7.0	3.0	3.0	3.0	7.0	0.5	3.5
6	Max Gap	3.0	9.0	3.0	3.0	3.0	9.0	0.5	5.0
7	Min Gap	3.0	5.0	3.0	3.0	3.0	5.0	0.5	2.0
8	Max Limit	30	50	35	35	35	50	17	40
9	Max Limit 2	30	70	30	70	40	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	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1
D	Reduce Every	0.0	1.0	0.0	0.0	1.0	1.0	1.0	1.0
E	Yellow Change	4.3	4.8	4.8	4.3	4.3	4.8	3.0	4.0
F	Red Clear	3.0	2.0	2.0	2.0	3.0	2.0	0.0	1.0

Phase Timing - Bank 1 <F Page>

Row		E
0	RR-1 Delay	0
1	RR-1 Clear	10
2	EV-A Delay	0
3	EV-A Clear	5
4	EV-B Delay	0
5	EV-B Clear	5
6	EV-C Delay	0
7	EV-C Clear	5
8	EV-D Delay	0
9	EV-D Clear	5
A	RR-2 Delay	0
B	RR-2 Clear	10
C	*View EV Delay*	- - -
D	*View EV Clear*	- - -
E	*View RR Delay*	- - -
F	*View RR Clear*	- - -

Preempt Timing

Row		F
0	Permit	123456__
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	_2___6__
9	Max Recall	_____
A	Soft Recall	_____
B	Max 2	_____
C	Cond. Service	_____
D	Man Cntrl Calls	_____
E	Yellow Start	1___5___
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

(* = Coordination Recall)

Row	Column Numbers ---->	Plan 1	2	3	4	5	6	7	8	9	Row
	Plan Name ---->										
0	Cycle Length	100	100	100	100	100	100	100	100	100	0
1	Phase 1 - ForceOff	65	65	65	65	65	65	65	65	65	1
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0	2
3	Phase 3 - ForceOff	25	25	25	25	25	25	25	25	25	3
4	Phase 4 - ForceOff	40	40	40	40	40	40	40	40	40	4
5	Phase 5 - ForceOff	65	65	65	65	65	65	65	65	65	5
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0	6
7	Phase 7 - ForceOff	25	25	25	25	25	25	25	25	25	7
8	Phase 8 - ForceOff	40	40	40	40	40	40	40	40	40	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	12	12	12	12	12	12	12	12	0	D
E	Hold Release	255	255	255	255	255	255	255	255	0	E
F	Zone Offset	0	0	0	0	0	0	0	0	0	F

Coordination <C Page>

Row		E	Row
0			0
1	Plan 1 - Sync	_2___6__	1
2	Plan 2 - Sync	_2___6__	2
3	Plan 3 - Sync	_2___6__	3
4	Plan 4 - Sync	_2___6__	4
5	Plan 5 - Sync	_2___6__	5
6	Plan 6 - Sync	_2___6__	6
7	Plan 7 - Sync	_2___6__	7
8	Plan 8 - Sync	_2___6__	8
9	Plan 9 - Sync	_2___6__	9
A	Coord Ped *	_____	A
B	NEMA Hold	_____	B
C			C
D			D
E			E
F			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	_____
6	Overlap B - Green Omit	_____
7	Overlap C - Green Omit	_2_4____
8	Overlap D - Green Omit	_____
9	Overlap Yellow Flash	_____
A	EV-A Phases	_2__5___
B	EV-B Phases	___4__7_
C	EV-C Phases	1____6__
D	EV-D Phases	__3____8
E	Extra 1 Config. Bits	1__4____
F	IC Select (Interconnect)	_2_____

Configuration <E Page>

	F
RR Overlap A - Phases	_____
RR Overlap B - Phases	_____
RR Overlap C - Phases	_____
RR Overlap D - Phases	_____
Ped 2P	_2_____
Ped 6P	_____6__
Ped 4P	___4____
Ped 8P	_____
Yellow Flash Phases	_____
Overlap A - Phases	_____
Overlap B - Phases	_____
Overlap C - Phases	1_3_____
Overlap D - Phases	_____
Restricted Phases	_____
Assign 5 Outputs	_____

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
0	Free Lag	1__4_6_8	0
1	Plan 1 - Lag	_2_4_6_8	1
2	Plan 2 - Lag	_2_4_6_8	2
3	Plan 3 - Lag	_2_4_6_8	3
4	Plan 4 - Lag	_2_4_6_8	4
5	Plan 5 - Lag	_2_4_6_8	5
6	Plan 6 - Lag	_2_4_6_8	6
7	Plan 7 - Lag	_2_4_6_8	7
8	Plan 8 - Lag	_2_4_6_8	8
9	Plan 9 - Lag	_2_4_6_8	9
A	Coord Max *	_____	A
B	Coord Lag *	_____	B
C			C
D			D
E			E
F			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
00 : 00	0	_____
00 : 00	0	_____
00 : 00	0	_____
00 : 00	0	_____
00 : 00	0	_____
00 : 00	0	_____
00 : 00	0	_____
00 : 00	0	_____
00 : 00	0	_____
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	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____

Holiday # 1
TOD Coordination
<9 Key with C+D+9=1>

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	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____

Holiday # 2
TOD Coordination
<9 Key with C+D+9=2>

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

Holiday # 3
TOD Coordination
<9 Key with C+D+9=3>

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	Holiday # 1 Date	0	0	0	_____
B	Holiday # 2 Date	0	0	0	_____
C	Holiday # 3 Date	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	Overlap A	0.0	0.0	0.0	0
B	Overlap B	0.0	0.0	0.0	0
C	Overlap C	0.0	0.0	0.0	7
D	Overlap 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		0 Detector Number
0		
1	System Det. # 1	0
2	System Det. # 2	0
3	System Det. # 3	0
4	System Det. # 4	0
5	System Det. # 5	0
6	System Det. # 6	0
7	System Det. # 7	0
8	System Det. # 8	0

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)

Row	Column Numbers ---->	Phase 1	2	3	4	5	6	7	8
	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>

Row	Column Numbers ---->	Phase 1	2	3	4	5	6	7	8	Row
	Phase Names ----->									
0	Ped Walk	0	7	0	7	0	7	0	7	0
1	Ped FDW	0	10	0	10	0	10	0	10	1
2	Min Green	3	7	3	7	3	7	3	7	2
3	Type 3 Limit	0	0	0	0	0	0	0	0	3
4	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2	4
5	Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5	5
6	Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0	6
7	Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0	7
8	Max Limit	17	40	17	40	17	40	17	40	8
9	Max Limit 2	30	70	30	70	30	70	30	70	9
A	- - - - - -	0	0	0	0	0	0	0	0	A
B	Call To Phase	0	0	0	0	0	0	0	0	B
C	Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	C
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	D
E	Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	E
F	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		7 Time	8 Dwell	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output	Row	
0	Delay Only --->	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	**<--- Limited Service Interval** (Set Dwell = 255)
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>

INTERSECTION: El Camino & Los Arbolitos

Group Assignment: **NONE**
Field Master Assignment: **NONE**
System Reference Number: **25**

N/S Street Name: **Not Assigned**
E/W Street Name: **Not Assigned**

Last Database Change: **1/22/2018 12:28**

Change Record					
Change	By	Date	Change	By	Date

Notes:

Drop Number	**20**	<C+0+0>
Zone Number		<C+0+1>
Area Number	**1**	<C+0+2>
Area Address	**25**	<C+0+3>
QuicNet Channel	**Serial:COM40:**	(QuicNet)

Communication Addresses

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

Manual Selection

Max Initial	**30**	<F+0+E>
Red Revert	**2.0**	<F+0+F>
All Red Start	**5.0**	<F+C+0>

Start / Revert Times

Row	Column Numbers ----> / Phase Names ---->	Phase 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	18	0	18	0	10
2	Min Green	0	12	6	6	6	12	3	7
3	Type 3 Limit	0	99	0	0	0	99	0	0
4	Added Initial	0.0	2.0	0.0	0.0	0.0	2.0	0.0	1.2
5	Veh Extension	4.0	6.0	3.0	3.0	4.0	6.0	0.5	3.5
6	Max Gap	3.0	7.0	3.0	3.0	4.0	7.0	0.5	5.0
7	Min Gap	3.0	4.0	3.0	3.0	4.0	4.0	0.5	2.0
8	Max Limit	20	40	15	24	20	40	17	40
9	Max Limit 2	0	40	15	24	0	40	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	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1
D	Reduce Every	0.0	1.5	0.0	0.0	0.0	1.5	1.0	1.0
E	Yellow Change	3.6	4.3	3.6	3.7	4.1	4.3	3.0	4.0
F	Red Clear	1.0	1.5	1.0	1.0	1.0	1.5	0.0	1.0

Phase Timing - Bank 1 <F Page>

	E
RR-1 Delay	0
RR-1 Clear	10
EV-A Delay	0
EV-A Clear	5
EV-B Delay	0
EV-B Clear	5
EV-C Delay	0
EV-C Clear	5
EV-D Delay	0
EV-D Clear	0
RR-2 Delay	0
RR-2 Clear	10
View EV Delay	- - -
View EV Clear	- - -
View RR Delay	- - -
View RR Clear	- - -

Preempt Timing

Row		F
0	Permit	_23456__
1	Red Lock	_____
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	_2___6__
9	Max Recall	_____
A	Soft Recall	_____
B	Max 2	_____
C	Cond. Service	_____
D	Man Cntrl Calls	_____
E	Yellow Start	____5___
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

(* = Coordination Recall)

Row	Column Numbers ---->	Plan 1	2	3	4	5	6	7	8	9	Row
	Plan Name ---->										
0	Cycle Length	100	100	100	100	100	100	100	100	100	0
1	Phase 1 - ForceOff	65	65	65	65	65	65	65	65	65	1
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0	2
3	Phase 3 - ForceOff	25	25	25	25	25	25	25	25	25	3
4	Phase 4 - ForceOff	40	40	40	40	40	40	40	40	40	4
5	Phase 5 - ForceOff	65	65	65	65	65	65	65	65	65	5
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0	6
7	Phase 7 - ForceOff	25	25	25	25	25	25	25	25	25	7
8	Phase 8 - ForceOff	40	40	40	40	40	40	40	40	40	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	12	12	12	12	12	12	12	12	0	D
E	Hold Release	255	255	255	255	255	255	255	255	0	E
F	Zone Offset	0	0	0	0	0	0	0	0	0	F

Coordination <C Page>

Row		E	Row
0			0
1	Plan 1 - Sync	_2___6__	1
2	Plan 2 - Sync	_2___6__	2
3	Plan 3 - Sync	_2___6__	3
4	Plan 4 - Sync	_2___6__	4
5	Plan 5 - Sync	_2___6__	5
6	Plan 6 - Sync	_2___6__	6
7	Plan 7 - Sync	_2___6__	7
8	Plan 8 - Sync	_2___6__	8
9	Plan 9 - Sync	_2___6__	9
A	Coord Ped *	_____	A
B	NEMA Hold	_____	B
C			C
D			D
E			E
F			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	_____
6	Overlap B - Green Omit	_____
7	Overlap C - Green Omit	_____
8	Overlap D - Green Omit	_____
9	Overlap Yellow Flash	_____
A	EV-A Phases	_2__5___
B	EV-B Phases	___4__7_
C	EV-C Phases	_____6__
D	EV-D Phases	_____
E	Extra 1 Config. Bits	1__4____
F	IC Select (Interconnect)	_2_____

Configuration <E Page>

	F
RR Overlap A - Phases	_____
RR Overlap B - Phases	_____
RR Overlap C - Phases	_____
RR Overlap D - Phases	_____
Ped 2P	_____
Ped 6P	____6__
Ped 4P	___4____
Ped 8P	_____
Yellow Flash Phases	_____
Overlap A - Phases	_____
Overlap B - Phases	_____
Overlap C - Phases	_____
Overlap D - Phases	_____
Restricted Phases	_____
Assign 5 Outputs	_____

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	5

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
0	Free Lag	_2_4_6_8	0
1	Plan 1 - Lag	_2_4_6_8	1
2	Plan 2 - Lag	_2_4_6_8	2
3	Plan 3 - Lag	_2_4_6_8	3
4	Plan 4 - Lag	_2_4_6_8	4
5	Plan 5 - Lag	_2_4_6_8	5
6	Plan 6 - Lag	_2_4_6_8	6
7	Plan 7 - Lag	_2_4_6_8	7
8	Plan 8 - Lag	_2_4_6_8	8
9	Plan 9 - Lag	_2_4_6_8	9
A	Coord Max *	_____	A
B	Coord Lag *	_____	B
C			C
D			D
E			E
F			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
00 : 00	0	_____
00 : 00	0	_____
00 : 00	0	_____
00 : 00	0	_____
00 : 00	0	_____
00 : 00	0	_____
00 : 00	0	_____
00 : 00	0	_____
00 : 00	0	_____
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	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____

Holiday # 1
TOD Coordination
<9 Key with C+D+9=1>

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	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____

Holiday # 2
TOD Coordination
<9 Key with C+D+9=2>

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

Holiday # 3
TOD Coordination
<9 Key with C+D+9=3>

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	Holiday # 1 Date	0	0	0	_____
B	Holiday # 2 Date	0	0	0	_____
C	Holiday # 3 Date	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	2.0	0.0		I-5	16
7	2.0	0.0		I-6U	3
8	2.0	0.0		I-6L	7
9	0.0	0.0		I-7U	23
A	0.0	0.0		I-7L	27
B	7.0	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	Overlap A	0.0	0.0	0.0	0
B	Overlap B	0.0	0.0	0.0	0
C	Overlap C	0.0	0.0	0.0	0
D	Overlap 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		0 Detector Number
0		
1	System Det. # 1	0
2	System Det. # 2	0
3	System Det. # 3	0
4	System Det. # 4	0
5	System Det. # 5	0
6	System Det. # 6	0
7	System Det. # 7	0
8	System Det. # 8	0

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)

Row	Column Numbers ---->	Phase 1	2	3	4	5	6	7	8
	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>

Row	Column Numbers ---->	Phase 1	2	3	4	5	6	7	8	Row
	Phase Names ----->									
0	Ped Walk	0	7	0	7	0	7	0	7	0
1	Ped FDW	0	10	0	10	0	10	0	10	1
2	Min Green	3	7	3	7	3	7	3	7	2
3	Type 3 Limit	0	0	0	0	0	0	0	0	3
4	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2	4
5	Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5	5
6	Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0	6
7	Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0	7
8	Max Limit	17	40	17	40	17	40	17	40	8
9	Max Limit 2	30	70	30	70	30	70	30	70	9
A	- - - - - -	0	0	0	0	0	0	0	0	A
B	Call To Phase	0	0	0	0	0	0	0	0	B
C	Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	C
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	D
E	Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	E
F	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		7 Time	8 Dwell	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output	Row	
0	Delay Only --->	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	**<--- Limited**
B		0	0								B	**Service**
C		0	0								C	**Interval**
D		0	0								D	(Set Dwell = 255)
E		0	0								E	
F		0	0								F	

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

APPENDIX B

CITY OF OCEANSIDE CIRCULATION ELEMENT ROADWAY CLASSIFICATION LOS & CAPACITY TABLE

Table 12 – Circulation Element Roadway Classification LOS & Capacity

Class	Lanes	Cross Section [1]	Level of Service (LOS)				
			A	B	C	D	E
Expressway	6	102/160 122/200	30,000	42,000	60,000	70,000	80,000
Expressway	4	102/160 122/200	25,000	35,000	50,000	55,000	60,000
Prime Arterial	6	104/124	25,000	35,000	50,000	55,000	60,000
6-Lane Major Arterial	6	104/124	20,000	28,000	40,000	45,000	50,000
5-Lane Major Arterial [2]	5	102/122	17,500	24,500	35,000	40,000	45,000
4-Lane Major Arterial	4	80/100	15,000	21,000	30,000	35,000	40,000
Secondary Collector (4 lanes with 2-way left turn lane)	4	64/84	10,000	14,000	20,000	25,000	30,000
Secondary Collector (4 lanes without 2-way left-turn lane, with left turn pockets	4	54/74, 60/80	9,000	13,000	18,000	22,000	25,000
Collector (commercial fronting, 2-lanes with 2-way left turn lane) [3]	2	50/70	5,000	7,000	10,000	13,000	15,000
Collector (residential streets in the Circulation Element or industrial fronting)	2	40/60, 50/70	4,000	5,500	7,500	9,000	10,000
Local Street (residential streets NOT in the Circulation Element	1	36/56, 40/60	–	–	2,400	–	–

(1) Cross sections are listed as curd-to-curb width/total right of way width, in feet.

(2) Vandegrift Boulevard is the only Circulation Element roadway designated as a 5-lane Major Arterial. It is not intended that other roadways be build to 5-lane Major Arterial standards.

(3) This capacity will also be assumed for a two-lane one-way collector.

APPENDIX C

PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS – EXISTING CONDITIONS

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	54	1	4	24	2	16
Future Volume (Veh/h)	54	1	4	24	2	16
Sign Control	Free		Stop			Stop
Grade	0%		0%			0%
Peak Hour Factor	0.65	0.65	0.52	0.52	0.54	0.54
Hourly flow rate (vph)	83	2	8	46	4	30
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL					
Median storage veh)	2					
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0		168	0	217	167
vC1, stage 1 conf vol			0		167	167
vC2, stage 2 conf vol			168		50	0
vCu, unblocked vol	0		168	0	217	167
tC, single (s)	4.1		6.5	6.2	7.1	6.5
tC, 2 stage (s)			5.5		6.1	5.5
tF (s)	2.2		4.0	3.3	3.5	4.0
p0 queue free %	95		99	96	99	96
cM capacity (veh/h)	1623		703	1085	745	703

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	85	54	34
Volume Left	83	0	4
Volume Right	2	46	0
cSH	1623	1004	707
Volume to Capacity	0.05	0.05	0.05
Queue Length 95th (ft)	4	4	4
Control Delay (s)	7.2	8.8	10.3
Lane LOS	A	A	B
Approach Delay (s)	7.2	8.8	10.3
Approach LOS		A	B

Intersection Summary			
Average Delay	8.3		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	31	4	34	44	2	1	4	18	5	13	11
Future Vol, veh/h	4	31	4	34	44	2	1	4	18	5	13	11
Peak Hour Factor	0.89	0.89	0.89	0.80	0.80	0.80	0.68	0.68	0.68	0.75	0.75	0.75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	35	4	43	55	3	1	6	26	7	17	15
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	7.6	8	7	7.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	4%	100%	0%	100%	0%	17%
Vol Thru, %	17%	0%	89%	0%	96%	45%
Vol Right, %	78%	0%	11%	0%	4%	38%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	23	4	35	34	46	29
LT Vol	1	4	0	34	0	5
Through Vol	4	0	31	0	44	13
RT Vol	18	0	4	0	2	11
Lane Flow Rate	34	4	39	42	58	39
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.036	0.007	0.051	0.061	0.074	0.044
Departure Headway (Hd)	3.867	5.213	4.632	5.184	4.652	4.128
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	931	683	768	689	768	872
Service Time	1.868	2.974	2.393	2.927	2.395	2.129
HCM Lane V/C Ratio	0.037	0.006	0.051	0.061	0.076	0.045
HCM Control Delay	7	8	7.6	8.3	7.8	7.3
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0	0.2	0.2	0.2	0.1

Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	126	0	13	47	23	4	5	23	88	24	10
Future Vol, veh/h	4	126	0	13	47	23	4	5	23	88	24	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	82	82	82	81	81	81	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	140	0	16	57	28	5	6	28	114	31	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	85	0	0	140	0	0	273	265	140	268	251	71
Stage 1	-	-	-	-	-	-	148	148	-	103	103	-
Stage 2	-	-	-	-	-	-	125	117	-	165	148	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1512	-	-	1443	-	-	679	640	908	685	652	991
Stage 1	-	-	-	-	-	-	855	775	-	903	810	-
Stage 2	-	-	-	-	-	-	879	799	-	837	775	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1512	-	-	1443	-	-	638	630	908	651	642	991
Mov Cap-2 Maneuver	-	-	-	-	-	-	638	630	-	651	642	-
Stage 1	-	-	-	-	-	-	852	773	-	900	800	-
Stage 2	-	-	-	-	-	-	824	789	-	802	773	-

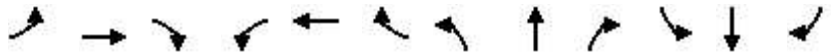
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	1.2	9.7	12.1
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	809	1512	-	-	1443	-	-	668
HCM Lane V/C Ratio	0.049	0.003	-	-	0.011	-	-	0.237
HCM Control Delay (s)	9.7	7.4	0	-	7.5	0	-	12.1
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	84	187	55	259	1040	32
Future Volume (veh/h)	84	187	55	259	1040	32
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	100	223	61	288	1169	36
Peak Hour Factor	0.84	0.84	0.90	0.90	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	331	387	104	2205	1637	50
Arrive On Green	0.19	0.19	0.06	0.62	0.47	0.47
Sat Flow, veh/h	1781	1585	1781	3647	3613	108
Grp Volume(v), veh/h	100	223	61	288	590	615
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1851
Q Serve(g_s), s	2.2	5.7	1.6	1.6	12.4	12.4
Cycle Q Clear(g_c), s	2.2	5.7	1.6	1.6	12.4	12.4
Prop In Lane	1.00	1.00	1.00			0.06
Lane Grp Cap(c), veh/h	331	387	104	2205	826	861
V/C Ratio(X)	0.30	0.58	0.58	0.13	0.71	0.71
Avail Cap(c_a), veh/h	1151	1117	652	3902	1129	1176
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.3	15.4	21.3	3.6	9.9	10.0
Incr Delay (d2), s/veh	0.5	1.4	5.1	0.0	1.4	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	0.9	0.1	0.7	0.3	3.9	4.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	16.8	16.8	26.4	3.7	11.3	11.3
LnGrp LOS	B	B	C	A	B	B
Approach Vol, veh/h	323			349	1205	
Approach Delay, s/veh	16.8			7.6	11.3	
Approach LOS	B			A	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		33.3		13.1	7.2	26.1
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		51.0		30.0	17.0	29.5
Max Q Clear Time (g_c+I1), s		3.6		7.7	3.6	14.4
Green Ext Time (p_c), s		2.1		1.0	0.1	7.2

Intersection Summary		
HCM 6th Ctrl Delay		11.6
HCM 6th LOS		B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	137	112	155	461	34	106	197	103	102	628	431
Future Volume (veh/h)	113	137	112	155	461	34	106	197	103	102	628	431
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	133	161	0	170	507	37	117	237	120	115	706	484
Peak Hour Factor	0.85	0.85	0.85	0.91	0.91	0.91	0.86	0.86	0.86	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	691		266	698	51	152	1546	777	149	1464	753
Arrive On Green	0.06	0.19	0.00	0.08	0.21	0.21	0.09	0.41	0.41	0.08	0.41	0.41
Sat Flow, veh/h	3456	3554	1585	3456	3359	245	1781	3741	1585	1781	3554	1585
Grp Volume(v), veh/h	133	161	0	170	268	276	117	237	120	115	706	484
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1826	1781	1870	1585	1781	1777	1585
Q Serve(g_s), s	2.9	3.0	0.0	3.7	10.9	11.0	5.0	3.1	3.2	4.9	11.3	17.9
Cycle Q Clear(g_c), s	2.9	3.0	0.0	3.7	10.9	11.0	5.0	3.1	3.2	4.9	11.3	17.9
Prop In Lane	1.00		1.00	1.00		0.13	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	219	691		266	369	379	152	1546	777	149	1464	753
V/C Ratio(X)	0.61	0.23		0.64	0.72	0.73	0.77	0.15	0.15	0.77	0.48	0.64
Avail Cap(c_a), veh/h	845	1464		845	732	752	436	1546	777	436	1464	753
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.4	26.4	0.0	34.8	28.7	28.7	34.8	14.3	10.9	34.9	16.8	15.4
Incr Delay (d2), s/veh	2.7	0.2	0.0	2.6	2.7	2.7	8.0	0.2	0.4	8.1	1.1	4.2
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	1.3	1.2	0.0	1.6	4.8	4.9	2.4	1.3	1.1	2.4	4.6	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.1	26.6	0.0	37.4	31.4	31.4	42.8	14.5	11.4	42.9	17.9	19.6
LnGrp LOS	D	C		D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		294	A		714			474			1305	
Approach Delay, s/veh		31.8			32.8			20.7			20.7	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	36.6	10.5	19.6	11.1	36.5	9.4	20.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	19.0	32.0	19.0	32.0	19.0	32.0	19.0	32.0
Max Q Clear Time (g_c+I1), s	6.9	5.2	5.7	5.0	7.0	19.9	4.9	13.0
Green Ext Time (p_c), s	0.2	1.9	0.4	1.0	0.2	5.4	0.3	3.2

Intersection Summary	
HCM 6th Ctrl Delay	25.0
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	72	11	37	89	2	14
Future Volume (Veh/h)	72	11	37	89	2	14
Sign Control	Free		Stop			Stop
Grade	0%		0%			0%
Peak Hour Factor	0.82	0.82	0.88	0.88	0.58	0.58
Hourly flow rate (vph)	88	13	42	101	3	24
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL					
Median storage veh)	2					
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0		189	0	304	182
vC1, stage 1 conf vol			0		182	182
vC2, stage 2 conf vol			189		122	0
vCu, unblocked vol	0		189	0	304	182
tC, single (s)	4.1		6.5	6.2	7.1	6.5
tC, 2 stage (s)			5.5		6.1	5.5
tF (s)	2.2		4.0	3.3	3.5	4.0
p0 queue free %	95		94	91	100	97
cM capacity (veh/h)	1623		686	1085	635	689

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	101	143	27
Volume Left	88	0	3
Volume Right	13	101	0
cSH	1623	927	683
Volume to Capacity	0.05	0.15	0.04
Queue Length 95th (ft)	4	14	3
Control Delay (s)	6.5	9.6	10.5
Lane LOS	A	A	B
Approach Delay (s)	6.5	9.6	10.5
Approach LOS		A	B

Intersection Summary			
Average Delay	8.5		
Intersection Capacity Utilization	18.7%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	90	0	36	70	8	6	16	38	2	11	7
Future Vol, veh/h	6	90	0	36	70	8	6	16	38	2	11	7
Peak Hour Factor	0.83	0.83	0.83	0.91	0.91	0.91	0.96	0.96	0.96	0.53	0.53	0.53
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	108	0	40	77	9	6	17	40	4	21	13
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	8.4	8.2	7.5	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	10%	100%	0%	100%	0%	10%
Vol Thru, %	27%	0%	100%	0%	90%	55%
Vol Right, %	63%	0%	0%	0%	10%	35%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	60	6	90	36	78	20
LT Vol	6	6	0	36	0	2
Through Vol	16	0	90	0	70	11
RT Vol	38	0	0	0	8	7
Lane Flow Rate	62	7	108	40	86	38
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.073	0.011	0.144	0.058	0.112	0.046
Departure Headway (Hd)	4.207	5.28	4.778	5.273	4.7	4.403
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	856	670	741	671	753	817
Service Time	2.209	3.077	2.575	3.066	2.492	2.407
HCM Lane V/C Ratio	0.072	0.01	0.146	0.06	0.114	0.047
HCM Control Delay	7.5	8.1	8.4	8.4	8.1	7.6
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.2	0	0.5	0.2	0.4	0.1

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	16	124	10	46	181	109	4	19	37	76	17	7
Future Vol, veh/h	16	124	10	46	181	109	4	19	37	76	17	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	92	92	92	74	74	74	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	132	11	50	197	118	5	26	50	92	20	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	315	0	0	143	0	0	542	587	138	566	533	256
Stage 1	-	-	-	-	-	-	172	172	-	356	356	-
Stage 2	-	-	-	-	-	-	370	415	-	210	177	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1245	-	-	1440	-	-	451	422	910	435	453	783
Stage 1	-	-	-	-	-	-	830	756	-	661	629	-
Stage 2	-	-	-	-	-	-	650	592	-	792	753	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1245	-	-	1440	-	-	411	398	910	374	427	783
Mov Cap-2 Maneuver	-	-	-	-	-	-	411	398	-	374	427	-
Stage 1	-	-	-	-	-	-	818	745	-	651	602	-
Stage 2	-	-	-	-	-	-	594	567	-	712	742	-

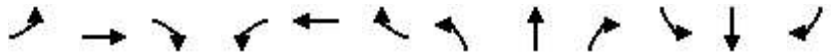
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	1	11.8	18
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	611	1245	-	-	1440	-	-	397
HCM Lane V/C Ratio	0.133	0.014	-	-	0.035	-	-	0.303
HCM Control Delay (s)	11.8	7.9	0	-	7.6	0	-	18
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	194	172	272	1108	781	73
Future Volume (veh/h)	194	172	272	1108	781	73
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	220	195	286	1166	898	84
Peak Hour Factor	0.88	0.88	0.95	0.95	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	314	592	351	2335	1238	116
Arrive On Green	0.18	0.18	0.20	0.66	0.38	0.38
Sat Flow, veh/h	1781	1585	1781	3647	3378	307
Grp Volume(v), veh/h	220	195	286	1166	486	496
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1815
Q Serve(g_s), s	6.3	4.7	8.3	9.1	12.7	12.7
Cycle Q Clear(g_c), s	6.3	4.7	8.3	9.1	12.7	12.7
Prop In Lane	1.00	1.00	1.00			0.17
Lane Grp Cap(c), veh/h	314	592	351	2335	670	684
V/C Ratio(X)	0.70	0.33	0.82	0.50	0.73	0.73
Avail Cap(c_a), veh/h	989	1192	561	3355	970	991
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.9	12.1	20.8	4.7	14.4	14.4
Incr Delay (d2), s/veh	2.8	0.3	5.0	0.2	1.5	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.1	3.6	2.0	4.6	4.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	23.7	12.4	25.7	4.9	16.0	15.9
LnGrp LOS	C	B	C	A	B	B
Approach Vol, veh/h	415			1452	982	
Approach Delay, s/veh	18.4			9.0	15.9	
Approach LOS	B			A	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		40.0		14.0	15.1	24.9
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		51.0		30.0	17.0	29.5
Max Q Clear Time (g_c+I1), s		11.1		8.3	10.3	14.7
Green Ext Time (p_c), s		11.4		1.3	0.5	5.7

Intersection Summary		
HCM 6th Ctrl Delay		12.8
HCM 6th LOS		B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	541	467	202	204	371	115	221	773	260	205	522	257
Future Volume (veh/h)	541	467	202	204	371	115	221	773	260	205	522	257
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	601	519	0	227	412	128	240	840	283	225	574	282
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	621	1017		304	520	160	272	1163	632	258	1076	765
Arrive On Green	0.18	0.29	0.00	0.09	0.19	0.19	0.15	0.31	0.31	0.14	0.30	0.30
Sat Flow, veh/h	3456	3554	1585	3456	2676	823	1781	3741	1585	1781	3554	1585
Grp Volume(v), veh/h	601	519	0	227	272	268	240	840	283	225	574	282
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1722	1781	1870	1585	1781	1777	1585
Q Serve(g_s), s	18.2	12.9	0.0	6.8	15.4	15.7	13.9	21.1	13.8	13.1	14.2	11.8
Cycle Q Clear(g_c), s	18.2	12.9	0.0	6.8	15.4	15.7	13.9	21.1	13.8	13.1	14.2	11.8
Prop In Lane	1.00		1.00	1.00		0.48	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	621	1017		304	345	335	272	1163	632	258	1076	765
V/C Ratio(X)	0.97	0.51		0.75	0.79	0.80	0.88	0.72	0.45	0.87	0.53	0.37
Avail Cap(c_a), veh/h	621	1076		621	538	521	320	1163	632	320	1076	765
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.0	31.5	0.0	47.0	40.5	40.6	43.8	32.4	23.2	44.3	30.6	17.2
Incr Delay (d2), s/veh	28.0	0.4	0.0	3.7	4.2	4.9	21.5	3.9	2.3	19.3	1.9	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.1	5.5	0.0	3.1	7.1	7.0	7.7	10.0	5.5	7.1	6.3	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.1	31.9	0.0	50.7	44.7	45.5	65.3	36.3	25.5	63.5	32.5	18.6
LnGrp LOS	E	C		D	D	D	E	D	C	E	C	B
Approach Vol, veh/h		1120	A		767			1363			1081	
Approach Delay, s/veh		52.9			46.7			39.1			35.3	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.8	37.4	13.8	34.8	20.6	36.5	23.5	25.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.3	32.0	19.0	32.0	19.0	32.0	19.0	32.0
Max Q Clear Time (g_c+I1), s	15.1	23.1	8.8	14.9	15.9	16.2	20.2	17.7
Green Ext Time (p_c), s	0.2	4.4	0.5	3.2	0.2	4.5	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	43.1
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

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

APPENDIX D

PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS – EXISTING + PROJECT

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	54	4	6	24	8	20
Future Volume (Veh/h)	54	4	6	24	8	20
Sign Control	Free		Stop			Stop
Grade	0%		0%			0%
Peak Hour Factor	0.65	0.65	0.52	0.52	0.54	0.54
Hourly flow rate (vph)	83	6	12	46	15	37
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL					
Median storage veh)	2					
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0		172	0	221	169
vC1, stage 1 conf vol			0		169	169
vC2, stage 2 conf vol			172		52	0
vCu, unblocked vol	0		172	0	221	169
tC, single (s)	4.1		6.5	6.2	7.1	6.5
tC, 2 stage (s)			5.5		6.1	5.5
tF (s)	2.2		4.0	3.3	3.5	4.0
p0 queue free %	95		98	96	98	95
cM capacity (veh/h)	1623		700	1085	741	701

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	89	58	52
Volume Left	83	0	15
Volume Right	6	46	0
cSH	1623	974	712
Volume to Capacity	0.05	0.06	0.07
Queue Length 95th (ft)	4	5	6
Control Delay (s)	6.9	8.9	10.5
Lane LOS	A	A	B
Approach Delay (s)	6.9	8.9	10.5
Approach LOS		A	B

Intersection Summary			
Average Delay	8.4		
Intersection Capacity Utilization	18.1%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	38	7	34	47	2	2	4	18	5	13	11
Future Vol, veh/h	4	38	7	34	47	2	2	4	18	5	13	11
Peak Hour Factor	0.89	0.89	0.89	0.80	0.80	0.80	0.68	0.68	0.68	0.75	0.75	0.75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	43	8	43	59	3	3	6	26	7	17	15
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	7.7	8	7.1	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	8%	100%	0%	100%	0%	17%
Vol Thru, %	17%	0%	84%	0%	96%	45%
Vol Right, %	75%	0%	16%	0%	4%	38%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	4	45	34	49	29
LT Vol	2	4	0	34	0	5
Through Vol	4	0	38	0	47	13
RT Vol	18	0	7	0	2	11
Lane Flow Rate	35	4	51	42	61	39
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.039	0.007	0.065	0.061	0.079	0.045
Departure Headway (Hd)	3.929	5.217	4.607	5.191	4.662	4.164
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	916	681	771	687	765	865
Service Time	1.931	2.986	2.375	2.943	2.413	2.166
HCM Lane V/C Ratio	0.038	0.006	0.066	0.061	0.08	0.045
HCM Control Delay	7.1	8	7.7	8.3	7.8	7.4
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0	0.2	0.2	0.3	0.1

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	145	0	13	55	24	4	5	23	91	24	10
Future Vol, veh/h	4	145	0	13	55	24	4	5	23	91	24	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	82	82	82	81	81	81	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	161	0	16	67	29	5	6	28	118	31	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	96	0	0	161	0	0	305	297	161	300	283	82
Stage 1	-	-	-	-	-	-	169	169	-	114	114	-
Stage 2	-	-	-	-	-	-	136	128	-	186	169	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1498	-	-	1418	-	-	647	615	884	652	626	978
Stage 1	-	-	-	-	-	-	833	759	-	891	801	-
Stage 2	-	-	-	-	-	-	867	790	-	816	759	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1498	-	-	1418	-	-	607	606	884	619	617	978
Mov Cap-2 Maneuver	-	-	-	-	-	-	607	606	-	619	617	-
Stage 1	-	-	-	-	-	-	831	757	-	888	791	-
Stage 2	-	-	-	-	-	-	812	781	-	781	757	-

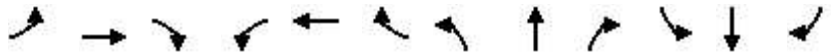
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	1.1	9.8	12.6
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	783	1498	-	-	1418	-	-	637
HCM Lane V/C Ratio	0.05	0.003	-	-	0.011	-	-	0.255
HCM Control Delay (s)	9.8	7.4	0	-	7.6	0	-	12.6
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	84	207	64	259	1040	32
Future Volume (veh/h)	84	207	64	259	1040	32
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	100	246	71	288	1169	36
Peak Hour Factor	0.84	0.84	0.90	0.90	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	352	415	113	2186	1612	50
Arrive On Green	0.20	0.20	0.06	0.62	0.46	0.46
Sat Flow, veh/h	1781	1585	1781	3647	3613	108
Grp Volume(v), veh/h	100	246	71	288	590	615
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1851
Q Serve(g_s), s	2.3	6.5	1.9	1.6	13.0	13.0
Cycle Q Clear(g_c), s	2.3	6.5	1.9	1.6	13.0	13.0
Prop In Lane	1.00	1.00	1.00			0.06
Lane Grp Cap(c), veh/h	352	415	113	2186	814	848
V/C Ratio(X)	0.28	0.59	0.63	0.13	0.73	0.73
Avail Cap(c_a), veh/h	1110	1089	629	3766	1089	1134
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.4	15.5	22.0	3.9	10.6	10.6
Incr Delay (d2), s/veh	0.4	1.4	5.6	0.0	1.6	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.2	0.9	0.4	4.2	4.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	16.8	16.9	27.5	3.9	12.2	12.2
LnGrp LOS	B	B	C	A	B	B
Approach Vol, veh/h	346			359	1205	
Approach Delay, s/veh	16.9			8.6	12.2	
Approach LOS	B			A	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		34.1		14.0	7.6	26.5
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		51.0		30.0	17.0	29.5
Max Q Clear Time (g_c+I1), s		3.6		8.5	3.9	15.0
Green Ext Time (p_c), s		2.1		1.1	0.1	7.1

Intersection Summary	
HCM 6th Ctrl Delay	12.4
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	137	112	155	461	38	106	197	103	111	628	443
Future Volume (veh/h)	118	137	112	155	461	38	106	197	103	111	628	443
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	139	161	0	170	507	42	117	237	120	125	706	498
Peak Hour Factor	0.85	0.85	0.85	0.91	0.91	0.91	0.86	0.86	0.86	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	226	703		265	694	57	152	1521	766	161	1464	757
Arrive On Green	0.07	0.20	0.00	0.08	0.21	0.21	0.09	0.41	0.41	0.09	0.41	0.41
Sat Flow, veh/h	3456	3554	1585	3456	3323	275	1781	3741	1585	1781	3554	1585
Grp Volume(v), veh/h	139	161	0	170	270	279	117	237	120	125	706	498
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1821	1781	1870	1585	1781	1777	1585
Q Serve(g_s), s	3.1	3.0	0.0	3.8	11.2	11.2	5.1	3.2	3.3	5.4	11.5	18.8
Cycle Q Clear(g_c), s	3.1	3.0	0.0	3.8	11.2	11.2	5.1	3.2	3.3	5.4	11.5	18.8
Prop In Lane	1.00		1.00	1.00		0.15	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	226	703		265	371	380	152	1521	766	161	1464	757
V/C Ratio(X)	0.61	0.23		0.64	0.73	0.73	0.77	0.16	0.16	0.78	0.48	0.66
Avail Cap(c_a), veh/h	834	1445		834	722	740	430	1521	766	430	1464	757
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.8	26.5	0.0	35.3	29.1	29.1	35.3	14.8	11.4	35.0	17.0	15.7
Incr Delay (d2), s/veh	2.7	0.2	0.0	2.6	2.8	2.7	8.0	0.2	0.4	7.7	1.1	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.3	0.0	1.6	4.9	5.0	2.5	1.3	1.2	2.6	4.6	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.5	26.7	0.0	37.9	31.8	31.8	43.3	15.0	11.8	42.7	18.1	20.1
LnGrp LOS	D	C		D	C	C	D	B	B	D	B	C
Approach Vol, veh/h		300	A		719			474			1329	
Approach Delay, s/veh		32.2			33.3			21.2			21.2	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.6	36.5	10.5	20.1	11.2	36.9	9.7	20.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	19.0	32.0	19.0	32.0	19.0	32.0	19.0	32.0
Max Q Clear Time (g_c+I1), s	7.1	5.3	5.8	5.0	7.1	20.8	5.1	13.2
Green Ext Time (p_c), s	0.2	1.9	0.4	1.0	0.2	5.1	0.3	3.2

Intersection Summary	
HCM 6th Ctrl Delay	25.4
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	72	18	43	89	5	16
Future Volume (Veh/h)	72	18	43	89	5	16
Sign Control	Free		Stop			Stop
Grade	0%		0%			0%
Peak Hour Factor	0.82	0.82	0.88	0.88	0.58	0.58
Hourly flow rate (vph)	88	22	49	101	9	28
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL					
Median storage veh)	2					
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0		198	0	312	187
vC1, stage 1 conf vol			0		187	187
vC2, stage 2 conf vol			198		126	0
vCu, unblocked vol	0		198	0	312	187
tC, single (s)	4.1		6.5	6.2	7.1	6.5
tC, 2 stage (s)			5.5		6.1	5.5
tF (s)	2.2		4.0	3.3	3.5	4.0
p0 queue free %	95		93	91	99	96
cM capacity (veh/h)	1623		680	1085	626	686

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	110	150	37
Volume Left	88	0	9
Volume Right	22	101	0
cSH	1623	908	671
Volume to Capacity	0.05	0.17	0.06
Queue Length 95th (ft)	4	15	4
Control Delay (s)	6.0	9.7	10.7
Lane LOS	A	A	B
Approach Delay (s)	6.0	9.7	10.7
Approach LOS		A	B

Intersection Summary			
Average Delay	8.5		
Intersection Capacity Utilization	19.5%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	94	2	36	79	8	10	16	38	2	11	7
Future Vol, veh/h	6	94	2	36	79	8	10	16	38	2	11	7
Peak Hour Factor	0.83	0.83	0.83	0.91	0.91	0.91	0.96	0.96	0.96	0.53	0.53	0.53
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	113	2	40	87	9	10	17	40	4	21	13
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	8.5	8.3	7.7	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	16%	100%	0%	100%	0%	10%
Vol Thru, %	25%	0%	98%	0%	91%	55%
Vol Right, %	59%	0%	2%	0%	9%	35%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	64	6	96	36	87	20
LT Vol	10	6	0	36	0	2
Through Vol	16	0	94	0	79	11
RT Vol	38	0	2	0	8	7
Lane Flow Rate	67	7	116	40	96	38
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.079	0.011	0.157	0.059	0.128	0.047
Departure Headway (Hd)	4.281	5.4	4.884	5.386	4.819	4.448
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	839	666	739	669	748	807
Service Time	2.298	3.103	2.586	3.088	2.522	2.466
HCM Lane V/C Ratio	0.08	0.011	0.157	0.06	0.128	0.047
HCM Control Delay	7.7	8.2	8.5	8.4	8.2	7.7
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0	0.6	0.2	0.4	0.1

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	16	134	10	46	205	113	4	19	37	78	17	7
Future Vol, veh/h	16	134	10	46	205	113	4	19	37	78	17	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	92	92	92	74	74	74	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	143	11	50	223	123	5	26	50	94	20	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	346	0	0	154	0	0	582	629	149	606	573	285
Stage 1	-	-	-	-	-	-	183	183	-	385	385	-
Stage 2	-	-	-	-	-	-	399	446	-	221	188	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1213	-	-	1426	-	-	424	399	898	409	430	754
Stage 1	-	-	-	-	-	-	819	748	-	638	611	-
Stage 2	-	-	-	-	-	-	627	574	-	781	745	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1213	-	-	1426	-	-	385	376	898	350	405	754
Mov Cap-2 Maneuver	-	-	-	-	-	-	385	376	-	350	405	-
Stage 1	-	-	-	-	-	-	807	737	-	628	584	-
Stage 2	-	-	-	-	-	-	572	549	-	701	734	-

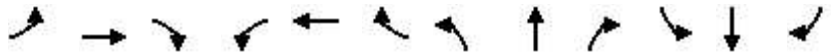
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	1	12.1	19.4
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	588	1213	-	-	1426	-	-	372
HCM Lane V/C Ratio	0.138	0.014	-	-	0.035	-	-	0.33
HCM Control Delay (s)	12.1	8	0	-	7.6	0	-	19.4
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	1.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	194	183	298	1108	781	73
Future Volume (veh/h)	194	183	298	1108	781	73
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	220	208	314	1166	898	84
Peak Hour Factor	0.88	0.88	0.95	0.95	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	313	613	377	2358	1221	114
Arrive On Green	0.18	0.18	0.21	0.66	0.37	0.37
Sat Flow, veh/h	1781	1585	1781	3647	3378	307
Grp Volume(v), veh/h	220	208	314	1166	486	496
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1815
Q Serve(g_s), s	6.5	5.2	9.4	9.2	13.2	13.2
Cycle Q Clear(g_c), s	6.5	5.2	9.4	9.2	13.2	13.2
Prop In Lane	1.00	1.00	1.00			0.17
Lane Grp Cap(c), veh/h	313	613	377	2358	661	675
V/C Ratio(X)	0.70	0.34	0.83	0.49	0.74	0.74
Avail Cap(c_a), veh/h	955	1185	541	3240	937	957
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.7	12.1	21.1	4.7	15.2	15.2
Incr Delay (d2), s/veh	2.9	0.3	7.4	0.2	1.8	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.1	4.4	2.1	4.9	5.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.6	12.4	28.6	4.9	17.0	17.0
LnGrp LOS	C	B	C	A	B	B
Approach Vol, veh/h	428			1480	982	
Approach Delay, s/veh	18.7			9.9	17.0	
Approach LOS	B			A	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		41.6		14.3	16.3	25.3
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		51.0		30.0	17.0	29.5
Max Q Clear Time (g_c+I1), s		11.2		8.5	11.4	15.2
Green Ext Time (p_c), s		11.4		1.3	0.5	5.6

Intersection Summary	
HCM 6th Ctrl Delay	13.6
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	556	467	202	204	371	126	221	773	260	210	522	263
Future Volume (veh/h)	556	467	202	204	371	126	221	773	260	210	522	263
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	618	519	0	227	412	140	240	840	283	231	574	289
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	618	1028		303	518	174	272	1144	624	263	1070	761
Arrive On Green	0.18	0.29	0.00	0.09	0.20	0.20	0.15	0.31	0.31	0.15	0.30	0.30
Sat Flow, veh/h	3456	3554	1585	3456	2611	878	1781	3741	1585	1781	3554	1585
Grp Volume(v), veh/h	618	519	0	227	279	273	240	840	283	231	574	289
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1712	1781	1870	1585	1781	1777	1585
Q Serve(g_s), s	19.0	12.9	0.0	6.8	15.9	16.2	14.0	21.4	14.0	13.5	14.3	12.3
Cycle Q Clear(g_c), s	19.0	12.9	0.0	6.8	15.9	16.2	14.0	21.4	14.0	13.5	14.3	12.3
Prop In Lane	1.00		1.00	1.00		0.51	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	618	1028		303	352	339	272	1144	624	263	1070	761
V/C Ratio(X)	1.00	0.51		0.75	0.79	0.80	0.88	0.73	0.45	0.88	0.54	0.38
Avail Cap(c_a), veh/h	618	1070		618	535	516	318	1144	624	318	1070	761
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.6	31.4	0.0	47.3	40.5	40.6	44.1	33.0	23.8	44.4	31.0	17.6
Incr Delay (d2), s/veh	36.3	0.4	0.0	3.7	4.6	5.4	21.7	4.2	2.4	20.4	1.9	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.1	5.6	0.0	3.1	7.3	7.3	7.8	10.2	5.6	7.4	6.4	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.9	31.8	0.0	51.0	45.1	46.0	65.8	37.2	26.1	64.8	32.9	19.0
LnGrp LOS	F	C		D	D	D	E	D	C	E	C	B
Approach Vol, veh/h		1137	A		779			1363			1094	
Approach Delay, s/veh		58.0			47.2			40.0			36.0	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.2	37.0	13.8	35.2	20.7	36.5	23.5	25.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.5	32.0	19.0	32.0	19.0	32.0	19.0	32.0
Max Q Clear Time (g_c+I1), s	15.5	23.4	8.8	14.9	16.0	16.3	21.0	18.2
Green Ext Time (p_c), s	0.2	4.4	0.5	3.2	0.2	4.5	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	44.9
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

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

APPENDIX E

PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS – NEAR TERM

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	59	1	4	31	2	16
Future Volume (Veh/h)	59	1	4	31	2	16
Sign Control	Free		Stop			Stop
Grade	0%		0%			0%
Peak Hour Factor	0.65	0.65	0.52	0.52	0.54	0.54
Hourly flow rate (vph)	91	2	8	60	4	30
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL					
Median storage veh)	2					
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0		184	0	247	183
vC1, stage 1 conf vol			0		183	183
vC2, stage 2 conf vol			184		64	0
vCu, unblocked vol	0		184	0	247	183
tC, single (s)	4.1		6.5	6.2	7.1	6.5
tC, 2 stage (s)			5.5		6.1	5.5
tF (s)	2.2		4.0	3.3	3.5	4.0
p0 queue free %	94		99	94	99	96
cM capacity (veh/h)	1623		688	1085	716	688

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	93	68	34
Volume Left	91	0	4
Volume Right	2	60	0
cSH	1623	1016	691
Volume to Capacity	0.06	0.07	0.05
Queue Length 95th (ft)	4	5	4
Control Delay (s)	7.2	8.8	10.5
Lane LOS	A	A	B
Approach Delay (s)	7.2	8.8	10.5
Approach LOS		A	B

Intersection Summary			
Average Delay	8.3		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	38	4	34	49	2	1	4	18	5	13	11
Future Vol, veh/h	4	38	4	34	49	2	1	4	18	5	13	11
Peak Hour Factor	0.89	0.89	0.89	0.80	0.80	0.80	0.68	0.68	0.68	0.75	0.75	0.75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	43	4	43	61	3	1	6	26	7	17	15
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	7.7	8	7.1	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	4%	100%	0%	100%	0%	17%
Vol Thru, %	17%	0%	90%	0%	96%	45%
Vol Right, %	78%	0%	10%	0%	4%	38%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	23	4	42	34	51	29
LT Vol	1	4	0	34	0	5
Through Vol	4	0	38	0	49	13
RT Vol	18	0	4	0	2	11
Lane Flow Rate	34	4	47	42	64	39
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.037	0.007	0.061	0.061	0.083	0.045
Departure Headway (Hd)	3.901	5.217	4.649	5.188	4.659	4.162
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	923	681	764	688	766	865
Service Time	1.903	2.984	2.416	2.937	2.408	2.164
HCM Lane V/C Ratio	0.037	0.006	0.062	0.061	0.084	0.045
HCM Control Delay	7.1	8	7.7	8.3	7.8	7.4
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0	0.2	0.2	0.3	0.1

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	131	0	13	54	23	4	5	23	88	24	10
Future Vol, veh/h	4	131	0	13	54	23	4	5	23	88	24	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	82	82	82	81	81	81	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	146	0	16	66	28	5	6	28	114	31	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	94	0	0	146	0	0	288	280	146	283	266	80
Stage 1	-	-	-	-	-	-	154	154	-	112	112	-
Stage 2	-	-	-	-	-	-	134	126	-	171	154	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1500	-	-	1436	-	-	664	628	901	669	640	980
Stage 1	-	-	-	-	-	-	848	770	-	893	803	-
Stage 2	-	-	-	-	-	-	869	792	-	831	770	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1500	-	-	1436	-	-	623	619	901	636	630	980
Mov Cap-2 Maneuver	-	-	-	-	-	-	623	619	-	636	630	-
Stage 1	-	-	-	-	-	-	845	768	-	890	793	-
Stage 2	-	-	-	-	-	-	814	782	-	796	768	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	1.1	9.7	12.3
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	799	1500	-	-	1436	-	-	654
HCM Lane V/C Ratio	0.049	0.003	-	-	0.011	-	-	0.242
HCM Control Delay (s)	9.7	7.4	0	-	7.5	0	-	12.3
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	84	192	62	268	1047	32
Future Volume (veh/h)	84	192	62	268	1047	32
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	100	229	69	298	1176	36
Peak Hour Factor	0.84	0.84	0.90	0.90	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	335	398	112	2209	1631	50
Arrive On Green	0.19	0.19	0.06	0.62	0.46	0.46
Sat Flow, veh/h	1781	1585	1781	3647	3614	108
Grp Volume(v), veh/h	100	229	69	298	593	619
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1851
Q Serve(g_s), s	2.3	6.0	1.8	1.6	12.7	12.7
Cycle Q Clear(g_c), s	2.3	6.0	1.8	1.6	12.7	12.7
Prop In Lane	1.00	1.00	1.00			0.06
Lane Grp Cap(c), veh/h	335	398	112	2209	823	858
V/C Ratio(X)	0.30	0.58	0.61	0.13	0.72	0.72
Avail Cap(c_a), veh/h	1130	1106	640	3833	1109	1155
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.5	15.5	21.6	3.7	10.2	10.2
Incr Delay (d2), s/veh	0.5	1.3	5.4	0.0	1.5	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	5.4	0.8	0.3	4.1	4.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.0	16.8	27.0	3.7	11.7	11.7
LnGrp LOS	B	B	C	A	B	B
Approach Vol, veh/h	329			367	1212	
Approach Delay, s/veh	16.9			8.1	11.7	
Approach LOS	B			A	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		33.9		13.4	7.5	26.4
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		51.0		30.0	17.0	29.5
Max Q Clear Time (g_c+I1), s		3.6		8.0	3.8	14.7
Green Ext Time (p_c), s		2.1		1.0	0.1	7.2

Intersection Summary		
HCM 6th Ctrl Delay		11.9
HCM 6th LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	192	133	163	514	35	122	197	105	102	628	443
Future Volume (veh/h)	128	192	133	163	514	35	122	197	105	102	628	443
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	151	226	0	179	565	38	124	255	122	115	706	498
Peak Hour Factor	0.85	0.85	0.85	0.91	0.91	0.91	0.86	0.86	0.86	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	240	760		273	755	51	160	1501	761	149	1404	736
Arrive On Green	0.07	0.21	0.00	0.08	0.22	0.22	0.09	0.40	0.40	0.08	0.40	0.40
Sat Flow, veh/h	3456	3554	1585	3456	3379	227	1781	3741	1585	1781	3554	1585
Grp Volume(v), veh/h	151	226	0	179	297	306	124	255	122	115	706	498
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1830	1781	1870	1585	1781	1777	1585
Q Serve(g_s), s	3.4	4.3	0.0	4.1	12.6	12.6	5.5	3.5	3.5	5.1	12.1	19.9
Cycle Q Clear(g_c), s	3.4	4.3	0.0	4.1	12.6	12.6	5.5	3.5	3.5	5.1	12.1	19.9
Prop In Lane	1.00		1.00	1.00		0.12	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	240	760		273	397	409	160	1501	761	149	1404	736
V/C Ratio(X)	0.63	0.30		0.66	0.75	0.75	0.78	0.17	0.16	0.77	0.50	0.68
Avail Cap(c_a), veh/h	811	1404		811	702	723	418	1501	761	418	1404	736
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.7	26.7	0.0	36.2	29.3	29.3	36.1	15.6	11.8	36.3	18.5	16.9
Incr Delay (d2), s/veh	2.7	0.2	0.0	2.7	2.8	2.8	7.9	0.2	0.5	8.2	1.3	4.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	1.8	0.0	1.8	5.5	5.7	2.7	1.5	1.3	2.5	5.0	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.4	26.9	0.0	38.9	32.1	32.1	43.9	15.8	12.3	44.5	19.8	21.9
LnGrp LOS	D	C		D	C	C	D	B	B	D	B	C
Approach Vol, veh/h		377	A		782			501			1319	
Approach Delay, s/veh		31.9			33.7			21.9			22.7	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.3	37.0	10.9	21.8	11.8	36.5	10.1	22.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	19.0	32.0	19.0	32.0	19.0	32.0	19.0	32.0
Max Q Clear Time (g_c+I1), s	7.1	5.5	6.1	6.3	7.5	21.9	5.4	14.6
Green Ext Time (p_c), s	0.2	2.1	0.4	1.4	0.2	4.8	0.4	3.5

Intersection Summary	
HCM 6th Ctrl Delay	26.6
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	82	11	37	96	2	14
Future Volume (Veh/h)	82	11	37	96	2	14
Sign Control	Free		Stop			Stop
Grade	0%		0%			0%
Peak Hour Factor	0.82	0.82	0.88	0.88	0.58	0.58
Hourly flow rate (vph)	100	13	42	109	3	24
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL					
Median storage veh)	2					
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0		213	0	336	206
vC1, stage 1 conf vol			0		206	206
vC2, stage 2 conf vol			213		130	0
vCu, unblocked vol	0		213	0	336	206
tC, single (s)	4.1		6.5	6.2	7.1	6.5
tC, 2 stage (s)			5.5		6.1	5.5
tF (s)	2.2		4.0	3.3	3.5	4.0
p0 queue free %	94		94	90	100	96
cM capacity (veh/h)	1623		664	1085	608	668

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	113	151	27
Volume Left	100	0	3
Volume Right	13	109	0
cSH	1623	923	660
Volume to Capacity	0.06	0.16	0.04
Queue Length 95th (ft)	5	15	3
Control Delay (s)	6.6	9.7	10.7
Lane LOS	A	A	B
Approach Delay (s)	6.6	9.7	10.7
Approach LOS		A	B

Intersection Summary			
Average Delay	8.6		
Intersection Capacity Utilization	19.7%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	97	0	36	80	8	6	16	38	2	11	7
Future Vol, veh/h	6	97	0	36	80	8	6	16	38	2	11	7
Peak Hour Factor	0.83	0.83	0.83	0.91	0.91	0.91	0.96	0.96	0.96	0.53	0.53	0.53
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	117	0	40	88	9	6	17	40	4	21	13
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	8.5	8.3	7.6	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	10%	100%	0%	100%	0%	10%
Vol Thru, %	27%	0%	100%	0%	91%	55%
Vol Right, %	63%	0%	0%	0%	9%	35%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	60	6	97	36	88	20
LT Vol	6	6	0	36	0	2
Through Vol	16	0	97	0	80	11
RT Vol	38	0	0	0	8	7
Lane Flow Rate	62	7	117	40	97	38
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.074	0.011	0.159	0.058	0.127	0.047
Departure Headway (Hd)	4.253	5.391	4.889	5.379	4.713	4.45
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	846	668	739	670	749	808
Service Time	2.263	3.091	2.589	3.079	2.513	2.462
HCM Lane V/C Ratio	0.073	0.01	0.158	0.06	0.13	0.047
HCM Control Delay	7.6	8.2	8.5	8.4	8.2	7.7
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.2	0	0.6	0.2	0.4	0.1

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	16	134	10	46	188	109	4	19	37	76	17	7
Future Vol, veh/h	16	134	10	46	188	109	4	19	37	76	17	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	92	92	92	74	74	74	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	143	11	50	204	118	5	26	50	92	20	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	322	0	0	154	0	0	560	605	149	584	551	263
Stage 1	-	-	-	-	-	-	183	183	-	363	363	-
Stage 2	-	-	-	-	-	-	377	422	-	221	188	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1238	-	-	1426	-	-	439	412	898	423	442	776
Stage 1	-	-	-	-	-	-	819	748	-	656	625	-
Stage 2	-	-	-	-	-	-	644	588	-	781	745	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1238	-	-	1426	-	-	400	389	898	363	417	776
Mov Cap-2 Maneuver	-	-	-	-	-	-	400	389	-	363	417	-
Stage 1	-	-	-	-	-	-	807	737	-	646	598	-
Stage 2	-	-	-	-	-	-	589	563	-	701	734	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	1	11.9	18.5
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	600	1238	-	-	1426	-	-	386
HCM Lane V/C Ratio	0.135	0.014	-	-	0.035	-	-	0.312
HCM Control Delay (s)	11.9	7.9	0	-	7.6	0	-	18.5
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	194	182	279	1118	795	73
Future Volume (veh/h)	194	182	279	1118	795	73
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	220	207	294	1177	914	84
Peak Hour Factor	0.88	0.88	0.95	0.95	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	314	597	357	2348	1245	114
Arrive On Green	0.18	0.18	0.20	0.66	0.38	0.38
Sat Flow, veh/h	1781	1585	1781	3647	3384	302
Grp Volume(v), veh/h	220	207	294	1177	494	504
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1816
Q Serve(g_s), s	6.4	5.2	8.7	9.3	13.2	13.2
Cycle Q Clear(g_c), s	6.4	5.2	8.7	9.3	13.2	13.2
Prop In Lane	1.00	1.00	1.00			0.17
Lane Grp Cap(c), veh/h	314	597	357	2348	672	687
V/C Ratio(X)	0.70	0.35	0.82	0.50	0.73	0.73
Avail Cap(c_a), veh/h	969	1180	549	3286	950	971
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.4	12.3	21.1	4.7	14.8	14.8
Incr Delay (d2), s/veh	2.8	0.3	5.9	0.2	1.8	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	5.2	3.9	2.1	4.9	5.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.2	12.7	27.0	4.9	16.5	16.5
LnGrp LOS	C	B	C	A	B	B
Approach Vol, veh/h	427			1471	998	
Approach Delay, s/veh	18.6			9.3	16.5	
Approach LOS	B			A	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		40.9		14.2	15.6	25.4
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		51.0		30.0	17.0	29.5
Max Q Clear Time (g_c+I1), s		11.3		8.4	10.7	15.2
Green Ext Time (p_c), s		11.5		1.3	0.5	5.7

Intersection Summary	
HCM 6th Ctrl Delay	13.2
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	557	525	224	208	458	115	253	773	269	206	522	280
Future Volume (veh/h)	557	525	224	208	458	115	253	773	269	206	522	280
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	619	583	0	231	509	128	275	840	292	226	574	308
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	584	1062		303	612	153	301	1159	630	256	1011	719
Arrive On Green	0.17	0.30	0.00	0.09	0.22	0.22	0.17	0.31	0.31	0.14	0.28	0.28
Sat Flow, veh/h	3456	3554	1585	3456	2816	705	1781	3741	1585	1781	3554	1585
Grp Volume(v), veh/h	619	583	0	231	320	317	275	840	292	226	574	308
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1744	1781	1870	1585	1781	1777	1585
Q Serve(g_s), s	19.0	15.5	0.0	7.3	19.3	19.5	17.1	22.5	15.3	14.0	15.5	14.8
Cycle Q Clear(g_c), s	19.0	15.5	0.0	7.3	19.3	19.5	17.1	22.5	15.3	14.0	15.5	14.8
Prop In Lane	1.00		1.00	1.00		0.40	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	584	1062		303	386	379	301	1159	630	256	1011	719
V/C Ratio(X)	1.06	0.55		0.76	0.83	0.84	0.91	0.72	0.46	0.88	0.57	0.43
Avail Cap(c_a), veh/h	584	1062		584	506	496	301	1159	630	301	1011	719
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.7	33.1	0.0	50.1	42.0	42.1	45.9	34.5	25.0	47.2	34.3	20.8
Incr Delay (d2), s/veh	54.2	0.6	0.0	4.0	8.6	9.3	30.6	4.0	2.4	22.6	2.3	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.5	6.7	0.0	3.3	9.3	9.3	10.1	10.8	6.1	7.8	7.0	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	101.0	33.7	0.0	54.1	50.6	51.3	76.6	38.5	27.5	69.8	36.6	22.7
LnGrp LOS	F	C		D	D	D	E	D	C	E	D	C
Approach Vol, veh/h		1202	A		868			1407			1108	
Approach Delay, s/veh		68.3			51.8			43.7			39.5	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.7	39.3	14.4	38.1	23.5	36.5	23.5	29.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	19.0	32.0	19.0	32.0	19.0	32.0	19.0	32.0
Max Q Clear Time (g_c+I1), s	16.0	24.5	9.3	17.5	19.1	17.5	21.0	21.5
Green Ext Time (p_c), s	0.2	4.0	0.5	3.4	0.0	4.4	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	50.7
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

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

APPENDIX F

PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS – NEAR TERM + PROJECT

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	59	4	6	31	8	20
Future Volume (Veh/h)	59	4	6	31	8	20
Sign Control	Free		Stop			Stop
Grade	0%		0%			0%
Peak Hour Factor	0.65	0.65	0.52	0.52	0.54	0.54
Hourly flow rate (vph)	91	6	12	60	15	37
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL					
Median storage veh)	2					
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0		188	0	251	185
vC1, stage 1 conf vol			0		185	185
vC2, stage 2 conf vol			188		66	0
vCu, unblocked vol	0		188	0	251	185
tC, single (s)	4.1		6.5	6.2	7.1	6.5
tC, 2 stage (s)			5.5		6.1	5.5
tF (s)	2.2		4.0	3.3	3.5	4.0
p0 queue free %	94		98	94	98	95
cM capacity (veh/h)	1623		685	1085	711	686

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	97	72	52
Volume Left	91	0	15
Volume Right	6	60	0
cSH	1623	989	693
Volume to Capacity	0.06	0.07	0.07
Queue Length 95th (ft)	4	6	6
Control Delay (s)	6.9	8.9	10.6
Lane LOS	A	A	B
Approach Delay (s)	6.9	8.9	10.6
Approach LOS		A	B

Intersection Summary			
Average Delay	8.4		
Intersection Capacity Utilization	18.3%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	45	7	34	52	2	2	4	18	5	13	11
Future Vol, veh/h	4	45	7	34	52	2	2	4	18	5	13	11
Peak Hour Factor	0.89	0.89	0.89	0.80	0.80	0.80	0.68	0.68	0.68	0.75	0.75	0.75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	51	8	43	65	3	3	6	26	7	17	15
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	7.8	8.1	7.1	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	8%	100%	0%	100%	0%	17%
Vol Thru, %	17%	0%	87%	0%	96%	45%
Vol Right, %	75%	0%	13%	0%	4%	38%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	4	52	34	54	29
LT Vol	2	4	0	34	0	5
Through Vol	4	0	45	0	52	13
RT Vol	18	0	7	0	2	11
Lane Flow Rate	35	4	58	42	68	39
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.039	0.007	0.075	0.061	0.088	0.045
Departure Headway (Hd)	3.964	5.221	4.625	5.195	4.669	4.198
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	908	680	768	686	763	858
Service Time	1.965	2.991	2.395	2.949	2.422	2.2
HCM Lane V/C Ratio	0.039	0.006	0.076	0.061	0.089	0.045
HCM Control Delay	7.1	8	7.8	8.3	7.9	7.4
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0	0.2	0.2	0.3	0.1

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	150	0	13	62	24	4	5	23	91	24	10
Future Vol, veh/h	4	150	0	13	62	24	4	5	23	91	24	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	82	82	82	81	81	81	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	167	0	16	76	29	5	6	28	118	31	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	105	0	0	167	0	0	320	312	167	315	298	91
Stage 1	-	-	-	-	-	-	175	175	-	123	123	-
Stage 2	-	-	-	-	-	-	145	137	-	192	175	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1486	-	-	1411	-	-	633	603	877	638	614	967
Stage 1	-	-	-	-	-	-	827	754	-	881	794	-
Stage 2	-	-	-	-	-	-	858	783	-	810	754	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1486	-	-	1411	-	-	593	594	877	605	605	967
Mov Cap-2 Maneuver	-	-	-	-	-	-	593	594	-	605	605	-
Stage 1	-	-	-	-	-	-	825	752	-	878	784	-
Stage 2	-	-	-	-	-	-	803	774	-	775	752	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	1	9.9	12.8
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	773	1486	-	-	1411	-	-	624
HCM Lane V/C Ratio	0.051	0.003	-	-	0.011	-	-	0.26
HCM Control Delay (s)	9.9	7.4	0	-	7.6	0	-	12.8
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	84	212	71	268	1047	32
Future Volume (veh/h)	84	212	71	268	1047	32
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	100	252	79	298	1176	36
Peak Hour Factor	0.84	0.84	0.90	0.90	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	357	424	120	2188	1607	49
Arrive On Green	0.20	0.20	0.07	0.62	0.46	0.46
Sat Flow, veh/h	1781	1585	1781	3647	3614	108
Grp Volume(v), veh/h	100	252	79	298	593	619
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1851
Q Serve(g_s), s	2.3	6.8	2.1	1.7	13.3	13.3
Cycle Q Clear(g_c), s	2.3	6.8	2.1	1.7	13.3	13.3
Prop In Lane	1.00	1.00	1.00			0.06
Lane Grp Cap(c), veh/h	357	424	120	2188	811	845
V/C Ratio(X)	0.28	0.59	0.66	0.14	0.73	0.73
Avail Cap(c_a), veh/h	1092	1078	619	3704	1071	1116
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.6	15.6	22.3	3.9	10.8	10.9
Incr Delay (d2), s/veh	0.4	1.3	6.0	0.0	1.8	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.2	1.0	0.4	4.4	4.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.0	16.9	28.3	4.0	12.6	12.6
LnGrp LOS	B	B	C	A	B	B
Approach Vol, veh/h	352			377	1212	
Approach Delay, s/veh	17.0			9.1	12.6	
Approach LOS	B			A	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		34.6		14.3	7.8	26.8
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		51.0		30.0	17.0	29.5
Max Q Clear Time (g_c+I1), s		3.7		8.8	4.1	15.3
Green Ext Time (p_c), s		2.1		1.1	0.1	7.0

Intersection Summary	
HCM 6th Ctrl Delay	12.7
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	133	192	133	163	514	39	122	197	105	111	628	455
Future Volume (veh/h)	133	192	133	163	514	39	122	197	105	111	628	455
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	156	226	0	179	565	43	124	255	122	125	706	511
Peak Hour Factor	0.85	0.85	0.85	0.91	0.91	0.91	0.86	0.86	0.86	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	245	771		273	753	57	160	1470	748	161	1398	736
Arrive On Green	0.07	0.22	0.00	0.08	0.22	0.22	0.09	0.39	0.39	0.09	0.39	0.39
Sat Flow, veh/h	3456	3554	1585	3456	3347	254	1781	3741	1585	1781	3554	1585
Grp Volume(v), veh/h	156	226	0	179	299	309	124	255	122	125	706	511
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1825	1781	1870	1585	1781	1777	1585
Q Serve(g_s), s	3.6	4.3	0.0	4.1	12.8	12.8	5.5	3.6	3.6	5.6	12.2	20.8
Cycle Q Clear(g_c), s	3.6	4.3	0.0	4.1	12.8	12.8	5.5	3.6	3.6	5.6	12.2	20.8
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	245	771		273	400	410	160	1470	748	161	1398	736
V/C Ratio(X)	0.64	0.29		0.66	0.75	0.75	0.78	0.17	0.16	0.78	0.50	0.69
Avail Cap(c_a), veh/h	806	1396		806	698	717	416	1470	748	416	1398	736
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.8	26.7	0.0	36.4	29.4	29.4	36.3	16.1	12.3	36.3	18.7	17.2
Incr Delay (d2), s/veh	2.7	0.2	0.0	2.7	2.8	2.8	7.9	0.3	0.5	7.9	1.3	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	1.8	0.0	1.8	5.6	5.8	2.7	1.5	1.3	2.7	5.0	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.5	26.9	0.0	39.1	32.3	32.2	44.2	16.4	12.8	44.1	20.0	22.6
LnGrp LOS	D	C		D	C	C	D	B	B	D	B	C
Approach Vol, veh/h		382	A		787			501			1342	
Approach Delay, s/veh		32.0			33.8			22.4			23.2	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.8	36.5	10.9	22.2	11.8	36.6	10.3	22.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	19.0	32.0	19.0	32.0	19.0	32.0	19.0	32.0
Max Q Clear Time (g_c+I1), s	7.6	5.6	6.1	6.3	7.5	22.8	5.6	14.8
Green Ext Time (p_c), s	0.2	2.1	0.4	1.4	0.2	4.6	0.4	3.5

Intersection Summary	
HCM 6th Ctrl Delay	27.0
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	82	18	43	96	5	16
Future Volume (Veh/h)	82	18	43	96	5	16
Sign Control	Free		Stop			Stop
Grade	0%		0%			0%
Peak Hour Factor	0.82	0.82	0.88	0.88	0.58	0.58
Hourly flow rate (vph)	100	22	49	109	9	28
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL					
Median storage veh)	2					
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0		222	0	344	211
vC1, stage 1 conf vol			0		211	211
vC2, stage 2 conf vol			222		134	0
vCu, unblocked vol	0		222	0	344	211
tC, single (s)	4.1		6.5	6.2	7.1	6.5
tC, 2 stage (s)			5.5		6.1	5.5
tF (s)	2.2		4.0	3.3	3.5	4.0
p0 queue free %	94		93	90	98	96
cM capacity (veh/h)	1623		659	1085	599	665

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	122	158	37
Volume Left	100	0	9
Volume Right	22	109	0
cSH	1623	904	647
Volume to Capacity	0.06	0.17	0.06
Queue Length 95th (ft)	5	16	5
Control Delay (s)	6.1	9.8	10.9
Lane LOS	A	A	B
Approach Delay (s)	6.1	9.8	10.9
Approach LOS		A	B

Intersection Summary			
Average Delay	8.5		
Intersection Capacity Utilization	20.5%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	101	2	36	89	8	10	16	38	2	11	7
Future Vol, veh/h	6	101	2	36	89	8	10	16	38	2	11	7
Peak Hour Factor	0.83	0.83	0.83	0.91	0.91	0.91	0.96	0.96	0.96	0.53	0.53	0.53
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	122	2	40	98	9	10	17	40	4	21	13
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	8.6	8.3	7.7	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	16%	100%	0%	100%	0%	10%
Vol Thru, %	25%	0%	98%	0%	92%	55%
Vol Right, %	59%	0%	2%	0%	8%	35%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	64	6	103	36	97	20
LT Vol	10	6	0	36	0	2
Through Vol	16	0	101	0	89	11
RT Vol	38	0	2	0	8	7
Lane Flow Rate	67	7	124	40	107	38
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.08	0.011	0.168	0.059	0.143	0.047
Departure Headway (Hd)	4.33	5.399	4.884	5.397	4.837	4.497
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	830	665	737	668	746	798
Service Time	2.344	3.115	2.599	3.097	2.537	2.514
HCM Lane V/C Ratio	0.081	0.011	0.168	0.06	0.143	0.048
HCM Control Delay	7.7	8.2	8.6	8.4	8.3	7.7
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0	0.6	0.2	0.5	0.1

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	16	144	10	46	212	113	4	19	37	78	17	7
Future Vol, veh/h	16	144	10	46	212	113	4	19	37	78	17	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	92	92	92	74	74	74	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	153	11	50	230	123	5	26	50	94	20	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	353	0	0	164	0	0	599	646	159	623	590	292
Stage 1	-	-	-	-	-	-	193	193	-	392	392	-
Stage 2	-	-	-	-	-	-	406	453	-	231	198	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1206	-	-	1414	-	-	413	390	886	398	420	747
Stage 1	-	-	-	-	-	-	809	741	-	633	606	-
Stage 2	-	-	-	-	-	-	622	570	-	772	737	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1206	-	-	1414	-	-	374	367	886	339	395	747
Mov Cap-2 Maneuver	-	-	-	-	-	-	374	367	-	339	395	-
Stage 1	-	-	-	-	-	-	796	729	-	623	579	-
Stage 2	-	-	-	-	-	-	567	544	-	692	725	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.9	12.3	20
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	576	1206	-	-	1414	-	-	361
HCM Lane V/C Ratio	0.141	0.014	-	-	0.035	-	-	0.34
HCM Control Delay (s)	12.3	8	0	-	7.6	0	-	20
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	1.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	194	193	305	1118	795	73
Future Volume (veh/h)	194	193	305	1118	795	73
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	220	219	321	1177	914	84
Peak Hour Factor	0.88	0.88	0.95	0.95	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	312	618	382	2370	1229	113
Arrive On Green	0.18	0.18	0.21	0.67	0.37	0.37
Sat Flow, veh/h	1781	1585	1781	3647	3384	302
Grp Volume(v), veh/h	220	219	321	1177	494	504
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1816
Q Serve(g_s), s	6.6	5.6	9.8	9.4	13.7	13.7
Cycle Q Clear(g_c), s	6.6	5.6	9.8	9.4	13.7	13.7
Prop In Lane	1.00	1.00	1.00			0.17
Lane Grp Cap(c), veh/h	312	618	382	2370	664	678
V/C Ratio(X)	0.71	0.35	0.84	0.50	0.74	0.74
Avail Cap(c_a), veh/h	937	1174	531	3178	919	939
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.1	12.3	21.5	4.7	15.5	15.5
Incr Delay (d2), s/veh	2.9	0.3	8.4	0.2	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	2.8	0.1	4.6	2.1	5.2	5.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	25.1	12.7	29.9	4.9	17.6	17.6
LnGrp LOS	C	B	C	A	B	B
Approach Vol, veh/h	439			1498	998	
Approach Delay, s/veh	18.9			10.2	17.6	
Approach LOS	B			B	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		42.5		14.5	16.7	25.8
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		51.0		30.0	17.0	29.5
Max Q Clear Time (g_c+I1), s		11.4		8.6	11.8	15.7
Green Ext Time (p_c), s		11.5		1.4	0.5	5.6

Intersection Summary	
HCM 6th Ctrl Delay	14.0
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	572	525	224	208	458	126	253	773	269	211	522	286
Future Volume (veh/h)	572	525	224	208	458	126	253	773	269	211	522	286
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	636	583	0	231	509	140	275	840	292	232	574	314
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	581	1071		303	609	167	300	1140	622	262	1007	716
Arrive On Green	0.17	0.30	0.00	0.09	0.22	0.22	0.17	0.30	0.30	0.15	0.28	0.28
Sat Flow, veh/h	3456	3554	1585	3456	2757	754	1781	3741	1585	1781	3554	1585
Grp Volume(v), veh/h	636	583	0	231	327	322	275	840	292	232	574	314
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1735	1781	1870	1585	1781	1777	1585
Q Serve(g_s), s	19.0	15.5	0.0	7.4	19.9	20.1	17.2	22.7	15.5	14.4	15.6	15.3
Cycle Q Clear(g_c), s	19.0	15.5	0.0	7.4	19.9	20.1	17.2	22.7	15.5	14.4	15.6	15.3
Prop In Lane	1.00		1.00	1.00		0.43	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	581	1071		303	393	383	300	1140	622	262	1007	716
V/C Ratio(X)	1.09	0.54		0.76	0.83	0.84	0.92	0.74	0.47	0.89	0.57	0.44
Avail Cap(c_a), veh/h	581	1071		581	503	491	300	1140	622	300	1007	716
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.0	33.0	0.0	50.4	42.0	42.1	46.2	35.2	25.6	47.3	34.6	21.2
Incr Delay (d2), s/veh	65.6	0.6	0.0	4.0	9.2	10.0	31.5	4.3	2.5	23.8	2.3	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	18.4	6.7	0.0	3.4	9.6	9.6	10.2	10.9	6.2	8.1	7.0	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	112.6	33.5	0.0	54.4	51.2	52.0	77.7	39.5	28.1	71.0	36.9	23.1
LnGrp LOS	F	C		D	D	D	E	D	C	E	D	C
Approach Vol, veh/h		1219	A		880			1407			1120	
Approach Delay, s/veh		74.8			52.3			44.6			40.1	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.1	38.9	14.4	38.6	23.5	36.5	23.5	29.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	19.0	32.0	19.0	32.0	19.0	32.0	19.0	32.0
Max Q Clear Time (g_c+I1), s	16.6	24.7	9.4	17.5	19.2	17.6	21.0	22.1
Green Ext Time (p_c), s	0.2	3.9	0.5	3.4	0.0	4.4	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	52.9
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

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