Draft Traffic Impact Study for Marymount College San Pedro Campus Los Angeles, CA

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1. Introduction

This report documents the traffic study prepared for the proposed Marymount College San Pedro Campus (hereinafter referred to as the "Project") located within the Wilmington - Harbor City community in the City of Los Angeles. KOA Corporation was retained to study the potential traffic impacts of the proposed Project.

The following sections examine the impacts of the project on weekday AM and PM peak-hour operations at key area intersections. The scope and methodologies used for this traffic study were developed in consultation with the City of Los Angeles Department of Transportation (LADOT). The project study area, as defined through consultation with LADOT staff, encompasses 17 roadway intersections. Key tasks undertaken for this traffic analysis include: 1) definition of study approach, 2) determination of existing traffic conditions, 3) trip generation forecasts of the planned project land use, 4) assignment of project-generated trips to the study area roadway system and, 5) evaluation of the impact of project traffic at the study intersections. This report follows guidelines within the LADOT document entitled *Traffic Study Policies and Procedures,* August 2011.

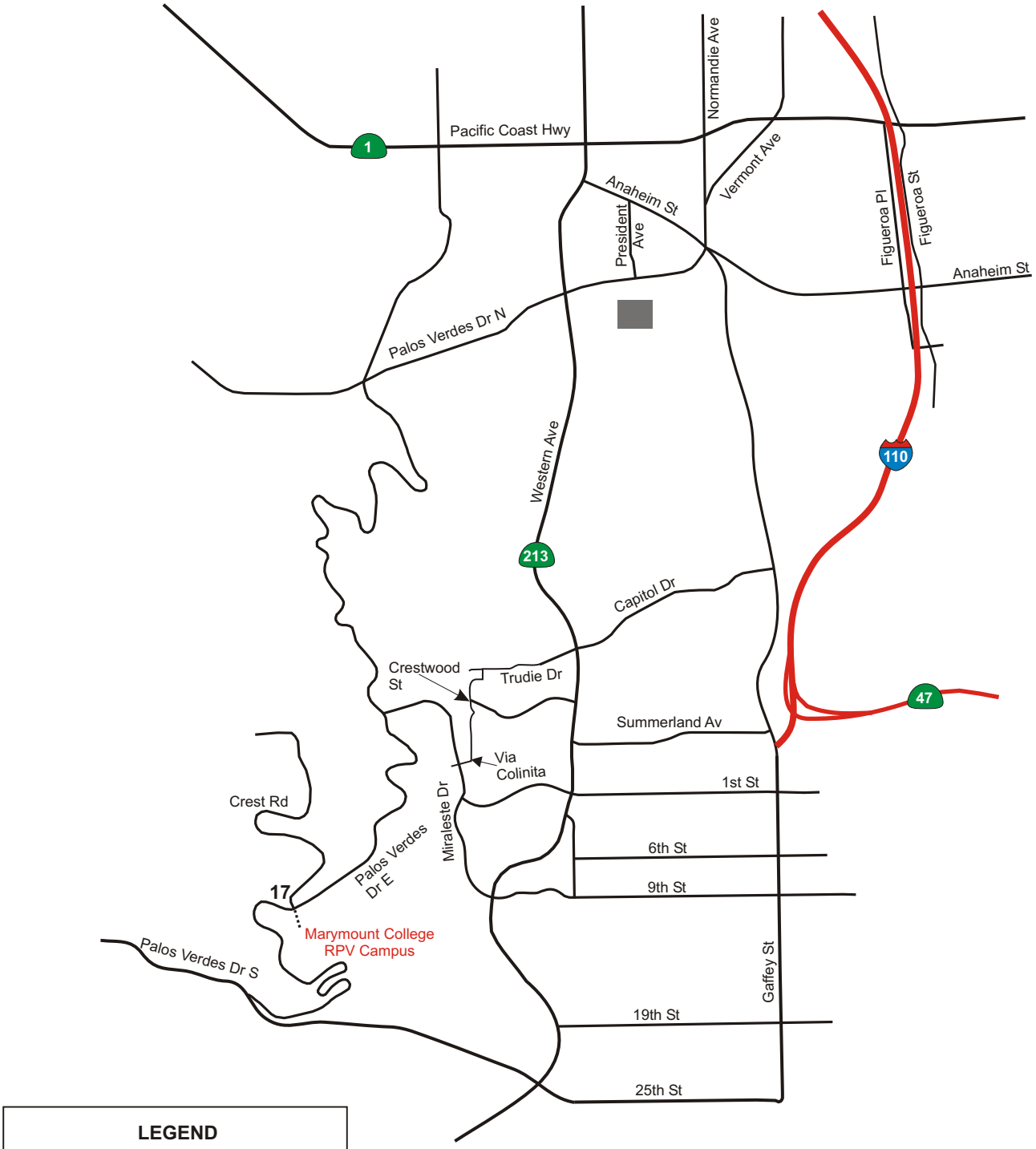
1.1 Project Location

The proposed project site is located on the south side of Palos Verdes Drive North between Western Avenue and Gaffey Street. The site address is 1600 Palos Verdes Drive North, City of Los Angeles. Figure 1 illustrates the site location in relation to the surrounding street system. As shown, regional access to the site is provided via the Interstate 110 Freeway.

1.2 Project Description

Marymount College is preparing to further fulfill the terms of its land grant from the Department of Education and U.S. Navy by building out the higher education component of the City of Los Angeles' plan to create an educational park on former Navy housing land. The College is proposing to expand the campus by constructing a sustainable private undergraduate/graduate campus at the San Pedro Campus site.

The project site currently has 86 dwelling units that serve as off-campus housing for students matriculating at the Marymount College Rancho Palos Verdes (RPV) campus. The campus occupies approximately 13.13 acres of land (11.66 acres plus 1.47 acres of land to be vacated by the City of Los Angeles and merged with the Marymount property). The proposed campus would accommodate 1,500 students, 800 of whom would be residents living on campus including eight (8) faculty apartments. The expansion proposes the construction and/or renovation of a student union/dining hall, classrooms, studios, laboratories, faculty/staff offices, residence halls, and maintenance facility.



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Marymount College San Pedro Campus - Traffic Study

Figure 1

Study Area

The project will implement the following measures in order to reduce campus vehicle trips:

- Provide on-campus housing for 800 students.
- Implement "Limited Cars for Residents" Policy – Limits 44% of the student residents to have a car on campus based on a limited lottery system.
- Schedule morning peak period classes on the San Pedro Campus exclusively for on-campus resident students.
- Restrict the number of resident students from driving to the RPV Campus during the morning peak period.
- Enhance shuttle service by increasing bus frequency during peak periods of usage. (Note: A campus shuttle service currently operates between the RPV Campus, the Palos Verdes Drive North Residential Facility (San Pedro Campus), Pacific View West Residential Community in San Pedro and Downtown San Pedro.)
- Implement parking permit/decal system to restrict parking by students.
- Implement carpool system.

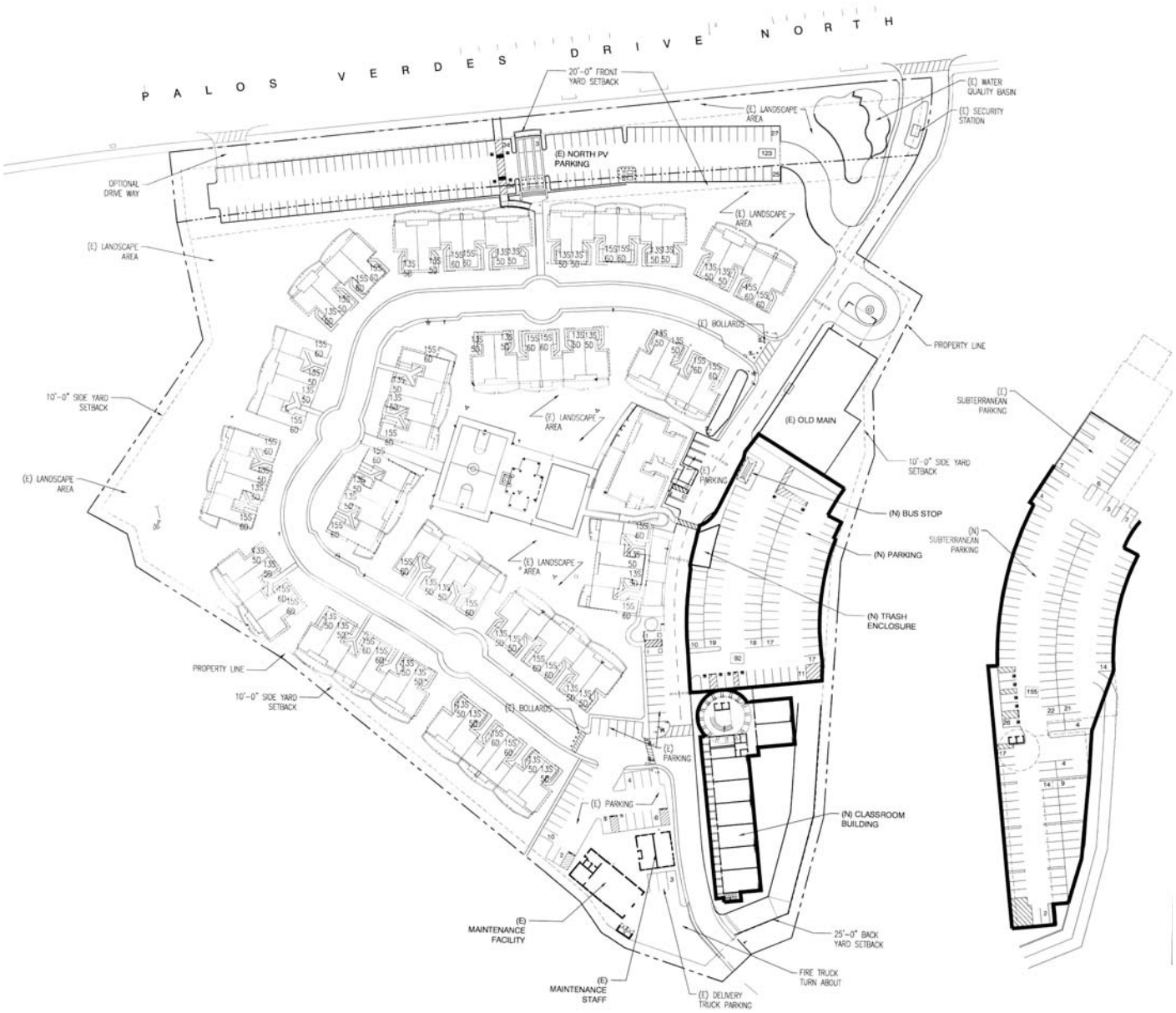
The San Pedro Campus will be a multi-phased project with a build out conditioned upon updated traffic studies to coincide with major phases of the build out. For the purpose of analyzing traffic impacts for this project, a 20-year build out horizon (Year 2031) is assumed. It should be noted that the implementation of project phases will be subject to funding availability and the demand for campus expansion. Thus, the analysis of project phase components was not conducted within this traffic study.

1.3 Project Access

Vehicular project access would be provided from the existing south leg of the intersection of Palos Verdes Drive North and President Avenue. Secondary access would be provided from a new driveway on Palos Verdes Drive North located approximately 750 feet west of President Avenue. The secondary access would be restricted to right-turn in and right-turn out movements only. The conceptual site plan is illustrated in Figure 2.

1.4 Project Study Area

The project study area, as defined through consultation with the LADOT staff, includes the following 17 study intersections located within the cities of Los Angeles, Rancho Palos Verdes, Rolling Hills Estates, and Lomita:



Source: Bryant Palmer Soto Inc, June 2011

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Marymount College San Pedro Campus - Traffic Study

Figure 2

Conceptual Site Plan

	Study Intersections	Jurisdiction City/Agency	Traffic Control
1	Western Avenue and Pacific Coast Highway	Los Angeles/Caltrans	Signalized
2	Normandie Avenue and Pacific Coast Highway	Los Angeles/Caltrans	Signalized
3	Vermont Avenue and Pacific Coast Highway	Los Angeles/Caltrans	Signalized
4	Western Avenue and Anaheim Street	Los Angeles/Caltrans	Signalized
5	Palos Verdes Drive E and Palos Verdes Drive N	Rolling Hills Estate	Signalized
6	Western Avenue and Palos Verdes Drive N	Lomita/Caltrans	Signalized
7	President Avenue and Palos Verdes Drive N	Los Angeles	Stop-Controlled
8	Gaffey Street/Vermont Avenue and Anaheim Street/N. Palos Verdes Drive	Los Angeles	Signalized
9	Figueroa Place and Anaheim Street	Los Angeles	Signalized
10	Figueroa Street and Anaheim Street	Los Angeles	Signalized
11	Palos Verdes Drive E and Miraleste Drive	Rancho Palos Verdes	Stop-Controlled
12	Western Avenue and Trudie Drive/Capitol Drive	Rancho Palos Verdes/Caltrans	Signalized
13	Miraleste Drive and Via Colinita Avenue	Rancho Palos Verdes	Stop-Controlled
14	Western Avenue and Crestwood Street	Rancho Palos Verdes/Caltrans	Signalized
15	Miraleste Drive and 1st Street	Rancho Palos Verdes	Stop-Controlled
16	Western Avenue and 1st Street	Los Angeles/Caltrans	Signalized
17	Palos Verdes Drive E and Crest Road	Rancho Palos Verdes	Signalized

Figure 3 illustrates the locations of the study intersections and the project site within the study area.

1.5 Analysis Methodology

The proposed project site is located within the City of Los Angeles. KOA coordinated with LADOT at the start of this study to achieve consensus on assumptions such as study intersection locations, project trip generation, trip distribution, trip assignment, and ambient traffic growth. A Memorandum of Understanding (MOU) that documents the traffic study assumptions was prepared for and reviewed by LADOT staff. A copy of the City-approved MOU is provided in Appendix A of this traffic report. The following text describes the study methodology used in this report.

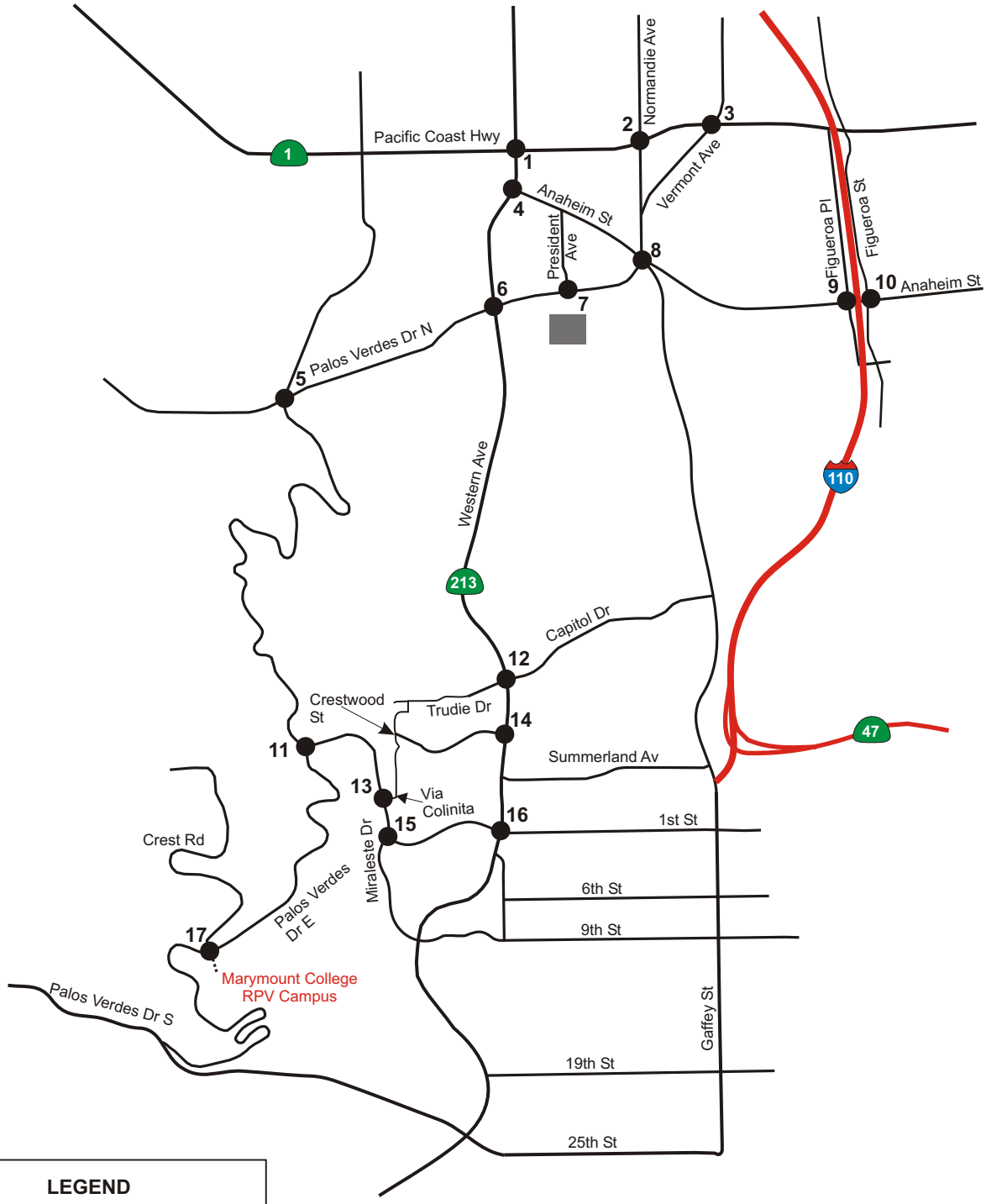
Study Scenarios

Weekday AM and PM peak-hour traffic operations were evaluated at the study intersections for each of the following traffic scenarios:

- Existing 2011
- Existing Plus Project
- Future 2031 Without Project
- Future 2031 With Project

Existing (2011)

KOA conducted fieldwork within the project study area to identify roadway characteristics including traffic control, approach lane configuration, parking restrictions and bus stop locations of each study intersection. In addition, new traffic counts were conducted at the 17 study intersections on Tuesday, March 22 and Wednesday, May 4, 2011 during the AM and PM peak periods. The traffic counts reflect current traffic conditions in the study area and were used for the traffic impact analysis. The traffic count data are included in Appendix C.



LEGEND

- Project Location
- X Study Intersection

N

Not to Scale

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Marymount College San Pedro Campus - Traffic Study — Figure 3

Study Intersection Locations

Existing level of service conditions at the study intersections are discussed within Section 2 of this report.

Project Trip Generation and Distribution

The project trip generation was based on empirical trip rates derived from surveys conducted at the Marymount College RPV Campus and at the existing Palos Verdes Drive North residential facility (proposed San Pedro Campus site), as well as trip rates from the Institute of Transportation Engineers (ITE) *Trip Generation*, *8th Edition* book.

The project trip distribution was determined based on the land use characteristics of the project, the local roadway network, and the general locations of other land uses to which project trips would likely originate or terminate. In addition, the trip distribution was also based on zip code data for both students and faculty/staff of the Marymount College RPV Campus.

The methodology utilized for project trip generation and distribution is discussed further within Section 3 of this report.

Existing Plus Project

Based on the traffic generated by the proposed project, the Existing Plus Project conditions were analyzed. The study intersection level of service for the Existing Plus Project conditions is discussed in Section 4 of this report.

Future Without Project

In order to acknowledge regional traffic growth that would affect operations at the study locations during the anticipated project completion year of 2031, an ambient/background traffic growth rate was applied to the existing traffic counts. An ambient growth rate of 7.1% (20-year growth), which is based on the traffic growth projection from the 2010 Los Angeles County Congestion Management Program (CMP) document, was utilized to create year-2031 base traffic volumes.

In addition, traffic growth from area/related projects (approved and pending developments) was also included as part of the future 2031 analysis. KOA researched information from the City of Los Angeles pertaining to approved projects and projects pending approval in the study area. In addition, projects nearby located within the cities of Rancho Palos Verdes, Rolling Hills Estates and Lomita were also researched and included in the analysis. Daily and peak hour trips that would be generated from each of the related projects were determined. The trip rates used to determine the related projects trip generation are generally based on the ITE *Trip Generation, 8th Edition* book.

The level of service at the study intersections for the Future Without Project conditions is discussed in Section 5 of this report.

Future With Project Conditions

Based on the future ambient growth, traffic from area related projects (approved and pending) and traffic generated from the proposed project, the Future With Project conditions were determined and analyzed. The level of service for Future With Project conditions at the study intersections is discussed in Section 6 of this report.

Level of Service Analysis and Impacts

KOA quantitatively assessed weekday AM and PM peak hour traffic impacts at the 17 study intersections. As defined in the LADOT Traffic Study Policies and Procedures (August 2010), if a proposed project results in a significant traffic impact at an intersection, that intersection must be mitigated to a level of insignificance, where feasible. The LADOT traffic study guidelines state that only signalized intersections should be included for traffic impact analysis. Non-signalized intersections should be evaluated to determine the need for the installation of a traffic signal or other traffic signal device. One stop-controlled intersection located at President Avenue and Palos Verdes Drive North within the City of Los Angeles is included in this traffic analysis in order to evaluate potential impacts associated with site access. Project traffic impacts are discussed in Section 7 of this report.

Level of Service Methodology

For analysis of Level of Service (LOS) at signalized intersections, LADOT has designated the Critical Movement Analysis (CMA) methodology as the desired tool. The cities of Rancho Palos Verdes, Rolling Hills Estates and Lomita utilize the Intersection Capacity Utilization (ICU) methodology to analyze the level of service at signalized intersections. The concept of roadway level of service under the CMA and ICU methodologies is calculated as the volume of vehicles that pass through the facility divided by the capacity of that facility. A facility is "at capacity" (v/c of 1.00 or greater) when extreme congestion occurs. This volume/capacity ratio value is based upon volumes by lane, signal phasing, and approach lane configuration. A description of the CMA and ICU methodologies is found in Appendix B.

For analysis of stop-controlled intersections, the analysis methodology is based on the Highway Capacity Manual (HCM) 2000 published by the Transportation Research Board (TRB). The HCM 2000 expresses levels of service in terms of average delay (seconds per vehicle).

Level of service values range from LOS A to LOS F. LOS A indicates excellent operating conditions with little delay to motorists, whereas LOS F represents congested conditions with excessive vehicle delay. LOS E is typically defined as the operating "capacity" of a roadway. Table 1 defines the level of service criteria.

Table 1 – Level of Service Definitions

LOS	Interpretation	Signalized Intersection Volume to Capacity Ratio (CMA and ICU Methodologies)	Stop-Controlled Intersection Average Stop Delay (Delay Per Vehicle (Sec/Veh)) (HCM Methodology)
A	Excellent operation. All approaches to the intersection appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation.	0.000 - 0.600	<10 Seconds
B	Very good operation. Many drivers begin to feel somewhat restricted within platoons of vehicles. This represents stable flow. An approach to an intersection may occasionally be fully utilized and traffic queues start to form.	0.601 - 0.700	>10 and <15 Seconds
C	Good operation. Occasionally backups may develop behind turning vehicles. Most drivers feel somewhat restricted.	0.701 - 0.800	>15 and <25 Seconds
D	Fair operation.There are no long-standing traffic queues.This level is typically associated with design practice for peak periods.	0.801 - 0.900	>25 and <35 Seconds
E	Poor operation.Some long standing vehicular queues develop on critical approaches.	0.901 - 1.000	>35 and <50 Seconds
F	Forced flow.Represents jammed conditions. Backups from locations downstream or on the cross street may restrict or prevent movements of vehicles out of the intersection approach lanes; therefore, volumes carried are not predictable. Potential for stop and go type traffic flow.	Over 1.000	>50 Seconds

Source: Highway Capacity Manual, Special Report 209, Transportation Research Board, Washington D.C., 2000 and Interim Materials on Highway Capacity, NCHRP Circular 212, 1982

1.6 Automated Traffic Surveillance and Control (ATSAC) and Adaptive Traffic Control System (ATCS)

ATSAC is a computer-based traffic signal control system that detects the passage of vehicles, vehicle speed and the level of congestion on a second-by-second (real-time) basis, and adjusts the traffic signal timings to determine if better traffic flow can be achieved in order to minimize overall vehicle delay. The ATCS is a traffic signal control software program that enhances the ATSAC system by providing traffic adaptive signal control based on real-time traffic conditions. The ATCS optimizes traffic flow by automatically adjusting traffic signal timing including cycle length, phase split and offset.

For capacity analysis, LADOT guidelines suggest a 0.07 reduction in volume-to-capacity ratio with the implementation of ATSAC and a 0.03 reduction in volume-to-capacity ratio with the implementation of ATCS. This reduction represents field measured benefits in flow and capacity increase by operation of this program.

According to LADOT, the eight signalized study intersections within the City of Los Angeles are currently operating with ATSAC/ATCS. As such, a 0.10 reduction in volume-to-capacity ratio was assumed at these locations.

2. Existing (2011)

This section documents the existing conditions in the study area. The discussion presented here is limited to specific roadways in the project's vicinity.

2.1 Existing Roadway System

A description of the roadways that form the study intersections are summarized in Table 2. Figure 4 depicts the lane configurations and traffic control at the study intersections.

Table 2 – Description of Study Area Roadways

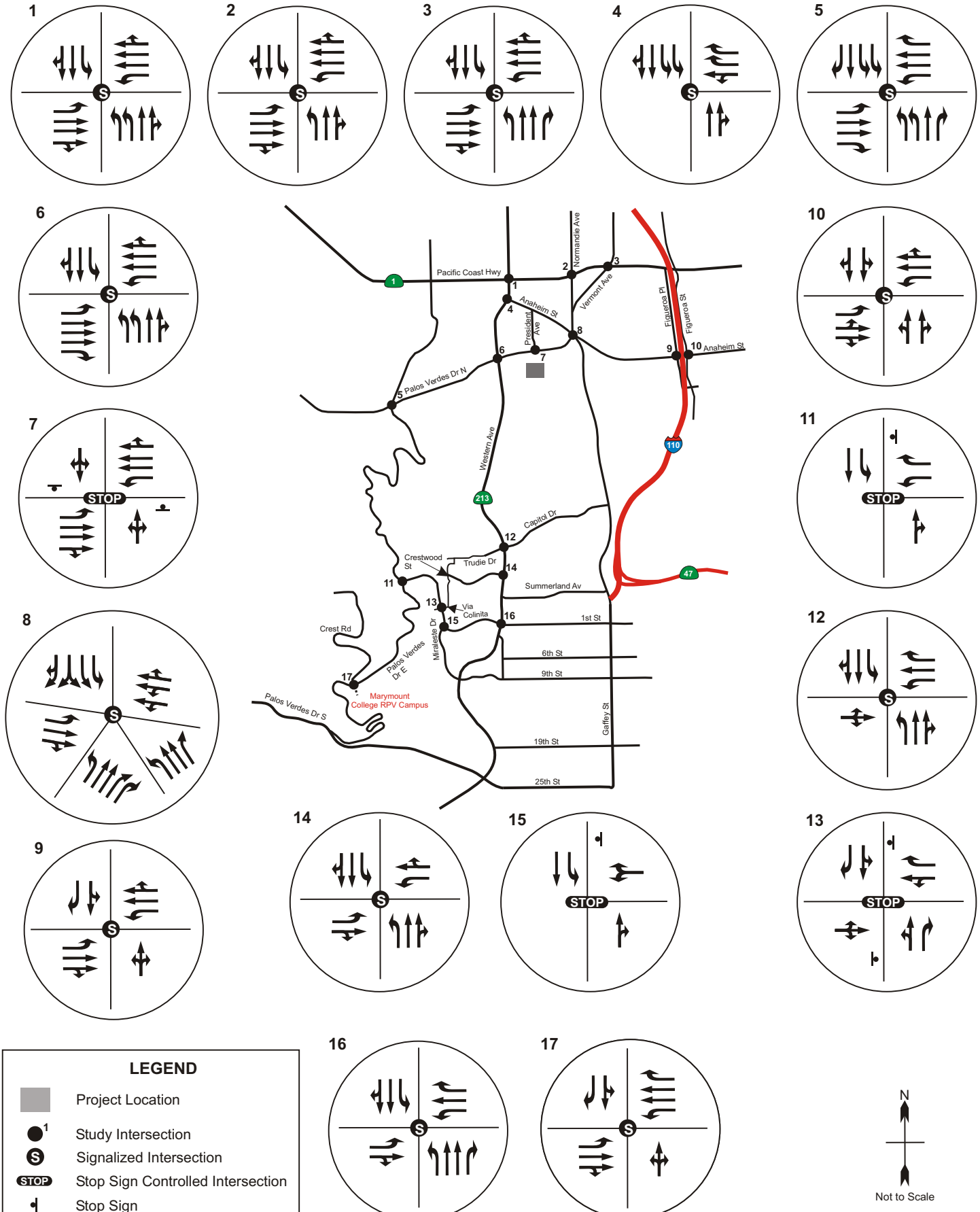
Roadway	Posted Speed Limit	# Lanes NB/ EB	# Lanes SB/ WB	Median Type	Parking Restrictions North Side / East Side	Parking Restrictions South Side / West Side	General Land Use
Pacific Coast Highway (Major Highway Class II within City of Los Angeles)							
West of Western Ave	40	3	3	Striped	NSAT	NS 6:00AM-9:30AM, 3:00PM - 7:00PM, 1hr 9:30AM - 3:00PM(M-F)	Commercial
Between Western Ave and Normandie Ave	40	3	3	Striped	NSAT	NS 6:00AM-9:30AM, 3:00PM - 7:00PM, 1hr 9:30AM - 3:00PM(M-F)	Commercial
Between Normandie Ave and Vermont Ave	40	3	3	Striped	NSAT	NS 6:00AM-9:30AM, 3:00PM - 7:00PM, 1hr 9:30AM - 3:00PM(M-F)	Commercial
East of Vermont Ave	40	3	3	Striped	NSAT	NS 6:00AM-9:30AM, 3:00PM - 7:00PM, 1hr 9:30AM - 3:00PM(M-F)	Commercial
Anaheim Street (Major Highway Class II)							
Between Western Ave and Vermont Ave / Gaffey St	35	2	2	Striped	PP, RC & 2 hr 8:00AM - 6:00PM	PP, RC & 2 hr 8:00AM - 6:00PM	Commercial/Residential
Between Vermont Ave / Gaffey St and Figueroa Pl	35	2	2	Striped	NSAT	NSAT	Commercial/Residential
East of Figueroa Pl	35	2	2	Striped	NSAT	PP/NSAT	Commercial/Residential
Palos Verdes Drive North (Major Highway Class II within City of Los Angeles)							
West of Palos Verdes Dr East	45	2	2	Raised	NPAT	NP 8:00AM - 6:00PM (Fri)	Residential
Between Palos Verdes Dr East and Western Ave	45	2/3	2/3	Raised	2 hr 9:00 AM - 8:00PM, NP 8:00AM - 6:00PM (Fri)	PP	Commercial/Residential
Between Western Ave and Vermont Ave / Gaffey St	45	3	3	Raised	NSAT	NSAT, PP	Commercial/Residential
Trudie Drive (Local Street)							
West of Western Ave	35	1	1	Striped	PP	PP	Commercial/Residential
Capitol Drive (Secondary)							
East of Western Ave	35	2	2	Striped	PP	PP	Commercial/Residential
Crestwood Street (Local Street)							
West of Western Ave	15 & 25	1	1	Striped	PP	PP	Commercial/Residential
1st Street (Collector/Secondary)							
West of Western Ave	30	1	1	Striped	PP	NSAT	Residential
East of Western Ave	30	1	1	Striped	PP	PP	Medical/Residential

NP - No Parking
NS - No Stopping
NPAT - No Parking Any Time
NSAT - No Stopping Any Time
RC - Red Curb
PP - Parking Permitted

Table 2 – Description of Study Area Roadways – Continued

Roadway	Posted Speed Limit	# Lanes NB/ EB	# Lanes SB/ WB	Median Type	Parking Restrictions North Side / East Side	Parking Restrictions South Side / West Side	General Land Use
Palos Verdes Drive East (Arterial)							
West of Crest Rd	35	1/2	2	Striped	NSAT, PP	NSAT, PP	College/Residential
East of Crest Rd	35	1/2	2	Striped	NSAT	NSAT	College/Residential
North of Miraleste Dr	35	1	1	Striped	NSAT	NSAT	Residential
South of Miraleste Dr	35	1	1	Striped	NSAT	NSAT	Residential
North of Palos Verdes Dr North	35	1	1	Striped	NSAT	NSAT	Residential
South of Palos Verdes Dr South	35	1	1	Striped	NSAT	NSAT	Residential
Crest Road (Arterial)							
North of Palos Verdes Dr East	45	2	2	Striped	PP	PP	Residential
Miraleste Drive (Arterial)							
Between Palos Verdes Dr East and 1st St	25	1	1	Striped	NSAT, PP	NSAT, PP	Residential
South of 1st St		1	1	Striped	NSAT, PP	NSAT, PP	Residential
Western Avenue (Major Highway Class II within City of Los Angeles)							
North of Pacific Coast Hwy	35	2	2	Striped	PP	RC/PP	Commercial/Residential
Between Pacific Coast Hwy and Anaheim St	35	2	2	Raised/Striped	PP, NP 6:00AM - 8:00 AM (Fri)	PP, NP 6:00AM - 8:00 AM (Fri)	Commercial
Between Anaheim St and Palos Verdes Dr N	40	2	2	Raised	PP, NP 6:00AM - 8:00 AM (Fri)	PP, NP 6:00AM - 8:00 AM (Fri)	Commercial/Residential
Between Palos Verdes Dr N and Capitol / Trudie Dr	40	2	2	Raised	PP, NP 7:00AM - 9:00AM & 3:00PM - 7:00PM	PP, NP 7:00AM - 9:00AM & 3:00PM - 7:00PM	Commercial/Residential
Between Capitol / Trudie Dr and Crestwood St	40	2	2	Raised	PP, NP 7:00AM - 9:00AM & 3:00PM - 7:00PM	PP, NP 7:00AM - 9:00AM & 3:00PM - 7:00PM	Commercial
Between Crestwood St and 1st St	40	2	2	Raised	PP NS 4:00PM - 6:00PM	PP, NP 7:00AM - 9:00AM & 3:00PM - 7:00PM	Park/Commercial/ Residential
South of 1st St	40	2	2	Raised	NSAT	None	Commercial/Residential
Normandie Avenue (Major Highway Class II)							
North of Pacific Coast Hwy	45	2	2	Striped	NP 12:00PM - 2:30PM (Thu)	PP, NP 12:00PM - 2:30PM (Wed)	Commercial
South of Pacific Coast Hwy	45	2	2	Striped	PP	2 hr 8:00AM - 6:00PM	Commercial
Vermont Avenue (Major Highway Class II)							
North of Pacific Coast Hwy	45	2	2	Striped	NSAT	PP, NP 12:00PM - 2:30PM (Wed)	Commercial/Residential
Between Pacific Coast Hwy and Normandie Ave	45	2	2	Striped	NPAT 10:00PM - 6:00 AM Nightly/NSAT/PP	NSAT	Commercial/Golf Course
Gaffey Street (Major Highway Class II)							
South of Anaheim St	45	2	2	Striped	NSAT	NSAT. PP, NP 11:00PM 5:00 AM Nightly	Oil Refinery/Vacant
Figueroa Place (Collector/Local)							
South of Anaheim St	25	1	1	Striped	PP, NP 12:00PM - 2:30PM (Wed)	PP, NP 12:00PM - 2:30PM (Thu)	Motel/Golf Course
Figueroa Street (Major Highway Class II)							
North of Anaheim St	35	2	2	Striped	PP	2 hr 8:00AM - 6:00PM Except Sun	Commercial/Residential
South of Anaheim St	35	2	2	Striped	RC, 2 hr 8:00AM - 6:00PM Except Sun	PP	Commercial/Residential

NP - No Parking
NS - No Stopping
NPAT - No Parking Any Time
NSAT - No Stopping Any Time
RC - Red Curb
PP - Parking Permitted



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Marymount College San Pedro Campus - Traffic Study — Figure 4

Existing Intersection Geometry

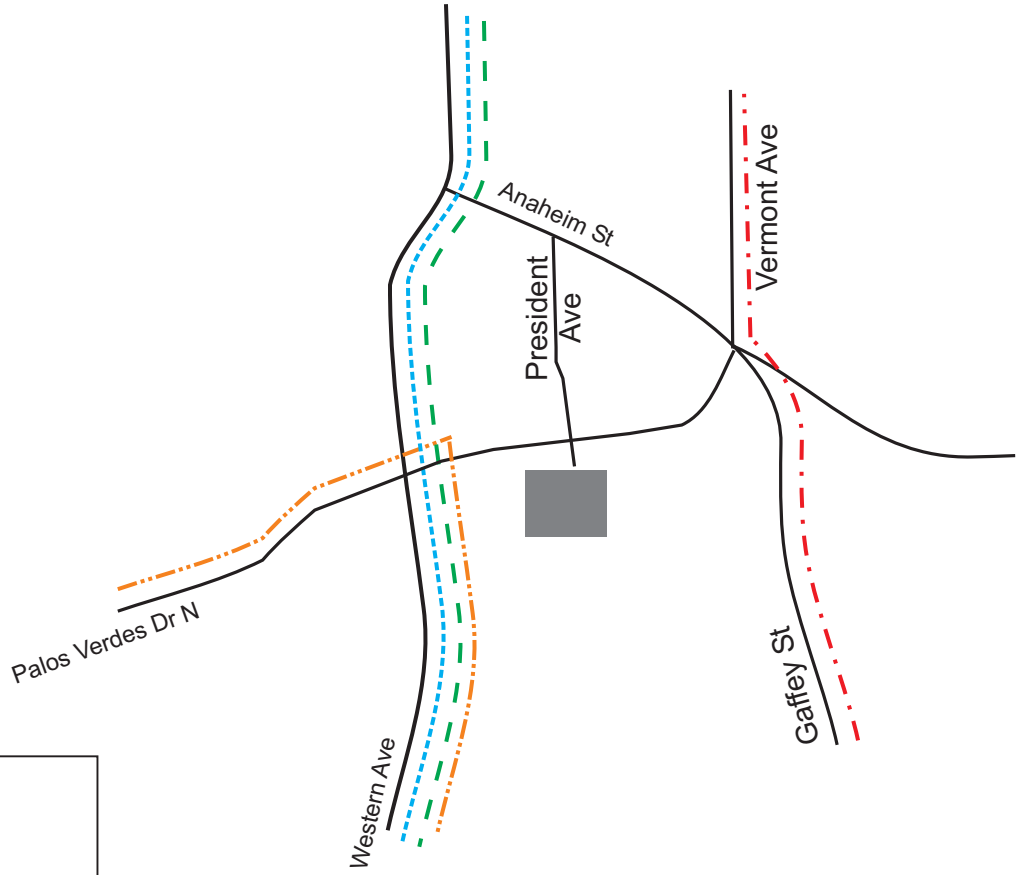
2.2 Existing Transit Service

The project study area is served by bus transit lines operated by Metro, Palos Verdes Peninsula Transit Authority and Municipal Area Express. Table 3 summarizes the transit lines in the vicinity of the project site (within about one-third of a mile). Figure 5 shows the area transit lines relative to the project site.

Table 3 – Summary of Area Transit Lines

Line	From / To	To / From	Via	Frequency (Approximate)	
				Weekday	
				7:00 AM - 9:00 AM	4:00 PM - 6:00 PM
Metro					
205	Imperial/Wilmington Station	San Pedro	Western Ave	30 to 35 Minutes	25 to 40 Minutes
550	City of West Hollywood	San Pedro	Gaffey St/Vermont Ave	30 to 40 Minutes	30 to 40 Minutes
Palos Verdes Peninsula Transit Authority					
Green Route	Ridgecrest School	Miraleste Plaza	Palos Verdes Drive N, Palos Verdes Drive E, Westen Ave, 1st St, Miraleste Dr	7 to 30 Minutes	30 Minutes
Green Eastview	Miraleste Intermediate School	Miraleste Intermediate School	Palos Verdes Drive N, Palos Verdes Drive E, Westen Ave, Crestwood St, Miraleste Dr	20 Minutes (School Days Only)	One Bus (School Days Only)
Orange Route	PV High School	Palos Verdes Drive N/ Peninsula Verde	Palos Verdes Drive E, Westen Ave, 1st St, Miraleste Dr	One way Two Buses within 5 Minutes (School Days Only)	One way One Bus (School Days Only)
Municipal Area Express (MAX)					
MX3	San Pedro	Torrance	Western Ave	-	30 to 35 Minutes

Source:
Metro - Los Angeles County Metropolitan Transportation Authority
Palos Verdes Peninsula Transit Authority
Municipal Area Express



Legend

- Project Site
- Municipal Area Express (MX3)
- Palos Verdes Peninsula Transit Authority (Green, Green Eastview & Orange Route)
- Metro 205
- Metro 550

N

Not to Scale

Note:
Only the transit lines that are in close proximity (i.e. Within approximately one-third of a mile) to the Project site are shown.

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Marymount College San Pedro Campus - Traffic Study

Figure 5

Area Transit Lines

2.3 Existing Intersection Levels of Service

The existing weekday AM and PM peak hour turn movement volumes are provided in Figures 6 and 7, respectively. Based on the existing traffic volumes, a volume-to-capacity ratio for signalized intersections, an average delay value for stop-controlled intersections and the corresponding levels of service (LOS) were determined for the 17 study intersections for the weekday AM and PM peak hours. Table 4 provides a summary of the volume/capacity ratios (or average delays) and LOS values. The traffic analysis worksheets are provided in Appendix F for intersections located in the City of Los Angeles and in Appendix G for intersections located in the cities of Rancho Palos Verdes, Rolling Hills Estates and Lomita.

Table 4 – Intersection Performance – Existing (2011)

	Study Intersections	City	Analysis Methodology	AM Peak Hour		PM Peak Hour	
				V/C or Delay (secs)	LOS	V/C or Delay (secs)	LOS
1	Western Ave & Pacific Coast Hwy	Los Angeles	CMA	0.881	D	0.908	E
2	Normandie Ave & Pacific Coast Hwy	Los Angeles	CMA	0.651	B	0.647	B
3	Vermont Ave & Pacific Coast Hwy	Los Angeles	CMA	0.808	D	0.720	C
4	Western Ave & Anaheim St	Los Angeles	CMA	0.539	A	0.454	A
5	Palos Verdes Dr E & Palos Verdes Dr N	Rolling Hills Estates	ICU	0.732	C	0.700	B
6	Western Ave & Palos Verdes Dr N	Lomita	ICU	0.924	E	0.969	E
7	President Ave & Palos Verdes Dr N [a]	Los Angeles	HCM	31.7	D	24.2	C
8	Gaffey St/Vermont Ave & Anaheim St/N. Palos Verdes Dr	Los Angeles	CMA	0.738	C	0.776	C
9	Figueroa Pl & Anaheim St	Los Angeles	CMA	0.774	C	0.816	D
10	Figueroa St & Anaheim St	Los Angeles	CMA	0.815	D	1.029	F
11	Palos Verdes Dr E & Miraleste Dr [a]	Rancho Palos Verdes	HCM	74.0	F	99.1	F
12	Western Ave & Trudie Dr/Capitol Dr	Rancho Palos Verdes	ICU	0.929	E	0.828	D
13	Miraleste Dr & Via Colinita Ave [a]	Rancho Palos Verdes	HCM	14.2	B	18.8	C
14	Western Ave & Crestwood St	Rancho Palos Verdes	ICU	0.783	C	0.796	C
15	Miraleste Dr & 1st St [a]	Rancho Palos Verdes	HCM	16.2	C	13.3	B
16	Western Ave & 1st St	Los Angeles	CMA	0.877	D	0.848	D
17	Palos Verdes Dr E & Crest Rd	Rancho Palos Verdes	ICU	0.424	A	0.348	A

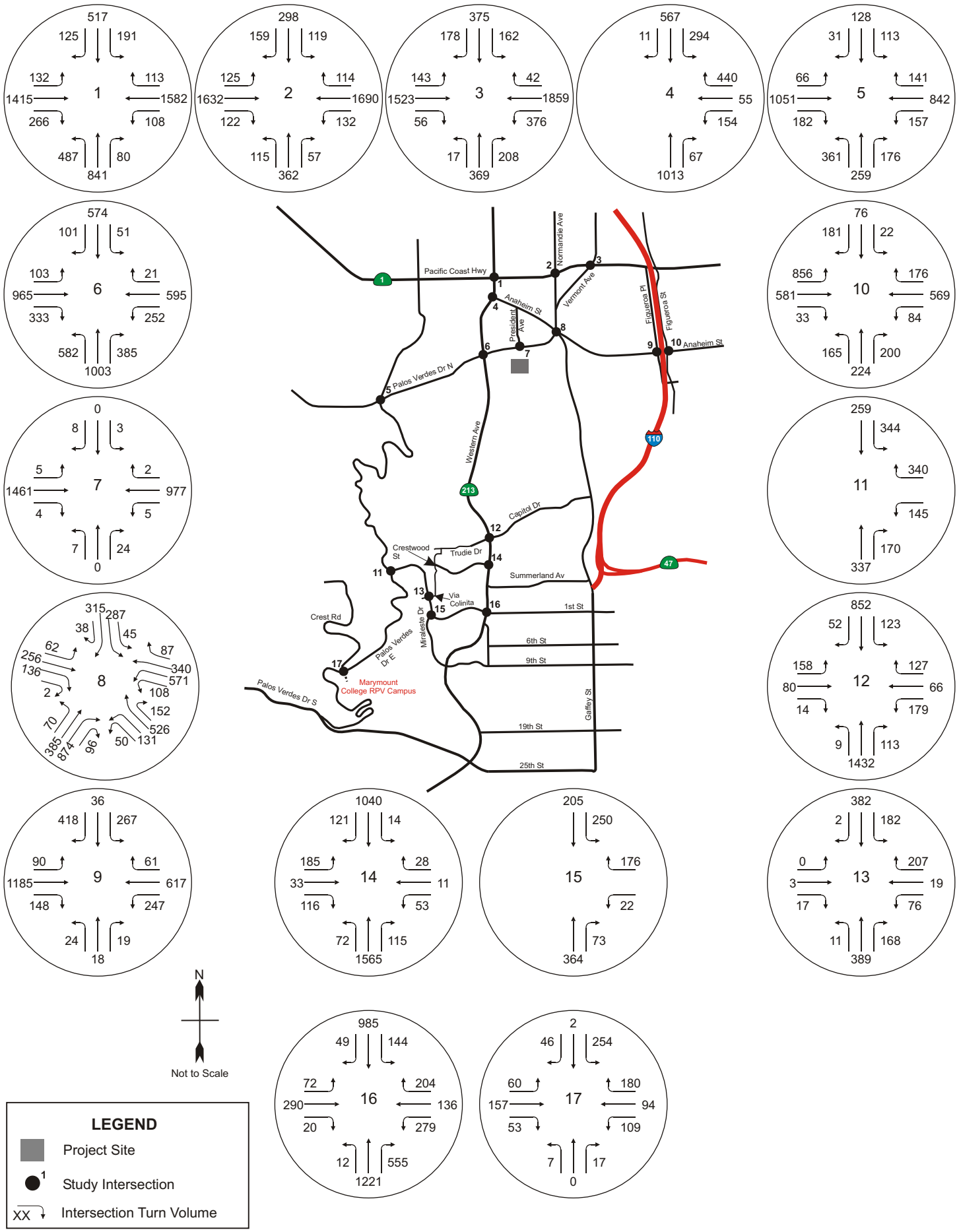
Note:

ICU - Intersection Capacity Utilization Method (V/C), CMA - Critical Movement Analysis Method (V/C), HCM - Highway Capacity Manual Method (Delay)

[a] Stop controlled intersection. Average delay & corresponding LOS shown for most constrained movement(s).

As shown in Table 4, all of the study intersections are operating at LOS D or better during both study peak hour periods except the following five intersections:

- Western Avenue and Pacific Coast Highway (PM Peak Hour)
- Western Avenue and Palos Verdes Drive North (AM and PM Peak Hours)
- Figueroa Street and Anaheim Street (PM Peak Hour)
- Palos Verdes Drive East and Miraleste Drive (AM and PM Peak Hours)
- Western Avenue and Trudie Drive/Capitol Drive (AM Peak Hour)



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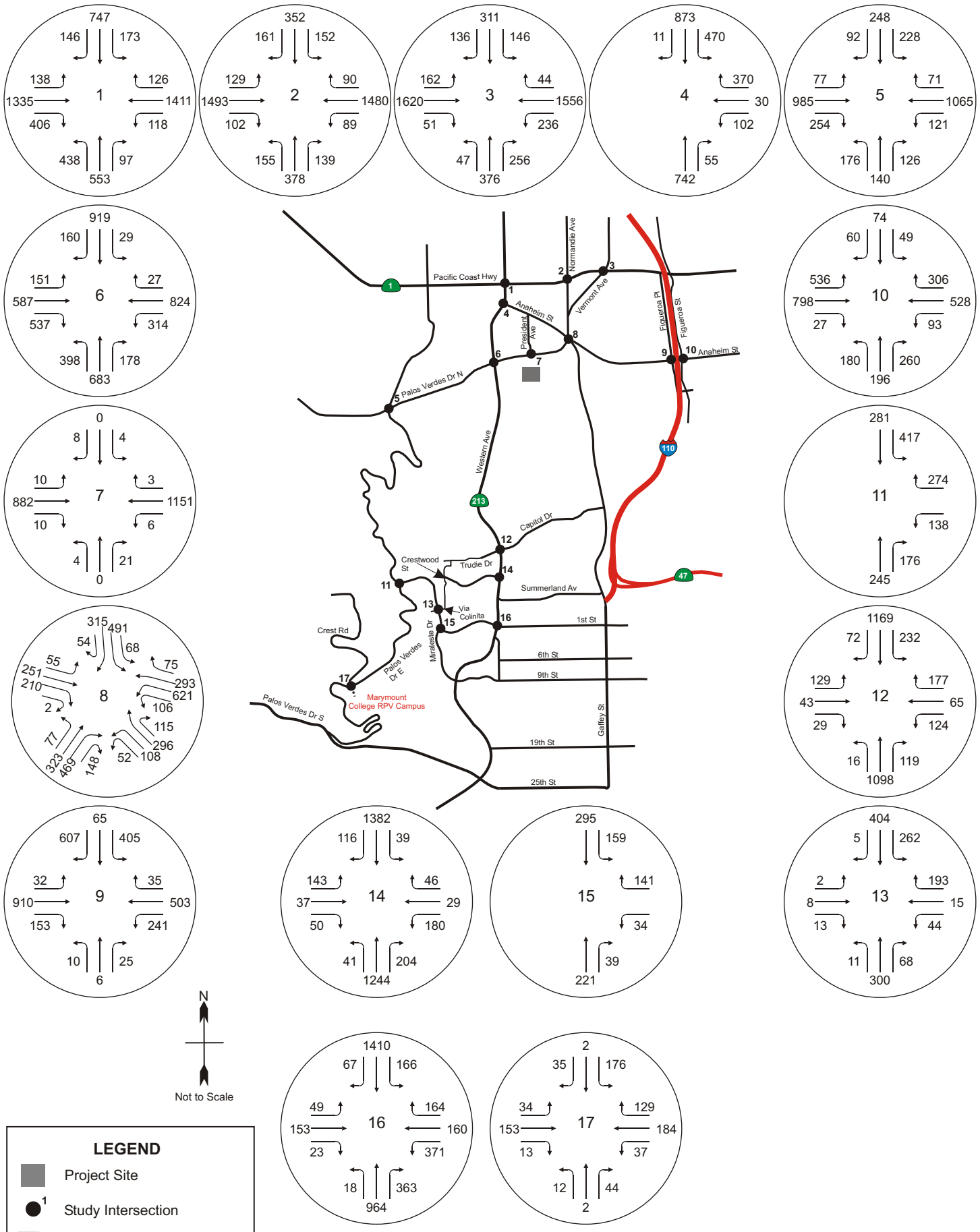
Marymount College San Pedro Campus - Traffic Study — Figure 6

Existing (2011) AM Peak Hour Turn Volumes



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Marymount College San Pedro Campus - Traffic Study — Figure 7

Existing (2011) PM Peak Hour Turn Volumes

3. Project Traffic

This section defines the traffic that would be generated by the proposed project in a three-step process including trip generation, trip distribution and trip assignment.

3.1 Project Trip Generation

The project trip generation was based on empirical trip rates derived from surveys conducted at the Marymount College RPV Campus and at the existing Palos Verdes Drive North residential facility site (proposed San Pedro Campus site), as well as trip rates from the Institute of Transportation Engineers (ITE) *Trip Generation*, *8th Edition* book. In addition, trip generation reductions were applied to take into account trip discounts due to students living on campus and other trip reducing measures that will be implemented by the project. Table 5 shows the trip generation rates that were utilized, and the trip generation for the project.

Empirical Trip Generation Rates

The following describes the trip generation surveys that were conducted to determine empirical trip rates used to calculate project trips.

Marymount College RPV Campus Trip Generation Survey

It is anticipated that the non-residential component of the proposed San Pedro Campus would have similar trip generation characteristics compared to the RPV Campus since both campuses would have undergraduate/graduate programs under the same college but on two sites. For this reason, a trip survey was conducted at the RPV Campus to determine empirical trip rates for that campus. The survey was conducted on Tuesday, March 22, 2011 and Wednesday, March 30, 2011. Manual counts were collected on the site driveway during the AM and PM peak periods. Vehicles that arrived to and departed from the RPV Campus but parked on the adjacent and/or nearby streets were also included in the counts. In addition, 24-hour counts using video recordings were collected on the site driveway. Based on the count data collected, the average vehicle trip rate per student was 2.34 per day. During the AM and PM peak hours, the average vehicle trip rate per student was 0.26 and 0.24, respectively.

Marymount College Palos Verdes North Residential Facility Trip Generation Survey

A trip generation survey was also conducted at the existing Palos Verdes Drive North residential facility (proposed San Pedro Campus site) to determine empirical trip rates for the residential student component. The survey was conducted on Thursday, March 24, 2011 during the AM and PM peak periods. Manual counts of private vehicles were collected on the access driveway located at President Avenue. Based on the survey results, the AM and PM peak hour vehicle trip rates were derived to be 0.31 and 0.35 trips per student. The daily vehicle trip rate, which was determined to be 3.88 trips per student, is based on the daily to AM+PM ratio for apartment use from the ITE *Trip Generation* book and multiplied by the AM plus PM rates.

Table 5 – Project Trip Generation

Land Use	Intensity	Unit	Weekday						
			Daily	AM Peak Hour			PM Peak Hour		
				Total	In	Out	Total	In	Out
Trip Rates									
College [1]	-	Student	2.34	0.26	76%	24%	0.24	25%	75%
Off-Campus Housing [2]	-	Student	3.88	0.31	13%	87%	0.35	52%	48%
Apartment [3]	-	DU	6.65	0.51	20%	80%	0.62	65%	35%
Trip Generation									
Proposed Project									
College	1,500	Student	3,510	390	296	94	360	90	270
Internal Trip Reduction [4]	53%		-1,872	-208	-158	-50	-192	-48	-144
Subtotal			1,638	182	138	44	168	42	126
Resident Student Trip Reduction (75% AM) [5]			-137	-137	-104	-33	0	0	0
Total Non-Residential College Trips			**1,501**	**45**	**34**	**11**	**168**	**42**	**126**
Residence Halls for Students	800	Student	3,104	248	32	216	280	146	134
'Limited Cars for Residents' Trip Reduction (56%) [6]			-1,738	-139	-18	-121	-157	-82	-75
Subtotal			1,366	109	14	95	123	64	59
Internal Trip Reduction (77% AM, 62% PM) [7][8]			-847	-84	-11	-73	-76	-40	-36
Total Non-RPV Campus Trips			**519**	**25**	**3**	**22**	**47**	**24**	**23**
Trips to/from RPV Campus [9]	400	Student	1,552	124	16	108	140	73	67
'Limited Cars for Residents' Trip Reduction (56%) [6]			-869	-69	-9	-60	-78	-41	-37
Total Trips to/from RPV Campus			**683**	**55**	**7**	**48**	**62**	**32**	**30**
Faculty Apartments	8	DU	53	4	1	3	5	3	2
Internal Trip Reduction (77% AM, 62% PM) [7]			-6	-3	-1	-2	-3	-2	-1
Total Faculty Apartment Trips			**47**	**1**	**0**	**1**	**2**	**1**	**1**
Total Trip Generation (Proposed Project Uses)			**2,750**	**126**	**44**	**82**	**279**	**99**	**180**
Existing Uses									
Housing Facility [10]	86	DU	**536**	**43**	**7**	**36**	**48**	**25**	**23**
Net Total Trip Generation			**2,214**	**83**	**37**	**46**	**231**	**74**	**157**

[1] Trip generation rates are based on trip surveys conducted at the Marymount College RPV Campus on March 22 and 30, 2011.

[2] The AM and PM peak hour trip rates are based on trip generation surveys conducted at the Palos Verdes Drive North residential facility on March 24, 2011. The daily rate is based on daily to AM+PM ratio for apartment use from the ITE Trip Generation book and multiplied by the AM plus PM rates. [3.88 daily trip rate = (6.65 / (0.51+0.62))*(0.31+0.35)]

[3] Trip generation rates are from ITE Trip Generation, 8th Edition.

[4] Based on percentage of students who will be living on the San Pedro Campus (800 resident students/1,500 total students).

[5] Marymount College would schedule the morning peak period classes on the San Pedro Campus exclusively for resident students. A trip reduction of 75% is assumed for the AM peak hour as commuter students are not expected to generate vehicle trips during this period. The remaining trips are expected to be generated by faculty/staff.

[6] About 44% of the 800 San Pedro Campus residents would have a vehicle on campus based on a limited lottery system. The remaining 56% of residents would not have a vehicle on campus and therefore would not generate vehicle trips.

[7] Based on internal trip capture empirical rates for the apartment dormitory component per the Marymount College Facilities Expansion Project Traffic Impact Analysis, RBF Consulting, July 31, 2007. The empirical data showed that 77% of the vehicles during the AM peak and 62% of the vehicles during the PM peak are traveling to/from the RPV campus.

[8] The internal trip reduction for the PM was assumed for daily.

[9] Based on information provided by Marymount College representative, about 400 of the 800 residents would take classes at the Marymount College RPV Campus on a typical weekday.

[10] The AM and PM peak hour trips are based on raw trip generation survey data conducted at the Palos Verdes Drive North Facility on March 24, 2011. The daily trips are based on daily to AM+PM ratio for apartment use from ITE Trip Generation book and multiplied by the raw AM plus PM peak hour trips. [536 daily trips = (6.65 / (0.51+0.62))*(43+48)]

Trip Generation Discounts

The following are trip discounts that were applied to the project trip generation calculations:

Internal Trip Reduction – The proposed San Pedro Campus, upon build out, would have 1,500 students, 800 of whom would be resident students living on campus. Thus, a 53% (800 / 1,500) trip reduction was applied to the trip generation for the non-residential component of the project.

Resident Student Trip Reduction – Marymount College will schedule the AM peak period classes on the San Pedro Campus exclusively for resident students living on campus. Thus, commuter students are not expected to generate vehicle trips during this period. A trip reduction of 75% was applied to the AM peak hour, with the remaining trips expected to be generated by faculty/staff/visitors. No trip reduction was taken for the PM peak hour.

'Limited Cars for Residents' Trip Reduction – About 44% of the 800 San Pedro Campus residents would have a vehicle on campus based on a limited lottery system. The remaining 56% of the residents would not be allowed to have a vehicle on campus and therefore would not generate vehicle trips.

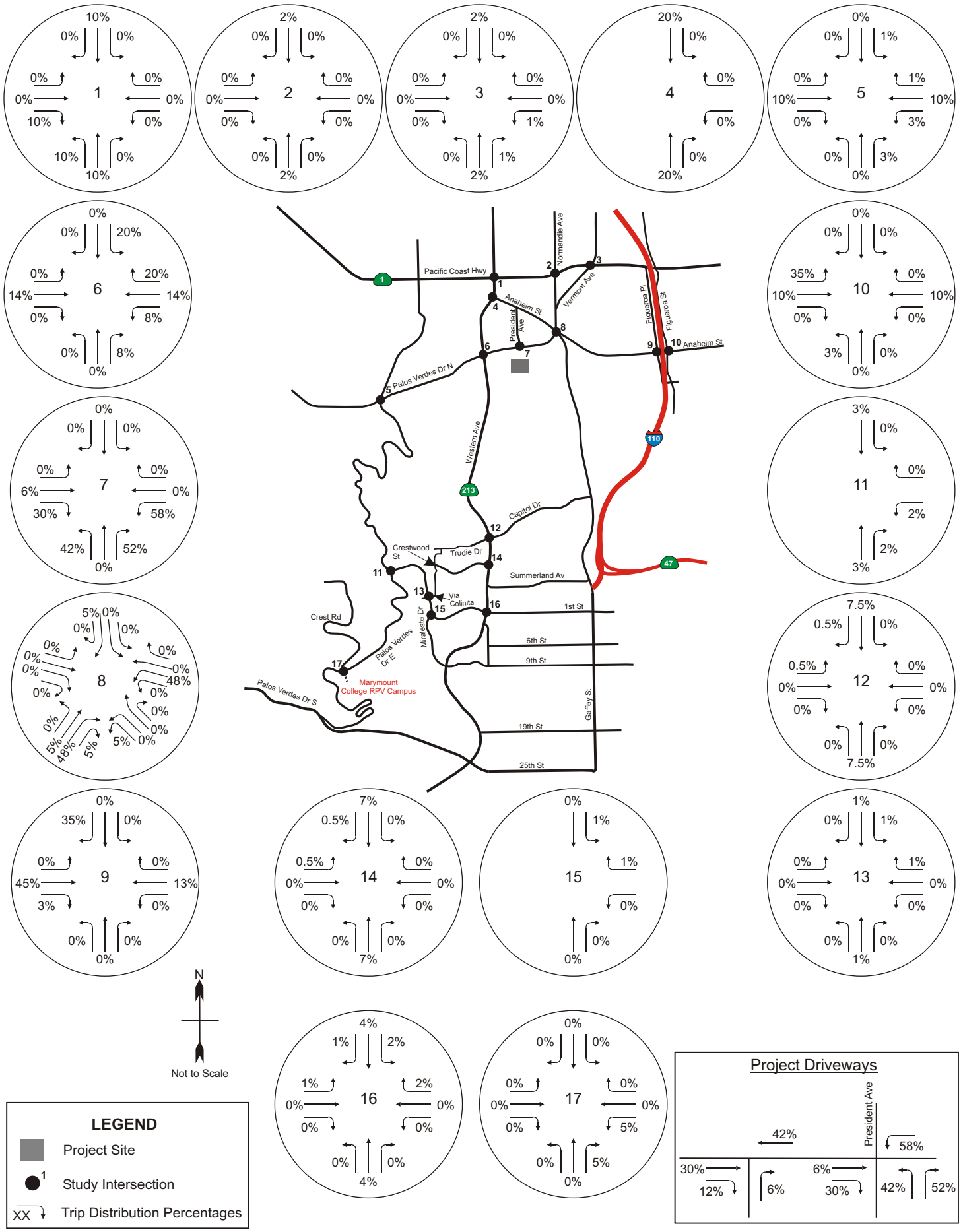
Internal Trip Reduction (For Resident Students) – This trip reduction applies to on-campus residents who no longer need to drive to an off-site campus. The internal trip reduction is based on empirical rates for the apartment dormitory component per the Marymount College Facilities Expansion Project Traffic Impact Analysis dated July 31, 2007. The empirical data showed that 77% of the vehicles during the AM peak period and 62% of the vehicles during the PM peak period are traveling to/from the RPV Campus.

The empirical trip rates and trip generation discounts are also discussed in the footnotes at the bottom of Table 5. The trip rates and trip generation discounts were discussed with and approved by LADOT.

As shown in Table 5, the project upon build out is estimated to generate 2,750 daily trips including 126 AM peak hour trips and 279 PM peak hour trips. The project site currently generates about 536 daily trips including 43 trips during the AM peak hour and 48 trips during the PM peak hour. Thus, the project would result in an increase of 2,214 net daily trips of which 83 net trips would occur during the AM peak-hour and 231 net trips would occur during the PM peak-hour.

3.2 Project Trip Distribution

Trip distribution is the process of assigning the directions from which traffic will access a project site. Trip distribution is dependent upon the land use characteristics of the project and the general locations of other land uses to which project trips would originate or terminate. The project trip distribution was developed based on our knowledge of development trends in the area, local and sub-regional traffic routes, and regional traffic flows. In addition, the project trip distribution was also based on existing student and faculty/staff zip code information. Two trip distribution patterns were determined. The first distribution is for trips generated by the project but excludes those trips generated by resident students going to/from the RPV Campus, as shown in Figure 8. The second distribution is for trips generated by the resident students traveling to/from the RPV Campus, as shown in Figure 9.



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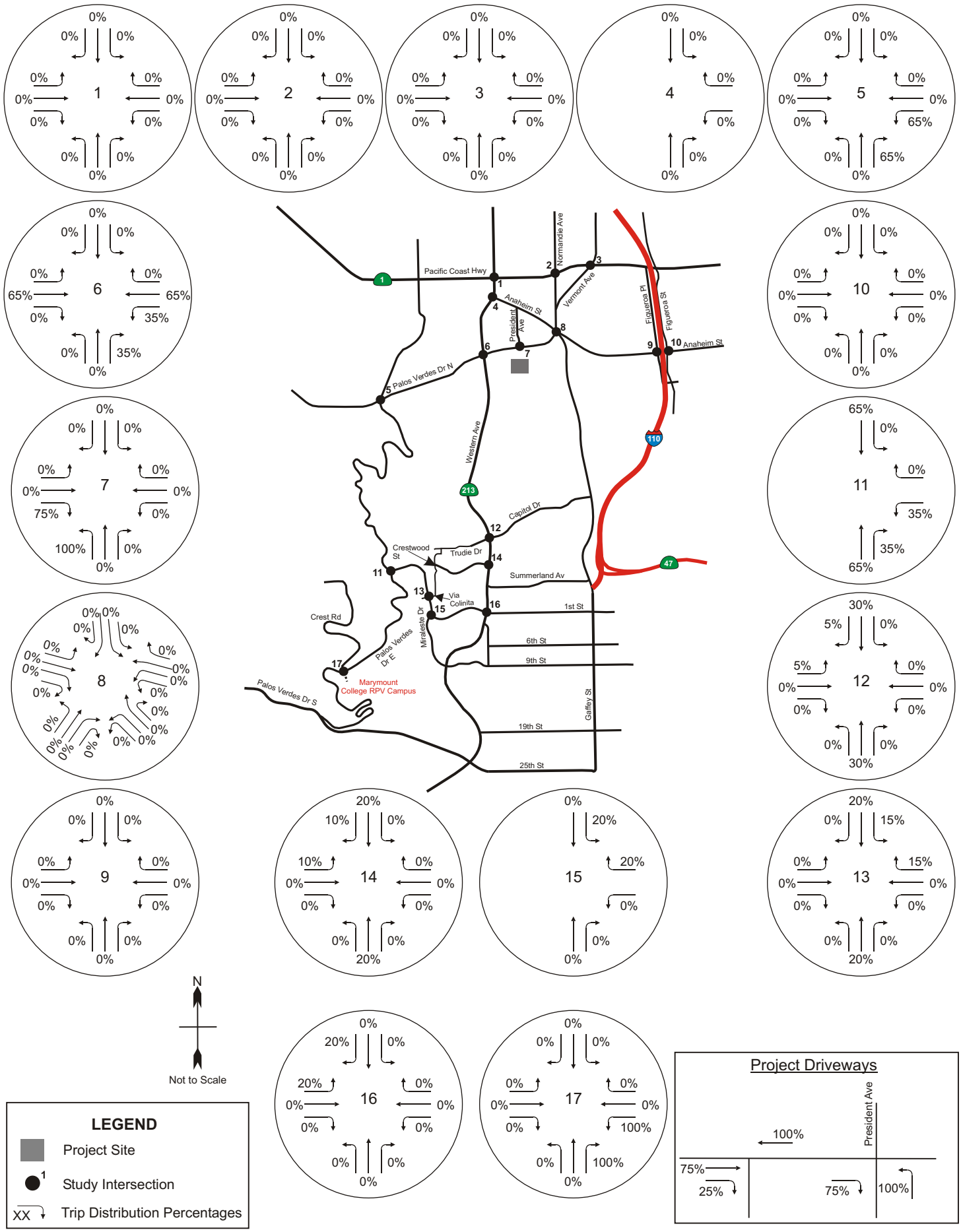
Marymount College San Pedro Campus - Traffic Study — Figure 8

Project Trip Distribution - To/From Proposed Campus



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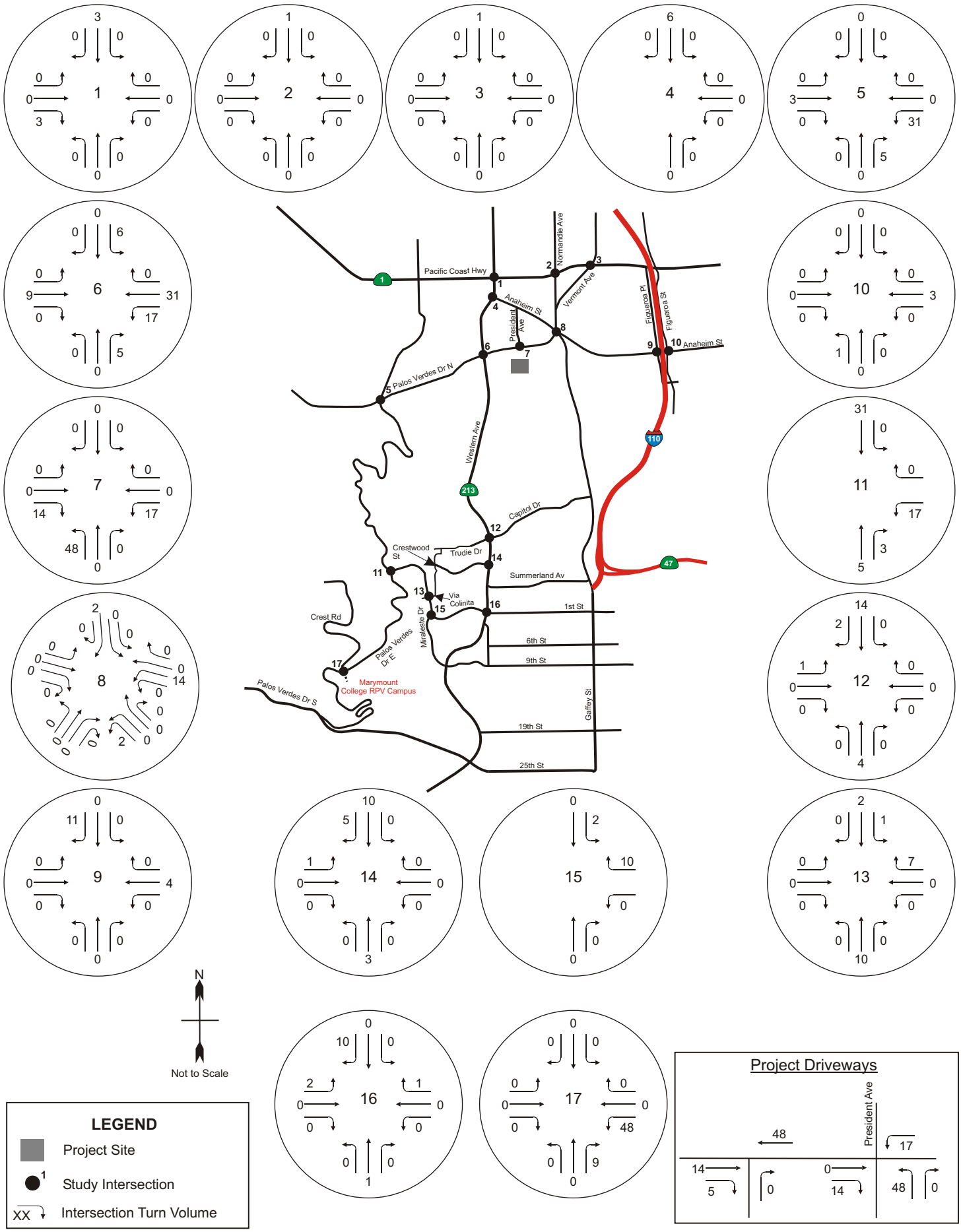
Marymount College San Pedro Campus - Traffic Study — Figure 9

Project Trip Distribution Between Proposed Campus and Existing RPV Campus

It should be noted that the trip distribution between the San Pedro and RPV Campuses as shown in Figure 9 is based on license plate survey data. The survey was conducted on Tuesday, March 22, 2011 for 90 minutes during the AM peak period and for 90 minutes during the PM peak period. Personnel were stationed at the RPV Campus to identify license plate information for vehicles arriving to the Campus including those parking on-site and on-street. In addition, personnel were stationed at the intersections of Western/Trudie, Western/Crestwood, Western/1st, and Palos Verdes Drive East/Palos Verdes Drive North. Based on our review of the roadway system, these are the access points that are most likely to be used by motorists traveling between the proposed project site and the RPV Campus. License plate information was collected for vehicles heading southbound on Western Avenue and turning right onto Trudie Drive, Crestwood Street and 1st Street. License plate information was also collected for those vehicles turning left from westbound Palos Verdes Drive North onto southbound Palos Verdes Drive East. The license plate information collected at the RPV Campus was matched with the license plate information collected at the four access points in order to determine the percentage of trips that use each route.

3.3 Project Trip Assignment

The final product of the three-step process is a full accounting of project trips, by direction and turning movement at the study intersections. The project trips were assigned based on distribution inputs using the TRAFFIX program. Figures 10 and 11 illustrate the project trips for the weekday AM and PM peak hours, respectively.



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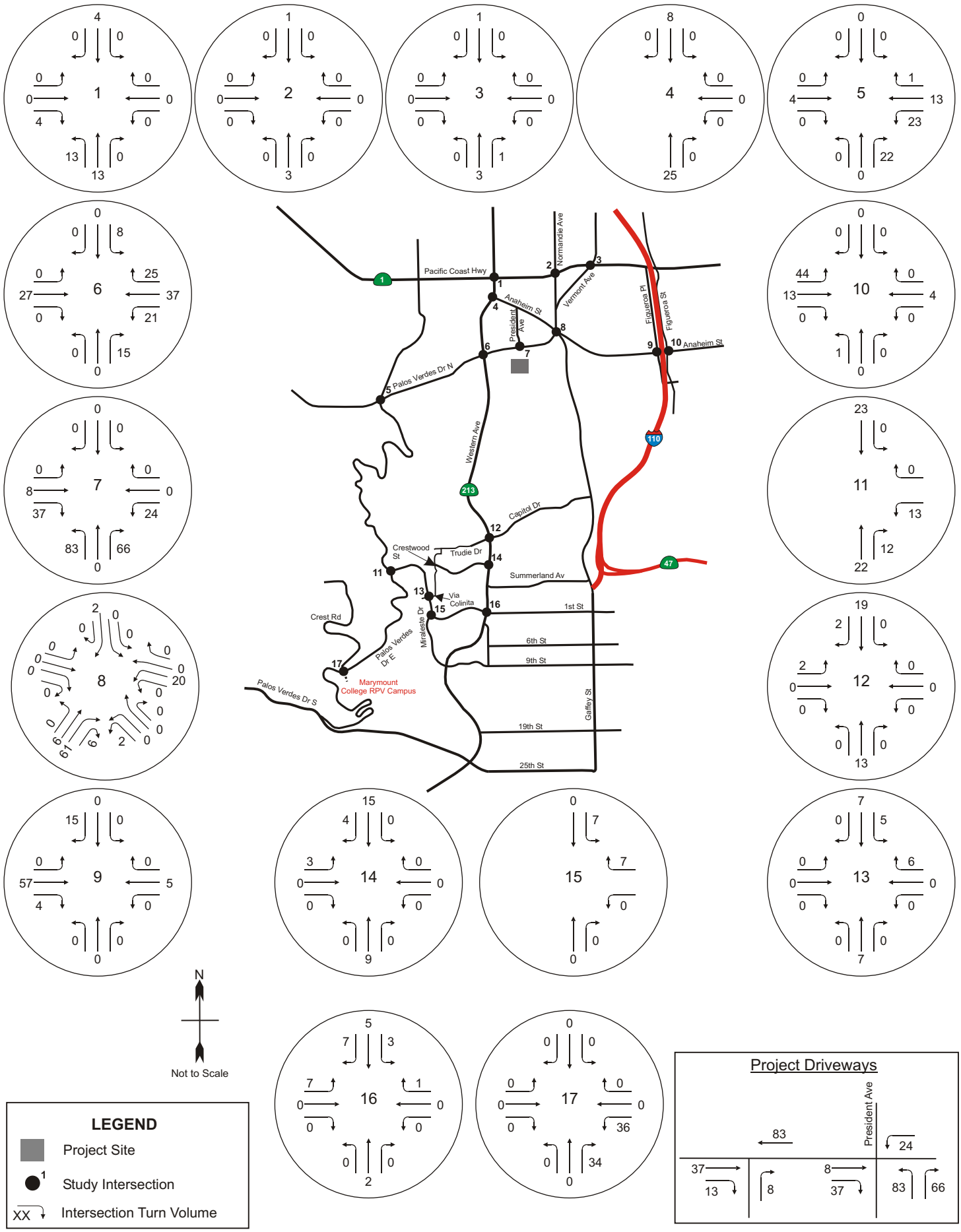
Marymount College San Pedro Campus - Traffic Study

Figure 10

Net Project Only AM Peak Hour Turn Volumes



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Marymount College San Pedro Campus - Traffic Study

Figure 11

Net Project Only PM Peak Hour Turn Volumes

4. Existing Plus Project

This section documents existing traffic conditions at the study intersections with the addition of net project-generated traffic. Traffic volumes for these conditions were derived by adding project trips to the existing traffic volumes. The Existing Plus Project traffic volumes are shown in Figures 12 and 13 for the weekday AM and PM peak hour periods, respectively.

4.1 Project Related Improvement

As part of the project, the northbound approach at the intersection of President Avenue and Palos Verdes Drive North would be improved to provide a shared left-through lane and an exclusive right turn only lane.

4.2 Existing Plus Project Intersection Levels of Service

Table 6 summarizes the resulting level of service values at the study intersections for the Existing Plus Project conditions. The traffic analysis worksheets for this scenario are provided in Appendix F for intersections located in the City of Los Angeles and in Appendix H for intersections in the cities of Rancho Palos Verdes, Rolling Hills Estates and Lomita.

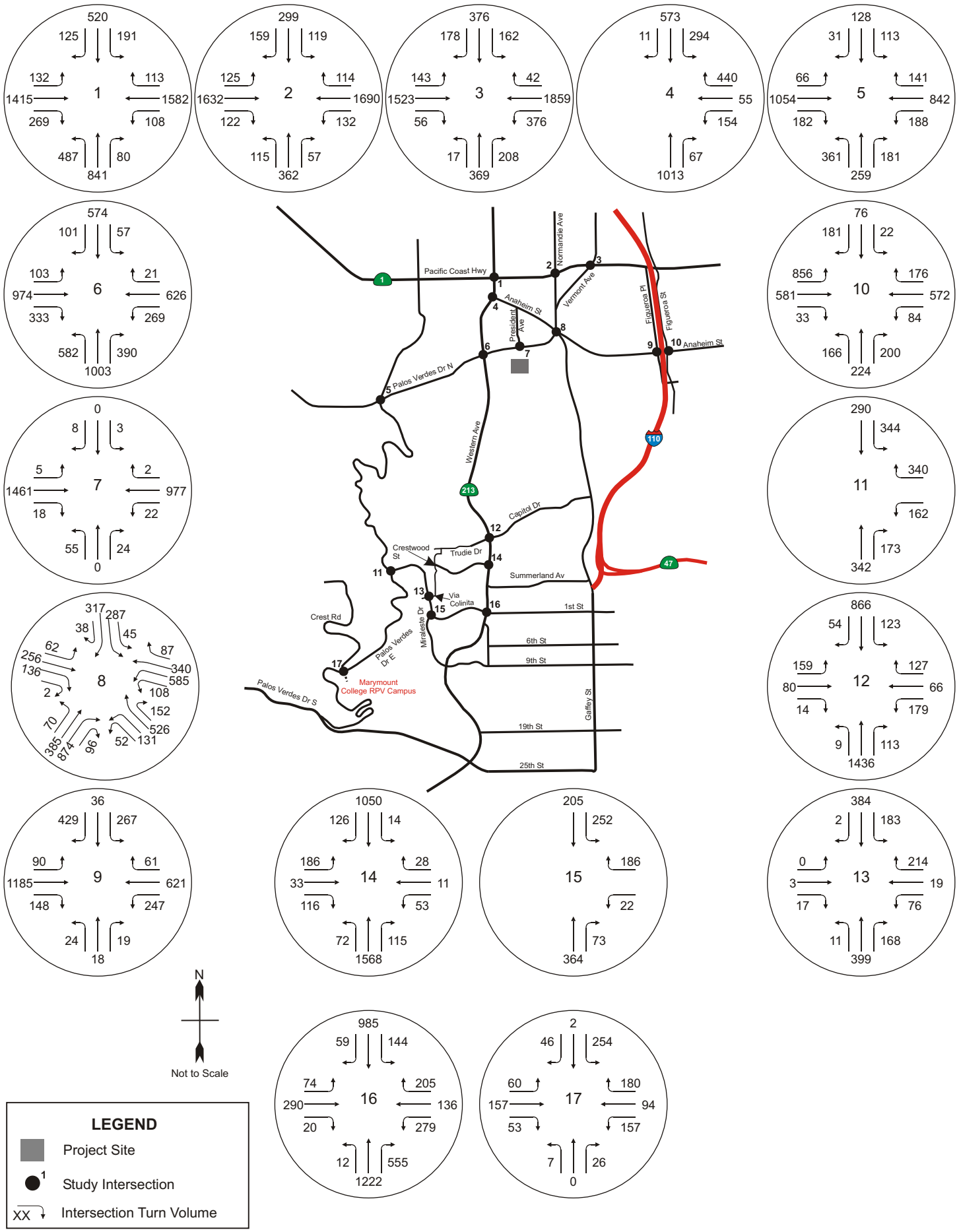
Table 6 – Intersection Performance – Existing Plus Project

	Study Intersections	City	Analysis Methodology	AM Peak Hour		PM Peak Hour	
				V/C or Delay (secs)	LOS	V/C or Delay (secs)	LOS
1	Western Ave & Pacific Coast Hwy	Los Angeles	CMA	0.881	D	0.916	E
2	Normandie Ave & Pacific Coast Hwy	Los Angeles	CMA	0.651	B	0.647	B
3	Vermont Ave & Pacific Coast Hwy	Los Angeles	CMA	0.808	D	0.721	C
4	Western Ave & Anaheim St	Los Angeles	CMA	0.539	A	0.463	A
5	Palos Verdes Dr E & Palos Verdes Dr N	Rolling Hills Estates	ICU	0.752	C	0.715	C
6	Western Ave & Palos Verdes Dr N	Lomita	ICU	0.942	E	0.982	E
7	President Ave & Palos Verdes Dr N [a]	Los Angeles	HCM	>100	F	72.5	F
8	Gaffey St/Vermont Ave & Anaheim St/N. Palos Verdes Dr	Los Angeles	CMA	0.744	C	0.785	C
9	Figueroa Pl & Anaheim St	Los Angeles	CMA	0.781	C	0.846	D
10	Figueroa St & Anaheim St	Los Angeles	CMA	0.816	D	1.040	F
11	Palos Verdes Dr E & Miraleste Dr [a]	Rancho Palos Verdes	HCM	>100	F	>100	F
12	Western Ave & Trudie Dr/Capitol Dr	Rancho Palos Verdes	ICU	0.931	E	0.834	D
13	Miraleste Dr & Via Colinita Ave [a]	Rancho Palos Verdes	HCM	18.5	C	19.9	C
14	Western Ave & Crestwood St	Rancho Palos Verdes	ICU	0.784	C	0.803	D
15	Miraleste Dr & 1st St [a]	Rancho Palos Verdes	HCM	16.4	C	13.4	B
16	Western Ave & 1st St	Los Angeles	CMA	0.877	D	0.853	D
17	Palos Verdes Dr E & Crest Rd	Rancho Palos Verdes	ICU	0.443	A	0.365	A

Note:

ICU - Intersection Capacity Utilization Method (V/C), CMA - Critical Movement Analysis Method (V/C), HCM - Highway Capacity Manual Method (Delay)

[a] Stop controlled intersection. Average delay & corresponding LOS shown for most constrained movement(s).



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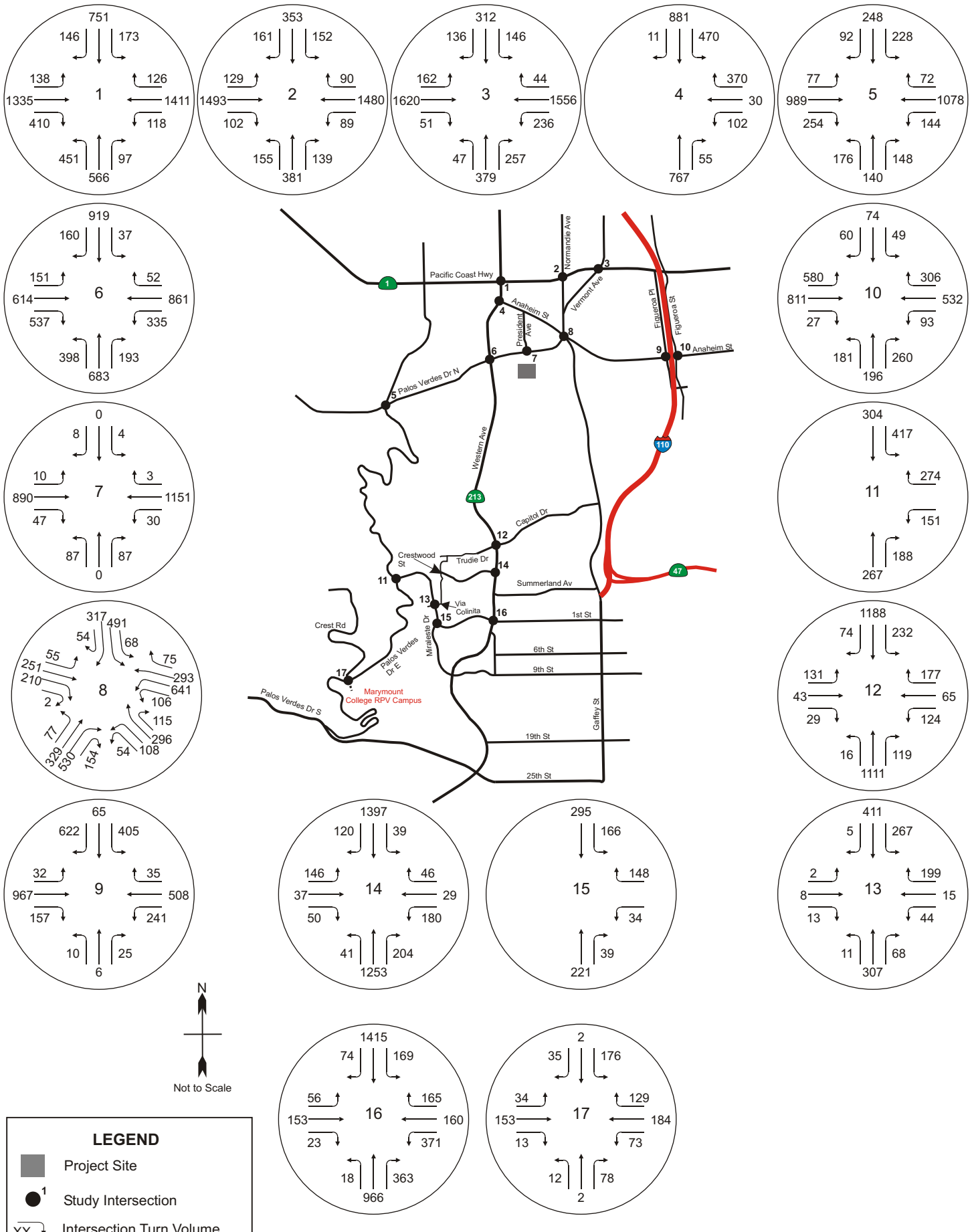
Marymount College San Pedro Campus - Traffic Study

Figure 12

Existing (2011) Plus Project AM Peak Hour Turn Volumes



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Marymount College San Pedro Campus - Traffic Study — Figure 13

Existing (2011) Plus Project PM Peak Hour Turn Volumes

As shown in Table 6, under the Existing Plus Project conditions, all of the study intersections are projected to operate at LOS D or better during both study peak hour periods except for the following six intersections:

- Western Avenue and Pacific Coast Highway (PM Peak Hour)
- Western Avenue and Palos Verdes Drive North (AM and PM Peak Hours)
- President Avenue and Palos Verdes Drive North (AM and PM Peak Hours)
- Figueroa Street and Anaheim Street (PM Peak Hour)
- Palos Verdes Drive East and Miraleste Drive (AM and PM Peak Hours)
- Western Avenue and Trudie Drive/Capitol Drive (AM Peak Hour)

Determination of significant traffic impacts created by project traffic is discussed in Section 7 of this report.

5. Future (2031) Without Project

This section provides an analysis of future traffic conditions in the study area with ambient growth and related area projects added but without the proposed project. The year 2031 was selected for analysis based on the anticipated 20-year build out of the project.

5.1 Ambient Growth

For the analysis of background traffic for year 2031, a traffic growth factor of 7.1% for the 20-year period was utilized to provide for increases in traffic from the existing traffic counts. This growth rate is based on the 2010 Los Angeles County Congestion Management Program (CMP) traffic growth projections for the study area. This growth rate was discussed and verified with LADOT staff.

To apply this ambient growth rate to the existing (2011) traffic volumes, a factor of 1.071 was utilized. This factor simulates a 7.1% increase over the 20-year period between existing (2011) and future (2031) conditions.

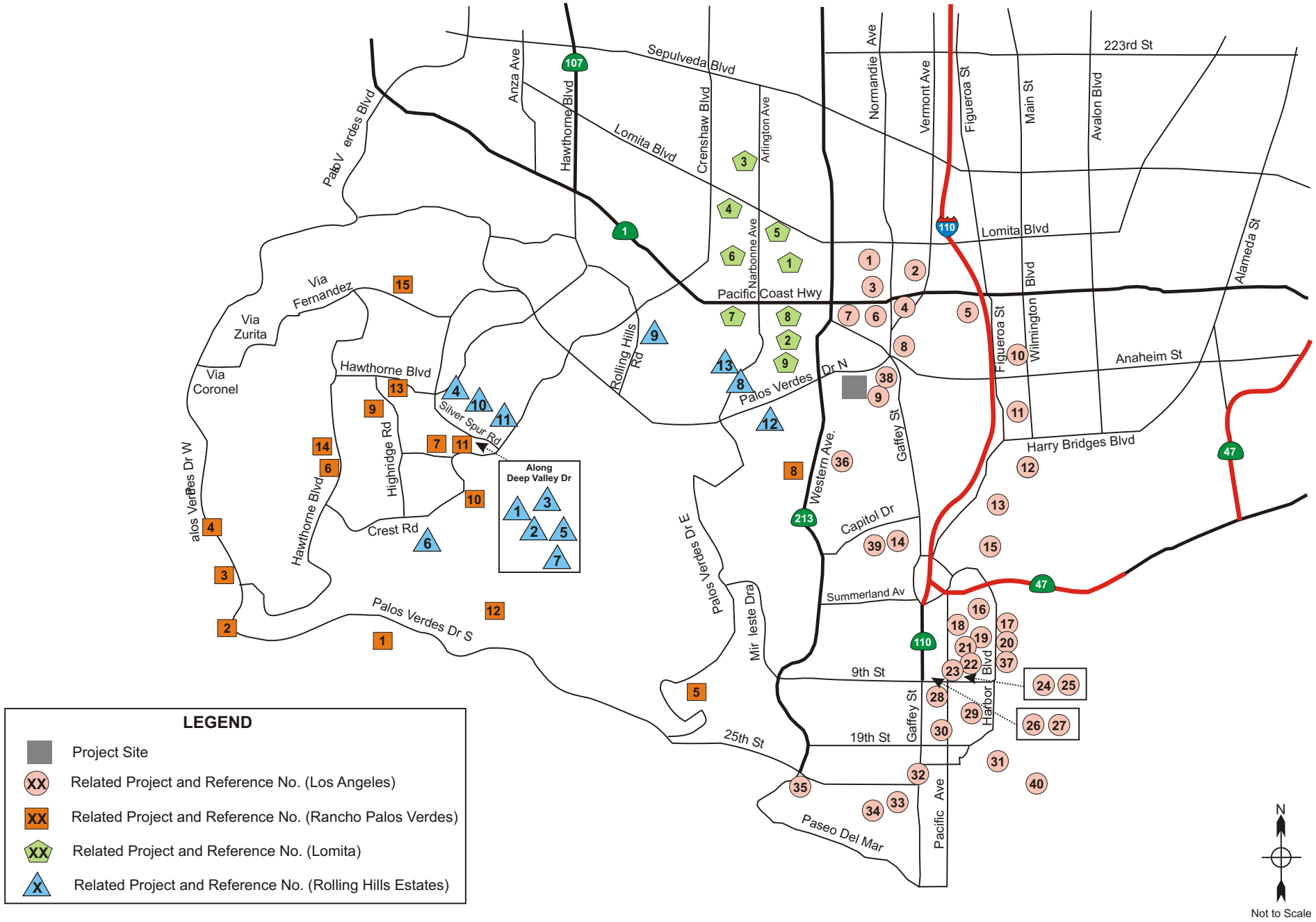
5.2 Related Projects

An area of influence, generally defined by an approximate two-mile radius from the project site, was utilized in order to capture specific locations of other approved and pending projects. Based on discussions with staff from the cities of Los Angeles, Rancho Palos Verdes, Rolling Hills Estates and Lomita, 77 area/related projects were compiled. These area/related projects were considered to potentially contribute measurable traffic volumes to the study intersections during the future analysis periods. Figure 14 shows the locations of the related projects. A description of the related projects and the trip generation of each are summarized in Appendix D.

The related projects were separated into zones and trips attributed to these related projects were added to the surrounding street system using similar distribution and assignment methodology applied for project trips, with some adjustments for related projects near the edge of the study area. Appendix D illustrates the related projects trip assignments by turning movement during the AM and PM peak hours.

5.3 Future Without Project Intersection Levels of Service

The Future 2031 Without Project traffic volumes are shown in Figures 15 and 16 for the weekday AM and PM peak hour periods, respectively. To analyze the Future Without Project conditions, the intersection turn volumes were processed using the CMA, ICU and HCM methodologies, where appropriate. Table 7 summarizes the level of service operations at the study intersections for this scenario. The traffic analysis worksheets are provided in Appendix F for intersections located in the City of Los Angeles and Appendix J for intersections located in the cities of Rancho Palos Verdes, Rolling Hills Estates and Lomita.



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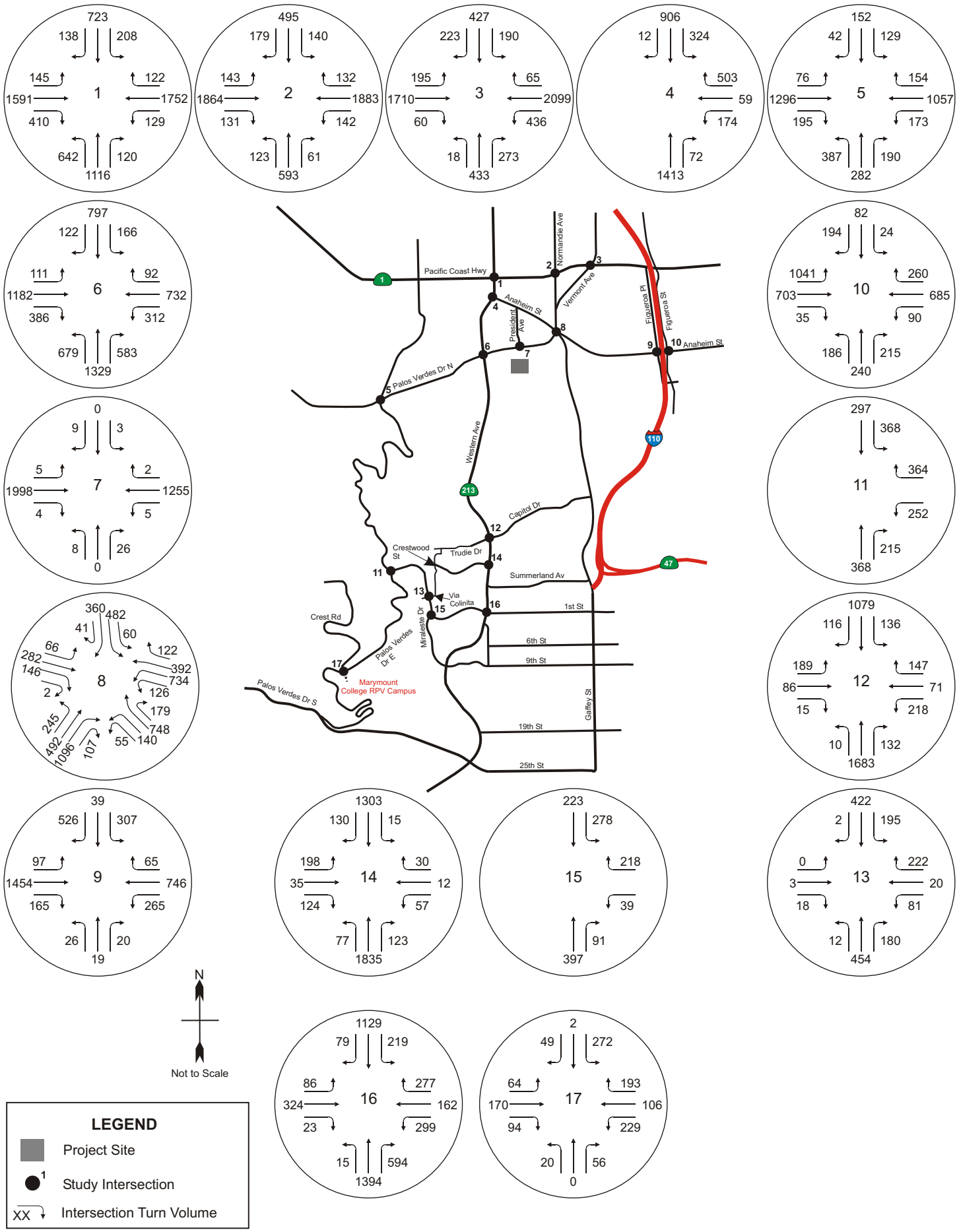
Marymount College San Pedro Campus - Traffic Study

Figure 14

Location of Related Projects



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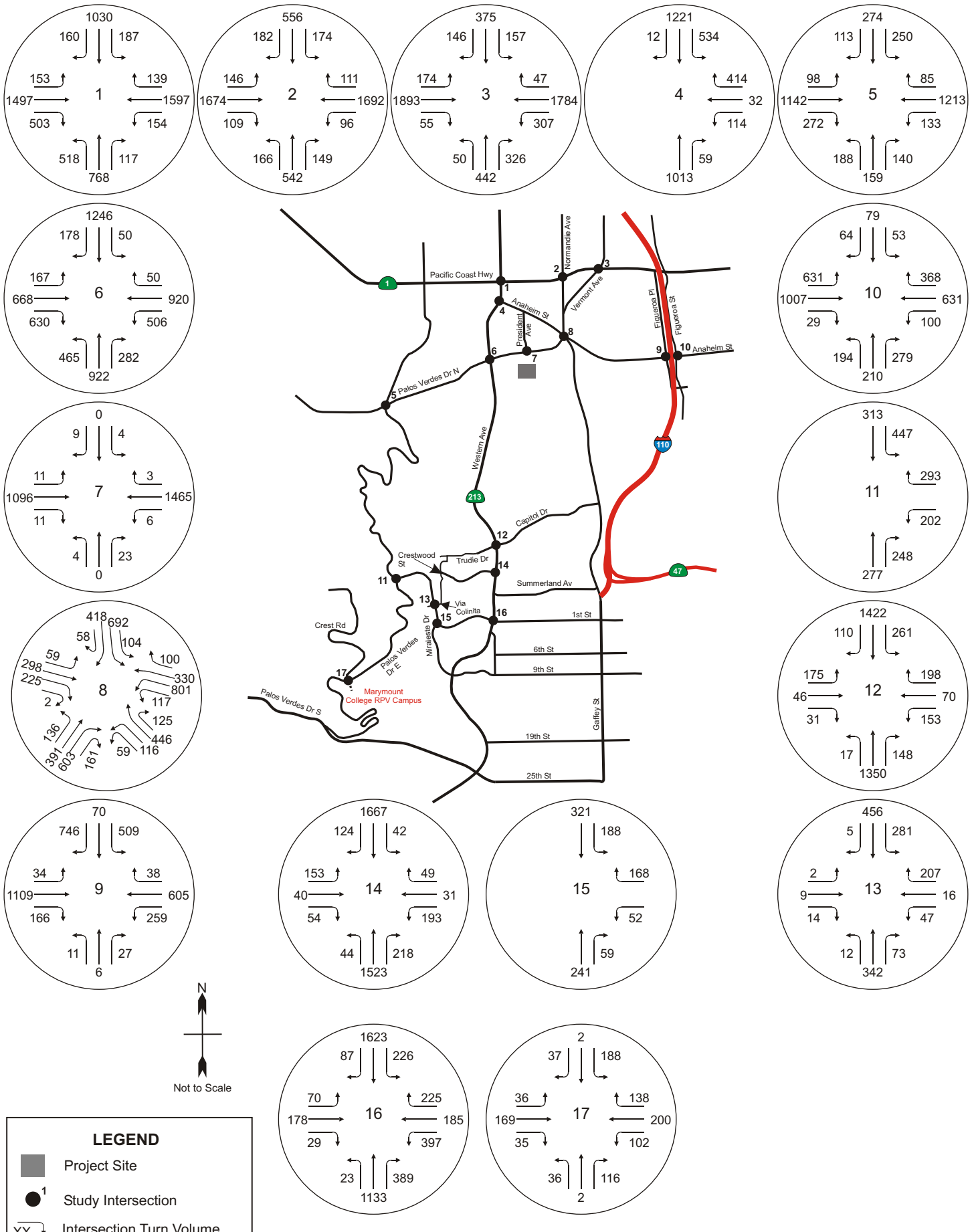
Marymount College San Pedro Campus - Traffic Study — Figure 15

Future 2031 Without Project - AM Peak Hour Turn Volumes



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Marymount College San Pedro Campus - Traffic Study — Figure 16

Future 2031 Without Project - PM Peak Hour Turn Volumes

Table 7 – Intersection Performance – Future (2031) Without Project

	Study Intersections	City	Analysis Methodology	AM Peak Hour		PM Peak Hour	
				V/C or Delay (secs)	LOS	V/C or Delay (secs)	LOS
1	Western Ave & Pacific Coast Hwy	Los Angeles	CMA	1.080	F	1.137	F
2	Normandie Ave & Pacific Coast Hwy	Los Angeles	CMA	0.800	C	0.800	C
3	Vermont Ave & Pacific Coast Hwy	Los Angeles	CMA	0.942	E	0.870	D
4	Western Ave & Anaheim St	Los Angeles	CMA	0.710	C	0.585	A
5	Palos Verdes Dr E & Palos Verdes Dr N	Rolling Hills Estates	ICU	0.829	D	0.770	C
6	Western Ave & Palos Verdes Dr N	Lomita	ICU	1.242	F	1.255	F
7	President Ave & Palos Verdes Dr N [a]	Los Angeles	HCM	>100	F	41.1	E
8	Gaffey St/Vermont Ave & Anaheim St/N. Palos Verdes Dr	Los Angeles	CMA	0.924	E	0.970	E
9	Figueroa Pl & Anaheim St	Los Angeles	CMA	0.953	E	0.991	E
10	Figueroa St & Anaheim St	Los Angeles	CMA	0.992	E	1.255	F
11	Palos Verdes Dr E & Miraleste Dr [a]	Rancho Palos Verdes	HCM	> 100	F	> 100	F
12	Western Ave & Trudie Dr/Capitol Dr	Rancho Palos Verdes	ICU	1.069	F	0.985	E
13	Miraleste Dr & Via Colinita Ave [a]	Rancho Palos Verdes	HCM	22.1	C	20.3	C
14	Western Ave & Crestwood St	Rancho Palos Verdes	ICU	0.881	D	0.903	E
15	Miraleste Dr & 1st St [a]	Rancho Palos Verdes	HCM	24.6	C	17.0	C
16	Western Ave & 1st St	Los Angeles	CMA	1.038	F	0.980	E
17	Palos Verdes Dr E & Crest Rd	Rancho Palos Verdes	ICU	0.543	A	0.441	A

Note:

ICU - Intersection Capacity Utilization Method (V/C), CMA - Critical Movement Analysis Method (V/C), HCM - Highway Capacity Manual Method (Delay)

[a] Stop controlled intersection. Average delay & corresponding LOS shown for most constrained movement(s).

As shown in Table 7, 6 of the 17 study intersections are projected to operate at LOS D or better during both the AM and PM peak hour periods under the Future (2031) Without Project conditions. The following 11 study intersections are projected to operate at LOS E or F during one or both study periods under the Future (2031) Without Project conditions:

- Western Avenue and Pacific Coast Highway (AM and PM Peak Hours)
- Vermont Avenue and Pacific Coast Highway (AM Peak Hour)
- Western Avenue and Palos Verdes Drive North (AM and PM Peak Hours)
- President Avenue and Palos Verdes Drive North (AM and PM Peak Hours)
- Gaffey Street/Vermont Avenue and Anaheim Street/Palos Verdes Drive North (AM and PM Peak Hours)
- Figueroa Place and Anaheim Street (AM and PM Peak Hours)
- Figueroa Street and Anaheim Street (AM and PM Peak Hours)
- Palos Verdes Drive East and Miraleste Drive (AM and PM Peak Hours)
- Western Avenue and Trudie Drive/Capitol Drive (AM and PM Peak Hours)
- Western Avenue and Crestwood Street (PM Peak Hour)
- Western Avenue and 1st Street (AM and PM Peak Hours)

6. Future (2031) With Project

6.1 Project Related Improvements

As discussed previously, the northbound approach at the intersection of President Avenue and Palos Verdes Drive North would be improved to provide a shared left-through lane and an exclusive right turn lane as part of the project.

6.2 Future With Project Intersection Levels of Service

This section documents future traffic conditions at the study intersections with the addition of net project-generated traffic. Traffic volumes for these conditions were derived by adding the project trip increase to the Future Without Project volumes. Figures 17 and 18 illustrate the AM and PM peak-hour turn movement volumes at the study intersections under Future With Project conditions.

Table 8 summarizes the resulting level of service values at the study intersections for Future (2031) With Project conditions. The traffic analysis worksheets for this scenario are provided in Appendix F for intersections located in the City of Los Angeles and in Appendix K for intersections located in the cities of Rancho Palos Verdes, Rolling Hills Estates and Lomita.

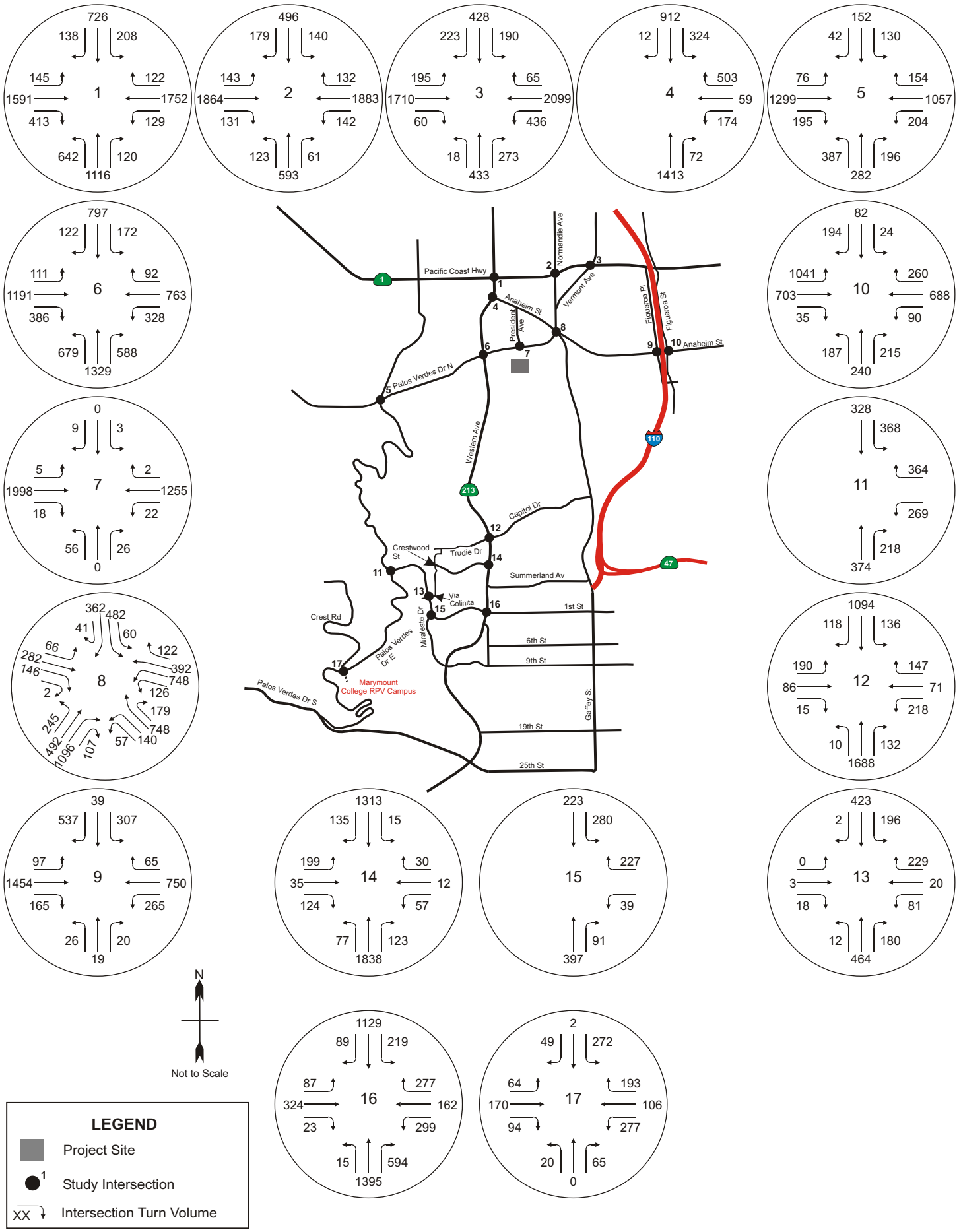
Table 8 – Intersection Performance – Future (2031) With Project

	Study Intersections	City	Analysis Methodology	AM Peak Hour		PM Peak Hour	
				V/C or Delay (secs)	LOS	V/C or Delay (secs)	LOS
1	Western Ave & Pacific Coast Hwy	Los Angeles	CMA	1.080	F	1.144	F
2	Normandie Ave & Pacific Coast Hwy	Los Angeles	CMA	0.800	C	0.800	D
3	Vermont Ave & Pacific Coast Hwy	Los Angeles	CMA	0.942	E	0.872	D
4	Western Ave & Anaheim St	Los Angeles	CMA	0.710	C	0.594	A
5	Palos Verdes Dr E & Palos Verdes Dr N	Rolling Hills Estates	ICU	0.849	D	0.786	C
6	Western Ave & Palos Verdes Dr N	Lomita	ICU	1.259	F	1.269	F
7	President Ave & Palos Verdes Dr N [a]	Los Angeles	HCM	> 100	F	> 100	F
8	Gaffey St/Vermont Ave & Anaheim St/N. Palos Verdes Dr	Los Angeles	CMA	0.930	E	0.979	E
9	Figueroa Pl & Anaheim St	Los Angeles	CMA	0.960	E	1.021	F
10	Figueroa St & Anaheim St	Los Angeles	CMA	0.993	E	1.266	F
11	Palos Verdes Dr E & Miraleste Dr [a]	Rancho Palos Verdes	HCM	> 100	F	> 100	F
12	Western Ave & Trudie Dr/Capitol Dr	Rancho Palos Verdes	ICU	1.071	F	0.990	E
13	Miraleste Dr & Via Colinita Ave [a]	Rancho Palos Verdes	HCM	22.6	C	20.8	C
14	Western Ave & Crestwood St	Rancho Palos Verdes	ICU	0.882	D	0.911	E
15	Miraleste Dr & 1st St [a]	Rancho Palos Verdes	HCM	25.2	D	17.3	C
16	Western Ave & 1st St	Los Angeles	CMA	1.038	F	0.984	E
17	Palos Verdes Dr E & Crest Rd	Rancho Palos Verdes	ICU	0.579	A	0.486	A

Note:

ICU - Intersection Capacity Utilization Method (V/C), CMA - Critical Movement Analysis Method (V/C), HCM - Highway Capacity Manual Method (Delay)

[a] Stop controlled intersection. Average delay & corresponding LOS shown for most constrained movement(s).



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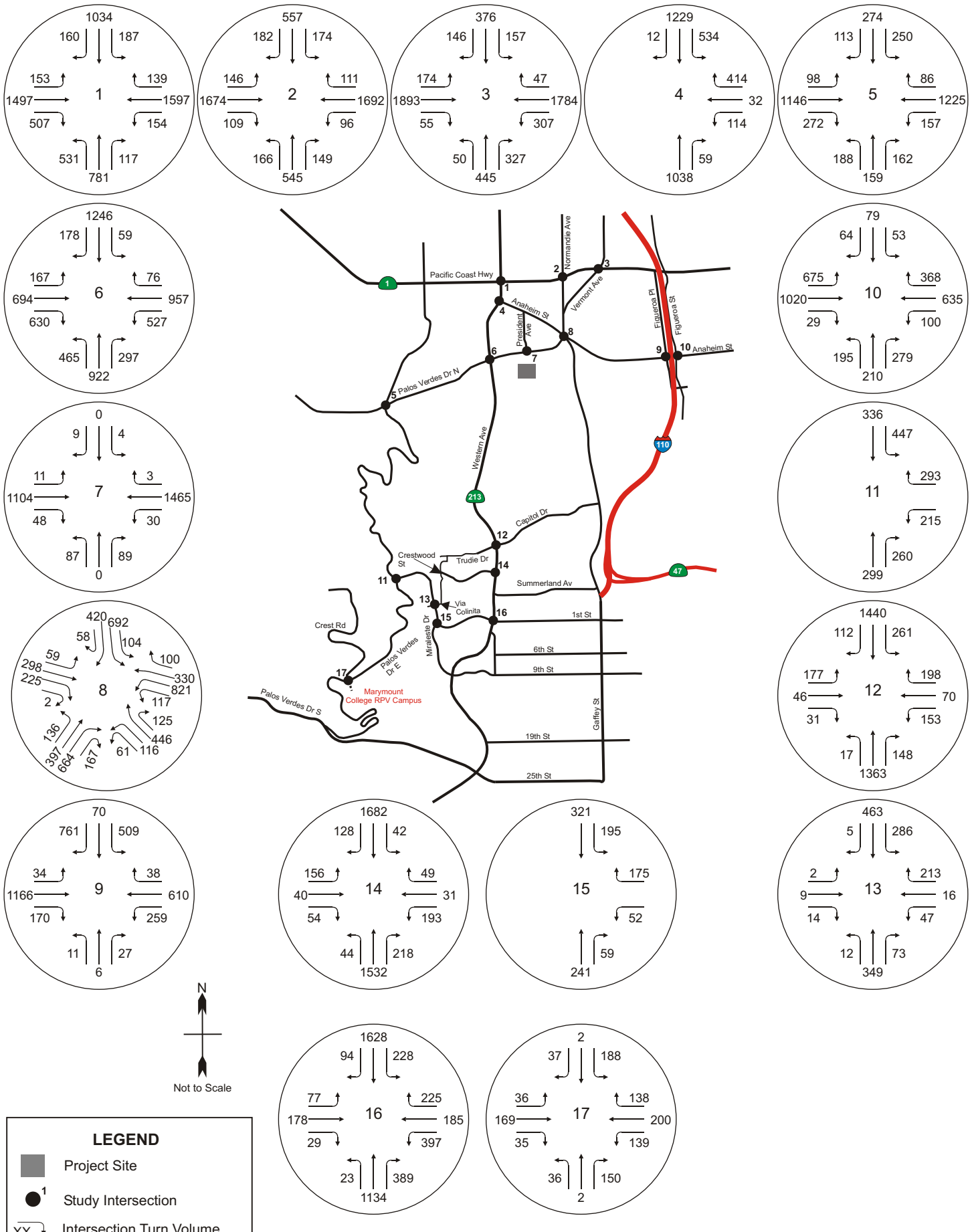
Marymount College San Pedro Campus - Traffic Study — Figure 17

Future 2031 With Project - AM Peak Hour Turn Volumes



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Marymount College San Pedro Campus - Traffic Study — Figure 18

Future 2031 With Project - PM Peak Hour Turn Volumes

As shown in Table 8, 6 of the 17 study intersections are projected to operate at LOS D or better during both the AM and PM peak hour periods under the Future (2031) With Project conditions. The following 11 study intersections are projected to operate at LOS E or F during one or both study periods.

- Western Avenue and Pacific Coast Highway (AM and PM Peak Hours)
- Vermont Avenue and Pacific Coast Highway (AM Peak Hour)
- Western Avenue and Palos Verdes Drive North (AM and PM Peak Hours)
- President Avenue and Palos Verdes Drive North (AM and PM Peak Hours)
- Gaffey Street/Vermont Avenue and Anaheim Street/Palos Verdes Drive North (AM and PM Peak Hours)
- Figueroa Place and Anaheim Street (AM and PM Peak Hours)
- Figueroa Street and Anaheim Street (AM and PM Peak Hours)
- Palos Verdes Drive East and Miraleste Drive (AM and PM Peak Hours)
- Western Avenue and Trudie Drive/Capitol Drive (AM and PM Peak Hours)
- Western Avenue and Crestwood Street (PM Peak Hour)
- Western Avenue and 1st Street (AM and PM Peak Hours)

7. Project Traffic Impacts and Mitigation Measures

7.1 Determination of Traffic Impacts

Traffic impacts are identified if a proposed development will result in a significant adverse change in traffic conditions at a study intersection. A significant impact is typically identified if project-related traffic will cause service levels to deteriorate beyond a threshold limit specified by the overseeing agency. A traffic impact can also be significant if an intersection is already operating below the poorest acceptable level and project traffic will cause a further decline below a certain threshold.

City of Los Angeles Significant Impact Criteria

LADOT has established specific thresholds for project traffic-related increases in the volume-to-capacity ratio (V/C) of a study intersection. The following increases in the peak-hour V/C ratio are considered "significant" impacts:

Level of Service	Final V/C*	Project Related V/C Increase
C	< 0.700 – 0.800	Equal to or greater than 0.040
D	< 0.800– 0.900	Equal to or greater than 0.020
E and F	0.901 or more	Equal to or greater than 0.010

** Final V/C is the V/C ratio at an intersection, considering impacts from the project, ambient growth and related projects growth, and without proposed traffic impact mitigations.*

City of Rancho Palos Verdes

The County of Los Angeles thresholds of significance criteria was used to determine the project related traffic impact for the signalized study intersections in the City of Rancho Palos Verdes. The following increases in peak-hour V/C ratios are considered "significant" impacts:

Level of Service	Pre-Project V/C	Project Related V/C Increase
C	< 0.700 – 0.800	Equal to or greater than 0.040
D	< 0.800– 0.900	Equal to or greater than 0.020
E and F	0.901 or more	Equal to or greater than 0.010

The City of Rancho Palos Verdes uses the following significance criteria to determine the project related traffic impact at an unsignalized intersection:

Level of Service	Pre-Project Delay (Seconds)	Project Related Delay Increase (Seconds)
E or F	35.1 or more	2.0 or more

City of Rolling Hills Estates

A traffic impact is identified at a signalized intersection in the City of Rolling Hills Estates when one or

more of the following conditions occur:

- A change in LOS with the project from C to D, or D to E
- The LOS is at C or D with project traffic, and the change in V/C value is greater than 0.02
- The LOS is at E or F with project traffic, and the change in V/C value is greater than 0.01

City of Lomita

For the signalized intersection in the City of Lomita, a traffic impact is identified when the addition of project traffic increases the level of service to an unacceptable level (i.e. LOS E or F). In addition, the City of Lomita's Traffic Study Guidelines also state that a project that causes the degradation of traffic operations shall mitigate the impacts caused by the development to the greatest extent possible.

7.2 Project Traffic Impacts – Existing Plus Project

Table 9 provides a summary of the V/C (or average delay) and LOS values for the Existing and Existing Plus Project scenarios. Traffic impacts created by the proposed project are determined by comparing the Existing conditions to the Existing Plus Project conditions. The overall traffic impacts created by the proposed project and determination of a significant impact based on each city's criteria are provided in the right three columns of the table.

It should be noted that the City of Los Angeles does not have a significant traffic impact criteria for an intersection that is stop-controlled. For the intersection of President Avenue and Palos Verdes Drive North, the V/C value was also calculated based on the CMA methodology and assuming a capacity of 1,200 vehicles per hour per lane (vphpl) in order to determine the project impact in terms of V/C.

As indicated in Table 9, the proposed project is anticipated to have a significant traffic impact at the following six study intersections:

- Palos Verdes Drive East and Palos Verdes Drive North (AM Peak Hour)
- Western Avenue and Palos Verdes Drive North (AM and PM Peak Hours)
- President Avenue and Palos Verdes Drive North (AM and PM Peak Hours)
- Figueroa Place and Anaheim Street (PM Peak Hour)
- Figueroa Street and Anaheim Street (PM Peak Hour)
- Palos Verdes Drive East and Miraleste Drive (AM and PM Peak Hours)

7.3 Project Traffic Impacts – Future (2031) With Project

Table 10 provides a summary of the V/C (or average delay) and LOS values for Future With Project conditions. Traffic impacts created by the project are determined by comparing the Future Without Project conditions to the Future With Project conditions. The overall traffic impacts created by the proposed project and determination of a significant impact based on each city's criteria are provided in the right three columns of the table.

As noted previously, the V/C value was also calculated for the intersection of President Avenue and Palos Verdes Drive North in order to determine the project impact in terms of V/C.

Table 9 – Determination of Project Impacts – Existing Plus Project

	Study Intersections	City	Analysis Methodology	Existing (2011)				Existing Plus Project				Change in V/C or Delay (secs)		Significant Impact ?
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour				
				V/C or Delay (secs)	LOS	V/C or Delay (secs)	LOS	V/C or Delay (secs)	LOS	V/C or Delay (secs)	LOS	AM Peak Hour	PM Peak Hour	
1	Western Ave & Pacific Coast Hwy	Los Angeles	CMA	0.881	D	0.908	E	0.881	D	0.916	E	0.000	0.008	No
2	Normandie Ave & Pacific Coast Hwy	Los Angeles	CMA	0.651	B	0.647	B	0.651	B	0.647	B	0.000	0.000	No
3	Vermont Ave & Pacific Coast Hwy	Los Angeles	CMA	0.808	D	0.720	C	0.808	D	0.721	C	0.000	0.001	No
4	Western Ave & Anaheim St	Los Angeles	CMA	0.539	A	0.454	A	0.539	A	0.463	A	0.000	0.008	No
5	Palos Verdes Dr E & Palos Verdes Dr N	Rolling Hills Estates	ICU	0.732	C	0.700	B	0.752	C	0.715	C	0.020	0.015	**Yes**
6	Western Ave & Palos Verdes Dr N	Lomita	ICU	0.924	E	0.969	E	0.942	E	0.982	E	0.018	0.013	**Yes**
7	President Ave & Palos Verdes Dr N [a]	Los Angeles	HCM	31.7	D	24.2	C	>100	F	72.5	F	-	48.3	-
			CMA	0.439		0.353		0.484		0.412		0.045	0.059	**Yes**
8	Gaffey St/Vermont Ave & Anaheim St/N. Palos Verdes Dr	Los Angeles	CMA	0.738	C	0.776	C	0.744	C	0.785	C	0.006	0.009	No
9	Figueroa Pl & Anaheim St	Los Angeles	CMA	0.774	C	0.816	D	0.781	C	0.846	D	0.007	0.030	**Yes**
10	Figueroa St & Anaheim St	Los Angeles	CMA	0.815	D	1.029	F	0.816	D	1.040	F	0.001	0.011	**Yes**
11	Palos Verdes Dr E & Miraleste Dr [a]	Rancho Palos Verdes	HCM	74.0	F	99.1	F	>100	N/A	>100	N/A	-	-	**Yes**
12	Western Ave & Trudie Dr/Capitol Dr	Rancho Palos Verdes	ICU	0.929	E	0.828	D	0.931	E	0.834	D	0.002	0.006	No
13	Miraleste Dr & Via Colinita Ave [a]	Rancho Palos Verdes	HCM	14.2	B	18.8	C	18.5	C	19.9	C	4.3	1.1	No
14	Western Ave & Crestwood St	Rancho Palos Verdes	ICU	0.783	C	0.796	C	0.784	C	0.803	D	0.001	0.007	No
15	Miraleste Dr & 1st St [a]	Rancho Palos Verdes	HCM	16.2	C	13.3	B	16.4	C	13.4	B	0.2	0.1	No
16	Western Ave & 1st St	Los Angeles	CMA	0.877	D	0.848	D	0.877	D	0.853	D	0.000	0.004	No
17	Palos Verdes Dr E & Crest Rd	Rancho Palos Verdes	ICU	0.424	A	0.348	A	0.443	A	0.365	A	0.019	0.017	No

Note:

ICU - Intersection Capacity Utilization Method (V/C), CMA - Critical Movement Analysis Method (V/C), HCM - Highway Capacity Manual Method (Delay)

[a] Stop controlled intersection. Average delay & corresponding LOS shown for most constrained movement(s).

Table 10 – Determination of Project Impacts – Future (2031) With Project

	Study Intersections	City	Analysis Methodology	Future Without Project				Future With Project				Change in V/C or Delay (secs)		Significant Impact ?
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour				
				V/C or Delay (secs)	LOS	V/C or Delay (secs)	LOS	V/C or Delay (secs)	LOS	V/C or Delay (secs)	LOS	AM Peak Hour	PM Peak Hour	
1	Western Ave & Pacific Coast Hwy	Los Angeles	CMA	1.080	F	1.137	F	1.080	F	1.144	F	0.000	0.007	No
2	Normandie Ave & Pacific Coast Hwy	Los Angeles	CMA	0.800	C	0.800	C	0.800	C	0.800	D	0.000	0.001	No
3	Vermont Ave & Pacific Coast Hwy	Los Angeles	CMA	0.942	E	0.870	D	0.942	E	0.872	D	0.000	0.001	No
4	Western Ave & Anaheim St	Los Angeles	CMA	0.710	C	0.585	A	0.710	C	0.594	A	0.000	0.009	No
5	Palos Verdes Dr E & Palos Verdes Dr N	Rolling Hills Estates	ICU	0.829	D	0.770	C	0.849	D	0.786	C	0.020	0.016	**Yes**
6	Western Ave & Palos Verdes Dr N	Lomita	ICU	1.242	F	1.255	F	1.259	F	1.269	F	0.017	0.014	**Yes**
7	President Ave & Palos Verdes Dr N [a]	Los Angeles	HCM	>100	F	41.1	F	> 100	F	> 100	F	-	-	-
			CMA	0.591		0.443		0.635		0.500		0.044	0.057	**Yes**
8	Gaffey St/Vermont Ave & Anaheim St/N. Palos Verdes Dr	Los Angeles	CMA	0.924	E	0.970	E	0.930	E	0.979	E	0.006	0.009	No
9	Figueroa Pl & Anaheim St	Los Angeles	CMA	0.953	E	0.991	E	0.960	E	1.021	F	0.007	0.030	**Yes**
10	Figueroa St & Anaheim St	Los Angeles	CMA	0.992	E	1.255	F	0.993	E	1.266	F	0.001	0.011	**Yes**
11	Palos Verdes Dr E & Miraleste Dr [a]	Rancho Palos Verdes	HCM	> 100	F	> 100	F	> 100	F	> 100	F	-	-	**Yes**
12	Western Ave & Trudie Dr/Capitol Dr	Rancho Palos Verdes	ICU	1.069	F	0.985	E	1.071	F	0.990	E	0.002	0.005	No
13	Miraleste Dr & Via Colinita Ave [a]	Rancho Palos Verdes	HCM	22.1	C	20.3	C	22.6	C	20.8	C	0.5	0.5	No
14	Western Ave & Crestwood St	Rancho Palos Verdes	ICU	0.881	D	0.903	E	0.882	D	0.911	E	0.001	0.008	No
15	Miraleste Dr & 1st St [a]	Rancho Palos Verdes	HCM	24.6	C	17.0	C	25.2	D	17.3	C	0.6	0.3	No
16	Western Ave & 1st St	Los Angeles	CMA	1.038	F	0.980	E	1.038	F	0.984	E	0.000	0.004	No
17	Palos Verdes Dr E & Crest Rd	Rancho Palos Verdes	ICU	0.543	A	0.441	A	0.579	A	0.486	A	0.036	0.045	No

Note:

ICU - Intersection Capacity Utilization Method (V/C), CMA - Critical Movement Analysis Method (V/C), HCM - Highway Capacity Manual Method (Delay)

[a] Stop controlled intersection. Average delay & corresponding LOS shown for most constrained movement(s).

As indicated in Table 10, the proposed project is anticipated to have a significant traffic impact at the following six study intersections:

- Palos Verdes Drive East and Palos Verdes Drive North (AM Peak Hour)
- Western Avenue and Palos Verdes Drive North (AM and PM Peak Hours)
- President Avenue and Palos Verdes Drive North (AM and PM Peak Hours)
- Figueroa Place and Anaheim Street (PM Peak Hour)
- Figueroa Street and Anaheim Street (PM Peak Hour)
- Palos Verdes Drive East and Miraleste Drive (AM and PM Peak Hours)

7.4 Proposed Mitigation Measures

As discussed in the previous section, the project would result in a significant traffic impact at six study intersections. The following summarizes the recommended mitigation measures to offset the potential project traffic impacts at the six study intersections.

5. Palos Verdes Drive East and Palos Verdes Drive North - Restripe and modify the existing island on westbound Palos Verdes Drive North and install dual left-turn lanes. This improvement would require approval from the City of Rolling Hills Estates. The project will contribute its fair share of the cost of the improvement.

6. Western Avenue and Palos Verdes Drive North - Modify the existing median, traffic signal equipment and striping to provide dual left-turn lanes on westbound Palos Verdes Drive North. This intersection is located in the City of Lomita. In addition, Western Avenue is under the jurisdiction of Caltrans. Thus, this improvement would require approval from the City of Lomita and Caltrans. The project will contribute its fair share of the cost of the improvement.

7. President Avenue and Palos Verdes Drive North - Install a traffic signal at this intersection. A peak hour signal warrant analysis was conducted for the Existing Plus Project and Future With Project conditions. The signal warrant analysis was based on the 2010 California Manual on Uniform Traffic Control Devices (MUTCD). The warrant worksheets are attached in Appendix E. Based on the peak hour warrant, a traffic signal is warranted at this intersection. It should be noted that the signal warrant analysis assumes full buildout of the project. As discussed previously, the San Pedro Campus would be developed as a multi-phased project. It is recommended that traffic volumes at this location be reevaluated prior to completion of each project phase, and that a traffic signal be required when the traffic volumes including the project phase component warrant a traffic signal.

9. Figueroa Place and Anaheim Street - Modify the existing traffic signal and install a southbound right-turn signal phase that would overlap with the eastbound signal phase at the adjacent intersection of Anaheim Street/Figueroa Street. The intersection would also operate with northbound and southbound split phases. In order to accommodate the northbound/southbound split phase operation, the crosswalk on the east leg of the intersection would be removed. Based on the existing traffic count data, this crosswalk has nominal pedestrian traffic (i.e. three pedestrian during the AM peak hour and two pedestrians during the PM peak hour). A Synchro analysis was conducted that shows the signal coordination improvement at the two intersections. The Synchro analysis worksheets are found in Appendix M. The analysis showed an improvement

in overall traffic operations. This improvement is considered to be acceptable as mitigation for this intersection.

10. Figueroa Street and Anaheim Street - Restripe Figueroa Street to provide an exclusive right-turn only lane in the southbound direction and an exclusive left-turn lane in the northbound direction.

11. Palos Verdes Drive East and Miraleste Drive - Install a traffic signal at this intersection. The traffic signal operation would include a protected left-turn phase in the southbound direction and a westbound right-turn overlap phase concurrent with the southbound left-turn phase. A peak hour signal warrant analysis was conducted based on the 2010 California Manual on Uniform Traffic Control Devices (MUTCD) for all of the study scenarios. Based on the peak hour traffic signal warrant analysis, installation of a traffic signal is warranted at this intersection. It should be noted that the signal warrant is satisfied under all of the study scenarios. Thus, a traffic signal is warranted with or without the addition of project traffic. The warrant worksheets are attached in Appendix E. This improvement is a condition of approval for the Marymount College RPV Campus CUP. Approval of this improvement as a mitigation measure for the proposed project would require approval from the City of Rancho Palos Verdes.

Figure 19 depicts the lane configurations and traffic control at the study intersections with the recommended mitigation measures.

As discussed previously, the San Pedro Campus will be a multi-phased project with future development conditioned upon updated traffic studies to coincide with major phases of the project's build out. For the purpose of analyzing traffic impacts for this project, a 20-year build out horizon (Year 2031) is assumed. It should be noted that the implementation of project phases will be subject to funding availability and the demand for campus expansion. Thus, the analysis of project phase components was not conducted within this traffic study.

Tables 11 and 12 show the V/C, Delay and LOS results for the study intersections with implementation of the recommended mitigation measures under the Existing Plus Project and Future With Project conditions, respectively. As shown in these tables, the project traffic impacts would be reduced to a less-than-significant level with implementation of the mitigation measures. The traffic analysis worksheets for the 'Existing Plus Project Plus Mitigation' and 'Future With Project Plus Mitigation' scenarios are provided in Appendix F for intersections located in the City of Los Angeles. The traffic analysis worksheets for the 'Existing Plus Project Plus Mitigation' and 'Future With Project Plus Mitigation' scenarios are provided in Appendices I and L, respectively, for intersections located in the cities of Rancho Palos Verdes, Rolling Hills Estates and Lomita.

Table 11 – Mitigation LOS Summary – Existing Plus Project

	Study Intersections	City	Analysis Methodology	Existing (2011)				Existing Plus Project				Change in V/C or Delay (secs)		Significant Impact ?	Existing Plus Project + Mitigation				Change in V/C or Delay (secs)		Residual Significant Impact ?
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour					AM Peak Hour		PM Peak Hour				
				V/C or Delay (secs)	LOS	V/C or Delay (secs)	LOS	V/C or Delay (secs)	LOS	V/C or Delay (secs)	LOS	AM Peak Hour	PM Peak Hour		V/C or Delay (secs)	LOS	V/C or Delay (secs)	LOS	AM Peak Hour	PM Peak Hour	
5	Palos Verdes Dr E & Palos Verdes Dr N	Rolling Hills Estates	ICU	0.732	C	0.700	B	0.752	C	0.715	C	0.020	0.015	Yes	0.700	B	0.701	C	-0.032	0.001	No
6	Western Ave & Palos Verdes Dr N	Lomita	ICU	0.924	E	0.969	E	0.942	E	0.982	E	0.018	0.013	Yes	0.867	D	0.889	D	-0.057	-0.080	No
7	President Ave & Palos Verdes Dr N [a]	Los Angeles	HCM	31.7	D	24.2	C	>100	F	72.5	F	-	48.3	-					-	-	-
			CMA	0.439		0.353		0.484		0.412		0.045	0.059	Yes	0.387	A	0.329	A	-	-	No
9	Figueroa Pl & Anaheim St	Los Angeles	CMA	0.774	C	0.816	D	0.781	C	0.846	D	0.007	0.030	Yes	[b]						No
10	Figueroa St & Anaheim St	Los Angeles	CMA	0.815	D	1.029	F	0.816	D	1.040	F	0.001	0.011	Yes	0.779	C	0.995	E	-0.036	-0.034	No
11	Palos Verdes Dr E & Miraleste Dr [a]	Rancho Palos Verdes	HCM	74.0	F	99.1	F	>100	F	>100	F	-	-	Yes	0.849	D	0.816	D	-	-	No

Note:

ICU - Intersection Capacity Utilization Method (V/C), CMA - Critical Movement Analysis Method (V/C), HCM - Highway Capacity Manual Method (Delay)

[a] Stop controlled intersection. Average delay & corresponding LOS shown for most constrained movement(s).

[b] Mitigation includes modifying the existing traffic signal and installing a southbound right-turn signal phase that would overlap with the eastbound left-turn phase at the adjacent intersection at Anaheim Street/Figueroa Street. The traffic impact is considered less than significant with the proposed mitigation.

Table 12 – Mitigation LOS Summary – Future (2031) With Project

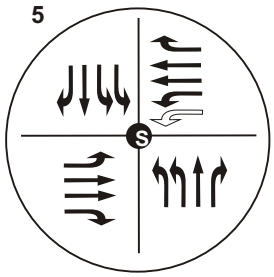
	Study Intersections	City	Analysis Methodology	Future Without Project				Future With Project				Change in V/C or Delay (secs)		Significant Impact ?	Future With Project + Mitigation				Change in V/C or Delay (secs)		Residual Significant Impact ?
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour					AM Peak Hour		PM Peak Hour				
				V/C or Delay (secs)	LOS	V/C or Delay (secs)	LOS	V/C or Delay (secs)	LOS	V/C or Delay (secs)	LOS	AM Peak Hour	PM Peak Hour		V/C or Delay (secs)	LOS	V/C or Delay (secs)	LOS	AM Peak Hour	PM Peak Hour	
5	Palos Verdes Dr E & Palos Verdes Dr N	Rolling Hills Estate	ICU	0.829	D	0.770	C	0.849	D	0.786	C	0.020	0.016	Yes	0.785	C	0.774	C	-0.044	0.004	No
6	Western Ave & Palos Verdes Dr N	Lomita	ICU	1.242	F	1.255	F	1.259	F	1.269	F	0.017	0.014	Yes	1.157	F	1.104	F	-0.085	-0.151	No
7	President Ave & Palos Verdes Dr N [a]	Los Angeles	HCM	>100	F	41.1	F	> 100	F	> 100	F	-	-	-	-	-	-	-	-	-	-
			CMA	0.591		0.443		0.635		0.500		0.044	0.057	Yes	0.508	A	0.400	A	-	-	No
9	Figueroa Pl & Anaheim St	Los Angeles	CMA	0.953	E	0.991	E	0.960	E	1.021	F	0.007	0.030	Yes	[b]						No
10	Figueroa St & Anaheim St	Los Angeles	CMA	0.992	E	1.255	F	0.993	E	1.266	F	0.001	0.011	Yes	0.956	E	1.218	F	-0.036	-0.037	No
11	Palos Verdes Dr E & Miraleste Dr [a]	Rancho Palos Verdes	HCM	> 100	F	> 100	F	> 100	F	> 100	F	-	-	Yes	0.928	E	0.912	E	-	-	No

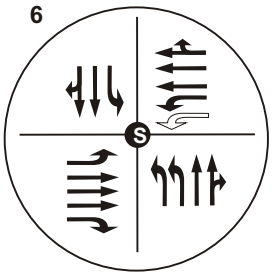
Note:

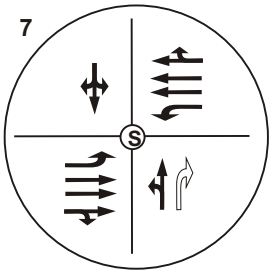
ICU - Intersection Capacity Utilization Method (V/C), CMA - Critical Movement Analysis Method (V/C), HCM - Highway Capacity Manual Method (Delay)

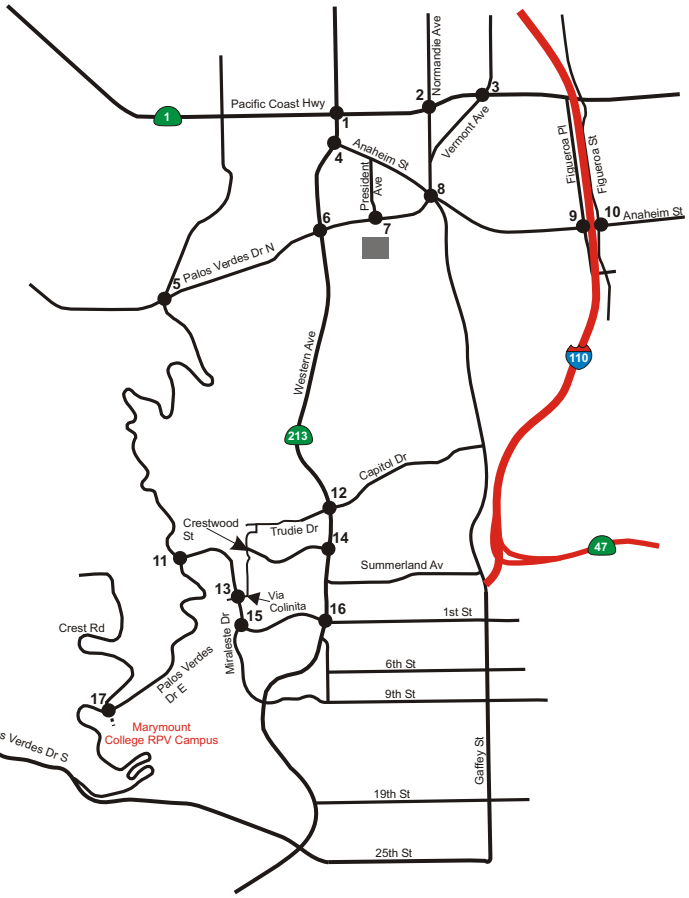
[a] Stop controlled intersection. Average delay & corresponding LOS shown for most constrained movement(s).

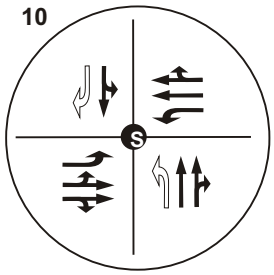
[b] Mitigation includes modifying the existing traffic signal and installing a southbound right-turn signal phase that would overlap with the eastbound left-turn phase at the adjacent intersection at Anaheim Street/Figueroa Street. The traffic impact is considered less than significant with the proposed mitigation.

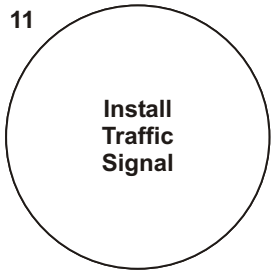


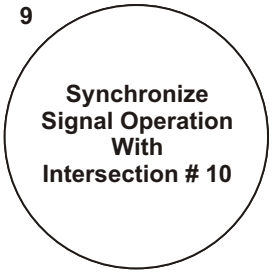












LEGEND

- Project Location
- Study Intersection
- Signalized Intersection
- Intersection Lane Geometry
- Install New Traffic Signal
- Proposed Mitigation

N

Not to Scale

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Marymount College San Pedro Campus - Traffic Study — Figure 19

Intersection Geometry - With Mitigation

8. Congestion Management Plan Conformance

This section demonstrates the ways in which this traffic study was prepared to be in conformance with the procedures mandated by the County of Los Angeles Congestion Management Program.

The Congestion Management Program (CMP) was created statewide because of Proposition 111 and has been implemented locally by the Los Angeles County Metropolitan Transportation Authority (Metro). The CMP for Los Angeles County requires that the traffic impact of individual development projects of potentially regional significance be analyzed. A specific system of arterial roadways plus all freeways comprises the CMP system. Per CMP Transportation Impact Analysis (TIA) Guidelines, a traffic impact analysis is conducted where:

- At CMP arterial monitoring intersections, including freeway on-ramps or off-ramps, where the proposed project will add 50 or more vehicle trips during either AM or PM weekday peak-hours.

- At CMP mainline freeway-monitoring locations, where the project will add 150 or more trips, in either direction, during either the AM or PM weekday peak-hours.

The nearest CMP arterial monitoring intersections to the project site are the intersections of Gaffey Street/9th Street, Pacific Coast Highway/Figueroa Street and Western Avenue/Toscanini Drive. Based on the incremental project trip generation estimates and traffic assignment presented in Section 3 of this report, the proposed project is not expected to add 50 or more new trips per hour to these locations. Therefore, no further analysis of this CMP monitoring intersection is required.

The nearest CMP mainline freeway monitoring location to the project site is the segment of the I-110 Freeway south of C Street. Based on the trip distribution and traffic assignment presented in Section 3, the proposed project is expected to add less than 150 new trips per hour to this freeway monitoring location. Therefore, no further analysis of CMP freeway monitoring stations is required.

9. Summary and Conclusions

The following is a summary of the findings and results of the traffic impact analysis within this report.

- For existing (2011) conditions, all of the study intersections are operating at LOS D or better during both study peak hour periods with the exception of five study intersections.

- The proposed project is estimated to generate 2,214 net daily trips of which 83 net trips would occur during the AM peak-hour and 231 net trips would occur during the PM peak-hour.

- For the Existing Plus Project conditions, all of the study intersections are projected to operate at LOS D or better during both study peak hour periods with the exception of six study intersections.

- For the future (2031) conditions without development of the project, 6 of the 17 study intersections are projected to operate at LOS D or better during both of the weekday AM and PM peak hours. The remaining 11 study intersections are projected to operate at LOS E or F during the AM and PM peak hours.

- For the future (2031) conditions with project traffic included, the same 6 study intersections would operate at LOS D or better during both peak-hour periods, and the remaining 11 study intersections would operate at LOS E or F during one or both peak-hour periods.

- The proposed project would result in a significant traffic impact at the following six study intersections:

    - Palos Verdes Drive East and Palos Verdes Drive North
    - Western Avenue and Palos Verdes Drive North
    - President Avenue and Palos Verdes Drive North
    - Figueroa Place and Anaheim Street
    - Figueroa Street and Anaheim Street
    - Palos Verdes Drive East and Miraleste Drive

- In order to reduce the significant project traffic impacts to a less-than-significant level, a list of mitigation measures are recommended. The measures are summarized in Section 7.4 of this traffic report. The traffic impacts at the study intersections would be less than significant with implementation of the recommended mitigation measures.

- A peak hour traffic signal warrant analysis was conducted for the intersections of President Avenue/Palos Verdes Drive North and Palos Verdes Drive East/Miraleste Drive. The signal warrant analysis shows that a traffic signal is warranted with the addition of project traffic at the President Avenue/Palos Verdes Drive North intersection. It should be noted that the signal warrant analysis assumes full buildout of the project. As discussed previously, the San Pedro Campus would be developed as a multi-phased project. It is recommended that traffic volumes at this location be reevaluated prior to completion of each project phase, and that a traffic signal be required when the traffic volumes including the project phase component warrant a traffic signal. In addition, the signal warrant analysis shows that a traffic signal is warranted for all scenarios at the Palos Verdes Drive East/Miraleste Drive intersection.

- As a project improvement, the northbound approach of the intersection of President Avenue and Palos Verdes Drive North would be improved to provide a shared left-through lane and an exclusive right turn only lane. In addition, the project would have a new driveway located approximately 750 feet west of President Avenue. The secondary access would be restricted to right-turn in and right-turn out movements only.

- The proposed project would not have a significant traffic impact at any CMP monitoring intersections and freeway monitoring stations.

APPENDIX A
Memorandum of Understanding (MOU)

TRAFFIC STUDY – MEMORANDUM OF UNDERSTANDING (MOU)

This MOU acknowledges that the traffic study for the following project will be prepared in accordance with the latest version of LADOT's Traffic Study Policies and Procedures:

Project Name: Marymount College (San Pedro Campus)

Project Address: 1600 Palos Verdes Drive North (project site is located on the south side of Palos Verdes Drive North between Western Avenue and Gaffey Street)

Project Description: Marymount College is preparing to further fulfill the terms of its land grant from the Department of Education and U.S. Navy by building out the higher education component of the City of Los Angeles' plan to create an educational park on former Navy housing land. The College is proposing to expand the campus by constructing a sustainable private undergraduate/graduate campus at the San Pedro Campus site. The project site currently has 86 dwelling units that serve as off-campus housing for students matriculating at the Marymount College Rancho Palos Verdes (RPV) campus. The applicant is proposing a multi-phased project with a build out conditioned upon updated traffic studies to coincide with major phases of the build out. The campus occupies approx. 13.13 acres of land (11.66 acres plus 1.47 acres of land to be vacated by the City of Los Angeles and merged with the Marymount property). The proposed campus would accommodate 1,500 students, 800 of whom would be residents living on campus including eight (8) faculty apartments. The expansion proposes the construction and/or renovation of a student union/dining hall, classrooms, studios, laboratories, faculty/staff offices, residence halls, and maintenance facility.

Vehicular access to the campus will be provided from the existing south leg of the intersection of Palos Verdes Drive North and President Avenue. Secondary access is to be provided via a new driveway on Palos Verdes Drive North about 750 feet west of President Avenue. The secondary access would be right-turn in and right-turn out only. See Attachment A, Conceptual Site Plan.

Geographic Distribution: See Attachment B – Trip distribution to/from the proposed campus
See Attachment C – Trip distribution between proposed campus and Marymount College RPV campus

Trip Generation Rate(s): ITE Trip Generation, 8th Edition and empirical trip rates based on surveys conducted by KOA at the Marymount College RPV Campus and the existing residential facility site (proposed San Pedro Campus site). See Attachment D, Project Trip Generation.

	In	Out	Total
AM Peak Hour (Net Trips)	37	46	83
PM Peak Hour (Net Trips)	74	157	231

Project Buildout Year: 2031 Ambient or CMP Growth Rate: 7.1% (20-yr growth), based on 2010 CMP

Related Projects: To be obtained by the consultant from cities of Los Angeles, Rancho Palos Verdes, Rolling Hills Estates and Lomita, and approved by LADOT.

TRAFFIC STUDY – MEMORANDUM OF UNDERSTANDING (MOU) [CONTINUED]
Marymount College (San Pedro Campus) Project

Study Intersections

(Subject to LADOT revision after initial impact analysis)

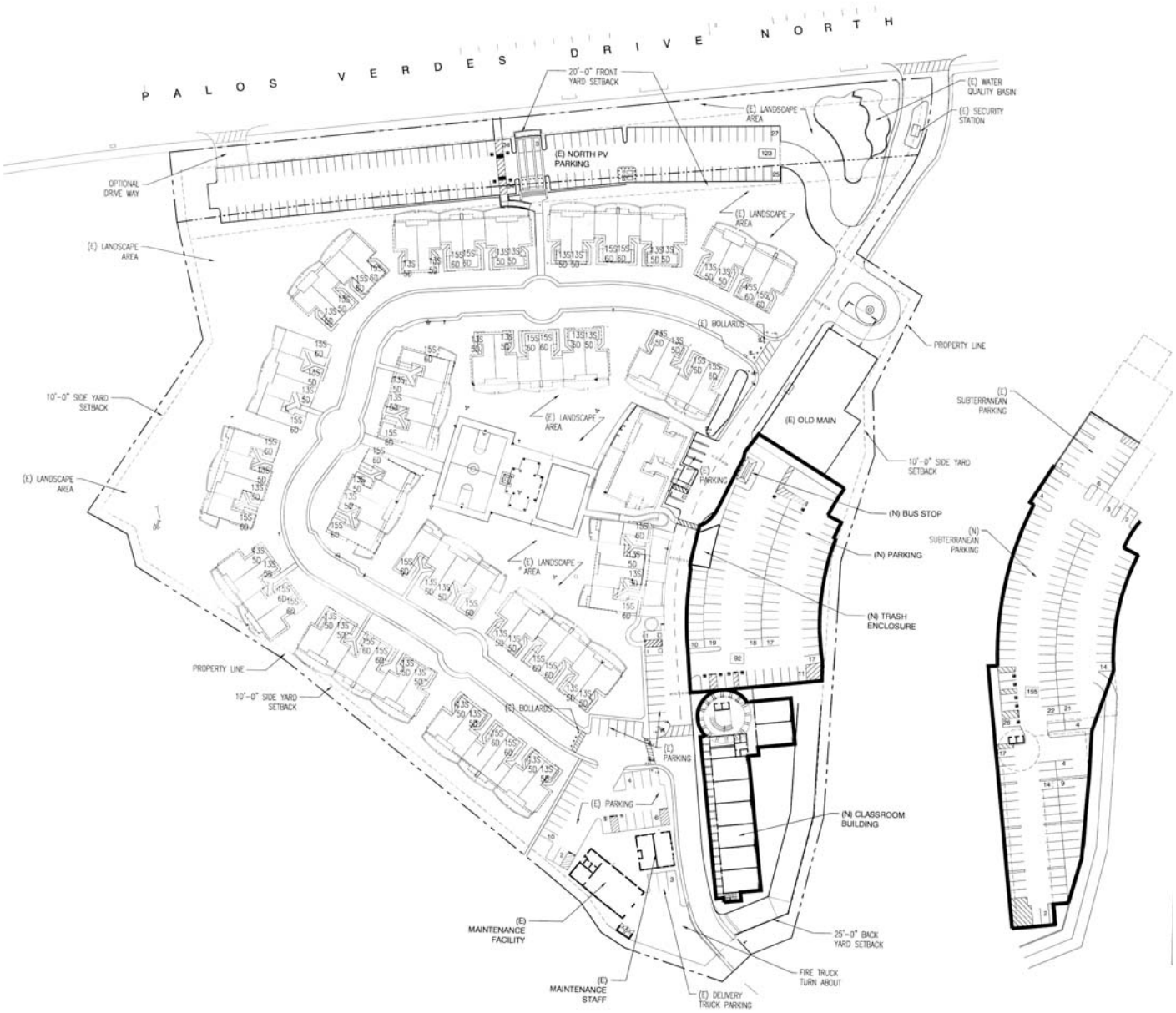
	Study Intersections	Jurisdiction City/Agency	Traffic Control
1	Western Avenue and Pacific Coast Highway	Los Angeles/Caltrans	Signalized
2	Normandie Avenue and Pacific Coast Highway	Los Angeles/Caltrans	Signalized
3	Vermont Avenue and Pacific Coast Highway	Los Angeles/Caltrans	Signalized
4	Western Avenue and Anaheim Street	Los Angeles/Caltrans	Signalized
5	Palos Verdes Drive E and Palos Verdes Drive N	Rolling Hills Estate	Signalized
6	Western Avenue and Palos Verdes Drive N	Lomita/Caltrans	Signalized
7	President Avenue and Palos Verdes Drive N	Los Angeles	Stop-Controlled
8	Gaffey Street/Vermont Avenue and Anaheim Street/N. Palos Verdes Drive	Los Angeles	Signalized
9	Figueroa Place and Anaheim Street	Los Angeles	Signalized
10	Figueroa Street and Anaheim Street	Los Angeles	Signalized
11	Palos Verdes Drive E and Miraleste Drive	Rancho Palos Verdes	Stop-Controlled
12	Western Avenue and Trudie Drive/Capitol Drive	Rancho Palos Verdes/Caltrans	Signalized
13	Miraleste Drive and Via Colinita Avenue	Rancho Palos Verdes	Stop-Controlled
14	Western Avenue and Crestwood Street	Rancho Palos Verdes/Caltrans	Signalized
15	Miraleste Drive and 1st Street	Rancho Palos Verdes	Stop-Controlled
16	Western Avenue and 1st Street	Los Angeles/Caltrans	Signalized
17	Palos Verdes Drive E and Crest Road	Rancho Palos Verdes	Signalized

Trip Credits: (Exact amount of credit subject to approval by LADOT)	Yes	No
Transit Usage	☐	☒
Transportation Demand Management	☐	☒
Existing Active Land Use	☒	☐
Previous Land Use	☐	☒
Internal Trip	☒	☐
Pass-By Trip	☐	☒

(See Attachment D, Project Trip Generation for other campus-related trip discounts.)

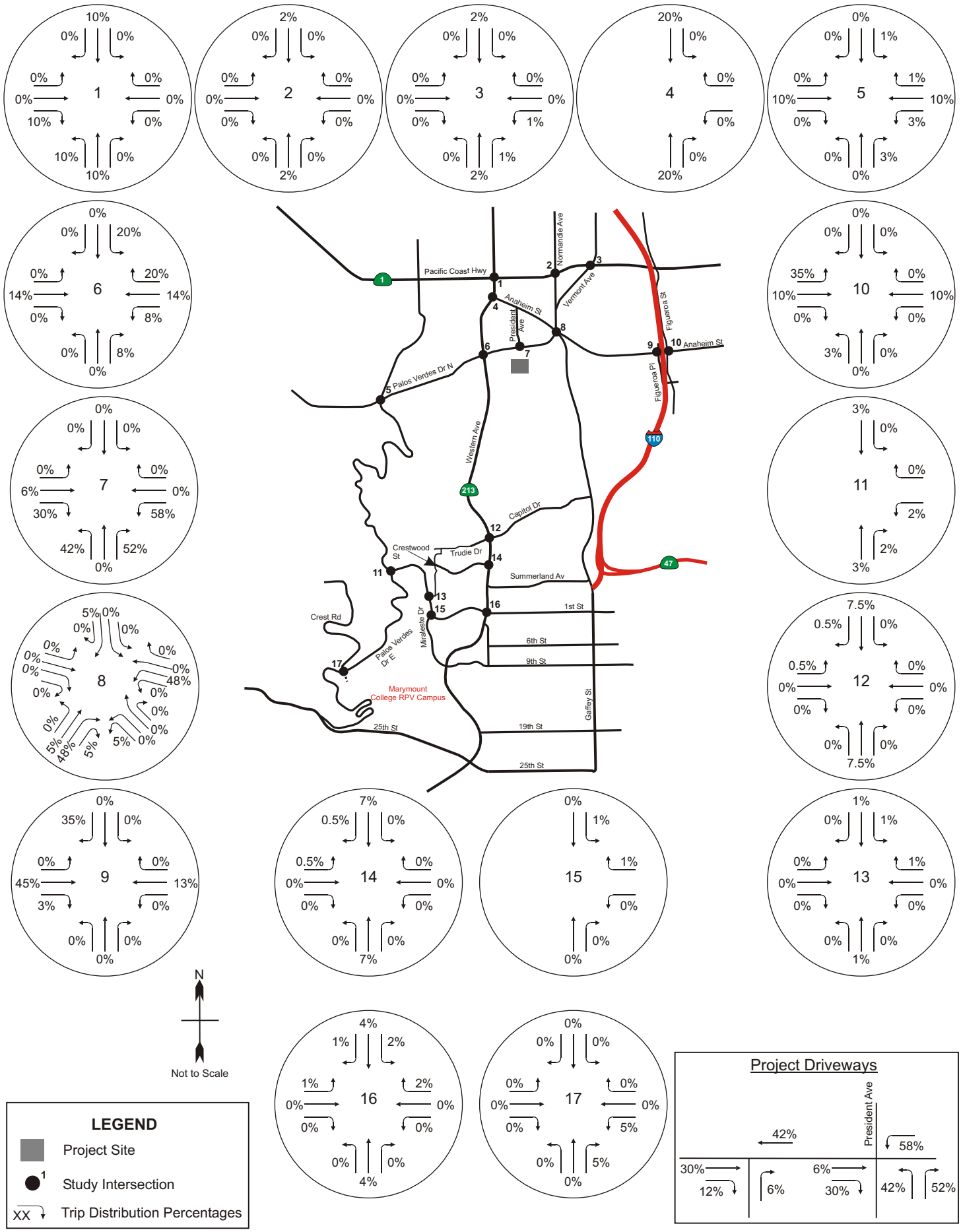
	Consultant	Developer
Name	KOA Corporation	Non-Profit Ventures (Applicant's representative)
Address	1100 Corporate Center Dr, Suite 201 Monterey Park, CA 91754	4007 Coogan Circle Culver City, CA 90232
Phone No.	323-260-4703	310-839-5455

Approved by:				
	Consultant's Representative	Date	LADOT Representative	Date
	[signature]	9/21/2011	[signature]	9/23/2011



Source: Bryant Palmer Soto Inc, June 2011

KOA CORPORATION PLANNING & ENGINEERING	Marymount College San Pedro Campus - Traffic Study	Attachment A
		Conceptual Site Plan



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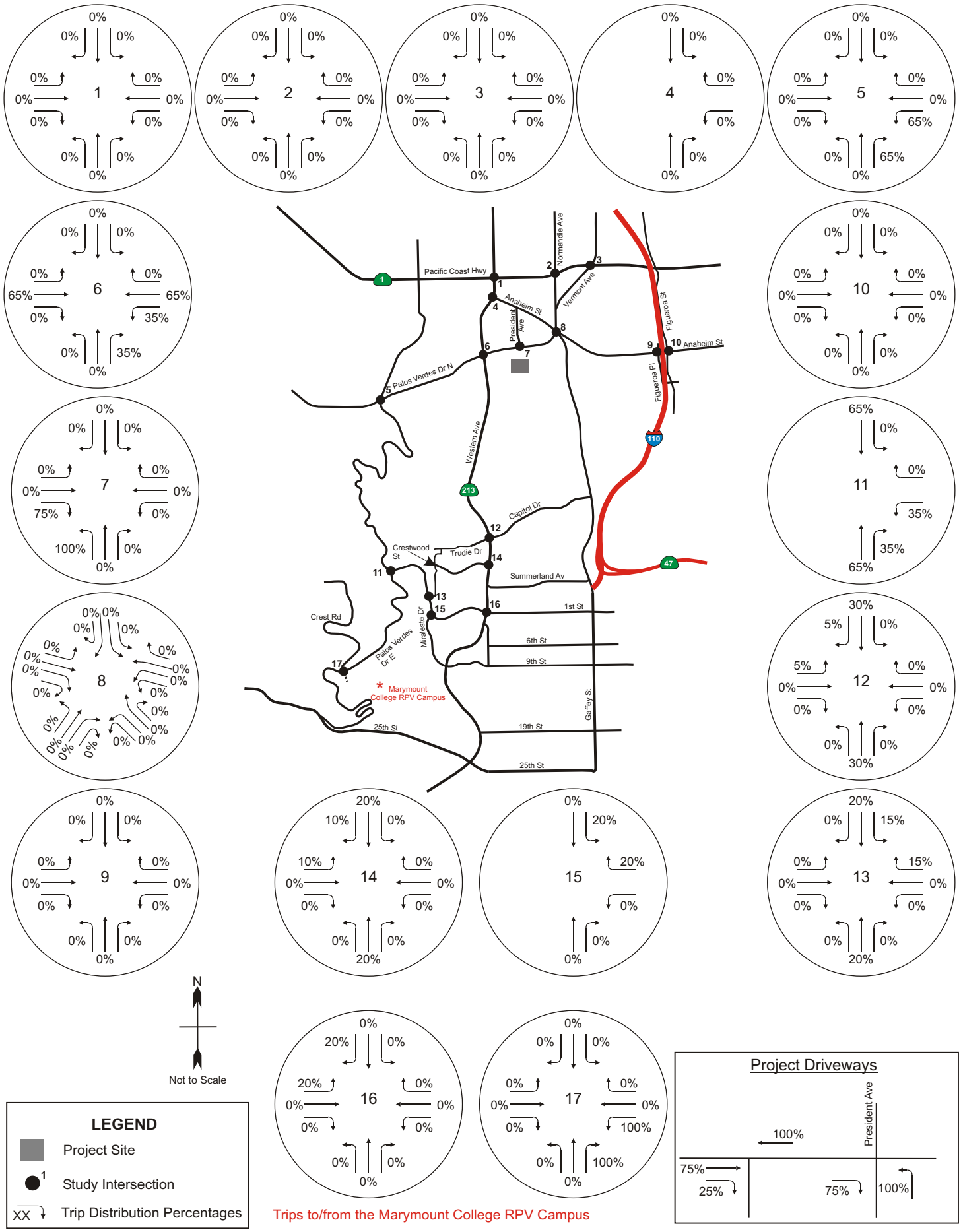
Marymount College San Pedro Campus - Traffic Study — Attachment B

Project Trip Distribution - To/From Proposed Campus



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PLANNING & ENGINEERING

Marymount College San Pedro Campus - Traffic Study — Attachment C

Project Trip Distribution Between Proposed Campus and Existing RPV Campus

ATTACHMENT D
PROJECT TRIP GENERATION

Land Use	Intensity	Unit	Weekday						
			Daily	AM Peak Hour			PM Peak Hour		
				Total	In	Out	Total	In	Out
Trip Rates									
College [1]	-	Student	2.34	0.26	76%	24%	0.24	25%	75%
Off-Campus Housing [2]	-	Student	3.88	0.31	13%	87%	0.35	52%	48%
Apartment [3]	-	DU	6.65	0.51	20%	80%	0.62	65%	35%
Trip Generation									
Proposed Project									
College	1,500	Student	3,510	390	296	94	360	90	270
Internal Trip Reduction [4]	53%		-1,872	-208	-158	-50	-192	-48	-144
Subtotal			1,638	182	138	44	168	42	126
Resident Student Trip Reduction (75% AM) [5]			-137	-137	-104	-33	0	0	0
Total Non-Residential College Trips			**1,501**	**45**	**34**	**11**	**168**	**42**	**126**
Residence Halls for Students	800	Student	3,104	248	32	216	280	146	134
'Limited Cars for Residents' Trip Reduction (56%) [6]			-1,738	-139	-18	-121	-157	-82	-75
Subtotal			1,366	109	14	95	123	64	59
Internal Trip Reduction (77% AM, 62% PM) [7][8]			-847	-84	-11	-73	-76	-40	-36
Total Non-RPV Campus Trips			**519**	**25**	**3**	**22**	**47**	**24**	**23**
Trips to/from RPV Campus [9]	400	Student	1,552	124	16	108	140	73	67
'Limited Cars for Residents' Trip Reduction (56%) [6]			-869	-69	-9	-60	-78	-41	-37
Total Trips to/from RPV Campus			**683**	**55**	**7**	**48**	**62**	**32**	**30**
Faculty Apartments	8	DU	53	4	1	3	5	3	2
Internal Trip Reduction (77% AM, 62% PM) [7]			-6	-3	-1	-2	-3	-2	-1
Total Faculty Apartment Trips			**47**	**1**	**0**	**1**	**2**	**1**	**1**
Total Trip Generation (Proposed Project Uses)			**2,750**	**126**	**44**	**82**	**279**	**99**	**180**
Existing Uses									
Housing Facility [10]	86	DU	**536**	**43**	**7**	**36**	**48**	**25**	**23**
Net Total Trip Generation			**2,214**	**83**	**37**	**46**	**231**	**74**	**157**

[1] Trip generation rates are based on trip surveys conducted at the Marymount College RPV Campus on March 22 and 30, 2011.

[2] The AM and PM peak hour trip rates are based on trip generation surveys conducted at the Palos Verdes Drive North residential facility on March 24, 2011. The daily rate is based on daily to AM+PM ratio for apartment use from the ITE Trip Generation book and multiplied by the AM plus PM rates. [3.88 daily trip rate = (6.65 / (0.51+0.62))*(0.31+0.35)]

[3] Trip generation rates are from ITE Trip Generation, 8th Edition.

[4] Based on percentage of students who will be living on the San Pedro Campus (800 resident students / 1,500 total students).

[5] Marymount College would schedule the morning peak period classes on the San Pedro Campus exclusively for resident students. A trip reduction of 75% is assumed for the AM peak hour as commuter students are not expected to generate vehicle trips during this period. The remaining trips are expected to be generated by faculty/staff.

[6] Marymount College anticipates about 44% of the 800 San Pedro Campus residents would have a vehicle on campus based on a limited lottery system. The remaining 56% of residents would not have a vehicle on campus and therefore would not generate vehicle trips.

[7] Based on internal trip capture empirical rates for the apartment dormitory component per the Marymount College Facilities Expansion Project Traffic Impact Analysis, RBF Consulting, July 31, 2007. The empirical data showed that 77% of the vehicles during the AM peak and 62% of the vehicles during the PM peak are traveling to/from the RPV campus.

[8] The internal trip reduction for the PM was assumed for daily.

[9] Based on information provided by Marymount College representative, about 400 of the 800 residents would take classes at the Marymount College RPV Campus on a typical weekday.

[10] The AM and PM peak hour trips are based on raw trip generation survey data conducted at the Palos Verdes Drive North Facility on March 24, 2011. The daily trips are based on daily to AM+PM ratio for apartment use from ITE Trip Generation book and multiplied by the raw AM plus PM peak hour trips. [536 daily trips = (6.65 / (0.51+0.62))*(43+48)]

CMA & ICU METHODOLOGIES FOR SIGNALIZED INTERSECTIONS

The City of Los Angeles specifies that the Transportation Research Board Critical Movement Analysis (CMA), Circular 212 Method, be used to analyze traffic operating conditions at signalized intersections. The CMA analysis method for evaluating signalized intersections involves the computation of volume-to-capacity (V/C) ratios for each critical movement. Capacity, or saturation flow rate, is defined as the maximum rate of flow that can pass through a given intersection approach under prevailing traffic and roadway conditions. The sum of all critical movements on a critical lane basis is used to determine the total intersection volume to capacity ratio (V/C) and corresponding Level-of-Service. A facility is "at capacity" (v/c of 1.00 or greater) when extreme congestion occurs. This volume/capacity ratio value is based upon volumes by lane, signal phases, and approach lane configuration.

The Intersection Capacity Utilization (ICU) method of intersection analysis, per the cities of Rancho Palos Verdes, Rolling Hills Estates and Lomita was used to determine the intersection volume-to-capacity ratio (V/C) and corresponding level of service (LOS) based on the turning movements and intersection characteristics at the signalized intersections. The methodology calculates the volume/capacity ratio based on a default capacity [C] per lane, usually 1,600 vehicles per hour per lane (vphpl). The intersection V/C or critical movement total can be calculated by the summation of the critical flow ratios (volume/capacity per lane) during a given signal phase when concurrent signal phasing is provided or by summing the critical (V/C's) opposing flow ratios, which includes the highest combination of opposing movements, for example, the opposing left turn V/C plus the opposing through movement V/C. The formula for calculating an intersection ICU is as follows:

ICU=V/C+LOSS/CYCLE

Where:

V/C = sum of critical movement volume/capacity ratios (critical east-west and critical north-south volume/capacity ratios)
CYCLE = cycle length in seconds (typically 100 seconds)
LOSS = total intersection loss time in seconds (typically 10 seconds)

A capacity value of 1,600 vehicles per hour per lane was used with a loss time factor of 0.10. The V/C for the intersection corresponds to a LOS value, which describes the intersection operations. The Levels of Service vary from A through F, with A representing the best possible conditions, free flow, and F representing forced flow or failing/jammed conditions. Generally, LOS D or better is considered acceptable in urban areas.

APPENDIX C
Traffic Count Data

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5143_001 **Day:** WEDNESDAY

City: City of Harbor City **Date:** 5/4/2011

AM

NS/EW Streets:	Western Ave			Western Ave			Pacific Coast Highway			Pacific Coast Highway			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	2	0	1	3	0	1	3	0	1	3	0	
7:00 AM	68	140	18	19	71	17	25	313	36	28	316	29	1080
7:15 AM	104	167	10	16	91	24	20	322	51	23	380	27	1235
7:30 AM	112	210	23	41	148	27	30	324	73	32	383	36	1439
7:45 AM	128	203	18	71	162	32	34	365	81	24	424	24	1566
8:00 AM	114	221	20	40	123	40	34	377	68	26	405	32	1500
8:15 AM	133	207	19	39	84	26	34	349	44	26	370	21	1352
8:30 AM	86	145	18	27	98	28	19	262	52	26	356	21	1138
8:45 AM	108	182	24	29	88	29	27	306	58	25	370	28	1274
9:00 AM	74	143	21	39	123	41	29	288	65	26	386	29	1264
9:15 AM	105	120	27	32	67	25	12	296	59	22	271	19	1055
9:30 AM	99	131	16	30	94	31	21	313	73	38	301	20	1167
9:45 AM	99	94	25	20	72	38	26	230	47	29	300	23	1003
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1230	1963	239	403	1221	358	311	3745	707	325	4262	309	15073
APPROACH %'s :	35.84%	57.20%	6.96%	20.33%	61.60%	18.06%	6.53%	78.63%	14.84%	6.64%	87.05%	6.31%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	487	841	80	191	517	125	132	1415	266	108	1582	113	5857
PEAK HR FACTOR :		0.981			0.786			0.944			0.955		0.935

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5143_001 **Day:** WEDNESDAY

City: City of Harbor City **Date:** 5/4/2011

PM

NS/EW Streets:	Western Ave			Western Ave			Pacific Coast Highway			Pacific Coast Highway			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	2	0	1	3	0	1	3	0	1	3	0	
3:00 PM	122	144	24	55	117	31	44	307	81	25	330	37	1317
3:15 PM	92	180	35	53	159	39	41	339	75	27	290	25	1355
3:30 PM	123	144	20	48	126	28	35	377	115	23	290	36	1365
3:45 PM	112	129	22	30	132	23	35	356	86	32	351	23	1331
4:00 PM	111	136	24	54	143	29	35	380	127	23	329	25	1416
4:15 PM	96	148	28	29	144	45	42	361	89	33	310	28	1353
4:30 PM	104	113	27	41	144	35	28	358	101	26	357	33	1367
4:45 PM	100	163	29	34	187	40	35	352	80	23	287	25	1355
5:00 PM	123	125	30	40	163	34	37	346	96	29	353	35	1411
5:15 PM	106	154	19	39	200	37	33	324	87	33	341	28	1401
5:30 PM	129	136	26	46	179	24	34	331	119	34	383	32	1473
5:45 PM	80	138	22	48	205	51	34	334	104	22	334	31	1403
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1298	1710	306	517	1899	416	433	4165	1160	330	3955	358	16547
APPROACH %'s :	39.17%	51.60%	9.23%	18.26%	67.06%	14.69%	7.52%	72.33%	20.15%	7.11%	85.18%	7.71%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	438	553	97	173	747	146	138	1335	406	118	1411	126	5688
PEAK HR FACTOR :		0.935			0.877			0.971			0.921		0.965

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

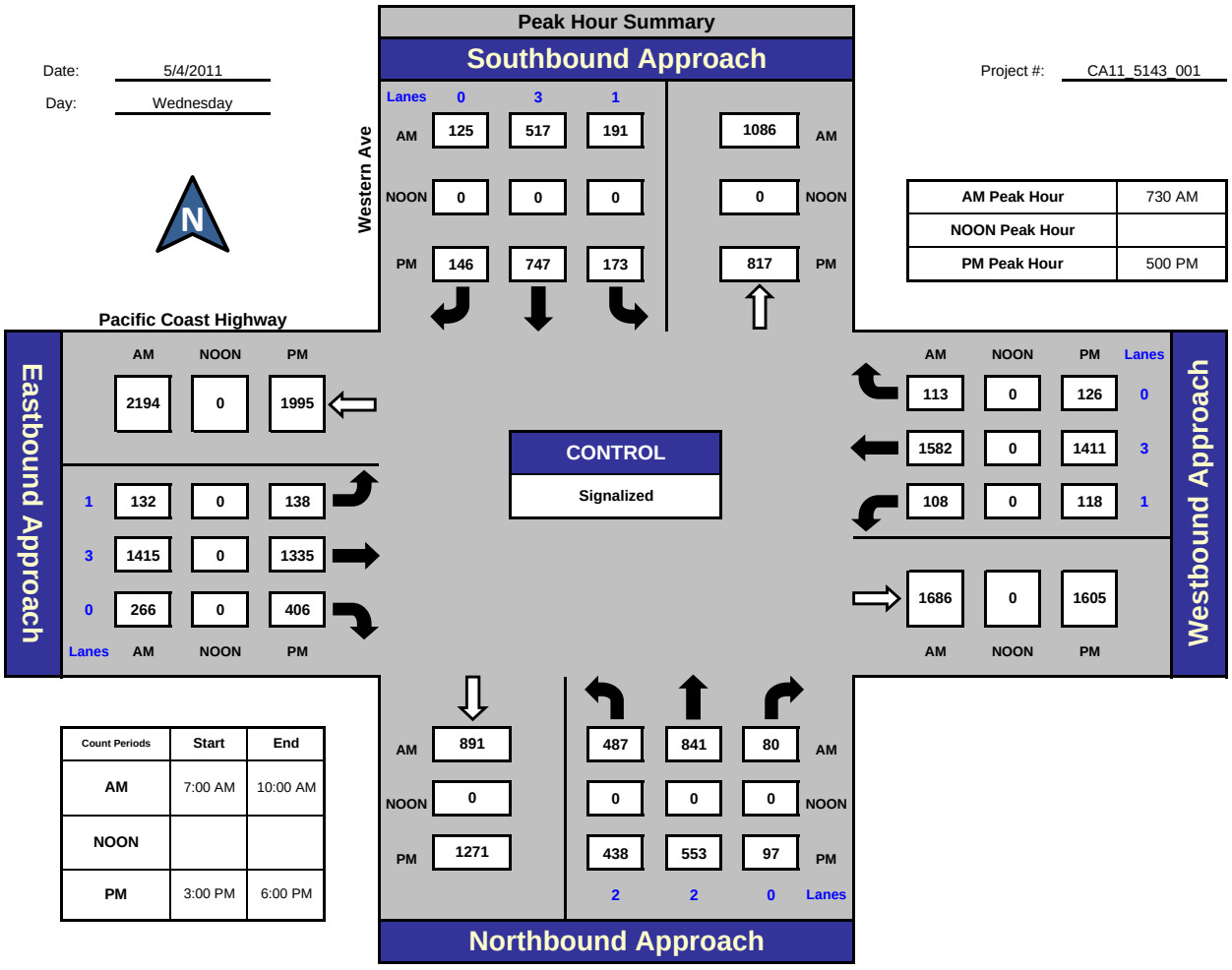
National Data & Surveying Services

Western Ave and Pacific Coast Highway , City of Harbor City

Date: 5/4/2011

Day: Wednesday

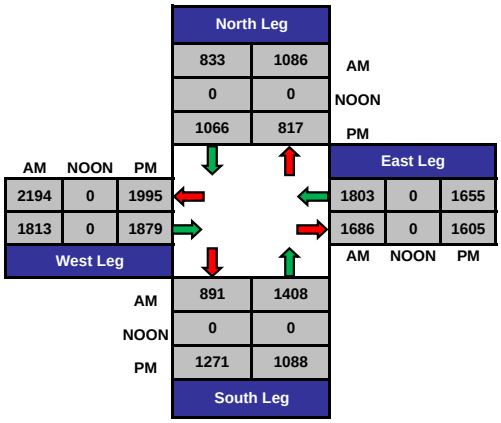
Project #: CA11_5143_001



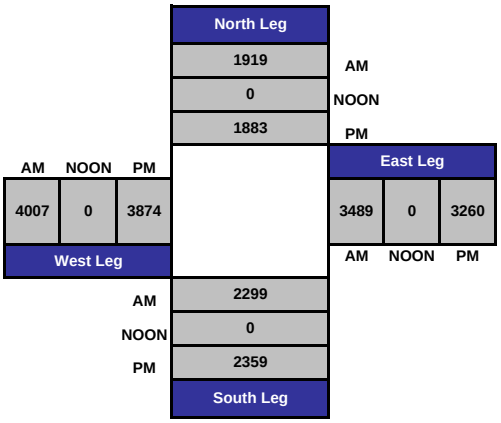
AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Pedestrian Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5143-001
N/S Street: Western Ave
E/W Street: Pacific Coast Highway
DATE: 5/4/2011 DAY: Wednesday
CITY: Harbor City

AM	13
NOON	0
PM	25

14	AM
0	NOON
33	PM

AM	NOON	PM
12	0	47

NORTH LEG

AM	NOON	PM
18	0	68

WEST LEG

EAST LEG

12	0	30
AM	NOON	PM

SOUTH LEG

42	0	103
AM	NOON	PM

AM	37
NOON	0
PM	90

62	AM
0	NOON
71	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Bicycle Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5143-001
N/S Street: Western Ave
E/W Street: Pacific Coast Highway
DATE: 5/4/2011 DAY: Wednesday
CITY: Harbor City

AM	2
NOON	0
PM	4

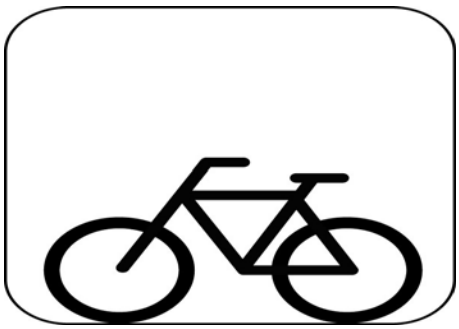
1	AM
0	NOON
8	PM

AM	NOON	PM
5	0	11

NORTH LEG

AM	NOON	PM
1	0	4

WEST LEG



EAST LEG

2	0	3
AM	NOON	PM

SOUTH LEG

5	0	11
AM	NOON	PM

AM	6
NOON	0
PM	6

4	AM
0	NOON
4	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 11-5143-001
N/S Street: Western Ave
E/W Street: Pacific Coast Highway
DATE: 5/4/2011 DAY: Wednesday
CITY: Harbor City

A M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	1	2	5	5	8	4	2	1
7:15 AM	1	3	3	2	11	0	0	0
7:30 AM	2	2	3	13	5	1	0	1
7:45 AM	2	1	3	3	2	0	0	0
8:00 AM	0	0	3	2	4	0	2	1
8:15 AM	0	0	3	2	0	0	0	1
8:30 AM	0	1	1	3	3	1	0	0
8:45 AM	1	0	5	8	0	0	1	5
9:00 AM	1	1	3	13	2	1	1	1
9:15 AM	1	1	2	3	1	8	3	0
9:30 AM	1	0	3	6	4	2	0	1
9:45 AM	3	3	3	2	2	1	3	1
TOTALS	**13**	**14**	**37**	**62**	**42**	**18**	**12**	**12**

BIKES

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	1	0	0	1	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	1	0	0	1
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	1	0	0	1	2
9:00 AM	0	0	2	0	0	0	0	0
9:15 AM	1	0	3	0	2	0	0	2
9:30 AM	1	0	1	1	1	0	0	0
9:45 AM	0	0	0	2	0	1	1	0
TOTALS	**2**	**1**	**6**	**4**	**5**	**1**	**2**	**5**

P M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	3	1	10	10	8	9	4	8
3:15 PM	3	3	12	11	10	9	0	4
3:30 PM	4	3	11	5	7	7	2	6
3:45 PM	2	1	6	11	10	8	4	7
4:00 PM	0	1	5	1	5	4	1	1
4:15 PM	1	10	12	7	19	6	2	2
4:30 PM	2	5	6	8	6	1	5	5
4:45 PM	3	0	5	5	3	2	4	4
5:00 PM	1	4	2	3	8	6	3	0
5:15 PM	1	0	5	5	13	3	2	2
5:30 PM	2	5	11	3	10	6	0	2
5:45 PM	3	0	5	2	4	7	3	6
TOTALS	**25**	**33**	**90**	**71**	**103**	**68**	**30**	**47**

BIKES

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	1	0	0	0	0	1	1	0
3:15 PM	1	2	1	0	1	0	2	10
3:30 PM	0	3	2	0	0	1	0	1
3:45 PM	0	1	2	0	3	0	0	0
4:00 PM	0	1	0	3	2	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	2	1	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	1	0	0	0
5:15 PM	0	0	0	0	0	1	0	0
5:30 PM	0	1	0	0	1	0	0	0
5:45 PM	2	0	1	1	1	0	0	0
TOTALS	**4**	**8**	**6**	**4**	**11**	**4**	**3**	**11**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5143_002 **Day:** WEDNESDAY

City: City of Harbor City **Date:** 5/4/2011

AM

NS/EW Streets:	Normandie Ave			Normandie Ave			Pacific Coast Highway			Pacific Coast Highway			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	1	3	0	1	3	0	
7:00 AM	20	64	9	26	47	25	21	358	20	30	384	20	1024
7:15 AM	14	61	16	17	85	30	24	341	19	29	359	22	1017
7:30 AM	28	82	10	30	67	50	30	374	22	27	514	30	1264
7:45 AM	31	107	13	18	88	45	29	438	32	20	432	30	1283
8:00 AM	23	84	20	39	77	35	33	432	34	38	384	29	1228
8:15 AM	33	89	14	32	66	29	33	388	34	47	360	25	1150
8:30 AM	25	74	25	26	61	38	30	329	11	50	370	19	1058
8:45 AM	24	54	21	16	52	24	30	323	32	27	363	12	978
9:00 AM	19	56	22	28	59	32	30	298	22	28	292	26	912
9:15 AM	19	51	27	30	47	22	27	349	26	31	282	12	923
9:30 AM	18	49	38	31	48	20	26	327	21	40	318	21	957
9:45 AM	40	63	41	39	50	24	26	250	13	42	312	24	924
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	294	834	256	332	747	374	339	4207	286	409	4370	270	12718
APPROACH %'s :	21.24%	60.26%	18.50%	22.85%	51.41%	25.74%	7.02%	87.07%	5.92%	8.10%	86.55%	5.35%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	115	362	57	119	298	159	125	1632	122	132	1690	114	4925
PEAK HR FACTOR :		0.884			0.954			0.941			0.848		0.960

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5143_002 **Day:** WEDNESDAY

City: City of Harbor City **Date:** 5/4/2011

PM

NS/EW Streets:	Normandie Ave			Normandie Ave			Pacific Coast Highway			Pacific Coast Highway			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	1	3	0	1	3	0	
3:00 PM	38	83	36	33	65	43	29	349	17	18	322	27	1060
3:15 PM	32	84	34	30	75	29	30	391	40	31	342	25	1143
3:30 PM	42	116	45	35	74	34	24	400	28	24	299	25	1146
3:45 PM	27	72	39	24	76	50	33	384	18	24	345	26	1118
4:00 PM	39	104	39	38	70	30	34	402	29	33	330	26	1174
4:15 PM	37	84	32	39	74	34	32	389	28	13	326	25	1113
4:30 PM	45	93	38	34	81	43	32	372	21	15	335	27	1136
4:45 PM	35	91	27	39	100	34	32	367	21	33	332	22	1133
5:00 PM	44	109	40	33	86	40	27	379	30	17	355	22	1182
5:15 PM	31	97	42	43	83	35	34	384	19	23	371	28	1190
5:30 PM	45	81	30	37	83	52	36	363	32	16	422	18	1215
5:45 PM	14	55	25	29	67	41	31	369	27	26	393	34	1111
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	429	1069	427	414	934	465	374	4549	310	273	4172	305	13721
APPROACH %'s :	22.29%	55.53%	22.18%	22.84%	51.52%	25.65%	7.15%	86.93%	5.92%	5.75%	87.83%	6.42%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	155	378	139	152	352	161	129	1493	102	89	1480	90	4720
PEAK HR FACTOR :		0.870			0.961			0.986			0.910		0.971

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

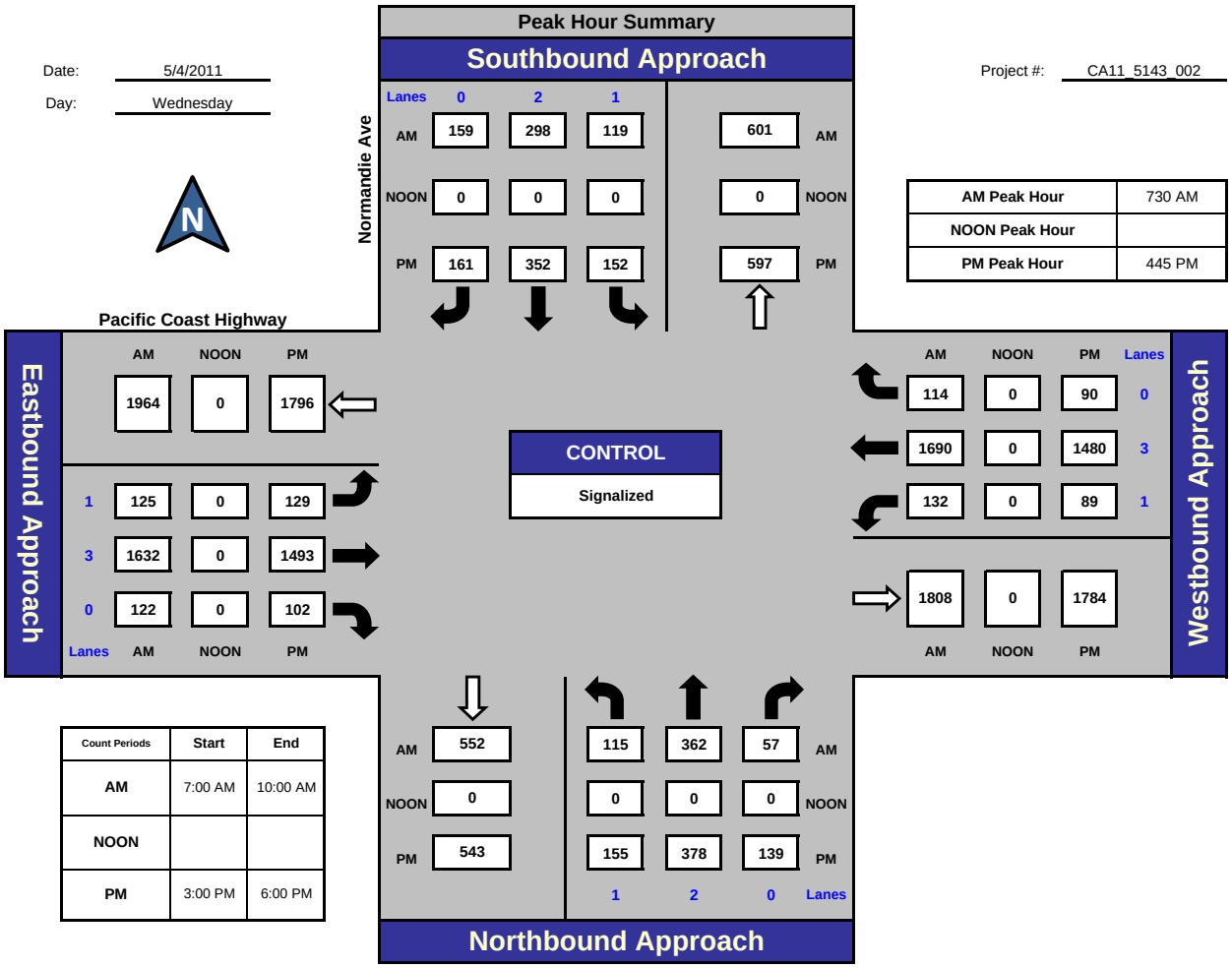
Normandie Ave and Pacific Coast Highway , City of Harbor City

Date: 5/4/2011

Day: Wednesday

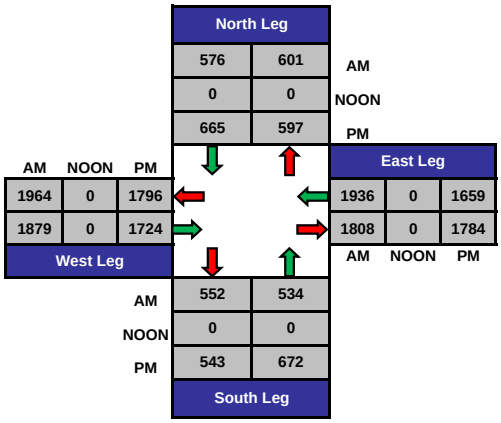
Project #: CA11_5143_002

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	445 PM

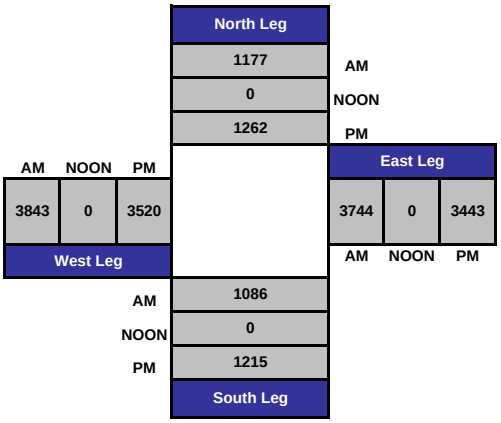


Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Pedestrian Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5143-002
N/S Street: Normandie Ave
E/W Street: Pacific Coast Highway
DATE: 5/4/2011 DAY: Wednesday
CITY: Harbor City

AM	48
NOON	0
PM	31

34	AM	
0	NOON	
30	PM	

AM	NOON	PM
38	0	33

NORTH LEG

AM	NOON	PM
46	0	25

WEST LEG

EAST LEG

51	0	50
AM	NOON	PM

SOUTH LEG

49	0	56
AM	NOON	PM

AM	41
NOON	0
PM	25

38	AM	
0	NOON	
34	PM	

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Bicycle Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5143-002
N/S Street: Normandie Ave
E/W Street: Pacific Coast Highway
DATE: 5/4/2011 DAY: Wednesday
CITY: Harbor City

AM	0
NOON	0
PM	0

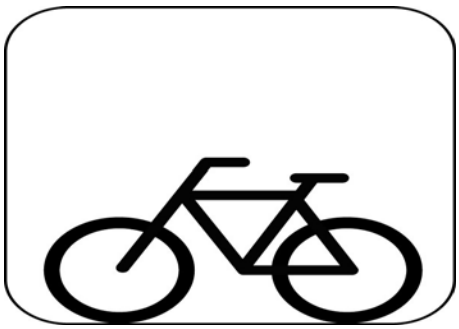
2	AM
0	NOON
3	PM

AM	NOON	PM
0	0	4

NORTH LEG

AM	NOON	PM
0	0	2

WEST LEG



EAST LEG

3	0	5
AM	NOON	PM

SOUTH LEG

3	0	4
AM	NOON	PM

AM	2
NOON	0
PM	1

4	AM
0	NOON
8	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 11-5143-002
N/S Street: Normandie Ave
E/W Street: Pacific Coast Highway
DATE: 5/4/2011 DAY: Wednesday
CITY: Harbor City

A M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	9	2	5	6	4	2	3	3
7:15 AM	7	3	4	5	4	3	6	5
7:30 AM	4	10	6	1	8	4	1	4
7:45 AM	2	2	3	5	9	6	8	5
8:00 AM	7	5	2	3	3	3	4	3
8:15 AM	1	2	4	4	2	1	5	2
8:30 AM	0	2	6	2	7	3	6	2
8:45 AM	3	2	3	1	2	4	5	3
9:00 AM	3	1	1	5	5	7	6	3
9:15 AM	2	1	4	3	2	2	1	3
9:30 AM	7	2	2	1	2	10	1	3
9:45 AM	3	2	1	2	1	1	5	2
TOTALS	**48**	**34**	**41**	**38**	**49**	**46**	**51**	**38**

BIKES

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	1	0	0	0	0	0	0
7:30 AM	0	0	1	0	0	0	0	0
7:45 AM	0	0	0	2	0	0	1	0
8:00 AM	0	0	0	0	0	0	2	0
8:15 AM	0	1	0	0	1	0	0	0
8:30 AM	0	0	0	0	1	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
9:00 AM	0	0	1	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	2	1	0	0	0
9:45 AM	0	0	0	0	0	0	0	0
TOTALS	**0**	**2**	**2**	**4**	**3**	**0**	**3**	**0**

P M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	1	3	2	1	5	0	3	2
3:15 PM	1	3	2	6	2	1	7	2
3:30 PM	8	6	1	3	7	0	6	5
3:45 PM	2	2	1	3	6	0	5	2
4:00 PM	3	2	5	2	7	2	4	6
4:15 PM	7	1	1	3	6	4	2	2
4:30 PM	1	0	6	2	8	7	2	5
4:45 PM	3	4	0	3	5	2	3	3
5:00 PM	2	2	3	3	4	1	5	2
5:15 PM	1	2	1	3	1	0	4	1
5:30 PM	0	1	1	2	2	7	5	0
5:45 PM	2	4	2	3	3	1	4	3
TOTALS	**31**	**30**	**25**	**34**	**56**	**25**	**50**	**33**

BIKES

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	1	0	1	0	0
3:15 PM	0	0	0	0	1	0	0	0
3:30 PM	0	0	0	1	0	0	0	2
3:45 PM	0	2	0	1	1	0	1	0
4:00 PM	0	1	0	3	0	0	1	1
4:15 PM	0	0	0	0	0	0	1	0
4:30 PM	0	0	0	0	0	0	0	1
4:45 PM	0	0	1	0	0	1	0	0
5:00 PM	0	0	0	1	0	0	1	0
5:15 PM	0	0	0	0	1	0	0	0
5:30 PM	0	0	0	0	0	0	1	0
5:45 PM	0	0	0	1	1	0	0	0
TOTALS	**0**	**3**	**1**	**8**	**4**	**2**	**5**	**4**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5143_003 **Day:** WEDNESDAY

City: City of Harbor City **Date:** 5/4/2011

AM

NS/EW Streets:	Vermont Ave			Vermont Ave			Pacific Coast Hwy			Pacific Coast Hwy			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	0	1	3	0	1	3	0	
7:00 AM	1	44	36	20	55	24	21	344	5	60	406	8	1024
7:15 AM	1	73	42	40	78	38	19	315	11	89	416	8	1130
7:30 AM	2	96	48	48	102	52	37	378	9	77	508	8	1365
7:45 AM	7	90	52	49	116	47	35	336	14	123	482	5	1356
8:00 AM	2	98	58	33	77	32	39	455	13	95	424	17	1343
8:15 AM	6	85	50	32	80	47	32	354	20	81	445	12	1244
8:30 AM	3	65	47	29	56	26	25	351	19	90	405	13	1129
8:45 AM	5	50	45	34	74	22	29	302	17	87	416	10	1091
9:00 AM	7	55	51	36	59	25	32	329	13	64	318	8	997
9:15 AM	9	51	51	41	42	43	32	335	19	73	330	11	1037
9:30 AM	3	47	52	28	52	31	31	372	20	54	357	23	1070
9:45 AM	7	45	42	26	53	23	25	245	21	56	376	10	929
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	53	799	574	416	844	410	357	4116	181	949	4883	133	13715
APPROACH %'s :	3.72%	56.03%	40.25%	24.91%	50.54%	24.55%	7.67%	88.44%	3.89%	15.91%	81.86%	2.23%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	17	369	208	162	375	178	143	1523	56	376	1859	42	5308
PEAK HR FACTOR :		0.940			0.843			0.849			0.933		0.972

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5143_003 **Day:** WEDNESDAY

City: City of Harbor City **Date:** 5/4/2011

PM

NS/EW Streets:	Vermont Ave			Vermont Ave			Pacific Coast Hwy			Pacific Coast Hwy			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	0	1	3	0	1	3	0	
3:00 PM	14	85	74	25	75	22	41	369	23	66	364	18	1176
3:15 PM	9	86	58	24	59	27	39	412	13	61	384	8	1180
3:30 PM	5	99	79	37	90	29	41	416	28	59	341	17	1241
3:45 PM	9	75	68	36	69	30	44	464	17	49	352	9	1222
4:00 PM	11	98	76	43	82	33	34	387	17	64	369	17	1231
4:15 PM	4	79	75	24	54	27	30	472	20	53	323	15	1176
4:30 PM	17	109	75	41	85	33	43	398	10	38	316	15	1180
4:45 PM	10	78	66	32	54	25	43	403	8	61	378	20	1178
5:00 PM	22	109	83	39	74	36	40	365	14	55	353	13	1203
5:15 PM	11	86	65	39	79	34	53	490	15	62	383	15	1332
5:30 PM	11	94	52	35	81	38	28	367	12	61	407	9	1195
5:45 PM	3	87	56	33	77	28	41	398	10	58	413	7	1211
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	126	1085	827	408	879	362	477	4941	187	687	4383	163	14525
APPROACH %'s :	6.18%	53.24%	40.58%	24.74%	53.31%	21.95%	8.51%	88.15%	3.34%	13.13%	83.76%	3.11%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	47	376	256	146	311	136	162	1620	51	236	1556	44	4941
PEAK HR FACTOR :		0.793			0.963			0.821			0.960		0.927

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

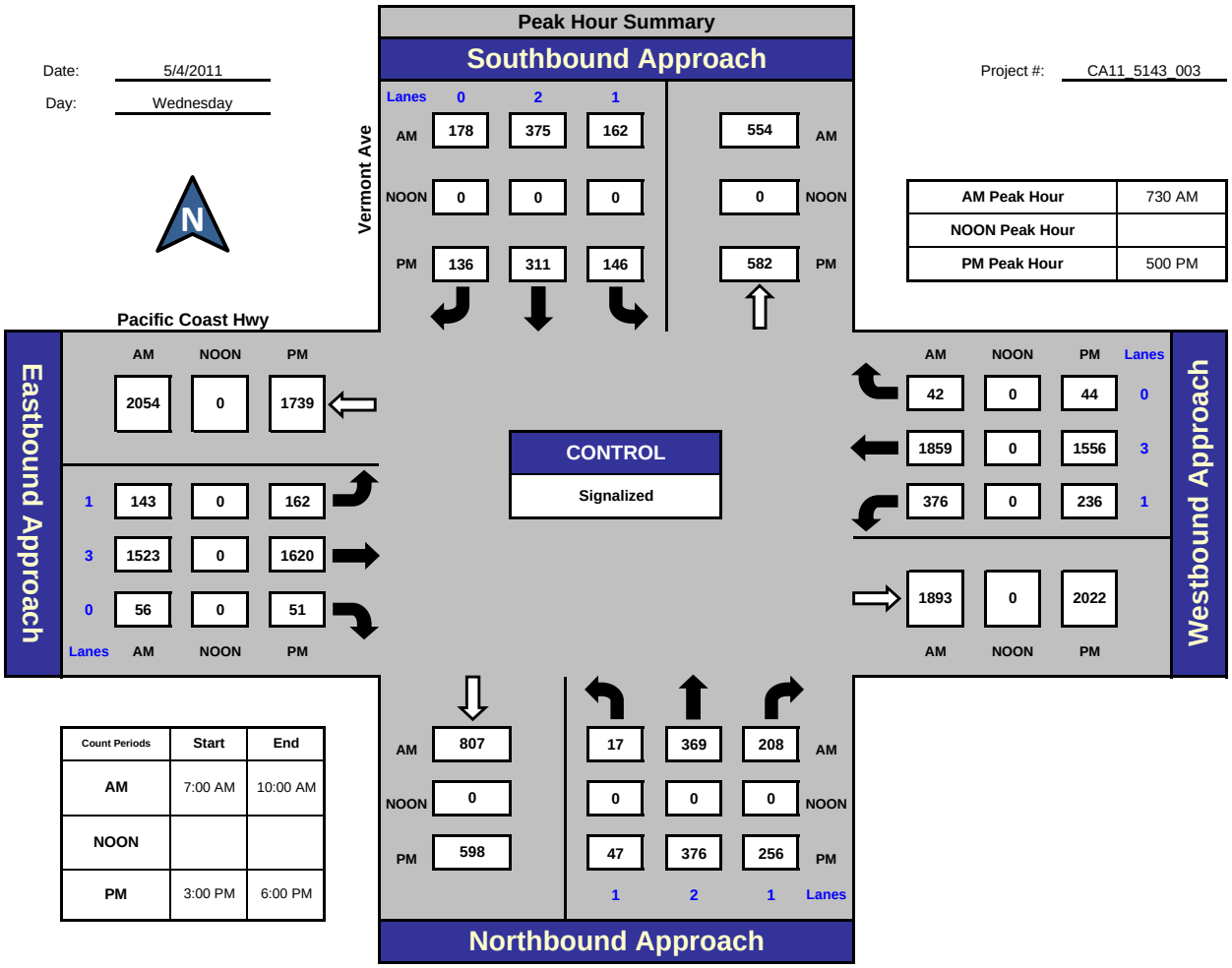
National Data & Surveying Services

Vermont Ave and Pacific Coast Hwy , City of Harbor City

Date: 5/4/2011

Day: Wednesday

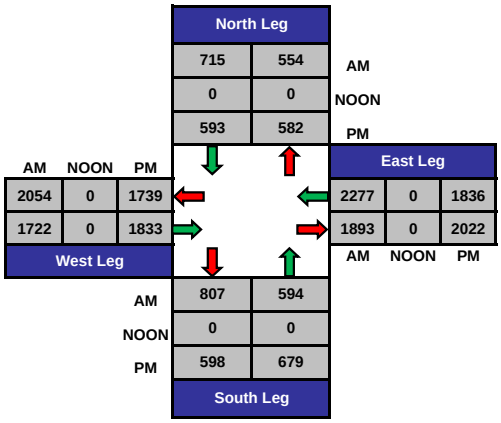
Project #: CA11_5143_003



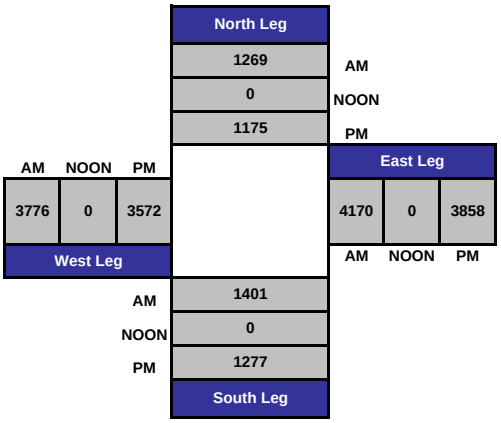
AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Pedestrian Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5143-003
N/S Street: Vermont Ave
E/W Street: Pacific Coast Hwy
DATE: 5/4/2011 DAY: Wednesday
CITY: Harbor City

AM	32
NOON	0
PM	24

21	AM
0	NOON
14	PM

AM	NOON	PM
3	0	6

NORTH LEG

AM	NOON	PM
21	0	15

WEST LEG

EAST LEG

2	0	4
AM	NOON	PM

SOUTH LEG

9	0	16
AM	NOON	PM

AM	5
NOON	0
PM	3

5	AM
0	NOON
8	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Bicycle Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5143-003
N/S Street: Vermont Ave
E/W Street: Pacific Coast Hwy
DATE: 5/4/2011 DAY: Wednesday
CITY: Harbor City

AM	6
NOON	0
PM	4

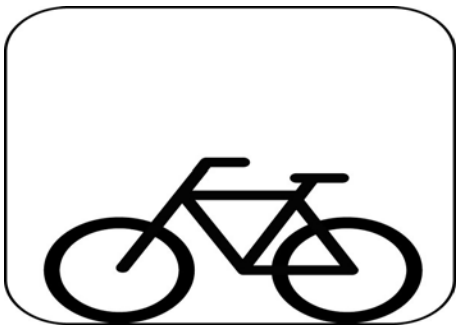
5	AM
0	NOON
9	PM

AM	NOON	PM
1	0	0

NORTH LEG

AM	NOON	PM
4	0	3

WEST LEG



EAST LEG

1	0	0
AM	NOON	PM

SOUTH LEG

4	0	6
AM	NOON	PM

AM	2
NOON	0
PM	0

1	AM
0	NOON
0	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 11-5143-003
N/S Street: Vermont Ave
E/W Street: Pacific Coast Hwy
DATE: 5/4/2011 DAY: Wednesday
CITY: Harbor City

A M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	4	1	0	2	0	3	2	0
7:15 AM	1	5	0	0	1	2	0	0
7:30 AM	7	5	0	0	0	4	0	0
7:45 AM	2	1	2	1	1	3	0	0
8:00 AM	4	0	0	0	1	4	0	0
8:15 AM	1	2	0	0	0	0	0	0
8:30 AM	4	1	1	2	2	1	0	0
8:45 AM	0	1	0	0	0	0	0	0
9:00 AM	4	1	0	0	0	2	0	0
9:15 AM	2	1	0	0	1	2	0	0
9:30 AM	2	1	2	0	0	0	0	3
9:45 AM	1	2	0	0	3	0	0	0
TOTALS	**32**	**21**	**5**	**5**	**9**	**21**	**2**	**3**

BIKES

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	2	1	0	0	0	0	0	0
7:15 AM	1	1	0	0	1	0	0	1
7:30 AM	0	0	0	0	1	1	0	0
7:45 AM	0	0	0	0	1	1	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	1	0	0	0	0	0	0
8:30 AM	1	1	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	1	0	0
9:15 AM	2	0	0	0	0	0	0	0
9:30 AM	0	1	1	1	1	1	0	0
9:45 AM	0	0	1	0	0	0	1	0
TOTALS	**6**	**5**	**2**	**1**	**4**	**4**	**1**	**1**

P M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	2	0	0	1	2	2	0	0
3:15 PM	0	0	0	2	1	2	0	0
3:30 PM	2	1	0	0	1	0	1	1
3:45 PM	0	0	2	0	0	0	1	2
4:00 PM	0	4	0	0	2	0	0	0
4:15 PM	0	3	0	0	3	0	0	1
4:30 PM	1	0	0	3	1	1	2	1
4:45 PM	2	2	1	2	0	2	0	1
5:00 PM	3	1	0	0	3	5	0	0
5:15 PM	2	0	0	0	1	0	0	0
5:30 PM	7	0	0	0	0	1	0	0
5:45 PM	5	3	0	0	2	2	0	0
TOTALS	**24**	**14**	**3**	**8**	**16**	**15**	**4**	**6**

BIKES

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	1	0	0	0
3:15 PM	1	1	0	0	0	1	0	0
3:30 PM	1	0	0	0	0	0	0	0
3:45 PM	0	1	0	0	0	0	0	0
4:00 PM	0	3	0	0	2	1	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	1	1	0	0	0	1	0	0
4:45 PM	0	0	0	0	1	0	0	0
5:00 PM	0	1	0	0	0	0	0	0
5:15 PM	0	1	0	0	1	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	1	1	0	0	1	0	0	0
TOTALS	**4**	**9**	**0**	**0**	**6**	**3**	**0**	**0**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5143_004 **Day:** WEDNESDAY

City: City of Harbor City **Date:** 5/4/2011

PM

NS/EW Streets:	Western Ave			Western Ave			Anaheim St			Anaheim St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	2	2	0	0	0	1	0.5	0.5	2	
3:00 PM		184	11	87	156	0			0	14	4	85	541
3:15 PM		234	19	104	180	3			0	19	6	85	650
3:30 PM		204	13	95	193	1			0	11	3	101	621
3:45 PM		176	13	89	181	2			0	23	2	86	572
4:00 PM		161	22	112	187	1			1	21	7	96	608
4:15 PM		203	19	100	190	4			2	18	6	66	608
4:30 PM		182	12	82	199	4			0	24	12	72	587
4:45 PM		206	15	97	210	2			0	18	7	81	636
5:00 PM		193	11	121	195	3			1	20	4	105	653
5:15 PM		170	16	115	216	2			0	27	12	100	658
5:30 PM		199	16	129	238	2			0	30	7	85	706
5:45 PM		180	12	105	224	4			2	25	7	80	639
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	2292	179	1236	2369	28	0	0	6	250	77	1042	7479
APPROACH %'s :	0.00%	92.76%	7.24%	34.02%	65.21%	0.77%	0.00%	0.00%	100.00%	18.26%	5.62%	76.11%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	742	55	470	873	11	0	0	3	102	30	370	2656
PEAK HR FACTOR :		0.927			0.917			0.375			0.903		0.941

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5143_004 **Day:** WEDNESDAY

City: City of Harbor City **Date:** 5/4/2011

AM

NS/EW Streets:	Western Ave			Western Ave			Anaheim St			Anaheim St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	2	2	0	0	0	1	0.5	0.5	2	
7:00 AM		168	15	43	92	0				20	0	75	413
7:15 AM		190	21	54	101	0				29	0	80	475
7:30 AM		257	9	70	166	3				57	17	113	692
7:45 AM		252	16	84	160	1				61	20	131	725
8:00 AM		228	27	85	131	3				21	12	109	616
8:15 AM		276	15	55	110	4				15	6	87	568
8:30 AM		239	11	52	132	1				12	5	93	545
8:45 AM		220	20	41	141	2				15	4	77	520
9:00 AM		196	9	59	95	1				13	2	54	429
9:15 AM		186	12	38	125	2				13	5	65	446
9:30 AM		169	11	51	147	2				9	2	78	469
9:45 AM		154	14	42	103	1				17	3	63	397
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	2535	180	674	1503	20	0	0	0	282	76	1025	6295
APPROACH %'s :	0.00%	93.37%	6.63%	30.68%	68.41%	0.91%	#DIV/0!	#DIV/0!	#DIV/0!	20.39%	5.50%	74.11%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	1013	67	294	567	11	0	0	0	154	55	440	2601
PEAK HR FACTOR :		0.928			0.890			0.000			0.765		0.897

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

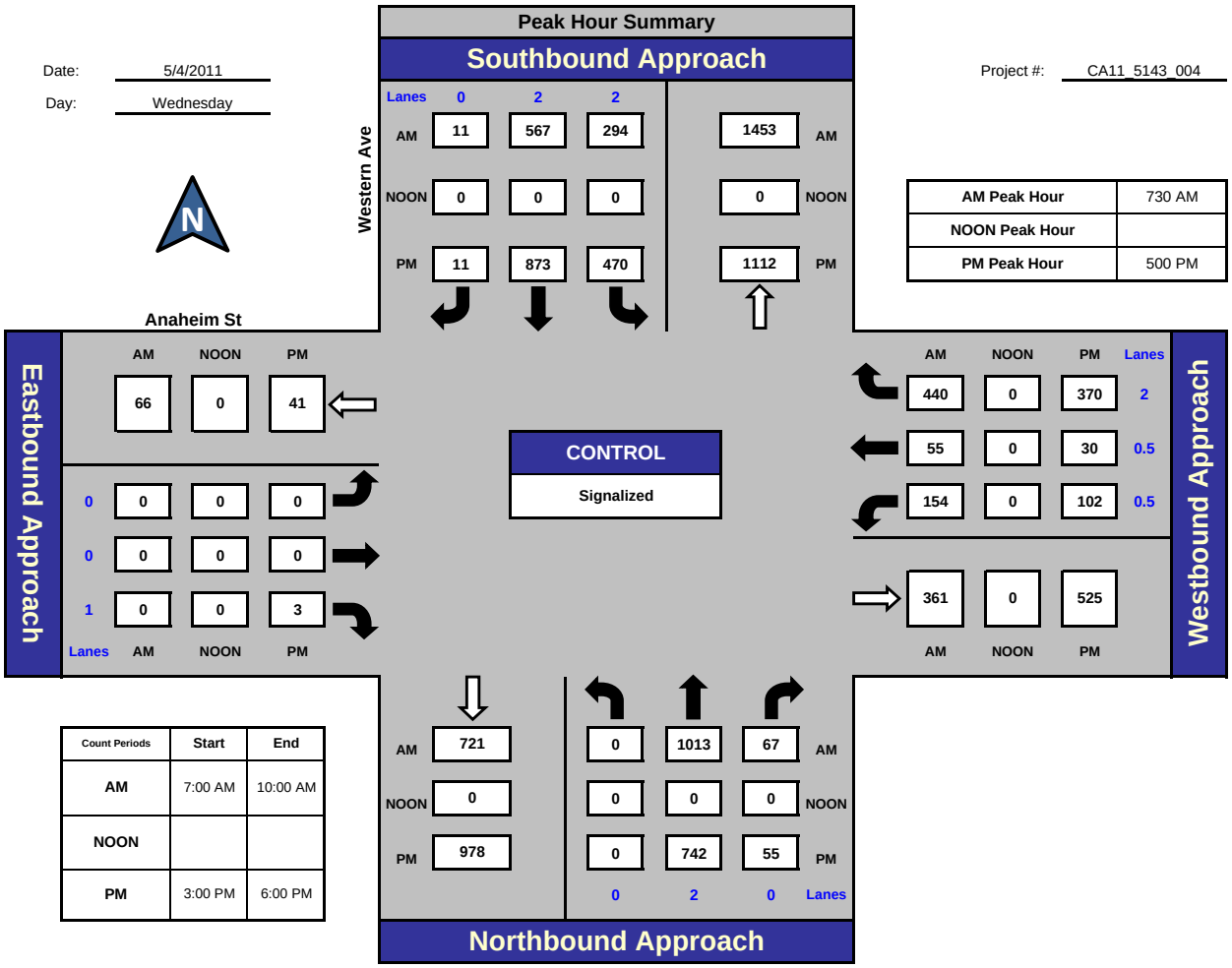
National Data & Surveying Services

Western Ave and Anaheim St , City of Harbor City

Date: 5/4/2011

Day: Wednesday

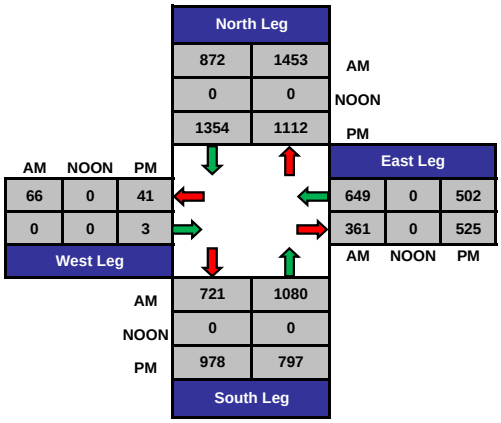
Project #: CA11_5143_004



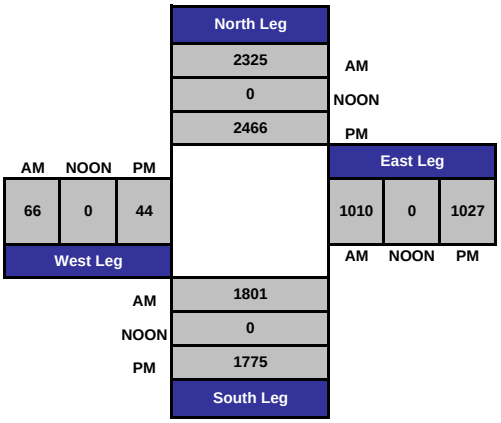
AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Pedestrian Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5143-004
N/S Street: Western Ave
E/W Street: Anaheim St
DATE: 5/4/2011 DAY: Wednesday
CITY: Harbor City

AM	0
NOON	0
PM	0

0	AM
0	NOON
0	PM

AM	NOON	PM
10	0	12

NORTH LEG

AM	NOON	PM
6	0	13

WEST LEG

EAST LEG

23	0	8
AM	NOON	PM

SOUTH LEG

15	0	7
AM	NOON	PM

AM	12
NOON	0
PM	12

15	AM
0	NOON
2	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Bicycle Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5143-004
N/S Street: Western Ave
E/W Street: Anaheim St
DATE: 5/4/2011 DAY: Wednesday
CITY: Harbor City

AM	0
NOON	0
PM	0

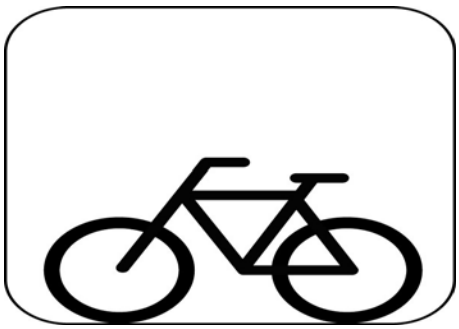
0	AM
0	NOON
0	PM

AM	NOON	PM
4	0	4

NORTH LEG

AM	NOON	PM
0	0	0

WEST LEG



EAST LEG

1	0	3
AM	NOON	PM

SOUTH LEG

2	0	0
AM	NOON	PM

AM	0
NOON	0
PM	2

0	AM
0	NOON
2	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 11-5143-004
N/S Street: Western Ave
E/W Street: Anaheim St
DATE: 5/4/2011 DAY: Wednesday
CITY: Harbor City

A M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	1	0	2	0	3	1
7:15 AM	0	0	1	12	3	1	9	1
7:30 AM	0	0	4	2	2	3	1	2
7:45 AM	0	0	0	0	0	0	1	1
8:00 AM	0	0	3	0	2	0	1	2
8:15 AM	0	0	0	0	0	0	4	0
8:30 AM	0	0	1	0	0	0	2	1
8:45 AM	0	0	1	0	0	0	1	1
9:00 AM	0	0	0	0	0	1	1	0
9:15 AM	0	0	1	0	4	0	0	1
9:30 AM	0	0	0	0	2	0	0	0
9:45 AM	0	0	0	1	0	1	0	0
TOTALS	**0**	**0**	**12**	**15**	**15**	**6**	**23**	**10**

BIKES

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	1	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	1
9:30 AM	0	0	0	0	1	0	1	0
9:45 AM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**4**

P M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	2	1	0
3:15 PM	0	0	7	0	2	2	0	0
3:30 PM	0	0	1	1	0	2	1	3
3:45 PM	0	0	0	1	1	2	2	1
4:00 PM	0	0	0	0	1	1	0	1
4:15 PM	0	0	4	0	1	1	1	1
4:30 PM	0	0	0	0	2	0	1	0
4:45 PM	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	1	0	1
5:15 PM	0	0	0	0	0	2	0	2
5:30 PM	0	0	0	0	0	0	2	2
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**12**	**2**	**7**	**13**	**8**	**12**

BIKES

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	1
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	1	0	0	0	0
3:45 PM	0	0	1	0	0	0	1	0
4:00 PM	0	0	0	0	0	0	1	2
4:15 PM	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	1	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	1	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	1	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**2**	**2**	**0**	**0**	**3**	**4**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5092_001 **Day:** TUESDAY

City: City of Rancho Palos Verdes **Date:** 3/22/2011

AM

NS/EW Streets:	Palos Verdes Dr East			Palos Verdes Dr East			Palos Verdes Dr North			Palos Verdes Dr North			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	1	1	2	1	1	1	2	1	1	2	1	
7:00 AM	39	37	20	17	12	5	14	251	19	10	194	15	633
7:15 AM	63	55	28	16	19	4	16	270	14	20	233	34	772
7:30 AM	80	59	36	38	23	1	12	244	24	31	246	36	830
7:45 AM	66	79	40	39	44	3	12	248	48	58	176	48	861
8:00 AM	94	44	56	20	39	14	16	254	68	35	232	31	903
8:15 AM	121	77	44	16	22	13	26	305	42	33	188	26	913
8:30 AM	35	48	45	31	29	8	26	300	38	26	181	42	809
8:45 AM	71	74	47	18	26	17	21	309	32	29	171	36	851
9:00 AM	52	61	44	23	20	11	17	276	30	23	164	35	756
9:15 AM	55	42	45	20	27	6	9	249	33	26	167	18	697
9:30 AM	53	38	39	23	24	8	12	201	17	24	155	27	621
9:45 AM	50	46	44	23	27	10	20	268	27	40	216	32	803
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	779	660	488	284	312	100	201	3175	392	355	2323	380	9449
APPROACH %'s :	40.43%	34.25%	25.32%	40.80%	44.83%	14.37%	5.33%	84.26%	10.40%	11.61%	75.96%	12.43%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	361	259	176	113	128	31	66	1051	182	157	842	141	3507
PEAK HR FACTOR :		0.822			0.791			0.871			0.911		0.960

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5092_001 **Day:** TUESDAY

City: City of Rancho Palos Verdes **Date:** 3/22/2011

PM

NS/EW Streets:	Palos Verdes Dr East			Palos Verdes Dr East			Palos Verdes Dr North			Palos Verdes Dr North			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	1	1	2	1	1	1	2	1	1	2	1	
3:00 PM	45	33	34	38	53	24	8	225	84	26	183	34	787
3:15 PM	80	54	32	54	63	16	23	240	92	28	179	26	887
3:30 PM	61	33	33	41	51	19	17	244	66	34	196	18	813
3:45 PM	33	36	27	56	31	7	15	261	53	19	219	8	765
4:00 PM	42	28	36	50	49	21	17	253	58	29	212	29	824
4:15 PM	43	44	33	42	42	15	13	266	67	22	229	19	835
4:30 PM	40	36	34	40	54	19	12	211	58	28	219	32	783
4:45 PM	43	41	30	51	62	14	16	227	68	19	238	9	818
5:00 PM	51	28	28	47	45	18	18	228	53	27	244	28	815
5:15 PM	38	27	27	54	68	25	23	249	72	30	239	11	863
5:30 PM	32	36	41	55	53	19	18	219	58	36	257	11	835
5:45 PM	55	49	30	72	82	30	18	289	71	28	325	21	1070
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	563	445	385	600	653	227	198	2912	800	326	2740	246	10095
APPROACH %'s :	40.42%	31.95%	27.64%	40.54%	44.12%	15.34%	5.06%	74.48%	20.46%	9.84%	82.73%	7.43%	

PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	176	140	126	228	248	92	77	985	254	121	1065	71	3583
PEAK HR FACTOR :		0.825			0.772			0.870			0.840		0.837

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

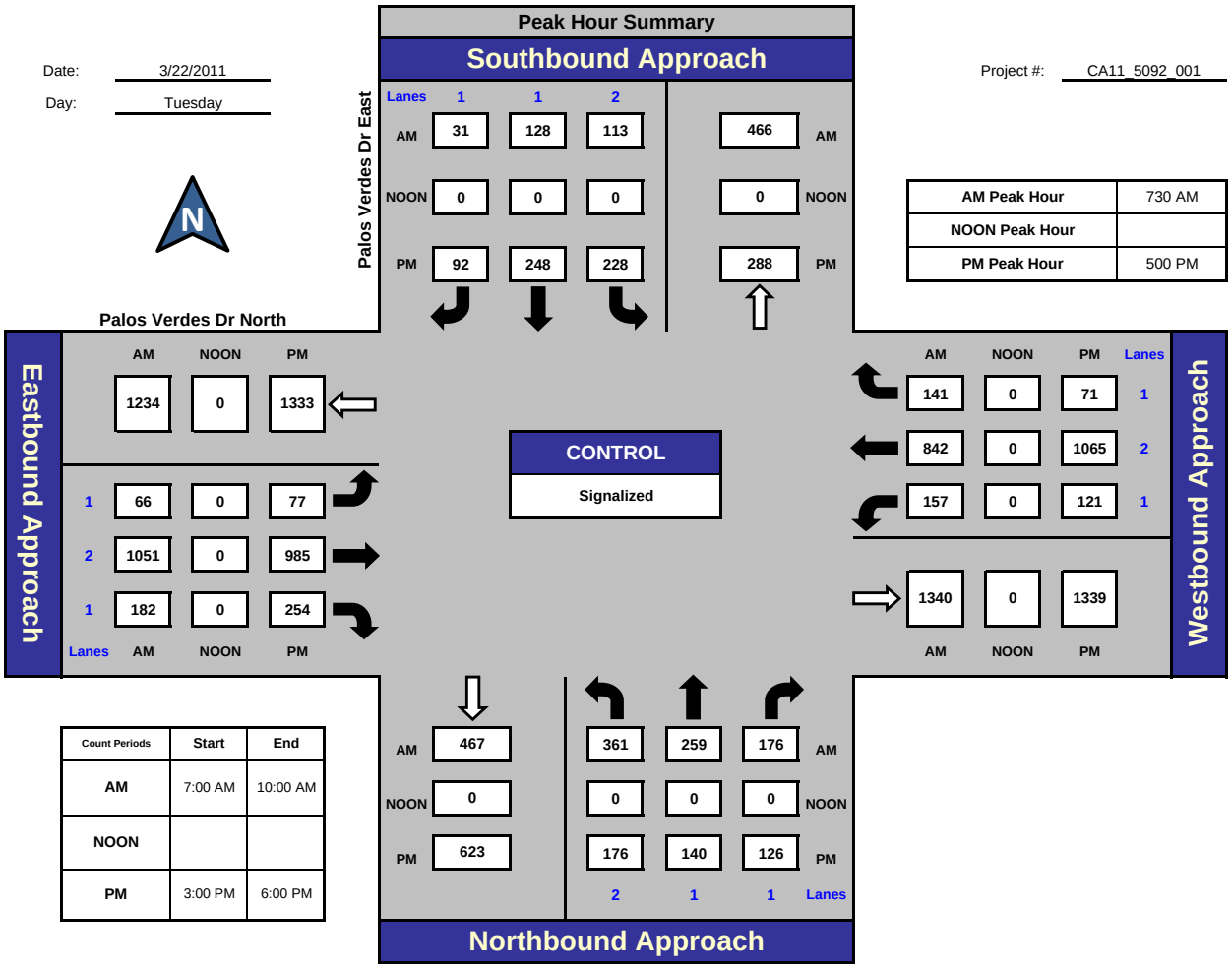
National Data & Surveying Services

Palos Verdes Dr East and Palos Verdes Dr North , City of Rancho Palos Verdes

Date: 3/22/2011

Day: Tuesday

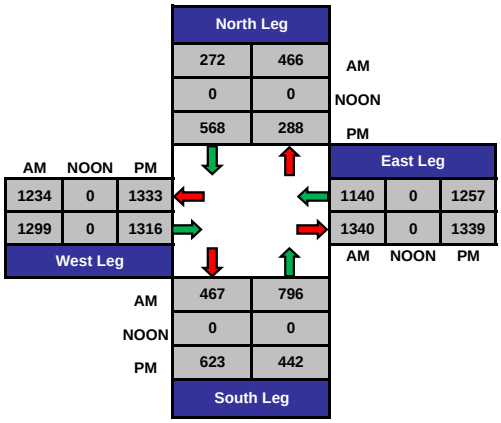
Project #: CA11_5092_001



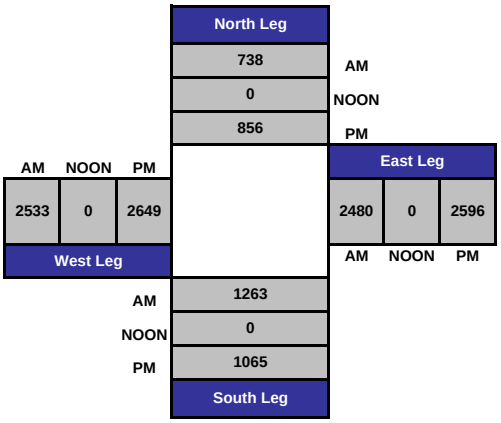
AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5092_002 **Day:** TUESDAY

City: City of Rancho Palos Verdes **Date:** 3/22/2011

AM

NS/EW Streets:	Western Ave			Western Ave			Palos Verdes Dr North			Palos Verdes Dr North			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	2	0	1	2	0	1	3	1	1	3	0	
7:00 AM	70	154	37	5	87	26	21	224	38	43	142	7	854
7:15 AM	158	190	56	4	80	26	20	276	39	61	128	1	1039
7:30 AM	152	214	90	16	135	26	33	268	79	86	164	6	1269
7:45 AM	111	247	125	20	240	27	21	255	86	79	163	7	1381
8:00 AM	196	259	108	9	114	28	22	224	88	46	159	2	1255
8:15 AM	123	283	62	6	85	20	27	218	80	41	109	6	1060
8:30 AM	114	251	62	9	87	32	29	249	80	43	111	6	1073
8:45 AM	102	197	46	1	86	31	33	261	78	52	132	9	1028
9:00 AM	94	140	41	11	103	25	37	204	66	51	112	4	888
9:15 AM	101	162	45	8	91	35	16	251	47	36	139	8	939
9:30 AM	90	128	51	3	98	20	34	212	58	40	102	12	848
9:45 AM	113	165	39	3	92	19	23	192	57	44	146	1	894
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1424	2390	762	95	1298	315	316	2834	796	622	1607	69	12528
APPROACH %'s :	31.12%	52.23%	16.65%	5.56%	76.00%	18.44%	8.01%	71.82%	20.17%	27.07%	69.93%	3.00%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	582	1003	385	51	574	101	103	965	333	252	595	21	4965
PEAK HR FACTOR :		0.875			0.632			0.922			0.848		0.899

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5092_002 **Day:** TUESDAY

City: City of Rancho Palos Verdes **Date:** 3/22/2011

PM

NS/EW Streets:	Western Ave			Western Ave			Palos Verdes Dr North			Palos Verdes Dr North			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	2	0	1	2	0	1	3	1	1	3	0	
3:00 PM	82	154	63	10	171	33	40	131	114	73	124	9	1004
3:15 PM	110	212	135	12	164	35	41	144	150	82	139	5	1229
3:30 PM	88	176	65	10	190	21	47	172	109	72	152	5	1107
3:45 PM	80	170	72	11	198	21	45	187	143	70	173	7	1177
4:00 PM	95	166	56	10	190	32	43	147	116	68	161	5	1089
4:15 PM	103	172	49	7	200	37	35	177	128	72	157	9	1146
4:30 PM	93	141	46	9	195	20	51	174	118	74	157	5	1083
4:45 PM	93	142	45	11	191	27	37	182	135	77	200	7	1147
5:00 PM	74	148	46	5	206	43	39	126	104	72	149	6	1018
5:15 PM	110	174	37	10	200	34	23	166	142	66	213	6	1181
5:30 PM	107	161	47	9	236	33	40	144	130	74	211	5	1197
5:45 PM	107	200	48	5	277	50	49	151	161	102	251	10	1411
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1142	2016	709	109	2418	386	490	1901	1550	902	2087	79	13789
APPROACH %'s :	29.53%	52.13%	18.33%	3.74%	83.01%	13.25%	12.43%	48.24%	39.33%	29.40%	68.02%	2.57%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	398	683	178	29	919	160	151	587	537	314	824	27	4807
PEAK HR FACTOR :		0.887			0.834			0.883			0.802		0.852

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

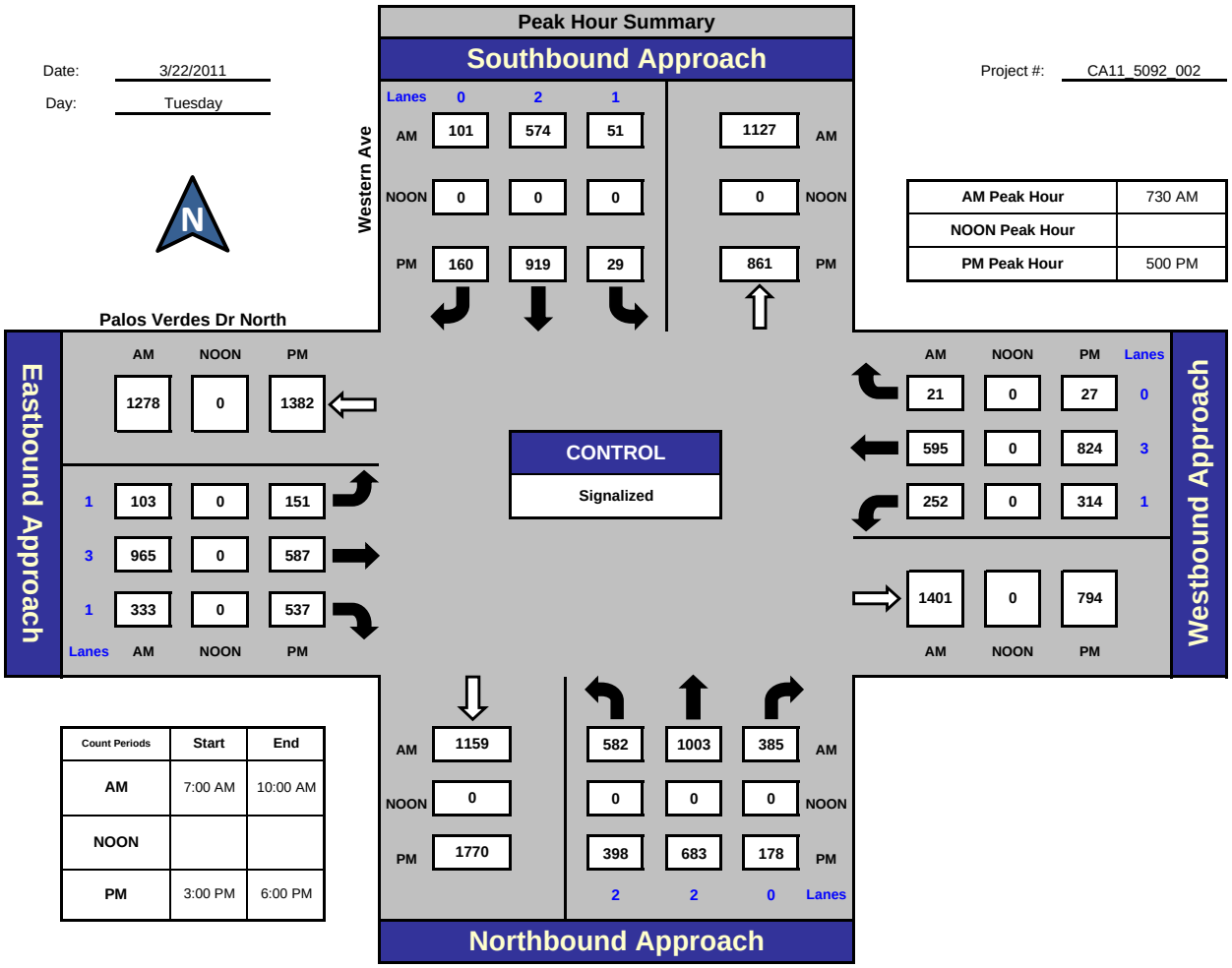
National Data & Surveying Services

Western Ave and Palos Verdes Dr North , City of Rancho Palos Verdes

Date: 3/22/2011

Day: Tuesday

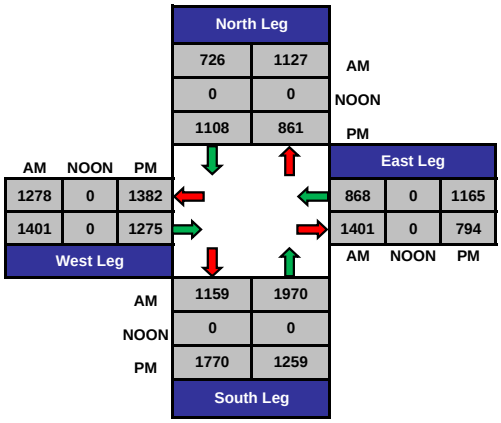
Project #: CA11_5092_002



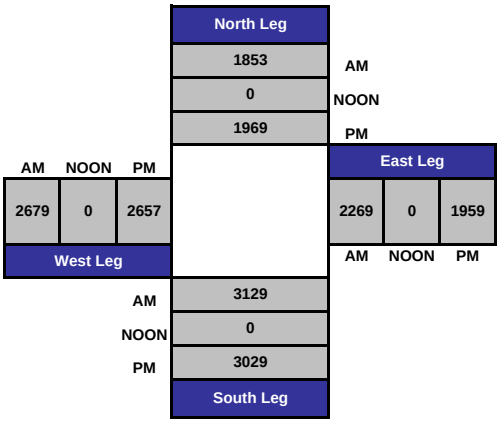
AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Pedestrian Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5092-002
N/S Street: Western Ave
E/W Street: Palos Verdes Dr North
DATE: 3/22/2011 DAY: Tuesday
CITY: Rancho Palos Verdes

AM	11
NOON	0
PM	9

9	AM
0	NOON
11	PM

AM	NOON	PM
12	0	33

NORTH LEG

AM	NOON	PM
4	0	7

14	0	23
AM	NOON	PM

SOUTH LEG

10	0	22
AM	NOON	PM

AM	11
NOON	0
PM	20

0	AM
0	NOON
13	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Bicycle Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5092-002
N/S Street: Western Ave
E/W Street: Palos Verdes Dr North
DATE: 3/22/2011 DAY: Tuesday
CITY: Rancho Palos Verdes

AM	2
NOON	0
PM	1

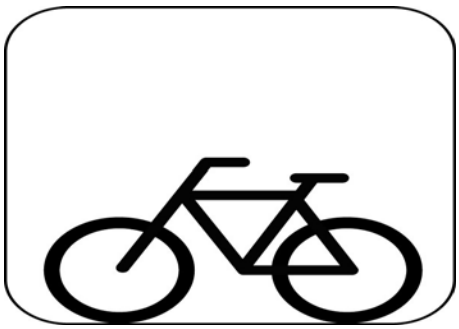
2	0	1
AM	NOON	PM

AM	NOON	PM
1	0	5

NORTH LEG

AM	NOON	PM
0	0	0

WEST LEG



EAST LEG

3	0	2
AM	NOON	PM

SOUTH LEG

6	0	6
AM	NOON	PM

AM	4
NOON	0
PM	2

0	0	1
AM	NOON	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 11-5092-002
N/S Street: Western Ave
E/W Street: Palos Verdes Dr North
DATE: 3/22/2011 DAY: Tuesday
CITY: Rancho Palos Verdes

A M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	1	0	3	0	3	0	0	2
7:15 AM	0	0	1	0	0	0	4	0
7:30 AM	3	0	0	0	0	0	2	0
7:45 AM	0	0	0	0	0	0	2	0
8:00 AM	0	1	0	0	1	1	2	1
8:15 AM	0	2	1	0	0	0	1	1
8:30 AM	1	1	0	0	1	1	1	1
8:45 AM	2	2	1	0	1	0	0	0
9:00 AM	3	1	0	0	0	0	0	1
9:15 AM	0	1	3	0	3	1	0	5
9:30 AM	0	1	2	0	1	0	1	0
9:45 AM	1	0	0	0	0	1	1	1
TOTALS	**11**	**9**	**11**	**0**	**10**	**4**	**14**	**12**

BIKES

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	2	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	2	0	1	0	1	0
8:15 AM	2	0	0	0	0	0	1	0
8:30 AM	0	0	1	0	0	0	0	0
8:45 AM	0	0	1	0	1	0	0	0
9:00 AM	0	1	0	0	1	0	0	0
9:15 AM	0	1	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	1
9:45 AM	0	0	0	0	1	0	1	0
TOTALS	**2**	**2**	**4**	**0**	**6**	**0**	**3**	**1**

P M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	1	0	0	0	0	0	2
3:15 PM	0	0	4	2	5	0	2	3
3:30 PM	0	0	3	0	0	2	2	1
3:45 PM	0	3	1	2	2	1	4	0
4:00 PM	1	0	1	3	3	0	3	3
4:15 PM	0	1	1	0	0	0	2	10
4:30 PM	0	2	1	1	2	0	2	1
4:45 PM	0	0	0	1	2	3	0	0
5:00 PM	1	0	0	0	0	0	1	3
5:15 PM	6	2	3	2	2	1	3	1
5:30 PM	0	2	3	2	6	0	0	5
5:45 PM	1	0	3	0	0	0	4	4
TOTALS	**9**	**11**	**20**	**13**	**22**	**7**	**23**	**33**

BIKES

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	2	0	0	0
3:30 PM	0	0	0	0	0	0	0	1
3:45 PM	0	0	0	0	0	0	0	0
4:00 PM	0	1	0	0	2	0	0	0
4:15 PM	0	0	0	0	0	0	0	2
4:30 PM	0	0	0	0	0	0	0	1
4:45 PM	0	0	1	0	1	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	1	0	1	0	0	0
5:30 PM	1	0	0	1	0	0	2	0
5:45 PM	0	0	0	0	0	0	0	1
TOTALS	**1**	**1**	**2**	**1**	**6**	**0**	**2**	**5**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5092_003 **Day:** TUESDAY

City: City of Rancho Palos Verdes **Date:** 3/22/2011

AM

NS/EW Streets:	President Ave/Project Dwy			President Ave/Project Dwy			Palos Verdes Dr North			Palos Verdes Dr North			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	1	3	0	1	3	0	
7:00 AM	1	0	1	0		1	0	245	2	1	180	0	431
7:15 AM	1	0	4	2		5	1	335	0	1	254	0	603
7:30 AM	4	0	10	0		1	0	367	3	2	283	1	671
7:45 AM	1	0	8	1		2	2	407	0	1	256	0	678
8:00 AM	1	0	2	0		0	2	352	1	1	184	1	544
8:15 AM	1	0	1	2		1	2	326	0	0	127	3	463
8:30 AM	2	0	7	0		4	0	307	0	0	158	1	479
8:45 AM	4	0	4	1		1	0	277	0	1	175	0	463
9:00 AM	4	0	5	0		3	0	265	2	0	163	1	443
9:15 AM	5	1	5	0		0	1	293	4	1	160	0	470
9:30 AM	1	0	2	2		3	2	249	1	0	197	1	458
9:45 AM	1	0	2	1		2	1	225	1	0	144	0	377
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	26	1	51	9	0	23	11	3648	14	8	2281	8	6080
APPROACH %'s :	33.33%	1.28%	65.38%	28.13%	0.00%	71.88%	0.30%	99.32%	0.38%	0.35%	99.30%	0.35%	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	7	0	24	3	0	8	5	1461	4	5	977	2	2496
PEAK HR FACTOR :	0.554			0.393			0.899			0.860			0.920

CONTROL : 2-Way Stop (NB/SB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5092_003 **Day:** TUESDAY

City: City of Rancho Palos Verdes **Date:** 3/22/2011

PM

NS/EW Streets:	President Ave/Project Dwy			President Ave/Project Dwy			Palos Verdes Dr North			Palos Verdes Dr North			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	1	3	0	1	3	0	
3:00 PM	0		0	1	0	5	3	215	4	0	227	2	457
3:15 PM	3		9	0	0	1	3	230	6	2	188	3	445
3:30 PM	3		3	0	0	4	2	196	4	0	231	2	445
3:45 PM	1		2	0	0	2	3	229	0	1	275	2	515
4:00 PM	0		2	1	1	1	2	230	7	1	254	1	500
4:15 PM	1		5	0	0	1	0	264	9	1	218	4	503
4:30 PM	3		6	0	0	1	1	252	2	4	255	1	525
4:45 PM	0		6	2	0	3	2	229	0	0	304	0	546
5:00 PM	1		6	2	0	3	4	200	2	1	273	1	493
5:15 PM	0		3	0	0	1	3	201	6	1	319	1	535
5:30 PM	0		3	0	1	2	3	178	5	2	284	2	480
5:45 PM	0		5	1	0	4	0	179	0	3	314	0	506
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	12	0	50	7	2	28	26	2603	45	16	3142	19	5950
APPROACH %'s :	19.35%	0.00%	80.65%	18.92%	5.41%	75.68%	0.97%	97.34%	1.68%	0.50%	98.90%	0.60%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	4	0	21	4	0	8	10	882	10	6	1151	3	2099
PEAK HR FACTOR :		0.694			0.600			0.884			0.903		0.961

CONTROL : 2-Way Stop (NB/SB)

ITM Peak Hour Summary

Prepared by:

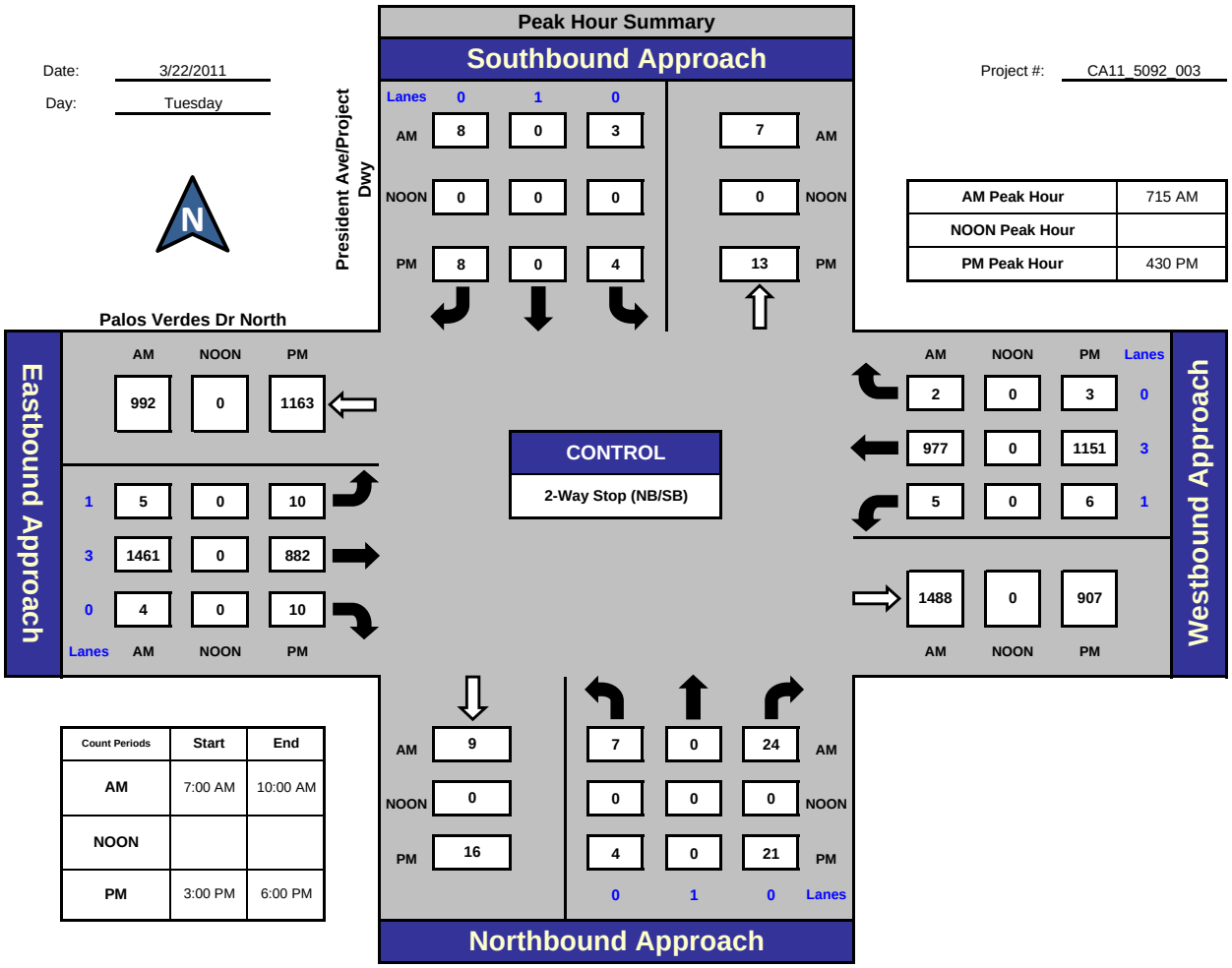
National Data & Surveying Services

President Ave/Project Dwy and Palos Verdes Dr North , City of Rancho Palos Verdes

Date: 3/22/2011

Day: Tuesday

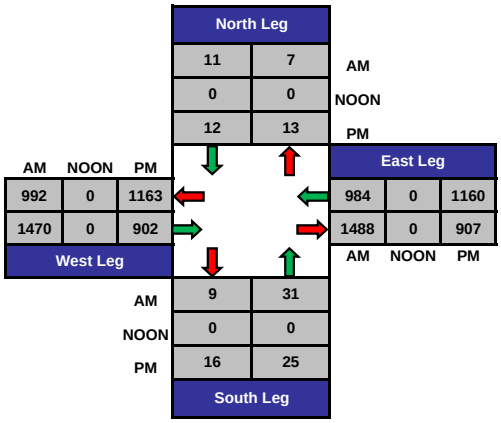
Project #: CA11_5092_003



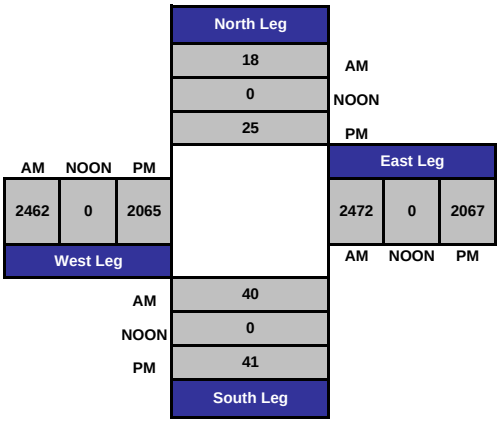
AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	430 PM

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Pedestrian Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5092-003
N/S Street: President Ave/Project Dwy
E/W Street: Palos Verdes Dr North
DATE: 3/22/2011 DAY: Tuesday
CITY: Rancho Palos Verdes

AM	4
NOON	0
PM	5

2	AM
0	NOON
3	PM

AM	NOON	PM
0	0	1

NORTH LEG

AM	NOON	PM
0	0	0

WEST LEG

EAST LEG

AM	NOON	PM
0	0	0

AM	NOON	PM
0	0	0

SOUTH LEG

AM	2
NOON	0
PM	5

1	AM
0	NOON
2	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Bicycle Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5092-003
N/S Street: President Ave/Project Dwy
E/W Street: Palos Verdes Dr North
DATE: 3/22/2011 DAY: Tuesday
CITY: Rancho Palos Verdes

AM	4
NOON	0
PM	3

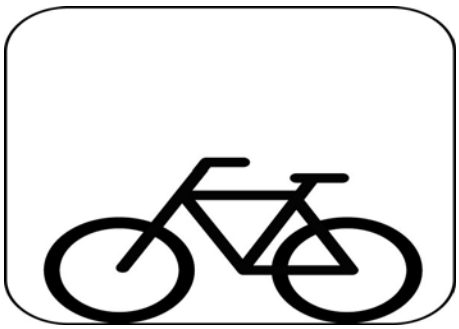
0	AM
0	NOON
0	PM

AM	NOON	PM
0	0	0

NORTH LEG

AM	NOON	PM
0	0	0

WEST LEG



EAST LEG

0	0	1
AM	NOON	PM

SOUTH LEG

0	0	0
AM	NOON	PM

AM	0
NOON	0
PM	0

2	AM
0	NOON
1	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 11-5092-003
N/S Street: President Ave/Project Dwy
E/W Street: Palos Verdes Dr North
DATE: 3/22/2011 DAY: Tuesday
CITY: Rancho Palos Verdes

A M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	3	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	1	0	0	0	0	0	0
9:00 AM	0	0	1	1	0	0	0	0
9:15 AM	0	0	1	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0
9:45 AM	1	1	0	0	0	0	0	0
TOTALS	**4**	**2**	**2**	**1**	**0**	**0**	**0**	**0**

BIKES

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	2	0	0	0	0
9:15 AM	3	0	0	0	0	0	0	0
9:30 AM	1	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0
TOTALS	**4**	**0**	**0**	**2**	**0**	**0**	**0**	**0**

P M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	2	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	1	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	1
4:30 PM	0	0	1	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	1	0	0	0	0	0	0
5:15 PM	0	0	1	0	0	0	0	0
5:30 PM	3	0	3	1	0	0	0	0
5:45 PM	0	2	0	0	0	0	0	0
TOTALS	**5**	**3**	**5**	**2**	**0**	**0**	**0**	**1**

BIKES

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	1	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	2	0	0	0	0	0	1	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	1	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**3**	**0**	**0**	**1**	**0**	**0**	**1**	**0**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5092_004 **Day:** TUESDAY

City: City of Rancho Palos Verdes **Date:** 3/22/2011

AM

NS/EW Streets:	Normandie Ave/Palos Verdes Dr North			Normandie Ave/Palos Verdes Dr North			Anaheim St			Anaheim St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	2	2.5	1.5	0.5	1	2	0	1.5	1.5	0	
7:00 AM	3	81	197	12	74	7	7	51	1	114	45	16	608
7:15 AM	3	74	217	4	79	7	16	65	1	142	71	20	699
7:30 AM	3	110	210	10	98	12	13	50	0	148	104	17	775
7:45 AM	20	99	218	14	70	10	15	84	0	147	92	28	797
8:00 AM	18	102	229	17	68	9	18	57	1	134	73	22	748
8:15 AM	1	91	170	15	50	9	13	52	0	77	59	26	563
8:30 AM	4	114	216	12	67	9	11	44	2	85	54	22	640
8:45 AM	1	82	211	17	57	5	12	40	0	92	38	26	581
9:00 AM	2	70	157	13	66	6	8	29	0	75	44	7	477
9:15 AM	7	64	207	3	44	4	14	45	0	108	50	15	561
9:30 AM	4	74	187	5	68	11	3	53	0	84	40	17	546
9:45 AM	6	63	115	13	76	7	12	40	2	76	49	22	481
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	72	1024	2334	135	817	96	142	610	7	1282	719	238	7476
APPROACH %'s :	2.10%	29.85%	68.05%	12.88%	77.96%	9.16%	18.71%	80.37%	0.92%	57.26%	32.11%	10.63%	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	44	385	874	45	315	38	62	256	2	571	340	87	3019
PEAK HR FACTOR :		0.933			0.829			0.808			0.928		0.947

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5092_004 **Day:** TUESDAY

City: City of Rancho Palos Verdes **Date:** 3/22/2011

PM

NS/EW Streets:	Normandie Ave/Palos Verdes Dr North			Normandie Ave/Palos Verdes Dr North			Anaheim St			Anaheim St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	2	2.5	1.5	0.5	1	2	0	1.5	1.5	0	
3:00 PM	5	69	122	16	78	8	4	39	7	145	59	22	574
3:15 PM	6	103	122	12	86	14	13	60	0	124	41	22	603
3:30 PM	13	71	97	17	85	12	11	51	1	128	90	31	607
3:45 PM	17	93	111	20	78	13	15	49	0	159	71	21	647
4:00 PM	7	84	113	13	77	14	24	62	1	159	79	22	655
4:15 PM	9	77	124	19	98	14	7	72	0	129	67	13	629
4:30 PM	11	69	121	16	62	13	9	68	1	174	76	19	639
4:45 PM	2	69	123	22	93	20	1	58	3	155	83	14	643
5:00 PM	1	57	99	15	81	5	13	61	1	160	99	20	612
5:15 PM	2	68	108	29	114	18	7	52	2	157	82	16	655
5:30 PM	4	44	122	14	90	14	10	59	3	198	78	14	650
5:45 PM	3	57	92	16	99	18	7	53	2	188	87	8	630
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	80	861	1354	209	1041	163	121	684	21	1876	912	222	7544
APPROACH %'s :	3.49%	37.52%	59.00%	14.79%	73.67%	11.54%	14.65%	82.81%	2.54%	62.33%	30.30%	7.38%	
PEAK HR START TIME :	345 PM												TOTAL
PEAK HR VOL :	44	323	469	68	315	54	55	251	2	621	293	75	2570
PEAK HR FACTOR :		0.946			0.834			0.885			0.919		0.981

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

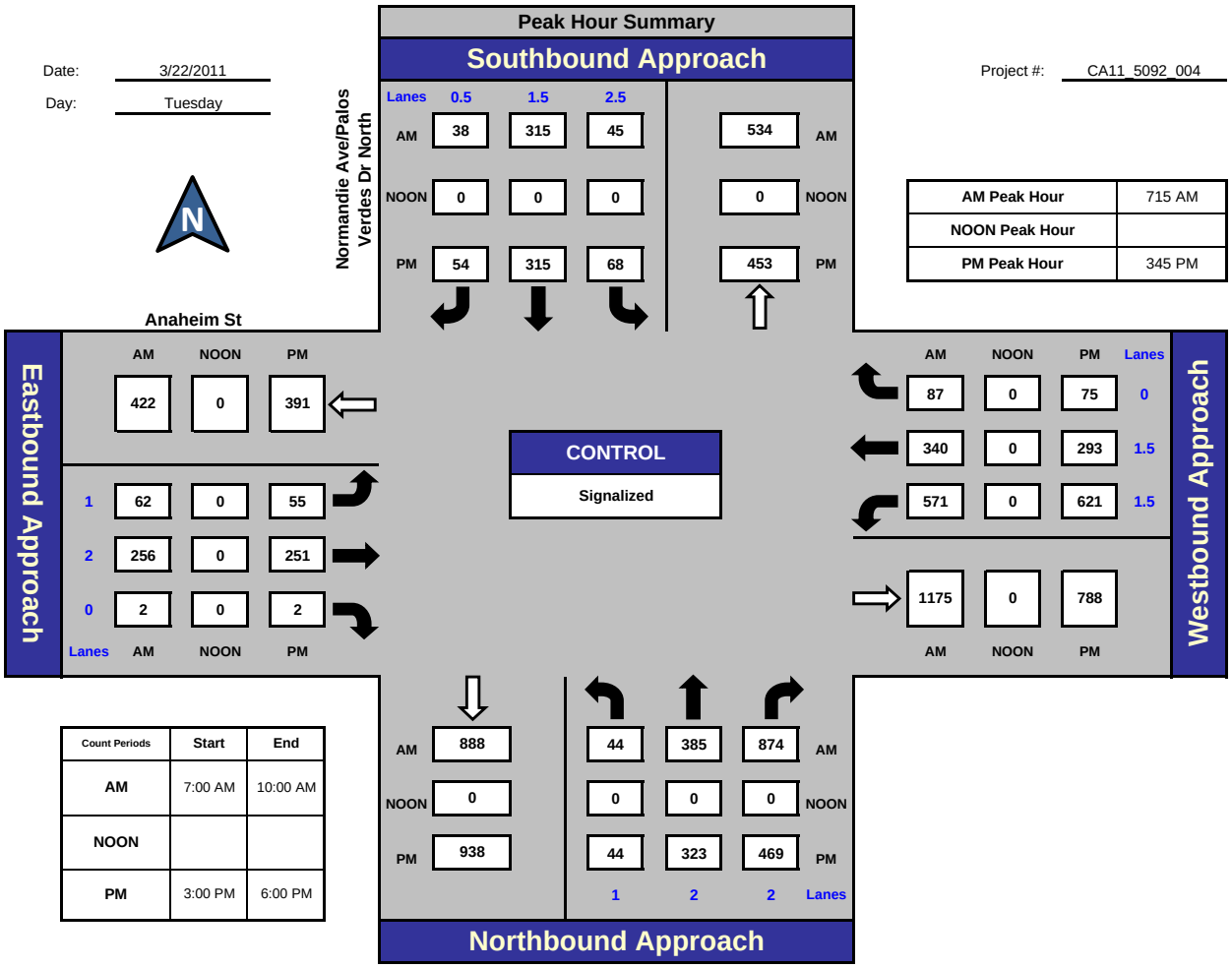
National Data & Surveying Services

Normandie Ave/Palos Verdes Dr North and Anaheim St , City of Rancho Palos Verdes

Date: 3/22/2011

Day: Tuesday

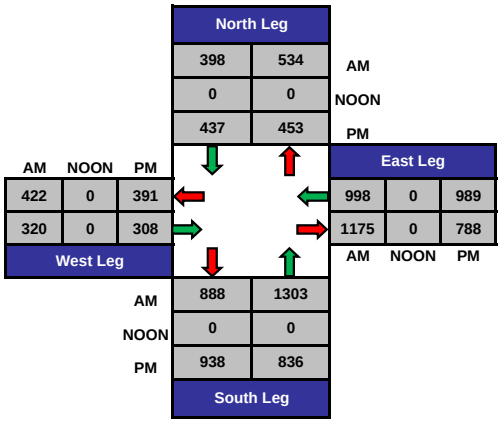
Project #: CA11_5092_004



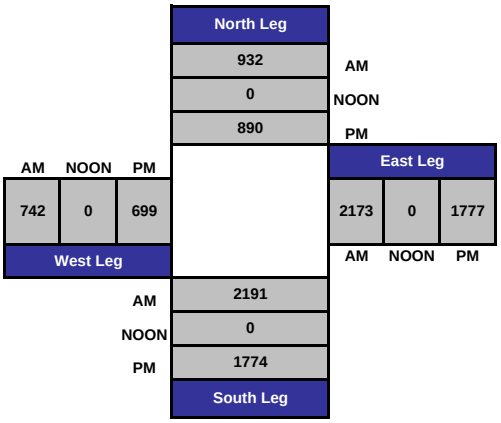
AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	345 PM

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5092_004 **Day:** TUESDAY

City: City of Rancho Palos Verdes **Date:** 3/22/2011

AM

NS/EW Streets:	Normandie Ave/Palos Verdes Dr North			Normandie Ave/Palos Verdes Dr North			Anaheim St			Anaheim St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	2	2.5	1.5	0.5	1	2	0	1.5	1.5	0	
7:00 AM	0												
7:15 AM	1												1
7:30 AM	3												3
7:45 AM	13												13
8:00 AM	9												9
8:15 AM	1												1
8:30 AM	0												
8:45 AM	1												1
9:00 AM	1												1
9:15 AM	1												1
9:30 AM	0												
9:45 AM	0												
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	30	0	0	0	0	0	0	0	0	0	0	0	30
APPROACH %'s :	100.00%	0.00%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	26	0	0	0	0	0	0	0	0	0	0	0	26
PEAK HR FACTOR :		0.500			0.000			0.000			0.000		0.500

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5092_004 **Day:** TUESDAY

City: City of Rancho Palos Verdes **Date:** 3/22/2011

PM

NS/EW Streets:	Normandie Ave/Palos Verdes Dr North			Normandie Ave/Palos Verdes Dr North			Anaheim St			Anaheim St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	2	2.5	1.5	0.5	1	2	0	1.5	1.5	0	
3:00 PM	6												6
3:15 PM	5												5
3:30 PM	10												10
3:45 PM	12												12
4:00 PM	4												4
4:15 PM	1												1
4:30 PM	0												
4:45 PM	5												5
5:00 PM	2												2
5:15 PM	2												2
5:30 PM	1												1
5:45 PM	0												
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	48	0	0	0	0	0	0	0	0	0	0	0	48
APPROACH %'s :	100.00%	0.00%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	33	0	0	0	0	0	0	0	0	0	0	0	33
PEAK HR FACTOR :	0.688			0.000			0.000			0.000			0.688

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

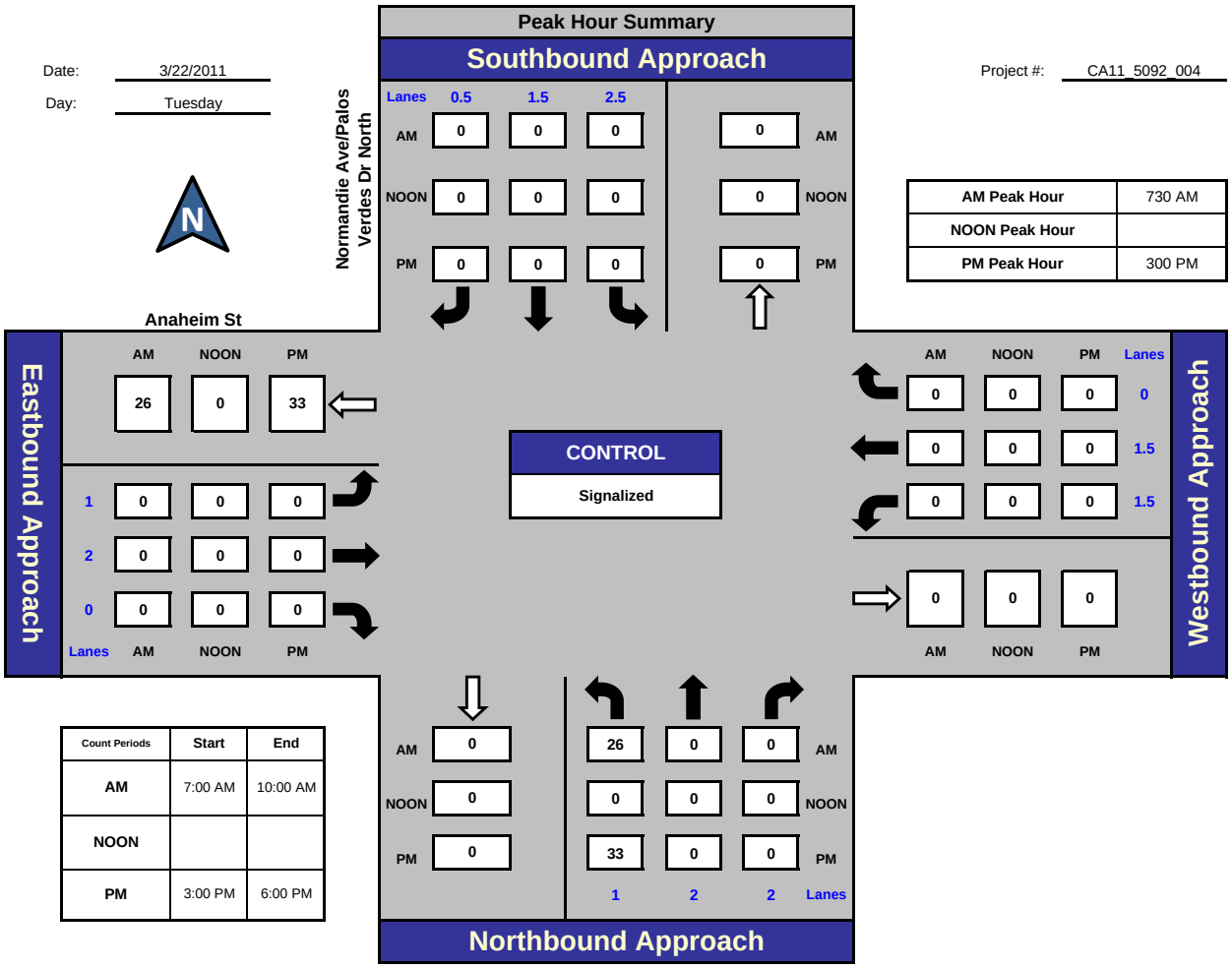
National Data & Surveying Services

Normandie Ave/Palos Verdes Dr North and Anaheim St , City of Rancho Palos Verdes

Date: 3/22/2011

Day: Tuesday

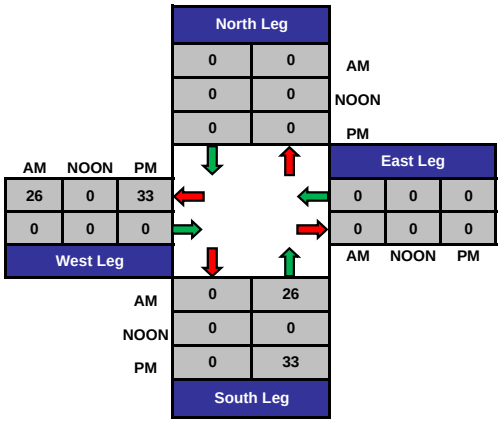
Project #: CA11_5092_004



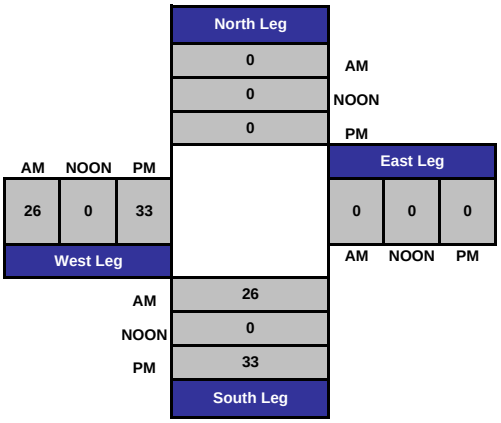
AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	300 PM

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5092_104 **Day:** TUESDAY

City: City of Rancho Palos Verdes **Date:** 3/22/2011

AM

NS/EW Streets:	Gaffey St			Gaffey St			Anaheim St			Anaheim St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
see legend below	1	2	3		4				5	6			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	26	55	13		43				21	10			168
7:15 AM	25	92	22		45				37	10			231
7:30 AM	31	118	45		70				40	19			323
7:45 AM	27	133	35		80				42	36			353
8:00 AM	30	109	37		78				34	36			324
8:15 AM	43	166	35		59				20	17			340
8:30 AM	35	101	22		44				21	14			237
8:45 AM	31	78	29		39				19	23			219
9:00 AM	34	70	36		43				14	13			210
9:15 AM	28	68	33		38				26	22			215
9:30 AM	20	46	32		60				19	17			194
9:45 AM	25	67	25		49				21	19			206
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	355	1103	364	0	648	0	0	0	314	236	0	0	3020
APPROACH %'s :	19.48%	60.54%	19.98%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	100.00%	0.00%	0.00%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	131	526	152	0	287	0	0	0	136	108	0	0	1340
PEAK HR FACTOR :		0.829			0.897			0.810			0.750		0.949

CONTROL :

legend

1 NL from Gaffey St to WB Anaheim St
2 NT from Gaffey St to NB Normandie Ave
3 NR from Gaffey St to EB Anaheim St
4 ST from Normandie Ave to SB Gaffey St
5 ER from Anaheim St to SB Gaffey
6 WL from Anaheim St to SB Gaffey

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5092_104 **Day:** TUESDAY

City: City of Rancho Palos Verdes **Date:** 3/22/2011

PM

NS/EW Streets:	Gaffey St			Gaffey St			Anaheim St			Anaheim St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
see legend below	1	2	3		4				5	6			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
3:00 PM	29	70	40		83				29	28			279
3:15 PM	30	92	35		85				52	22			316
3:30 PM	27	118	46		92				57	16			356
3:45 PM	37	86	38		95				60	29			345
4:00 PM	23	64	14		116				62	19			298
4:15 PM	30	82	12		116				59	12			311
4:30 PM	25	61	31		85				62	30			294
4:45 PM	19	89	28		115				41	23			315
5:00 PM	38	68	29		107				55	25			322
5:15 PM	19	78	31		139				44	26			337
5:30 PM	32	61	27		130				70	32			352
5:45 PM	27	73	27		113				47	18			305
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	336	942	358	0	1276	0	0	0	638	280	0	0	3830
APPROACH %'s :	20.54%	57.58%	21.88%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	100.00%	0.00%	0.00%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	108	296	115	0	491	0	0	0	210	106	0	0	1326
PEAK HR FACTOR :		0.954			0.883			0.750			0.828		0.942

CONTROL :

legend

1 NL from Gaffey St to WB Anaheim St
2 NT from Gaffey St to NB Normandie Ave
3 NR from Gaffey St to EB Anaheim St
4 ST from Normandie Ave to SB Gaffey St
5 ER from Anaheim St to SB Gaffey
6 WL from Anaheim St to SB Gaffey

ITM Peak Hour Summary

Prepared by:

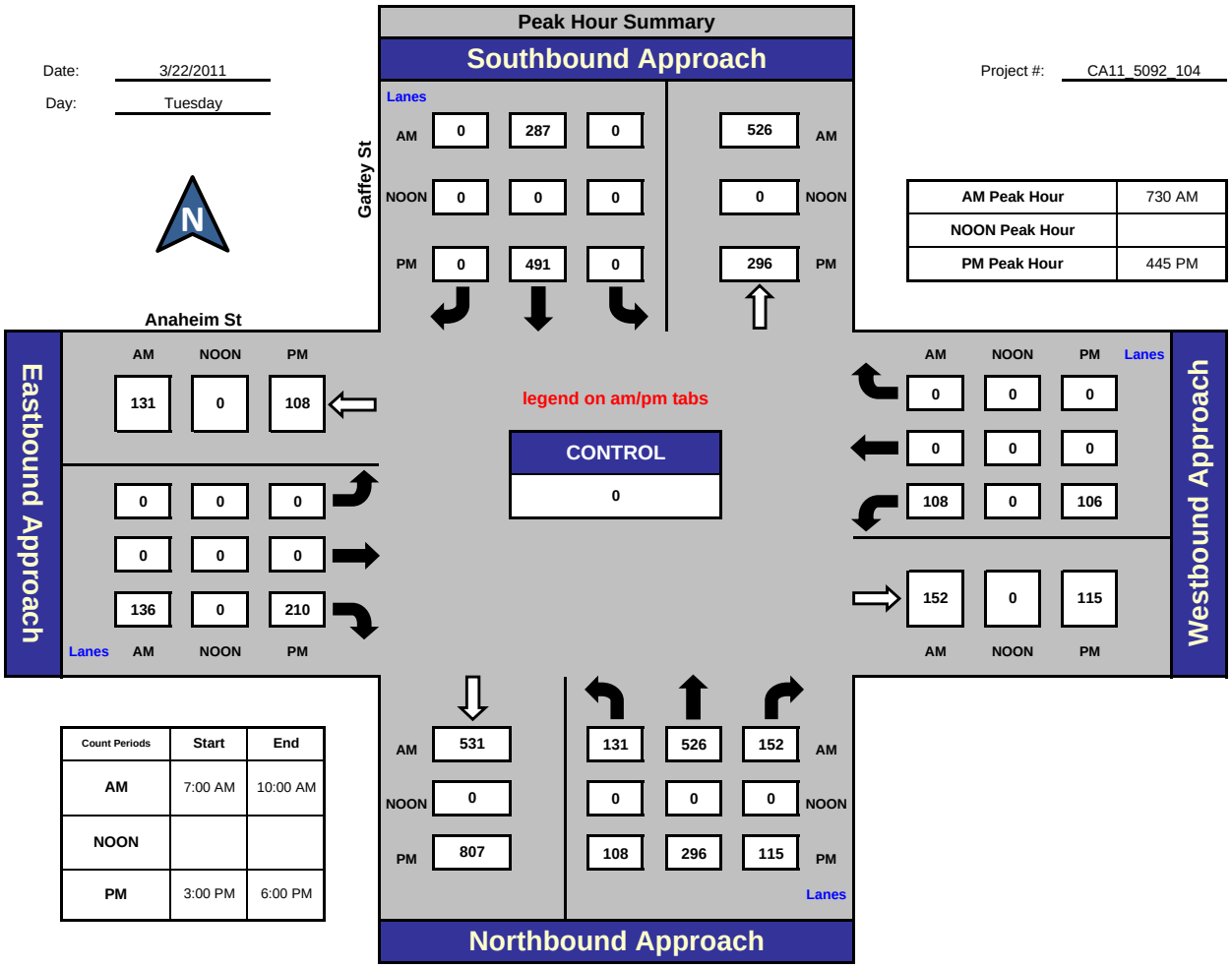
National Data & Surveying Services

Gaffey St and Anaheim St , City of Rancho Palos Verdes

Date: 3/22/2011

Day: Tuesday

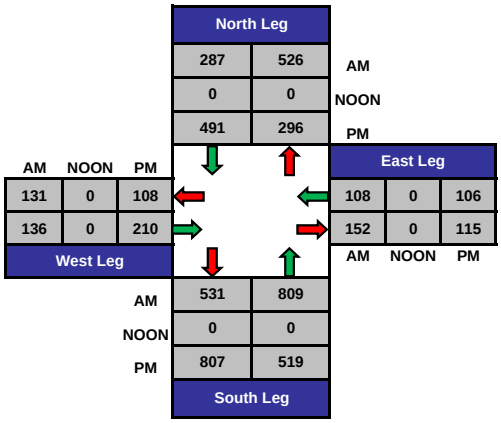
Project #: CA11_5092_104



AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	3:00 PM	6:00 PM

Total Ins & Outs



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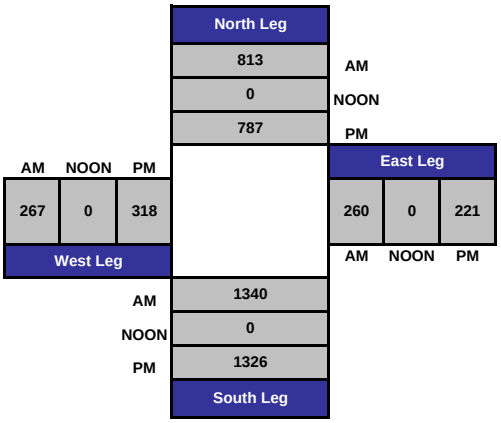


Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5092_104 **Day:** TUESDAY

City: City of Rancho Palos Verdes **Date:** 3/22/2011

AM

NS/EW Streets:	Gaffey St			Gaffey St			Anaheim St			Anaheim St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
see legend below	1		2										
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	13		12										25
7:15 AM	11		13										24
7:30 AM	12		16										28
7:45 AM	13		44										57
8:00 AM	15		19										34
8:15 AM	10		17										27
8:30 AM	8		19										27
8:45 AM	11		18										29
9:00 AM	10		19										29
9:15 AM	12		22										34
9:30 AM	7		16										23
9:45 AM	11		16										27
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	133	0	231	0	0	0	0	0	0	0	0	0	364
APPROACH %'s :	36.54%	0.00%	63.46%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	50	0	96	0	0	0	0	0	0	0	0	0	146
PEAK HR FACTOR :		0.640			0.000			0.000			0.000		0.640

CONTROL :

legend

1 NL from Gaffey St to SB Palos Verdes Dr North
2 NR from Palos Verdes Dr North to SB Gaffey St

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5092_104 **Day:** TUESDAY

City: City of Rancho Palos Verdes **Date:** 3/22/2011

PM

NS/EW Streets:	Gaffey St			Gaffey St			Anaheim St			Anaheim St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
see legend below	1		2										
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
3:00 PM	14		23										37
3:15 PM	11		32										43
3:30 PM	21		49										70
3:45 PM	7		37										44
4:00 PM	13		30										43
4:15 PM	7		19										26
4:30 PM	7		42										49
4:45 PM	19		37										56
5:00 PM	10		27										37
5:15 PM	15		31										46
5:30 PM	9		26										35
5:45 PM	11		17										28
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	144	0	370	0	0	0	0	0	0	0	0	0	514
APPROACH %'s :	28.02%	0.00%	71.98%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	315 PM												TOTAL
PEAK HR VOL :	52	0	148	0	0	0	0	0	0	0	0	0	200
PEAK HR FACTOR :		0.714			0.000			0.000			0.000		0.714

CONTROL :

legend

1 NL from Gaffey St to SB Palos Verdes Dr North
2 NR from Palos Verdes Dr North to SB Gaffey St

ITM Peak Hour Summary

Prepared by:

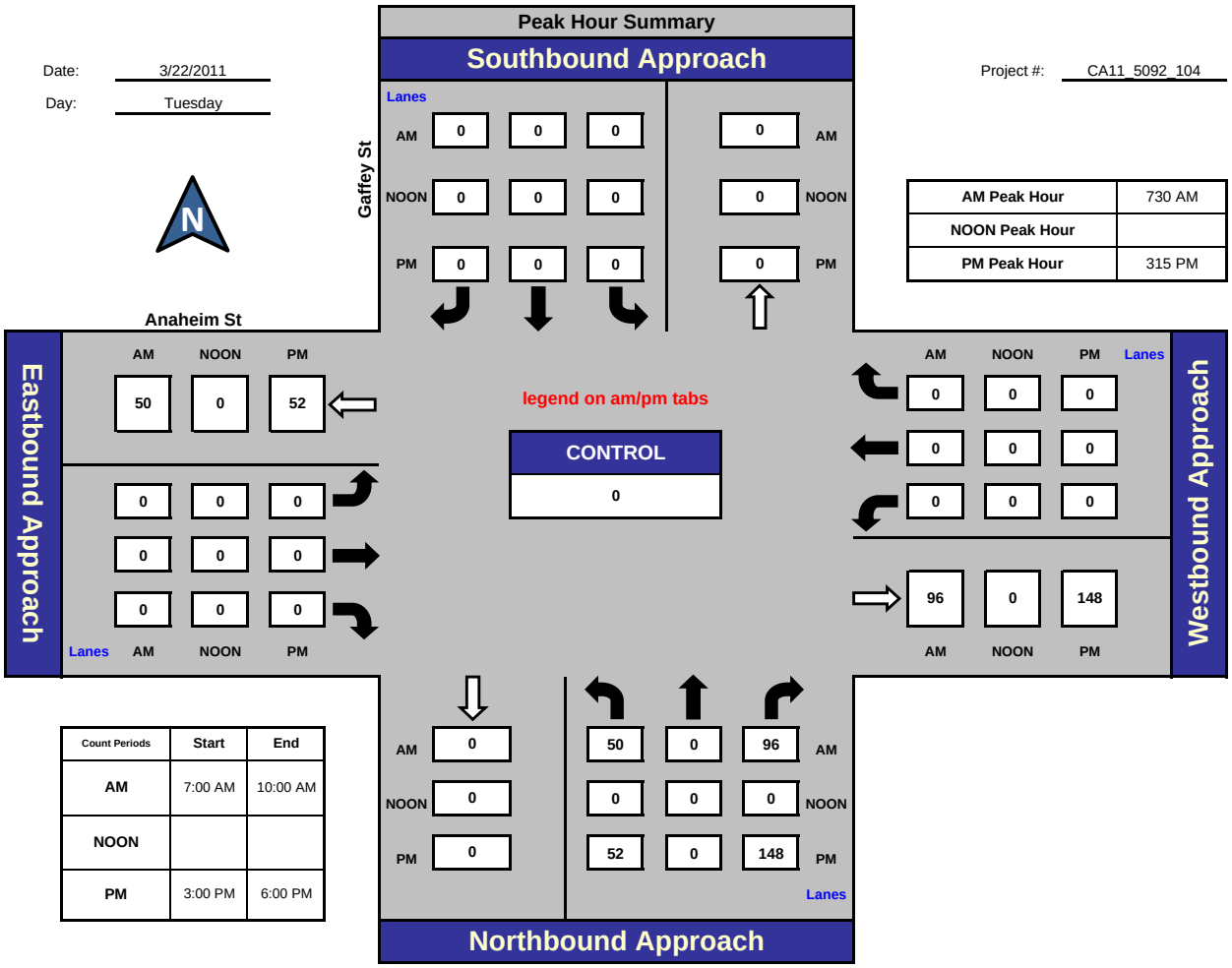
National Data & Surveying Services

Gaffey St and Anaheim St , City of Rancho Palos Verdes

Date: 3/22/2011

Day: Tuesday

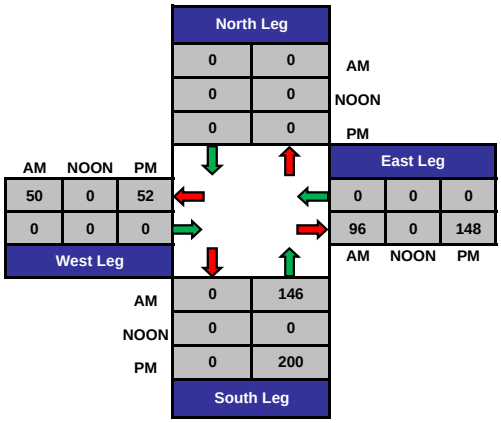
Project #: CA11_5092_104



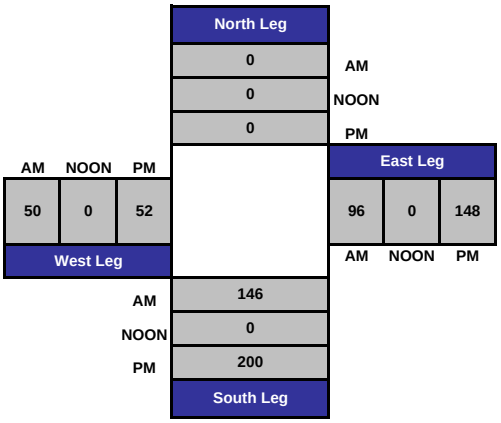
AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	315 PM

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Pedestrian Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5092-004
N/S Street: Normandie Ave/Palos Verdes Dr North
E/W Street: Anaheim St
DATE: 3/22/2011 DAY: Tuesday
CITY: Rancho Palos Verdes

AM	5
NOON	0
PM	2

5	AM
0	NOON
5	PM

AM	NOON	PM
1	0	8

NORTH LEG

AM	NOON	PM
2	0	0

WEST LEG

EAST LEG

1	0	5
AM	NOON	PM

SOUTH LEG

2	0	7
AM	NOON	PM

AM	0
NOON	0
PM	1

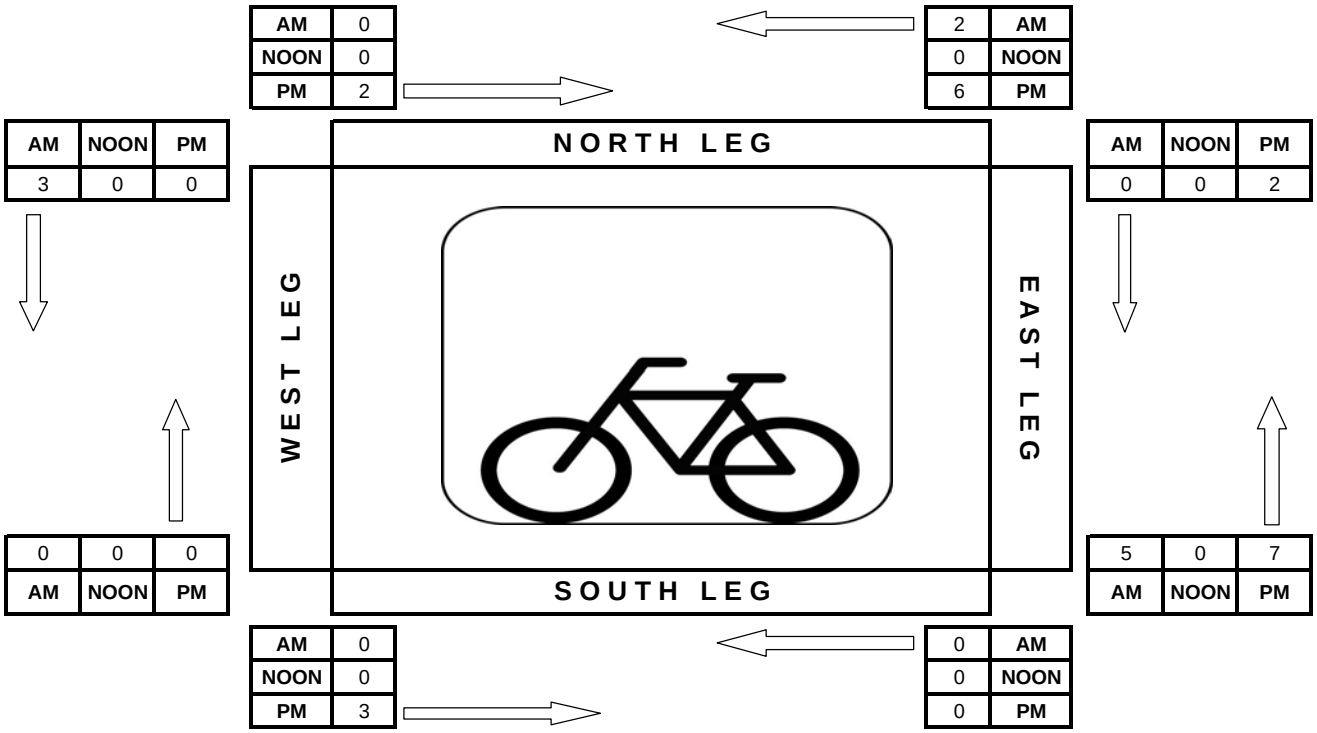
0	AM
0	NOON
1	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Bicycle Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5092-004
N/S Street: Normandie Ave/Palos Verdes Dr North
E/W Street: Anaheim St
DATE: 3/22/2011 DAY: Tuesday
CITY: Rancho Palos Verdes



PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 11-5092-004
N/S Street: Normandie Ave/Palos Verdes Dr North
E/W Street: Anaheim St
DATE: 3/22/2011 DAY: Tuesday
CITY: Rancho Palos Verdes

A M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	1	0	0	1	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	4	0	0	0	0	2	0	1
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
9:00 AM	1	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	1	0
9:30 AM	0	4	0	0	1	0	0	0
9:45 AM	0	0	0	0	0	0	0	0
TOTALS	**5**	**5**	**0**	**0**	**2**	**2**	**1**	**1**

BIKES

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	2	0	0	1	0	0	0
7:30 AM	0	0	0	0	1	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	2	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	3
9:15 AM	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	1	0	0	0
9:45 AM	0	0	0	0	0	0	0	0
TOTALS	**0**	**2**	**0**	**0**	**5**	**0**	**0**	**3**

P M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	1	2	0	0	1	0	1	2
3:15 PM	0	0	0	0	0	0	1	0
3:30 PM	0	0	0	0	0	0	0	1
3:45 PM	0	1	0	0	2	0	0	0
4:00 PM	0	0	0	1	0	0	0	0
4:15 PM	0	1	1	0	2	0	1	1
4:30 PM	0	0	0	0	1	0	0	0
4:45 PM	0	0	0	0	1	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	1	0	0	0	0	0	1	1
5:30 PM	0	0	0	0	0	0	1	2
5:45 PM	0	1	0	0	0	0	0	1
TOTALS	**2**	**5**	**1**	**1**	**7**	**0**	**5**	**8**

BIKES

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	2	0	0	1	0	0	0
3:15 PM	0	1	0	0	1	0	0	0
3:30 PM	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	1	0	0	0
4:00 PM	0	0	0	0	1	0	0	0
4:15 PM	0	1	0	0	1	0	0	0
4:30 PM	0	1	0	0	2	0	0	0
4:45 PM	0	0	3	0	0	0	0	0
5:00 PM	1	0	0	0	0	1	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	1	0	0	0	0	1	0	0
5:45 PM	0	1	0	0	0	0	0	0
TOTALS	**2**	**6**	**3**	**0**	**7**	**2**	**0**	**0**

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Pedestrian Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5092-104
N/S Street: Gaffey St
E/W Street: Anaheim St
DATE: 3/22/2011 DAY: Tuesday
CITY: Rancho Palos Verdes

AM	0
NOON	0
PM	0

0	AM
0	NOON
1	PM

AM	NOON	PM
0	0	0

NORTH LEG

AM	NOON	PM
0	0	0

WEST LEG

EAST LEG

0	0	0
AM	NOON	PM

SOUTH LEG

0	0	0
AM	NOON	PM

AM	0
NOON	0
PM	0

0	AM
0	NOON
0	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Bicycle Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5092-104
N/S Street: Gaffey St
E/W Street: Anaheim St
DATE: 3/22/2011 DAY: Tuesday
CITY: Rancho Palos Verdes

AM	2
NOON	0
PM	1

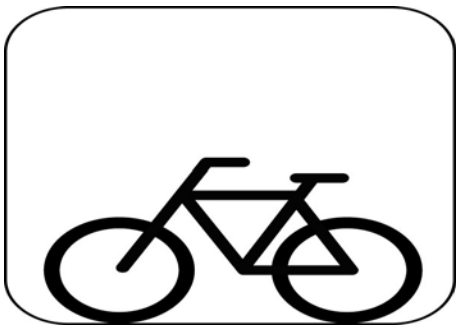
0	AM
0	NOON
0	PM

AM	NOON	PM
0	0	0

NORTH LEG

AM	NOON	PM
0	0	0

WEST LEG



EAST LEG

0	0	0
AM	NOON	PM

SOUTH LEG

0	0	0
AM	NOON	PM

AM	0
NOON	0
PM	0

0	AM
0	NOON
0	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 11-5092-104
N/S Street: Gaffey St
E/W Street: Anaheim St
DATE: 3/22/2011 DAY: Tuesday
CITY: Rancho Palos Verdes

A M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0						
7:15 AM	0	0						
7:30 AM	0	0						
7:45 AM	0	0						
8:00 AM	0	0						
8:15 AM	0	0						
8:30 AM	0	0						
8:45 AM	0	0						
9:00 AM	0	0						
9:15 AM	0	0						
9:30 AM	0	0						
9:45 AM	0	0						
TOTALS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

BIKES

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0						
7:15 AM	0	0						
7:30 AM	0	0						
7:45 AM	0	0						
8:00 AM	0	0						
8:15 AM	0	0						
8:30 AM	2	0						
8:45 AM	0	0						
9:00 AM	0	0						
9:15 AM	0	0						
9:30 AM	0	0						
9:45 AM	0	0						
TOTALS	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

P M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0						
3:15 PM	0	0						
3:30 PM	0	0						
3:45 PM	0	0						
4:00 PM	0	0						
4:15 PM	0	0						
4:30 PM	0	0						
4:45 PM	0	0						
5:00 PM	0	0						
5:15 PM	0	1						
5:30 PM	0	0						
5:45 PM	0	0						
TOTALS	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**

BIKES

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0						
3:15 PM	0	0						
3:30 PM	0	0						
3:45 PM	1	0						
4:00 PM	0	0						
4:15 PM	0	0						
4:30 PM	0	0						
4:45 PM	0	0						
5:00 PM	0	0						
5:15 PM	0	0						
5:30 PM	0	0						
5:45 PM	0	0						
TOTALS	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5143_005 **Day:** WEDNESDAY

City: City of Harbor City **Date:** 5/4/2011

AM

NS/EW Streets:	Figueroa Place			Figueroa Place			Anaheim St			Anaheim St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0.5	0.5	1	1	2	0	1	2	0	
7:00 AM	2	1	6	78	14	106	8	230	23	61	116	9	654
7:15 AM	3	1	8	73	4	115	9	311	44	55	137	6	766
7:30 AM	9	3	6	57	9	121	15	265	35	77	186	12	795
7:45 AM	8	9	3	69	18	105	49	299	35	61	159	31	846
8:00 AM	4	5	2	68	5	77	17	310	34	54	135	12	723
8:15 AM	0	2	4	75	10	61	15	258	36	48	121	13	643
8:30 AM	3	1	5	63	9	76	15	235	27	50	111	9	604
8:45 AM	0	2	9	60	7	77	13	222	33	52	92	13	580
9:00 AM	2	1	5	65	17	75	33	216	26	47	86	23	596
9:15 AM	0	5	7	62	14	78	41	204	11	45	87	47	601
9:30 AM	3	2	5	73	24	75	30	243	20	50	100	28	653
9:45 AM	1	1	4	71	14	84	7	184	13	42	84	14	519
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	35	33	64	814	145	1050	252	2977	337	642	1414	217	7980
APPROACH %'s :	26.52%	25.00%	48.48%	40.52%	7.22%	52.26%	7.07%	83.48%	9.45%	28.24%	62.21%	9.55%	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	24	18	19	267	36	418	90	1185	148	247	617	61	3130
PEAK HR FACTOR :		0.763			0.939			0.929			0.841		0.925

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5143_005 **Day:** WEDNESDAY

City: City of Harbor City **Date:** 5/4/2011

PM

NS/EW Streets:	Figueroa Place			Figueroa Place			Anaheim St			Anaheim St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0.5	0.5	1	1	2	0	1	2	0	
3:00 PM	0	2	1	88	21	123	8	191	26	72	91	8	631
3:15 PM	3	2	6	80	20	161	11	205	24	61	91	12	676
3:30 PM	4	0	5	93	10	124	13	241	39	56	99	14	698
3:45 PM	0	1	4	93	15	147	12	253	23	70	94	6	718
4:00 PM	2	0	5	81	23	132	7	225	28	36	119	10	668
4:15 PM	2	0	5	94	20	133	8	241	33	63	101	2	702
4:30 PM	6	1	7	104	20	135	7	254	38	54	126	10	762
4:45 PM	2	1	8	103	18	158	4	222	35	66	120	10	747
5:00 PM	1	1	6	108	9	158	13	224	36	67	134	7	764
5:15 PM	1	3	4	90	18	156	8	210	44	54	123	8	719
5:30 PM	4	2	5	84	21	169	15	189	46	76	107	15	733
5:45 PM	4	1	7	80	18	191	11	178	29	62	104	18	703
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	29	14	63	1098	213	1787	117	2633	401	737	1309	120	8521
APPROACH %'s :	27.36%	13.21%	59.43%	35.44%	6.88%	57.68%	3.71%	83.56%	12.73%	34.03%	60.43%	5.54%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	10	6	25	405	65	607	32	910	153	241	503	35	2992
PEAK HR FACTOR :		0.732			0.965			0.916			0.936		0.979

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

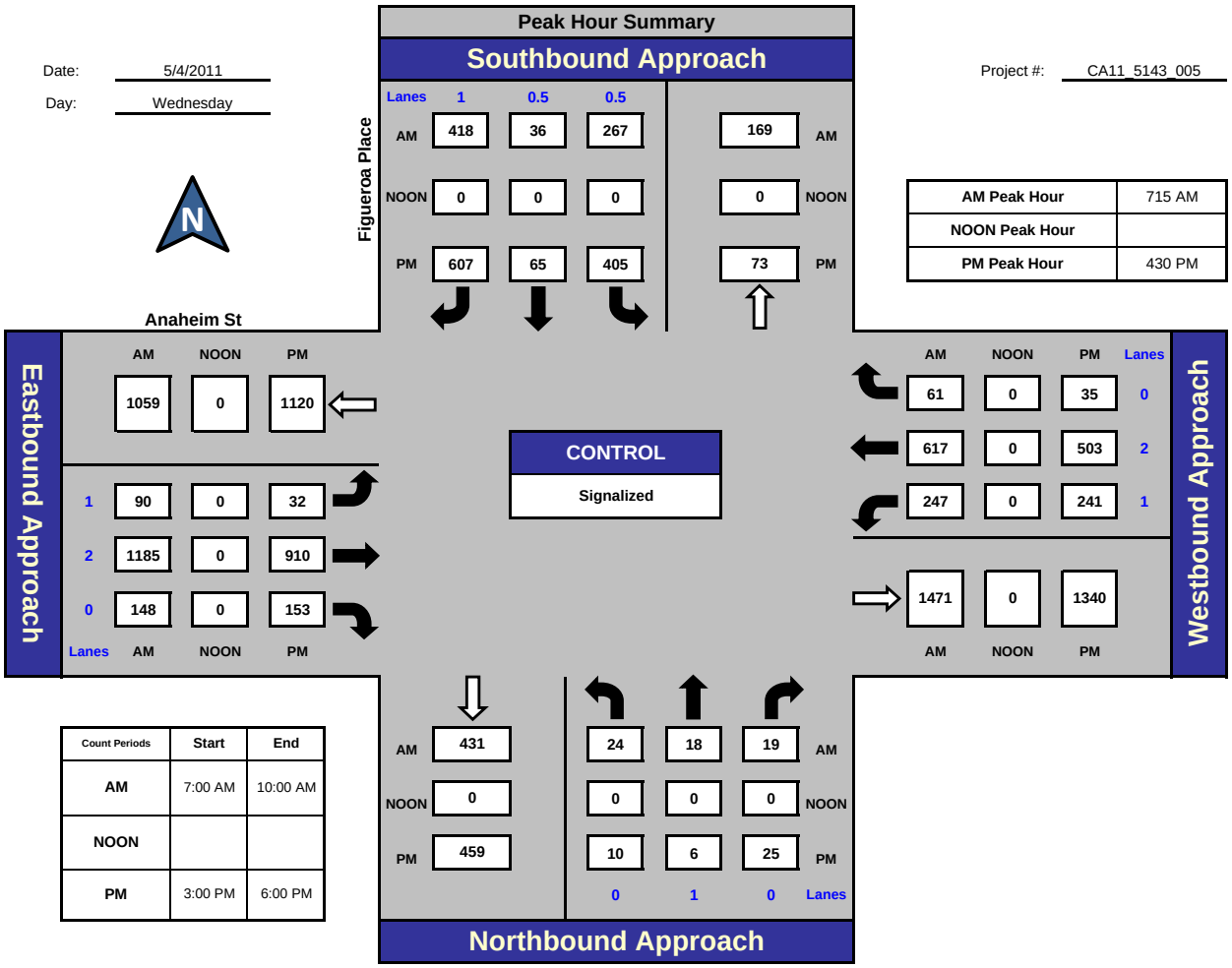
National Data & Surveying Services

Figueroa Place and Anaheim St , City of Harbor City

Date: 5/4/2011

Day: Wednesday

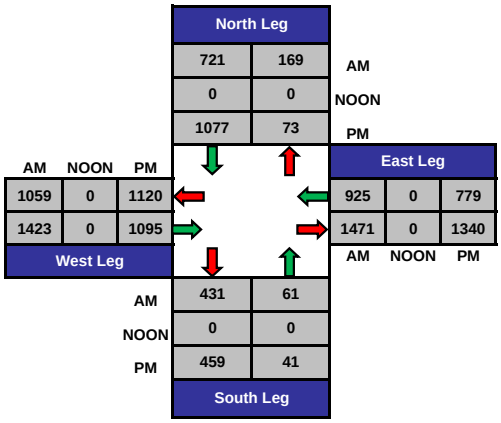
Project #: CA11_5143_005



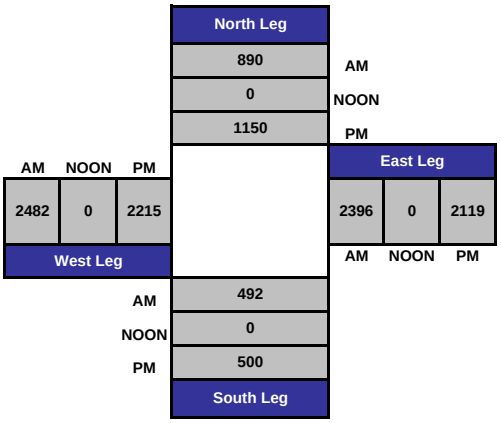
AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	430 PM

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Pedestrian Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5143-005
N/S Street: Figueroa Place
E/W Street: Anaheim St
DATE: 5/4/2011 DAY: Wednesday
CITY: Harbor City

AM	6
NOON	0
PM	11

9	AM
0	NOON
5	PM

AM	NOON	PM
5	0	3

NORTH LEG

AM	NOON	PM
2	0	2

WEST LEG

EAST LEG

6	0	3
AM	NOON	PM

SOUTH LEG

1	0	0
AM	NOON	PM

AM	1
NOON	0
PM	10

5	AM
0	NOON
3	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Bicycle Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5143-005
N/S Street: Figueroa Place
E/W Street: Anaheim St
DATE: 5/4/2011 DAY: Wednesday
CITY: Harbor City

AM	1
NOON	0
PM	1

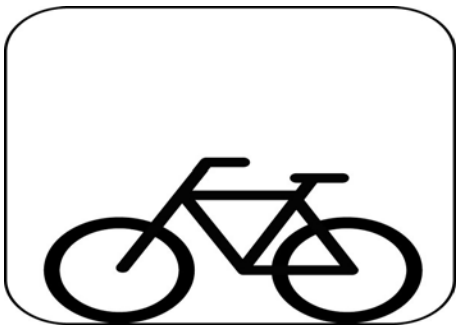
0	AM
0	NOON
4	PM

AM	NOON	PM
0	0	2

NORTH LEG

AM	NOON	PM
0	0	0

WEST LEG



EAST LEG

1	0	2
AM	NOON	PM

SOUTH LEG

0	0	0
AM	NOON	PM

AM	2
NOON	0
PM	1

3	AM
0	NOON
1	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 11-5143-005
N/S Street: Figueroa Place
E/W Street: Anaheim St
DATE: 5/4/2011 DAY: Wednesday
CITY: Harbor City

A M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	1	0	1	0	0	1
7:15 AM	1	1	0	1	0	0	2	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	1	0	0	0	0	0	1
8:00 AM	3	0	0	1	0	1	1	0
8:15 AM	0	0	0	1	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	1	0	0	0	0	0	0
9:00 AM	0	1	0	0	0	0	1	0
9:15 AM	2	3	0	0	0	1	2	3
9:30 AM	0	1	0	0	0	0	0	0
9:45 AM	0	1	0	2	0	0	0	0
TOTALS	**6**	**9**	**1**	**5**	**1**	**2**	**6**	**5**

BIKES

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	1	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	1	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
9:00 AM	0	0	1	0	0	0	0	0
9:15 AM	0	0	0	1	0	0	1	0
9:30 AM	1	0	0	0	0	0	0	0
9:45 AM	0	0	1	0	0	0	0	0
TOTALS	**1**	**0**	**2**	**3**	**0**	**0**	**1**	**0**

P M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	3	0	1	0	0	0	1	0
3:15 PM	0	0	1	0	0	0	0	0
3:30 PM	0	2	0	1	0	0	1	1
3:45 PM	1	1	1	0	0	0	0	0
4:00 PM	1	0	1	0	0	0	0	2
4:15 PM	0	1	1	0	0	0	0	0
4:30 PM	1	0	2	0	0	0	0	0
4:45 PM	1	1	0	1	0	0	1	0
5:00 PM	2	0	1	0	0	2	0	0
5:15 PM	0	0	2	1	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	2	0	0	0	0	0	0	0
TOTALS	**11**	**5**	**10**	**3**	**0**	**2**	**3**	**3**

BIKES

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	1	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	0	0	1	0	0	0	1	0
3:45 PM	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	1	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	2	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	1	0
5:30 PM	0	0	0	0	0	0	0	2
5:45 PM	0	1	0	1	0	0	0	0
TOTALS	**1**	**4**	**1**	**1**	**0**	**0**	**2**	**2**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5143_006 **Day:** WEDNESDAY

City: City of Harbor City **Date:** 5/4/2011

AM

NS/EW Streets:	Figueroa St			Figueroa St			Anaheim St			Anaheim St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	2	0	1	2	0	1	2	0	
7:00 AM	35	33	34	2	10	8	196	114	3	15	141	53	644
7:15 AM	35	35	40	6	12	31	247	130	5	29	138	56	764
7:30 AM	42	60	36	6	20	79	208	117	8	23	146	38	783
7:45 AM	46	70	56	6	23	54	208	164	8	10	149	32	826
8:00 AM	42	59	68	4	21	17	193	170	12	22	136	50	794
8:15 AM	58	50	58	4	13	9	190	133	8	10	125	52	710
8:30 AM	29	29	40	5	7	17	185	120	2	18	128	55	635
8:45 AM	32	23	34	5	8	13	174	105	6	16	112	58	586
9:00 AM	43	30	46	4	7	11	178	110	4	13	102	54	602
9:15 AM	53	46	30	11	9	8	164	98	5	14	126	58	622
9:30 AM	43	35	44	9	14	11	183	139	3	14	120	80	695
9:45 AM	24	28	40	12	8	10	148	107	4	11	98	59	549
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	482	498	526	74	152	268	2274	1507	68	195	1521	645	8210
APPROACH %'s :	32.01%	33.07%	34.93%	14.98%	30.77%	54.25%	59.08%	39.15%	1.77%	8.26%	64.42%	27.32%	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	165	224	200	22	76	181	856	581	33	84	569	176	3167
PEAK HR FACTOR :		0.856			0.664			0.962			0.929		0.959

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5143_006 **Day:** WEDNESDAY

City: City of Harbor City **Date:** 5/4/2011

PM

NS/EW Streets:	Figueroa St			Figueroa St			Anaheim St			Anaheim St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	2	0	1	2	0	1	2	0	
3:00 PM	25	38	50	9	16	9	131	147	7	19	134	73	658
3:15 PM	32	39	65	10	19	13	120	166	11	15	115	79	684
3:30 PM	37	43	56	7	19	10	153	184	8	16	122	81	736
3:45 PM	35	47	60	19	13	13	133	206	4	20	119	78	747
4:00 PM	35	42	53	9	19	15	132	180	6	23	119	71	704
4:15 PM	25	32	71	12	16	17	127	200	5	27	127	82	741
4:30 PM	48	50	67	15	19	12	149	201	8	13	128	84	794
4:45 PM	50	52	60	15	20	13	121	206	8	25	135	75	780
5:00 PM	57	62	62	7	19	18	139	191	6	28	138	65	792
5:15 PM	43	48	45	14	15	17	116	189	7	22	126	83	725
5:30 PM	53	51	40	13	21	14	100	161	10	26	134	73	696
5:45 PM	34	29	34	14	18	22	104	149	12	24	127	72	639
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	474	533	663	144	214	173	1525	2180	92	258	1524	916	8696
APPROACH %'s :	28.38%	31.92%	39.70%	27.12%	40.30%	32.58%	40.16%	57.41%	2.42%	9.56%	56.49%	33.95%	
PEAK HR START TIME :	415 PM												TOTAL
PEAK HR VOL :	180	196	260	49	74	60	536	798	27	93	528	306	3107
PEAK HR FACTOR :		0.878			0.953			0.950			0.982		0.978

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

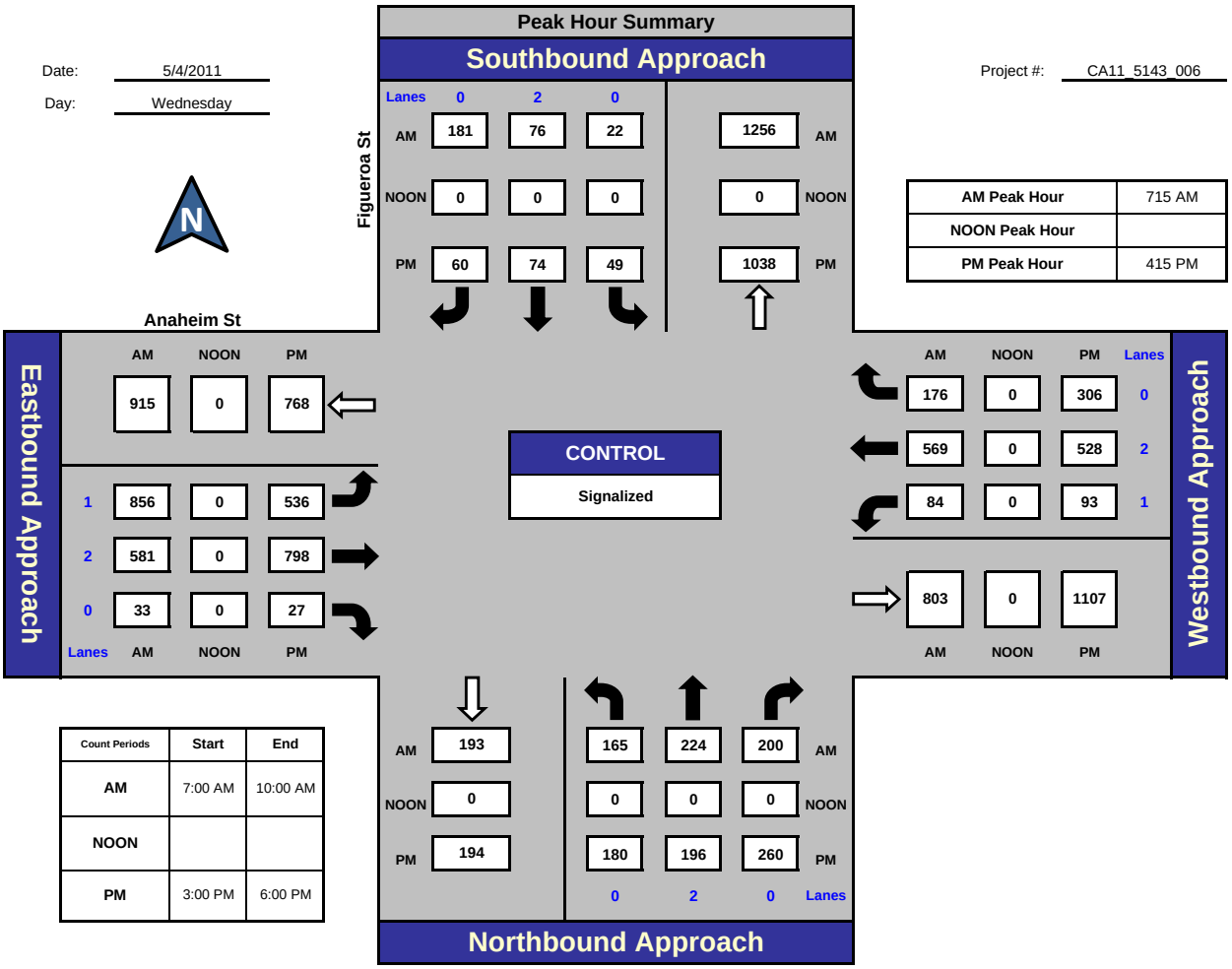
National Data & Surveying Services

Figueroa St and Anaheim St , City of Harbor City

Date: 5/4/2011

Day: Wednesday

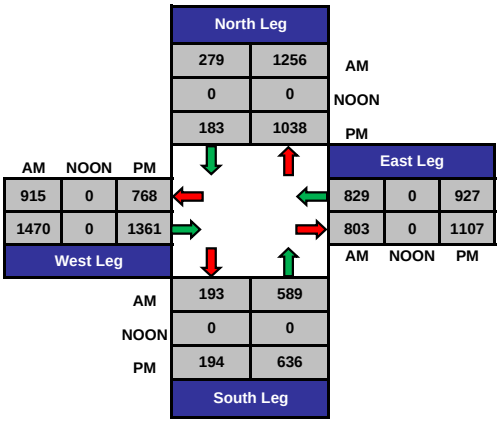
Project #: CA11_5143_006



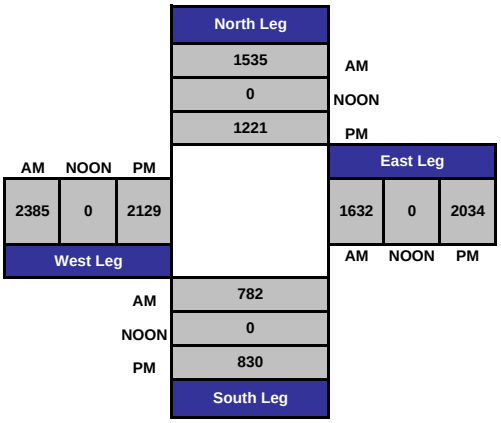
AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	415 PM

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Pedestrian Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5143-006
N/S Street: Figueroa St
E/W Street: Anaheim St
DATE: 5/4/2011
CITY: Harbor City

DAY: Wednesday

AM	10
NOON	0
PM	17

7	AM
0	NOON
22	PM

AM	NOON	PM
2	0	7

NORTH LEG

AM	NOON	PM
7	0	13

WEST LEG

EAST LEG

5	0	2
AM	NOON	PM

SOUTH LEG

21	0	32
AM	NOON	PM

AM	3
NOON	0
PM	15

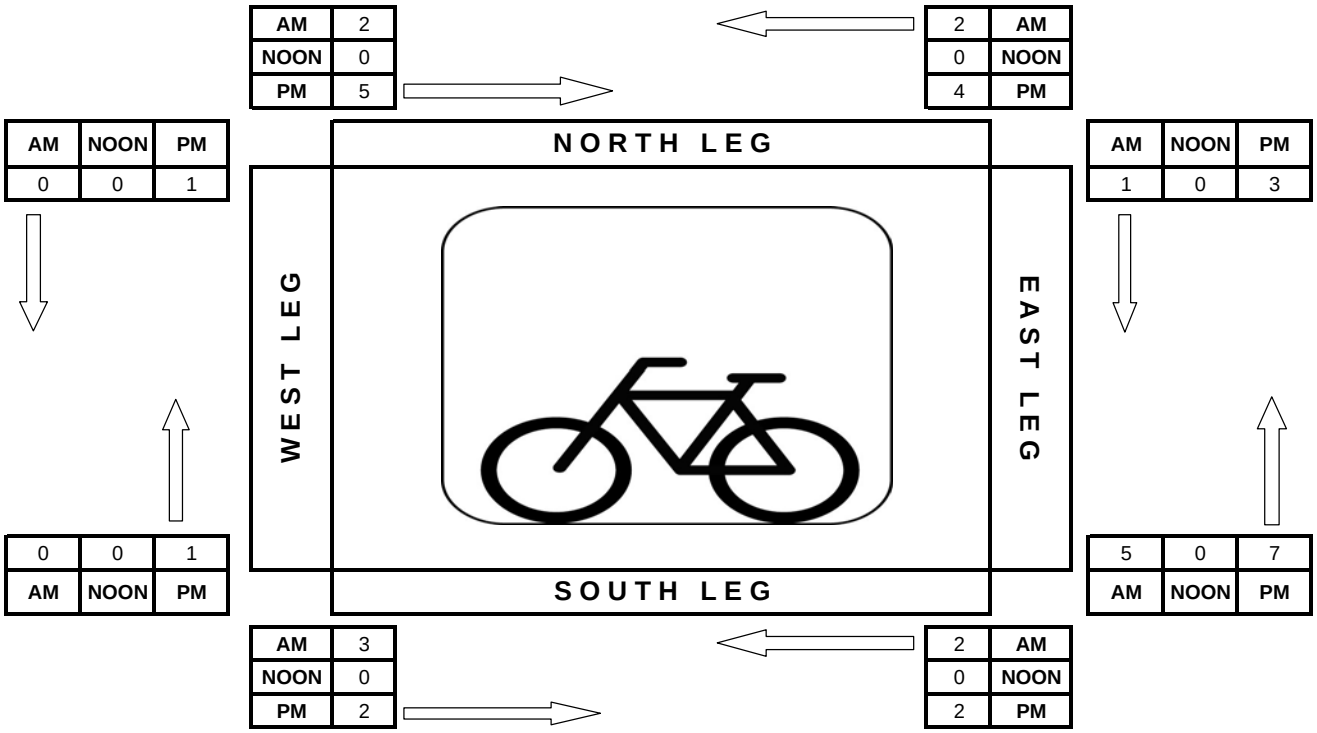
6	AM
0	NOON
4	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Bicycle Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5143-006
N/S Street: Figueroa St
E/W Street: Anaheim St
DATE: 5/4/2011 DAY: Wednesday
CITY: Harbor City



PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 11-5143-006
N/S Street: Figueroa St
E/W Street: Anaheim St
DATE: 5/4/2011 DAY: Wednesday
CITY: Harbor City

A M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	2	0	1	0	1	0	0	0
7:15 AM	1	0	0	0	3	1	1	0
7:30 AM	2	1	0	0	2	0	2	0
7:45 AM	0	1	0	0	4	0	0	0
8:00 AM	0	0	1	1	0	1	0	1
8:15 AM	1	0	0	0	0	1	0	0
8:30 AM	0	0	0	1	2	0	0	0
8:45 AM	1	1	0	1	2	0	0	0
9:00 AM	1	2	0	0	1	2	0	0
9:15 AM	1	1	1	0	3	1	0	0
9:30 AM	0	1	0	1	2	0	1	0
9:45 AM	1	0	0	2	1	1	1	1
TOTALS	**10**	**7**	**3**	**6**	**21**	**7**	**5**	**2**

BIKES

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	1	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	1	0	0	0
7:45 AM	0	0	0	1	2	0	0	0
8:00 AM	1	0	0	0	0	1	0	0
8:15 AM	0	0	1	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	1	0	0	0
9:00 AM	0	0	1	0	0	0	0	0
9:15 AM	0	0	0	1	0	0	0	0
9:30 AM	1	0	0	0	0	0	0	0
9:45 AM	0	1	1	0	1	0	0	0
TOTALS	**2**	**2**	**3**	**2**	**5**	**1**	**0**	**0**

P M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	1	1	3	0	5	2	0	2
3:15 PM	1	4	3	1	4	2	1	3
3:30 PM	1	3	1	1	2	0	0	0
3:45 PM	0	2	0	0	3	1	0	1
4:00 PM	2	0	0	1	0	1	1	0
4:15 PM	0	1	1	0	1	1	0	0
4:30 PM	2	4	2	0	9	0	0	0
4:45 PM	4	3	1	0	0	5	0	1
5:00 PM	1	4	2	0	3	0	0	0
5:15 PM	2	0	2	1	0	1	0	0
5:30 PM	0	0	0	0	2	0	0	0
5:45 PM	3	0	0	0	3	0	0	0
TOTALS	**17**	**22**	**15**	**4**	**32**	**13**	**2**	**7**

BIKES

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	2	0	0	0	0	0	1
3:15 PM	1	1	0	0	1	1	0	0
3:30 PM	0	0	1	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0
4:00 PM	1	0	1	0	0	0	0	0
4:15 PM	0	1	0	0	0	1	1	0
4:30 PM	1	0	0	0	0	0	0	0
4:45 PM	1	0	0	0	1	0	0	0
5:00 PM	0	0	0	0	2	0	0	0
5:15 PM	0	0	0	0	1	0	0	0
5:30 PM	1	0	0	0	2	0	0	0
5:45 PM	0	0	0	2	0	1	0	0
TOTALS	**5**	**4**	**2**	**2**	**7**	**3**	**1**	**1**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5092_009 **Day:** TUESDAY

City: City of Rancho Palos Verdes **Date:** 3/22/2011

AM

NS/EW Streets:	Palos Verdes Dr East			Palos Verdes Dr East			Miraleste Dr			Miraleste Dr			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	1	1	0	0	0	0	0	1	0	
7:00 AM		25	28	24	18					16		50	161
7:15 AM		53	44	46	31					24		66	264
7:30 AM		42	46	52	29					26		90	285
7:45 AM		102	35	128	69					29		134	497
8:00 AM		119	25	106	81					23		77	431
8:15 AM		41	40	60	54					33		53	281
8:30 AM		75	70	50	55					60		76	386
8:45 AM		83	63	47	36					38		83	350
9:00 AM		45	37	54	41					35		65	277
9:15 AM		36	29	51	36					34		50	236
9:30 AM		32	34	35	23					29		39	192
9:45 AM		31	30	28	35					21		29	174
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	684	481	681	508	0	0	0	0	368	0	812	3534
APPROACH %'s :	0.00%	58.71%	41.29%	57.28%	42.72%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	31.19%	0.00%	68.81%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	0	337	170	344	259	0	0	0	0	145	0	340	1595
PEAK HR FACTOR :		0.874			0.765			0.000			0.744		0.802

CONTROL : 1-Way Stop (WB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5092_009 **Day:** TUESDAY

City: City of Rancho Palos Verdes **Date:** 3/22/2011

PM

NS/EW Streets:	Palos Verdes Dr East			Palos Verdes Dr East			Miraleste Dr			Miraleste Dr			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	1	1	0	0	0	0	0	1	0	
3:00 PM		92	41	97	67					38		80	415
3:15 PM		60	38	152	115					29		66	460
3:30 PM		40	50	99	53					28		57	327
3:45 PM		53	47	69	46					43		71	329
4:00 PM		44	45	75	47					31		65	307
4:15 PM		35	36	102	44					38		63	318
4:30 PM		45	34	77	46					33		55	290
4:45 PM		46	31	86	33					37		71	304
5:00 PM		33	37	61	39					35		48	253
5:15 PM		35	40	94	44					55		67	335
5:30 PM		40	41	70	27					38		64	280
5:45 PM		44	42	90	53					45		67	341
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	567	482	1072	614	0	0	0	0	450	0	774	3959
APPROACH %'s :	0.00%	54.05%	45.95%	63.58%	36.42%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	36.76%	0.00%	63.24%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	0	245	176	417	281	0	0	0	0	138	0	274	1531
PEAK HR FACTOR :		0.791			0.654			0.000			0.873		0.832

CONTROL : 1-Way Stop (WB)

ITM Peak Hour Summary

Prepared by:

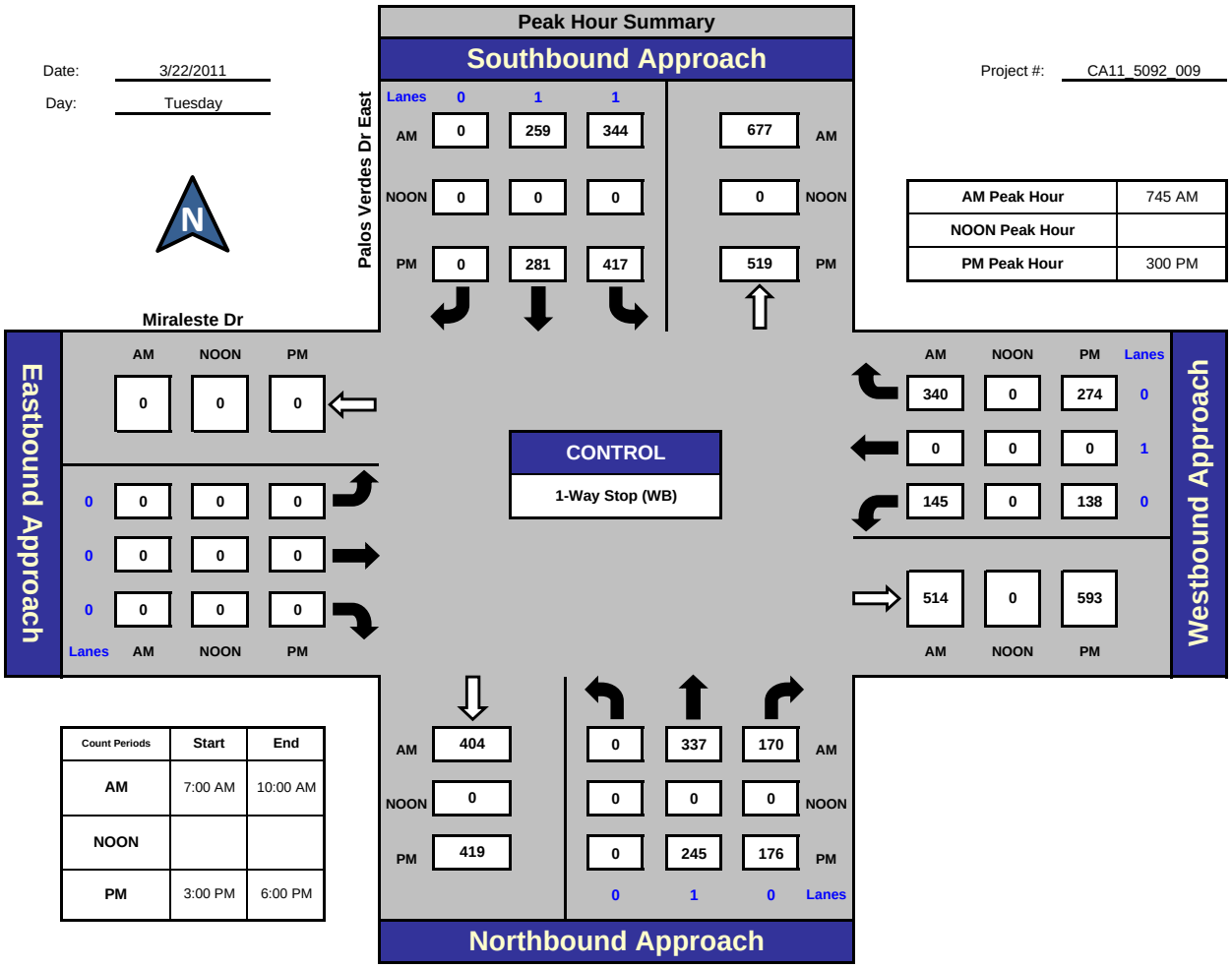
National Data & Surveying Services

Palos Verdes Dr East and Miraleste Dr , City of Rancho Palos Verdes

Date: 3/22/2011

Day: Tuesday

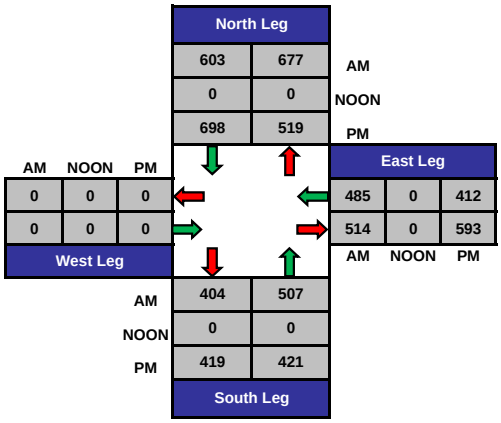
Project #: CA11_5092_009



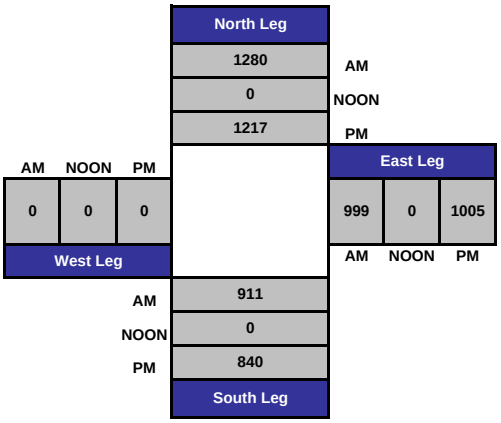
AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	300 PM

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5092_005 **Day:** TUESDAY

City: City of Rancho Palos Verdes **Date:** 3/22/2011

AM

NS/EW Streets:	Western Ave			Western Ave			Trudie Dr/Capitol Dr			Trudie Dr/Capitol Dr			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	0	1	0	1	1	1	
7:00 AM	1	209	14	22	133	5	11	8	4	16	7	30	460
7:15 AM	4	275	24	22	151	12	24	15	5	30	4	45	611
7:30 AM	0	401	26	14	196	14	26	21	4	38	14	54	808
7:45 AM	6	353	24	41	284	25	28	20	3	56	19	23	882
8:00 AM	1	338	38	38	219	8	50	16	4	42	19	17	790
8:15 AM	2	340	25	30	153	5	54	23	3	43	14	33	725
8:30 AM	3	293	17	40	159	12	22	14	2	18	6	42	628
8:45 AM	0	199	16	37	153	8	34	14	4	26	5	33	529
9:00 AM	2	177	12	22	138	6	9	7	4	18	5	15	415
9:15 AM	3	263	22	30	179	8	13	8	1	25	11	27	590
9:30 AM	2	246	20	29	190	10	19	7	1	39	4	27	594
9:45 AM	3	251	18	24	187	13	25	16	9	17	6	27	596
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	27	3345	256	349	2142	126	315	169	44	368	114	373	7628
APPROACH %'s :	0.74%	92.20%	7.06%	13.34%	81.85%	4.81%	59.66%	32.01%	8.33%	43.04%	13.33%	43.63%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	9	1432	113	123	852	52	158	80	14	179	66	127	3205
PEAK HR FACTOR :		0.910			0.734			0.788			0.877		0.908

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5092_005 **Day:** TUESDAY

City: City of Rancho Palos Verdes **Date:** 3/22/2011

PM

NS/EW Streets:	Western Ave			Western Ave			Trudie Dr/Capitol Dr			Trudie Dr/Capitol Dr			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	0	1	0	1	1	1	
3:00 PM	4	226	23	38	239	16	20	14	6	32	13	42	673
3:15 PM	2	354	47	51	318	30	39	10	10	32	29	43	965
3:30 PM	1	278	28	71	280	15	44	19	9	36	3	54	838
3:45 PM	9	255	24	62	294	10	29	6	4	32	18	48	791
4:00 PM	4	211	20	48	277	17	17	8	6	24	15	32	679
4:15 PM	8	281	22	64	290	19	25	11	4	20	16	43	803
4:30 PM	8	233	19	55	278	8	28	7	4	34	11	33	718
4:45 PM	5	301	31	57	262	15	23	21	4	26	16	27	788
5:00 PM	11	268	20	51	289	14	15	19	6	38	12	49	792
5:15 PM	6	220	22	73	258	5	21	2	1	27	17	19	671
5:30 PM	6	222	11	53	287	5	20	9	2	28	21	21	685
5:45 PM	15	323	31	54	344	18	24	12	15	42	26	41	945
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	79	3172	298	677	3416	172	305	138	71	371	197	452	9348
APPROACH %'s :	2.23%	89.38%	8.40%	15.87%	80.09%	4.03%	59.34%	26.85%	13.81%	36.37%	19.31%	44.31%	
PEAK HR START TIME :	315 PM												TOTAL
PEAK HR VOL :	16	1098	119	232	1169	72	129	43	29	124	65	177	3273
PEAK HR FACTOR :		0.765			0.923			0.698			0.880		0.848

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

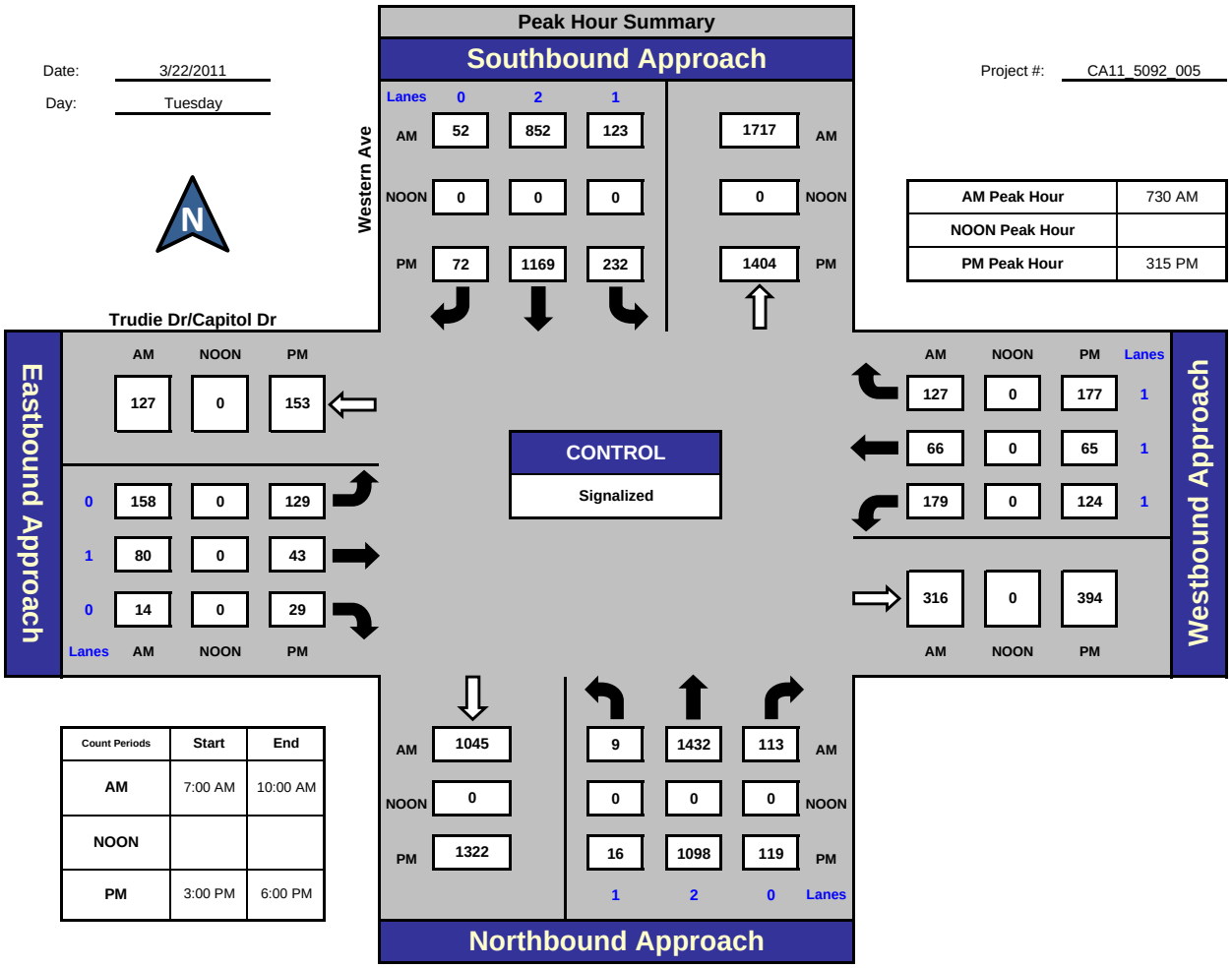
National Data & Surveying Services

Western Ave and Trudie Dr/Capitol Dr , City of Rancho Palos Verdes

Date: 3/22/2011

Day: Tuesday

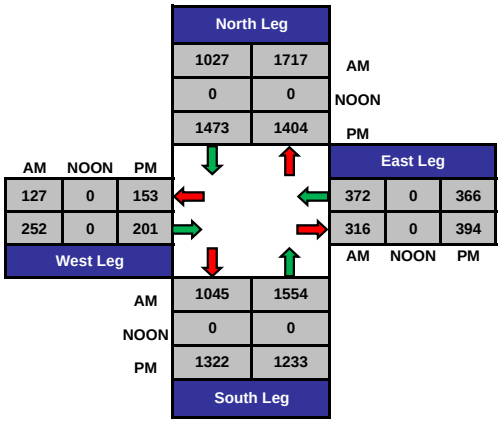
Project #: CA11_5092_005



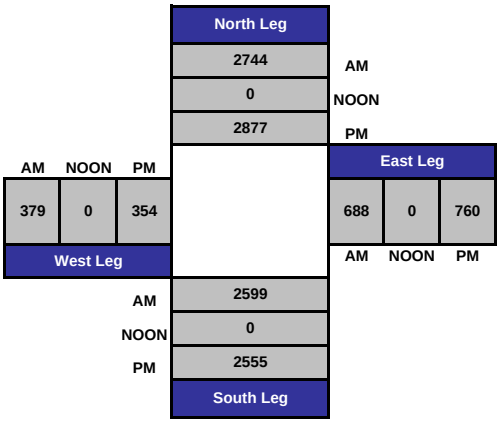
AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	315 PM

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Pedestrian Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5092-005
N/S Street: Western Ave
E/W Street: Trudie Dr/Capitol Dr
DATE: 3/22/2011 DAY: Tuesday
CITY: Rancho Palos Verdes

AM	7
NOON	0
PM	12

0	AM
0	NOON
3	PM

AM	NOON	PM
4	0	25

NORTH LEG

AM	NOON	PM
17	0	19

WEST LEG

EAST LEG

4	0	9
AM	NOON	PM

SOUTH LEG

10	0	17
AM	NOON	PM

AM	8
NOON	0
PM	16

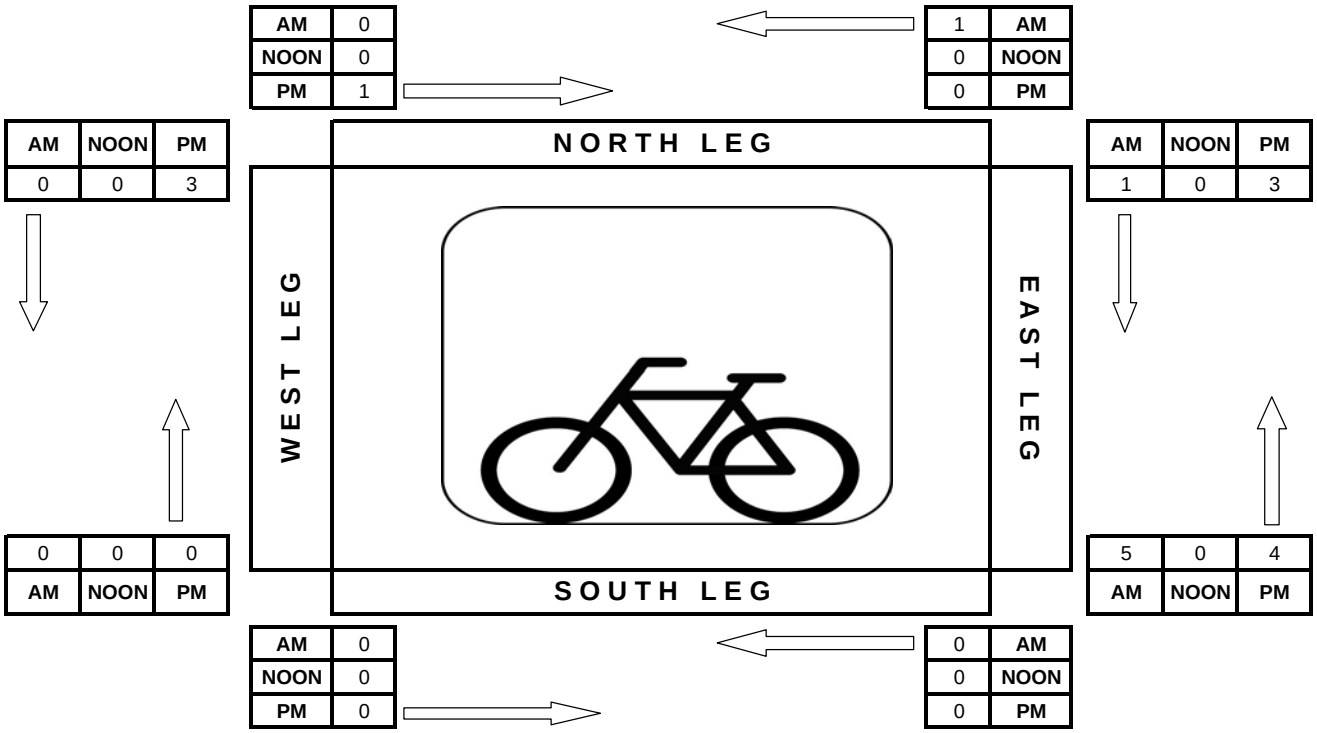
5	AM
0	NOON
8	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Bicycle Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5092-005
N/S Street: Western Ave
E/W Street: Trudie Dr/Capitol Dr
DATE: 3/22/2011 DAY: Tuesday
CITY: Rancho Palos Verdes



PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 11-5092-005
N/S Street: Western Ave
E/W Street: Trudie Dr/Capitol Dr
DATE: 3/22/2011 DAY: Tuesday
CITY: Rancho Palos Verdes

A M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	1	1	1	1	1
7:30 AM	0	0	0	0	0	1	0	1
7:45 AM	0	0	1	0	0	1	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	3	0	0	0
8:30 AM	1	0	0	1	1	3	1	0
8:45 AM	1	0	0	0	0	0	0	0
9:00 AM	3	0	1	1	0	3	1	0
9:15 AM	0	0	1	0	2	4	1	0
9:30 AM	2	0	3	0	1	2	0	1
9:45 AM	0	0	2	2	2	2	0	0
TOTALS	**7**	**0**	**8**	**5**	**10**	**17**	**4**	**4**

BIKES

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	1	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	3	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	1	0	0
9:30 AM	0	1	0	0	0	0	0	0
9:45 AM	0	0	0	0	1	0	0	0
TOTALS	**0**	**1**	**0**	**0**	**5**	**1**	**0**	**0**

P M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	4	0	4	4	0	2
3:15 PM	2	0	3	1	0	4	0	5
3:30 PM	5	0	3	2	2	1	3	13
3:45 PM	0	0	1	2	0	0	0	0
4:00 PM	1	0	0	1	0	1	0	0
4:15 PM	0	0	2	0	0	0	0	2
4:30 PM	0	0	0	0	4	2	0	0
4:45 PM	1	2	0	0	4	2	4	1
5:00 PM	1	0	1	0	1	2	1	1
5:15 PM	1	0	1	0	0	0	0	0
5:30 PM	0	0	1	0	1	1	0	0
5:45 PM	1	1	0	2	1	2	1	1
TOTALS	**12**	**3**	**16**	**8**	**17**	**19**	**9**	**25**

BIKES

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	1	0	0	0
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	1	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	1
4:00 PM	0	0	0	0	1	2	0	0
4:15 PM	0	0	0	0	1	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	1	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	1	0	0	0
TOTALS	**1**	**0**	**0**	**0**	**4**	**3**	**0**	**3**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5092_010 **Day:** TUESDAY

City: City of Rancho Palos Verdes **Date:** 3/22/2011

AM

NS/EW Streets:	Miraleste Dr			Miraleste Dr			Via Colinita			Via Colinita			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	1	1	1	0	0	1	0	0	1	1	
7:00 AM	2	62	5	12	67	0	0	1	2	2	1	18	172
7:15 AM	4	68	11	21	77	1	1	2	1	9	2	30	227
7:30 AM	0	107	24	26	83	0	0	1	5	10	4	42	302
7:45 AM	4	143	44	62	114	1	0	1	4	15	4	94	486
8:00 AM	4	73	82	55	106	0	0	0	3	27	8	48	406
8:15 AM	3	66	18	39	79	1	0	1	5	24	3	23	262
8:30 AM	1	114	8	32	75	0	0	2	4	9	1	31	277
8:45 AM	2	105	11	32	105	0	1	0	3	2	0	36	297
9:00 AM	0	68	8	25	75	0	0	0	2	7	1	28	214
9:15 AM	1	67	5	30	73	0	0	1	1	2	1	25	206
9:30 AM	1	53	3	24	59	0	0	0	1	4	2	16	163
9:45 AM	1	42	5	23	54	1	1	1	4	5	2	15	154
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	23	968	224	381	967	4	3	10	35	116	29	406	3166
APPROACH %'s :	1.89%	79.67%	18.44%	28.18%	71.52%	0.30%	6.25%	20.83%	72.92%	21.05%	5.26%	73.68%	

PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	11	389	168	182	382	2	0	3	17	76	19	207	1456
PEAK HR FACTOR :		0.743			0.799			0.833			0.668		0.749

CONTROL : 4-Way Stop

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5092_010 **Day:** TUESDAY

City: City of Rancho Palos Verdes **Date:** 3/22/2011

PM

NS/EW Streets:	Miraleste Dr			Miraleste Dr			Via Colinita			Via Colinita			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	1	1	1	0	0	1	0	0	1	1	
3:00 PM	2	77	15	54	94	1	1	2	3	12	0	69	330
3:15 PM	4	75	19	109	99	1	0	1	6	11	8	43	376
3:30 PM	2	63	17	64	112	1	0	2	0	11	6	37	315
3:45 PM	3	85	17	35	99	2	1	3	4	10	1	44	304
4:00 PM	2	78	8	38	99	1	1	0	3	8	3	35	276
4:15 PM	1	63	12	45	95	1	0	0	0	7	1	47	272
4:30 PM	2	68	14	39	81	0	1	1	2	10	1	40	259
4:45 PM	3	65	6	38	93	4	2	2	1	11	2	50	277
5:00 PM	7	68	15	27	84	0	1	1	4	5	0	27	239
5:15 PM	2	95	14	40	102	1	0	1	3	10	3	56	327
5:30 PM	0	76	8	35	98	0	0	3	1	10	3	47	281
5:45 PM	4	69	16	39	96	1	0	3	1	9	2	49	289
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	32	882	161	563	1152	13	7	19	28	114	30	544	3545
APPROACH %'s :	2.98%	82.05%	14.98%	32.58%	66.67%	0.75%	12.96%	35.19%	51.85%	16.57%	4.36%	79.07%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	11	300	68	262	404	5	2	8	13	44	15	193	1325
PEAK HR FACTOR :		0.902			0.803			0.719			0.778		0.881

CONTROL : 4-Way Stop

ITM Peak Hour Summary

Prepared by:

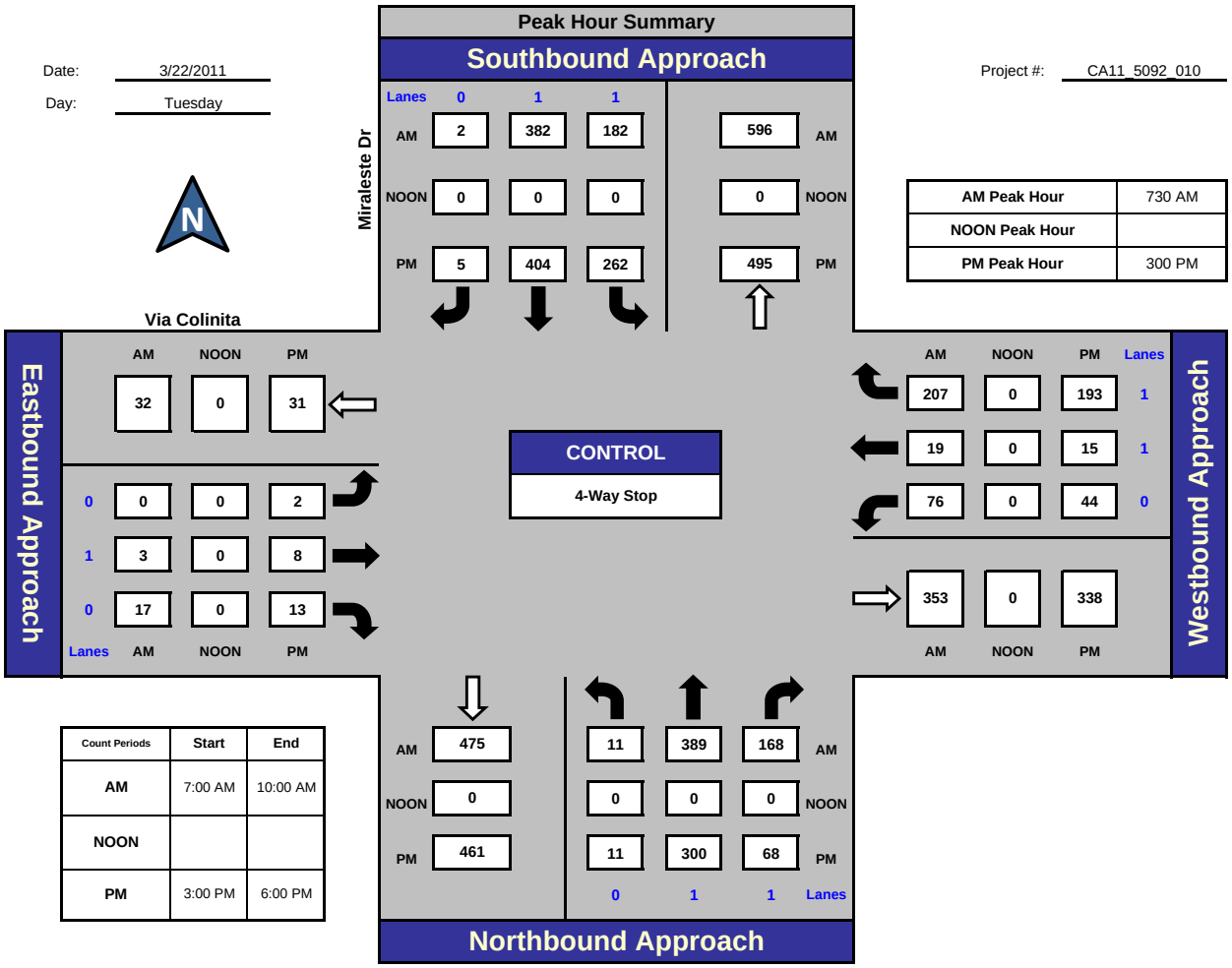
National Data & Surveying Services

Miraleste Dr and Via Colinita , City of Rancho Palos Verdes

Date: 3/22/2011

Day: Tuesday

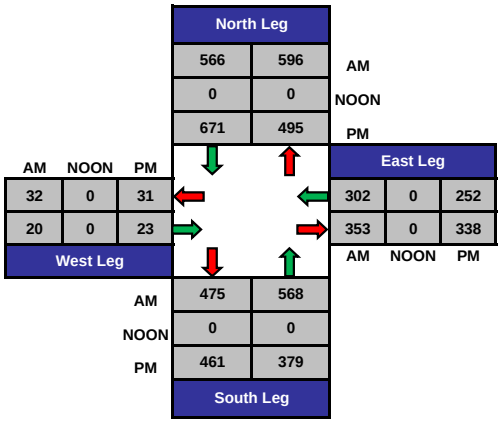
Project #: CA11_5092_010



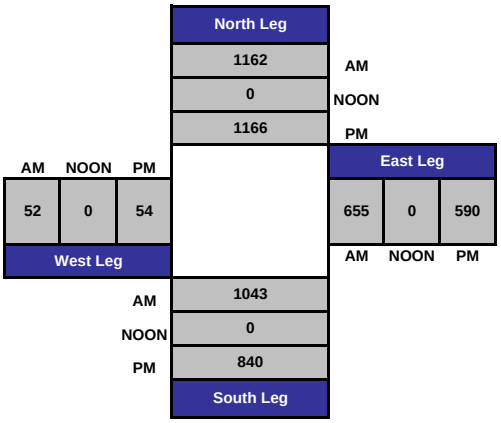
AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	300 PM

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5092_010 **Day:** TUESDAY

City: City of Rancho Palos Verdes **Date:** 3/22/2011

AM

NS/EW Streets:	Miraleste Dr			Miraleste Dr			Via Colinita			Via Colinita			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	1	1	1	0	0	1	0	0	1	1	
7:00 AM				1									1
7:15 AM				2									2
7:30 AM				0									
7:45 AM				0									
8:00 AM				2									2
8:15 AM				0									
8:30 AM				2									2
8:45 AM				3									3
9:00 AM				3									3
9:15 AM				4									4
9:30 AM				2									2
9:45 AM				1									1
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	20	0	0	0	0	0	0	0	0	20
APPROACH %'s :	#DIV/0!	#DIV/0!	#DIV/0!	100.00%	0.00%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	845 AM												TOTAL
PEAK HR VOL :	0	0	0	12	0	0	0	0	0	0	0	0	12
PEAK HR FACTOR :	0.000			0.750			0.000			0.000			0.750

CONTROL : 4-Way Stop

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5092_010 **Day:** TUESDAY

City: City of Rancho Palos Verdes **Date:** 3/22/2011

PM

NS/EW Streets:	Miraleste Dr			Miraleste Dr			Via Colinita			Via Colinita			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	1	1	1	0	0	1	0	0	1	1	
3:00 PM				2									2
3:15 PM				8									8
3:30 PM				4									4
3:45 PM				3									3
4:00 PM				7									7
4:15 PM				1									1
4:30 PM				2									2
4:45 PM				2									2
5:00 PM				5									5
5:15 PM				5									5
5:30 PM				2									2
5:45 PM				0									
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	41	0	0	0	0	0	0	0	0	41
APPROACH %'s :	#DIV/0!	#DIV/0!	#DIV/0!	100.00%	0.00%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	315 PM												TOTAL
PEAK HR VOL :	0	0	0	22	0	0	0	0	0	0	0	0	22
PEAK HR FACTOR :	0.000			0.688			0.000			0.000			0.688

CONTROL : 4-Way Stop

ITM Peak Hour Summary

Prepared by:

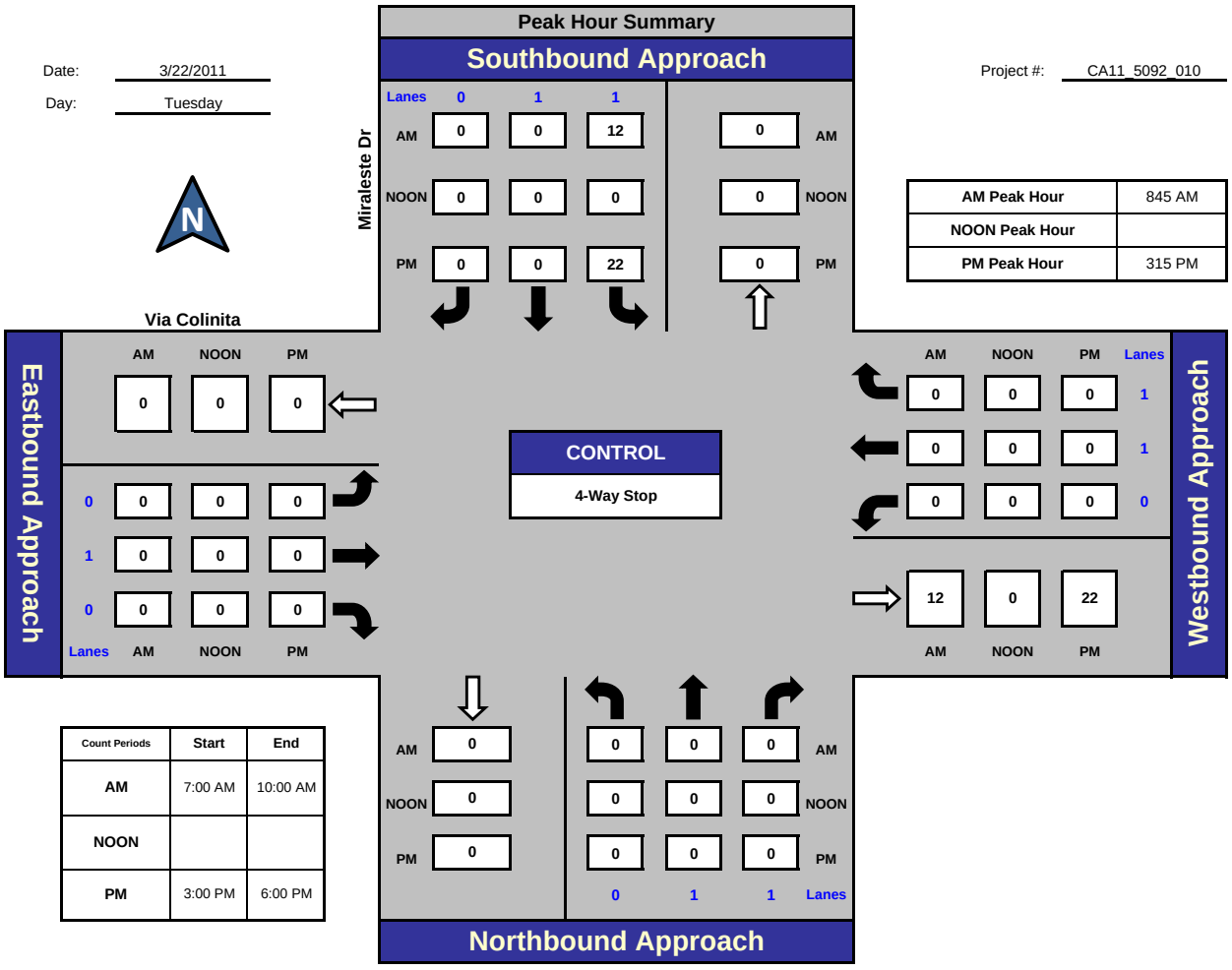
National Data & Surveying Services

Miraleste Dr and Via Colinita , City of Rancho Palos Verdes

Date: 3/22/2011

Day: Tuesday

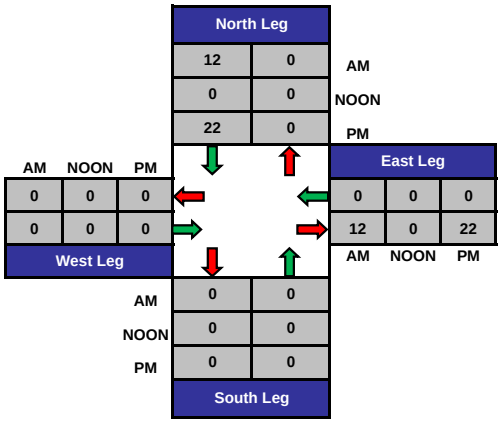
Project #: CA11_5092_010



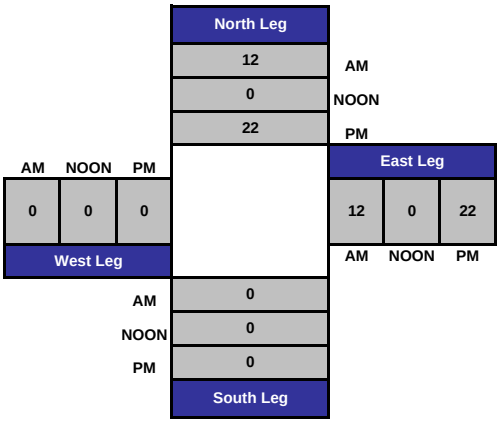
AM Peak Hour	845 AM
NOON Peak Hour	
PM Peak Hour	315 PM

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5092_006 **Day:** TUESDAY

City: City of Rancho Palos Verdes **Date:** 3/22/2011

AM

NS/EW Streets:	Western Ave			Western Ave			Crestwood St			Crestwood St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	0	1	0	1.3	0.3	0.3	
7:00 AM	7	212	19	6	121	8	23	4	6	0	1	1	408
7:15 AM	8	282	9	4	151	15	31	2	5	4	1	6	518
7:30 AM	17	419	24	6	215	33	42	5	13	5	2	4	785
7:45 AM	9	427	28	2	338	32	41	6	21	13	0	6	923
8:00 AM	25	403	35	2	267	43	56	7	36	13	3	3	893
8:15 AM	21	316	28	4	220	13	46	15	46	22	6	15	752
8:30 AM	9	329	46	8	206	14	33	6	14	15	2	11	693
8:45 AM	8	236	22	6	179	19	33	3	13	14	4	6	543
9:00 AM	13	217	29	6	184	15	20	6	8	21	3	16	538
9:15 AM	9	232	32	4	204	10	33	8	5	27	4	15	583
9:30 AM	6	282	47	11	183	17	25	8	10	13	4	12	618
9:45 AM	11	243	46	10	174	9	21	11	5	22	3	11	566
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	143	3598	365	69	2442	228	404	81	182	169	33	106	7820
APPROACH %'s :	3.48%	87.63%	8.89%	2.52%	89.16%	8.32%	60.57%	12.14%	27.29%	54.87%	10.71%	34.42%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	72	1565	115	14	1040	121	185	33	116	53	11	28	3353
PEAK HR FACTOR :		0.944			0.790			0.780			0.535		0.908

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5092_006 **Day:** TUESDAY

City: City of Rancho Palos Verdes **Date:** 3/22/2011

PM

NS/EW Streets:	Western Ave			Western Ave			Crestwood St			Crestwood St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	0	1	0	1.3	0.3	0.3	
3:00 PM	10	307	43	6	337	26	22	8	8	43	11	9	830
3:15 PM	7	338	54	6	374	26	46	11	18	48	5	12	945
3:30 PM	10	325	58	11	360	36	31	5	5	43	7	13	904
3:45 PM	14	274	49	16	311	28	44	13	19	46	6	12	832
4:00 PM	13	272	47	4	323	35	29	8	8	54	11	16	820
4:15 PM	3	288	45	6	301	25	36	7	14	55	13	9	802
4:30 PM	9	319	44	11	318	26	22	4	14	53	10	11	841
4:45 PM	6	295	32	8	322	28	32	10	16	63	8	10	830
5:00 PM	11	310	46	14	321	26	21	7	7	64	8	10	845
5:15 PM	10	287	55	6	364	27	22	4	14	40	15	11	855
5:30 PM	14	296	43	6	333	27	35	8	13	51	12	10	848
5:45 PM	6	287	46	9	362	39	38	5	8	49	11	17	877
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	113	3598	562	103	4026	349	378	90	144	609	117	140	10229
APPROACH %'s :	2.64%	84.20%	13.15%	2.30%	89.91%	7.79%	61.76%	14.71%	23.53%	70.32%	13.51%	16.17%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	41	1244	204	39	1382	116	143	37	50	180	29	46	3511
PEAK HR FACTOR :		0.933			0.944			0.757			0.981		0.929

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

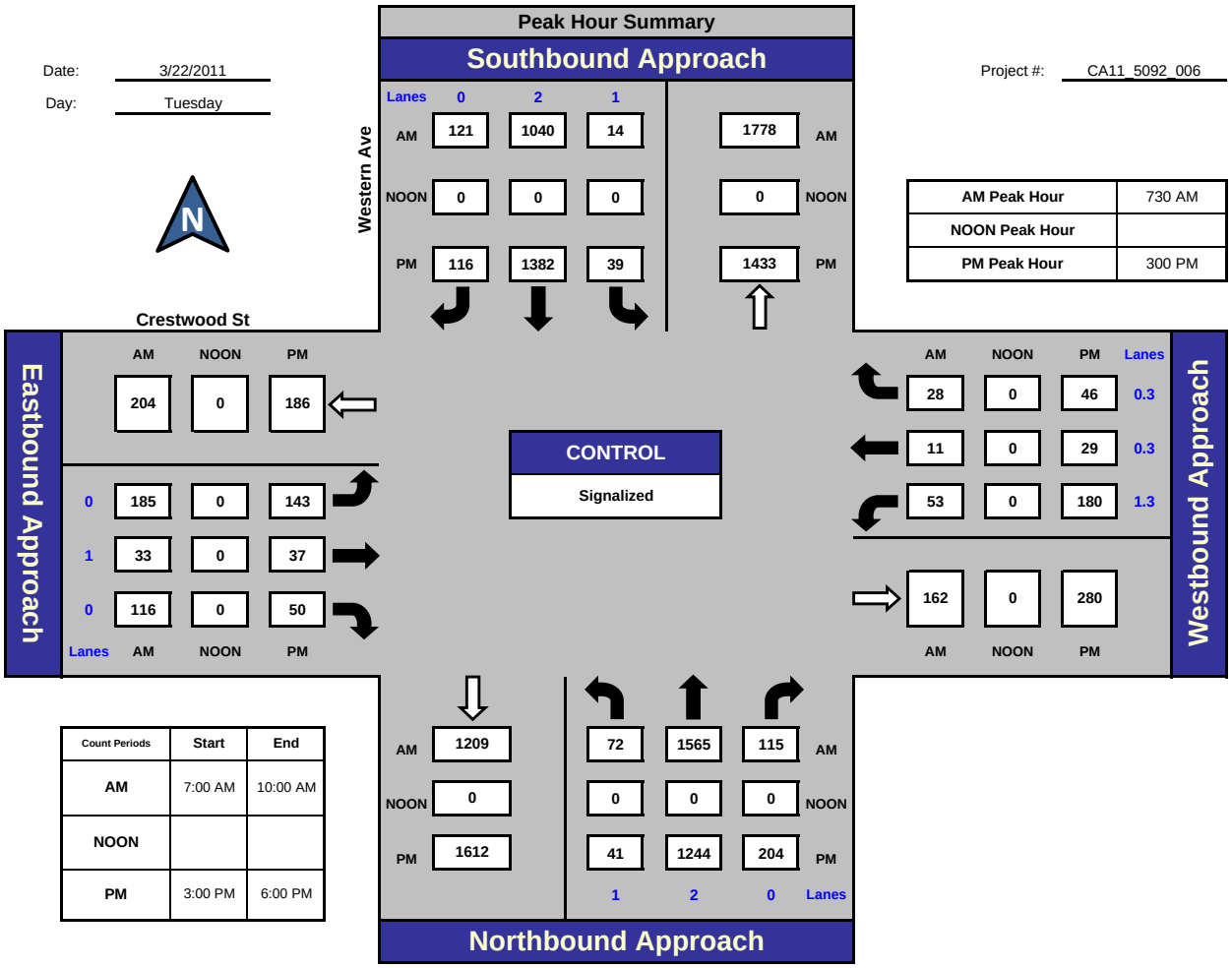
National Data & Surveying Services

Western Ave and Crestwood St , City of Rancho Palos Verdes

Date: 3/22/2011

Day: Tuesday

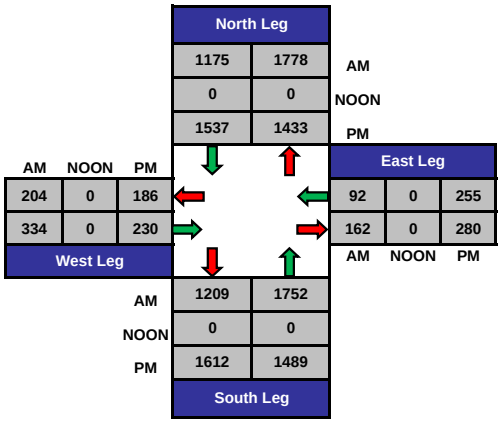
Project #: CA11_5092_006



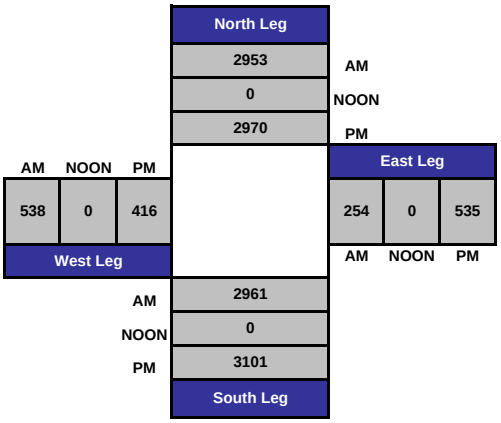
AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	300 PM

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Pedestrian Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5092-006
N/S Street: Western Ave
E/W Street: Crestwood St
DATE: 3/22/2011 DAY: Tuesday
CITY: Rancho Palos Verdes

AM	16
NOON	0
PM	18

17	0	19
AM	NOON	PM

AM	NOON	PM
15	0	28

NORTH LEG

AM	NOON	PM
8	0	27

WEST LEG

EAST LEG

16	0	14
AM	NOON	PM

SOUTH LEG

35	0	15
AM	NOON	PM

AM	0
NOON	0
PM	3

1	0	0
AM	NOON	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Bicycle Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5092-006
N/S Street: Western Ave
E/W Street: Crestwood St
DATE: 3/22/2011 DAY: Tuesday
CITY: Rancho Palos Verdes

AM	2
NOON	0
PM	0

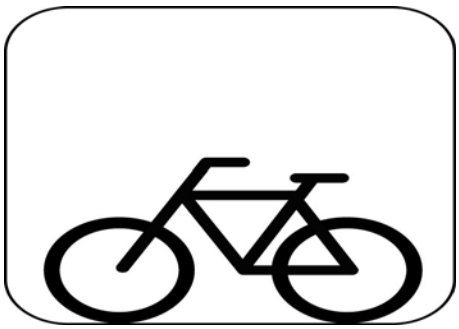
0	AM
0	NOON
0	PM

AM	NOON	PM
1	0	3

NORTH LEG

AM	NOON	PM
2	0	4

WEST LEG



EAST LEG

1	0	1
AM	NOON	PM

SOUTH LEG

5	0	3
AM	NOON	PM

AM	2
NOON	0
PM	0

1	AM
0	NOON
0	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 11-5092-006
N/S Street: Western Ave
E/W Street: Crestwood St
DATE: 3/22/2011 DAY: Tuesday
CITY: Rancho Palos Verdes

A M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	1	0	0	0	3	1	1	1
7:15 AM	0	3	0	0	2	1	0	0
7:30 AM	0	1	0	0	0	0	0	1
7:45 AM	2	0	0	0	0	1	2	0
8:00 AM	1	1	0	0	0	0	2	3
8:15 AM	1	1	0	0	3	1	2	1
8:30 AM	0	2	0	0	3	1	0	2
8:45 AM	1	4	0	0	2	0	2	2
9:00 AM	2	2	0	0	2	0	3	0
9:15 AM	4	2	0	1	3	1	2	0
9:30 AM	0	0	0	0	6	1	1	2
9:45 AM	4	1	0	0	11	1	1	3
TOTALS	**16**	**17**	**0**	**1**	**35**	**8**	**16**	**15**

BIKES

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	1	0	0	1
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	1	0	0	0
7:45 AM	1	0	0	0	1	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	1	0	0	0
8:30 AM	0	0	0	1	0	0	1	0
8:45 AM	0	0	1	0	0	0	0	0
9:00 AM	1	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	1	2	0	0
9:30 AM	0	0	0	0	0	0	0	0
9:45 AM	0	0	1	0	0	0	0	0
TOTALS	**2**	**0**	**2**	**1**	**5**	**2**	**1**	**1**

P M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	1	1	0	0	2	2	4	0
3:15 PM	0	6	1	0	1	2	1	4
3:30 PM	6	0	1	0	1	6	0	11
3:45 PM	4	0	0	0	1	1	2	5
4:00 PM	0	5	0	0	2	0	1	5
4:15 PM	1	2	0	0	1	6	2	1
4:30 PM	2	0	0	0	0	1	1	1
4:45 PM	0	4	0	0	2	1	0	0
5:00 PM	2	1	0	0	1	2	1	0
5:15 PM	2	0	0	0	2	3	0	1
5:30 PM	0	0	1	0	1	1	2	0
5:45 PM	0	0	0	0	1	2	0	0
TOTALS	**18**	**19**	**3**	**0**	**15**	**27**	**14**	**28**

BIKES

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	1	0	0	0
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	1	1	1
3:45 PM	0	0	0	0	0	0	0	1
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	1	2	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	1	0	0
5:30 PM	0	0	0	0	1	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**3**	**4**	**1**	**3**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5092_011 **Day:** TUESDAY

City: City of Rancho Palos Verdes **Date:** 3/22/2011

AM

NS/EW Streets:	Miraleste Dr			Miraleste Dr			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	1	1	0	0	0	0	0	1	0	
7:00 AM		32	18	55	16					3		22	146
7:15 AM		37	14	39	24					1		32	147
7:30 AM		81	21	49	36					6		52	245
7:45 AM		103	14	68	55					6		55	301
8:00 AM		124	22	67	64					4		38	319
8:15 AM		56	16	66	50					6		31	225
8:30 AM		74	9	52	34					2		48	219
8:45 AM		62	7	63	45					6		53	236
9:00 AM		50	15	42	44					0		31	182
9:15 AM		44	11	46	37					3		29	170
9:30 AM		34	2	45	20					3		23	127
9:45 AM		28	7	28	28					5		17	113
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	725	156	620	453	0	0	0	0	45	0	431	2430
APPROACH %'s :	0.00%	82.29%	17.71%	57.78%	42.22%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	9.45%	0.00%	90.55%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	364	73	250	205	0	0	0	0	22	0	176	1090
PEAK HR FACTOR :		0.748			0.868			0.000			0.811		0.854

CONTROL : 1-Way Stop (WB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5092_011 **Day:** TUESDAY

City: City of Rancho Palos Verdes **Date:** 3/22/2011

PM

NS/EW Streets:	Miraleste Dr			Miraleste Dr			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	1	1	0	0	0	0	0	1	0	
3:00 PM		57	15	42	69					9		35	227
3:15 PM		56	8	31	84					8		40	227
3:30 PM		49	12	47	75					7		29	219
3:45 PM		59	4	39	67					10		37	216
4:00 PM		54	5	47	67					13		33	219
4:15 PM		42	8	39	59					10		32	190
4:30 PM		47	6	31	63					12		36	195
4:45 PM		40	15	37	63					11		36	202
5:00 PM		59	15	36	59					16		33	218
5:15 PM		60	8	39	67					12		44	230
5:30 PM		48	6	48	71					12		35	220
5:45 PM		53	9	30	66					16		31	205
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	624	111	466	810	0	0	0	0	136	0	421	2568
APPROACH %'s :	0.00%	84.90%	15.10%	36.52%	63.48%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	24.42%	0.00%	75.58%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	0	221	39	159	295	0	0	0	0	34	0	141	889
PEAK HR FACTOR :		0.903			0.930			0.000			0.911		0.979

CONTROL : 1-Way Stop (WB)

ITM Peak Hour Summary

Prepared by:

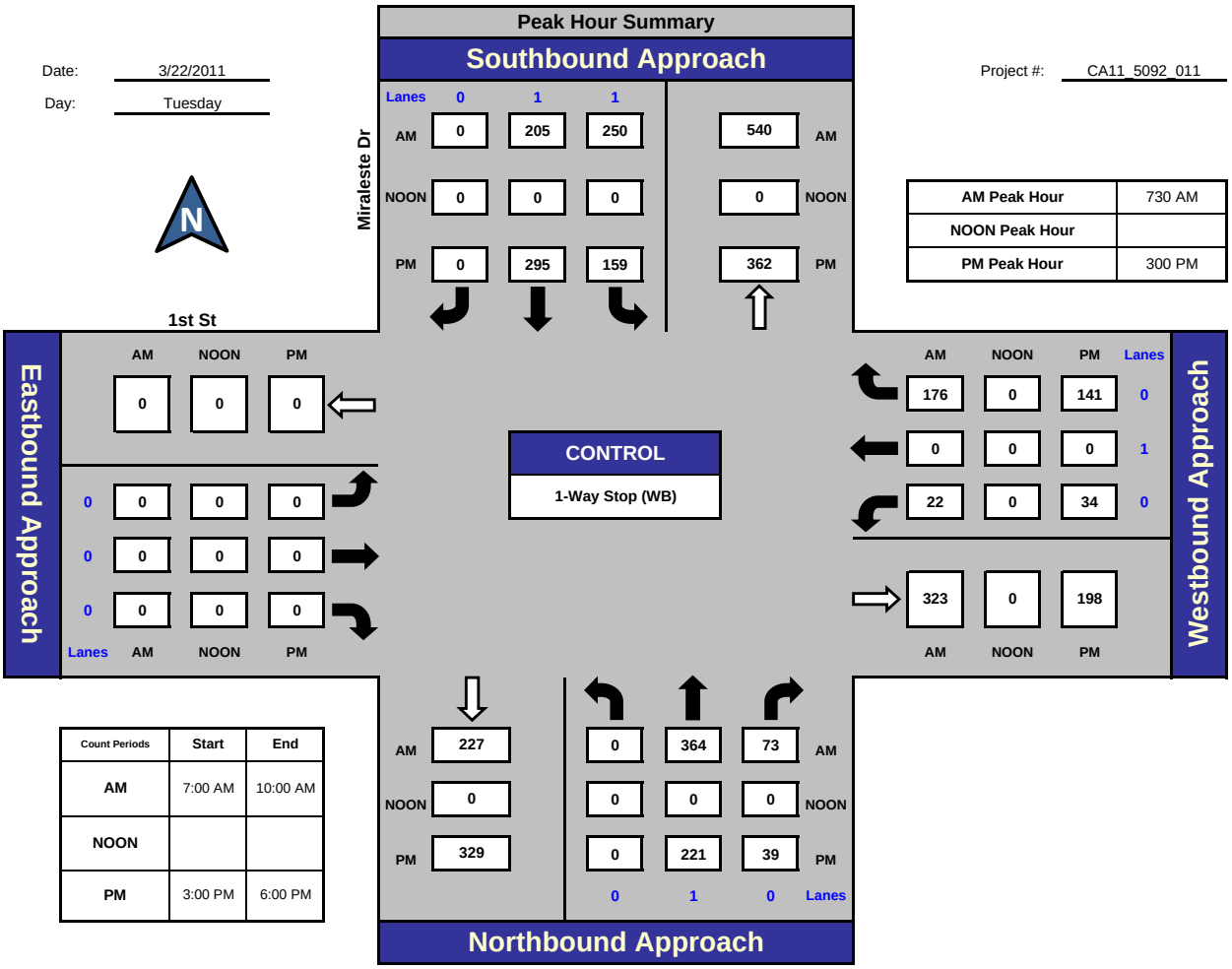
National Data & Surveying Services

Miraleste Dr and 1st St , City of Rancho Palos Verdes

Date: 3/22/2011

Day: Tuesday

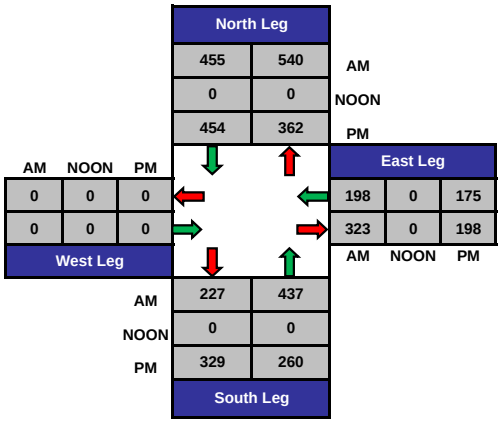
Project #: CA11_5092_011



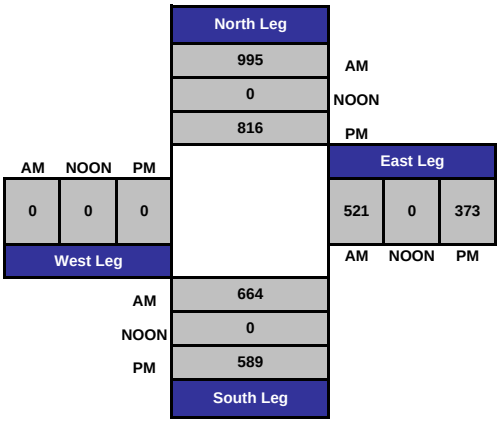
AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	300 PM

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5092_007 **Day:** TUESDAY

City: City of Rancho Palos Verdes **Date:** 3/22/2011

AM

NS/EW Streets:	Western Ave			Western Ave			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	0	1	1	0	1	1	1	
7:00 AM	5	173	128	16	99	3	11	44	5	49	23	21	577
7:15 AM	0	241	109	16	140	9	12	58	10	44	20	28	687
7:30 AM	4	338	133	22	184	8	19	72	5	64	39	58	946
7:45 AM	2	309	142	41	284	16	18	83	6	79	47	57	1084
8:00 AM	3	325	177	41	298	12	16	66	7	75	26	55	1101
8:15 AM	3	249	103	40	219	13	19	69	2	61	24	34	836
8:30 AM	5	244	108	30	208	17	11	39	4	72	38	39	815
8:45 AM	5	204	98	28	188	7	18	65	9	60	47	21	750
9:00 AM	5	224	106	27	155	9	11	51	7	42	25	23	685
9:15 AM	2	230	83	31	186	13	11	52	5	49	19	20	701
9:30 AM	7	238	86	28	188	12	15	38	9	27	16	40	704
9:45 AM	4	214	62	33	163	6	6	35	4	48	15	44	634
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	45	2989	1335	353	2312	125	167	672	73	670	339	440	9520
APPROACH %'s :	1.03%	68.41%	30.56%	12.65%	82.87%	4.48%	18.31%	73.68%	8.00%	46.24%	23.40%	30.37%	

PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	12	1221	555	144	985	49	72	290	20	279	136	204	3967
PEAK HR FACTOR :		0.885			0.839			0.893			0.846		0.901

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5092_007 **Day:** TUESDAY

City: City of Rancho Palos Verdes **Date:** 3/22/2011

PM

NS/EW Streets:	Western Ave			Western Ave			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	0	1	1	0	1	1	1	
3:00 PM	8	220	76	43	276	19	13	38	8	88	34	63	886
3:15 PM	4	300	79	51	341	19	16	27	5	82	41	48	1013
3:30 PM	3	254	80	55	317	18	15	43	5	77	21	43	931
3:45 PM	5	247	84	53	296	21	11	35	5	70	43	41	911
4:00 PM	6	220	89	44	331	17	15	50	2	85	30	33	922
4:15 PM	2	279	90	38	305	17	8	43	1	84	33	41	941
4:30 PM	0	231	87	45	357	14	8	31	7	86	34	40	940
4:45 PM	7	264	94	45	341	16	11	40	7	84	39	43	991
5:00 PM	5	242	94	44	314	18	15	43	5	91	33	46	950
5:15 PM	3	218	95	28	380	16	6	39	4	95	49	35	968
5:30 PM	3	240	80	49	375	17	17	31	7	101	39	40	999
5:45 PM	2	247	74	44	330	20	10	36	2	89	36	29	919
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	48	2962	1022	539	3963	212	145	456	58	1032	432	502	11371
APPROACH %'s :	1.19%	73.46%	25.35%	11.43%	84.07%	4.50%	22.00%	69.20%	8.80%	52.49%	21.97%	25.53%	

PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	18	964	363	166	1410	67	49	153	23	371	160	164	3908
PEAK HR FACTOR :		0.921			0.931			0.893			0.965		0.978

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

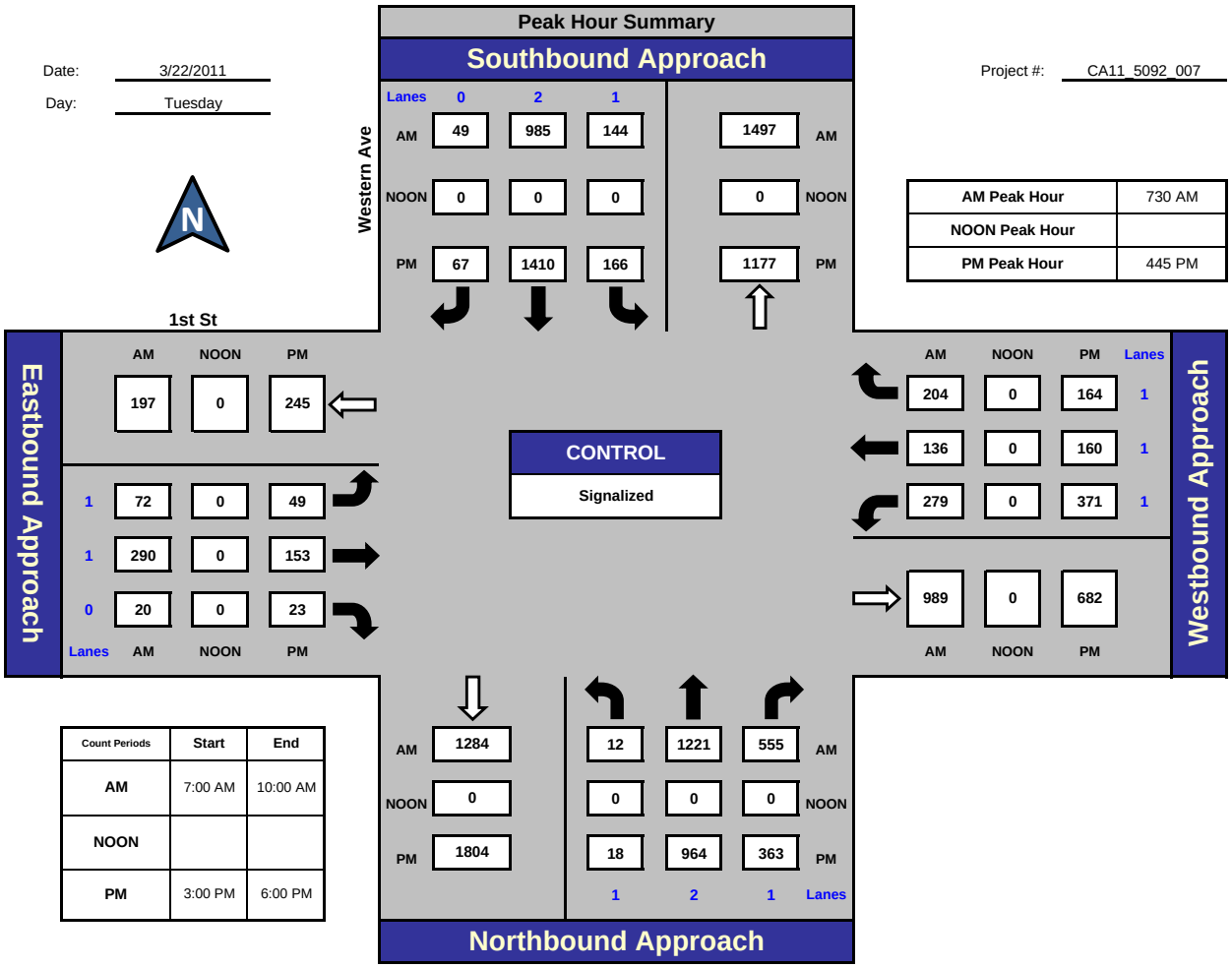
National Data & Surveying Services

Western Ave and 1st St , City of Rancho Palos Verdes

Date: 3/22/2011

Day: Tuesday

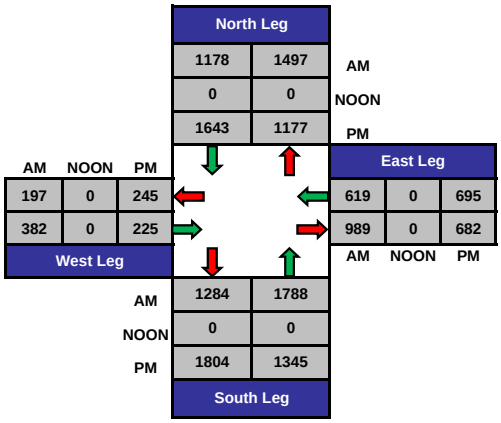
Project #: CA11_5092_007



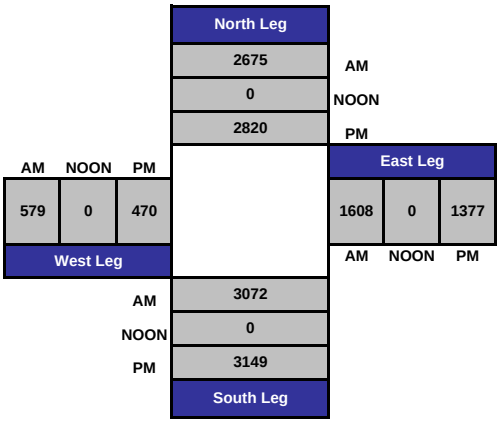
AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Pedestrian Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5092-007
N/S Street: Western Ave
E/W Street: 1st St
DATE: 3/22/2011 DAY: Tuesday
CITY: Rancho Palos Verdes

AM	6
NOON	0
PM	3

1	AM
0	NOON
11	PM

AM	NOON	PM
4	0	4

NORTH LEG

AM	NOON	PM
4	0	7

WEST LEG

EAST LEG

4	0	4
AM	NOON	PM

SOUTH LEG

15	0	2
AM	NOON	PM

AM	14
NOON	0
PM	10

11	AM
0	NOON
13	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Bicycle Count

	Start:	End:
AM	7:00	10:00
NOON		
PM	15:00	18:00

PROJECT#: 11-5092-007
N/S Street: Western Ave
E/W Street: 1st St
DATE: 3/22/2011 DAY: Tuesday
CITY: Rancho Palos Verdes

AM	2
NOON	0
PM	0

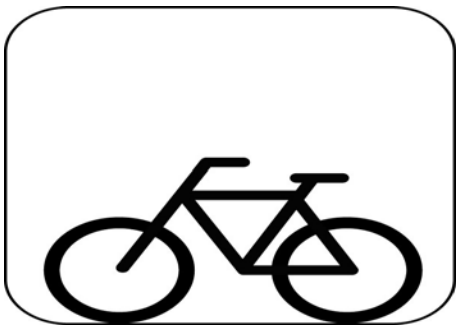
4	AM
0	NOON
6	PM

AM	NOON	PM
0	0	1

NORTH LEG

AM	NOON	PM
0	0	1

WEST LEG



EAST LEG

0	0	1
AM	NOON	PM

SOUTH LEG

2	0	1
AM	NOON	PM

AM	6
NOON	0
PM	6

0	AM
0	NOON
3	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 11-5092-007
N/S Street: Western Ave
E/W Street: 1st St
DATE: 3/22/2011 DAY: Tuesday
CITY: Rancho Palos Verdes

A M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	4	0	2	0	0	3
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	1	0	0	4	8	1	1	0
7:45 AM	1	0	1	0	0	1	0	0
8:00 AM	0	0	0	1	0	0	0	0
8:15 AM	0	0	1	0	0	0	1	0
8:30 AM	1	0	0	1	1	0	0	0
8:45 AM	0	0	1	0	0	0	0	0
9:00 AM	0	0	2	2	3	0	0	0
9:15 AM	0	0	1	0	0	0	1	0
9:30 AM	2	1	1	3	0	2	0	0
9:45 AM	1	0	3	0	1	0	1	1
TOTALS	**6**	**1**	**14**	**11**	**15**	**4**	**4**	**4**

BIKES

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	1	1	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	1	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0
9:15 AM	0	1	0	0	2	0	0	0
9:30 AM	0	2	4	0	0	0	0	0
9:45 AM	2	0	0	0	0	0	0	0
TOTALS	**2**	**4**	**6**	**0**	**2**	**0**	**0**	**0**

P M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	1	0	0	2	0	0	0	0
3:15 PM	0	0	1	1	0	0	0	0
3:30 PM	1	1	1	3	1	1	1	0
3:45 PM	0	1	3	2	0	0	0	0
4:00 PM	0	1	0	1	0	1	0	0
4:15 PM	1	1	0	0	0	1	0	0
4:30 PM	0	2	2	1	1	0	2	0
4:45 PM	0	0	0	0	0	0	0	1
5:00 PM	0	0	1	2	0	1	1	0
5:15 PM	0	5	1	0	0	1	0	3
5:30 PM	0	0	1	1	0	0	0	0
5:45 PM	0	0	0	0	0	2	0	0
TOTALS	**3**	**11**	**10**	**13**	**2**	**7**	**4**	**4**

BIKES

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	1	0
3:45 PM	0	1	0	1	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	2	0	1	0	1	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	1	1	0	0	0	0	0
5:00 PM	0	0	2	0	0	0	0	0
5:15 PM	0	1	0	0	1	0	0	1
5:30 PM	0	1	3	1	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**6**	**6**	**3**	**1**	**1**	**1**	**1**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5092_008 **Day:** TUESDAY

City: City of Rancho Palos Verdes **Date:** 3/22/2011

AM

NS/EW Streets:	Crest Rd/Marymount College Dwy			Crest Rd/Marymount College Dwy			Palos Verdes Dr East			Palos Verdes Dr East			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	1	1	2	0	1	2	1	
7:00 AM	1	0	3	22	1	5	3	29	5	3	20	8	100
7:15 AM	1	0	1	30	1	4	1	33	4	2	22	14	113
7:30 AM	0	0	2	26	0	3	1	37	4	11	29	9	122
7:45 AM	1	0	1	26	0	3	6	63	8	24	22	16	170
8:00 AM	0	0	4	22	0	5	10	56	22	55	37	35	246
8:15 AM	3	0	3	39	0	6	12	33	18	25	20	44	203
8:30 AM	2	0	5	98	0	21	30	28	7	18	19	68	296
8:45 AM	2	0	5	95	2	14	8	40	6	11	18	33	234
9:00 AM	3	1	7	24	0	5	2	30	11	17	20	11	131
9:15 AM	1	0	8	13	0	1	5	19	10	27	16	10	110
9:30 AM	2	1	7	17	1	2	1	21	10	32	17	6	117
9:45 AM	4	0	12	13	0	1	1	21	9	29	14	14	118
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	20	2	58	425	5	70	80	410	114	254	254	268	1960
APPROACH %'s :	25.00%	2.50%	72.50%	85.00%	1.00%	14.00%	13.25%	67.88%	18.87%	32.73%	32.73%	34.54%	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	7	0	17	254	2	46	60	157	53	109	94	180	979
PEAK HR FACTOR :	0.857			0.634			0.767			0.754			0.827

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA11_5092_008 **Day:** TUESDAY

City: City of Rancho Palos Verdes **Date:** 3/22/2011

PM

NS/EW Streets:	Crest Rd/Marymount College Dwy			Crest Rd/Marymount College Dwy			Palos Verdes Dr East			Palos Verdes Dr East			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	1	1	2	0	1	2	1	
3:00 PM	2	1	7	95	0	16	13	47	5	9	35	47	277
3:15 PM	4	0	12	33	1	11	8	49	2	3	73	37	233
3:30 PM	2	0	11	24	0	5	8	25	2	12	40	20	149
3:45 PM	4	1	14	24	1	3	5	32	4	13	36	25	162
4:00 PM	3	0	32	16	0	4	6	40	5	15	21	29	171
4:15 PM	9	0	13	13	1	8	5	36	5	7	29	27	153
4:30 PM	5	0	6	31	1	5	7	36	4	7	26	15	143
4:45 PM	4	1	9	23	0	7	7	29	2	4	38	21	145
5:00 PM	7	0	21	17	0	3	1	22	2	6	32	19	130
5:15 PM	6	2	20	15	0	9	6	26	3	8	35	18	148
5:30 PM	3	1	17	15	0	8	6	34	6	4	35	20	149
5:45 PM	7	1	27	8	0	6	1	32	1	10	35	32	160
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	56	7	189	314	4	85	73	408	41	98	435	310	2020
APPROACH %'s :	22.22%	2.78%	75.00%	77.92%	0.99%	21.09%	13.98%	78.16%	7.85%	11.63%	51.60%	36.77%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	12	2	44	176	2	35	34	153	13	37	184	129	821
PEAK HR FACTOR :		0.763			0.480			0.769			0.774		0.741

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Crest Rd/Marymount College Dwy and Palos Verdes Dr East , City of Rancho Palos Verdes

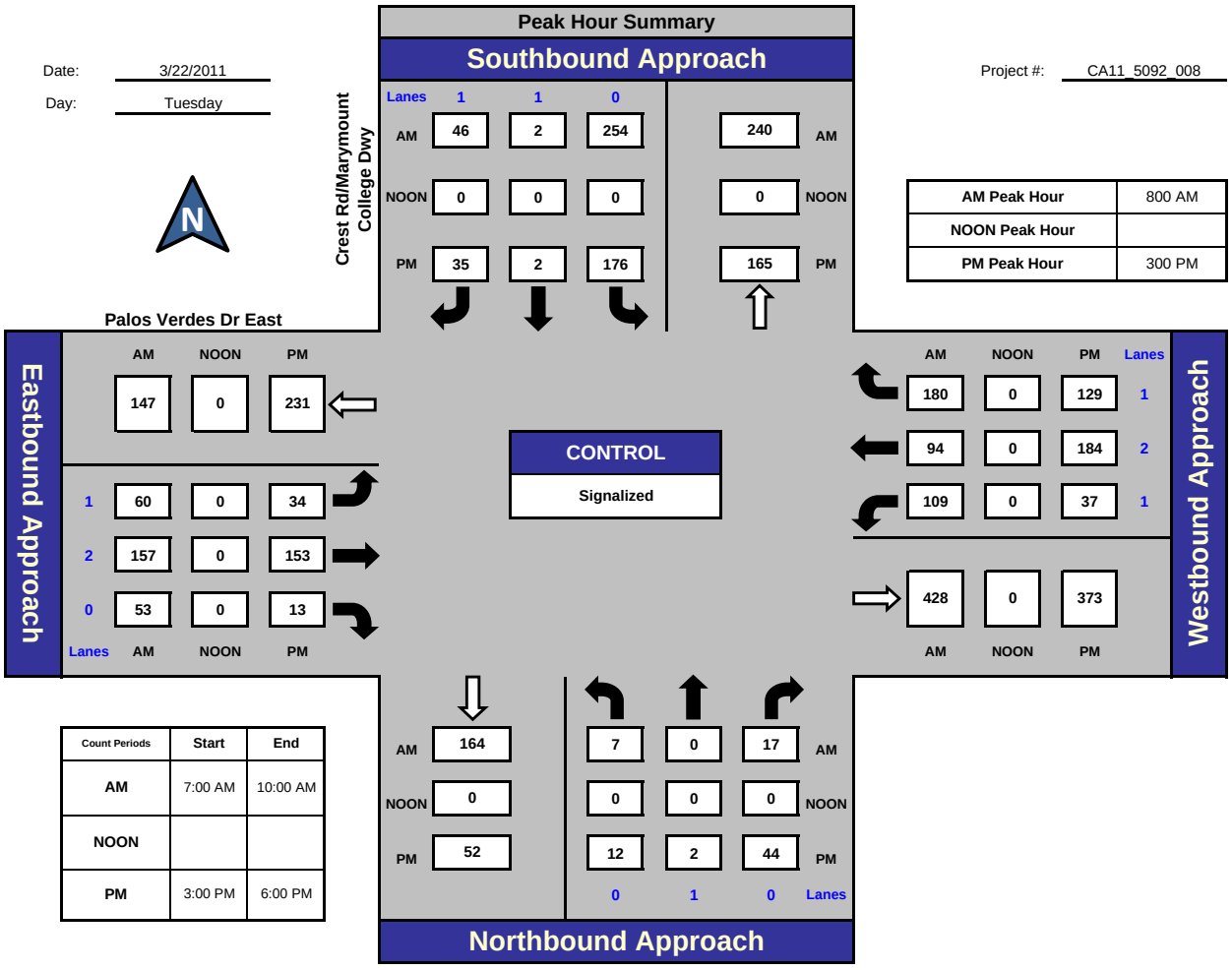
Date: 3/22/2011

Day: Tuesday

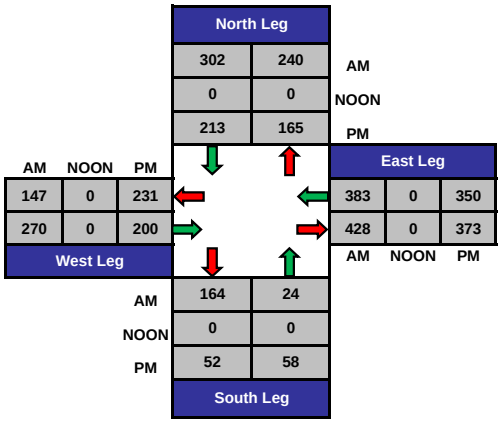
Project #: CA11_5092_008

AM Peak Hour	800 AM
NOON Peak Hour	
PM Peak Hour	300 PM

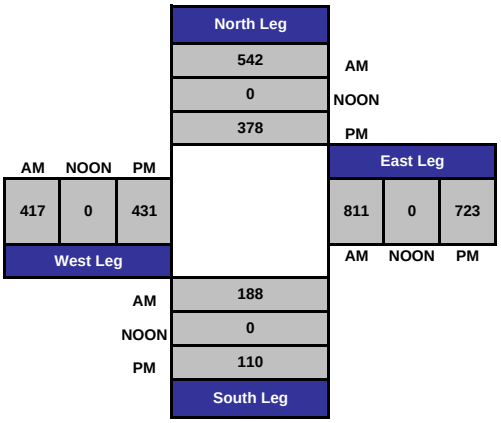
Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	3:00 PM	6:00 PM



Total Ins & Outs



Total Volume Per Leg



APPENDIX - D

KOA CORPORATION
PLANNING & ENGINEERING

NO.	PROJECT STATUS	PROJECT NAME ADDRESS/LOCATION	LAND USE DATA			WEEKDAY						
						DAILY TRIP ENDS VOLUMES	AM PEAK HOUR VOLUMES			PM PEAK HOUR VOLUMES		
			LAND-USE	SIZE			IN	OUT	TOTAL	IN	OUT	TOTAL
City of Los Angeles												
1	Proposed	ENV-2010-1216-CE	Condominium	2	DU	12	0	1	1	1	0	1
		1401 W. 253rd Street	Existing Commercial	-3,500	GSF	-150	-2	-2	-4	-6	-7	-13
2	Proposed	ENV-2009-1034-EAF, HRB09-003	Private School (K-8)	225	Students	2,030	112	91	203	Nom.	Nom.	0
		1717 W. 255th Street	Existing Private School (K-8)	-47	Students	-420	-23	-19	-42	Nom.	Nom.	0
			Existing Day Care Center	-20	Students	-90	-8	-8	-16	-8	-8	-16
3	Proposed	ENV-2009-3936-EAF, HRB10-001	Day Care	84	Students	376	36	31	67	32	37	69
		25621 S. Normandie Avenue										
4	Under Construction	ENV-2006-4723-EA	Medical Office Building	303,000	GSF	2,481	139	37	176	69	187	256
		Kaiser Permanente South Bay Master Plan	Warehouse	42,500	GSF							
		25825 Vermont Avenue	Hospital	260	Beds							
5	Proposed	CPC-2006-10244-ZC	Condominium	57	DU	331	4	21	25	20	10	30
		1450 W. Pacific Coast Highway										
6	Proposed	ENV-2007-804-EAF	Condominium	30	DU	174	2	11	13	11	5	16
		25941 S. Belle Porte Avenue										
7	Proposed	ENV-2008-95-EAF	Apartment	8	DU	53	1	3	4	3	2	5
		1616 W. 260th Street										
8	Proposed	ENV-2005-5459-MND, TT-63729	Condominium	44	DU	256	3	16	19	15	8	23
		26378 S. Vermont Avenue										
9	Proposed	HRB10-005	Affordable Housing	76	DU	442	6	27	33	27	13	40
		1524 Palos Verdes Drive North										
10	Proposed	ENV-2006-9652-MN	Private Elementary School	128	Students	317	63	41	104	9	13	22
		931 Frigate Avenue										
11	Under Construction	Community Plan 97-0050-CPU	Condominium	115	DU	668	9	42	51	40	20	60
		401 Hawaiian Avenue	Apartment	120	DU	798	12	49	61	48	26	74
			Single-Family Residential	76	DU	727	14	43	57	49	28	77
			Senior Housing	100	Occ. DU	348	5	8	13	10	6	16
12	Proposed	TRAPAC Container Terminal	Marine Terminal	57	Acres	2,100	128	79	207	86	124	210
		TRAPAC Container Expansion										
		Berths 136-147										
13	Proposed	Yang Ming Container Terminal	Marine Terminal	N/A		5,080	252	111	363	206	302	508
		Berths 121-131										
14	Proposed	ZA-2010-1604-CU	Self-Storage	44,341	GSF	111	4	3	7	6	6	12
		750 W. Basin Street										
15	Proposed	China Shipping Container Terminal	Marine Terminal	70	Acres	3,540	184	68	252	149	205	354
		China Shipping Line - Phases II and III										
16	Under Construction	ZA-2007-2966-ZV	Apartment	49	DU	326	5	20	25	20	10	30
		Toberman Village										
		201 N. Palos Verdes Street										
		Berths 97-108										
17	Proposed	Ocean View	Apartment	158	DU	1,051	16	65	81	64	34	98
		111 and 203-233 N. Harbor Boulevard	Retail	8,000	GLSF	344	5	3	8	15	15	30
			Less 50% Pass-By			-172	-3	-2	-4	-8	-8	-15

APPENDIX - D

KOA CORPORATION
PLANNING & ENGINEERING

NO.	PROJECT STATUS	PROJECT NAME ADDRESS/LOCATION	LAND USE DATA			WEEKDAY						
						DAILY TRIP ENDS VOLUMES	AM PEAK HOUR VOLUMES			PM PEAK HOUR VOLUMES		
			LAND-USE	SIZE			IN	OUT	TOTAL	IN	OUT	TOTAL
City of Los Angeles												
18	Proposed	META Housing Corporation 303 S. Pacific Avenue	Senior Housing	70	DU	244	3	6	9	7	4	11
19	Under Construction	Port Police Station & Charter School 330 S. Centre Street	Office Police Headquarters Charter School	12,500 155 580	SF Employees Students	3,583	323	189	512	80	120	200
20	Proposed	ENV-2007-1514-EA 327 & 407 N. Harbor Boulevard	Condominium	94	DU	546	7	34	41	33	16	49
21	Proposed	San Pedro Waterfront (Bridge to Breakwater) of the Port of Los Angeles 425 S. Palos Verdes Street Berths 45-95	Cruise Ship Terminal Retail Restaurant Conference Center Warehouse R&D Site Public Open Space	2 175,000 125,000 75,000 70,000 13 18	Terminals GSF GSF GSF GSF Acres Acres	18,350	898	651	1,549	617	818	1,435
22	Proposed	2006-CEN-3299 Palos Verdes Street Housing 550 and 560 S. Palos Verdes Street	Townhouse Apartment Retail Less 50% Pass-By Restaurant Less 20% Pass-By	85 245 8,880 3,000	DU DU GLSF GSF	494 1,629 381 -191 381 -76	6 25 5 -3 18 -4	31 100 4 -2 17 -3	37 125 9 -5 35 -7	29 99 16 -8 19 -4	15 53 17 -9 14 -3	44 152 33 -17 33 -7
23	Proposed	Sepia Homes 812 S. Pacific Avenue	Condominium	90	DU	523	7	33	40	31	16	47
24	Proposed	281 W. 8th Street	Townhouse Retail Less 50% Pass-By	72 7,000	DU GLSF	418 301 -151	5 4 -2	27 3 -2	32 7 -4	25 13 -7	12 13 -7	37 26 -13
25	Proposed	TT-68723-CN 255 W. 8th Street	Condominium Apartment	43 4	DU DU	250 27	3 0	16 2	19 2	15 1	7 1	22 2
26	Proposed	420-430 W. 9th Street	Condominium	25	DU	145	2	9	11	9	4	13
27	Proposed	ENV-2009-4097-CE Harbor Interfaith Services 678 W. 9th Street	Family Resource Center and Childcare Facilities	15,398	GSF	1,220	100	89	189	90	102	192
28	Proposed	AA-2008-2427-COC 576 W. 10th Street	Condominium	4	DU	23	0	2	2	1	1	2
29	Proposed	ZA-2008-4396-ZAA 1325 S. Beacon Street	Condominium	3	DU	17	0	1	1	1	1	2
30	Proposed	ENV-2008-1046-EAF 1831 S. Pacific Avenue	Convenience Market Less 50% Pass-By	2,700	GSF	1,993 -997	91 -46	90 -45	181 -91	72 -36	70 -35	142 -71
31	Proposed	West Channel/Cabrillo Miner Street and 22nd Street	Land Development	47	Acres	3,867	73	58	131	138	124	262
32	Proposed	ENV-2007-3326-EAF 2345 S. Gaffey Street	Apartment	7	DU	47	1	3	4	3	1	4
33	Proposed	AA-2010-1580-PMLA 906 W. 30th Street	Condominium	3	DU	17	0	1	1	1	1	2

APPENDIX - D

KOA CORPORATION
PLANNING & ENGINEERING

NO.	PROJECT STATUS	PROJECT NAME ADDRESS/LOCATION	LAND USE DATA			WEEKDAY						
						DAILY TRIP ENDS VOLUMES	AM PEAK HOUR VOLUMES			PM PEAK HOUR VOLUMES		
			LAND-USE	SIZE			IN	OUT	TOTAL	IN	OUT	TOTAL
City of Los Angeles												
34	Proposed	HRB08-001	High School	810	Students	1,385	231	109	340	49	56	105
		3200 S. Alma St	Adult Evening School	450	Students	540	Nom.	Nom.	0	35	19	54
35	Proposed	HRB10-006	Bank with Drive-Through	3,700	GSF	548	26	20	46	48	48	96
		1603 W. 25th Street	Less 20% Pass-By			-110	-5	-4	-9	-10	-10	-19
			Existing Auto Care Center	-1,046	GLSF	-40	-2	-1	-3	-2	-2	-4
36	Proposed	HRB10-009	Single-Family Residential	143	DU	7,468	112	459	571	458	241	699
		Ponte Vista at San Pedro	Condominium	600	DU							
			Apartment	392	DU							
			Park	2.8	Acres							
37	Proposed	HRB08-004	Condominium	458	DU	453	4	19	23	23	14	37
		511 S Harbor Blvd	Retail	5,000	GSF							
			Existing High-Turnover Restaurant	4,000	GSF							
38	Approved	Rolling Hills Preparatory Private School	Proposed K-12 Private School	900	Students	2232	445	284	729	66	87	153
		South side of Palos Verdes Dr. N. west of Normandie Ave/Gaffey Street	Existing K-12 Private School	-265	Students	-657	-131	-84	-215	-19	-26	-45
39		West of Gaffey St and South of Capitol Dr	Single-Family Residential	134	DU	1,282	25	75	101	85	50	135
40	Proposed	HRB11-004	Redevelop existing warehouses on Berths 56-60 and 70-71 to house Research & Development Facilities including: laboratories, teaching facilities, a learning center, R&D incubator sites, a large wave tank, and 12 boat slips for research vessels	-	-	2,926	318	66	384	60	283	343
		2200 Signal St, San Pedro, CA										

Notes:

Source: City of Los Angeles City Planning Department, City of Los Angeles Department of Transportation (LADOT)

Trip generation obtained from LADOT and other traffic studies. For related projects obtained from LADOT, the directional splits are based on the ITE Trip Generation, 8th Edition book.

APPENDIX - D

KOA CORPORATION
PLANNING & ENGINEERING

NO.	PROJECT STATUS	PROJECT NAME ADDRESS/LOCATION	LAND USE DATA			WEEKDAY						
						DAILY TRIP ENDS VOLUMES	AM PEAK HOUR VOLUMES			PM PEAK HOUR VOLUMES		
			LAND-USE	SIZE			IN	OUT	TOTAL	IN	OUT	TOTAL
City of Rancho Palos Verdes												
1	Partially Built	Trump National Golf Club - Palos Verdes Drive South/west of Shoreline Park	Single-Family Residential	54	DU	517	10	31	41	35	20	55
			Affordable Housing (5 Homes Built)	4	DU	38	1	2	3	3	1	4
2	Proposed	The Annenberg Project at Lower Point Vicente 31501 Palos Verdes Drive West				596	81	30	111	51	59	110
3	Partially Built	Ocean Front Estates Seaward side of Palos Verdes Drive West terminus of Hawthorne Boulevard	Single-Family Residential (74 Homes Built)	6	DU	57	1	4	5	4	2	6
4	Partially Built	TTM No. 52666 3200 Palos Verdes Drive West	Single-Family Residential (10 Homes Built)	3	DU	29	1	1	2	2	1	3
5	Proposed	Marymount College Facilities Expansion	Junior College Bldg Expansion	77,504	SF	1,931	149	51	200	83	92	175
		30800 Palos Verdes Drive East	Demolish Existing Building	-18,022	SF							
		(793 Student Enrollment Cap with 250 student Bachelor of Arts Degree Program and 150 student Weekend Enrollment)	BA Degree Program (University)	250	Students							
			Existing Junior College	-250	Students							
			Jr. College Weekend Enrollment	67	Students							
6	Permit Expired 10/09	Hawthorne/Crest Office Building 29941 Hawthorne Boulevard	Office	7,232	GSF	80	10	1	11	2	9	11
7	Under Construction	Peninsula Community Church 5640 Crestridge Road	Church	2,675	GSF	24	1	1	2	1	1	2
8	Proposed	Green Hills Memorial Park Master Plan 27501 S. Western Avenue	Cemetary	27.3	Acres	129	4	1	5	8	15	23
9	Approved	Highridge Condominium Project 28220 Highridge Road	Condominium	28	DU	163	2	10	12	10	5	15
10	Approved	St. John Fisher Church Expansion 5488 Crest Road	Day Care Center Church + Other Uses	40	Students	251	21	18	39	18	23	41
11	Under Construction	Palos Verdes Art Center 5504 Crestridge	Remodel	-	-	-	-	-	-	-	-	-
12	Proposed	Zone 2 Landslide Moratorium Ordinance Revision North of Palos Verdes Drive between Narcissa Drive and Peppertree Drive	Single-Family Residential	47	DU	450	9	26	35	30	17	47
13	Approved	Chevron Gas Station & Car Wash - 27774 Hawthorne Boulevard	Gas Station With Convenience	1,044	GSF	1,014	42	41	83	51	51	101
14	MND	Lower Hesse Park Improvement	Park Expansion	-	-	-	-	-	-	-	-	-
15	MND	Grandview Park	Park Expansion	-	-	-	-	-	-	-	-	-

Notes:

Source: City of Rancho Palos Verdes Planning Department

Trip generation based on trip rates from ITE Trip Generation book, 8th Edition and other traffic studies.

For retail use, the AM peak hour trip generation rate was obtained from SANDAG Traffic Generators, May 2003.

APPENDIX - D

KOA CORPORATION
PLANNING & ENGINEERING

NO.	PROJECT STATUS	PROJECT NAME ADDRESS/LOCATION	LAND USE DATA			WEEKDAY						
						DAILY TRIP ENDS VOLUMES	AM PEAK HOUR VOLUMES			PM PEAK HOUR VOLUMES		
			LAND-USE	SIZE			IN	OUT	TOTAL	IN	OUT	TOTAL
City of Rolling Hills Estates												
1	Approved	627 Deep Valley Drive	Condominium	58	DU	337	4	22	26	20	10	30
			Retail	5,810	GSF	257	5	3	8	7	9	16
			Total			594	9	25	34	27	19	46
2	Approved	Senior Condominium	Senior Condominium	16	DU	93	1	6	7	5	3	8
3	Approved	927 Deep Valley Drive	Condominium	75	DU	436	6	27	33	26	13	39
			Retail	2,000	SF	89	2	1	3	2	3	5
			Total			525	8	28	36	28	16	44
4	Approved	Silverdes Medical Office Project	Medical Office	22,247	GSF	886	44	12	56	23	62	85
			Office	4,166	GSF	56	7	1	8	1	7	8
			Total			942	51	13	64	24	69	93
5	Proposed	655 Deep Valley Drive and	Condominium	148	DU	860	11	54	65	52	25	77
			Retail	14,200	GLSF	629	11	8	19	17	21	38
			Total			1489	22	62	84	69	46	115
6	Approved	5883 Crest Road	Retail	5,760	GSF	50	6	1	7	1	6	7
7	Proposed	550 Deep Valley Drive	Condominium	66	DU	383	5	24	29	23	11	34
			Retail	16,620	GLSF	737	13	9	22	20	25	45
			Total			1120	18	33	51	43	36	79
8	Proposed	Butcher Ranch Subdivision	Single-Family Residential	13	DU	124	3	7	10	8	5	13
9	Proposed	Tanglewood Subdivision - Northeast corner of Tanglewood Lane and Rolling Hills Road	Single-Family Residential	3	DU	29	1	1	2	2	1	3
10	Proposed	627 Silver Spur Road	Condominium	70	DU	407	5	26	31	24	12	36
			Commercial	30,000	GSF	1330	24	16	40	36	45	81
			Total			1737	29	42	71	60	57	117
11	Approved	901 Silver Spur Road	Commercial	10,472	GSF	464	8	6	14	12	16	28
12	Proposed	Rolling Hills Covenant Church Expansion	Church	16,232	GSF	148	6	3	9	4	5	9
13	Proposed	Chandler Ranch/Rolling Hills Country Club - 26311 and 27000 Palos Verdes Drive East	Single-Family Residential	114	DU	1091	22	64	86	72	43	115
			Golf Course	61,411	GSF	8	0	0	0	1	0	1
			Total			1099	22	64	86	73	43	116

Notes:

Source: City of Rolling Hills Estates Planning Department

Trip generation based on trip rates from ITE Trip Generation book, 8th Edition and other traffic studies.

For retail use, the AM peak hour trip generation rate was obtained from SANDAG Traffic Generators, May 2003.

APPENDIX - D

KOA CORPORATION
PLANNING & ENGINEERING

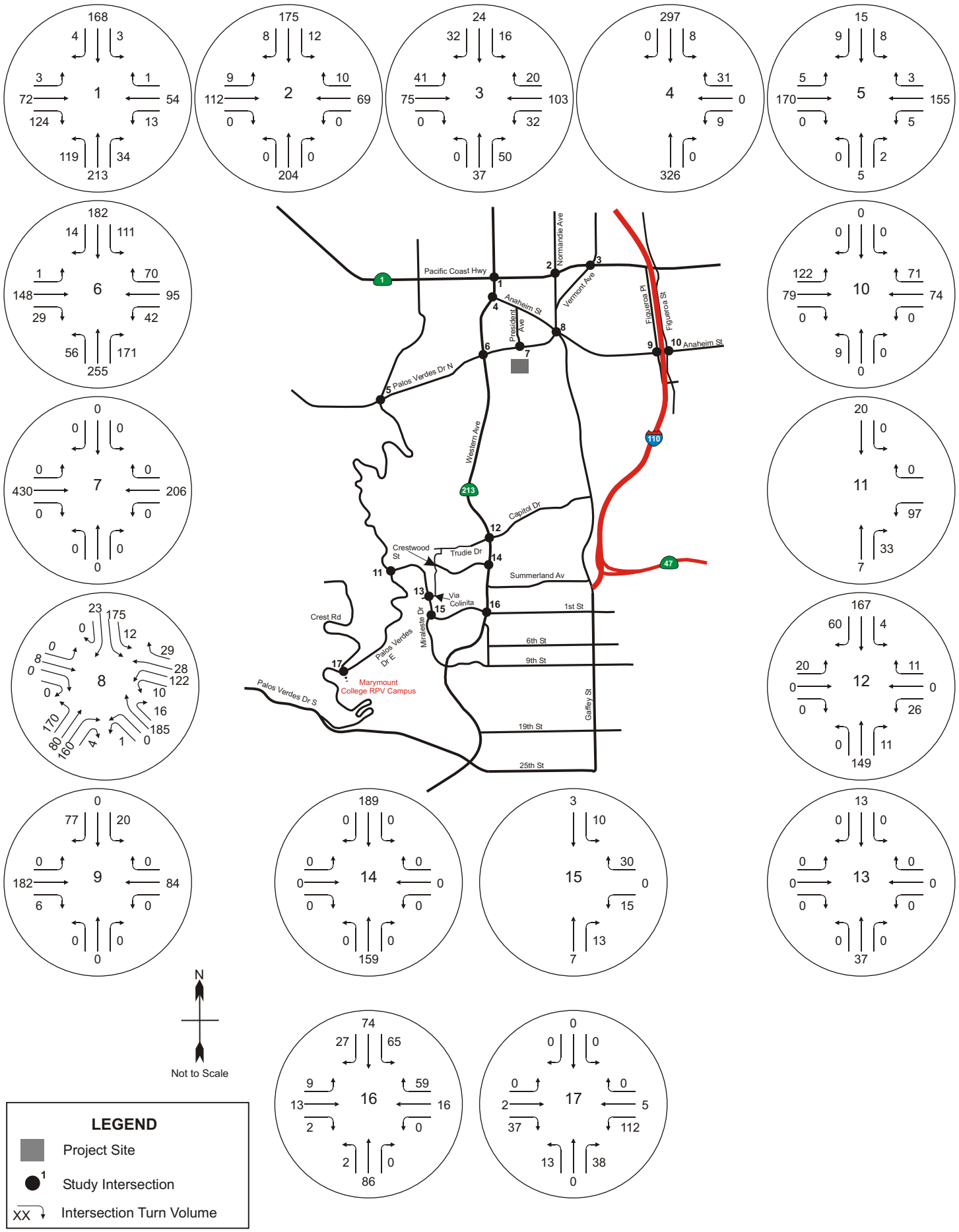
NO.	PROJECT STATUS	PROJECT NAME ADDRESS/LOCATION	LAND USE DATA			WEEKDAY						
						DAILY TRIP ENDS VOLUMES	AM PEAK HOUR VOLUMES			PM PEAK HOUR VOLUMES		
			LAND-USE	SIZE			IN	OUT	TOTAL	IN	OUT	TOTAL
City of Lomita												
1	Approved	CUP 242, TTM No. 067343 25316 Ebony Lane	Senior Housing	16	Occ. DU	56	1	1	2	2	1	3
2	Approved	SP 1003, HVP 73, TTM 53874 25829-25837 Eshelman Avenue	Condominium	16	DU	93	1	6	7	5	3	8
3	Proposed	SP 1014, TPM 61155 1837 and 1839 W. 257th Street	Condominium	3	DU	17	0	1	1	1	1	2
4	Approved	SP 1130 2266 Lomita Boulevard	Commercial	1,076	GSF	46	1	0	1	2	2	4
5	Built	SP No. 978 2040 & 2046 Lomita Boulevard	Commercial	14,330	GLSF	615	9	5	14	26	27	53
6	Proposed	CUP 268, TPM 066806, SP 1123 25322 Cypress Street	Condominium	3	DU	17	0	1	1	1	1	2
7	Appealed	SP 1049 2244 Pacific Coast Highway	Retail	18,285	GLSF	785	11	7	18	33	35	68
8	Approved	TTM No. 60165 25819-25 Eshelman Avenue	Senior Housing	20	Occ. DU	70	1	2	3	2	1	3
9	Approved	SP No. 1096 Southeast corner of Western Avenue and 262nd Street	Office	11,100	GSF	122	15	2	17	3	14	17

Notes:

City of Lomita Planning Department

Trip generation based on trip rates from ITE Trip Generation book, 8th Edition and other traffic studies.

For retail use, the AM peak hour trip generation rate was obtained from SANDAG Traffic Generators, May 2003.

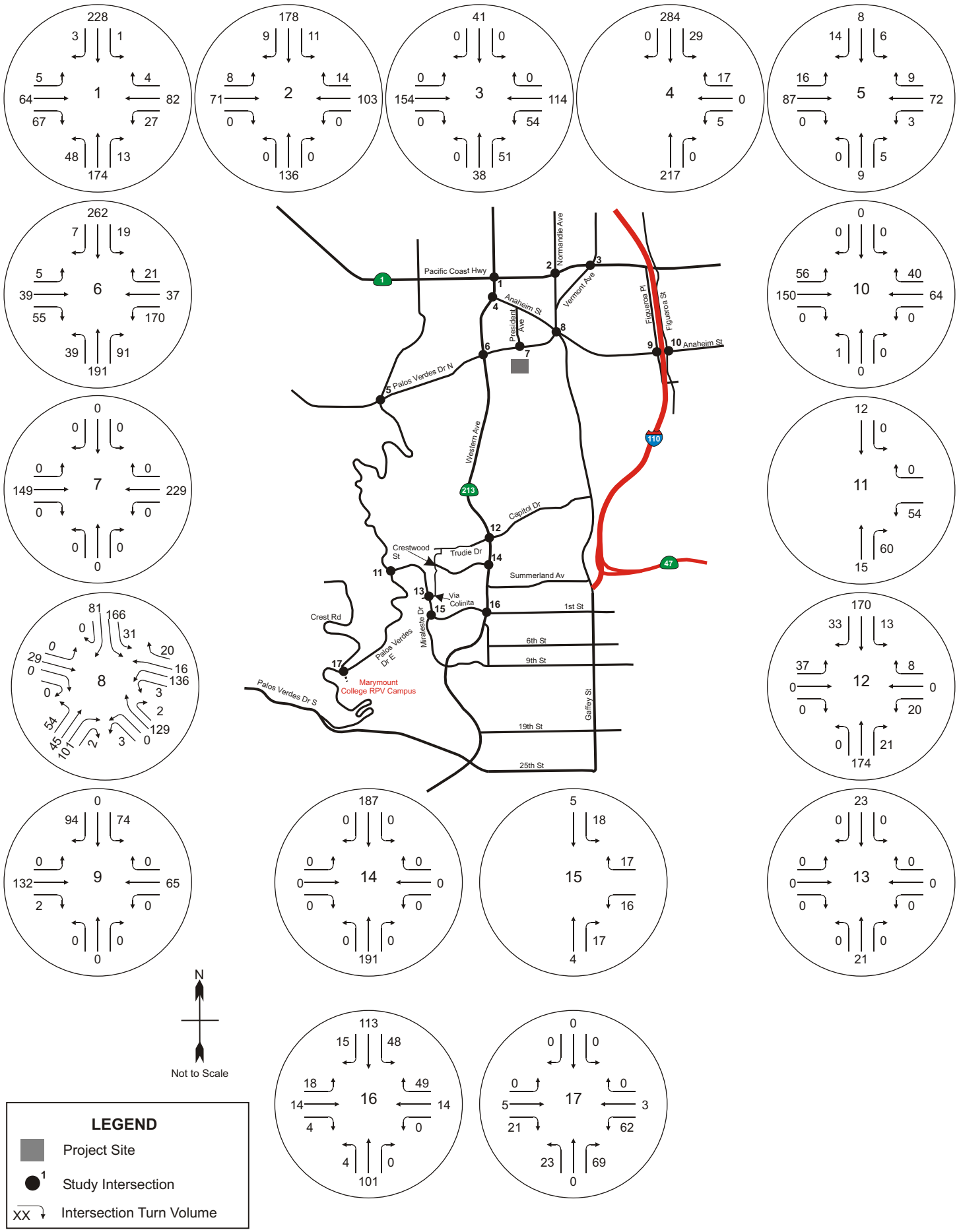


N

Not to Scale

LEGEND

- Project Site
- 1 Study Intersection
- XX Intersection Turn Volume



KOA CORPORATION
PLANNING & ENGINEERING

Marymount College San Pedro Campus - Traffic Study — Appendix D

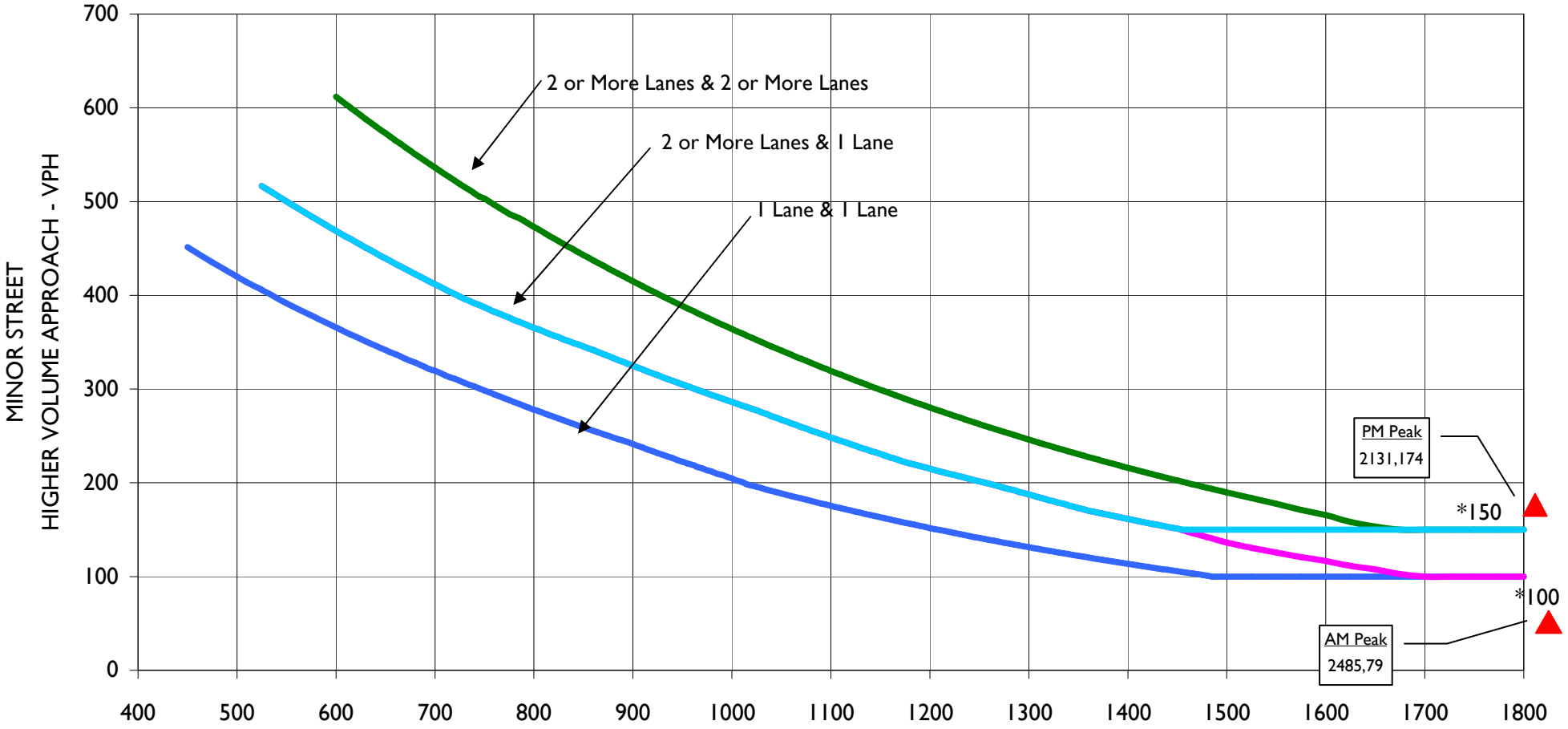
Related Project Only PM Peak Hour Turn Volumes

Warrant 3 - Peak Hour Volume – This warrant determines if the traffic volumes on the minor street approach suffers undue delay in entering or crossing the major street for at least one hour of the day.

The following pages illustrate the graphs for the Peak Hour Volume Warrant. The results show that traffic signal Warrant 3 is satisfied for the intersection of President Avenue/Palos Verdes Drive North for the Existing Plus Project and Future With Project conditions, and for the intersection of Palos Verdes Drive East and Miraleste Drive for all conditions including Existing, Existing Plus Project, Future Without Project and Future With Project.

KOA CORPORATION
PLANNING & ENGINEERING

Palos Verdes Drive North & President Avenue
AM(PM) Peak hour Traffic Signal Warrant Based on
California Manual on Uniform Traffic Control Devices, 2010
Scenario: Existing + Project



MAJOR STREET - TOTAL OF BOTH APPROACHES -
VEHICLES PER HOUR (VPH)

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

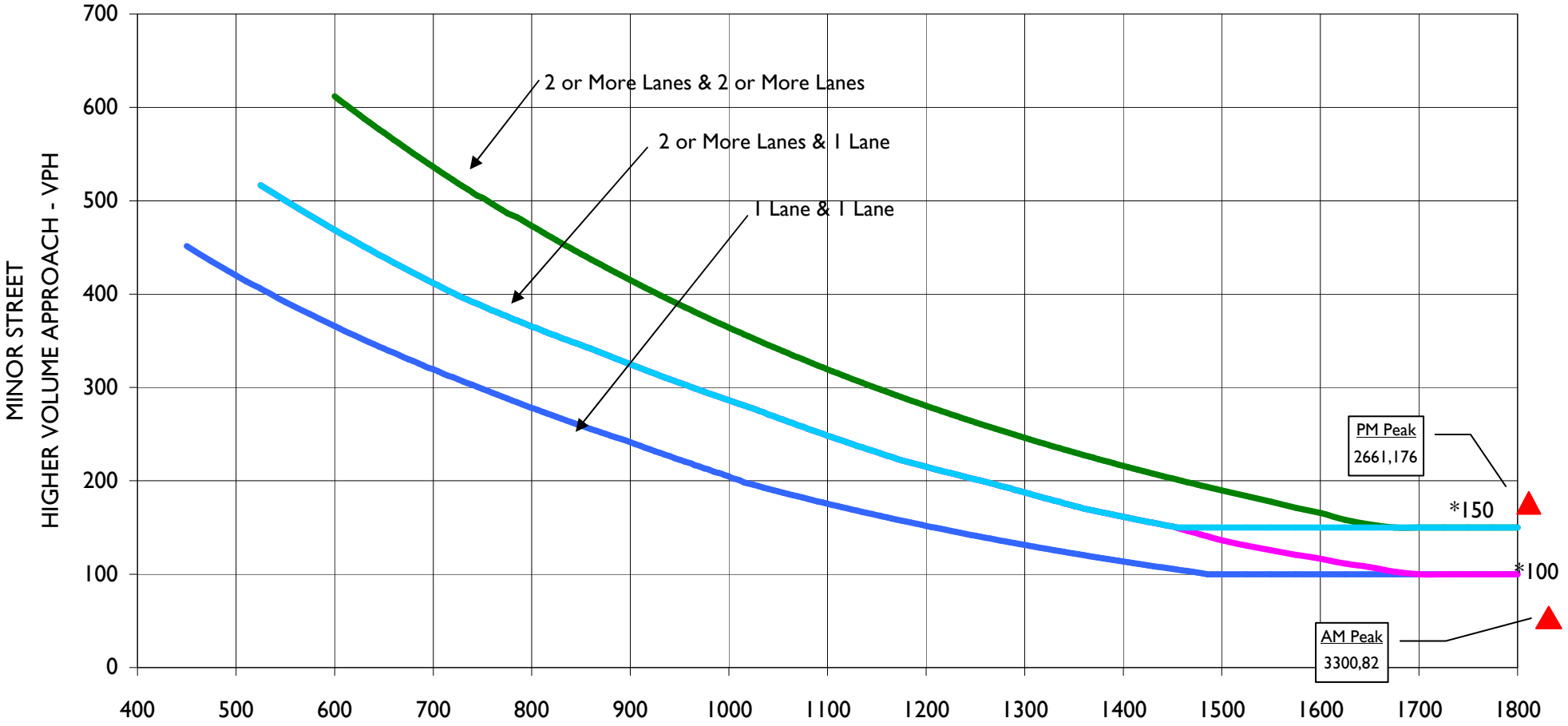
LEGEND

▲ Palos Verdes Drive North - 3 Lane(s) Major Street: 2485 (2131) VPH
President Avenue - 2 Lane(s) Minor Street: 79 (174) VPH

Peak Hour Volumes Satisfy Warrants? YES
**** AM peak hour warrant NOT satisfy***

KOA CORPORATION
PLANNING & ENGINEERING

Palos Verdes Drive North & President Avenue
AM(PM) Peak hour Traffic Signal Warrant Based on
California Manual on Uniform Traffic Control Devices, 2010
Scenario: Future With Project



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

LEGEND

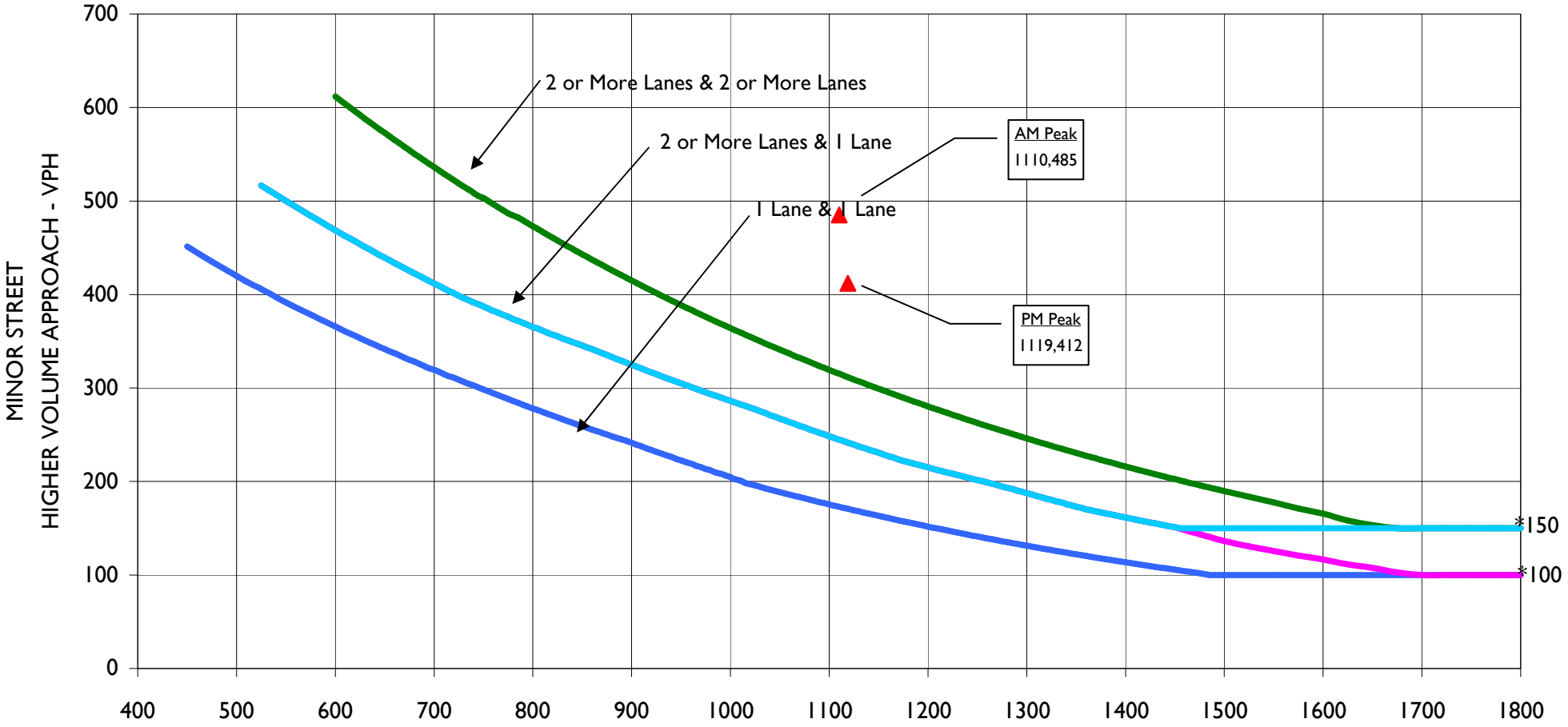
▲ Palos Verdes Drive North - 3 Lane(s) Major Street: 3300 (2661) VPH
President Avenue - 2 Lane(s) Minor Street: 82 (176) VPH

Peak Hour Volumes Satisfy Warrants? YES

**** AM peak hour warrant NOT satisfy***

KOA CORPORATION
PLANNING & ENGINEERING

Palos Verdes Drive East & Miraleste Drive
AM(PM) Peak hour Traffic Signal Warrant Based on
California Manual on Uniform Traffic Control Devices, 2010
Scenario: Existing



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

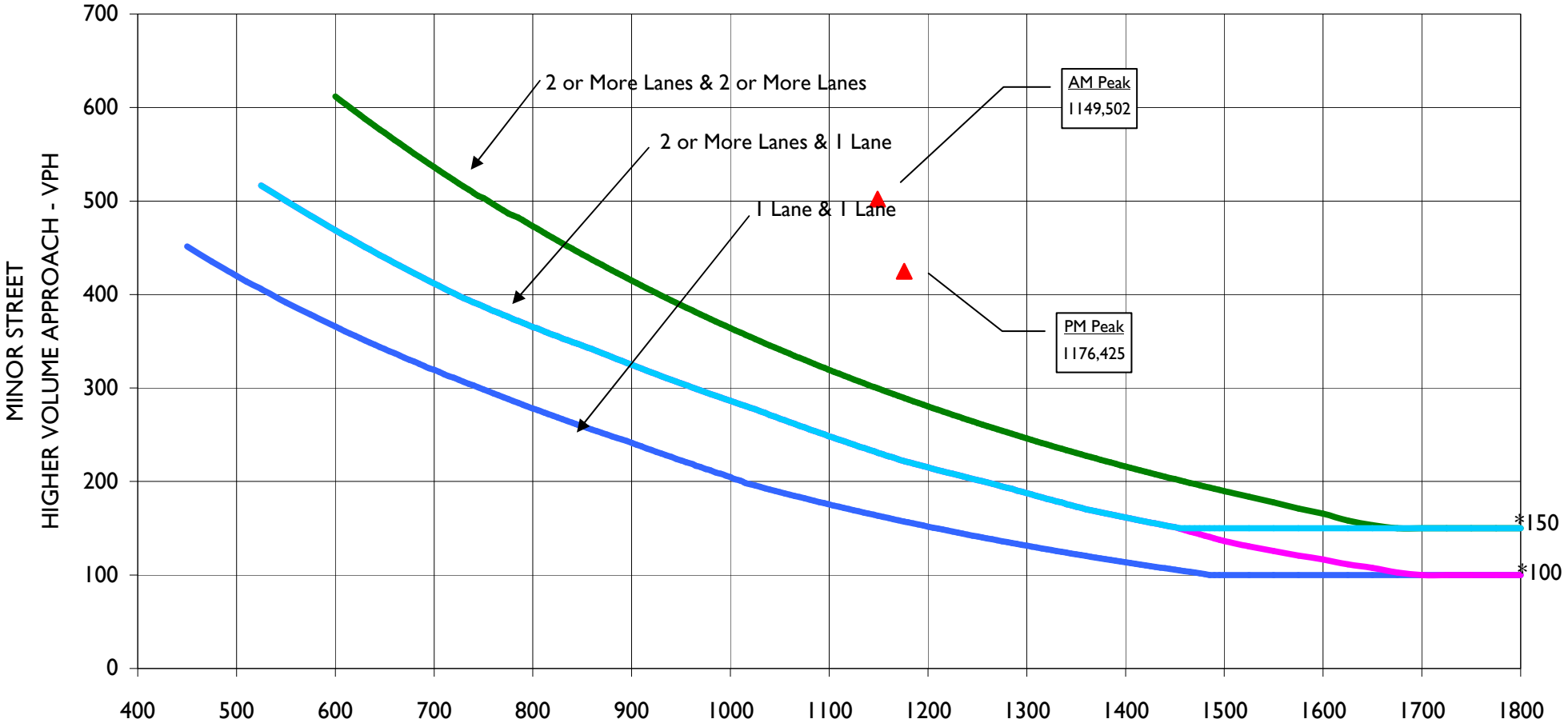
LEGEND

▲ Palos Verdes Drive East - 2 Lane(s) Major Street: 1110 (1119) VPH
Miraleste Drive - 2 Lane(s) Minor Street: 485 (412) VPH

Peak Hour Volumes Satisfy Warrants? YES

KOA CORPORATION
PLANNING & ENGINEERING

Palos Verdes Drive East & Miraleste Drive
AM(PM) Peak hour Traffic Signal Warrant Based on
California Manual on Uniform Traffic Control Devices, 2010
Scenario: Existing + Project



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

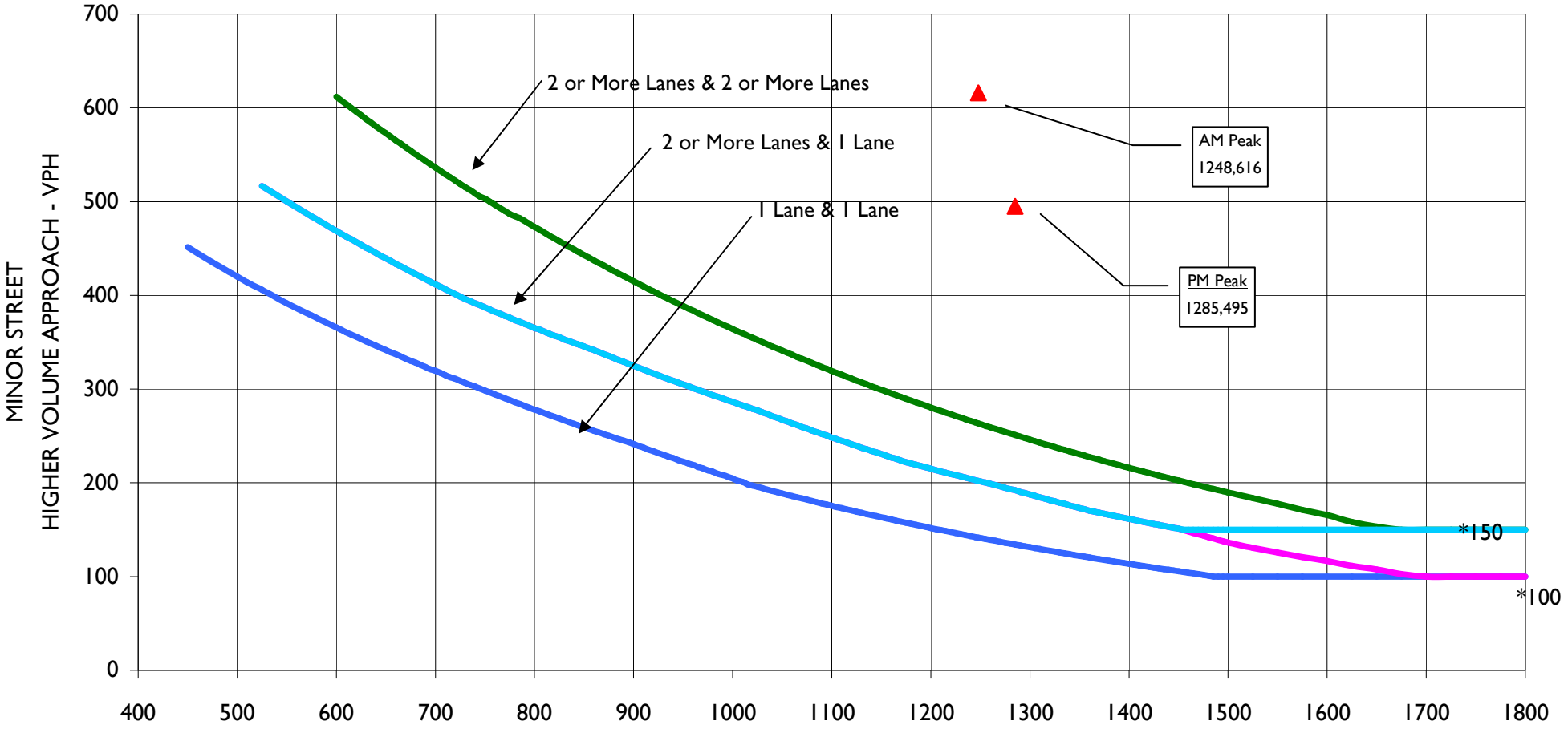
LEGEND

▲ Palos Verdes Drive East - 2 Lane(s) Major Street: 1149 (1176) VPH
Miraleste Drive - 2 Lane(s) Minor Street: 502 (425) VPH

Peak Hour Volumes Satisfy Warrants? YES

KOA CORPORATION
PLANNING & ENGINEERING

Palos Verdes Drive East & Miraleste Drive
AM(PM) Peak hour Traffic Signal Warrant Based on
California Manual on Uniform Traffic Control Devices, 2010
Scenario: Future No Project



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

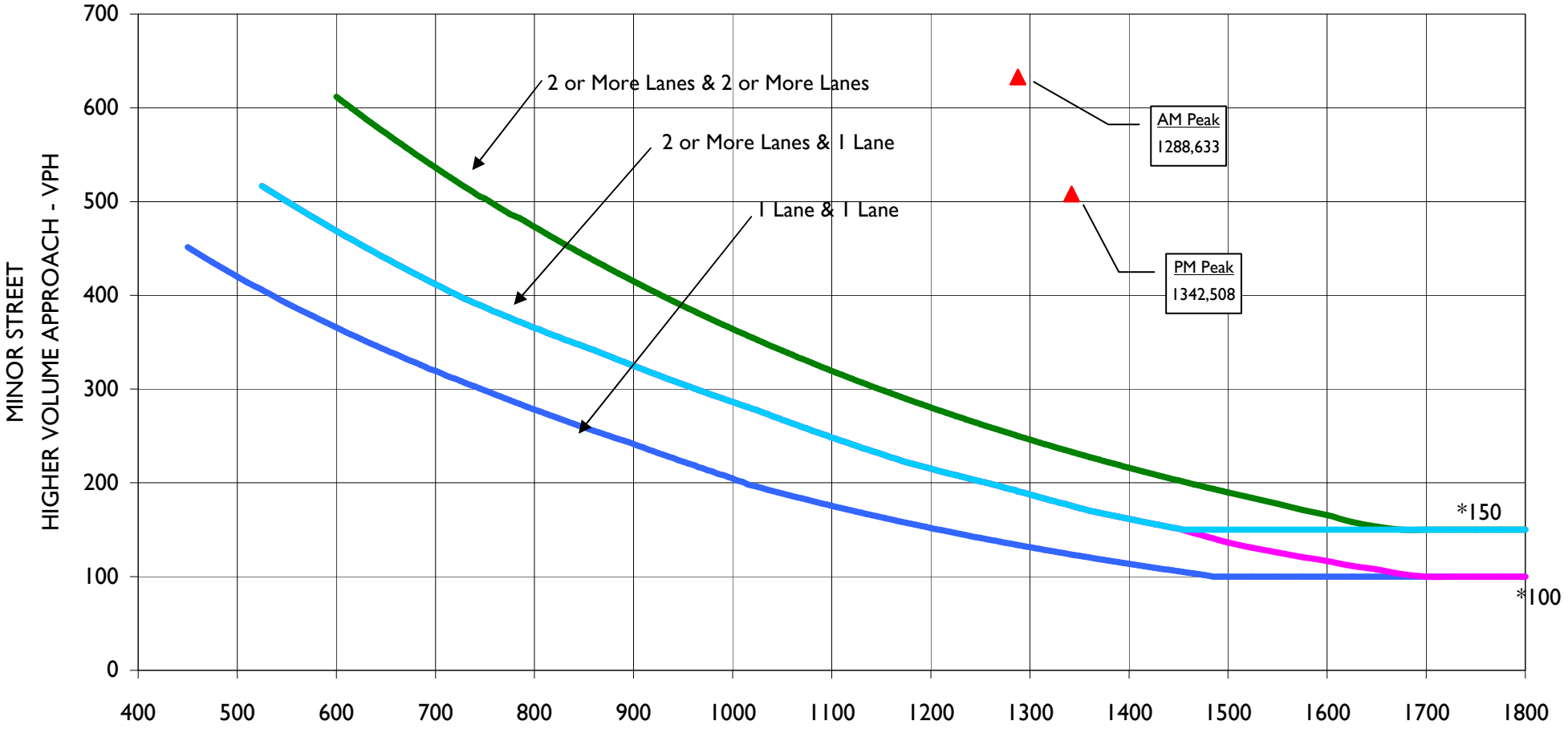
LEGEND

▲ Palos Verdes Drive East - 2 Lane(s) Major Street: 1248 (1285) VPH
Miraleste Drive - 2 Lane(s) Minor Street: 616 (495) VPH

Peak Hour Volumes Satisfy Warrants? YES

KOA CORPORATION
PLANNING & ENGINEERING

Palos Verdes Drive East & Miraleste Drive
AM(PM) Peak hour Traffic Signal Warrant Based on
California Manual on Uniform Traffic Control Devices, 2010
Scenario: Future With Project



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

LEGEND

▲ Palos Verdes Drive East - 2 Lane(s) Major Street: 1288 (1342) VPH
Miraleste Drive - 2 Lane(s) Minor Street: 633 (508) VPH

Peak Hour Volumes Satisfy Warrants? YES

APPENDIX F
Intersection Level of Service Worksheets
For Intersections in the City of Los Angeles

Level of Service Worksheet
(Circular 212 Method)

I/S #:	North-South Street:	Western Ave	Year of Count:	2011	Ambient Growth: (%):	0.355	Conducted by:	KOA Corp	Date:	Oct-11
1	East-West Street:	Pacific Coast Hwy	Projection Year:	2031	Peak Hour:	AM	Reviewed by:		Project:	Marymount (San Pedro Campus)

No. of Phases			4			4			4			4			4				4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0			0			0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB--	0
	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?			2			2			2			2			2				2
Override Capacity			0			0			0			0			0				0

MOVEMENT	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND																		
Left	487	2	268	0	487	268	119	642	2	353	0	642	2	353	0	642	2	353
Left-Through		0							0				0				0	
Through	841	1	**461**	0	841	**461**	213	1116	1	**618**	0	1116	1	**618**	0	1116	1	**618**
Through-Right		1							1				1				1	
Right	80	0	80	0	80	80	34	120	0	120	0	120	0	120	0	120	0	120
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
SOUTHBOUND																		
Left	191	1	**191**	0	191	**191**	3	208	1	**208**	0	208	1	**208**	0	208	1	**208**
Left-Through		0							0				0				0	
Through	517	1	321	3	520	323	168	723	1	431	3	726	1	432	0	726	1	432
Through-Right		1							1				1				1	
Right	125	0	125	0	125	125	4	138	0	138	0	138	0	138	0	138	0	138
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
EASTBOUND																		
Left	132	1	**132**	0	132	**132**	3	145	1	145	0	145	1	145	0	145	1	145
Left-Through		0							0				0				0	
Through	1415	2	560	0	1415	561	72	1591	2	**667**	0	1591	2	**668**	0	1591	2	**668**
Through-Right		1							1				1				1	
Right	266	0	266	3	269	269	124	410	0	410	3	413	0	413	0	413	0	413
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
WESTBOUND																		
Left	108	1	108	0	108	108	13	129	1	**129**	0	129	1	**129**	0	129	1	**129**
Left-Through		0							0				0				0	
Through	1582	2	**565**	0	1582	**565**	54	1752	2	625	0	1752	2	625	0	1752	2	625
Through-Right		1							1				1				1	
Right	113	0	113	0	113	113	1	122	0	122	0	122	0	122	0	122	0	122
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
CRITICAL VOLUMES	*North-South:*		652	*North-South:*		652	*North-South:*			826	*North-South:*			826	*North-South:*			826
	East-West:		697	*East-West:*		697	*East-West:*			796	*East-West:*			797	*East-West:*			797
	SUM:		1349	*SUM:*		1349	*SUM:*			1622	*SUM:*			1623	*SUM:*			1623
VOLUME/CAPACITY *(V/C)* RATIO:			0.981			0.981				1.180				1.180				1.180
V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.881**			**0.881**				**1.080**				**1.080**				**1.080**
LEVEL OF SERVICE (LOS):			D			D				F				F				F

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	0.000	Δ*v/c* after mitigation:	0.000
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Worksheet
(Circular 212 Method)

I/S #:	North-South Street:	Western Ave	Year of Count:	2011	Ambient Growth: (%):	0.355	Conducted by:	KOA Corp	Date:	Oct-11
1	East-West Street:	Pacific Coast Hwy	Projection Year:	2031	Peak Hour:	PM	Reviewed by:		Project:	Marymount (San Pedro Campus)

No. of Phases			4			4			4			4			4				4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0			0			0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB--	0
	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?			2			2			2			2			2				2
Override Capacity			0			0			0			0			0				0

MOVEMENT	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND																		
Left	438	2	**241**	13	451	**248**	48	518	2	**285**	13	531	2	**292**	0	531	2	**292**
Left-Through		0							0				0				0	
Through	553	1	325	13	566	332	174	768	1	443	13	781	1	449	0	781	1	449
Through-Right		1							1				1				1	
Right	97	0	97	0	97	97	13	117	0	117	0	117	0	117	0	117	0	117
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
SOUTHBOUND																		
Left	173	1	173	0	173	173	1	187	1	187	0	187	1	187	0	187	1	187
Left-Through		0							0				0				0	
Through	747	1	**447**	4	751	**449**	228	1030	1	**595**	4	1034	1	**597**	0	1034	1	**597**
Through-Right		1							1				1				1	
Right	146	0	146	0	146	146	3	160	0	160	0	160	0	160	0	160	0	160
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
EASTBOUND																		
Left	138	1	138	0	138	138	5	153	1	153	0	153	1	153	0	153	1	153
Left-Through		0							0				0				0	
Through	1335	2	**580**	0	1335	**582**	64	1497	2	**667**	0	1497	2	**668**	0	1497	2	**668**
Through-Right		1							1				1				1	
Right	406	0	406	4	410	410	67	503	0	503	4	507	0	507	0	507	0	507
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
WESTBOUND																		
Left	118	1	**118**	0	118	**118**	27	154	1	**154**	0	154	1	**154**	0	154	1	**154**
Left-Through		0							0				0				0	
Through	1411	2	512	0	1411	512	82	1597	2	579	0	1597	2	579	0	1597	2	579
Through-Right		1							1				1				1	
Right	126	0	126	0	126	126	4	139	0	139	0	139	0	139	0	139	0	139
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
CRITICAL VOLUMES	North-South:		688	North-South:		697	North-South:			880	North-South:			889	North-South:			889
	East-West:		698	East-West:		700	East-West:			821	East-West:			822	East-West:			822
	SUM:		1386	SUM:		1397	SUM:			1701	SUM:			1711	SUM:			1711
VOLUME/CAPACITY (V/C) RATIO:			1.008			1.016				1.237				1.244				1.244
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.908			0.916				1.137				1.144				1.144
LEVEL OF SERVICE (LOS):			E			E				F				F				F

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	0.007	Δ*v/c* after mitigation:	0.007
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Worksheet
(Circular 212 Method)

I/S #:	North-South Street:	Normandie Ave	Year of Count:	2011	Ambient Growth: (%):	0.355	Conducted by:	KOA Corp	Date:	Oct-11
2	East-West Street:	Pacific Coast Hwy	Projection Year:	2031	Peak Hour:	AM	Reviewed by:		Project:	Marymount (San Pedro Campus)

No. of Phases			3			3			3			3			3				3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0			0			0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB--	0
	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?			2			2			2			2			2				2
Override Capacity			0			0			0			0			0				0

	MOVEMENT	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
		Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	115	1	**115**	0	115	**115**	0	123	1	123	0	123	1	123	0	123	1	123
	Left-Through		0							0				0				0	
	Through	362	1	210	0	362	210	204	593	1	**327**	0	593	1	**327**	0	593	1	**327**
	Through-Right		1							1				1				1	
	Right	57	0	57	0	57	57	0	61	0	61	0	61	0	61	0	61	0	61
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	119	1	119	0	119	119	12	140	1	**140**	0	140	1	**140**	0	140	1	**140**
	Left-Through		0							0				0				0	
	Through	298	1	**229**	1	299	**229**	175	495	1	337	1	496	1	338	0	496	1	338
	Through-Right		1							1				1				1	
	Right	159	0	159	0	159	159	8	179	0	179	0	179	0	179	0	179	0	179
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	125	1	**125**	0	125	**125**	9	143	1	**143**	0	143	1	**143**	0	143	1	**143**
	Left-Through		0							0				0				0	
	Through	1632	2	585	0	1632	585	112	1864	2	665	0	1864	2	665	0	1864	2	665
	Through-Right		1							1				1				1	
	Right	122	0	122	0	122	122	0	131	0	131	0	131	0	131	0	131	0	131
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	132	1	132	0	132	132	0	142	1	142	0	142	1	142	0	142	1	142
	Left-Through		0							0				0				0	
	Through	1690	2	**601**	0	1690	**601**	69	1883	2	**672**	0	1883	2	**672**	0	1883	2	**672**
	Through-Right		1							1				1				1	
	Right	114	0	114	0	114	114	10	132	0	132	0	132	0	132	0	132	0	132
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		*North-South:*		344	*North-South:*		344	*North-South:*			467	*North-South:*			467	*North-South:*			467
		East-West:		726	*East-West:*		726	*East-West:*			815	*East-West:*			815	*East-West:*			815
		SUM:		1070	*SUM:*		1070	*SUM:*			1282	*SUM:*			1282	*SUM:*			1282
VOLUME/CAPACITY *(V/C)* RATIO:				0.751			0.751				0.900				0.900				0.900
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.651**			**0.651**				**0.800**				**0.800**				**0.800**
LEVEL OF SERVICE (LOS):				**B**			**B**				**C**				**C**				**C**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project: 0.000 — Δ*v/c* after mitigation: 0.000

Significant impacted? NO — Fully mitigated? N/A

Level of Service Worksheet
(Circular 212 Method)

I/S #:	North-South Street:	Normandie Ave	Year of Count:	2011	Ambient Growth: (%):	0.355	Conducted by:	KOA Corp	Date:	Oct-11
2	East-West Street:	Pacific Coast Hwy	Projection Year:	2031	Peak Hour:	PM	Reviewed by:		Project:	Marymount (San Pedro Campus)

No. of Phases			3			3			3			3			3				3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0			0			0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB--	0
	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?			2			2			2			2			2				2
Override Capacity			0			0			0			0			0				0

MOVEMENT		EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
		Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	155	1	**155**	0	155	**155**	0	166	1	**166**	0	166	1	**166**	0	166	1	**166**
	Left-Through		0							0				0				0	
	Through	378	1	259	3	381	260	136	542	1	346	3	545	1	347	0	545	1	347
	Through-Right		1							1				1				1	
	Right	139	0	139	0	139	139	0	149	0	149	0	149	0	149	0	149	0	149
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	152	1	152	0	152	152	11	174	1	174	0	174	1	174	0	174	1	174
	Left-Through		0							0				0				0	
	Through	352	1	**257**	1	353	**257**	178	556	1	**369**	1	557	1	**370**	0	557	1	**370**
	Through-Right		1							1				1				1	
	Right	161	0	161	0	161	161	9	182	0	182	0	182	0	182	0	182	0	182
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	129	1	**129**	0	129	**129**	8	146	1	**146**	0	146	1	**146**	0	146	1	**146**
	Left-Through		0							0				0				0	
	Through	1493	2	532	0	1493	532	71	1674	2	594	0	1674	2	594	0	1674	2	594
	Through-Right		1							1				1				1	
	Right	102	0	102	0	102	102	0	109	0	109	0	109	0	109	0	109	0	109
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	89	1	89	0	89	89	0	96	1	96	0	96	1	96	0	96	1	96
	Left-Through		0							0				0				0	
	Through	1480	2	**523**	0	1480	**523**	103	1692	2	**601**	0	1692	2	**601**	0	1692	2	**601**
	Through-Right		1							1				1				1	
	Right	90	0	90	0	90	90	14	111	0	111	0	111	0	111	0	111	0	111
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		North-South:		412	North-South:		412	North-South:			535	North-South:			536	North-South:			536
		East-West:		652	East-West:		652	East-West:			747	East-West:			747	East-West:			747
		SUM:		1064	SUM:		1064	SUM:			1282	SUM:			1283	SUM:			1283
VOLUME/CAPACITY (V/C) RATIO:				0.747			0.747				0.900				0.900				0.900
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.647**			**0.647**				**0.800**				**0.800**				**0.800**
LEVEL OF SERVICE (LOS):				**B**			**B**				**C**				**D**				**D**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project: 0.000 — Δ*v/c* after mitigation: 0.000

Significant impacted? NO — Fully mitigated? N/A

Level of Service Worksheet
(Circular 212 Method)

I/S #:	North-South Street:	Vermont Ave	Year of Count:	2011	Ambient Growth: (%):	0.355	Conducted by:	KOA Corp	Date:	Oct-11
3	East-West Street:	Pacific Coast Hwy	Projection Year:	2031	Peak Hour:	AM	Reviewed by:		Project:	Marymount (San Pedro Campus)

No. of Phases			4			4			4			4			4				4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0			0			0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB--	0
	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?			2			2			2			2			2				2
Override Capacity			0			0			0			0			0				0

	MOVEMENT	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
		Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	17	1	17	0	17	17	0	18	1	18	0	18	1	18	0	18	1	18
	Left-Through		0							0				0				0	
	Through	369	2	**185**	0	369	**185**	37	433	2	**217**	0	433	2	**217**	0	433	2	**217**
	Through-Right		0							0				0				0	
	Right	208	1	20	0	208	20	50	273	1	55	0	273	1	55	0	273	1	55
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	162	1	**162**	0	162	**162**	16	190	1	**190**	0	190	1	**190**	0	190	1	**190**
	Left-Through		0							0				0				0	
	Through	375	1	277	1	376	277	24	427	1	325	1	428	1	326	0	428	1	326
	Through-Right		1							1				1				1	
	Right	178	0	178	0	178	178	32	223	0	223	0	223	0	223	0	223	0	223
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	143	1	143	0	143	143	41	195	1	195	0	195	1	195	0	195	1	195
	Left-Through		0							0				0				0	
	Through	1523	2	**526**	0	1523	**526**	75	1710	2	**590**	0	1710	2	**590**	0	1710	2	**590**
	Through-Right		1							1				1				1	
	Right	56	0	56	0	56	56	0	60	0	60	0	60	0	60	0	60	0	60
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	376	1	**376**	0	376	**376**	32	436	1	**436**	0	436	1	**436**	0	436	1	**436**
	Left-Through		0							0				0				0	
	Through	1859	2	634	0	1859	634	103	2099	2	721	0	2099	2	721	0	2099	2	721
	Through-Right		1							1				1				1	
	Right	42	0	42	0	42	42	20	65	0	65	0	65	0	65	0	65	0	65
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		*North-South:*		347	*North-South:*		347	*North-South:*			407	*North-South:*			407	*North-South:*			407
		East-West:		902	*East-West:*		902	*East-West:*			1026	*East-West:*			1026	*East-West:*			1026
		SUM:		1249	*SUM:*		1249	*SUM:*			1433	*SUM:*			1433	*SUM:*			1433
VOLUME/CAPACITY *(V/C)* RATIO:				0.908			0.908				1.042				1.042				1.042
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.808**			**0.808**				**0.942**				**0.942**				**0.942**
LEVEL OF SERVICE (LOS):				**D**			**D**				**E**				**E**				**E**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project: 0.000 — Δ*v/c* after mitigation: 0.000

Significant impacted? NO — Fully mitigated? N/A

Level of Service Worksheet
(Circular 212 Method)

I/S #:	North-South Street:	Vermont Ave	Year of Count:	2011	Ambient Growth: (%):	0.355	Conducted by:	KOA Corp	Date:	Oct-11
3	East-West Street:	Pacific Coast Hwy	Projection Year:	2031	Peak Hour:	PM	Reviewed by:		Project:	Marymount (San Pedro Campus)

No. of Phases			4			4			4			4			4				4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0			0			0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB--	0
	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?			2			2			2			2			2				2
Override Capacity			0			0			0			0			0				0

MOVEMENT	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND																		
Left	47	1	47	0	47	47	0	50	1	50	0	50	1	50	0	50	1	50
Left-Through		0							0				0				0	
Through	376	2	**188**	3	379	**190**	38	442	2	**221**	3	445	2	**223**	0	445	2	**223**
Through-Right		0							0				0				0	
Right	256	1	138	1	257	139	51	326	1	173	1	327	1	174	0	327	1	174
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
SOUTHBOUND																		
Left	146	1	**146**	0	146	**146**	0	157	1	**157**	0	157	1	**157**	0	157	1	**157**
Left-Through		0							0				0				0	
Through	311	1	224	1	312	224	41	375	1	261	1	376	1	261	0	376	1	261
Through-Right		1							1				1				1	
Right	136	0	136	0	136	136	0	146	0	146	0	146	0	146	0	146	0	146
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
EASTBOUND																		
Left	162	1	162	0	162	162	0	174	1	174	0	174	1	174	0	174	1	174
Left-Through		0							0				0				0	
Through	1620	2	**557**	0	1620	**557**	154	1893	2	**649**	0	1893	2	**649**	0	1893	2	**649**
Through-Right		1							1				1				1	
Right	51	0	51	0	51	51	0	55	0	55	0	55	0	55	0	55	0	55
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
WESTBOUND																		
Left	236	1	**236**	0	236	**236**	54	307	1	**307**	0	307	1	**307**	0	307	1	**307**
Left-Through		0							0				0				0	
Through	1556	2	533	0	1556	533	114	1784	2	610	0	1784	2	610	0	1784	2	610
Through-Right		1							1				1				1	
Right	44	0	44	0	44	44	0	47	0	47	0	47	0	47	0	47	0	47
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
CRITICAL VOLUMES	*North-South:*		334	*North-South:*		336	*North-South:*			378	*North-South:*			380	*North-South:*			380
	East-West:		793	*East-West:*		793	*East-West:*			956	*East-West:*			956	*East-West:*			956
	SUM:		1127	*SUM:*		1129	*SUM:*			1334	*SUM:*			1336	*SUM:*			1336
VOLUME/CAPACITY *(V/C)* RATIO:			0.820			0.821				0.970				0.972				0.972
V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.720**			**0.721**				**0.870**				**0.872**				**0.872**
LEVEL OF SERVICE (LOS):			C			C				D				D				D

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	0.002	Δ*v/c* after mitigation:	0.002
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Worksheet
(Circular 212 Method)

I/S #:	North-South Street:	Western Ave	Year of Count:	2011	Ambient Growth: (%):	0.355	Conducted by:	KOA Corp	Date:	Oct-11
4	East-West Street:	Anaheim St	Projection Year:	2031	Peak Hour:	AM	Reviewed by:		Project:	Marymount (San Pedro Campus)

		EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
	No. of Phases			3			3			3				3					3
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0				0					0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0 SB--		0	NB-- 0 SB--		0	NB-- 0 SB--		0		NB-- 0 SB--		0		NB-- 0 SB--		0	
		EB-- 0 WB--		0	EB-- 0 WB--		0	EB-- 0 WB--		0		EB-- 0 WB--		0		EB-- 0 WB--		0	
	ATSAC-1 or ATSAC+ATCS-2?			2			2			2				2					2
	Override Capacity			0			0			0				0					0
NORTHBOUND	Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left-Through		0							0				0				0	
	Through	1013	1	**540**	0	1013	**540**	326	1413	1	**743**	0	1413	1	**743**	0	1413	1	**743**
	Through-Right		1							1				1				1	
	Right	67	0	67	0	67	67	0	72	0	72	0	72	0	72	0	72	0	72
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	294	2	**162**	0	294	**162**	8	324	2	**178**	0	324	2	**178**	0	324	2	**178**
	Left-Through		0							0				0				0	
	Through	567	1	289	6	573	292	297	906	1	459	6	912	1	462	0	912	1	462
	Through-Right		1							1				1				1	
	Right	11	0	11	0	11	11	0	12	0	12	0	12	0	12	0	12	0	12
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	0	0	**0**	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**
	Left-Through		0							0				0				0	
	Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Through-Right		0							0				0				0	
	Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	154	0	154	0	154	154	9	174	0	174	0	174	0	174	0	174	0	174
	Left-Through		1							1				1				1	
	Through	55	0	**209**	0	55	**209**	0	59	0	**233**	0	59	0	**233**	0	59	0	**233**
	Through-Right		0							0				0				0	
	Right	440	2	161	0	440	161	31	503	2	188	0	503	2	188	0	503	2	188
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
	CRITICAL VOLUMES	*North-South:*		702	*North-South:*		702	*North-South:*			921	*North-South:*			921	*North-South:*			921
		East-West:		209	*East-West:*		209	*East-West:*			233	*East-West:*			233	*East-West:*			233
		SUM:		911	*SUM:*		911	*SUM:*			1154	*SUM:*			1154	*SUM:*			1154
	VOLUME/CAPACITY *(V/C)* RATIO:			0.639			0.639				0.810				0.810				0.810
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.539**			**0.539**				**0.710**				**0.710**				**0.710**
	LEVEL OF SERVICE (LOS):			**A**			**A**				**C**				**C**				**C**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project: 0.000 — Δ*v/c* after mitigation: 0.000

Significant impacted? NO — Fully mitigated? N/A

Level of Service Worksheet
(Circular 212 Method)

I/S #:	North-South Street:	Western Ave	Year of Count:	2011	Ambient Growth: (%):	0.355	Conducted by:	KOA Corp	Date:	Oct-11
4	East-West Street:	Anaheim St	Projection Year:	2031	Peak Hour:	PM	Reviewed by:		Project:	Marymount (San Pedro Campus)

		EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
	No. of Phases			3			3			3				3					3
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0				0					0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0 SB--		0	NB-- 0 SB--		0	NB-- 0 SB--		0		NB-- 0 SB--		0		NB-- 0 SB--		0	
		EB-- 0 WB--		0	EB-- 0 WB--		0	EB-- 0 WB--		0		EB-- 0 WB--		0		EB-- 0 WB--		0	
	ATSAC-1 or ATSAC+ATCS-2?			2			2			2				2					2
	Override Capacity			0			0			0				0					0
NORTHBOUND	Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left-Through		0							0				0				0	
	Through	742	1	**399**	25	767	**411**	217	1013	1	**536**	25	1038	1	**549**	0	1038	1	**549**
	Through-Right		1							1				1				1	
	Right	55	0	55	0	55	55	0	59	0	59	0	59	0	59	0	59	0	59
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	470	2	**259**	0	470	**259**	29	534	2	**294**	0	534	2	**294**	0	534	2	**294**
	Left-Through		0							0				0				0	
	Through	873	1	442	8	881	446	284	1221	1	617	8	1229	1	621	0	1229	1	621
	Through-Right		1							1				1				1	
	Right	11	0	11	0	11	11	0	12	0	12	0	12	0	12	0	12	0	12
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	0	0	**0**	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**
	Left-Through		0							0				0				0	
	Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Through-Right		0							0				0				0	
	Right	3	0	0	0	3	0	0	3	0	0	0	3	0	0	0	3	0	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	102	0	102	0	102	102	5	114	0	114	0	114	0	114	0	114	0	114
	Left-Through		1							1				1				1	
	Through	30	0	**132**	0	30	**132**	0	32	0	**146**	0	32	0	**146**	0	32	0	**146**
	Through-Right		0							0				0				0	
	Right	370	2	75	0	370	75	17	414	2	81	0	414	2	81	0	414	2	81
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
	CRITICAL VOLUMES	North-South:		658	North-South:		670	North-South:			830	North-South:			843	North-South:			843
		East-West:		132	East-West:		132	East-West:			146	East-West:			146	East-West:			146
		SUM:		790	SUM:		802	SUM:			976	SUM:			989	SUM:			989
	VOLUME/CAPACITY (V/C) RATIO:			0.554			0.563				0.685				0.694				0.694
	V/C LESS ATSAC/ATCS ADJUSTMENT:			0.454			0.463				0.585				0.594				0.594
	LEVEL OF SERVICE (LOS):			A			A				A				A				A

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project: 0.009 — Δ*v/c* after mitigation: 0.009

Significant impacted? NO — Fully mitigated? N/A

Level of Service Worksheet
(Circular 212 Method)

I/S #:	North-South Street:	President Ave	Year of Count:	2011	Ambient Growth: (%):	0.355	Conducted by:	KOA Corp	Date:	Oct-11
7	East-West Street:	Palos Verdes Drive N	Projection Year:	2031	Peak Hour:	AM	Reviewed by:		Project:	Marymount (San Pedro Campus)

No. of Phases			0			0			0			0			0			0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0			0			0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0
	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0
ATSAC-1 or ATSAC+ATCS-2?			0			0			0			0			0			0
Override Capacity			1200			1200			1200			1200			1200			1200

MOVEMENT		EXISTING CONDITION						FUTURE CONDITION W/O PROJECT											
		Volume	No. of Lanes	Lane Volume				Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	7	0	7			**0**	0	8	0	8				**0**				**0**
	Left-Through		0							0									
	Through	0	0	**31**			0	0	0	0	**34**				0				0
	Through-Right		0							0									
	Right	24	0	0			0	0	26	0	0				0				0
	Left-Through-Right		1							1									
	Left-Right		0							0									
SOUTHBOUND	Left	3	0	**3**			0	0	3	0	**3**				0				0
	Left-Through		0							0									
	Through	0	0	11			**0**	0	0	0	12				**0**				**0**
	Through-Right		0							0									
	Right	8	0	0			0	0	9	0	0				0				0
	Left-Through-Right		1							1									
	Left-Right		0							0									
EASTBOUND	Left	5	1	5			0	0	5	1	5				0				0
	Left-Through		0							0									
	Through	1461	2	**488**			**0**	430	1998	2	**667**				**0**				**0**
	Through-Right		1							1									
	Right	4	0	4			0	0	4	0	4				0				0
	Left-Through-Right		0							0									
	Left-Right		0							0									
WESTBOUND	Left	5	1	**5**			**0**	0	5	1	**5**				**0**				**0**
	Left-Through		0							0									
	Through	977	2	326			0	206	1255	2	419				0				0
	Through-Right		1							1									
	Right	2	0	2			0	0	2	0	2				0				0
	Left-Through-Right		0							0									
	Left-Right		0							0									
CRITICAL VOLUMES		*North-South:*		34			0			*North-South:*	37				0				0
		East-West:		493			0			*East-West:*	672				0				0
		SUM:		527			0			*SUM:*	709				0				0
VOLUME/CAPACITY *(V/C)* RATIO:				0.439			0.000				0.591				0.000				0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.439			0.000				0.591				0.000				0.000
LEVEL OF SERVICE (LOS):				**A**			**A**				**A**				**A**				**A**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project: | Δ*v/c* after mitigation:

Significant impacted? NO | Fully mitigated? N/A

Level of Service Worksheet
(Circular 212 Method)

I/S #:	North-South Street:	President Ave	Year of Count:	2011	Ambient Growth: (%):	0.355	Conducted by:	KOA Corp	Date:	Oct-11
7	East-West Street:	Palos Verdes Drive N	Projection Year:	2031	Peak Hour:	PM	Reviewed by:		Project:	Marymount (San Pedro Campus)

		EXISTING CONDITION						FUTURE CONDITION W/O PROJECT											
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
	No. of Phases			0			0				0				0				0
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0				0				0				0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0 SB--		0	NB-- 0 SB--		0	NB-- 0 SB--			0	NB-- 0 SB--			0	NB-- 0 SB--			0
		EB-- 0 WB--		0	EB-- 0 WB--		0	EB-- 0 WB--			0	EB-- 0 WB--			0	EB-- 0 WB--			0
	ATSAC-1 or ATSAC+ATCS-2?			0			0				0				0				0
	Override Capacity			1200			1200				1200				1200				1200
NORTHBOUND	Left	4	0	4			**0**	0	4	0	4				**0**				**0**
	Left-Through		0							0									
	Through	0	0	**25**			0	0	0	0	**27**				0				0
	Through-Right		0							0									
	Right	21	0	0			0	0	23	0	0				0				0
	Left-Through-Right		1							1									
	Left-Right		0							0									
SOUTHBOUND	Left	4	0	**4**			0	0	4	0	**4**				0				0
	Left-Through		0							0									
	Through	0	0	12			**0**	0	0	0	13				**0**				**0**
	Through-Right		0							0									
	Right	8	0	0			0	0	9	0	0				0				0
	Left-Through-Right		1							1									
	Left-Right		0							0									
EASTBOUND	Left	10	1	**10**			0	0	11	1	**11**				0				0
	Left-Through		0							0									
	Through	882	2	297			**0**	149	1096	2	369				**0**				**0**
	Through-Right		1							1									
	Right	10	0	10			0	0	11	0	11				0				0
	Left-Through-Right		0							0									
	Left-Right		0							0									
WESTBOUND	Left	6	1	6			**0**	0	6	1	6				**0**				**0**
	Left-Through		0							0									
	Through	1151	2	**385**			0	229	1465	2	**489**				0				0
	Through-Right		1							1									
	Right	3	0	3			0	0	3	0	3				0				0
	Left-Through-Right		0							0									
	Left-Right		0							0									
	CRITICAL VOLUMES	*North-South:*		29			0	*North-South:*			31				0				0
		East-West:		395			0	*East-West:*			500				0				0
		SUM:		424			0	*SUM:*			531				0				0
	VOLUME/CAPACITY *(V/C)* RATIO:			0.353			0.000				0.443				0.000				0.000
	V/C LESS ATSAC/ATCS ADJUSTMENT:			0.353			0.000				0.443				0.000				0.000
	LEVEL OF SERVICE (LOS):			A			A				A				A				A

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:

Significant impacted? NO

Δ*v/c* after mitigation:

Fully mitigated? N/A

Level of Service Worksheet
(Circular 212 Method)

I/S #:	North-South Street:	President Ave	Year of Count:	2011	Ambient Growth: (%):	0.355	Conducted by:	KOA Corp	Date:	Oct-11
7	East-West Street:	Palos Verdes Drive N	Projection Year:	2031	Peak Hour:	AM	Reviewed by:		Project:	Marymount (San Pedro Campus)

No. of Phases				0				0				0				0				0				0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0				0				0				0				0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB--	0	NB--	0	SB--	0	NB--	0	SB--	0	NB--	0	SB--	0	NB--	0	SB--	0	NB--	0	SB--	0
	EB--	0	WB--	0	EB--	0	WB--	0	EB--	0	WB--	0	EB--	0	WB--	0	EB--	0	WB--	0	EB--	0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				0				0				0				0				0				0
Override Capacity				1200				1200				1200				1200				1200				1200

	MOVEMENT				EXISTING PLUS PROJECT							FUTURE CONDITION W/ PROJECT										
		Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	7	0	7	48	55	**55**	0	8	0	8	48	56	0	**56**				**0**
	Left-Through		1							1				1					
	Through	0	0	7	0	0	55	0	0	0	8	0	0	0	56				0
	Through-Right		0							0				0					
	Right	24	1	**22**	0	24	13	0	26	1	**24**	0	26	1	15				0
	Left-Through-Right		0							0				0					
	Left-Right		0							0				0					
SOUTHBOUND	Left	3	0	**3**	0	3	3	0	3	0	**3**	0	3	0	3				0
	Left-Through		0							0				0					
	Through	0	0	11	0	0	**11**	0	0	0	12	0	0	0	**12**				**0**
	Through-Right		0							0				0					
	Right	8	0	0	0	8	0	0	9	0	0	0	9	0	0				0
	Left-Through-Right		1							1				1					
	Left-Right		0							0				0					
EASTBOUND	Left	5	1	5	0	5	5	0	5	1	5	0	5	1	5				0
	Left-Through		0							0				0					
	Through	1461	2	**488**	0	1461	**493**	430	1998	2	**667**	0	1998	2	**672**				**0**
	Through-Right		1							1				1					
	Right	4	0	4	14	18	18	0	4	0	4	14	18	0	18				0
	Left-Through-Right		0							0				0					
	Left-Right		0							0				0					
WESTBOUND	Left	5	1	**5**	17	22	**22**	0	5	1	**5**	17	22	1	**22**				**0**
	Left-Through		0							0				0					
	Through	977	2	326	0	977	326	206	1255	2	419	0	1255	2	419				0
	Through-Right		1							1				1					
	Right	2	0	2	0	2	2	0	2	0	2	0	2	0	2				0
	Left-Through-Right		0							0				0					
	Left-Right		0							0				0					
CRITICAL VOLUMES			*North-South:*	25		*North-South:*	66		*North-South:*	27			*North-South:*	68					0
			East-West:	493		*East-West:*	515		*East-West:*	672			*East-West:*	694					0
			SUM:	518		*SUM:*	581		*SUM:*	699			*SUM:*	762					0
VOLUME/CAPACITY *(V/C)* RATIO:							0.484								0.635				
V/C LESS ATSAC/ATCS ADJUSTMENT:							0.484								0.635				
LEVEL OF SERVICE (LOS):							A								B				

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project: | Δ*v/c* after mitigation:

Significant impacted? NO | Fully mitigated? N/A

Level of Service Worksheet
(Circular 212 Method)

I/S #:	North-South Street:	President Ave	Year of Count:	2011	Ambient Growth: (%):	0.355	Conducted by:	KOA Corp	Date:	Oct-11
7	East-West Street:	Palos Verdes Drive N	Projection Year:	2031	Peak Hour:	PM	Reviewed by:		Project:	Marymount (San Pedro Campus)

No. of Phases				0				0				0				0				0				0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0				0				0				0				0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB--	0	NB--	0	SB--	0	NB--	0	SB--	0	NB--	0	SB--	0	NB--	0	SB--	0	NB--	0	SB--	0
	EB--	0	WB--	0	EB--	0	WB--	0	EB--	0	WB--	0	EB--	0	WB--	0	EB--	0	WB--	0	EB--	0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				0				0				0				0				0				0
Override Capacity				1200				1200				1200				1200				1200				1200

	MOVEMENT				EXISTING PLUS PROJECT								FUTURE CONDITION W/ PROJECT							
		Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	4	0	4	83	87	**87**	0	4	0	4	83	87	0	**87**				**0**
	Left-Through		1							1				1					
	Through	0	0	4	0	0	87	0	0	0	4	0	0	0	87				0
	Through-Right		0							0				0					
	Right	21	1	**18**	66	87	72	0	23	1	**20**	66	89	1	74				0
	Left-Through-Right		0							0				0					
	Left-Right		0							0				0					
SOUTHBOUND	Left	4	0	**4**	0	4	4	0	4	0	**4**	0	4	0	4				0
	Left-Through		0							0				0					
	Through	0	0	12	0	0	**12**	0	0	0	13	0	0	0	**13**				**0**
	Through-Right		0							0				0					
	Right	8	0	0	0	8	0	0	9	0	0	0	9	0	0				0
	Left-Through-Right		1							1				1					
	Left-Right		0							0				0					
EASTBOUND	Left	10	1	**10**	0	10	**10**	0	11	1	**11**	0	11	1	**11**				0
	Left-Through		0							0				0					
	Through	882	2	297	8	890	312	149	1096	2	369	8	1104	2	384				**0**
	Through-Right		1							1				1					
	Right	10	0	10	37	47	47	0	11	0	11	37	48	0	48				0
	Left-Through-Right		0							0				0					
	Left-Right		0							0				0					
WESTBOUND	Left	6	1	6	24	30	30	0	6	1	6	24	30	1	30				**0**
	Left-Through		0							0				0					
	Through	1151	2	**385**	0	1151	**385**	229	1465	2	**489**	0	1465	2	**489**				0
	Through-Right		1							1				1					
	Right	3	0	3	0	3	3	0	3	0	3	0	3	0	3				0
	Left-Through-Right		0							0				0					
	Left-Right		0							0				0					
CRITICAL VOLUMES			*North-South:*	22		*North-South:*	99		*North-South:*	24			*North-South:*	100				*North-South:*	0
			East-West:	395		*East-West:*	395		*East-West:*	500			*East-West:*	500				*East-West:*	0
			SUM:	417		*SUM:*	494		*SUM:*	524			*SUM:*	600				*SUM:*	0
VOLUME/CAPACITY *(V/C)* RATIO:							0.412								0.500				
V/C LESS ATSAC/ATCS ADJUSTMENT:							0.412								0.500				
LEVEL OF SERVICE (LOS):							A								A				

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:		Δ*v/c* after mitigation:	
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Worksheet
(Circular 212 Method)

I/S #:	North-South Street:	President Ave	Year of Count:	2011	Ambient Growth: (%):	0.355	Conducted by:	KOA Corp	Date:	Oct-11
7	East-West Street:	Palos Verdes Drive N	Projection Year:	2031	Peak Hour:	AM	Reviewed by:		Project:	Marymount (San Pedro Campus)

No. of Phases			2			2			2			2			2				2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0			0			0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB--	0
	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?			0			0			0			0			0				0
Override Capacity			0			0			0			0			0				0

	MOVEMENT				EXISTING + PROJECT W/MITIGA												FUTURE W/ PROJECT W/ MITIGATION			
		Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	7	0	7	48	55	**55**	0	8	0	8	48	56	0	**56**	0	56	0	**56**
	Left-Through		1							1				1				1	
	Through	0	0	7	0	0	55	0	0	0	8	0	0	0	56	0	0	0	56
	Through-Right		0							0				0				0	
	Right	24	1	**22**	0	24	13	0	26	1	**24**	0	26	1	15	0	26	1	15
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	3	0	**3**	0	3	3	0	3	0	**3**	0	3	0	3	0	3	0	3
	Left-Through		0							0				0				0	
	Through	0	0	11	0	0	**11**	0	0	0	12	0	0	0	**12**	0	0	0	**12**
	Through-Right		0							0				0				0	
	Right	8	0	0	0	8	0	0	9	0	0	0	9	0	0	0	9	0	0
	Left-Through-Right		1							1				1				1	
	Left-Right		0							0				0				0	
EASTBOUND	Left	5	1	5	0	5	5	0	5	1	5	0	5	1	5	0	5	1	5
	Left-Through		0							0				0				0	
	Through	1461	2	**488**	0	1461	**493**	430	1998	2	**667**	0	1998	2	**672**	0	1998	2	**672**
	Through-Right		1							1				1				1	
	Right	4	0	4	14	18	18	0	4	0	4	14	18	0	18	0	18	0	18
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	5	1	**5**	17	22	**22**	0	5	1	**5**	17	22	1	**22**	0	22	1	**22**
	Left-Through		0							0				0				0	
	Through	977	2	326	0	977	326	206	1255	2	419	0	1255	2	419	0	1255	2	419
	Through-Right		1							1				1				1	
	Right	2	0	2	0	2	2	0	2	0	2	0	2	0	2	0	2	0	2
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES			*North-South:*	25		*North-South:*	66		*North-South:*		27		*North-South:*		68		*North-South:*		68
			East-West:	493		*East-West:*	515		*East-West:*		672		*East-West:*		694		*East-West:*		694
			SUM:	518		*SUM:*	581		*SUM:*		699		*SUM:*		762		*SUM:*		762
VOLUME/CAPACITY *(V/C)* RATIO:							0.387												0.508
V/C LESS ATSAC/ATCS ADJUSTMENT:							0.387												0.508
LEVEL OF SERVICE (LOS):							A												A

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	0.000	Δ*v/c* after mitigation:	0.508
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Workheet
(Circular 212 Method)

I/S #:	North-South Street:	President Ave	Year of Count:	2011	Ambient Growth: (%):	0.355	Conducted by:	KOA Corp	Date:	Oct-11
7	East-West Street:	Palos Verdes Drive N	Projection Year:	2031	Peak Hour:	PM	Reviewed by:		Project:	Marymount (San Pedro Campus)

No. of Phases			2			2			2			2			2				2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0			0			0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB--	0
	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?			0			0			0			0			0				0
Override Capacity			0			0			0			0			0				0

					EXISTING + PROJECT W/MITIGA												FUTURE W/ PROJECT W/ MITIGATION			
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	4	0	4	83	87	**87**	0	4	0	4	83	87	0	**87**	0	87	0	**87**
	Left-Through		1							1				1				1	
	Through	0	0	4	0	0	87	0	0	0	4	0	0	0	87	0	0	0	87
	Through-Right		0							0				0				0	
	Right	21	1	**18**	66	87	72	0	23	1	**20**	66	89	1	74	0	89	1	74
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	4	0	**4**	0	4	4	0	4	0	**4**	0	4	0	4	0	4	0	4
	Left-Through		0							0				0				0	
	Through	0	0	12	0	0	**12**	0	0	0	13	0	0	0	**13**	0	0	0	**13**
	Through-Right		0							0				0				0	
	Right	8	0	0	0	8	0	0	9	0	0	0	9	0	0	0	9	0	0
	Left-Through-Right		1							1				1				1	
	Left-Right		0							0				0				0	
EASTBOUND	Left	10	1	**10**	0	10	**10**	0	11	1	**11**	0	11	1	**11**	0	11	1	**11**
	Left-Through		0							0				0				0	
	Through	882	2	297	8	890	312	149	1096	2	369	8	1104	2	384	0	1104	2	384
	Through-Right		1							1				1				1	
	Right	10	0	10	37	47	47	0	11	0	11	37	48	0	48	0	48	0	48
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	6	1	6	24	30	30	0	6	1	6	24	30	1	30	0	30	1	30
	Left-Through		0							0				0				0	
	Through	1151	2	**385**	0	1151	**385**	229	1465	2	**489**	0	1465	2	**489**	0	1465	2	**489**
	Through-Right		1							1				1				1	
	Right	3	0	3	0	3	3	0	3	0	3	0	3	0	3	0	3	0	3
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		*North-South:*		22	*North-South:*		99	*North-South:*			24	*North-South:*			100	*North-South:*			100
		East-West:		395	*East-West:*		395	*East-West:*			500	*East-West:*			500	*East-West:*			500
		SUM:		417	*SUM:*		494	*SUM:*			524	*SUM:*			600	*SUM:*			600
VOLUME/CAPACITY *(V/C)* RATIO:							0.329												0.400
V/C LESS ATSAC/ATCS ADJUSTMENT:							0.329												0.400
LEVEL OF SERVICE (LOS):							A												A

REMARKS:

Version: 1i Beta; 8/4/2011

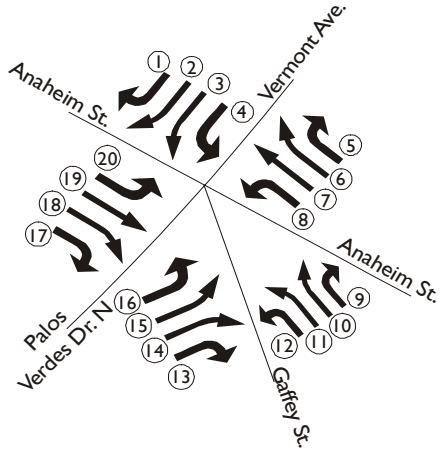
PROJECT IMPACT

Change in *v/c* due to project:	0.000	Δ*v/c* after mitigation:	0.400
Significant impacted?	NO	Fully mitigated?	N/A

Traffic Impact Study for Marymount College San Pedro Campus

LOS CALCULATIONS – CMA METHODOLOGY

Intersection # 8 - Gaffey St/Vermont Ave & Anaheim St/N. Palos Verdes Dr



Movement	Existing			Future Ambient			Related Project Only			Future No Project			Project Only			Future With Proj			Project Only			Existing Plus Project		
#	AM		PM	AM		PM	AM		PM	AM		PM	AM		PM	AM		PM	AM		PM	AM		PM
1	38		54	41		58				41		58				41		58				38		54
2	315		315	337		337	23		81	360		418	2		2	362		420	2		2	317		317
3	287		491	307		526	175		166	482		692	0		0	482		692	0		0	287		491
4	45		68	48		73	12		31	60		104	0		0	60		104	0		0	45		68
5	87		75	93		80	29		20	122		100	0		0	122		100	0		0	87		75
6	340		293	364		314	28		16	392		330	0		0	392		330	0		0	340		293
7	571		621	612		665	122		136	734		801	14		20	748		821	14		20	585		641
8	108		106	116		114	10		3	126		117	0		0	126		117	0		0	108		106
9	152		115	163		123	16		2	179		125	0		0	179		125	0		0	152		115
10	526		296	563		317	185		129	748		446	0		0	748		446	0		0	526		296
11	131		108	140		116				140		116				140		116				131		108
12	50		52	54		56	1		3	55		59	2		2	57		61	2		2	52		54
13	96		148	103		159	4		2	107		161	0		6	107		167	0		6	96		154
14	874		469	936		502	160		101	1096		603	0		61	1096		664	0		61	874		530
15	385		323	412		346	80		45	492		391	0		6	492		397	0		6	385		329
16	70		77	75		82	170		54	245		136	0		0	245		136	0		0	70		77
17	2		2	2		2				2		2				2		2				2		2
18	136		210	146		225				146		225				146		225				136		210
19	256		251	274		269	8		29	282		298	0		0	282		298	0		0	256		251
20	62		55	66		59				66		59				66		59				62		55

Traffic Impact Study for Marymount College San Pedro Campus

LOS CALCULATIONS – CMA METHODOLOGY

Intersection # 8 - Gaffey St/Vermont Ave & Anaheim St/N. Palos Verdes Dr

Movement #		Existing				Future No Project				Future With Proj				Existing Plus Project			
		AM		PM		AM		PM		AM		PM		AM		PM	
A)	NB		Critical		Critical		Critical		Critical		Critical		Critical		Critical		Critical
	11+12	181	181	160	160	195	195	174	174	197	197	176	176	183	183	162	162
	10	526		296		748		446		748		446		526		296	
	9	152		115		179		125		179		125		152		115	
	SB																
	4	45		68		60		104		60		104		45		68	
	3	287	640/3 =	491	860/3 =	482	883/3 =	692	1168/3	482	885/3 =	692	1170/3	287	642/3 =	491	862/3 =
	2	315	213	315	287	360	294	418	= 389	362	295	420	= 390	317	214	317	287
	1	38		54		41		58		41		58		38		54	
B)	NE																
	16	70		77		245		136		245		136		70		77	
	15	385	385/2	323	323/2	492	492/2	391	391/2	492	492/2	397	397/2	385	385/2	329	329/2
	14	874	=193	469	=162	1096	=246	603	=195	1096	=246	664	=198	874	=193	530	=165
	13	96		148		107		161		107		167		96		154	
C)	NE																
	14	874		469		1096		603		1096		664		874		530	
	13	96		148		107		161		107		167		96		154	
		970		617		1203		764		1203		831		970		684	
	WB																
	8	108		106		126		117		126		117		108		106	
	7	571	1106/3	621	1095/3	734	1374/3	801	1348/3	748	1388/3	821	1368/3	585	1120/3	641	1115/3
	6	340	=369	293	=365	392	=458	330	=449	392	=463	330	=456	340	=373	293	=372
	5	87		75		122		100		122		100		87		75	
D)	EB																
	20	62		55		66		59		66		59		62		55	
	19	256	394/2 =	251	463/2 =	282	430/2 =	298	525/2 =	282	430/2 =	298	525/2 =	256	394/2 =	251	463/2 =
	18	136	197	210	232	146	215	225	262	146	215	225	262	136	197	210	232
	17	2		2		2		2		2		2		2		2	
	Capacity		**1375**		**1375**		**1375**		**1375**		**1375**		**1375**		**1375**		**1375**
	SUM of Critical Moves		1153		1205		1408		1471		1416		1483		1160		1217
	V/C		**0.838**		**0.876**		**1.024**		**1.070**		**1.030**		**1.079**		**0.844**		**0.885**
	ATSAC/ ATCS Credits		**0.1**		**0.1**		**0.1**		**0.1**		**0.1**		**0.1**		**0.1**		**0.1**
	Final V/C		**0.738**		**0.776**		**0.924**		**0.970**		**0.930**		**0.979**		**0.744**		**0.785**
	LOS		**C**		**C**		**E**		**E**		**E**		**E**		**C**		**C**

Level of Service Worksheet
(Circular 212 Method)

I/S #:	North-South Street:	Figueroa Pl	Year of Count:	2011	Ambient Growth: (%):	0.355	Conducted by:	KOA Corp	Date:	Oct-11
9	East-West Street:	Anaheim St	Projection Year:	2031	Peak Hour:	AM	Reviewed by:		Project:	Marymount (San Pedro Campus)

No. of Phases			2			2			2			2			2				2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0			0			0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0 SB--	0	NB--	0 SB--	0	NB--	0 SB--	0	NB--	0 SB--	0	NB--	0 SB--	0	NB--	0 SB--	0	
	EB--	0 WB--	0	EB--	0 WB--	0	EB--	0 WB--	0	EB--	0 WB--	0	EB--	0 WB--	0	EB--	0 WB--	0	
ATSAC-1 or ATSAC+ATCS-2?			2			2			2			2			2				2
Override Capacity			0			0			0			0			0				0

MOVEMENT	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND																		
Left	24	0	**24**	0	24	**24**	0	26	0	**26**	0	26	0	**26**	0	26	0	**26**
Left-Through		0							0				0				0	
Through	18	0	61	0	18	61	0	19	0	65	0	19	0	65	0	19	0	65
Through-Right		0							0				0				0	
Right	19	0	0	0	19	0	0	20	0	0	0	20	0	0	0	20	0	0
Left-Through-Right		1							1				1				1	
Left-Right		0							0				0				0	
SOUTHBOUND																		
Left	267	0	267	0	267	267	20	307	0	307	0	307	0	307	0	307	0	307
Left-Through		1							1				1				1	
Through	36	0	303	0	36	303	0	39	0	346	0	39	0	346	0	39	0	346
Through-Right		0							0				0				0	
Right	418	1	**373**	11	429	**384**	77	526	1	**478**	11	537	1	**489**	0	537	1	**489**
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
EASTBOUND																		
Left	90	1	90	0	90	90	0	97	1	97	0	97	1	97	0	97	1	97
Left-Through		0							0				0				0	
Through	1185	1	**667**	0	1185	**667**	182	1454	1	**810**	0	1454	1	**810**	0	1454	1	**810**
Through-Right		1							1				1				1	
Right	148	0	148	0	148	148	6	165	0	165	0	165	0	165	0	165	0	165
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
WESTBOUND																		
Left	247	1	**247**	0	247	**247**	0	265	1	**265**	0	265	1	**265**	0	265	1	**265**
Left-Through		0							0				0				0	
Through	617	1	339	4	621	341	84	746	1	406	4	750	1	408	0	750	1	408
Through-Right		1							1				1				1	
Right	61	0	61	0	61	61	0	65	0	65	0	65	0	65	0	65	0	65
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
CRITICAL VOLUMES	*North-South:*		397	*North-South:*		408	*North-South:*			504	*North-South:*			515	*North-South:*			515
	East-West:		914	*East-West:*		914	*East-West:*			1075	*East-West:*			1075	*East-West:*			1075
	SUM:		1311	*SUM:*		1322	*SUM:*			1579	*SUM:*			1590	*SUM:*			1590
VOLUME/CAPACITY *(V/C)* RATIO:			0.874			0.881				1.053				1.060				1.060
V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.774**			**0.781**				**0.953**				**0.960**				**0.960**
LEVEL OF SERVICE (LOS):			**C**			**C**				**E**				**E**				**E**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	0.007	Δ*v/c* after mitigation:	0.007
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Worksheet
(Circular 212 Method)

I/S #:	North-South Street:	Figueroa Pl	Year of Count:	2011	Ambient Growth: (%):	0.355	Conducted by:	KOA Corp	Date:	Oct-11
9	East-West Street:	Anaheim St	Projection Year:	2031	Peak Hour:	PM	Reviewed by:		Project:	Marymount (San Pedro Campus)

	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
No. of Phases			2			2			2				2			2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0				0			0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0	NB-- 0	SB--	0		NB-- 0	SB--	0		NB-- 0	SB--	0	
	EB-- 0	WB--	0	EB-- 0	WB--	0	EB-- 0	WB--	0		EB-- 0	WB--	0		EB-- 0	WB--	0	
ATSAC-1 or ATSAC+ATCS-2?			2			2			2				2			2			2
Override Capacity			0			0			0				0			0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	10	0	**10**	0	10	**10**	0	11	0	**11**	0	11	0	**11**	0	11	0	**11**
	Left-Through		0							0				0				0	
	Through	6	0	41	0	6	41	0	6	0	44	0	6	0	44	0	6	0	44
	Through-Right		0							0				0				0	
	Right	25	0	0	0	25	0	0	27	0	0	0	27	0	0	0	27	0	0
	Left-Through-Right		1							1				1				1	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	405	0	405	0	405	405	74	509	0	509	0	509	0	509	0	509	0	509
	Left-Through		1							1				1				1	
	Through	65	0	470	0	65	470	0	70	0	579	0	70	0	579	0	70	0	579
	Through-Right		0							0				0				0	
	Right	607	1	**591**	15	622	**606**	94	746	1	**729**	15	761	1	**744**	0	761	1	**744**
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	32	1	32	0	32	32	0	34	1	34	0	34	1	34	0	34	1	34
	Left-Through		0							0				0				0	
	Through	910	1	**532**	57	967	**562**	132	1109	1	**638**	57	1166	1	**668**	0	1166	1	**668**
	Through-Right		1							1				1				1	
	Right	153	0	153	4	157	157	2	166	0	166	4	170	0	170	0	170	0	170
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	241	1	**241**	0	241	**241**	0	259	1	**259**	0	259	1	**259**	0	259	1	**259**
	Left-Through		0							0				0				0	
	Through	503	1	269	5	508	272	65	605	1	322	5	610	1	324	0	610	1	324
	Through-Right		1							1				1				1	
	Right	35	0	35	0	35	35	0	38	0	38	0	38	0	38	0	38	0	38
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		*North-South:*		601	*North-South:*		616	*North-South:*			740	*North-South:*			755	*North-South:*			755
		East-West:		773	*East-West:*		803	*East-West:*			897	*East-West:*			927	*East-West:*			927
		SUM:		1374	*SUM:*		1419	*SUM:*			1637	*SUM:*			1682	*SUM:*			1682
VOLUME/CAPACITY *(V/C)* RATIO:				0.916			0.946				1.091				1.121				1.121
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.816**			**0.846**				**0.991**				**1.021**				**1.021**
LEVEL OF SERVICE (LOS):				**D**			**D**				**E**				**F**				**F**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project: 0.030 — Δ*v/c* after mitigation: 0.030

Significant impacted? YES — Fully mitigated? NO

Level of Service Worksheet
(Circular 212 Method)

I/S #:	North-South Street:	Figueroa St	Year of Count:	2011	Ambient Growth (%):	0.355	Conducted by:	KOA Corp	Date:	Oct-11
10	East-West Street:	Anaheim St	Projection Year:	2031	Peak Hour:	AM	Reviewed by:		Project:	Marymount (San Pedro Campus)

	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
No. of Phases			3			3			3				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			2			2			2				2			2
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0 SB--		0	NB-- 0 SB--		0	NB-- 0 SB--		0		NB-- 0 SB--		0		NB-- 0 SB--		3	
	EB-- 0 WB--		0	EB-- 0 WB--		0	EB-- 0 WB--		0		EB-- 0 WB--		0		EB-- 0 WB--		0	
ATSAC-1 or ATSAC+ATCS-2?			2			2			2				2			2
Override Capacity			0			0			0				0			0

MOVEMENT		EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
		Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	165	0	165	1	166	166	9	186	0	186	1	187	0	187	0	187	1	**187**
	Left-Through		1							1				1				0	
	Through	224	0	**295**	0	224	**295**	0	240	0	**321**	0	240	0	**321**	0	240	1	228
	Through-Right		1							1				1				1	
	Right	200	0	295	0	200	295	0	215	0	321	0	215	0	321	0	215	0	215
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	22	0	**22**	0	22	**22**	0	24	0	**24**	0	24	0	**24**	0	24	0	24
	Left-Through		1							1				1				1	
	Through	76	0	98	0	76	98	0	82	0	106	0	82	0	106	0	82	0	**106**
	Through-Right		1							1				1				0	
	Right	181	0	0	0	181	0	0	194	0	0	0	194	0	0	0	194	1	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	856	1	471	0	856	471	122	1041	1	573	0	1041	1	573	0	1041	1	573
	Left-Through		1							1				1				1	
	Through	581	0	**614**	0	581	**614**	79	703	0	**738**	0	703	0	**738**	0	703	0	**738**
	Through-Right		1							1				1				1	
	Right	33	0	33	0	33	33	0	35	0	35	0	35	0	35	0	35	0	35
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	84	1	84	0	84	84	0	90	1	90	0	90	1	90	0	90	1	90
	Left-Through		0							0				0				0	
	Through	569	1	**373**	3	572	**374**	74	685	1	**473**	3	688	1	**474**	0	688	1	**474**
	Through-Right		1							1				1				1	
	Right	176	0	176	0	176	176	71	260	0	260	0	260	0	260	0	260	0	260
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES			*North-South:*	317		*North-South:*	317		*North-South:*		345		*North-South:*		345		*North-South:*		293
			East-West:	987		*East-West:*	988		*East-West:*		1211		*East-West:*		1212		*East-West:*		1212
			SUM:	1304		*SUM:*	1305		*SUM:*		1556		*SUM:*		1557		*SUM:*		1505
VOLUME/CAPACITY *(V/C)* RATIO:				0.915			0.916				1.092				1.093				1.056
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.815**			**0.816**				**0.992**				**0.993**				**0.956**
LEVEL OF SERVICE (LOS):				D			D				E				E				E

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	0.001	Δ*v/c* after mitigation:	-0.036
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Worksheet
(Circular 212 Method)

I/S #:	North-South Street:	Figueroa St	Year of Count:	2011	Ambient Growth: (%):	0.355	Conducted by:	KOA Corp	Date:	Oct-11
10	East-West Street:	Anaheim St	Projection Year:	2031	Peak Hour:	PM	Reviewed by:		Project:	Marymount (San Pedro Campus)

	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
No. of Phases			3			3			3				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			2			2			2				2			2
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0 SB--		0	NB-- 0 SB--		0	NB-- 0 SB--		0		NB-- 0 SB--		0		NB-- 0 SB--		3	
	EB-- 0 WB--		0	EB-- 0 WB--		0	EB-- 0 WB--		0		EB-- 0 WB--		0		EB-- 0 WB--		0	
ATSAC-1 or ATSAC+ATCS-2?			2			2			2				2			2
Override Capacity			0			0			0				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	180	0	180	1	181	181	1	194	0	194	1	195	0	195	0	195	1	**195**
	Left-Through		1							1				1				0	
	Through	196	0	**318**	0	196	**319**	0	210	0	**342**	0	210	0	**342**	0	210	1	210
	Through-Right		1							1				1				1	
	Right	260	0	318	0	260	319	0	279	0	342	0	279	0	342	0	279	0	229
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	49	0	**49**	0	49	**49**	0	53	0	**53**	0	53	0	**53**	0	53	0	53
	Left-Through		1							1				1				1	
	Through	74	0	116	0	74	116	0	79	0	125	0	79	0	125	0	79	0	**132**
	Through-Right		1							1				1				0	
	Right	60	0	116	0	60	116	0	64	0	125	0	64	0	125	0	64	1	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	536	1	295	44	580	319	56	631	1	347	44	675	1	371	0	675	1	371
	Left-Through		1							1				1				1	
	Through	798	0	**825**	13	811	**838**	150	1007	0	**1036**	13	1020	0	**1049**	0	1020	0	**1049**
	Through-Right		1							1				1				1	
	Right	27	0	27	0	27	27	0	29	0	29	0	29	0	29	0	29	0	29
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	93	1	93	0	93	93	0	100	1	100	0	100	1	100	0	100	1	100
	Left-Through		0							0				0				0	
	Through	528	1	**417**	4	532	**419**	64	631	1	**500**	4	635	1	**502**	0	635	1	**502**
	Through-Right		1							1				1				1	
	Right	306	0	306	0	306	306	40	368	0	368	0	368	0	368	0	368	0	368
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		*North-South:*		367	*North-South:*		368	*North-South:*			395	*North-South:*			395	*North-South:*			327
		East-West:		1242	*East-West:*		1257	*East-West:*			1536	*East-West:*			1551	*East-West:*			1551
		SUM:		1609	*SUM:*		1625	*SUM:*			1931	*SUM:*			1946	*SUM:*			1878
VOLUME/CAPACITY *(V/C)* RATIO:				1.129			1.140				1.355				1.366				1.318
V/C LESS ATSAC/ATCS ADJUSTMENT:				1.029			1.040				1.255				1.266				1.218
LEVEL OF SERVICE (LOS):				F			F				F				F				F

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	0.011	Δ*v/c* after mitigation:	-0.037
Significant impacted?	YES	Fully mitigated?	YES

Level of Service Worksheet
(Circular 212 Method)

I/S #:	North-South Street:	Western Ave	Year of Count:	2011	Ambient Growth: (%):	0.355	Conducted by:	KOA Corp	Date:	Oct-11
16	East-West Street:	1st St	Projection Year:	2031	Peak Hour:	AM	Reviewed by:		Project:	Marymount (San Pedro Campus)

	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
No. of Phases			4			4			4				4			4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0				0			0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 3	SB--	0	NB-- 3	SB--	0	NB--	SB--	0		NB-- 3	SB--	0		NB-- 3	SB--	0	
	EB-- 0	WB--	3	EB-- 0	WB--	3	EB--	WB--	3		EB-- 0	WB--	3		EB-- 0	WB--	3	
ATSAC-1 or ATSAC+ATCS-2?			2			2			2				2				2	
Override Capacity			0			0			0				0				0	

MOVEMENT		EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
		Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	12	1	12	0	12	12	2	15	1	15	0	15	1	15	0	15	1	15
	Left-Through		0							0				0				0	
	Through	1221	2	**611**	1	1222	**611**	86	1397	2	**699**	1	1398	2	**699**	0	1398	2	**699**
	Through-Right		0							0				0				0	
	Right	555	1	276	0	555	276	0	596	1	297	0	596	1	297	0	596	1	297
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	144	1	**144**	0	144	**144**	65	220	1	**220**	0	220	1	**220**	0	220	1	**220**
	Left-Through		0							0				0				0	
	Through	985	1	517	0	985	522	74	1131	1	606	0	1131	1	611	0	1131	1	611
	Through-Right		1							1				1				1	
	Right	49	0	49	10	59	59	27	80	0	80	10	90	0	90	0	90	0	90
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	72	1	72	2	74	74	9	86	1	86	2	88	1	88	0	88	1	88
	Left-Through		0							0				0				0	
	Through	290	0	**310**	0	290	**310**	13	324	0	**347**	0	324	0	**347**	0	324	0	**347**
	Through-Right		1							1				1				1	
	Right	20	0	0	0	20	0	2	23	0	0	0	23	0	0	0	23	0	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	279	1	**279**	0	279	**279**	0	299	1	**299**	0	299	1	**299**	0	299	1	**299**
	Left-Through		0							0				0				0	
	Through	136	1	136	0	136	136	16	162	1	162	0	162	1	162	0	162	1	162
	Through-Right		0							0				0				0	
	Right	204	1	60	1	205	61	59	278	1	58	1	279	1	59	0	279	1	59
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		*North-South:*		755	*North-South:*		755	*North-South:*			919	*North-South:*			919	*North-South:*			919
		East-West:		589	*East-West:*		589	*East-West:*			646	*East-West:*			646	*East-West:*			646
		SUM:		1344	*SUM:*		1344	*SUM:*			1565	*SUM:*			1565	*SUM:*			1565
VOLUME/CAPACITY *(V/C)* RATIO:				0.977			0.977				1.138				1.138				1.138
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.877			0.877				1.038				1.038				1.038
LEVEL OF SERVICE (LOS):				D			D				F				F				F

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project: 0.000 — Δ*v/c* after mitigation: 0.000

Significant impacted? NO — Fully mitigated? N/A

Level of Service Worksheet
(Circular 212 Method)

I/S #:	North-South Street:	Western Ave	Year of Count:	2011	Ambient Growth: (%):	0.355	Conducted by:	KOA Corp	Date:	Oct-11
16	East-West Street:	1st St	Projection Year:	2031	Peak Hour:	PM	Reviewed by:		Project:	Marymount (San Pedro Campus)

	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
No. of Phases			4			4			4				4			4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0				0			0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 3	SB--	0	NB-- 3	SB--	0	NB--	SB--	0		NB-- 3	SB--	0		NB-- 3	SB--	0	
	EB-- 0	WB--	3	EB-- 0	WB--	3	EB--	WB--	3		EB-- 0	WB--	3		EB-- 0	WB--	3	
ATSAC-1 or ATSAC+ATCS-2?			2			2			2				2				2	
Override Capacity			0			0			0				0				0	

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	18	1	**18**	0	18	**18**	4	23	1	**23**	0	23	1	**23**	0	23	1	**23**
	Left-Through		0							0				0				0	
	Through	964	2	482	2	966	483	101	1136	2	568	2	1138	2	569	0	1138	2	569
	Through-Right		0							0				0				0	
	Right	363	1	0	0	363	0	0	390	1	0	0	390	1	0	0	390	1	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	166	1	166	3	169	169	48	226	1	226	3	229	1	229	0	229	1	229
	Left-Through		0							0				0				0	
	Through	1410	1	**739**	5	1415	**745**	113	1627	1	**857**	5	1632	1	**863**	0	1632	1	**863**
	Through-Right		1							1				1				1	
	Right	67	0	67	7	74	74	15	87	0	87	7	94	0	94	0	94	0	94
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	49	1	49	7	56	56	18	71	1	71	7	78	1	78	0	78	1	78
	Left-Through		0							0				0				0	
	Through	153	0	**176**	0	153	**176**	14	178	0	**207**	0	178	0	**207**	0	178	0	**207**
	Through-Right		1							1				1				1	
	Right	23	0	0	0	23	0	4	29	0	0	0	29	0	0	0	29	0	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	371	1	**371**	0	371	**371**	0	398	1	**398**	0	398	1	**398**	0	398	1	**398**
	Left-Through		0							0				0				0	
	Through	160	1	160	0	160	160	14	186	1	186	0	186	1	186	0	186	1	186
	Through-Right		0							0				0				0	
	Right	164	1	0	1	165	0	49	225	1	0	1	226	1	0	0	226	1	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		North-South:		757	North-South:		763	North-South:			880	North-South:			886	North-South:			886
		East-West:		547	East-West:		547	East-West:			605	East-West:			605	East-West:			605
		SUM:		1304	SUM:		1310	SUM:			1485	SUM:			1491	SUM:			1491
VOLUME/CAPACITY (V/C) RATIO:				0.948			0.953				1.080				1.084				1.084
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.848			0.853				0.980				0.984				0.984
LEVEL OF SERVICE (LOS):				D			D				E				E				E

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project: 0.004 — Δ*v/c* after mitigation: 0.004

Significant impacted? NO — Fully mitigated? N/A

APPENDIX G
Intersection Level of Service Worksheets
Existing (2011)

Marymount College Palos Verdes North - Traffic Study
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #5 Palos Verdes Dr E & Palos Verdes Dr N

Cycle (sec):	100	Critical Vol./Cap.(X):	0.732
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	54	Level Of Service:	C

Street Name:	Palos Verdes Dr E						Palos Verdes Dr N					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1 0	1	2 0	1 0	1	1 0	2 0	1	1 0	2 0	1
Volume Module:												
Base Vol:	361	259	176	113	128	31	66	1051	182	157	842	141
Growth 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
Initial Bse:	361	259	176	113	128	31	66	1051	182	157	842	141
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	361	259	176	113	128	31	66	1051	182	157	842	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	361	259	176	113	128	31	66	1051	182	157	842	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	361	259	176	113	128	31	66	1051	182	157	842	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.00	1.00	2.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	2880	1600	1600	2880	1600	1600	1600	3200	1600	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.13	0.16	0.11	0.04	0.08	0.02	0.04	0.33	0.11	0.10	0.26	0.00
Crit Moves:	****			****			****			****		

Marymount College Palos Verdes North - Traffic Study
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #6 Western Ave & Palos Verdes Dr N

Cycle (sec):	100	Critical Vol./Cap.(X):	0.924
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	114	Level Of Service:	E

Street Name:	Western Ave						Palos Verdes Dr N					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1	1 0	1 0	1	1 0	1 0	3	0 1	1 0	2	1 0
Volume Module:												
Base Vol:	582	1003	385	51	574	101	103	965	333	252	595	21
Growth 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
Initial Bse:	582	1003	385	51	574	101	103	965	333	252	595	21
User 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
PHF 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
PHF Volume:	582	1003	385	51	574	101	103	965	333	252	595	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	582	1003	385	51	574	101	103	965	333	252	595	21
PCE 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
MLF 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
FinalVolume:	582	1003	385	51	574	101	103	965	333	252	595	21
OvlAdjVol:									10			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.45	0.55	1.00	1.70	0.30	1.00	3.00	1.00	1.00	2.90	0.10
Final Sat.:	2880	2312	888	1600	2721	479	1600	4800	1600	1600	4636	164
Capacity Analysis Module:												
Vol/Sat:	0.20	0.43	0.43	0.03	0.21	0.21	0.06	0.20	0.21	0.16	0.13	0.13
OvlAdjV/S:									0.01			
Crit Moves:	****			****				****		****		

Marymount College Palos Verdes North - Traffic Study
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #11 Palos Verder Dr E & Miraleste Dr

Average Delay (sec/veh): 24.6 Worst Case Level Of Service: F[74.0]

Street Name:	Palos Verder Dr E									Miraleste Dr								
Approach:	North Bound				South Bound					East Bound					West Bound			
Movement:	L	-	T	- R	L	-	T	- R		L	-	T	- R		L	-	T	- R
Control:	Uncontrolled				Uncontrolled					Stop Sign					Stop Sign			
Rights:	Include				Include					Include					Include			
Lanes:	0	0	0	1 0	1	0	1	0 0		0	0	0	0	0	1	0	0	0 1
Volume Module:																		
Base Vol:	0	337		170	344	259		0		0	0		0		145	0		340
Growth 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
Initial Bse:	0	337		170	344	259		0		0	0		0		145	0		340
User 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
PHF 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
PHF Volume:	0	337		170	344	259		0		0	0		0		145	0		340
Reduct Vol:	0	0		0	0	0		0		0	0		0		0	0		0
FinalVolume:	0	337		170	344	259		0		0	0		0		145	0		340
Critical Gap Module:																		
Critical Gp:	xxxxx	xxxx		xxxxx	4.1	xxxx		xxxxx		xxxxx	xxxx		xxxxx		6.4	xxxx		6.2
FollowUpTim:	xxxxx	xxxx		xxxxx	2.2	xxxx		xxxxx		xxxxx	xxxx		xxxxx		3.5	xxxx		3.3
Capacity Module:																		
Cnflict Vol:	xxxx	xxxx		xxxxx	507	xxxx		xxxxx		xxxx	xxxx		xxxxx		1369	xxxx		422
Potent Cap.:	xxxx	xxxx		xxxxx	1068	xxxx		xxxxx		xxxx	xxxx		xxxxx		163	xxxx		636
Move Cap.:	xxxx	xxxx		xxxxx	1068	xxxx		xxxxx		xxxx	xxxx		xxxxx		122	xxxx		636
Volume/Cap:	xxxx	xxxx		xxxx	0.32	xxxx		xxxx		xxxx	xxxx		xxxx		1.18	xxxx		0.53
Level Of Service Module:																		
2Way95thQ:	xxxx	xxxx		xxxxx	1.4	xxxx		xxxxx		xxxx	xxxx		xxxxx		8.9	xxxx		3.2
Control Del:	xxxxx	xxxx		xxxxx	10.0	xxxx		xxxxx		xxxxx	xxxx		xxxxx		207.7	xxxx		17.0
LOS by Move:	*	*		*	A	*		*		*	*		*		F	*		C
Movement:	LT -	LTR -		RT	LT -	LTR -		RT		LT -	LTR -		RT		LT -	LTR -		RT
Shared Cap.:	xxxx	xxxx		xxxxx	xxxx	xxxx		xxxxx		xxxx	xxxx		xxxxx		xxxx	xxxx		xxxxx
SharedQueue:	xxxxx	xxxx		xxxxx	xxxxx	xxxx		xxxxx		xxxxx	xxxx		xxxxx		xxxxx	xxxx		xxxxx
Shrd ConDel:	xxxxx	xxxx		xxxxx	xxxxx	xxxx		xxxxx		xxxxx	xxxx		xxxxx		xxxxx	xxxx		xxxxx
Shared LOS:	*	*		*	*	*		*		*	*		*		*	*		*
ApproachDel:	xxxxxx				xxxxxx					xxxxxx					74.0			
ApproachLOS:	*				*					*					F			

Note: Queue reported is the number of cars per lane.

Marymount College Palos Verdes North - Traffic Study
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #12 Western Ave & Trudie Dr/Capitol Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.929
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	117	Level Of Service:	E

Street Name:	Western Ave						Trudie Dr/Capitol Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1! 0	0	1 0	1 0	1
Volume Module:												
Base Vol:	9	1432	113	123	852	52	158	80	14	179	66	127
Growth 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
Initial Bse:	9	1432	113	123	852	52	158	80	14	179	66	127
User 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
PHF 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
PHF Volume:	9	1432	113	123	852	52	158	80	14	179	66	127
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	9	1432	113	123	852	52	158	80	14	179	66	127
PCE 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
MLF 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
FinalVolume:	9	1432	113	123	852	52	158	80	14	179	66	127
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.85	0.15	1.00	1.88	0.12	0.63	0.32	0.05	1.00	1.00	1.00
Final Sat.:	1600	2966	234	1600	3016	184	1003	508	89	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.01	0.48	0.48	0.08	0.28	0.28	0.10	0.16	0.16	0.11	0.04	0.08
Crit Moves:		****		****				****		****		

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst:
Agency/Co.:
Date Performed: 4/13/2011
Analysis Time Period:
Intersection:
Jurisdiction:
Units: U. S. Customary
Analysis Year: Existing 2011 AM
Project ID: Traffic Impact Study for Marymount College San Pedro Campus
East/West Street: Via Colinita Ave
North/South Street: Miraleste Dr
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	11	389	168	0	382	2
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	11	422	182	0	415	2
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type/Storage	Raised curb / 2					
RT Channelized?		No				
Lanes	0	1	1	1	1	0
Configuration		LT	R	L		TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	76	19	207	0	3	17
Peak Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	82	20	224	0	3	18
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/		No	/
Lanes	0	1	1	0	1	0
Configuration		LT	R		LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT	L	LT		R		LTR	
v (vph)	11	0	102		224		21	
C(m) (vph)	1153	984	453		636		591	
v/c	0.01	0.00	0.23		0.35		0.04	
95% queue length	0.03	0.00	0.86		1.58		0.11	
Control Delay	8.2	8.7	15.2		13.7		11.3	
LOS	A	A	C		B		B	
Approach Delay			14.2				11.3	
Approach LOS			B				B	

HCS+: Unsignalized Intersections Release 5.6

Phone: Fax:
E-Mail:

TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst:
Agency/Co.:
Date Performed: 4/13/2011
Analysis Time Period:
Intersection:
Jurisdiction:
Units: U. S. Customary
Analysis Year: Existing 2011 AM
Project ID: Traffic Impact Study for Marymount College San Pedro Campus
East/West Street: Via Colinita Ave
North/South Street: Miraleste Dr
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movements	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	11	389	168	0	382	2
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Peak-15 Minute Volume	3	106	46	0	104	1
Hourly Flow Rate, HFR	11	422	182	0	415	2
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type/Storage	Raised curb		/ 2			
RT Channelized?			No			
Lanes	0	1	1	1	1	0
Configuration	LT		R	L		TR
Upstream Signal?		No			No	

Minor Street Movements	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	76	19	207	0	3	17
Peak Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Peak-15 Minute Volume	21	5	56	0	1	5
Hourly Flow Rate, HFR	82	20	224	0	3	18
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
RT Channelized?			No			
Lanes	0	1	1	0	1	0
Configuration	LT		R		LTR	

Pedestrian Volumes and Adjustments

Movements	13	14	15	16
Flow (ped/hr)	0	0	0	0

Lane Width (ft)	12.0	12.0	12.0	12.0
Walking Speed (ft/sec)	4.0	4.0	4.0	4.0
Percent Blockage	0	0	0	0

Upstream Signal Data

	Prog. Flow vph	Sat Flow vph	Arrival Type	Green Time sec	Cycle Length sec	Prog. Speed mph	Distance to Signal feet
S2 Left-Turn							
Through							
S5 Left-Turn							
Through							

Worksheet 3-Data for Computing Effect of Delay to Major Street Vehicles

	Movement 2	Movement 5
Shared ln volume, major th vehicles:	422	
Shared ln volume, major rt vehicles:	0	
Sat flow rate, major th vehicles:	1700	
Sat flow rate, major rt vehicles:	1700	
Number of major street through lanes:	1	

Worksheet 4-Critical Gap and Follow-up Time Calculation

Critical Gap Calculation

Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
t(c,base)	4.1	4.1	7.1	6.5	6.2	7.1	6.5	6.2
t(c,hv)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
P(hv)	0	0	0	0	0	0	0	0
t(c,g)			0.20	0.20	0.10	0.20	0.20	0.10
Percent Grade			0.00	0.00	0.00	0.00	0.00	0.00
t(3,lt)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t(c,T): 1-stage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2-stage	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
t(c) 1-stage	4.1	4.1	7.1	6.5	6.2	7.1	6.5	6.2
2-stage	4.1	4.1	6.1	5.5	6.2	6.1	5.5	6.2

Follow-Up Time Calculations

Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
t(f,base)	2.20	2.20	3.50	4.00	3.30	3.50	4.00	3.30
t(f,HV)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
P(HV)	0	0	0	0	0	0	0	0
t(f)	2.2	2.2	3.5	4.0	3.3	3.5	4.0	3.3

Worksheet 5-Effect of Upstream Signals

Computation 1-Queue Clearance Time at Upstream Signal

	Movement 2		Movement 5	
	V(t)	V(l,prot)	V(t)	V(l,prot)
V prog				

Total Saturation Flow Rate, s (vph)	
Arrival Type	
Effective Green, g (sec)	
Cycle Length, C (sec)	
Rp (from Exhibit 16-11)	
Proportion vehicles arriving on green P	
g(q1)	
g(q2)	
g(q)	

Computation 2-Proportion of TWSC Intersection Time blocked	Movement 2		Movement 5	
	V(t)	V(l,prot)	V(t)	V(l,prot)
alpha				
beta				
Travel time, t(a) (sec)				
Smoothing Factor, F				
Proportion of conflicting flow, f				
Max platooned flow, V(c,max)				
Min platooned flow, V(c,min)				
Duration of blocked period, t(p)				
Proportion time blocked, p	0.000		0.000	

Computation 3-Platoon Event Periods	Result
p(2)	0.000
p(5)	0.000
p(dom)	
p(subo)	
Constrained or unconstrained?	

Proportion unblocked for minor movements, p(x)	(1) Single-stage Process	(2) Two-Stage Process Stage I	(3) Stage II
p(1)			
p(4)			
p(7)			
p(8)			
p(9)			
p(10)			
p(11)			
p(12)			

Computation 4 and 5 Single-Stage Process								
Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
V c,x	417	604	870	861	422	1073	1042	416
s								
Px								
V c,u,x								
C r,x								
C plat,x								

Two-Stage Process				
	7	8	10	11

	Stage1	Stage2	Stage1	Stage2	Stage1	Stage2	Stage1	Stage2
V(c,x)	444	426	444	417	416	657	416	626
s		1500		1500		1500		1500
P(x)								
V(c,u,x)								
C(r,x)								
C(plat,x)								

Worksheet 6-Impedance and Capacity Equations

Step 1: RT from Minor St.	9	12
Conflicting Flows	422	416
Potential Capacity	636	641
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	636	641
Probability of Queue free St.	0.65	0.97
Step 2: LT from Major St.	**4**	**1**
Conflicting Flows	604	417
Potential Capacity	984	1153
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	984	1153
Probability of Queue free St.	1.00	0.99
Maj L-Shared Prob Q free St.		0.99
Step 3: TH from Minor St.	**8**	**11**
Conflicting Flows	861	1042
Potential Capacity	295	232
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.99	0.99
Movement Capacity	291	229
Probability of Queue free St.	0.96	0.99
Step 4: LT from Minor St.	**7**	**10**
Conflicting Flows	870	1073
Potential Capacity	274	200
Pedestrian Impedance Factor	1.00	1.00
Maj. L, Min T Impedance factor	0.98	0.94
Maj. L, Min T Adj. Imp Factor.	0.98	0.96
Cap. Adj. factor due to Impeding mvmnt	0.96	0.62
Movement Capacity	262	124

Worksheet 7-Computation of the Effect of Two-stage Gap Acceptance

Step 3: TH from Minor St.	8	11
Part 1 - First Stage		
Conflicting Flows	444	416
Potential Capacity	579	595
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.99	1.00
Movement Capacity	572	595
Probability of Queue free St.	0.97	0.99

Part 2 - Second Stage		
Conflicting Flows	417	626
Potential Capacity	595	480
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	1.00	0.99
Movement Capacity	595	474
Part 3 - Single Stage		
Conflicting Flows	861	1042
Potential Capacity	295	232
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.99	0.99
Movement Capacity	291	229
Result for 2 stage process:		
a	0.95	0.95
y	0.96	1.49
C t	458	401
Probability of Queue free St.	0.96	0.99
Step 4: LT from Minor St.	7	10
Part 1 - First Stage		
Conflicting Flows	444	416
Potential Capacity	597	618
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.99	1.00
Movement Capacity	589	618
Part 2 - Second Stage		
Conflicting Flows	426	657
Potential Capacity	610	457
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.97	0.62
Movement Capacity	590	282
Part 3 - Single Stage		
Conflicting Flows	870	1073
Potential Capacity	274	200
Pedestrian Impedance Factor	1.00	1.00
Maj. L, Min T Impedance factor	0.98	0.94
Maj. L, Min T Adj. Imp Factor.	0.98	0.96
Cap. Adj. factor due to Impeding mvmnt	0.96	0.62
Movement Capacity	262	124
Results for Two-stage process:		
a	0.95	0.95
y	1.03	3.13
C t	452	257

Worksheet 8-Shared Lane Calculations

Movement	7 L	8 T	9 R	10 L	11 T	12 R
Volume (vph)	82	20	224	0	3	18
Movement Capacity (vph)	452	458	636	257	401	641
Shared Lane Capacity (vph)	453				591	

Worksheet 9-Computation of Effect of Flared Minor Street Approaches

Movement	7	8	9	10	11	12
	L	T	R	L	T	R
C sep	452	458	636	257	401	641
Volume	82	20	224	0	3	18
Delay						
Q sep						
Q sep +1						
round (Qsep +1)						
n max						
C sh	453				591	
SUM C sep						
n						
C act						

Worksheet 10-Delay, Queue Length, and Level of Service

Movement	1	4	7	8	9	10	11	12
Lane Config	LT	L	LT		R		LTR	
v (vph)	11	0	102		224		21	
C(m) (vph)	1153	984	453		636		591	
v/c	0.01	0.00	0.23		0.35		0.04	
95% queue length	0.03	0.00	0.86		1.58		0.11	
Control Delay	8.2	8.7	15.2		13.7		11.3	
LOS	A	A	C		B		B	
Approach Delay				14.2			11.3	
Approach LOS				B			B	

Worksheet 11-Shared Major LT Impedance and Delay

	Movement 2	Movement 5
p(oj)	0.99	1.00
v(il), Volume for stream 2 or 5	422	
v(i2), Volume for stream 3 or 6	0	
s(il), Saturation flow rate for stream 2 or 5	1700	
s(i2), Saturation flow rate for stream 3 or 6	1700	
P*(oj)	0.99	
d(M,LT), Delay for stream 1 or 4	8.2	8.7
N, Number of major street through lanes	1	
d(rank,1) Delay for stream 2 or 5	0.1	

Marymount College Palos Verdes North - Traffic Study
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #14 Western Ave & Crestwood St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.783
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	63	Level Of Service:	C

Street Name:	Western Ave						Crestwood St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	72	1565	115	14	1040	121	185	33	116	53	11	28
Growth 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
Initial Bse:	72	1565	115	14	1040	121	185	33	116	53	11	28
User 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
PHF 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
PHF Volume:	72	1565	115	14	1040	121	185	33	116	53	11	28
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	72	1565	115	14	1040	121	185	33	116	53	11	28
PCE 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
MLF 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
FinalVolume:	72	1565	115	14	1040	121	185	33	116	53	11	28
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.86	0.14	1.00	1.79	0.21	1.00	0.22	0.78	1.00	0.28	0.72
Final Sat.:	1600	2981	219	1600	2866	334	1600	354	1246	1600	451	1149
Capacity Analysis Module:												
Vol/Sat:	0.05	0.53	0.52	0.01	0.36	0.36	0.12	0.09	0.09	0.03	0.02	0.02
Crit Moves:		****			****			****			****	

Marymount College Palos Verdes North - Traffic Study
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #15 Miraleste Dr & 1st St

Average Delay (sec/veh): 5.0 Worst Case Level Of Service: C[16.2]

Street Name:	Miraleste Dr						1st St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 1 0			1 0 1 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	0	364	73	250	205	0	0	0	0	22	0	176
Growth 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
Initial Bse:	0	364	73	250	205	0	0	0	0	22	0	176
User 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
PHF 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
PHF Volume:	0	364	73	250	205	0	0	0	0	22	0	176
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	364	73	250	205	0	0	0	0	22	0	176
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	437	xxxx	xxxxx	1194	1142	205	1106	1106	401
Potent Cap.:	xxxx	xxxx	xxxxx	1134	xxxx	xxxxx	165	202	841	235	212	654
Move Cap.:	xxxx	xxxx	xxxxx	1134	xxxx	xxxxx	100	158	841	195	166	654
Volume/Cap:	xxxx	xxxx	xxxx	0.22	xxxx	xxxx	0.00	0.00	0.00	0.11	0.00	0.27
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.8	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	9.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	0	xxxxx	xxxx	519	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	1.8	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	16.2	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	C	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			16.2		
ApproachLOS:	*			*			*			C		

Note: Queue reported is the number of cars per lane.

Marymount College Palos Verdes North - Traffic Study
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #17 Palos Verdes Dr E & Crest Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.424
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	A

Street Name:	Palos Verdes Dr E						Crest Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 1	0 0	1	1 0	1 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	7	0	17	254	2	46	60	157	53	109	94	180
Growth 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
Initial Bse:	7	0	17	254	2	46	60	157	53	109	94	180
User 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
PHF 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
PHF Volume:	7	0	17	254	2	46	60	157	53	109	94	180
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	7	0	17	254	2	46	60	157	53	109	94	180
PCE 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
MLF 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
FinalVolume:	7	0	17	254	2	46	60	157	53	109	94	180
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.29	0.00	0.71	0.99	0.01	1.00	1.00	1.50	0.50	1.00	2.00	1.00
Final Sat.:	467	0	1133	1588	13	1600	1600	2392	808	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.02	0.16	0.16	0.03	0.04	0.07	0.07	0.07	0.03	0.11
Crit Moves:			****	****			****					****

Marymount College Palos Verdes North - Traffic Study
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #5 Palos Verdes Dr E & Palos Verdes Dr N

Cycle (sec):	100	Critical Vol./Cap.(X):	0.700
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	50	Level Of Service:	B

Street Name:	Palos Verdes Dr E						Palos Verdes Dr N					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1 0	1	2 0	1 0	1	1 0	2 0	1	1 0	2 0	1
Volume Module:												
Base Vol:	176	140	126	228	248	92	77	985	254	121	1065	71
Growth 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
Initial Bse:	176	140	126	228	248	92	77	985	254	121	1065	71
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	176	140	126	228	248	92	77	985	254	121	1065	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	176	140	126	228	248	92	77	985	254	121	1065	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	176	140	126	228	248	92	77	985	254	121	1065	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.00	1.00	2.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	2880	1600	1600	2880	1600	1600	1600	3200	1600	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.06	0.09	0.08	0.08	0.16	0.06	0.05	0.31	0.16	0.08	0.33	0.00
Crit Moves:	****				****			****			****	

Marymount College Palos Verdes North - Traffic Study
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #6 Western Ave & Palos Verdes Dr N

Cycle (sec):	100	Critical Vol./Cap.(X):	0.969
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	153	Level Of Service:	E

Street Name:	Western Ave						Palos Verdes Dr N					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1	1 0	1 0	1	1 0	1 0	3	0 1	1 0	2	1 0
Volume Module:												
Base Vol:	398	683	178	29	919	160	151	587	537	314	824	27
Growth 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
Initial Bse:	398	683	178	29	919	160	151	587	537	314	824	27
User 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
PHF 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
PHF Volume:	398	683	178	29	919	160	151	587	537	314	824	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	398	683	178	29	919	160	151	587	537	314	824	27
PCE 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
MLF 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
FinalVolume:	398	683	178	29	919	160	151	587	537	314	824	27
OvlAdjVol:									316			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.59	0.41	1.00	1.70	0.30	1.00	3.00	1.00	1.00	2.90	0.10
Final Sat.:	2880	2538	662	1600	2725	475	1600	4800	1600	1600	4648	152
Capacity Analysis Module:												
Vol/Sat:	0.14	0.27	0.27	0.02	0.34	0.34	0.09	0.12	0.34	0.20	0.18	0.18
OvlAdjV/S:									0.20			
Crit Moves:	****				****				****	****		

Marymount College Palos Verdes North - Traffic Study
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #11 Palos Verder Dr E & Miraleste Dr

Average Delay (sec/veh): 29.4 Worst Case Level Of Service: F[99.1]

Street Name:	Palos Verder Dr E									Miraleste Dr								
Approach:	North Bound				South Bound					East Bound					West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Rights:	Include					Include					Include					Include				
Lanes:	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	1
Volume Module:																				
Base Vol:	0	245		176		417	281		0		0	0		0		138	0		274	
Growth 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	
Initial Bse:	0	245		176		417	281		0		0	0		0		138	0		274	
User 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	
PHF 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	
PHF Volume:	0	245		176		417	281		0		0	0		0		138	0		274	
Reduct Vol:	0	0		0		0	0		0		0	0		0		0	0		0	
FinalVolume:	0	245		176		417	281		0		0	0		0		138	0		274	
Critical Gap Module:																				
Critical Gp:	xxxxx	xxxx		xxxxx		4.1	xxxx		xxxxx		xxxxx	xxxx		xxxxx		6.4	xxxx		6.2	
FollowUpTim:	xxxxx	xxxx		xxxxx		2.2	xxxx		xxxxx		xxxxx	xxxx		xxxxx		3.5	xxxx		3.3	
Capacity Module:																				
Cnflict Vol:	xxxx	xxxx		xxxxx		421	xxxx		xxxxx		xxxx	xxxx		xxxxx		1448	xxxx		333	
Potent Cap.:	xxxx	xxxx		xxxxx		1149	xxxx		xxxxx		xxxx	xxxx		xxxxx		146	xxxx		713	
Move Cap.:	xxxx	xxxx		xxxxx		1149	xxxx		xxxxx		xxxx	xxxx		xxxxx		105	xxxx		713	
Volume/Cap:	xxxx	xxxx		xxxx		0.36	xxxx		xxxx		xxxx	xxxx		xxxx		1.32	xxxx		0.38	
Level Of Service Module:																				
2Way95thQ:	xxxx	xxxx		xxxxx		1.7	xxxx		xxxxx		xxxx	xxxx		xxxxx		9.6	xxxx		1.8	
Control Del:	xxxxx	xxxx		xxxxx		9.9	xxxx		xxxxx		xxxxx	xxxx		xxxxx		269.7	xxxx		13.2	
LOS by Move:	*	*		*		A	*		*		*	*		*		F	*		B	
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	xxxx		xxxxx		xxxx	xxxx		xxxxx		xxxx	xxxx		xxxxx		xxxx	xxxx		xxxxx	
SharedQueue:	xxxxx	xxxx		xxxxx		xxxxx	xxxx		xxxxx		xxxxx	xxxx		xxxxx		xxxxx	xxxx		xxxxx	
Shrd ConDel:	xxxxx	xxxx		xxxxx		xxxxx	xxxx		xxxxx		xxxxx	xxxx		xxxxx		xxxxx	xxxx		xxxxx	
Shared LOS:	*	*		*		*	*		*		*	*		*		*	*		*	
ApproachDel:	xxxxxx					xxxxxx					xxxxxx					99.1				
ApproachLOS:	*					*					*					F				

Note: Queue reported is the number of cars per lane.

Marymount College Palos Verdes North - Traffic Study
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #12 Western Ave & Trudie Dr/Capitol Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.828
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	74	Level Of Service:	D

Street Name:	Western Ave						Trudie Dr/Capitol Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1! 0	0	1 0	1 0	1
Volume Module:												
Base Vol:	16	1098	119	232	1169	72	129	43	29	124	65	177
Growth 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
Initial Bse:	16	1098	119	232	1169	72	129	43	29	124	65	177
User 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
PHF 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
PHF Volume:	16	1098	119	232	1169	72	129	43	29	124	65	177
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	1098	119	232	1169	72	129	43	29	124	65	177
PCE 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
MLF 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
FinalVolume:	16	1098	119	232	1169	72	129	43	29	124	65	177
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.80	0.20	1.00	1.88	0.12	0.65	0.21	0.14	1.00	1.00	1.00
Final Sat.:	1600	2887	313	1600	3014	186	1027	342	231	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.01	0.38	0.38	0.15	0.39	0.39	0.08	0.13	0.13	0.08	0.04	0.11
Crit Moves:		****		****				****		****		

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst:
Agency/Co.:
Date Performed: 4/13/2011
Analysis Time Period:
Intersection:
Jurisdiction:
Units: U. S. Customary
Analysis Year: Existing 2011 PM
Project ID: Traffic Impact Study for Marymount College San Pedro Campus
East/West Street: Via Colinita Ave
North/South Street: Miraleste Dr
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	11	300	68	262	404	5
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	11	326	73	284	439	5
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type/Storage	Raised curb / 2					
RT Channelized?		No				
Lanes	0	1	1	1	1	0
Configuration		LT	R	L		TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	44	15	193	2	8	13
Peak Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	47	16	209	2	8	14
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/		No	/
Lanes	0	1	1	0	1	0
Configuration		LT	R		LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT	L	LT		R		LTR	
v (vph)	11	284	63		209		24	
C(m) (vph)	1127	1171	190		720		284	
v/c	0.01	0.24	0.33		0.29		0.08	
95% queue length	0.03	0.95	1.37		1.20		0.27	
Control Delay	8.2	9.1	33.1		12.0		18.8	
LOS	A	A	D		B		C	
Approach Delay			16.9				18.8	
Approach LOS			C				C	

HCS+: Unsignalized Intersections Release 5.6

Phone: Fax:
E-Mail:

TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst:
Agency/Co.:
Date Performed: 4/13/2011
Analysis Time Period:
Intersection:
Jurisdiction:
Units: U. S. Customary
Analysis Year: Existing 2011 PM
Project ID: Traffic Impact Study for Marymount College San Pedro Campus
East/West Street: Via Colinita Ave
North/South Street: Miraleste Dr
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movements	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	11	300	68	262	404	5
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Peak-15 Minute Volume	3	82	18	71	110	1
Hourly Flow Rate, HFR	11	326	73	284	439	5
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type/Storage	Raised curb		/ 2			
RT Channelized?			No			
Lanes	0	1	1	1	1	0
Configuration	LT		R	L		TR
Upstream Signal?		No			No	

Minor Street Movements	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	44	15	193	2	8	13
Peak Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Peak-15 Minute Volume	12	4	52	1	2	4
Hourly Flow Rate, HFR	47	16	209	2	8	14
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
RT Channelized?			No			
Lanes	0	1	1	0	1	0
Configuration	LT		R		LTR	

Pedestrian Volumes and Adjustments

Movements	13	14	15	16
Flow (ped/hr)	0	0	0	0

Lane Width (ft)	12.0	12.0	12.0	12.0
Walking Speed (ft/sec)	4.0	4.0	4.0	4.0
Percent Blockage	0	0	0	0

Upstream Signal Data

	Prog. Flow vph	Sat Flow vph	Arrival Type	Green Time sec	Cycle Length sec	Prog. Speed mph	Distance to Signal feet
S2 Left-Turn							
Through							
S5 Left-Turn							
Through							

Worksheet 3-Data for Computing Effect of Delay to Major Street Vehicles

	Movement 2	Movement 5
Shared ln volume, major th vehicles:	326	
Shared ln volume, major rt vehicles:	0	
Sat flow rate, major th vehicles:	1700	
Sat flow rate, major rt vehicles:	1700	
Number of major street through lanes:	1	

Worksheet 4-Critical Gap and Follow-up Time Calculation

Critical Gap Calculation

Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
t(c,base)	4.1	4.1	7.1	6.5	6.2	7.1	6.5	6.2
t(c,hv)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
P(hv)	0	0	0	0	0	0	0	0
t(c,g)			0.20	0.20	0.10	0.20	0.20	0.10
Percent Grade			0.00	0.00	0.00	0.00	0.00	0.00
t(3,lt)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t(c,T): 1-stage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2-stage	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
t(c) 1-stage	4.1	4.1	7.1	6.5	6.2	7.1	6.5	6.2
2-stage	4.1	4.1	6.1	5.5	6.2	6.1	5.5	6.2

Follow-Up Time Calculations

Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
t(f,base)	2.20	2.20	3.50	4.00	3.30	3.50	4.00	3.30
t(f,HV)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
P(HV)	0	0	0	0	0	0	0	0
t(f)	2.2	2.2	3.5	4.0	3.3	3.5	4.0	3.3

Worksheet 5-Effect of Upstream Signals

Computation 1-Queue Clearance Time at Upstream Signal

	Movement 2		Movement 5	
	V(t)	V(l,prot)	V(t)	V(l,prot)
V prog				

Total Saturation Flow Rate, s (vph)	
Arrival Type	
Effective Green, g (sec)	
Cycle Length, C (sec)	
Rp (from Exhibit 16-11)	
Proportion vehicles arriving on green P	
g(q1)	
g(q2)	
g(q)	

Computation 2-Proportion of TWSC Intersection Time blocked	Movement 2		Movement 5	
	V(t)	V(l,prot)	V(t)	V(l,prot)
alpha				
beta				
Travel time, t(a) (sec)				
Smoothing Factor, F				
Proportion of conflicting flow, f				
Max platooned flow, V(c,max)				
Min platooned flow, V(c,min)				
Duration of blocked period, t(p)				
Proportion time blocked, p	0.000		0.000	

Computation 3-Platoon Event Periods	Result
p(2)	0.000
p(5)	0.000
p(dom)	
p(subo)	
Constrained or unconstrained?	

Proportion unblocked for minor movements, p(x)	(1) Single-stage Process	(2) Two-Stage Process Stage I	(3) Stage II
p(1)			
p(4)			
p(7)			
p(8)			
p(9)			
p(10)			
p(11)			
p(12)			

Computation 4 and 5 Single-Stage Process								
Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
V c,x	444	399	1368	1360	326	1507	1431	442
s								
Px								
V c,u,x								
C r,x								
C plat,x								

Two-Stage Process				
	7	8	10	11

	Stage1	Stage2	Stage1	Stage2	Stage1	Stage2	Stage1	Stage2
V(c,x)	348	1020	348	1012	1010	497	1010	421
s		1500		1500		1500		1500
P(x)								
V(c,u,x)								
C(r,x)								
C(plat,x)								

Worksheet 6-Impedance and Capacity Equations

Step 1: RT from Minor St.	9	12
Conflicting Flows	326	442
Potential Capacity	720	620
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	720	620
Probability of Queue free St.	0.71	0.98
Step 2: LT from Major St.	**4**	**1**
Conflicting Flows	399	444
Potential Capacity	1171	1127
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	1171	1127
Probability of Queue free St.	0.76	0.99
Maj L-Shared Prob Q free St.		0.99
Step 3: TH from Minor St.	**8**	**11**
Conflicting Flows	1360	1431
Potential Capacity	150	136
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.75	0.75
Movement Capacity	112	102
Probability of Queue free St.	0.93	0.96
Step 4: LT from Minor St.	**7**	**10**
Conflicting Flows	1368	1507
Potential Capacity	125	100
Pedestrian Impedance Factor	1.00	1.00
Maj. L, Min T Impedance factor	0.72	0.69
Maj. L, Min T Adj. Imp Factor.	0.78	0.76
Cap. Adj. factor due to Impeding mvmnt	0.76	0.54
Movement Capacity	96	54

Worksheet 7-Computation of the Effect of Two-stage Gap Acceptance

Step 3: TH from Minor St.	8	11
Part 1 - First Stage		
Conflicting Flows	348	1010
Potential Capacity	638	320
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.99	0.76
Movement Capacity	630	242
Probability of Queue free St.	0.97	0.97

Part 2 - Second Stage		
Conflicting Flows	1012	421
Potential Capacity	319	592
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.76	0.99
Movement Capacity	242	585
Part 3 - Single Stage		
Conflicting Flows	1360	1431
Potential Capacity	150	136
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.75	0.75
Movement Capacity	112	102
Result for 2 stage process:		
a	0.95	0.95
y	4.35	0.70
C t	215	200
Probability of Queue free St.	0.93	0.96
Step 4: LT from Minor St.	7	10
Part 1 - First Stage		
Conflicting Flows	348	1010
Potential Capacity	672	292
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.99	0.76
Movement Capacity	664	221
Part 2 - Second Stage		
Conflicting Flows	1020	497
Potential Capacity	288	559
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.72	0.68
Movement Capacity	206	382
Part 3 - Single Stage		
Conflicting Flows	1368	1507
Potential Capacity	125	100
Pedestrian Impedance Factor	1.00	1.00
Maj. L, Min T Impedance factor	0.72	0.69
Maj. L, Min T Adj. Imp Factor.	0.78	0.76
Cap. Adj. factor due to Impeding mvmnt	0.76	0.54
Movement Capacity	96	54
Results for Two-stage process:		
a	0.95	0.95
y	5.74	3.80
C t	183	91

Worksheet 8-Shared Lane Calculations

Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (vph)	47	16	209	2	8	14
Movement Capacity (vph)	183	215	720	91	200	620
Shared Lane Capacity (vph)	190				284	

Worksheet 9-Computation of Effect of Flared Minor Street Approaches

Movement	7	8	9	10	11	12
	L	T	R	L	T	R
C sep	183	215	720	91	200	620
Volume	47	16	209	2	8	14
Delay						
Q sep						
Q sep +1						
round (Qsep +1)						
n max						
C sh	190				284	
SUM C sep						
n						
C act						

Worksheet 10-Delay, Queue Length, and Level of Service

Movement	1	4	7	8	9	10	11	12
Lane Config	LT	L	LT		R		LTR	
v (vph)	11	284	63		209		24	
C(m) (vph)	1127	1171	190		720		284	
v/c	0.01	0.24	0.33		0.29		0.08	
95% queue length	0.03	0.95	1.37		1.20		0.27	
Control Delay	8.2	9.1	33.1		12.0		18.8	
LOS	A	A	D		B		C	
Approach Delay				16.9			18.8	
Approach LOS				C			C	

Worksheet 11-Shared Major LT Impedance and Delay

	Movement 2	Movement 5
p(oj)	0.99	0.76
v(il), Volume for stream 2 or 5	326	
v(i2), Volume for stream 3 or 6	0	
s(il), Saturation flow rate for stream 2 or 5	1700	
s(i2), Saturation flow rate for stream 3 or 6	1700	
P*(oj)	0.99	
d(M,LT), Delay for stream 1 or 4	8.2	9.1
N, Number of major street through lanes	1	
d(rank,1) Delay for stream 2 or 5	0.1	

Marymount College Palos Verdes North - Traffic Study
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #14 Western Ave & Crestwood St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.796
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	66	Level Of Service:	C

Street Name:	Western Ave						Crestwood St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	41	1244	204	39	1382	116	143	37	50	180	29	46
Growth 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
Initial Bse:	41	1244	204	39	1382	116	143	37	50	180	29	46
User 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
PHF 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
PHF Volume:	41	1244	204	39	1382	116	143	37	50	180	29	46
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	41	1244	204	39	1382	116	143	37	50	180	29	46
PCE 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
MLF 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
FinalVolume:	41	1244	204	39	1382	116	143	37	50	180	29	46
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.72	0.28	1.00	1.85	0.15	1.00	0.43	0.57	1.00	0.39	0.61
Final Sat.:	1600	2749	451	1600	2952	248	1600	680	920	1600	619	981
Capacity Analysis Module:												
Vol/Sat:	0.03	0.45	0.45	0.02	0.47	0.47	0.09	0.05	0.05	0.11	0.05	0.05
Crit Moves:	****				****		****			****		

Marymount College Palos Verdes North - Traffic Study
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #15 Miraleste Dr & 1st St

Average Delay (sec/veh): 4.1 Worst Case Level Of Service: B[13.3]

Street Name:	Miraleste Dr									1st St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 1 0			1 0 1 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	0	221	39	159	295	0	0	0	0	34	0	141
Growth 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
Initial Bse:	0	221	39	159	295	0	0	0	0	34	0	141
User 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
PHF 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
PHF Volume:	0	221	39	159	295	0	0	0	0	34	0	141
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	221	39	159	295	0	0	0	0	34	0	141
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	260	xxxx	xxxxx	924	873	295	854	854	241
Potent Cap.:	xxxx	xxxx	xxxxx	1316	xxxx	xxxxx	252	291	749	332	298	803
Move Cap.:	xxxx	xxxx	xxxxx	1316	xxxx	xxxxx	189	256	749	301	262	803
Volume/Cap:	xxxx	xxxx	xxxx	0.12	xxxx	xxxx	0.00	0.00	0.00	0.11	0.00	0.18
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.4	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	8.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	0	xxxxx	xxxx	607	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	1.2	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	13.3	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			13.3		
ApproachLOS:	*			*			*			B		

Note: Queue reported is the number of cars per lane.

Marymount College Palos Verdes North - Traffic Study
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #17 Palos Verdes Dr E & Crest Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.348
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	27	Level Of Service:	A

Street Name:	Palos Verdes Dr E						Crest Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 1	0 0	1	1 0	1 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	12	2	44	176	2	35	34	153	13	37	184	129
Growth 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	
Initial Bse:	12	2	44	176	2	35	34	153	13	37	184	129
User 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	
PHF 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	
PHF Volume:	12	2	44	176	2	35	34	153	13	37	184	129
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	12	2	44	176	2	35	34	153	13	37	184	129
PCE 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	
MLF 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	
FinalVolume:	12	2	44	176	2	35	34	153	13	37	184	129
Saturation Flow Module:												
Sat/Lane:	1600 1600	1600		1600 1600	1600		1600 1600	1600		1600 1600	1600	
Adjustment:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
Lanes:	0.21 0.03	0.76		0.99 0.01	1.00		1.00 1.84	0.16		1.00 2.00	1.00	
Final Sat.:	331	55	1214	1582	18	1600	1600	2949	251	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.01 0.04	0.04		0.11 0.11	0.02		0.02 0.05	0.05		0.02 0.06	0.08	
Crit Moves:	****			****			****				****	

APPENDIX H
Intersection Level of Service Worksheets
Existing Plus Project (2011)

Marymount College Palos Verdes North - Traffic Study
Existing Plus Project Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Palos Verdes Dr E & Palos Verdes Dr N

Cycle (sec):	100	Critical Vol./Cap.(X):	0.752
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	58	Level Of Service:	C

Street Name:	Palos Verdes Dr E						Palos Verdes Dr N					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1 0	1	2 0	1 0	1	1 0	2 0	1	1 0	2 0	1
Volume Module:												
Base Vol:	361	259	176	113	128	31	66	1051	182	157	842	141
Growth 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
Initial Bse:	361	259	176	113	128	31	66	1051	182	157	842	141
Added Vol:	0	0	5	0	0	0	0	3	0	31	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	361	259	181	113	128	31	66	1054	182	188	842	141
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	361	259	181	113	128	31	66	1054	182	188	842	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	361	259	181	113	128	31	66	1054	182	188	842	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	361	259	181	113	128	31	66	1054	182	188	842	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.00	1.00	2.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	2880	1600	1600	2880	1600	1600	1600	3200	1600	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.13	0.16	0.11	0.04	0.08	0.02	0.04	0.33	0.11	0.12	0.26	0.00
Crit Moves:	****			****			****			****		

Marymount College Palos Verdes North - Traffic Study
Existing Plus Project Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Western Ave & Palos Verdes Dr N

Cycle (sec):	100	Critical Vol./Cap.(X):	0.942
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	127	Level Of Service:	E

Street Name:	Western Ave						Palos Verdes Dr N					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1	1 0	1 0	1	1 0	1 0	3	0 1	1 0	2	1 0
Volume Module:												
Base Vol:	582	1003	385	51	574	101	103	965	333	252	595	21
Growth 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
Initial Bse:	582	1003	385	51	574	101	103	965	333	252	595	21
Added Vol:	0	0	5	6	0	0	0	9	0	17	31	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	582	1003	390	57	574	101	103	974	333	269	626	21
User 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
PHF 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
PHF Volume:	582	1003	390	57	574	101	103	974	333	269	626	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	582	1003	390	57	574	101	103	974	333	269	626	21
PCE 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
MLF 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
FinalVolume:	582	1003	390	57	574	101	103	974	333	269	626	21
OvlAdjVol:									10			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.44	0.56	1.00	1.70	0.30	1.00	3.00	1.00	1.00	2.90	0.10
Final Sat.:	2880	2304	896	1600	2721	479	1600	4800	1600	1600	4644	156
Capacity Analysis Module:												
Vol/Sat:	0.20	0.44	0.44	0.04	0.21	0.21	0.06	0.20	0.21	0.17	0.13	0.13
OvlAdjV/S:									0.01			
Crit Moves:	****			****				****		****		

Marymount College Palos Verdes North - Traffic Study
Existing Plus Project Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #11 Palos Verder Dr E & Miraleste Dr

Average Delay (sec/veh): 34.2 Worst Case Level Of Service: F[105.7]

Street Name:	Palos Verder Dr E						Miraleste Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 1 0			1 0 1 0 0			0 0 0 0 0			1 0 0 0 1		
Volume Module:												
Base Vol:	0	337	170	344	259	0	0	0	0	145	0	340
Growth 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
Initial Bse:	0	337	170	344	259	0	0	0	0	145	0	340
Added Vol:	0	5	3	0	31	0	0	0	0	17	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	342	173	344	290	0	0	0	0	162	0	340
User 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
PHF 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
PHF Volume:	0	342	173	344	290	0	0	0	0	162	0	340
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	342	173	344	290	0	0	0	0	162	0	340
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	515	xxxx	xxxxx	xxxx	xxxx	xxxxx	1407	xxxx	429
Potent Cap.:	xxxx	xxxx	xxxxx	1061	xxxx	xxxxx	xxxx	xxxx	xxxxx	155	xxxx	631
Move Cap.:	xxxx	xxxx	xxxxx	1061	xxxx	xxxxx	xxxx	xxxx	xxxxx	116	xxxx	631
Volume/Cap:	xxxx	xxxx	xxxx	0.32	xxxx	xxxx	xxxx	xxxx	xxxx	1.40	xxxx	0.54
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	1.4	xxxx	xxxxx	xxxx	xxxx	xxxxx	11.2	xxxx	3.2
Control Del:	xxxxx	xxxx	xxxxx	10.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	291.4	xxxx	17.2
LOS by Move:	*	*	*	B	*	*	*	*	*	F	*	C
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			105.7		
ApproachLOS:	*			*			*			F		

Note: Queue reported is the number of cars per lane.

Marymount College Palos Verdes North - Traffic Study
Existing Plus Project Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #12 Western Ave & Trudie Dr/Capitol Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.931
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	118	Level Of Service:	E

Street Name:	Western Ave						Trudie Dr/Capitol Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1! 0	0	1 0	1 0	1
Volume Module:												
Base Vol:	9	1432	113	123	852	52	158	80	14	179	66	127
Growth 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
Initial Bse:	9	1432	113	123	852	52	158	80	14	179	66	127
Added Vol:	0	4	0	0	14	2	1	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	9	1436	113	123	866	54	159	80	14	179	66	127
User 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
PHF 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
PHF Volume:	9	1436	113	123	866	54	159	80	14	179	66	127
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	9	1436	113	123	866	54	159	80	14	179	66	127
PCE 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
MLF 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
FinalVolume:	9	1436	113	123	866	54	159	80	14	179	66	127
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.85	0.15	1.00	1.88	0.12	0.63	0.32	0.05	1.00	1.00	1.00
Final Sat.:	1600	2967	233	1600	3012	188	1006	506	89	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.01	0.48	0.48	0.08	0.29	0.29	0.10	0.16	0.16	0.11	0.04	0.08
Crit Moves:		****		****				****		****		

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst:
Agency/Co.:
Date Performed: 4/13/2011
Analysis Time Period: AM
Intersection:
Jurisdiction:
Units: U. S. Customary
Analysis Year: Existing 2011 Plus Project AM
Project ID: Traffic Impact Study for Marymount College San Pedro Campus
East/West Street: Via Colinita Ave
North/South Street: Miraleste Dr
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	11	399	168	183	384	2
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	11	433	182	198	417	2
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type/Storage	Raised curb / 2					
RT Channelized?		No				
Lanes	0	1	1	1	1	0
Configuration		LT	R	L		TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	76	19	214	0	3	17
Peak Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	82	20	232	0	3	18
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/		No	/
Lanes	0	1	1	0	1	0
Configuration		LT	R		LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT	L	LT		R		LTR	
v (vph)	11	198	102		232		21	
C(m) (vph)	1151	974	252		627		499	
v/c	0.01	0.20	0.40		0.37		0.04	
95% queue length	0.03	0.76	1.86		1.70		0.13	
Control Delay	8.2	9.6	28.7		14.1		12.5	
LOS	A	A	D		B		B	
Approach Delay			18.5				12.5	
Approach LOS			C				B	

HCS+: Unsignalized Intersections Release 5.6

Phone: Fax:
E-Mail:

TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst:
Agency/Co.:
Date Performed: 4/13/2011
Analysis Time Period: AM
Intersection:
Jurisdiction:
Units: U. S. Customary
Analysis Year: Existing 2011 Plus Project AM
Project ID: Traffic Impact Study for Marymount College San Pedro Campus
East/West Street: Via Colinita Ave
North/South Street: Miraleste Dr
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movements	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	11	399	168	183	384	2
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Peak-15 Minute Volume	3	108	46	50	104	1
Hourly Flow Rate, HFR	11	433	182	198	417	2
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type/Storage	Raised curb		/ 2			
RT Channelized?			No			
Lanes	0	1	1	1	1	0
Configuration	LT		R	L		TR
Upstream Signal?		No			No	

Minor Street Movements	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	76	19	214	0	3	17
Peak Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Peak-15 Minute Volume	21	5	58	0	1	5
Hourly Flow Rate, HFR	82	20	232	0	3	18
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
RT Channelized?			No			
Lanes	0	1	1	0	1	0
Configuration	LT		R		LTR	

Pedestrian Volumes and Adjustments

Movements	13	14	15	16
Flow (ped/hr)	0	0	0	0

Lane Width (ft)	12.0	12.0	12.0	12.0
Walking Speed (ft/sec)	4.0	4.0	4.0	4.0
Percent Blockage	0	0	0	0

Upstream Signal Data

	Prog. Flow vph	Sat Flow vph	Arrival Type	Green Time sec	Cycle Length sec	Prog. Speed mph	Distance to Signal feet
S2 Left-Turn							
Through							
S5 Left-Turn							
Through							

Worksheet 3-Data for Computing Effect of Delay to Major Street Vehicles

	Movement 2	Movement 5
Shared ln volume, major th vehicles:	433	
Shared ln volume, major rt vehicles:	0	
Sat flow rate, major th vehicles:	1700	
Sat flow rate, major rt vehicles:	1700	
Number of major street through lanes:	1	

Worksheet 4-Critical Gap and Follow-up Time Calculation

Critical Gap Calculation

Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
t(c,base)	4.1	4.1	7.1	6.5	6.2	7.1	6.5	6.2
t(c,hv)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
P(hv)	0	0	0	0	0	0	0	0
t(c,g)			0.20	0.20	0.10	0.20	0.20	0.10
Percent Grade			0.00	0.00	0.00	0.00	0.00	0.00
t(3,lt)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t(c,T): 1-stage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2-stage	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
t(c) 1-stage	4.1	4.1	7.1	6.5	6.2	7.1	6.5	6.2
2-stage	4.1	4.1	6.1	5.5	6.2	6.1	5.5	6.2

Follow-Up Time Calculations

Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
t(f,base)	2.20	2.20	3.50	4.00	3.30	3.50	4.00	3.30
t(f,HV)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
P(HV)	0	0	0	0	0	0	0	0
t(f)	2.2	2.2	3.5	4.0	3.3	3.5	4.0	3.3

Worksheet 5-Effect of Upstream Signals

Computation 1-Queue Clearance Time at Upstream Signal

	Movement 2		Movement 5	
	V(t)	V(l,prot)	V(t)	V(l,prot)
V prog				

Total Saturation Flow Rate, s (vph)	
Arrival Type	
Effective Green, g (sec)	
Cycle Length, C (sec)	
Rp (from Exhibit 16-11)	
Proportion vehicles arriving on green P	
g(q1)	
g(q2)	
g(q)	

Computation 2-Proportion of TWSC Intersection Time blocked	Movement 2		Movement 5	
	V(t)	V(l,prot)	V(t)	V(l,prot)
alpha				
beta				
Travel time, t(a) (sec)				
Smoothing Factor, F				
Proportion of conflicting flow, f				
Max platooned flow, V(c,max)				
Min platooned flow, V(c,min)				
Duration of blocked period, t(p)				
Proportion time blocked, p	0.000		0.000	

Computation 3-Platoon Event Periods	Result
p(2)	0.000
p(5)	0.000
p(dom)	
p(subo)	
Constrained or unconstrained?	

Proportion unblocked for minor movements, p(x)	(1) Single-stage Process	(2) Two-Stage Process Stage I	(3) Stage II
p(1)			
p(4)			
p(7)			
p(8)			
p(9)			
p(10)			
p(11)			
p(12)			

Computation 4 and 5 Single-Stage Process								
Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
V c,x	419	615	1279	1270	433	1486	1451	418
s								
Px								
V c,u,x								
C r,x								
C plat,x								

Two-Stage Process				
	7	8	10	11

	Stage1	Stage2	Stage1	Stage2	Stage1	Stage2	Stage1	Stage2
V(c,x)	455	824	455	815	814	672	814	637
s		1500		1500		1500		1500
P(x)								
V(c,u,x)								
C(r,x)								
C(plat,x)								

Worksheet 6-Impedance and Capacity Equations

Step 1: RT from Minor St.	9	12
Conflicting Flows	433	418
Potential Capacity	627	639
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	627	639
Probability of Queue free St.	0.63	0.97
Step 2: LT from Major St.	**4**	**1**
Conflicting Flows	615	419
Potential Capacity	974	1151
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	974	1151
Probability of Queue free St.	0.80	0.99
Maj L-Shared Prob Q free St.		0.99
Step 3: TH from Minor St.	**8**	**11**
Conflicting Flows	1270	1451
Potential Capacity	170	132
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.79	0.79
Movement Capacity	134	104
Probability of Queue free St.	0.93	0.99
Step 4: LT from Minor St.	**7**	**10**
Conflicting Flows	1279	1486
Potential Capacity	144	104
Pedestrian Impedance Factor	1.00	1.00
Maj. L, Min T Impedance factor	0.78	0.73
Maj. L, Min T Adj. Imp Factor.	0.83	0.79
Cap. Adj. factor due to Impeding mvmnt	0.80	0.50
Movement Capacity	116	52

Worksheet 7-Computation of the Effect of Two-stage Gap Acceptance

Step 3: TH from Minor St.	8	11
Part 1 - First Stage		
Conflicting Flows	455	814
Potential Capacity	572	394
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.99	0.80
Movement Capacity	565	314
Probability of Queue free St.	0.96	0.99

Part 2 - Second Stage		
Conflicting Flows	815	637
Potential Capacity	394	475
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.80	0.99
Movement Capacity	314	469
Part 3 - Single Stage		
Conflicting Flows	1270	1451
Potential Capacity	170	132
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.79	0.79
Movement Capacity	134	104
Result for 2 stage process:		
a	0.95	0.95
y	2.55	1.26
C t	272	216
Probability of Queue free St.	0.93	0.99
Step 4: LT from Minor St.	7	10
Part 1 - First Stage		
Conflicting Flows	455	814
Potential Capacity	589	375
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.99	0.80
Movement Capacity	581	299
Part 2 - Second Stage		
Conflicting Flows	824	672
Potential Capacity	370	449
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.77	0.60
Movement Capacity	284	269
Part 3 - Single Stage		
Conflicting Flows	1279	1486
Potential Capacity	144	104
Pedestrian Impedance Factor	1.00	1.00
Maj. L, Min T Impedance factor	0.78	0.73
Maj. L, Min T Adj. Imp Factor.	0.83	0.79
Cap. Adj. factor due to Impeding mvmnt	0.80	0.50
Movement Capacity	116	52
Results for Two-stage process:		
a	0.95	0.95
y	2.96	13.00
C t	247	67

Worksheet 8-Shared Lane Calculations

Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (vph)	82	20	232	0	3	18
Movement Capacity (vph)	247	272	627	67	216	639
Shared Lane Capacity (vph)	252				499	

Worksheet 9-Computation of Effect of Flared Minor Street Approaches

Movement	7	8	9	10	11	12
	L	T	R	L	T	R
C sep	247	272	627	67	216	639
Volume	82	20	232	0	3	18
Delay						
Q sep						
Q sep +1						
round (Qsep +1)						
n max						
C sh	252				499	
SUM C sep						
n						
C act						

Worksheet 10-Delay, Queue Length, and Level of Service

Movement	1	4	7	8	9	10	11	12
Lane Config	LT	L	LT		R		LTR	
v (vph)	11	198	102		232		21	
C(m) (vph)	1151	974	252		627		499	
v/c	0.01	0.20	0.40		0.37		0.04	
95% queue length	0.03	0.76	1.86		1.70		0.13	
Control Delay	8.2	9.6	28.7		14.1		12.5	
LOS	A	A	D		B		B	
Approach Delay				18.5			12.5	
Approach LOS				C			B	

Worksheet 11-Shared Major LT Impedance and Delay

	Movement 2	Movement 5
p(oj)	0.99	0.80
v(il), Volume for stream 2 or 5	433	
v(i2), Volume for stream 3 or 6	0	
s(il), Saturation flow rate for stream 2 or 5	1700	
s(i2), Saturation flow rate for stream 3 or 6	1700	
P*(oj)	0.99	
d(M,LT), Delay for stream 1 or 4	8.2	9.6
N, Number of major street through lanes	1	
d(rank,1) Delay for stream 2 or 5	0.1	

Marymount College Palos Verdes North - Traffic Study
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #14 Western Ave & Crestwood St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.784
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	63	Level Of Service:	C

Street Name:	Western Ave						Crestwood St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	72	1565	115	14	1040	121	185	33	116	53	11	28
Growth 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
Initial Bse:	72	1565	115	14	1040	121	185	33	116	53	11	28
Added Vol:	0	3	0	0	10	5	1	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	72	1568	115	14	1050	126	186	33	116	53	11	28
User 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
PHF 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
PHF Volume:	72	1568	115	14	1050	126	186	33	116	53	11	28
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	72	1568	115	14	1050	126	186	33	116	53	11	28
PCE 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
MLF 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
FinalVolume:	72	1568	115	14	1050	126	186	33	116	53	11	28
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.86	0.14	1.00	1.79	0.21	1.00	0.22	0.78	1.00	0.28	0.72
Final Sat.:	1600	2981	219	1600	2857	343	1600	354	1246	1600	451	1149
Capacity Analysis Module:												
Vol/Sat:	0.05	0.53	0.53	0.01	0.37	0.37	0.12	0.09	0.09	0.03	0.02	0.02
Crit Moves:		****			****			****			****	

Marymount College Palos Verdes North - Traffic Study
Existing Plus Project Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #15 Miraleste Dr & 1st St

Average Delay (sec/veh): 5.2 Worst Case Level Of Service: C[16.4]

Street Name:	Miraleste Dr						1st St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 1 0			1 0 1 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	0	364	73	250	205	0	0	0	0	22	0	176
Growth 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
Initial Bse:	0	364	73	250	205	0	0	0	0	22	0	176
Added Vol:	0	0	0	2	0	0	0	0	0	0	0	10
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	364	73	252	205	0	0	0	0	22	0	186
User 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
PHF 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
PHF Volume:	0	364	73	252	205	0	0	0	0	22	0	186
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	364	73	252	205	0	0	0	0	22	0	186
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	437	xxxx	xxxxx	1203	1146	205	1110	1110	401
Potent Cap.:	xxxx	xxxx	xxxxx	1134	xxxx	xxxxx	163	201	841	234	211	654
Move Cap.:	xxxx	xxxx	xxxxx	1134	xxxx	xxxxx	97	156	841	194	164	654
Volume/Cap:	xxxx	xxxx	xxxx	0.22	xxxx	xxxx	0.00	0.00	0.00	0.11	0.00	0.28
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.9	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	9.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	0	xxxxx	xxxx	523	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	1.9	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	16.4	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	C	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			16.4		
ApproachLOS:	*			*			*			C		

Note: Queue reported is the number of cars per lane.

Marymount College Palos Verdes North - Traffic Study
Existing Plus Project Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #17 Palos Verdes Dr E & Crest Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.443
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	A

Street Name:	Palos Verdes Dr E						Crest Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	1	0	0	1	1	0	1	1	0	1	0	2	0	1
Volume Module:												
Base Vol:	7	0	17	254	2	46	60	157	53	109	94	180
Growth 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
Initial Bse:	7	0	17	254	2	46	60	157	53	109	94	180
Added Vol:	0	0	9	0	0	0	0	0	0	48	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	7	0	26	254	2	46	60	157	53	157	94	180
User 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
PHF 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
PHF Volume:	7	0	26	254	2	46	60	157	53	157	94	180
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	7	0	26	254	2	46	60	157	53	157	94	180
PCE 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
MLF 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
FinalVolume:	7	0	26	254	2	46	60	157	53	157	94	180
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.21	0.00	0.79	0.99	0.01	1.00	1.00	1.50	0.50	1.00	2.00	1.00
Final Sat.:	339	0	1261	1588	13	1600	1600	2392	808	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.02	0.16	0.16	0.03	0.04	0.07	0.07	0.10	0.03	0.11
Crit Moves:			****	****				****		****		

Marymount College Palos Verdes North - Traffic Study
Existing Plus Project Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Palos Verdes Dr E & Palos Verdes Dr N

Cycle (sec):	100	Critical Vol./Cap.(X):	0.715
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	52	Level Of Service:	C

Street Name:	Palos Verdes Dr E						Palos Verdes Dr N					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1 0	1	2 0	1 0	1	1 0	2 0	1	1 0	2 0	1
Volume Module:												
Base Vol:	176	140	126	228	248	92	77	985	254	121	1065	71
Growth 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
Initial Bse:	176	140	126	228	248	92	77	985	254	121	1065	71
Added Vol:	0	0	22	0	0	0	0	4	0	23	13	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	176	140	148	228	248	92	77	989	254	144	1078	72
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	176	140	148	228	248	92	77	989	254	144	1078	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	176	140	148	228	248	92	77	989	254	144	1078	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	176	140	148	228	248	92	77	989	254	144	1078	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.00	1.00	2.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	2880	1600	1600	2880	1600	1600	1600	3200	1600	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.06	0.09	0.09	0.08	0.16	0.06	0.05	0.31	0.16	0.09	0.34	0.00
Crit Moves:	****			****			****			****		

Marymount College Palos Verdes North - Traffic Study
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Western Ave & Palos Verdes Dr N

Cycle (sec):	100	Critical Vol./Cap.(X):	0.982
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	170	Level Of Service:	E

Street Name:	Western Ave						Palos Verdes Dr N					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1	1 0	1 0	1	1 0	1 0	3	0 1	1 0	2	1 0
Volume Module:												
Base Vol:	398	683	178	29	919	160	151	587	537	314	824	27
Growth 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
Initial Bse:	398	683	178	29	919	160	151	587	537	314	824	27
Added Vol:	0	0	15	8	0	0	0	27	0	21	37	25
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	398	683	193	37	919	160	151	614	537	335	861	52
User 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
PHF 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
PHF Volume:	398	683	193	37	919	160	151	614	537	335	861	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	398	683	193	37	919	160	151	614	537	335	861	52
PCE 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
MLF 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
FinalVolume:	398	683	193	37	919	160	151	614	537	335	861	52
OvlAdjVol:									316			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.56	0.44	1.00	1.70	0.30	1.00	3.00	1.00	1.00	2.83	0.17
Final Sat.:	2880	2495	705	1600	2725	475	1600	4800	1600	1600	4527	273
Capacity Analysis Module:												
Vol/Sat:	0.14	0.27	0.27	0.02	0.34	0.34	0.09	0.13	0.34	0.21	0.19	0.19
OvlAdjV/S:									0.20			
Crit Moves:	****			****					****	****		

Marymount College Palos Verdes North - Traffic Study
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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #11 Palos Verder Dr E & Miraleste Dr

Average Delay (sec/veh): 40.4 Worst Case Level Of Service: F[142.2]

Street Name:	Palos Verder Dr E									Miraleste Dr								
Approach:	North Bound				South Bound					East Bound					West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Rights:	Include					Include					Include					Include				
Lanes:	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	1
Volume Module:																				
Base Vol:	0	245	176			417	281		0		0	0	0			138	0	274		
Growth 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		
Initial Bse:	0	245	176			417	281		0		0	0	0			138	0	274		
Added Vol:	0	22	12			0	23		0		0	0	0			13	0	0		
PasserByVol:	0	0	0			0	0		0		0	0	0			0	0	0		
Initial Fut:	0	267	188			417	304		0		0	0	0			151	0	274		
User 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		
PHF 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		
PHF Volume:	0	267	188			417	304		0		0	0	0			151	0	274		
Reduct Vol:	0	0	0			0	0		0		0	0	0			0	0	0		
FinalVolume:	0	267	188			417	304		0		0	0	0			151	0	274		
Critical Gap Module:																				
Critical Gp:	xxxxx	xxxx	xxxxx			4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx					6.4	xxxx	6.2		
FollowUpTim:	xxxxx	xxxx	xxxxx			2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx					3.5	xxxx	3.3		
Capacity Module:																				
Cnflict Vol:	xxxx	xxxx	xxxxx			455	xxxx	xxxxx	xxxx	xxxx	xxxxx					1499	xxxx	361		
Potent Cap.:	xxxx	xxxx	xxxxx			1116	xxxx	xxxxx	xxxx	xxxx	xxxxx					136	xxxx	688		
Move Cap.:	xxxx	xxxx	xxxxx			1116	xxxx	xxxxx	xxxx	xxxx	xxxxx					96	xxxx	688		
Volume/Cap:	xxxx	xxxx	xxxx			0.37	xxxx	xxxx	xxxx	xxxx	xxxx					1.57	xxxx	0.40		
Level Of Service Module:																				
2Way95thQ:	xxxx	xxxx	xxxxx			1.8	xxxx	xxxxx	xxxx	xxxx	xxxxx					11.7	xxxx	1.9		
Control Del:	xxxxx	xxxx	xxxxx			10.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx					375.5	xxxx	13.7		
LOS by Move:	*	*	*			B	*	*	*	*	*					F	*	B		
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx		
SharedQueue:	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx		
Shrd ConDel:	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx		
Shared LOS:	*	*	*			*	*	*			*	*	*			*	*	*		
ApproachDel:	xxxxxx					xxxxxx					xxxxxx					142.2				
ApproachLOS:	*					*					*					F				

Note: Queue reported is the number of cars per lane.

Marymount College Palos Verdes North - Traffic Study
Existing Plus Project Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #12 Western Ave & Trudie Dr/Capitol Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.834
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	75	Level Of Service:	D

Street Name:	Western Ave						Trudie Dr/Capitol Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1! 0	0	1 0	1 0	1
Volume Module:												
Base Vol:	16	1098	119	232	1169	72	129	43	29	124	65	177
Growth 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
Initial Bse:	16	1098	119	232	1169	72	129	43	29	124	65	177
Added Vol:	0	13	0	0	19	2	2	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	16	1111	119	232	1188	74	131	43	29	124	65	177
User 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
PHF 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
PHF Volume:	16	1111	119	232	1188	74	131	43	29	124	65	177
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	1111	119	232	1188	74	131	43	29	124	65	177
PCE 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
MLF 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
FinalVolume:	16	1111	119	232	1188	74	131	43	29	124	65	177
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.81	0.19	1.00	1.88	0.12	0.65	0.21	0.14	1.00	1.00	1.00
Final Sat.:	1600	2890	310	1600	3012	188	1033	339	229	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.01	0.38	0.38	0.15	0.39	0.39	0.08	0.13	0.13	0.08	0.04	0.11
Crit Moves:		****		****				****		****		

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst:
Agency/Co.:
Date Performed: 4/13/2011
Analysis Time Period:
Intersection:
Jurisdiction:
Units: U. S. Customary
Analysis Year: Existing 2011 Plus Project PM
Project ID: Traffic Impact Study for Marymount College San Pedro Campus
East/West Street: Via Colinita Ave
North/South Street: Miraleste Dr
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	11	307	68	267	411	5
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	11	333	73	290	446	5
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type/Storage	Raised curb / 2					
RT Channelized?		No				
Lanes	0	1	1	1	1	0
Configuration		LT	R		L	TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	44	15	199	2	8	13
Peak Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	47	16	216	2	8	14
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/		No	/
Lanes	0	1	1	0	1	0
Configuration		LT	R		LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT	L	LT		R		LTR	
v (vph)	11	290	63		216		24	
C(m) (vph)	1120	1164	183		713		265	
v/c	0.01	0.25	0.34		0.30		0.09	
95% queue length	0.03	0.99	1.44		1.28		0.30	
Control Delay	8.2	9.1	34.7		12.2		19.9	
LOS	A	A	D		B		C	
Approach Delay			17.3				19.9	
Approach LOS			C				C	

HCS+: Unsignalized Intersections Release 5.6

Phone: Fax:
E-Mail:

TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst:
Agency/Co.:
Date Performed: 4/13/2011
Analysis Time Period:
Intersection:
Jurisdiction:
Units: U. S. Customary
Analysis Year: Existing 2011 Plus Project PM
Project ID: Traffic Impact Study for Marymount College San Pedro Campus
East/West Street: Via Colinita Ave
North/South Street: Miraleste Dr
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movements	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	11	307	68	267	411	5
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Peak-15 Minute Volume	3	83	18	73	112	1
Hourly Flow Rate, HFR	11	333	73	290	446	5
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type/Storage	Raised curb		/ 2			
RT Channelized?			No			
Lanes	0	1	1	1	1	0
Configuration	LT		R	L		TR
Upstream Signal?		No			No	

Minor Street Movements	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	44	15	199	2	8	13
Peak Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Peak-15 Minute Volume	12	4	54	1	2	4
Hourly Flow Rate, HFR	47	16	216	2	8	14
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
RT Channelized?			No			
Lanes	0	1	1	0	1	0
Configuration	LT		R		LTR	

Pedestrian Volumes and Adjustments

Movements	13	14	15	16
Flow (ped/hr)	0	0	0	0

Lane Width (ft)	12.0	12.0	12.0	12.0
Walking Speed (ft/sec)	4.0	4.0	4.0	4.0
Percent Blockage	0	0	0	0

Upstream Signal Data

	Prog. Flow vph	Sat Flow vph	Arrival Type	Green Time sec	Cycle Length sec	Prog. Speed mph	Distance to Signal feet
S2 Left-Turn							
Through							
S5 Left-Turn							
Through							

Worksheet 3-Data for Computing Effect of Delay to Major Street Vehicles

	Movement 2	Movement 5
Shared ln volume, major th vehicles:	333	
Shared ln volume, major rt vehicles:	0	
Sat flow rate, major th vehicles:	1700	
Sat flow rate, major rt vehicles:	1700	
Number of major street through lanes:	1	

Worksheet 4-Critical Gap and Follow-up Time Calculation

Critical Gap Calculation

Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
t(c,base)	4.1	4.1	7.1	6.5	6.2	7.1	6.5	6.2
t(c,hv)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
P(hv)	0	0	0	0	0	0	0	0
t(c,g)			0.20	0.20	0.10	0.20	0.20	0.10
Percent Grade			0.00	0.00	0.00	0.00	0.00	0.00
t(3,lt)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t(c,T): 1-stage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2-stage	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
t(c) 1-stage	4.1	4.1	7.1	6.5	6.2	7.1	6.5	6.2
2-stage	4.1	4.1	6.1	5.5	6.2	6.1	5.5	6.2

Follow-Up Time Calculations

Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
t(f,base)	2.20	2.20	3.50	4.00	3.30	3.50	4.00	3.30
t(f,HV)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
P(HV)	0	0	0	0	0	0	0	0
t(f)	2.2	2.2	3.5	4.0	3.3	3.5	4.0	3.3

Worksheet 5-Effect of Upstream Signals

Computation 1-Queue Clearance Time at Upstream Signal

	Movement 2		Movement 5	
	V(t)	V(l,prot)	V(t)	V(l,prot)
V prog				

Total Saturation Flow Rate, s (vph)								
Arrival Type								
Effective Green, g (sec)								
Cycle Length, C (sec)								
Rp (from Exhibit 16-11)								
Proportion vehicles arriving on green P								
g(q1)								
g(q2)								
g(q)								

Computation 2-Proportion of TWSC Intersection Time blocked	Movement 2		Movement 5	
	V(t)	V(l,prot)	V(t)	V(l,prot)
alpha				
beta				
Travel time, t(a) (sec)				
Smoothing Factor, F				
Proportion of conflicting flow, f				
Max platooned flow, V(c,max)				
Min platooned flow, V(c,min)				
Duration of blocked period, t(p)				
Proportion time blocked, p	0.000		0.000	

Computation 3-Platoon Event Periods	Result
p(2)	0.000
p(5)	0.000
p(dom)	
p(subo)	
Constrained or unconstrained?	

Proportion unblocked for minor movements, p(x)	(1) Single-stage Process	(2) Two-Stage Process Stage I	(3) Stage II
p(1)			
p(4)			
p(7)			
p(8)			
p(9)			
p(10)			
p(11)			
p(12)			

Computation 4 and 5 Single-Stage Process								
Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
V c,x	451	406	1395	1386	333	1536	1456	448
s								
Px								
V c,u,x								
C r,x								
C plat,x								

Two-Stage Process				
	7	8	10	11

	Stage1	Stage2	Stage1	Stage2	Stage1	Stage2	Stage1	Stage2
V(c,x)	355	1040	355	1031	1028	508	1028	428
s		1500		1500		1500		1500
P(x)								
V(c,u,x)								
C(r,x)								
C(plat,x)								

Worksheet 6-Impedance and Capacity Equations

Step 1: RT from Minor St.	9	12
Conflicting Flows	333	448
Potential Capacity	713	615
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	713	615
Probability of Queue free St.	0.70	0.98
Step 2: LT from Major St.	**4**	**1**
Conflicting Flows	406	451
Potential Capacity	1164	1120
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	1164	1120
Probability of Queue free St.	0.75	0.99
Maj L-Shared Prob Q free St.		0.99
Step 3: TH from Minor St.	**8**	**11**
Conflicting Flows	1386	1456
Potential Capacity	144	131
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.74	0.74
Movement Capacity	107	97
Probability of Queue free St.	0.92	0.96
Step 4: LT from Minor St.	**7**	**10**
Conflicting Flows	1395	1536
Potential Capacity	120	96
Pedestrian Impedance Factor	1.00	1.00
Maj. L, Min T Impedance factor	0.71	0.68
Maj. L, Min T Adj. Imp Factor.	0.78	0.76
Cap. Adj. factor due to Impeding mvmnt	0.76	0.53
Movement Capacity	91	51

Worksheet 7-Computation of the Effect of Two-stage Gap Acceptance

Step 3: TH from Minor St.	8	11
Part 1 - First Stage		
Conflicting Flows	355	1028
Potential Capacity	633	314
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.99	0.75
Movement Capacity	625	236
Probability of Queue free St.	0.97	0.97

Part 2 - Second Stage		
Conflicting Flows	1031	428
Potential Capacity	313	588
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.75	0.99
Movement Capacity	235	581
Part 3 - Single Stage		
Conflicting Flows	1386	1456
Potential Capacity	144	131
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.74	0.74
Movement Capacity	107	97
Result for 2 stage process:		
a	0.95	0.95
y	4.43	0.72
C t	208	194
Probability of Queue free St.	0.92	0.96
Step 4: LT from Minor St.	7	10
Part 1 - First Stage		
Conflicting Flows	355	1028
Potential Capacity	666	285
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.99	0.75
Movement Capacity	658	214
Part 2 - Second Stage		
Conflicting Flows	1040	508
Potential Capacity	281	551
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.71	0.67
Movement Capacity	199	370
Part 3 - Single Stage		
Conflicting Flows	1395	1536
Potential Capacity	120	96
Pedestrian Impedance Factor	1.00	1.00
Maj. L, Min T Impedance factor	0.71	0.68
Maj. L, Min T Adj. Imp Factor.	0.78	0.76
Cap. Adj. factor due to Impeding mvmnt	0.76	0.53
Movement Capacity	91	51
Results for Two-stage process:		
a	0.95	0.95
y	5.85	5.62
C t	176	75

Worksheet 8-Shared Lane Calculations

Movement	7 L	8 T	9 R	10 L	11 T	12 R
Volume (vph)	47	16	216	2	8	14
Movement Capacity (vph)	176	208	713	75	194	615
Shared Lane Capacity (vph)	183				265	

Worksheet 9-Computation of Effect of Flared Minor Street Approaches

Movement	7	8	9	10	11	12
	L	T	R	L	T	R
C sep	176	208	713	75	194	615
Volume	47	16	216	2	8	14
Delay						
Q sep						
Q sep +1						
round (Qsep +1)						
n max						
C sh	183				265	
SUM C sep						
n						
C act						

Worksheet 10-Delay, Queue Length, and Level of Service

Movement	1	4	7	8	9	10	11	12
Lane Config	LT	L	LT		R		LTR	
v (vph)	11	290	63		216		24	
C(m) (vph)	1120	1164	183		713		265	
v/c	0.01	0.25	0.34		0.30		0.09	
95% queue length	0.03	0.99	1.44		1.28		0.30	
Control Delay	8.2	9.1	34.7		12.2		19.9	
LOS	A	A	D		B		C	
Approach Delay				17.3			19.9	
Approach LOS				C			C	

Worksheet 11-Shared Major LT Impedance and Delay

	Movement 2	Movement 5
p(oj)	0.99	0.75
v(il), Volume for stream 2 or 5	333	
v(i2), Volume for stream 3 or 6	0	
s(il), Saturation flow rate for stream 2 or 5	1700	
s(i2), Saturation flow rate for stream 3 or 6	1700	
P*(oj)	0.99	
d(M,LT), Delay for stream 1 or 4	8.2	9.1
N, Number of major street through lanes	1	
d(rank,1) Delay for stream 2 or 5	0.1	

Marymount College Palos Verdes North - Traffic Study
Existing Plus Project Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #14 Western Ave & Crestwood St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.803
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	67	Level Of Service:	D

Street Name:	Western Ave						Crestwood St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	41	1244	204	39	1382	116	143	37	50	180	29	46
Growth 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
Initial Bse:	41	1244	204	39	1382	116	143	37	50	180	29	46
Added Vol:	0	9	0	0	15	4	3	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	41	1253	204	39	1397	120	146	37	50	180	29	46
User 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
PHF 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
PHF Volume:	41	1253	204	39	1397	120	146	37	50	180	29	46
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	41	1253	204	39	1397	120	146	37	50	180	29	46
PCE 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
MLF 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
FinalVolume:	41	1253	204	39	1397	120	146	37	50	180	29	46
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.72	0.28	1.00	1.84	0.16	1.00	0.43	0.57	1.00	0.39	0.61
Final Sat.:	1600	2752	448	1600	2947	253	1600	680	920	1600	619	981
Capacity Analysis Module:												
Vol/Sat:	0.03	0.46	0.46	0.02	0.47	0.47	0.09	0.05	0.05	0.11	0.05	0.05
Crit Moves:	****			****			****			****		

Marymount College Palos Verdes North - Traffic Study
Existing Plus Project Conditions
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #15 Miraleste Dr & 1st St

Average Delay (sec/veh): 4.2 Worst Case Level Of Service: B[13.4]

Street Name:	Miraleste Dr						1st St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 1 0			1 0 1 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	0	221	39	159	295	0	0	0	0	34	0	141
Growth 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
Initial Bse:	0	221	39	159	295	0	0	0	0	34	0	141
Added Vol:	0	0	0	7	0	0	0	0	0	0	0	7
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	221	39	166	295	0	0	0	0	34	0	148
User 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
PHF 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
PHF Volume:	0	221	39	166	295	0	0	0	0	34	0	148
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	221	39	166	295	0	0	0	0	34	0	148
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	260	xxxx	xxxxx	942	887	295	868	868	241
Potent Cap.:	xxxx	xxxx	xxxxx	1316	xxxx	xxxxx	245	285	749	326	293	803
Move Cap.:	xxxx	xxxx	xxxxx	1316	xxxx	xxxxx	181	249	749	294	256	803
Volume/Cap:	xxxx	xxxx	xxxx	0.13	xxxx	xxxx	0.00	0.00	0.00	0.12	0.00	0.18
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.4	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	8.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	0	xxxxx	xxxx	607	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	1.3	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	13.4	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			13.4		
ApproachLOS:	*			*			*			B		

Note: Queue reported is the number of cars per lane.

Marymount College Palos Verdes North - Traffic Study
Existing Plus Project Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #17 Palos Verdes Dr E & Crest Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.365
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	27	Level Of Service:	A

Street Name:	Palos Verdes Dr E						Crest Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	1	0	0	1	1	0	1	1	0	1	0	2	0	1
Volume Module:																			
Base Vol:	12	2	44	176	2	35	34	153	13	37	184	129
Growth 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
Initial Bse:	12	2	44	176	2	35	34	153	13	37	184	129
Added Vol:	0	0	34	0	0	0	0	0	0	36	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	12	2	78	176	2	35	34	153	13	73	184	129
User 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
PHF 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
PHF Volume:	12	2	78	176	2	35	34	153	13	73	184	129
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	12	2	78	176	2	35	34	153	13	73	184	129
PCE 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
MLF 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
FinalVolume:	12	2	78	176	2	35	34	153	13	73	184	129
Saturation Flow Module:																			
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.13	0.02	0.85	0.99	0.01	1.00	1.00	1.84	0.16	1.00	2.00	1.00
Final Sat.:	209	35	1357	1582	18	1600	1600	2949	251	1600	3200	1600
Capacity Analysis Module:																			
Vol/Sat:	0.01	0.06	0.06	0.11	0.11	0.02	0.02	0.05	0.05	0.05	0.06	0.08
Crit Moves:	****			****					****		****								

APPENDIX I
Intersection Level of Service Worksheets
Existing Plus Project With Mitigation

Marymount College Palos Verdes North - Traffic Study
Existing Plus Project With Mitigation Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Palos Verdes Dr E & Palos Verdes Dr N

Cycle (sec):	100	Critical Vol./Cap.(X):	0.700
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	50	Level Of Service:	B

Street Name:	Palos Verdes Dr E						Palos Verdes Dr N					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1 0	1	2 0	1 0	1	1 0	2 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	361	259	176	113	128	31	66	1051	182	157	842	141
Growth 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
Initial Bse:	361	259	176	113	128	31	66	1051	182	157	842	141
Added Vol:	0	0	5	0	0	0	0	3	0	31	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	361	259	181	113	128	31	66	1054	182	188	842	141
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	361	259	181	113	128	31	66	1054	182	188	842	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	361	259	181	113	128	31	66	1054	182	188	842	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	361	259	181	113	128	31	66	1054	182	188	842	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00
Lanes:	2.00	1.00	1.00	2.00	1.00	1.00	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	2880	1600	1600	2880	1600	1600	1600	3200	1600	2880	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.13	0.16	0.11	0.04	0.08	0.02	0.04	0.33	0.11	0.07	0.26	0.00
Crit Moves:	****			****			****			****		

Marymount College Palos Verdes North - Traffic Study
Existing Plus Project With Mitigation Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Western Ave & Palos Verdes Dr N

Cycle (sec):	100	Critical Vol./Cap.(X):	0.867
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	86	Level Of Service:	D

Street Name:	Western Ave						Palos Verdes Dr N					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1	1 0	1 0	1	1 0	1 0	3	0 1	2 0	2	1 0
Volume Module:												
Base Vol:	582	1003	385	51	574	101	103	965	333	252	595	21
Growth 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
Initial Bse:	582	1003	385	51	574	101	103	965	333	252	595	21
Added Vol:	0	0	5	6	0	0	0	9	0	17	31	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	582	1003	390	57	574	101	103	974	333	269	626	21
User 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
PHF 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
PHF Volume:	582	1003	390	57	574	101	103	974	333	269	626	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	582	1003	390	57	574	101	103	974	333	269	626	21
PCE 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
MLF 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
FinalVolume:	582	1003	390	57	574	101	103	974	333	269	626	21
OvlAdjVol:									10			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00
Lanes:	2.00	1.44	0.56	1.00	1.70	0.30	1.00	3.00	1.00	2.00	2.90	0.10
Final Sat.:	2880	2304	896	1600	2721	479	1600	4800	1600	2880	4644	156
Capacity Analysis Module:												
Vol/Sat:	0.20	0.44	0.44	0.04	0.21	0.21	0.06	0.20	0.21	0.09	0.13	0.13
OvlAdjV/S:									0.01			
Crit Moves:	****			****				****		****		

Marymount College Palos Verdes North - Traffic Study
Existing Plus Project With Mitigation Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 Palos Verdes Dr E & Miraleste Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.849
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	80	Level Of Service:	D

Street Name:	Palos Verdes Dr E						Miraleste Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 1	0	1 0	1 0	0	0 0	0 0	0	1 0	0 0	1
Volume Module:												
Base Vol:	0	337	170	344	259	0	0	0	0	145	0	340
Growth 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
Initial Bse:	0	337	170	344	259	0	0	0	0	145	0	340
Added Vol:	0	5	3	0	31	0	0	0	0	17	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	342	173	344	290	0	0	0	0	162	0	340
User 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
PHF 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
PHF Volume:	0	342	173	344	290	0	0	0	0	162	0	340
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	342	173	344	290	0	0	0	0	162	0	340
PCE 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
MLF 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
FinalVolume:	0	342	173	344	290	0	0	0	0	162	0	340
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.66	0.34	1.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	1063	537	1600	1600	0	0	0	0	1600	0	1600
Capacity Analysis Module:												
Vol/Sat:	0.00	0.32	0.32	0.22	0.18	0.00	0.00	0.00	0.00	0.10	0.00	0.21
Crit Moves:		****		****								****

Marymount College Palos Verdes North - Traffic Study
Existing Plus Project With Mitigation Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Palos Verdes Dr E & Palos Verdes Dr N

Cycle (sec):	100	Critical Vol./Cap.(X):	0.701
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	50	Level Of Service:	C

Street Name:	Palos Verdes Dr E						Palos Verdes Dr N					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1 0	1	2 0	1 0	1	1 0	2 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	176	140	126	228	248	92	77	985	254	121	1065	71
Growth 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
Initial Bse:	176	140	126	228	248	92	77	985	254	121	1065	71
Added Vol:	0	0	22	0	0	0	0	4	0	23	13	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	176	140	148	228	248	92	77	989	254	144	1078	72
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	176	140	148	228	248	92	77	989	254	144	1078	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	176	140	148	228	248	92	77	989	254	144	1078	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	176	140	148	228	248	92	77	989	254	144	1078	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00
Lanes:	2.00	1.00	1.00	2.00	1.00	1.00	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	2880	1600	1600	2880	1600	1600	1600	3200	1600	2880	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.06	0.09	0.09	0.08	0.16	0.06	0.05	0.31	0.16	0.05	0.34	0.00
Crit Moves:	****			****			****				****	

Marymount College Palos Verdes North - Traffic Study
Existing Plus Project With Mitigation Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Western Ave & Palos Verdes Dr N

Cycle (sec):	100	Critical Vol./Cap.(X):	0.889
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	95	Level Of Service:	D

Street Name:	Western Ave						Palos Verdes Dr N					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1	1 0	1 0	1	1 0	1 0	3	0 1	2 0	2	1 0
Volume Module:												
Base Vol:	398	683	178	29	919	160	151	587	537	314	824	27
Growth 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
Initial Bse:	398	683	178	29	919	160	151	587	537	314	824	27
Added Vol:	0	0	15	8	0	0	0	27	0	21	37	25
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	398	683	193	37	919	160	151	614	537	335	861	52
User 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
PHF 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
PHF Volume:	398	683	193	37	919	160	151	614	537	335	861	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	398	683	193	37	919	160	151	614	537	335	861	52
PCE 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
MLF 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
FinalVolume:	398	683	193	37	919	160	151	614	537	335	861	52
OvlAdjVol:									316			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00
Lanes:	2.00	1.56	0.44	1.00	1.70	0.30	1.00	3.00	1.00	2.00	2.83	0.17
Final Sat.:	2880	2495	705	1600	2725	475	1600	4800	1600	2880	4527	273
Capacity Analysis Module:												
Vol/Sat:	0.14	0.27	0.27	0.02	0.34	0.34	0.09	0.13	0.34	0.12	0.19	0.19
OvlAdjV/S:									0.20			
Crit Moves:	****			****					****	****		

Marymount College Palos Verdes North - Traffic Study
Existing Plus Project With Mitigation Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 Palos Verdes Dr E & Miraleste Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.816
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	70	Level Of Service:	D

Street Name:	Palos Verdes Dr E						Miraleste Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 1	0	1 0	1 0	0	0 0	0 0	0	1 0	0 0	1
Volume Module:												
Base Vol:	0	245	176	417	281	0	0	0	0	138	0	274
Growth 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
Initial Bse:	0	245	176	417	281	0	0	0	0	138	0	274
Added Vol:	0	22	12	0	23	0	0	0	0	13	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	267	188	417	304	0	0	0	0	151	0	274
User 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
PHF 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
PHF Volume:	0	267	188	417	304	0	0	0	0	151	0	274
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	267	188	417	304	0	0	0	0	151	0	274
PCE 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
MLF 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
FinalVolume:	0	267	188	417	304	0	0	0	0	151	0	274
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.59	0.41	1.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	939	661	1600	1600	0	0	0	0	1600	0	1600
Capacity Analysis Module:												
Vol/Sat:	0.00	0.28	0.28	0.26	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.17
Crit Moves:		****		****								****

APPENDIX J
Intersection Level of Service Worksheets
Future (2031) Without Project

Marymount College Palos Verdes North - Traffic Study
Future No Project Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Palos Verdes Dr E & Palos Verdes Dr N

Cycle (sec):	100	Critical Vol./Cap.(X):	0.829
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	74	Level Of Service:	D

Street Name:	Palos Verdes Dr E						Palos Verdes Dr N					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1 0	1	2 0	1 0	1	1 0	2 0	1	1 0	2 0	1
Volume Module:												
Base Vol:	361	259	176	113	128	31	66	1051	182	157	842	141
Growth Adj:	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Initial Bse:	387	277	188	121	137	33	71	1126	195	168	902	151
Added Vol:	0	5	2	8	15	9	5	170	0	5	155	3
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	387	282	190	129	152	42	76	1296	195	173	1057	154
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	387	282	190	129	152	42	76	1296	195	173	1057	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	387	282	190	129	152	42	76	1296	195	173	1057	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	387	282	190	129	152	42	76	1296	195	173	1057	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.00	1.00	2.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	3200	1600	1600	3200	1600	1600	1600	3200	1600	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.12	0.18	0.12	0.04	0.10	0.03	0.05	0.40	0.12	0.11	0.33	0.00
Crit Moves:	****			****				****		****		

Marymount College Palos Verdes North - Traffic Study
Future No Project Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Western Ave & Palos Verdes Dr N

Cycle (sec):	100	Critical Vol./Cap.(X):	1.242
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Western Ave						Palos Verdes Dr N					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1	1 0	1 0	1	1 0	1 0	3	0 1	1 0	2	1 0
Volume Module:												
Base Vol:	582	1003	385	51	574	101	103	965	333	252	595	21
Growth Adj:	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Initial Bse:	623	1074	412	55	615	108	110	1034	357	270	637	22
Added Vol:	56	255	171	111	182	14	1	148	29	42	95	70
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	679	1329	583	166	797	122	111	1182	386	312	732	92
User 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
PHF 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
PHF Volume:	679	1329	583	166	797	122	111	1182	386	312	732	92
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	679	1329	583	166	797	122	111	1182	386	312	732	92
PCE 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
MLF 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
FinalVolume:	679	1329	583	166	797	122	111	1182	386	312	732	92
OvlAdjVol:									46			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.39	0.61	1.00	1.73	0.27	1.00	3.00	1.00	1.00	2.66	0.34
Final Sat.:	3200	2224	976	1600	2775	425	1600	4800	1600	1600	4262	538
Capacity Analysis Module:												
Vol/Sat:	0.21	0.60	0.60	0.10	0.29	0.29	0.07	0.25	0.24	0.19	0.17	0.17
OvlAdjV/S:									0.03			
Crit Moves:	****			****				****		****		

Marymount College Palos Verdes North - Traffic Study
Future No Project Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #11 Palos Verder Dr E & Miraleste Dr

Average Delay (sec/veh): 119.1 Worst Case Level Of Service: F[354.1]

Street Name:	Palos Verder Dr E									Miraleste Dr								
Approach:	North Bound				South Bound					East Bound					West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Rights:	Include					Include					Include					Include				
Lanes:	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	1
Volume Module:																				
Base Vol:	0	337	170			344	259	0			0	0	0			145	0	340		
Growth Adj:	1.07	1.07	1.07			1.07	1.07	1.07			1.07	1.07	1.07			1.07	1.07	1.07		
Initial Bse:	0	361	182			368	277	0			0	0	0			155	0	364		
Added Vol:	0	7	33			0	20	0			0	0	0			97	0	0		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	0	368	215			368	297	0			0	0	0			252	0	364		
User 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		
PHF 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		
PHF Volume:	0	368	215			368	297	0			0	0	0			252	0	364		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
FinalVolume:	0	368	215			368	297	0			0	0	0			252	0	364		
Critical Gap Module:																				
Critical Gp:	xxxxx	xxxx	xxxxx			4.1	xxxx	xxxxx			xxxxx	xxxx	xxxxx			6.4	xxxx	6.2		
FollowUpTim:	xxxxx	xxxx	xxxxx			2.2	xxxx	xxxxx			xxxxx	xxxx	xxxxx			3.5	xxxx	3.3		
Capacity Module:																				
Cnflict Vol:	xxxx	xxxx	xxxxx			583	xxxx	xxxxx			xxxx	xxxx	xxxxx			1510	xxxx	475		
Potent Cap.:	xxxx	xxxx	xxxxx			1001	xxxx	xxxxx			xxxx	xxxx	xxxxx			134	xxxx	593		
Move Cap.:	xxxx	xxxx	xxxxx			1001	xxxx	xxxxx			xxxx	xxxx	xxxxx			96	xxxx	593		
Volume/Cap:	xxxx	xxxx	xxxx			0.37	xxxx	xxxx			xxxx	xxxx	xxxx			2.64	xxxx	0.61		
Level Of Service Module:																				
2Way95thQ:	xxxx	xxxx	xxxxx			1.7	xxxx	xxxxx			xxxx	xxxx	xxxxx			23.6	xxxx	4.2		
Control Del:	xxxxx	xxxx	xxxxx			10.7	xxxx	xxxxx			xxxxx	xxxx	xxxxx			836.0	xxxx	20.2		
LOS by Move:	*	*	*			B	*	*			*	*	*			F	*	C		
Movement:	LT -	LTR -	RT			LT -	LTR -	RT			LT -	LTR -	RT			LT -	LTR -	RT		
Shared Cap.:	xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx		
SharedQueue:	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx		
Shrd ConDel:	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx		
Shared LOS:	*	*	*			*	*	*			*	*	*			*	*	*		
ApproachDel:	xxxxxx					xxxxxx					xxxxxx					354.1				
ApproachLOS:	*					*					*					F				

Note: Queue reported is the number of cars per lane.

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Marymount College Palos Verdes North - Traffic Study
Future No Project Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #12 Western Ave & Trudie Dr/Capitol Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	1.069
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Western Ave						Trudie Dr/Capitol Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1! 0	0	1 0	1 0	1
Volume Module:												
Base Vol:	9	1432	113	123	852	52	158	80	14	179	66	127
Growth Adj:	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Initial Bse:	10	1534	121	132	912	56	169	86	15	192	71	136
Added Vol:	0	149	11	4	167	60	20	0	0	26	0	11
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	1683	132	136	1079	116	189	86	15	218	71	147
User 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
PHF 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
PHF Volume:	10	1683	132	136	1079	116	189	86	15	218	71	147
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	1683	132	136	1079	116	189	86	15	218	71	147
PCE 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
MLF 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
FinalVolume:	10	1683	132	136	1079	116	189	86	15	218	71	147
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.85	0.15	1.00	1.81	0.19	0.65	0.30	0.05	1.00	1.00	1.00
Final Sat.:	1600	2967	233	1600	2890	310	1044	473	83	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.01	0.57	0.57	0.08	0.37	0.37	0.12	0.18	0.18	0.14	0.04	0.09
Crit Moves:		****		****				****		****		

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst:
Agency/Co.:
Date Performed: 6/2/2011
Analysis Time Period: AM Peak Hour
Intersection: 13
Jurisdiction: Rancho Palos Verdes
Units: U. S. Customary
Analysis Year: Future 2031 No Project
Project ID: Traffic Impact Study for Marymount College San Pedro Campus
East/West Street:
North/South Street: Miraleste Dr
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	12	454	180	195	422	2
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	13	493	195	211	458	2
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type/Storage	Raised curb / 2					
RT Channelized?		No				
Lanes	0	1	1	1	1	0
Configuration		LT	R	L	TR	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	81	20	222	0	3	18
Peak Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	88	21	241	0	3	19
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/		No	/
Lanes	0	1	1	0	1	0
Configuration		LT	R		LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT	L	LT		R		LTR	
v (vph)	13	211	109		241		22	
C(m) (vph)	1112	916	219		580		0	
v/c	0.01	0.23	0.50		0.42			
95% queue length	0.04	0.89	2.51		2.04			
Control Delay	8.3	10.1	36.7		15.5			
LOS	A	B	E		C		F	
Approach Delay			22.1					
Approach LOS			C					

HCS+: Unsignalized Intersections Release 5.6

Phone: Fax:
E-Mail:

TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst:
Agency/Co.:
Date Performed: 6/2/2011
Analysis Time Period: AM Peak Hour
Intersection: 13
Jurisdiction: Rancho Palos Verdes
Units: U. S. Customary
Analysis Year: Future 2031 No Project
Project ID: Traffic Impact Study for Marymount College San Pedro Campus
East/West Street:
North/South Street: Miraleste Dr
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movements	1 L	2 T	3 R	4 L	5 T	6 R
Volume	12	454	180	195	422	2
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Peak-15 Minute Volume	3	123	49	53	115	1
Hourly Flow Rate, HFR	13	493	195	211	458	2
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type/Storage	Raised curb		/ 2			
RT Channelized?			No			
Lanes	0	1	1	1	1	0
Configuration	LT		R	L	TR	
Upstream Signal?	No			No		

Minor Street Movements	7 L	8 T	9 R	10 L	11 T	12 R
Volume	81	20	222	0	3	18
Peak Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Peak-15 Minute Volume	22	5	60	0	1	5
Hourly Flow Rate, HFR	88	21	241	0	3	19
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/		No	/
RT Channelized?			No			
Lanes	0	1	1	0	1	0
Configuration	LT		R		LTR	

Pedestrian Volumes and Adjustments

Movements	13	14	15	16
Flow (ped/hr)	0	0	0	0

Lane Width (ft)	12.0	12.0	12.0	12.0
Walking Speed (ft/sec)	4.0	4.0	4.0	4.0
Percent Blockage	0	0	0	0

Upstream Signal Data

	Prog. Flow vph	Sat Flow vph	Arrival Type	Green Time sec	Cycle Length sec	Prog. Speed mph	Distance to Signal feet
S2 Left-Turn							
Through							
S5 Left-Turn							
Through							

Worksheet 3-Data for Computing Effect of Delay to Major Street Vehicles

	Movement 2	Movement 5
Shared ln volume, major th vehicles:	493	
Shared ln volume, major rt vehicles:	0	
Sat flow rate, major th vehicles:	1700	
Sat flow rate, major rt vehicles:	1700	
Number of major street through lanes:	1	

Worksheet 4-Critical Gap and Follow-up Time Calculation

Critical Gap Calculation

Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
t(c,base)	4.1	4.1	7.1	6.5	6.2	7.1	6.5	6.2
t(c,hv)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
P(hv)	0	0	0	0	0	0	0	0
t(c,g)			0.20	0.20	0.10	0.20	0.20	0.10
Percent Grade			0.00	0.00	0.00	0.00	0.00	0.00
t(3,lt)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t(c,T): 1-stage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2-stage	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
t(c) 1-stage	4.1	4.1	7.1	6.5	6.2	7.1	6.5	6.2
2-stage	4.1	4.1	6.1	5.5	6.2	6.1	5.5	6.2

Follow-Up Time Calculations

Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
t(f,base)	2.20	2.20	3.50	4.00	3.30	3.50	4.00	3.30
t(f,HV)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
P(HV)	0	0	0	0	0	0	0	0
t(f)	2.2	2.2	3.5	4.0	3.3	3.5	4.0	3.3

Worksheet 5-Effect of Upstream Signals

Computation 1-Queue Clearance Time at Upstream Signal

	Movement 2		Movement 5	
	V(t)	V(l,prot)	V(t)	V(l,prot)
V prog				

Total Saturation Flow Rate, s (vph)	
Arrival Type	
Effective Green, g (sec)	
Cycle Length, C (sec)	
Rp (from Exhibit 16-11)	
Proportion vehicles arriving on green P	
g(q1)	
g(q2)	
g(q)	

Computation 2-Proportion of TWSC Intersection Time blocked	Movement 2		Movement 5	
	V(t)	V(l,prot)	V(t)	V(l,prot)
alpha				
beta				
Travel time, t(a) (sec)				
Smoothing Factor, F				
Proportion of conflicting flow, f				
Max platooned flow, V(c,max)				
Min platooned flow, V(c,min)				
Duration of blocked period, t(p)				
Proportion time blocked, p	0.000		0.000	

Computation 3-Platoon Event Periods	Result
p(2)	0.000
p(5)	0.000
p(dom)	
p(subo)	
Constrained or unconstrained?	

Proportion unblocked for minor movements, p(x)	(1) Single-stage Process	(2) Two-Stage Process Stage I	(3) Stage II
p(1)			
p(4)			
p(7)			
p(8)			
p(9)			
p(10)			
p(11)			
p(12)			

Computation 4 and 5 Single-Stage Process								
Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
V c,x	460	688	1411	1401	493	1629	1595	459
s								
Px								
V c,u,x								
C r,x								
C plat,x								

Two-Stage Process			
7	8	10	11

	Stage1	Stage2	Stage1	Stage2	Stage1	Stage2	Stage1	Stage2
V(c,x)	519	892	519	882	881	748	881	714
s		1500		1500		1500		1500
P(x)								
V(c,u,x)								
C(r,x)								
C(plat,x)								

Worksheet 6-Impedance and Capacity Equations

Step 1: RT from Minor St.	9	12
Conflicting Flows	493	459
Potential Capacity	580	606
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	580	606
Probability of Queue free St.	0.58	0.97
Step 2: LT from Major St.	**4**	**1**
Conflicting Flows	688	460
Potential Capacity	916	1112
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	916	1112
Probability of Queue free St.	0.77	0.99
Maj L-Shared Prob Q free St.		0.98
Step 3: TH from Minor St.	**8**	**11**
Conflicting Flows	1401	1595
Potential Capacity	141	108
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.76	0.76
Movement Capacity	107	82
Probability of Queue free St.	0.91	0.98
Step 4: LT from Minor St.	**7**	**10**
Conflicting Flows	1411	1629
Potential Capacity	117	82
Pedestrian Impedance Factor	1.00	1.00
Maj. L, Min T Impedance factor	0.74	0.69
Maj. L, Min T Adj. Imp Factor.	0.80	0.76
Cap. Adj. factor due to Impeding mvmnt	0.78	0.44
Movement Capacity	91	36

Worksheet 7-Computation of the Effect of Two-stage Gap Acceptance

Step 3: TH from Minor St.	8	11
Part 1 - First Stage		
Conflicting Flows	519	881
Potential Capacity	536	367
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.98	0.77
Movement Capacity	527	282
Probability of Queue free St.	0.96	0.99

Part 2 - Second Stage		
Conflicting Flows	882	714
Potential Capacity	367	438
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.77	0.98
Movement Capacity	282	431
Part 3 - Single Stage		
Conflicting Flows	1401	1595
Potential Capacity	141	108
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.76	0.76
Movement Capacity	107	82
Result for 2 stage process:		
a	0.95	0.95
y	2.59	1.45
C t	240	180
Probability of Queue free St.	0.91	0.98
Step 4: LT from Minor St.	7	10
Part 1 - First Stage		
Conflicting Flows	519	881
Potential Capacity	544	344
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.98	0.77
Movement Capacity	535	265
Part 2 - Second Stage		
Conflicting Flows	892	748
Potential Capacity	339	408
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.74	0.55
Movement Capacity	250	225
Part 3 - Single Stage		
Conflicting Flows	1411	1629
Potential Capacity	117	82
Pedestrian Impedance Factor	1.00	1.00
Maj. L, Min T Impedance factor	0.74	0.69
Maj. L, Min T Adj. Imp Factor.	0.80	0.76
Cap. Adj. factor due to Impeding mvmnt	0.78	0.44
Movement Capacity	91	36
Results for Two-stage process:		
a	0.95	0.95
y	3.04	-10.41
C t	215	0

Worksheet 8-Shared Lane Calculations

Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (vph)	88	21	241	0	3	19
Movement Capacity (vph)	215	240	580	0	180	606
Shared Lane Capacity (vph)	219				0	

Worksheet 9-Computation of Effect of Flared Minor Street Approaches

Movement	7	8	9	10	11	12
	L	T	R	L	T	R
C sep	215	240	580	0	180	606
Volume	88	21	241	0	3	19
Delay						
Q sep						
Q sep +1						
round (Qsep +1)						
n max						
C sh	219				0	
SUM C sep						
n						
C act						

Worksheet 10-Delay, Queue Length, and Level of Service

Movement	1	4	7	8	9	10	11	12
Lane Config	LT	L	LT		R		LTR	
v (vph)	13	211	109		241		22	
C(m) (vph)	1112	916	219		580		0	
v/c	0.01	0.23	0.50		0.42			
95% queue length	0.04	0.89	2.51		2.04			
Control Delay	8.3	10.1	36.7		15.5			
LOS	A	B	E		C		F	
Approach Delay			22.1					
Approach LOS			C					

Worksheet 11-Shared Major LT Impedance and Delay

	Movement 2	Movement 5
p(oj)	0.99	0.77
v(il), Volume for stream 2 or 5	493	
v(i2), Volume for stream 3 or 6	0	
s(il), Saturation flow rate for stream 2 or 5	1700	
s(i2), Saturation flow rate for stream 3 or 6	1700	
P*(oj)	0.98	
d(M,LT), Delay for stream 1 or 4	8.3	10.1
N, Number of major street through lanes	1	
d(rank,1) Delay for stream 2 or 5	0.1	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #14 Western Ave & Crestwood St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.881
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	91	Level Of Service:	D

Street Name:	Western Ave						Crestwood St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	72	1565	115	14	1040	121	185	33	116	53	11	28
Growth Adj:	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Initial Bse:	77	1676	123	15	1114	130	198	35	124	57	12	30
Added Vol:	0	159	0	0	189	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	77	1835	123	15	1303	130	198	35	124	57	12	30
User 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
PHF 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
PHF Volume:	77	1835	123	15	1303	130	198	35	124	57	12	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	77	1835	123	15	1303	130	198	35	124	57	12	30
PCE 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
MLF 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
FinalVolume:	77	1835	123	15	1303	130	198	35	124	57	12	30
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.87	0.13	1.00	1.82	0.18	1.00	0.22	0.78	1.00	0.28	0.72
Final Sat.:	1600	2999	201	1600	2910	290	1600	354	1246	1600	451	1149
Capacity Analysis Module:												
Vol/Sat:	0.05	0.61	0.61	0.01	0.45	0.45	0.12	0.10	0.10	0.04	0.03	0.03
Crit Moves:		****			****			****			****	

Marymount College Palos Verdes North - Traffic Study
Future No Project Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #15 Miraleste Dr & 1st St

Average Delay (sec/veh): 7.2 Worst Case Level Of Service: C[24.6]

Street Name:	Miraleste Dr						1st St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 1 0			1 0 1 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	0	364	73	250	205	0	0	0	0	22	0	176
Growth Adj:	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Initial Bse:	0	390	78	268	220	0	0	0	0	24	0	188
Added Vol:	0	7	13	10	3	0	0	0	0	15	0	30
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	397	91	278	223	0	0	0	0	39	0	218
User 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
PHF 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
PHF Volume:	0	397	91	278	223	0	0	0	0	39	0	218
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	397	91	278	223	0	0	0	0	39	0	218
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	488	xxxx	xxxxx	1330	1266	223	1220	1220	442
Potent Cap.:	xxxx	xxxx	xxxxx	1086	xxxx	xxxxx	133	170	822	201	182	619
Move Cap.:	xxxx	xxxx	xxxxx	1086	xxxx	xxxxx	69	127	822	161	135	619
Volume/Cap:	xxxx	xxxx	xxxx	0.26	xxxx	xxxx	0.00	0.00	0.00	0.24	0.00	0.35
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	1.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	9.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	0	xxxxx	xxxx	434	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	3.7	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	24.6	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	C	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			24.6		
ApproachLOS:	*			*			*			C		

Note: Queue reported is the number of cars per lane.

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Marymount College Palos Verdes North - Traffic Study
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #17 Palos Verdes Dr E & Crest Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.543
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	36	Level Of Service:	A

Street Name:	Palos Verdes Dr E						Crest Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0	1 0	0 1	1 0	1 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	7	0	17	254	2	46	60	157	53	109	94	180
Growth Adj:	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Initial Bse:	7	0	18	272	2	49	64	168	57	117	101	193
Added Vol:	13	0	38	0	0	0	0	2	37	112	5	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	20	0	56	272	2	49	64	170	94	229	106	193
User 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
PHF 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
PHF Volume:	20	0	56	272	2	49	64	170	94	229	106	193
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	20	0	56	272	2	49	64	170	94	229	106	193
PCE 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
MLF 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
FinalVolume:	20	0	56	272	2	49	64	170	94	229	106	193
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.26	0.01	0.73	0.99	0.01	1.00	1.00	1.29	0.71	1.00	2.00	1.00
Final Sat.:	428	0	1172	1588	13	1600	1600	2063	1137	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.05	0.17	0.17	0.03	0.04	0.08	0.08	0.14	0.03	0.12
Crit Moves:			****	****				****		****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Palos Verdes Dr E & Palos Verdes Dr N

Cycle (sec):	100	Critical Vol./Cap.(X):	0.770
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	61	Level Of Service:	C

Street Name:	Palos Verdes Dr E						Palos Verdes Dr N					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1 0	1	2 0	1 0	1	1 0	2 0	1	1 0	2 0	1
Volume Module:												
Base Vol:	176	140	126	228	248	92	77	985	254	121	1065	71
Growth Adj:	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Initial Bse:	188	150	135	244	266	99	82	1055	272	130	1141	76
Added Vol:	0	9	5	6	8	14	16	87	0	3	72	9
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	188	159	140	250	274	113	98	1142	272	133	1213	85
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	188	159	140	250	274	113	98	1142	272	133	1213	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	188	159	140	250	274	113	98	1142	272	133	1213	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	188	159	140	250	274	113	98	1142	272	133	1213	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.00	1.00	2.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	3200	1600	1600	3200	1600	1600	1600	3200	1600	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.06	0.10	0.09	0.08	0.17	0.07	0.06	0.36	0.17	0.08	0.38	0.00
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Western Ave & Palos Verdes Dr N

Cycle (sec):	100	Critical Vol./Cap.(X):	1.255
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Western Ave						Palos Verdes Dr N					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1	1 0	1 0	1	1 0	1 0	3	0 1	1 0	2	1 0
Volume Module:												
Base Vol:	398	683	178	29	919	160	151	587	537	314	824	27
Growth Adj:	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Initial Bse:	426	731	191	31	984	171	162	629	575	336	883	29
Added Vol:	39	191	91	19	262	7	5	39	55	170	37	21
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	465	922	282	50	1246	178	167	668	630	506	920	50
User 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
PHF 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
PHF Volume:	465	922	282	50	1246	178	167	668	630	506	920	50
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	465	922	282	50	1246	178	167	668	630	506	920	50
PCE 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
MLF 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
FinalVolume:	465	922	282	50	1246	178	167	668	630	506	920	50
OvlAdjVol:									397			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.53	0.47	1.00	1.75	0.25	1.00	3.00	1.00	1.00	2.85	0.15
Final Sat.:	3200	2452	748	1600	2799	401	1600	4800	1600	1600	4553	247
Capacity Analysis Module:												
Vol/Sat:	0.15	0.38	0.38	0.03	0.45	0.45	0.10	0.14	0.39	0.32	0.20	0.20
OvlAdjV/S:									0.25			
Crit Moves:	****			****					****	****		

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #11 Palos Verder Dr E & Miraleste Dr

Average Delay (sec/veh): 99.8 Worst Case Level Of Service: F[349.1]

Street Name:	Palos Verder Dr E									Miraleste Dr								
Approach:	North Bound				South Bound					East Bound					West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Rights:	Include					Include					Include					Include				
Lanes:	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	1
Volume Module:																				
Base Vol:	0	245	176			417	281	0			0	0	0			138	0	274		
Growth Adj:	1.07	1.07	1.07			1.07	1.07	1.07			1.07	1.07	1.07			1.07	1.07	1.07		
Initial Bse:	0	262	188			447	301	0			0	0	0			148	0	293		
Added Vol:	0	15	60			0	12	0			0	0	0			54	0	0		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	0	277	248			447	313	0			0	0	0			202	0	293		
User 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		
PHF 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		
PHF Volume:	0	277	248			447	313	0			0	0	0			202	0	293		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
FinalVolume:	0	277	248			447	313	0			0	0	0			202	0	293		
Critical Gap Module:																				
Critical Gp:	xxxxx	xxxx	xxxxx			4.1	xxxx	xxxxx			xxxxx	xxxx	xxxxx			6.4	xxxx	6.2		
FollowUpTim:	xxxxx	xxxx	xxxxx			2.2	xxxx	xxxxx			xxxxx	xxxx	xxxxx			3.5	xxxx	3.3		
Capacity Module:																				
Cnflict Vol:	xxxx	xxxx	xxxxx			526	xxxx	xxxxx			xxxx	xxxx	xxxxx			1608	xxxx	402		
Potent Cap.:	xxxx	xxxx	xxxxx			1051	xxxx	xxxxx			xxxx	xxxx	xxxxx			117	xxxx	653		
Move Cap.:	xxxx	xxxx	xxxxx			1051	xxxx	xxxxx			xxxx	xxxx	xxxxx			78	xxxx	653		
Volume/Cap:	xxxx	xxxx	xxxx			0.42	xxxx	xxxx			xxxx	xxxx	xxxx			2.59	xxxx	0.45		
Level Of Service Module:																				
2Way95thQ:	xxxx	xxxx	xxxxx			2.2	xxxx	xxxxx			xxxx	xxxx	xxxxx			19.4	xxxx	2.3		
Control Del:	xxxxx	xxxx	xxxxx			10.9	xxxx	xxxxx			xxxxx	xxxx	xxxxx			835.0	xxxx	14.9		
LOS by Move:	*	*	*			B	*	*			*	*	*			F	*	B		
Movement:	LT - LTR - RT					LT - LTR - RT					LT - LTR - RT					LT - LTR - RT				
Shared Cap.:	xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx		
SharedQueue:	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx		
Shrd ConDel:	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx		
Shared LOS:	*	*	*			*	*	*			*	*	*			*	*	*		
ApproachDel:	xxxxxx					xxxxxx					xxxxxx					349.1				
ApproachLOS:	*					*					*					F				

Note: Queue reported is the number of cars per lane.

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Marymount College Palos Verdes North - Traffic Study
Future No Project Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #12 Western Ave & Trudie Dr/Capitol Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.985
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	174	Level Of Service:	E

Street Name:	Western Ave						Trudie Dr/Capitol Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1! 0	0	1 0	1 0	1
Volume Module:												
Base Vol:	16	1098	119	232	1169	72	129	43	29	124	65	177
Growth Adj:	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Initial Bse:	17	1176	127	248	1252	77	138	46	31	133	70	190
Added Vol:	0	174	21	13	170	33	37	0	0	20	0	8
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	17	1350	148	261	1422	110	175	46	31	153	70	198
User 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
PHF 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
PHF Volume:	17	1350	148	261	1422	110	175	46	31	153	70	198
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	17	1350	148	261	1422	110	175	46	31	153	70	198
PCE 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
MLF 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
FinalVolume:	17	1350	148	261	1422	110	175	46	31	153	70	198
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.80	0.20	1.00	1.86	0.14	0.70	0.18	0.12	1.00	1.00	1.00
Final Sat.:	1600	2883	317	1600	2970	230	1111	292	197	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.01	0.47	0.47	0.16	0.48	0.48	0.11	0.16	0.16	0.10	0.04	0.12
Crit Moves:		****		****				****		****		

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst:
Agency/Co.:
Date Performed: 6/2/2011
Analysis Time Period: PM Peak Hour
Intersection: 13
Jurisdiction: Rancho Palos Verdes
Units: U. S. Customary
Analysis Year: Future 2031 No Project PM
Project ID:
East/West Street: Via Colinita Ave
North/South Street: Miraleste Dr
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	12	342	73	281	456	5
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	13	371	79	305	495	5
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type/Storage	Raised curb / 2					
RT Channelized?		No				
Lanes	0	1	1	1	1	0
Configuration		LT	R	L		TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	47	16	207	2	9	14
Peak Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	51	17	224	2	9	15
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/		No	/
Lanes	0	1	1	0	1	0
Configuration		LT	R		LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT	L	LT		R		LTR	
v (vph)	13	305	68		224		26	
C(m) (vph)	1075	1121	156		679		0	
v/c	0.01	0.27	0.44		0.33			
95% queue length	0.04	1.11	1.97		1.44			
Control Delay	8.4	9.4	44.8		12.9			
LOS	A	A	E		B		F	
Approach Delay			20.3					
Approach LOS			C					

HCS+: Unsignalized Intersections Release 5.6

Phone: Fax:
E-Mail:

TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst:
Agency/Co.:
Date Performed: 6/2/2011
Analysis Time Period: PM Peak Hour
Intersection: 13
Jurisdiction: Rancho Palos Verdes
Units: U. S. Customary
Analysis Year: Future 2031 No Project PM
Project ID:
East/West Street: Via Colinita Ave
North/South Street: Miraleste Dr
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movements	1 L	2 T	3 R	4 L	5 T	6 R
Volume	12	342	73	281	456	5
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Peak-15 Minute Volume	3	93	20	76	124	1
Hourly Flow Rate, HFR	13	371	79	305	495	5
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type/Storage	Raised curb		/ 2			
RT Channelized?			No			
Lanes	0	1	1	1	1	0
Configuration	LT		R	L	TR	
Upstream Signal?	No			No		

Minor Street Movements	7 L	8 T	9 R	10 L	11 T	12 R
Volume	47	16	207	2	9	14
Peak Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Peak-15 Minute Volume	13	4	56	1	2	4
Hourly Flow Rate, HFR	51	17	224	2	9	15
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
RT Channelized?			No			
Lanes	0	1	1	0	1	0
Configuration	LT		R		LTR	

Pedestrian Volumes and Adjustments

Movements	13	14	15	16
Flow (ped/hr)	0	0	0	0

Lane Width (ft)	12.0	12.0	12.0	12.0
Walking Speed (ft/sec)	4.0	4.0	4.0	4.0
Percent Blockage	0	0	0	0

Upstream Signal Data

	Prog. Flow vph	Sat Flow vph	Arrival Type	Green Time sec	Cycle Length sec	Prog. Speed mph	Distance to Signal feet
S2 Left-Turn							
Through							
S5 Left-Turn							
Through							

Worksheet 3-Data for Computing Effect of Delay to Major Street Vehicles

	Movement 2	Movement 5
Shared ln volume, major th vehicles:	371	
Shared ln volume, major rt vehicles:	0	
Sat flow rate, major th vehicles:	1700	
Sat flow rate, major rt vehicles:	1700	
Number of major street through lanes:	1	

Worksheet 4-Critical Gap and Follow-up Time Calculation

Critical Gap Calculation

Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
t(c,base)	4.1	4.1	7.1	6.5	6.2	7.1	6.5	6.2
t(c,hv)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
P(hv)	0	0	0	0	0	0	0	0
t(c,g)			0.20	0.20	0.10	0.20	0.20	0.10
Percent Grade			0.00	0.00	0.00	0.00	0.00	0.00
t(3,lt)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t(c,T): 1-stage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2-stage	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
t(c) 1-stage	4.1	4.1	7.1	6.5	6.2	7.1	6.5	6.2
2-stage	4.1	4.1	6.1	5.5	6.2	6.1	5.5	6.2

Follow-Up Time Calculations

Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
t(f,base)	2.20	2.20	3.50	4.00	3.30	3.50	4.00	3.30
t(f,HV)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
P(HV)	0	0	0	0	0	0	0	0
t(f)	2.2	2.2	3.5	4.0	3.3	3.5	4.0	3.3

Worksheet 5-Effect of Upstream Signals

Computation 1-Queue Clearance Time at Upstream Signal

	Movement 2		Movement 5	
	V(t)	V(l,prot)	V(t)	V(l,prot)
V prog				

Total Saturation Flow Rate, s (vph)	
Arrival Type	
Effective Green, g (sec)	
Cycle Length, C (sec)	
Rp (from Exhibit 16-11)	
Proportion vehicles arriving on green P	
g(q1)	
g(q2)	
g(q)	

Computation 2-Proportion of TWSC Intersection Time blocked	Movement 2		Movement 5	
	V(t)	V(l,prot)	V(t)	V(l,prot)
alpha				
beta				
Travel time, t(a) (sec)				
Smoothing Factor, F				
Proportion of conflicting flow, f				
Max platooned flow, V(c,max)				
Min platooned flow, V(c,min)				
Duration of blocked period, t(p)				
Proportion time blocked, p	0.000		0.000	

Computation 3-Platoon Event Periods	Result
p(2)	0.000
p(5)	0.000
p(dom)	
p(subo)	
Constrained or unconstrained?	

Proportion unblocked for minor movements, p(x)	(1) Single-stage Process	(2) Two-Stage Process Stage I	(3) Stage II
p(1)			
p(4)			
p(7)			
p(8)			
p(9)			
p(10)			
p(11)			
p(12)			

Computation 4 and 5 Single-Stage Process								
Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
V c,x	500	450	1517	1507	371	1665	1584	498
s								
Px								
V c,u,x								
C r,x								
C plat,x								

Two-Stage Process				
	7	8	10	11

	Stage1	Stage2	Stage1	Stage2	Stage1	Stage2	Stage1	Stage2
V(c,x)	397	1120	397	1110	1108	557	1108	476
s		1500		1500		1500		1500
P(x)								
V(c,u,x)								
C(r,x)								
C(plat,x)								

Worksheet 6-Impedance and Capacity Equations

Step 1: RT from Minor St.	9	12
Conflicting Flows	371	498
Potential Capacity	679	576
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	679	576
Probability of Queue free St.	0.67	0.97
Step 2: LT from Major St.	**4**	**1**
Conflicting Flows	450	500
Potential Capacity	1121	1075
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	1121	1075
Probability of Queue free St.	0.73	0.99
Maj L-Shared Prob Q free St.		0.98
Step 3: TH from Minor St.	**8**	**11**
Conflicting Flows	1507	1584
Potential Capacity	122	110
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.72	0.72
Movement Capacity	87	79
Probability of Queue free St.	0.91	0.95
Step 4: LT from Minor St.	**7**	**10**
Conflicting Flows	1517	1665
Potential Capacity	99	78
Pedestrian Impedance Factor	1.00	1.00
Maj. L, Min T Impedance factor	0.68	0.65
Maj. L, Min T Adj. Imp Factor.	0.75	0.73
Cap. Adj. factor due to Impeding mvmnt	0.73	0.49
Movement Capacity	72	38

Worksheet 7-Computation of the Effect of Two-stage Gap Acceptance

Step 3: TH from Minor St.	8	11
Part 1 - First Stage		
Conflicting Flows	397	1108
Potential Capacity	607	288
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.98	0.73
Movement Capacity	598	210
Probability of Queue free St.	0.97	0.96

Part 2 - Second Stage		
Conflicting Flows	1110	476
Potential Capacity	287	560
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.73	0.98
Movement Capacity	209	551
Part 3 - Single Stage		
Conflicting Flows	1507	1584
Potential Capacity	122	110
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.72	0.72
Movement Capacity	87	79
Result for 2 stage process:		
a	0.95	0.95
y	4.69	0.78
C t	182	167
Probability of Queue free St.	0.91	0.95
Step 4: LT from Minor St.	7	10
Part 1 - First Stage		
Conflicting Flows	397	1108
Potential Capacity	633	257
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.98	0.73
Movement Capacity	623	187
Part 2 - Second Stage		
Conflicting Flows	1120	557
Potential Capacity	253	518
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.68	0.64
Movement Capacity	172	332
Part 3 - Single Stage		
Conflicting Flows	1517	1665
Potential Capacity	99	78
Pedestrian Impedance Factor	1.00	1.00
Maj. L, Min T Impedance factor	0.68	0.65
Maj. L, Min T Adj. Imp Factor.	0.75	0.73
Cap. Adj. factor due to Impeding mvmnt	0.73	0.49
Movement Capacity	72	38
Results for Two-stage process:		
a	0.95	0.95
y	6.33	-13.55
C t	149	0

Worksheet 8-Shared Lane Calculations

Movement	7 L	8 T	9 R	10 L	11 T	12 R
Volume (vph)	51	17	224	2	9	15
Movement Capacity (vph)	149	182	679	0	167	576
Shared Lane Capacity (vph)	156				0	

Worksheet 9-Computation of Effect of Flared Minor Street Approaches

Movement	7	8	9	10	11	12
	L	T	R	L	T	R
C sep	149	182	679	0	167	576
Volume	51	17	224	2	9	15
Delay						
Q sep						
Q sep +1						
round (Qsep +1)						
n max						
C sh	156				0	
SUM C sep						
n						
C act						

Worksheet 10-Delay, Queue Length, and Level of Service

Movement	1	4	7	8	9	10	11	12
Lane Config	LT	L	LT		R		LTR	
v (vph)	13	305	68		224		26	
C(m) (vph)	1075	1121	156		679		0	
v/c	0.01	0.27	0.44		0.33			
95% queue length	0.04	1.11	1.97		1.44			
Control Delay	8.4	9.4	44.8		12.9			
LOS	A	A	E		B		F	
Approach Delay				20.3				
Approach LOS				C				

Worksheet 11-Shared Major LT Impedance and Delay

	Movement 2	Movement 5
p(oj)	0.99	0.73
v(il), Volume for stream 2 or 5	371	
v(i2), Volume for stream 3 or 6	0	
s(il), Saturation flow rate for stream 2 or 5	1700	
s(i2), Saturation flow rate for stream 3 or 6	1700	
P*(oj)	0.98	
d(M,LT), Delay for stream 1 or 4	8.4	9.4
N, Number of major street through lanes	1	
d(rank,1) Delay for stream 2 or 5	0.1	

Marymount College Palos Verdes North - Traffic Study
Future No Project Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #14 Western Ave & Crestwood St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.903
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	102	Level Of Service:	E

Street Name:	Western Ave						Crestwood St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	0	1 0	1 0	0	1 0
Volume Module:												
Base Vol:	41	1244	204	39	1382	116	143	37	50	180	29	46
Growth Adj:	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Initial Bse:	44	1332	218	42	1480	124	153	40	54	193	31	49
Added Vol:	0	191	0	0	187	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	44	1523	218	42	1667	124	153	40	54	193	31	49
User 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
PHF 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
PHF Volume:	44	1523	218	42	1667	124	153	40	54	193	31	49
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	44	1523	218	42	1667	124	153	40	54	193	31	49
PCE 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
MLF 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
FinalVolume:	44	1523	218	42	1667	124	153	40	54	193	31	49
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.75	0.25	1.00	1.86	0.14	1.00	0.43	0.57	1.00	0.39	0.61
Final Sat.:	1600	2799	401	1600	2978	222	1600	680	920	1600	619	981
Capacity Analysis Module:												
Vol/Sat:	0.03	0.54	0.54	0.03	0.56	0.56	0.10	0.06	0.06	0.12	0.05	0.05
Crit Moves:	****			****			****			****		

Marymount College Palos Verdes North - Traffic Study
Future No Project Conditions
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #15 Miraleste Dr & 1st St

Average Delay (sec/veh): 5.2 Worst Case Level Of Service: C[17.0]

Street Name:	Miraleste Dr						1st St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	0 1	0	1 0	1 0	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	0	221	39	159	295	0	0	0	0	34	0	141
Growth Adj:	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Initial Bse:	0	237	42	170	316	0	0	0	0	36	0	151
Added Vol:	0	4	17	18	5	0	0	0	0	16	0	17
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	241	59	188	321	0	0	0	0	52	0	168
User 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
PHF 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
PHF Volume:	0	241	59	188	321	0	0	0	0	52	0	168
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	241	59	188	321	0	0	0	0	52	0	168
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	299	xxxx	xxxxx	1052	997	321	968	968	270
Potent Cap.:	xxxx	xxxx	xxxxx	1273	xxxx	xxxxx	206	246	725	284	256	773
Move Cap.:	xxxx	xxxx	xxxxx	1273	xxxx	xxxxx	143	210	725	252	218	773
Volume/Cap:	xxxx	xxxx	xxxx	0.15	xxxx	xxxx	0.00	0.00	0.00	0.21	0.00	0.22
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.5	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	8.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	0	xxxxx	xxxx	518	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	2.1	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	17.0	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	C	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			17.0		
ApproachLOS:	*			*			*			C		

Note: Queue reported is the number of cars per lane.

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Marymount College Palos Verdes North - Traffic Study
Future No Project Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #17 Palos Verdes Dr E & Crest Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.441
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	A

Street Name:	Palos Verdes Dr E						Crest Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 1	0 0	1	1 0	1 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	12	2	44	176	2	35	34	153	13	37	184	129
Growth Adj:	1.07 1.07	1.07		1.07 1.07	1.07		1.07 1.07	1.07		1.07 1.07	1.07	
Initial Bse:	13	2	47	188	2	37	36	164	14	40	197	138
Added Vol:	23	0	69	0	0	0	0	5	21	62	3	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	2	116	188	2	37	36	169	35	102	200	138
User 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	
PHF 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	
PHF Volume:	36	2	116	188	2	37	36	169	35	102	200	138
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	36	2	116	188	2	37	36	169	35	102	200	138
PCE 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	
MLF 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	
FinalVolume:	36	2	116	188	2	37	36	169	35	102	200	138
Saturation Flow Module:												
Sat/Lane:	1600 1600	1600		1600 1600	1600		1600 1600	1600		1600 1600	1600	
Adjustment:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
Lanes:	0.23 0.01	0.76		0.99 0.01	1.00		1.00 1.66	0.34		1.00 2.00	1.00	
Final Sat.:	372	22	1206	1582	18	1600	1600	2652	548	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.02 0.10	0.10		0.12 0.12	0.02		0.02 0.06	0.06		0.06 0.06	0.09	
Crit Moves:	****			****				****		****		

APPENDIX K
Intersection Level of Service Worksheets
Future (2031) With Project

Marymount College Palos Verdes North - Traffic Study
Future With Project Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Palos Verdes Dr E & Palos Verdes Dr N

Cycle (sec):	100	Critical Vol./Cap.(X):	0.849
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	80	Level Of Service:	D

Street Name:	Palos Verdes Dr E						Palos Verdes Dr N					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1 0	1	2 0	1 0	1	1 0	2 0	1	1 0	2 0	1
Volume Module:												
Base Vol:	361	259	176	113	128	31	66	1051	182	157	842	141
Growth Adj:	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Initial Bse:	387	277	188	121	137	33	71	1126	195	168	902	151
Added Vol:	0	5	8	9	15	9	5	173	0	36	155	3
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	387	282	196	130	152	42	76	1299	195	204	1057	154
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	387	282	196	130	152	42	76	1299	195	204	1057	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	387	282	196	130	152	42	76	1299	195	204	1057	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	387	282	196	130	152	42	76	1299	195	204	1057	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.00	1.00	2.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	3200	1600	1600	3200	1600	1600	1600	3200	1600	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.12	0.18	0.12	0.04	0.10	0.03	0.05	0.41	0.12	0.13	0.33	0.00
Crit Moves:	****			****			****			****		

Marymount College Palos Verdes North - Traffic Study
Future With Project Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Western Ave & Palos Verdes Dr N

Cycle (sec):	100	Critical Vol./Cap.(X):	1.259
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Western Ave						Palos Verdes Dr N					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1	1 0	1 0	1	1 0	1 0	3	0 1	1 0	2	1 0
Volume Module:												
Base Vol:	582	1003	385	51	574	101	103	965	333	252	595	21
Growth Adj:	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Initial Bse:	623	1074	412	55	615	108	110	1034	357	270	637	22
Added Vol:	56	255	176	117	182	14	1	157	29	58	126	70
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	679	1329	588	172	797	122	111	1191	386	328	763	92
User 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
PHF 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
PHF Volume:	679	1329	588	172	797	122	111	1191	386	328	763	92
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	679	1329	588	172	797	122	111	1191	386	328	763	92
PCE 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
MLF 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
FinalVolume:	679	1329	588	172	797	122	111	1191	386	328	763	92
OvlAdjVol:									46			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.39	0.61	1.00	1.73	0.27	1.00	3.00	1.00	1.00	2.68	0.32
Final Sat.:	3200	2218	982	1600	2775	425	1600	4800	1600	1600	4281	519
Capacity Analysis Module:												
Vol/Sat:	0.21	0.60	0.60	0.11	0.29	0.29	0.07	0.25	0.24	0.20	0.18	0.18
OvlAdjV/S:									0.03			
Crit Moves:	****			****				****		****		

Marymount College Palos Verdes North - Traffic Study
Future With Project Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #11 Palos Verder Dr E & Miraleste Dr

Average Delay (sec/veh): 145.1 Worst Case Level Of Service: F[434.1]

Street Name:	Palos Verder Dr E									Miraleste Dr								
Approach:	North Bound			South Bound			East Bound			West Bound								
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign								
Rights:	Include			Include			Include			Include								
Lanes:	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	1
Volume Module:																				
Base Vol:	0	337	170	344	259	0	0	0	0	145	0	340								
Growth Adj:	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07								
Initial Bse:	0	361	182	368	277	0	0	0	0	155	0	364								
Added Vol:	0	13	36	0	51	0	0	0	0	114	0	0								
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0								
Initial Fut:	0	374	218	368	328	0	0	0	0	269	0	364								
User 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								
PHF 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								
PHF Volume:	0	374	218	368	328	0	0	0	0	269	0	364								
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0								
FinalVolume:	0	374	218	368	328	0	0	0	0	269	0	364								
Critical Gap Module:																				
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2								
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3								
Capacity Module:																				
Cnflict Vol:	xxxx	xxxx	xxxxx	592	xxxx	xxxxx	xxxx	xxxx	xxxxx	1548	xxxx	483								
Potent Cap.:	xxxx	xxxx	xxxxx	994	xxxx	xxxxx	xxxx	xxxx	xxxxx	127	xxxx	588								
Move Cap.:	xxxx	xxxx	xxxxx	994	xxxx	xxxxx	xxxx	xxxx	xxxxx	90	xxxx	588								
Volume/Cap:	xxxx	xxxx	xxxx	0.37	xxxx	xxxx	xxxx	xxxx	xxxx	2.98	xxxx	0.62								
Level Of Service Module:																				
2Way95thQ:	xxxx	xxxx	xxxxx	1.7	xxxx	xxxxx	xxxx	xxxx	xxxxx	26.2	xxxx	4.2								
Control Del:	xxxxx	xxxx	xxxxx	10.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	993.2	xxxx	20.6								
LOS by Move:	*	*	*	B	*	*	*	*	*	F	*	C								
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT								
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx								
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx								
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx								
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*								
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			434.1										
ApproachLOS:	*			*			*			F										

Note: Queue reported is the number of cars per lane.

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Marymount College Palos Verdes North - Traffic Study
Future With Project Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #12 Western Ave & Trudie Dr/Capitol Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	1.071
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Western Ave						Trudie Dr/Capitol Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1! 0	0	1 0	1 0	1
Volume Module:												
Base Vol:	9	1432	113	123	852	52	158	80	14	179	66	127
Growth Adj:	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Initial Bse:	10	1534	121	132	912	56	169	86	15	192	71	136
Added Vol:	0	154	11	4	182	62	21	0	0	26	0	11
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	1688	132	136	1094	118	190	86	15	218	71	147
User 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
PHF 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
PHF Volume:	10	1688	132	136	1094	118	190	86	15	218	71	147
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	1688	132	136	1094	118	190	86	15	218	71	147
PCE 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
MLF 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
FinalVolume:	10	1688	132	136	1094	118	190	86	15	218	71	147
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.85	0.15	1.00	1.81	0.19	0.66	0.29	0.05	1.00	1.00	1.00
Final Sat.:	1600	2968	232	1600	2889	311	1046	471	82	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.01	0.57	0.57	0.08	0.38	0.38	0.12	0.18	0.18	0.14	0.04	0.09
Crit Moves:		****		****				****		****		

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst:
Agency/Co.:
Date Performed: 6/2/2011
Analysis Time Period: AM Peak Hour
Intersection: 13
Jurisdiction:
Units: U. S. Customary
Analysis Year:
Project ID: Traffic Impact Study for Marymount College San Pedro Campus
East/West Street: Via Colinita Ave
North/South Street: Miraleste Dr
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	12	464	180	196	423	2
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	13	504	195	213	459	2
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type/Storage	Raised curb / 2					
RT Channelized?		No				
Lanes	0	1	1	1	1	0
Configuration		LT	R	L		TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	81	20	229	0	3	18
Peak Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	88	21	248	0	3	19
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/		No	/
Lanes	0	1	1	0	1	0
Configuration		LT	R		LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT	L	LT		R		LTR	
v (vph)	13	213	109		248		22	
C(m) (vph)	1111	907	216		572		0	
v/c	0.01	0.23	0.50		0.43			
95% queue length	0.04	0.91	2.56		2.18			
Control Delay	8.3	10.2	37.5		16.0			
LOS	A	B	E		C		F	
Approach Delay			22.6					
Approach LOS			C					

HCS+: Unsignalized Intersections Release 5.6

Phone: Fax:
E-Mail:

TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst:
Agency/Co.:
Date Performed: 6/2/2011
Analysis Time Period: AM Peak Hour
Intersection: 13
Jurisdiction:
Units: U. S. Customary
Analysis Year:
Project ID: Traffic Impact Study for Marymount College San Pedro Campus
East/West Street: Via Colinita Ave
North/South Street: Miraleste Dr
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movements	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	12	464	180	196	423	2
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Peak-15 Minute Volume	3	126	49	53	115	1
Hourly Flow Rate, HFR	13	504	195	213	459	2
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type/Storage	Raised curb		/ 2			
RT Channelized?			No			
Lanes	0	1	1	1	1	0
Configuration	LT		R	L	TR	
Upstream Signal?	No			No		

Minor Street Movements	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	81	20	229	0	3	18
Peak Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Peak-15 Minute Volume	22	5	62	0	1	5
Hourly Flow Rate, HFR	88	21	248	0	3	19
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/		No	/
RT Channelized?			No			
Lanes	0	1	1	0	1	0
Configuration	LT		R		LTR	

Pedestrian Volumes and Adjustments

Movements	13	14	15	16
Flow (ped/hr)	0	0	0	0

Lane Width (ft)	12.0	12.0	12.0	12.0
Walking Speed (ft/sec)	4.0	4.0	4.0	4.0
Percent Blockage	0	0	0	0

Upstream Signal Data

	Prog. Flow vph	Sat Flow vph	Arrival Type	Green Time sec	Cycle Length sec	Prog. Speed mph	Distance to Signal feet
S2 Left-Turn							
Through							
S5 Left-Turn							
Through							

Worksheet 3-Data for Computing Effect of Delay to Major Street Vehicles

	Movement 2	Movement 5
Shared ln volume, major th vehicles:	504	
Shared ln volume, major rt vehicles:	0	
Sat flow rate, major th vehicles:	1700	
Sat flow rate, major rt vehicles:	1700	
Number of major street through lanes:	1	

Worksheet 4-Critical Gap and Follow-up Time Calculation

Critical Gap Calculation

Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
t(c,base)	4.1	4.1	7.1	6.5	6.2	7.1	6.5	6.2
t(c,hv)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
P(hv)	0	0	0	0	0	0	0	0
t(c,g)			0.20	0.20	0.10	0.20	0.20	0.10
Percent Grade			0.00	0.00	0.00	0.00	0.00	0.00
t(3,lt)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t(c,T): 1-stage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2-stage	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
t(c) 1-stage	4.1	4.1	7.1	6.5	6.2	7.1	6.5	6.2
2-stage	4.1	4.1	6.1	5.5	6.2	6.1	5.5	6.2

Follow-Up Time Calculations

Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
t(f,base)	2.20	2.20	3.50	4.00	3.30	3.50	4.00	3.30
t(f,HV)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
P(HV)	0	0	0	0	0	0	0	0
t(f)	2.2	2.2	3.5	4.0	3.3	3.5	4.0	3.3

Worksheet 5-Effect of Upstream Signals

Computation 1-Queue Clearance Time at Upstream Signal

	Movement 2		Movement 5	
	V(t)	V(l,prot)	V(t)	V(l,prot)
V prog				

Total Saturation Flow Rate, s (vph)	
Arrival Type	
Effective Green, g (sec)	
Cycle Length, C (sec)	
Rp (from Exhibit 16-11)	
Proportion vehicles arriving on green P	
g(q1)	
g(q2)	
g(q)	

Computation 2-Proportion of TWSC Intersection Time blocked	Movement 2		Movement 5	
	V(t)	V(l,prot)	V(t)	V(l,prot)
alpha				
beta				
Travel time, t(a) (sec)				
Smoothing Factor, F				
Proportion of conflicting flow, f				
Max platooned flow, V(c,max)				
Min platooned flow, V(c,min)				
Duration of blocked period, t(p)				
Proportion time blocked, p	0.000		0.000	

Computation 3-Platoon Event Periods	Result
p(2)	0.000
p(5)	0.000
p(dom)	
p(subo)	
Constrained or unconstrained?	

Proportion unblocked for minor movements, p(x)	(1) Single-stage Process	(2) Two-Stage Process Stage I	(3) Stage II
p(1)			
p(4)			
p(7)			
p(8)			
p(9)			
p(10)			
p(11)			
p(12)			

Computation 4 and 5 Single-Stage Process								
Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
V c,x	461	699	1427	1417	504	1648	1611	460
s								
Px								
V c,u,x								
C r,x								
C plat,x								

Two-Stage Process				
	7	8	10	11

	Stage1	Stage2	Stage1	Stage2	Stage1	Stage2	Stage1	Stage2
V(c,x)	530	897	530	887	886	762	886	725
s		1500		1500		1500		1500
P(x)								
V(c,u,x)								
C(r,x)								
C(plat,x)								

Worksheet 6-Impedance and Capacity Equations

Step 1: RT from Minor St.	9	12
Conflicting Flows	504	460
Potential Capacity	572	605
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	572	605
Probability of Queue free St.	0.57	0.97
Step 2: LT from Major St.	**4**	**1**
Conflicting Flows	699	461
Potential Capacity	907	1111
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	907	1111
Probability of Queue free St.	0.77	0.99
Maj L-Shared Prob Q free St.		0.98
Step 3: TH from Minor St.	**8**	**11**
Conflicting Flows	1417	1611
Potential Capacity	138	105
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.75	0.75
Movement Capacity	104	79
Probability of Queue free St.	0.91	0.98
Step 4: LT from Minor St.	**7**	**10**
Conflicting Flows	1427	1648
Potential Capacity	114	80
Pedestrian Impedance Factor	1.00	1.00
Maj. L, Min T Impedance factor	0.74	0.69
Maj. L, Min T Adj. Imp Factor.	0.80	0.76
Cap. Adj. factor due to Impeding mvmnt	0.77	0.43
Movement Capacity	88	34

Worksheet 7-Computation of the Effect of Two-stage Gap Acceptance

Step 3: TH from Minor St.	8	11
Part 1 - First Stage		
Conflicting Flows	530	886
Potential Capacity	530	365
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.98	0.77
Movement Capacity	521	279
Probability of Queue free St.	0.96	0.99

Part 2 - Second Stage		
Conflicting Flows	887	725
Potential Capacity	365	433
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.77	0.98
Movement Capacity	279	426
Part 3 - Single Stage		
Conflicting Flows	1417	1611
Potential Capacity	138	105
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.75	0.75
Movement Capacity	104	79
Result for 2 stage process:		
a	0.95	0.95
y	2.57	1.49
C t	237	175
Probability of Queue free St.	0.91	0.98
Step 4: LT from Minor St.	7	10
Part 1 - First Stage		
Conflicting Flows	530	886
Potential Capacity	536	342
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.98	0.77
Movement Capacity	527	262
Part 2 - Second Stage		
Conflicting Flows	897	762
Potential Capacity	337	400
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.73	0.53
Movement Capacity	247	214
Part 3 - Single Stage		
Conflicting Flows	1427	1648
Potential Capacity	114	80
Pedestrian Impedance Factor	1.00	1.00
Maj. L, Min T Impedance factor	0.74	0.69
Maj. L, Min T Adj. Imp Factor.	0.80	0.76
Cap. Adj. factor due to Impeding mvmnt	0.77	0.43
Movement Capacity	88	34
Results for Two-stage process:		
a	0.95	0.95
y	3.01	-6.91
C t	211	0

Worksheet 8-Shared Lane Calculations

Movement	7 L	8 T	9 R	10 L	11 T	12 R
Volume (vph)	88	21	248	0	3	19
Movement Capacity (vph)	211	237	572	0	175	605
Shared Lane Capacity (vph)	216				0	

Worksheet 9-Computation of Effect of Flared Minor Street Approaches

Movement	7	8	9	10	11	12
	L	T	R	L	T	R
C sep	211	237	572	0	175	605
Volume	88	21	248	0	3	19
Delay						
Q sep						
Q sep +1						
round (Qsep +1)						
n max						
C sh	216				0	
SUM C sep						
n						
C act						

Worksheet 10-Delay, Queue Length, and Level of Service

Movement	1	4	7	8	9	10	11	12
Lane Config	LT	L	LT		R		LTR	
v (vph)	13	213	109		248		22	
C(m) (vph)	1111	907	216		572		0	
v/c	0.01	0.23	0.50		0.43			
95% queue length	0.04	0.91	2.56		2.18			
Control Delay	8.3	10.2	37.5		16.0			
LOS	A	B	E		C		F	
Approach Delay			22.6					
Approach LOS			C					

Worksheet 11-Shared Major LT Impedance and Delay

	Movement 2	Movement 5
p(oj)	0.99	0.77
v(il), Volume for stream 2 or 5	504	
v(i2), Volume for stream 3 or 6	0	
s(il), Saturation flow rate for stream 2 or 5	1700	
s(i2), Saturation flow rate for stream 3 or 6	1700	
P*(oj)	0.98	
d(M,LT), Delay for stream 1 or 4	8.3	10.2
N, Number of major street through lanes	1	
d(rank,1) Delay for stream 2 or 5	0.1	

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AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #14 Western Ave & Crestwood St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.882
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	92	Level Of Service:	D

Street Name:	Western Ave						Crestwood St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	72	1565	115	14	1040	121	185	33	116	53	11	28
Growth Adj:	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Initial Bse:	77	1676	123	15	1114	130	198	35	124	57	12	30
Added Vol:	0	162	0	0	199	5	1	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	77	1838	123	15	1313	135	199	35	124	57	12	30
User 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
PHF 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
PHF Volume:	77	1838	123	15	1313	135	199	35	124	57	12	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	77	1838	123	15	1313	135	199	35	124	57	12	30
PCE 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
MLF 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
FinalVolume:	77	1838	123	15	1313	135	199	35	124	57	12	30
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.87	0.13	1.00	1.81	0.19	1.00	0.22	0.78	1.00	0.28	0.72
Final Sat.:	1600	2999	201	1600	2902	298	1600	354	1246	1600	451	1149
Capacity Analysis Module:												
Vol/Sat:	0.05	0.61	0.61	0.01	0.45	0.45	0.12	0.10	0.10	0.04	0.03	0.03
Crit Moves:		****			****			****			****	

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #15 Miraleste Dr & 1st St

Average Delay (sec/veh): 7.4 Worst Case Level Of Service: D[25.2]

Street Name:	Miraleste Dr						1st St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 1 0			1 0 1 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	0	364	73	250	205	0	0	0	0	22	0	176
Growth Adj:	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Initial Bse:	0	390	78	268	220	0	0	0	0	24	0	188
Added Vol:	0	7	13	12	3	0	0	0	0	15	0	39
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	397	91	280	223	0	0	0	0	39	0	227
User 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
PHF 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
PHF Volume:	0	397	91	280	223	0	0	0	0	39	0	227
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	397	91	280	223	0	0	0	0	39	0	227
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	488	xxxx	xxxxx	1338	1270	223	1224	1224	442
Potent Cap.:	xxxx	xxxx	xxxxx	1086	xxxx	xxxxx	131	170	822	200	181	619
Move Cap.:	xxxx	xxxx	xxxxx	1086	xxxx	xxxxx	67	126	822	160	134	619
Volume/Cap:	xxxx	xxxx	xxxx	0.26	xxxx	xxxx	0.00	0.00	0.00	0.24	0.00	0.37
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	1.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	9.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	0	xxxxx	xxxx	437	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	3.9	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	25.2	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	D	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			25.2		
ApproachLOS:	*			*			*			D		

Note: Queue reported is the number of cars per lane.

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Marymount College Palos Verdes North - Traffic Study
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #17 Palos Verdes Dr E & Crest Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.579
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	38	Level Of Service:	A

Street Name:	Palos Verdes Dr E						Crest Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0	1 0	0 1	1 0	1 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	7	0	17	254	2	46	60	157	53	109	94	180
Growth Adj:	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Initial Bse:	7	0	18	272	2	49	64	168	57	117	101	193
Added Vol:	13	0	47	0	0	0	0	2	37	160	5	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	20	0	65	272	2	49	64	170	94	277	106	193
User 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
PHF 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
PHF Volume:	20	0	65	272	2	49	64	170	94	277	106	193
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	20	0	65	272	2	49	64	170	94	277	106	193
PCE 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
MLF 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
FinalVolume:	20	0	65	272	2	49	64	170	94	277	106	193
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.24	0.00	0.76	0.99	0.01	1.00	1.00	1.29	0.71	1.00	2.00	1.00
Final Sat.:	383	0	1217	1588	13	1600	1600	2063	1137	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.05	0.17	0.17	0.03	0.04	0.08	0.08	0.17	0.03	0.12
Crit Moves:			****	****				****		****		

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PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Palos Verdes Dr E & Palos Verdes Dr N

Cycle (sec):	100	Critical Vol./Cap.(X):	0.786
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	64	Level Of Service:	C

Street Name:	Palos Verdes Dr E						Palos Verdes Dr N					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1 0	1	2 0	1 0	1	1 0	2 0	1	1 0	2 0	1
Volume Module:												
Base Vol:	176	140	126	228	248	92	77	985	254	121	1065	71
Growth Adj:	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Initial Bse:	188	150	135	244	266	99	82	1055	272	130	1141	76
Added Vol:	0	9	27	6	8	14	16	91	0	27	84	10
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	188	159	162	250	274	113	98	1146	272	157	1225	86
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	188	159	162	250	274	113	98	1146	272	157	1225	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	188	159	162	250	274	113	98	1146	272	157	1225	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	188	159	162	250	274	113	98	1146	272	157	1225	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.00	1.00	2.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	3200	1600	1600	3200	1600	1600	1600	3200	1600	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.06	0.10	0.10	0.08	0.17	0.07	0.06	0.36	0.17	0.10	0.38	0.00
Crit Moves:	****			****			****			****		

Marymount College Palos Verdes North - Traffic Study
Future With Project Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Western Ave & Palos Verdes Dr N

Cycle (sec):	100	Critical Vol./Cap.(X):	1.269
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Western Ave						Palos Verdes Dr N					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1	1 0	1 0	1	1 0	1 0	3	0 1	1 0	2	1 0
Volume Module:												
Base Vol:	398	683	178	29	919	160	151	587	537	314	824	27
Growth Adj:	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Initial Bse:	426	731	191	31	984	171	162	629	575	336	883	29
Added Vol:	39	191	106	28	262	7	5	65	55	191	74	47
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	465	922	297	59	1246	178	167	694	630	527	957	76
User 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
PHF 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
PHF Volume:	465	922	297	59	1246	178	167	694	630	527	957	76
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	465	922	297	59	1246	178	167	694	630	527	957	76
PCE 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
MLF 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
FinalVolume:	465	922	297	59	1246	178	167	694	630	527	957	76
OvlAdjVol:									397			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.51	0.49	1.00	1.75	0.25	1.00	3.00	1.00	1.00	2.78	0.22
Final Sat.:	3200	2421	779	1600	2799	401	1600	4800	1600	1600	4447	353
Capacity Analysis Module:												
Vol/Sat:	0.15	0.38	0.38	0.04	0.45	0.45	0.10	0.14	0.39	0.33	0.22	0.22
OvlAdjV/S:									0.25			
Crit Moves:	****			****					****	****		

Marymount College Palos Verdes North - Traffic Study
Future With Project Conditions
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #11 Palos Verder Dr E & Miraleste Dr

Average Delay (sec/veh): 124.6 Worst Case Level Of Service: F[443.9]

Street Name:	Palos Verder Dr E									Miraleste Dr								
Approach:	North Bound				South Bound					East Bound					West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Rights:	Include					Include					Include					Include				
Lanes:	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	1
Volume Module:																				
Base Vol:	0	245	176			417	281	0			0	0	0			138	0	274		
Growth Adj:	1.07	1.07	1.07			1.07	1.07	1.07			1.07	1.07	1.07			1.07	1.07	1.07		
Initial Bse:	0	262	188			447	301	0			0	0	0			148	0	293		
Added Vol:	0	37	72			0	35	0			0	0	0			67	0	0		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	0	299	260			447	336	0			0	0	0			215	0	293		
User 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		
PHF 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		
PHF Volume:	0	299	260			447	336	0			0	0	0			215	0	293		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
FinalVolume:	0	299	260			447	336	0			0	0	0			215	0	293		
Critical Gap Module:																				
Critical Gp:	xxxxx	xxxx	xxxxx			4.1	xxxx	xxxxx			xxxxx	xxxx	xxxxx			6.4	xxxx	6.2		
FollowUpTim:	xxxxx	xxxx	xxxxx			2.2	xxxx	xxxxx			xxxxx	xxxx	xxxxx			3.5	xxxx	3.3		
Capacity Module:																				
Cnflict Vol:	xxxx	xxxx	xxxxx			560	xxxx	xxxxx			xxxx	xxxx	xxxxx			1659	xxxx	430		
Potent Cap.:	xxxx	xxxx	xxxxx			1021	xxxx	xxxxx			xxxx	xxxx	xxxxx			109	xxxx	630		
Move Cap.:	xxxx	xxxx	xxxxx			1021	xxxx	xxxxx			xxxx	xxxx	xxxxx			71	xxxx	630		
Volume/Cap:	xxxx	xxxx	xxxx			0.44	xxxx	xxxx			xxxx	xxxx	xxxx			3.01	xxxx	0.47		
Level Of Service Module:																				
2Way95thQ:	xxxx	xxxx	xxxxx			2.3	xxxx	xxxxx			xxxx	xxxx	xxxxx			21.6	xxxx	2.5		
Control Del:	xxxxx	xxxx	xxxxx			11.2	xxxx	xxxxx			xxxxx	xxxx	xxxxx			1029	xxxx	15.6		
LOS by Move:	*	*	*			B	*	*			*	*	*			F	*	C		
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx		
SharedQueue:	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx		
Shrd ConDel:	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx		
Shared LOS:	*	*	*			*	*	*			*	*	*			*	*	*		
ApproachDel:	xxxxxx					xxxxxx					xxxxxx					443.9				
ApproachLOS:	*					*					*					F				

Note: Queue reported is the number of cars per lane.

Marymount College Palos Verdes North - Traffic Study
Future With Project Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #12 Western Ave & Trudie Dr/Capitol Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.990
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Western Ave						Trudie Dr/Capitol Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1! 0	0	1 0	1 0	1
Volume Module:												
Base Vol:	16	1098	119	232	1169	72	129	43	29	124	65	177
Growth Adj:	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Initial Bse:	17	1176	127	248	1252	77	138	46	31	133	70	190
Added Vol:	0	187	21	13	188	35	39	0	0	20	0	8
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	17	1363	148	261	1440	112	177	46	31	153	70	198
User 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
PHF 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
PHF Volume:	17	1363	148	261	1440	112	177	46	31	153	70	198
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	17	1363	148	261	1440	112	177	46	31	153	70	198
PCE 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
MLF 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
FinalVolume:	17	1363	148	261	1440	112	177	46	31	153	70	198
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.80	0.20	1.00	1.86	0.14	0.70	0.18	0.12	1.00	1.00	1.00
Final Sat.:	1600	2886	314	1600	2969	231	1115	290	195	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.01	0.47	0.47	0.16	0.49	0.49	0.11	0.16	0.16	0.10	0.04	0.12
Crit Moves:		****		****				****		****		

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst:
Agency/Co.:
Date Performed: 6/2/2011
Analysis Time Period: PM Peak Hour
Intersection: 13
Jurisdiction:
Units: U. S. Customary
Analysis Year: Future 2031 With Project
Project ID:
East/West Street: Via Colinita Ave
North/South Street: Miraleste Dr
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	12	349	73	286	463	5
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	13	379	79	310	503	5
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type/Storage	Raised curb / 2					
RT Channelized?		No				
Lanes	0	1	1	1	1	0
Configuration		LT	R	L		TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	47	16	213	2	9	14
Peak Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	51	17	231	2	9	15
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/		No	/
Lanes	0	1	1	0	1	0
Configuration		LT	R		LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT	L	LT		R		LTR	
v (vph)	13	310	68		231		26	
C(m) (vph)	1067	1114	151		672		0	
v/c	0.01	0.28	0.45		0.34			
95% queue length	0.04	1.14	2.05		1.53			
Control Delay	8.4	9.5	47.0		13.1			
LOS	A	A	E		B		F	
Approach Delay			20.8					
Approach LOS			C					

HCS+: Unsignalized Intersections Release 5.6

Phone: Fax:
E-Mail:

TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst:
Agency/Co.:
Date Performed: 6/2/2011
Analysis Time Period: PM Peak Hour
Intersection: 13
Jurisdiction:
Units: U. S. Customary
Analysis Year: Future 2031 With Project
Project ID:
East/West Street: Via Colinita Ave
North/South Street: Miraleste Dr
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movements	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	12	349	73	286	463	5
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Peak-15 Minute Volume	3	95	20	78	126	1
Hourly Flow Rate, HFR	13	379	79	310	503	5
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type/Storage	Raised curb		/ 2			
RT Channelized?			No			
Lanes	0	1	1	1	1	0
Configuration	LT		R	L		TR
Upstream Signal?		No			No	

Minor Street Movements	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	47	16	213	2	9	14
Peak Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Peak-15 Minute Volume	13	4	58	1	2	4
Hourly Flow Rate, HFR	51	17	231	2	9	15
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
RT Channelized?			No			
Lanes	0	1	1	0	1	0
Configuration	LT		R		LTR	

Pedestrian Volumes and Adjustments

Movements	13	14	15	16
Flow (ped/hr)	0	0	0	0

Lane Width (ft)	12.0	12.0	12.0	12.0
Walking Speed (ft/sec)	4.0	4.0	4.0	4.0
Percent Blockage	0	0	0	0

Upstream Signal Data

	Prog. Flow vph	Sat Flow vph	Arrival Type	Green Time sec	Cycle Length sec	Prog. Speed mph	Distance to Signal feet
S2 Left-Turn							
Through							
S5 Left-Turn							
Through							

Worksheet 3-Data for Computing Effect of Delay to Major Street Vehicles

	Movement 2	Movement 5
Shared ln volume, major th vehicles:	379	
Shared ln volume, major rt vehicles:	0	
Sat flow rate, major th vehicles:	1700	
Sat flow rate, major rt vehicles:	1700	
Number of major street through lanes:	1	

Worksheet 4-Critical Gap and Follow-up Time Calculation

Critical Gap Calculation

Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
t(c,base)	4.1	4.1	7.1	6.5	6.2	7.1	6.5	6.2
t(c,hv)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
P(hv)	0	0	0	0	0	0	0	0
t(c,g)			0.20	0.20	0.10	0.20	0.20	0.10
Percent Grade			0.00	0.00	0.00	0.00	0.00	0.00
t(3,lt)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t(c,T): 1-stage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2-stage	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
t(c) 1-stage	4.1	4.1	7.1	6.5	6.2	7.1	6.5	6.2
2-stage	4.1	4.1	6.1	5.5	6.2	6.1	5.5	6.2

Follow-Up Time Calculations

Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
t(f,base)	2.20	2.20	3.50	4.00	3.30	3.50	4.00	3.30
t(f,HV)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
P(HV)	0	0	0	0	0	0	0	0
t(f)	2.2	2.2	3.5	4.0	3.3	3.5	4.0	3.3

Worksheet 5-Effect of Upstream Signals

Computation 1-Queue Clearance Time at Upstream Signal

	Movement 2		Movement 5	
	V(t)	V(l,prot)	V(t)	V(l,prot)
V prog				

Total Saturation Flow Rate, s (vph)	
Arrival Type	
Effective Green, g (sec)	
Cycle Length, C (sec)	
Rp (from Exhibit 16-11)	
Proportion vehicles arriving on green P	
g(q1)	
g(q2)	
g(q)	

Computation 2-Proportion of TWSC Intersection Time blocked	Movement 2		Movement 5	
	V(t)	V(l,prot)	V(t)	V(l,prot)
alpha				
beta				
Travel time, t(a) (sec)				
Smoothing Factor, F				
Proportion of conflicting flow, f				
Max platooned flow, V(c,max)				
Min platooned flow, V(c,min)				
Duration of blocked period, t(p)				
Proportion time blocked, p	0.000		0.000	

Computation 3-Platoon Event Periods	Result
p(2)	0.000
p(5)	0.000
p(dom)	
p(subo)	
Constrained or unconstrained?	

Proportion unblocked for minor movements, p(x)	(1) Single-stage Process	(2) Two-Stage Process Stage I	(3) Stage II
p(1)			
p(4)			
p(7)			
p(8)			
p(9)			
p(10)			
p(11)			
p(12)			

Computation 4 and 5 Single-Stage Process								
Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
V c,x	508	458	1543	1533	379	1694	1610	506
s								
Px								
V c,u,x								
C r,x								
C plat,x								

Two-Stage Process				
	7	8	10	11

	Stage1	Stage2	Stage1	Stage2	Stage1	Stage2	Stage1	Stage2
V(c,x)	405	1138	405	1128	1126	568	1126	484
s		1500		1500		1500		1500
P(x)								
V(c,u,x)								
C(r,x)								
C(plat,x)								

Worksheet 6-Impedance and Capacity Equations

Step 1: RT from Minor St.	9	12
Conflicting Flows	379	506
Potential Capacity	672	570
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	672	570
Probability of Queue free St.	0.66	0.97
Step 2: LT from Major St.	**4**	**1**
Conflicting Flows	458	508
Potential Capacity	1114	1067
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	1114	1067
Probability of Queue free St.	0.72	0.99
Maj L-Shared Prob Q free St.		0.98
Step 3: TH from Minor St.	**8**	**11**
Conflicting Flows	1533	1610
Potential Capacity	118	106
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.71	0.71
Movement Capacity	84	75
Probability of Queue free St.	0.90	0.94
Step 4: LT from Minor St.	**7**	**10**
Conflicting Flows	1543	1694
Potential Capacity	95	74
Pedestrian Impedance Factor	1.00	1.00
Maj. L, Min T Impedance factor	0.67	0.64
Maj. L, Min T Adj. Imp Factor.	0.74	0.72
Cap. Adj. factor due to Impeding mvmnt	0.73	0.47
Movement Capacity	69	35

Worksheet 7-Computation of the Effect of Two-stage Gap Acceptance

Step 3: TH from Minor St.	8	11
Part 1 - First Stage		
Conflicting Flows	405	1126
Potential Capacity	602	282
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.98	0.72
Movement Capacity	593	204
Probability of Queue free St.	0.97	0.96

Part 2 - Second Stage		
Conflicting Flows	1128	484
Potential Capacity	282	555
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.72	0.98
Movement Capacity	204	546
Part 3 - Single Stage		
Conflicting Flows	1533	1610
Potential Capacity	118	106
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.71	0.71
Movement Capacity	84	75
Result for 2 stage process:		
a	0.95	0.95
y	4.76	0.80
C t	178	161
Probability of Queue free St.	0.90	0.94
Step 4: LT from Minor St.	7	10
Part 1 - First Stage		
Conflicting Flows	405	1126
Potential Capacity	626	251
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.98	0.72
Movement Capacity	616	181
Part 2 - Second Stage		
Conflicting Flows	1138	568
Potential Capacity	247	511
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.67	0.63
Movement Capacity	166	321
Part 3 - Single Stage		
Conflicting Flows	1543	1694
Potential Capacity	95	74
Pedestrian Impedance Factor	1.00	1.00
Maj. L, Min T Impedance factor	0.67	0.64
Maj. L, Min T Adj. Imp Factor.	0.74	0.72
Cap. Adj. factor due to Impeding mvmnt	0.73	0.47
Movement Capacity	69	35
Results for Two-stage process:		
a	0.95	0.95
y	6.51	-6.08
C t	144	0

Worksheet 8-Shared Lane Calculations

Movement	7 L	8 T	9 R	10 L	11 T	12 R
Volume (vph)	51	17	231	2	9	15
Movement Capacity (vph)	144	178	672	0	161	570
Shared Lane Capacity (vph)	151				0	

Worksheet 9-Computation of Effect of Flared Minor Street Approaches

Movement	7	8	9	10	11	12
	L	T	R	L	T	R
C sep	144	178	672	0	161	570
Volume	51	17	231	2	9	15
Delay						
Q sep						
Q sep +1						
round (Qsep +1)						
n max						
C sh	151				0	
SUM C sep						
n						
C act						

Worksheet 10-Delay, Queue Length, and Level of Service

Movement	1	4	7	8	9	10	11	12
Lane Config	LT	L	LT		R		LTR	
v (vph)	13	310	68		231		26	
C(m) (vph)	1067	1114	151		672		0	
v/c	0.01	0.28	0.45		0.34			
95% queue length	0.04	1.14	2.05		1.53			
Control Delay	8.4	9.5	47.0		13.1			
LOS	A	A	E		B		F	
Approach Delay				20.8				
Approach LOS				C				

Worksheet 11-Shared Major LT Impedance and Delay

	Movement 2	Movement 5
p(oj)	0.99	0.72
v(il), Volume for stream 2 or 5	379	
v(i2), Volume for stream 3 or 6	0	
s(il), Saturation flow rate for stream 2 or 5	1700	
s(i2), Saturation flow rate for stream 3 or 6	1700	
P*(oj)	0.98	
d(M,LT), Delay for stream 1 or 4	8.4	9.5
N, Number of major street through lanes	1	
d(rank,1) Delay for stream 2 or 5	0.1	

Marymount College Palos Verdes North - Traffic Study
Future With Project Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #14 Western Ave & Crestwood St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.911
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	106	Level Of Service:	E

Street Name:	Western Ave						Crestwood St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	41	1244	204	39	1382	116	143	37	50	180	29	46
Growth Adj:	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Initial Bse:	44	1332	218	42	1480	124	153	40	54	193	31	49
Added Vol:	0	200	0	0	202	4	3	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	44	1532	218	42	1682	128	156	40	54	193	31	49
User 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
PHF 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
PHF Volume:	44	1532	218	42	1682	128	156	40	54	193	31	49
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	44	1532	218	42	1682	128	156	40	54	193	31	49
PCE 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
MLF 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
FinalVolume:	44	1532	218	42	1682	128	156	40	54	193	31	49
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.75	0.25	1.00	1.86	0.14	1.00	0.43	0.57	1.00	0.39	0.61
Final Sat.:	1600	2801	399	1600	2973	227	1600	680	920	1600	619	981
Capacity Analysis Module:												
Vol/Sat:	0.03	0.55	0.55	0.03	0.57	0.57	0.10	0.06	0.06	0.12	0.05	0.05
Crit Moves:	****			****			****			****		

Marymount College Palos Verdes North - Traffic Study
Future With Project Conditions
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #15 Miraleste Dr & 1st St

Average Delay (sec/veh): 5.3 Worst Case Level Of Service: C[17.3]

Street Name:	Miraleste Dr						1st St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 1 0			1 0 1 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	0	221	39	159	295	0	0	0	0	34	0	141
Growth Adj:	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Initial Bse:	0	237	42	170	316	0	0	0	0	36	0	151
Added Vol:	0	4	17	25	5	0	0	0	0	16	0	24
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	241	59	195	321	0	0	0	0	52	0	175
User 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
PHF 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
PHF Volume:	0	241	59	195	321	0	0	0	0	52	0	175
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	241	59	195	321	0	0	0	0	52	0	175
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	299	xxxx	xxxxx	1069	1011	321	982	982	270
Potent Cap.:	xxxx	xxxx	xxxxx	1273	xxxx	xxxxx	201	241	725	279	251	773
Move Cap.:	xxxx	xxxx	xxxxx	1273	xxxx	xxxxx	137	204	725	246	213	773
Volume/Cap:	xxxx	xxxx	xxxx	0.15	xxxx	xxxx	0.00	0.00	0.00	0.21	0.00	0.23
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.5	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	8.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	0	xxxxx	xxxx	518	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	2.2	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	17.3	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	C	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			17.3		
ApproachLOS:	*			*			*			C		

Note: Queue reported is the number of cars per lane.

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Marymount College Palos Verdes North - Traffic Study
Future With Project Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #17 Palos Verdes Dr E & Crest Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.486
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	33	Level Of Service:	A

Street Name:	Palos Verdes Dr E						Crest Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	1	0	0	1	1	0	1	1	0	1	0	2	0	1
Volume Module:																			
Base Vol:	12	2	44	176	2	35	34	153	13	37	184	129
Growth Adj:	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Initial Bse:	13	2	47	188	2	37	36	164	14	40	197	138
Added Vol:	23	0	103	0	0	0	0	5	21	99	3	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	2	150	188	2	37	36	169	35	139	200	138
User 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
PHF 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
PHF Volume:	36	2	150	188	2	37	36	169	35	139	200	138
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	36	2	150	188	2	37	36	169	35	139	200	138
PCE 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
MLF 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
FinalVolume:	36	2	150	188	2	37	36	169	35	139	200	138
Saturation Flow Module:																			
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.19	0.01	0.80	0.99	0.01	1.00	1.00	1.66	0.34	1.00	2.00	1.00
Final Sat.:	305	18	1277	1582	18	1600	1600	2652	548	1600	3200	1600
Capacity Analysis Module:																			
Vol/Sat:	0.02	0.12	0.12	0.12	0.12	0.02	0.02	0.06	0.06	0.09	0.06	0.09
Crit Moves:	****			****					****		****								

APPENDIX L
Intersection Level of Service Worksheets
Future (2031) With Project Plus Mitigation

Marymount College Palos Verdes North - Traffic Study
Future With Project With Mitigation
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Palos Verdes Dr E & Palos Verdes Dr N

Cycle (sec):	100	Critical Vol./Cap.(X):	0.785
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	64	Level Of Service:	C

Street Name:	Palos Verdes Dr E						Palos Verdes Dr N					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 1	0 1	2	0 1	0 1	1	0 2	0 1	2	0 2	0 1
Volume Module:												
Base Vol:	361	259	176	113	128	31	66	1051	182	157	842	141
Growth Adj:	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Initial Bse:	387	277	188	121	137	33	71	1126	195	168	902	151
Added Vol:	0	5	8	9	15	9	5	173	0	36	155	3
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	387	282	196	130	152	42	76	1299	195	204	1057	154
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	387	282	196	130	152	42	76	1299	195	204	1057	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	387	282	196	130	152	42	76	1299	195	204	1057	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	387	282	196	130	152	42	76	1299	195	204	1057	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.00	1.00	2.00	1.00	1.00	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3200	1600	1600	3200	1600	1600	1600	3200	1600	3200	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.12	0.18	0.12	0.04	0.10	0.03	0.05	0.41	0.12	0.06	0.33	0.00
Crit Moves:	****			****			****			****		

Marymount College Palos Verdes North - Traffic Study
Future With Project With Mitigation
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Western Ave & Palos Verdes Dr N

Cycle (sec):	100	Critical Vol./Cap.(X):	1.157
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Western Ave						Palos Verdes Dr N					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1	1 0	1 0	1	1 0	1 0	3	0 1	2 0	2	1 0
Volume Module:												
Base Vol:	582	1003	385	51	574	101	103	965	333	252	595	21
Growth Adj:	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Initial Bse:	623	1074	412	55	615	108	110	1034	357	270	637	22
Added Vol:	56	255	176	117	182	14	1	157	29	58	126	70
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	679	1329	588	172	797	122	111	1191	386	328	763	92
User 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
PHF 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
PHF Volume:	679	1329	588	172	797	122	111	1191	386	328	763	92
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	679	1329	588	172	797	122	111	1191	386	328	763	92
PCE 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
MLF 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
FinalVolume:	679	1329	588	172	797	122	111	1191	386	328	763	92
OvlAdjVol:									46			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.39	0.61	1.00	1.73	0.27	1.00	3.00	1.00	2.00	2.68	0.32
Final Sat.:	3200	2218	982	1600	2775	425	1600	4800	1600	3200	4281	519
Capacity Analysis Module:												
Vol/Sat:	0.21	0.60	0.60	0.11	0.29	0.29	0.07	0.25	0.24	0.10	0.18	0.18
OvlAdjV/S:									0.03			
Crit Moves:	****			****				****		****		

Marymount College Palos Verdes North - Traffic Study
Future With Project With Mitigation
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 Palos Verdes Dr E & Miraleste Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.928
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	116	Level Of Service:	E

Street Name:	Palos Verdes Dr E						Miraleste Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 1	0	1 0	1 0	0	0 0	0 0	0	1 0	0 0	1
Volume Module:												
Base Vol:	0	337	170	344	259	0	0	0	0	145	0	340
Growth Adj:	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Initial Bse:	0	361	182	368	277	0	0	0	0	155	0	364
Added Vol:	0	13	36	0	51	0	0	0	0	114	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	374	218	368	328	0	0	0	0	269	0	364
User 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
PHF 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
PHF Volume:	0	374	218	368	328	0	0	0	0	269	0	364
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	374	218	368	328	0	0	0	0	269	0	364
PCE 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
MLF 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
FinalVolume:	0	374	218	368	328	0	0	0	0	269	0	364
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.63	0.37	1.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	1011	589	1600	1600	0	0	0	0	1600	0	1600
Capacity Analysis Module:												
Vol/Sat:	0.00	0.37	0.37	0.23	0.21	0.00	0.00	0.00	0.00	0.17	0.00	0.23
Crit Moves:		****		****								****

Marymount College Palos Verdes North - Traffic Study
Future With Project With Mitigation
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Palos Verdes Dr E & Palos Verdes Dr N

Cycle (sec):	100	Critical Vol./Cap.(X):	0.774
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	61	Level Of Service:	C

Street Name:	Palos Verdes Dr E						Palos Verdes Dr N					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1 0	1	2 0	1 0	1	1 0	2 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	176	140	126	228	248	92	77	985	254	121	1065	71
Growth Adj:	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Initial Bse:	188	150	135	244	266	99	82	1055	272	130	1141	76
Added Vol:	0	9	27	6	8	14	16	91	0	27	84	10
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	188	159	162	250	274	113	98	1146	272	157	1225	86
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	188	159	162	250	274	113	98	1146	272	157	1225	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	188	159	162	250	274	113	98	1146	272	157	1225	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	188	159	162	250	274	113	98	1146	272	157	1225	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.00	1.00	2.00	1.00	1.00	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3200	1600	1600	3200	1600	1600	1600	3200	1600	3200	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.06	0.10	0.10	0.08	0.17	0.07	0.06	0.36	0.17	0.05	0.38	0.00
Crit Moves:	****				****		****				****	

Marymount College Palos Verdes North - Traffic Study
Future With Project With Mitigation
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Western Ave & Palos Verdes Dr N

Cycle (sec):	100	Critical Vol./Cap.(X):	1.104
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Western Ave						Palos Verdes Dr N					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1	1 0	1 0	1	1 0	1 0	3	0 1	2 0	2	1 0
Volume Module:												
Base Vol:	398	683	178	29	919	160	151	587	537	314	824	27
Growth Adj:	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Initial Bse:	426	731	191	31	984	171	162	629	575	336	883	29
Added Vol:	39	191	106	28	262	7	5	65	55	191	74	47
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	465	922	297	59	1246	178	167	694	630	527	957	76
User 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
PHF 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
PHF Volume:	465	922	297	59	1246	178	167	694	630	527	957	76
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	465	922	297	59	1246	178	167	694	630	527	957	76
PCE 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
MLF 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
FinalVolume:	465	922	297	59	1246	178	167	694	630	527	957	76
OvlAdjVol:									397			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.51	0.49	1.00	1.75	0.25	1.00	3.00	1.00	2.00	2.78	0.22
Final Sat.:	3200	2421	779	1600	2799	401	1600	4800	1600	3200	4447	353
Capacity Analysis Module:												
Vol/Sat:	0.15	0.38	0.38	0.04	0.45	0.45	0.10	0.14	0.39	0.16	0.22	0.22
OvlAdjV/S:									0.25			
Crit Moves:	****			****					****	****		

Marymount College Palos Verdes North - Traffic Study
Future With Project With Mitigation
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 Palos Verdes Dr E & Miraleste Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.912
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	107	Level Of Service:	E

Street Name:	Palos Verdes Dr E						Miraleste Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 1	0	1 0	1 0	0	0 0	0 0	0	1 0	0 0	1
Volume Module:												
Base Vol:	0	245	176	417	281	0	0	0	0	138	0	274
Growth Adj:	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Initial Bse:	0	262	188	447	301	0	0	0	0	148	0	293
Added Vol:	0	37	72	0	35	0	0	0	0	67	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	299	260	447	336	0	0	0	0	215	0	293
User 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
PHF 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
PHF Volume:	0	299	260	447	336	0	0	0	0	215	0	293
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	299	260	447	336	0	0	0	0	215	0	293
PCE 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
MLF 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
FinalVolume:	0	299	260	447	336	0	0	0	0	215	0	293
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.53	0.47	1.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	856	744	1600	1600	0	0	0	0	1600	0	1600
Capacity Analysis Module:												
Vol/Sat:	0.00	0.35	0.35	0.28	0.21	0.00	0.00	0.00	0.00	0.13	0.00	0.18
Crit Moves:		****		****								****

APPENDIX M

Traffic Impact Study for Marymount College San Pedro Campus

Synchro Analysis

	Study Intersections	Existing (2011)				Existing Plus Project				Delay (secs)		Existing Plus Project + Mitigation				Delay (secs)	
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour				AM Peak Hour		PM Peak Hour			
		Delay (secs)	LOS	Delay (secs)	LOS	Delay (secs)	LOS	Delay (secs)	LOS	AM Peak Hour	PM Peak Hour	Delay (secs)	LOS	Delay (secs)	LOS	AM Peak Hour	PM Peak Hour
9	Figueroa Pl & Anaheim St	26.0	C	31.1	C	26.2	C	32.2	C	0.2	1.1	24.8	C	29.2	C	-1.2	-1.9
10	Figueroa St & Anaheim St	36.5	D	30.9	C	36.7	D	31.1	C	0.2	0.2	25.7	C	30.7	C	-10.8	-0.2

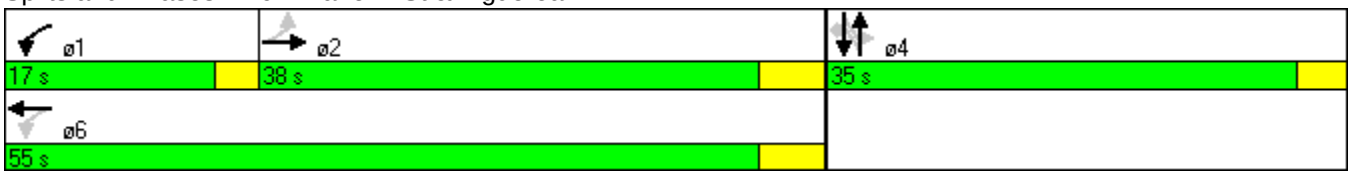
	Study Intersections	Future Without Project				Future With Project				Delay (secs)		Future With Project + Mitigation				Delay (secs)	
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour				AM Peak Hour		PM Peak Hour			
		Delay (secs)	LOS	Delay (secs)	LOS	Delay (secs)	LOS	Delay (secs)	LOS	AM Peak Hour	PM Peak Hour	Delay (secs)	LOS	Delay (secs)	LOS	AM Peak Hour	PM Peak Hour
9	Figueroa Pl & Anaheim St	43.5	D	64.0	E	43.9	D	74.7	E	0.4	10.7	42.3	D	56.0	E	-1.2	-8.0
10	Figueroa St & Anaheim St	57.8	E	38.5	D	58.1	E	42.7	D	0.3	4.2	35.9	D	39.6	D	-21.9	1.1

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	90	1185	247	617	24	18	267	36	418
Turn Type	Perm		pm+pt		Perm		Perm		Perm
Protected Phases		2	1	6		4		4	
Permitted Phases	2		6		4		4		4
Detector Phase	2	2	1	6	4	4	4	4	4
Switch Phase									
Minimum Initial (s)	13.0	13.0	7.0	13.0	18.0	18.0	18.0	18.0	18.0
Minimum Split (s)	21.0	21.0	11.0	21.0	22.0	22.0	22.0	22.0	22.0
Total Split (s)	38.0	38.0	17.0	55.0	35.0	35.0	35.0	35.0	35.0
Total Split (%)	42.2%	42.2%	18.9%	61.1%	38.9%	38.9%	38.9%	38.9%	38.9%
Yellow Time (s)	4.5	4.5	3.0	4.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	3.0	4.5	3.5	3.5	3.5	3.5	3.5
Lead/Lag	Lag	Lag	Lead						
Lead-Lag Optimize?	Yes	Yes	Yes						
Recall Mode	C-Max	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	44.6	44.6	59.8	58.3		23.7		23.7	23.7
Actuated g/C Ratio	0.50	0.50	0.66	0.65		0.26		0.26	0.26
v/c Ratio	0.27	0.77	0.88	0.30		0.15		0.83	0.69
Control Delay	19.4	24.6	45.7	18.3		17.9		50.3	16.4
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	19.4	24.6	45.7	18.3		17.9		50.3	16.4
LOS	B	C	D	B		B		D	B
Approach Delay		24.3		25.6		17.9		30.7	
Approach LOS		C		C		B		C	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 26.0 Intersection LOS: C
Intersection Capacity Utilization 84.9% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 9: Anaheim St & Figueroa Pl



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	1185	148	247	617	61	24	18	19	267	36	418
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	12	12	12	12	12	12
Total Lost time (s)	4.5	4.5		3.0	4.5			3.5			3.5	3.5
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frt	1.00	0.98		1.00	0.99			0.96			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.96	1.00
Satd. Flow (prot)	1652	3480		1652	3491			1750			1784	1583
Flt Permitted	0.39	1.00		0.09	1.00			0.82			0.74	1.00
Satd. Flow (perm)	685	3480		151	3491			1462			1381	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	90	1185	148	247	617	61	24	18	19	267	36	418
RTOR Reduction (vph)	0	9	0	0	7	0	0	14	0	0	0	192
Lane Group Flow (vph)	90	1324	0	247	671	0	0	47	0	0	303	226
Turn Type	Perm			pm+pt			Perm			Perm		Perm
Protected Phases		2		1	6			4			4	
Permitted Phases	2			6			4			4		4
Actuated Green, G (s)	44.6	44.6		58.3	58.3			23.7			23.7	23.7
Effective Green, g (s)	44.6	44.6		58.3	58.3			23.7			23.7	23.7
Actuated g/C Ratio	0.50	0.50		0.65	0.65			0.26			0.26	0.26
Clearance Time (s)	4.5	4.5		3.0	4.5			3.5			3.5	3.5
Vehicle Extension (s)	0.2	0.2		0.2	0.2			0.2			0.2	0.2
Lane Grp Cap (vph)	339	1725		276	2261			385			364	417
v/s Ratio Prot		0.38		c0.11	0.19							
v/s Ratio Perm	0.13			c0.47				0.03			c0.22	0.14
v/c Ratio	0.27	0.77		0.89	0.30			0.12			0.83	0.54
Uniform Delay, d1	13.2	18.5		23.9	6.9			25.2			31.3	28.5
Progression Factor	1.00	1.00		1.09	2.40			1.00			1.00	1.00
Incremental Delay, d2	1.9	3.3		21.3	0.2			0.1			14.3	0.8
Delay (s)	15.1	21.8		47.5	16.8			25.3			45.6	29.3
Level of Service	B	C		D	B			C			D	C
Approach Delay (s)		21.4			25.0			25.3			36.1	
Approach LOS		C			C			C			D	

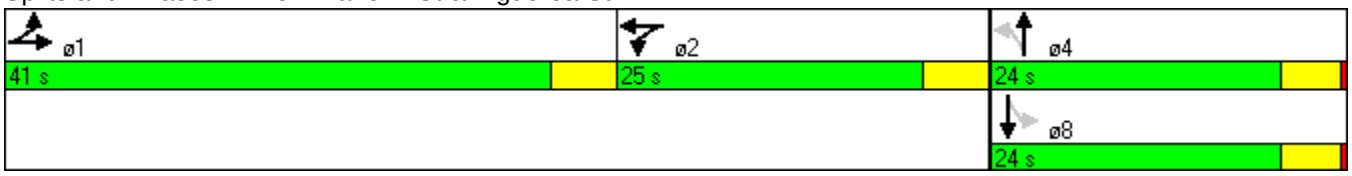
Intersection Summary			
HCM Average Control Delay	25.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.5
Intersection Capacity Utilization	84.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	856	581	84	569	165	224	22	76
Turn Type	Split		Split		Perm		Perm	
Protected Phases	1	1	2	2		4		8
Permitted Phases					4		8	
Detector Phase	1	1	2	2	4	4	8	8
Switch Phase								
Minimum Initial (s)	18.0	18.0	18.0	18.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	23.0	23.0	20.5	20.5	20.5	20.5
Total Split (s)	41.0	41.0	25.0	25.0	24.0	24.0	24.0	24.0
Total Split (%)	45.6%	45.6%	27.8%	27.8%	26.7%	26.7%	26.7%	26.7%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	31.3	31.3	25.7	25.7		19.5		19.5
Actuated g/C Ratio	0.35	0.35	0.29	0.29		0.22		0.22
v/c Ratio	0.85	0.86	0.17	0.74		0.96		0.40
Control Delay	36.9	31.4	27.5	34.4		59.1		12.9
Queue Delay	0.5	0.3	0.0	0.0		0.0		0.0
Total Delay	37.3	31.8	27.5	34.4		59.1		12.9
LOS	D	C	C	C		E		B
Approach Delay		33.6		33.7		59.1		12.9
Approach LOS		C		C		E		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 28 (31%), Referenced to phase 2:WBTL, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.96	
Intersection Signal Delay: 36.5	Intersection LOS: D
Intersection Capacity Utilization 90.3%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 10: Anaheim St & Figueroa St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	856	581	33	84	569	176	165	224	200	22	76	181
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Util. Factor	0.91	0.91		1.00	0.95			0.95			0.95	
Frt	1.00	1.00		1.00	0.96			0.95			0.90	
Flt Protected	0.95	0.98		0.95	1.00			0.99			1.00	
Satd. Flow (prot)	1610	3310		1770	3414			3313			3182	
Flt Permitted	0.95	0.98		0.95	1.00			0.74			0.81	
Satd. Flow (perm)	1610	3310		1770	3414			2489			2574	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	856	581	33	84	569	176	165	224	200	22	76	181
RTOR Reduction (vph)	0	3	0	0	30	0	0	73	0	0	142	0
Lane Group Flow (vph)	479	988	0	84	715	0	0	516	0	0	137	0
Turn Type	Split			Split			Perm			Perm		
Protected Phases	1	1		2	2			4			8	
Permitted Phases							4			8		
Actuated Green, G (s)	31.3	31.3		25.7	25.7			19.5			19.5	
Effective Green, g (s)	31.3	31.3		25.7	25.7			19.5			19.5	
Actuated g/C Ratio	0.35	0.35		0.29	0.29			0.22			0.22	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Vehicle Extension (s)	0.2	0.2		0.2	0.2			3.0			3.0	
Lane Grp Cap (vph)	560	1151		505	975			539			558	
v/s Ratio Prot	0.30	c0.30		0.05	c0.21							
v/s Ratio Perm								c0.21			0.05	
v/c Ratio	0.86	0.86		0.17	0.73			0.96			0.25	
Uniform Delay, d1	27.2	27.3		24.1	29.1			34.8			29.2	
Progression Factor	0.97	0.96		1.00	1.00			1.00			1.00	
Incremental Delay, d2	8.1	4.3		0.7	4.9			28.1			0.2	
Delay (s)	34.6	30.5		24.8	33.9			62.9			29.4	
Level of Service	C	C		C	C			E			C	
Approach Delay (s)		31.8			33.0			62.9			29.4	
Approach LOS		C			C			E			C	

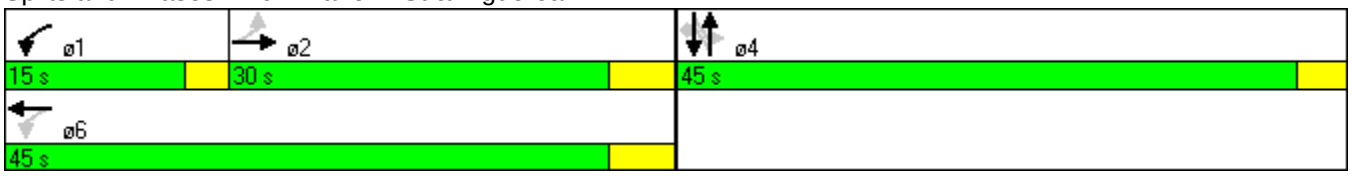
Intersection Summary			
HCM Average Control Delay	37.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	90.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	32	910	241	503	10	6	405	65	607
Turn Type	Perm		pm+pt		Perm		Perm		Perm
Protected Phases		2	1	6		4		4	
Permitted Phases	2		6		4		4		4
Detector Phase	2	2	1	6	4	4	4	4	4
Switch Phase									
Minimum Initial (s)	13.0	13.0	7.0	13.0	18.0	18.0	18.0	18.0	18.0
Minimum Split (s)	21.0	21.0	11.0	21.0	22.0	22.0	22.0	22.0	22.0
Total Split (s)	30.0	30.0	15.0	45.0	45.0	45.0	45.0	45.0	45.0
Total Split (%)	33.3%	33.3%	16.7%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Yellow Time (s)	4.5	4.5	3.0	4.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	3.0	4.5	3.5	3.5	3.5	3.5	3.5
Lead/Lag	Lag	Lag	Lead						
Lead-Lag Optimize?	Yes	Yes	Yes						
Recall Mode	C-Max	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	33.7	33.7	48.7	47.2		34.8		34.8	34.8
Actuated g/C Ratio	0.37	0.37	0.54	0.52		0.39		0.39	0.39
v/c Ratio	0.11	0.81	0.89	0.29		0.07		0.90	0.79
Control Delay	24.3	33.9	45.8	18.8		8.1		46.3	21.1
Queue Delay	0.0	0.1	0.0	0.0		0.0		0.0	0.0
Total Delay	24.3	34.0	45.8	18.8		8.1		46.3	21.1
LOS	C	C	D	B		A		D	C
Approach Delay		33.7		27.1		8.1		32.1	
Approach LOS		C		C		A		C	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 31.1 Intersection LOS: C
Intersection Capacity Utilization 86.3% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 9: Anaheim St & Figueroa Pl



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	32	910	153	241	503	35	10	6	25	405	65	607
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	12	12	12	12	12	12
Total Lost time (s)	4.5	4.5		3.0	4.5			3.5			3.5	3.5
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frt	1.00	0.98		1.00	0.99			0.92			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.96	1.00
Satd. Flow (prot)	1652	3463		1652	3505			1689			1786	1583
Flt Permitted	0.45	1.00		0.11	1.00			0.91			0.73	1.00
Satd. Flow (perm)	785	3463		189	3505			1550			1353	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	32	910	153	241	503	35	10	6	25	405	65	607
RTOR Reduction (vph)	0	13	0	0	5	0	0	15	0	0	0	156
Lane Group Flow (vph)	32	1050	0	241	533	0	0	26	0	0	470	451
Turn Type	Perm			pm+pt			Perm			Perm		Perm
Protected Phases		2		1	6			4			4	
Permitted Phases	2			6			4			4		4
Actuated Green, G (s)	33.8	33.8		47.2	47.2			34.8			34.8	34.8
Effective Green, g (s)	33.8	33.8		47.2	47.2			34.8			34.8	34.8
Actuated g/C Ratio	0.38	0.38		0.52	0.52			0.39			0.39	0.39
Clearance Time (s)	4.5	4.5		3.0	4.5			3.5			3.5	3.5
Vehicle Extension (s)	0.2	0.2		0.2	0.2			0.2			0.2	0.2
Lane Grp Cap (vph)	295	1301		268	1838			599			523	612
v/s Ratio Prot		0.30		c0.10	0.15							
v/s Ratio Perm	0.04			c0.37				0.02			c0.35	0.28
v/c Ratio	0.11	0.81		0.90	0.29			0.04			0.90	0.74
Uniform Delay, d1	18.3	25.2		21.8	12.0			17.2			25.9	23.7
Progression Factor	1.00	1.00		1.06	1.41			1.00			1.00	1.00
Incremental Delay, d2	0.7	5.4		22.0	0.3			0.0			17.6	4.0
Delay (s)	19.0	30.6		45.2	17.2			17.2			43.6	27.7
Level of Service	B	C		D	B			B			D	C
Approach Delay (s)		30.3			25.8			17.2			34.6	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM Average Control Delay	30.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.5
Intersection Capacity Utilization	86.3%	ICU Level of Service	E
Analysis Period (min)	15		

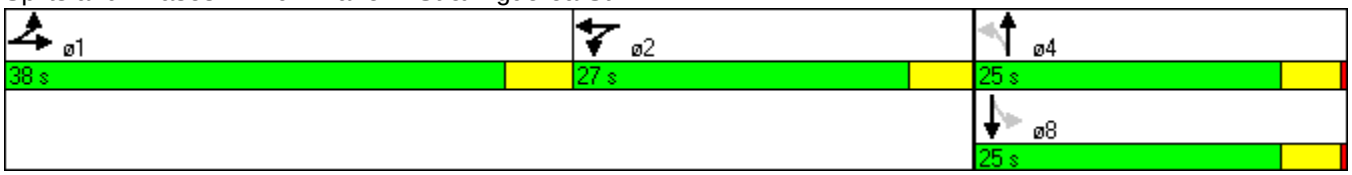
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	536	798	93	528	180	196	49	74
Turn Type	Split		Split		Perm		Perm	
Protected Phases	1	1	2	2		4		8
Permitted Phases					4		8	
Detector Phase	1	1	2	2	4	4	8	8
Switch Phase								
Minimum Initial (s)	18.0	18.0	18.0	18.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	23.0	23.0	20.5	20.5	20.5	20.5
Total Split (s)	38.0	38.0	27.0	27.0	25.0	25.0	25.0	25.0
Total Split (%)	42.2%	42.2%	30.0%	30.0%	27.8%	27.8%	27.8%	27.8%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	28.5	28.5	28.6	28.6		19.4		19.4
Actuated g/C Ratio	0.32	0.32	0.32	0.32		0.22		0.22
v/c Ratio	0.86	0.86	0.17	0.73		0.89		0.38
Control Delay	32.9	27.2	25.9	29.3		40.1		22.1
Queue Delay	0.2	0.2	0.0	0.0		0.0		0.0
Total Delay	33.1	27.4	25.9	29.3		40.1		22.1
LOS	C	C	C	C		D		C
Approach Delay		29.2		28.9		40.1		22.1
Approach LOS		C		C		D		C

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 35 (39%), Referenced to phase 2:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 30.9 Intersection LOS: C
Intersection Capacity Utilization 89.4% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 10: Anaheim St & Figueroa St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	536	798	27	93	528	306	180	196	260	49	74	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Util. Factor	0.91	0.91		1.00	0.95			0.95			0.95	
Frt	1.00	1.00		1.00	0.94			0.94			0.95	
Flt Protected	0.95	0.99		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1610	3358		1770	3344			3276			3321	
Flt Permitted	0.95	0.99		0.95	1.00			0.80			0.60	
Satd. Flow (perm)	1610	3358		1770	3344			2671			2030	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	536	798	27	93	528	306	180	196	260	49	74	60
RTOR Reduction (vph)	0	3	0	0	84	0	0	141	0	0	47	0
Lane Group Flow (vph)	440	918	0	93	750	0	0	495	0	0	136	0
Turn Type	Split			Split			Perm			Perm		
Protected Phases	1	1		2	2			4			8	
Permitted Phases							4			8		
Actuated Green, G (s)	28.5	28.5		28.6	28.6			19.4			19.4	
Effective Green, g (s)	28.5	28.5		28.6	28.6			19.4			19.4	
Actuated g/C Ratio	0.32	0.32		0.32	0.32			0.22			0.22	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Vehicle Extension (s)	0.2	0.2		0.2	0.2			3.0			3.0	
Lane Grp Cap (vph)	510	1063		562	1063			576			438	
v/s Ratio Prot	0.27	c0.27		0.05	c0.22							
v/s Ratio Perm								c0.19			0.07	
v/c Ratio	0.86	0.86		0.17	0.71			0.86			0.31	
Uniform Delay, d1	28.9	28.9		22.1	27.0			34.0			29.7	
Progression Factor	0.74	0.75		1.00	1.00			1.00			1.00	
Incremental Delay, d2	9.0	4.6		0.6	3.9			12.1			0.4	
Delay (s)	30.4	26.3		22.7	30.9			46.1			30.1	
Level of Service	C	C		C	C			D			C	
Approach Delay (s)		27.6			30.1			46.1			30.1	
Approach LOS		C			C			D			C	

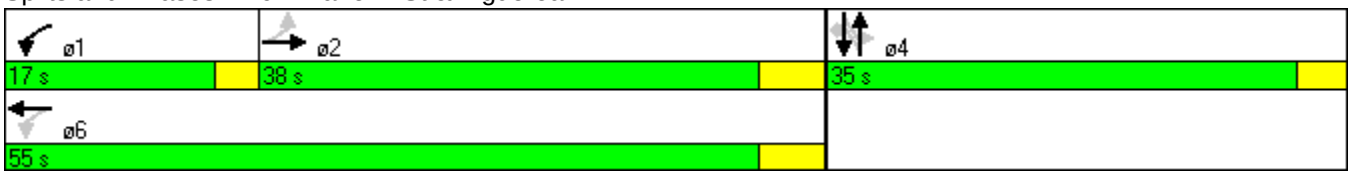
Intersection Summary			
HCM Average Control Delay	32.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	89.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	90	1185	247	624	24	18	267	36	429
Turn Type	Perm		pm+pt		Perm		Perm		Perm
Protected Phases		2	1	6		4		4	
Permitted Phases	2		6		4		4		4
Detector Phase	2	2	1	6	4	4	4	4	4
Switch Phase									
Minimum Initial (s)	13.0	13.0	7.0	13.0	18.0	18.0	18.0	18.0	18.0
Minimum Split (s)	21.0	21.0	11.0	21.0	22.0	22.0	22.0	22.0	22.0
Total Split (s)	38.0	38.0	17.0	55.0	35.0	35.0	35.0	35.0	35.0
Total Split (%)	42.2%	42.2%	18.9%	61.1%	38.9%	38.9%	38.9%	38.9%	38.9%
Yellow Time (s)	4.5	4.5	3.0	4.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	3.0	4.5	3.5	3.5	3.5	3.5	3.5
Lead/Lag	Lag	Lag	Lead						
Lead-Lag Optimize?	Yes	Yes	Yes						
Recall Mode	C-Max	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	44.6	44.6	59.8	58.3		23.7		23.7	23.7
Actuated g/C Ratio	0.50	0.50	0.66	0.65		0.26		0.26	0.26
v/c Ratio	0.27	0.77	0.88	0.30		0.15		0.83	0.71
Control Delay	19.5	24.6	45.6	18.3		17.9		50.3	17.9
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	19.5	24.6	45.6	18.3		17.9		50.3	17.9
LOS	B	C	D	B		B		D	B
Approach Delay		24.3		25.6		17.9		31.3	
Approach LOS		C		C		B		C	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 26.2 Intersection LOS: C
Intersection Capacity Utilization 84.9% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 9: Anaheim St & Figueroa Pl



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	1185	148	247	624	61	24	18	19	267	36	429
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	12	12	12	12	12	12
Total Lost time (s)	4.5	4.5		3.0	4.5			3.5			3.5	3.5
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frt	1.00	0.98		1.00	0.99			0.96			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.96	1.00
Satd. Flow (prot)	1652	3480		1652	3492			1750			1784	1583
Flt Permitted	0.39	1.00		0.09	1.00			0.82			0.74	1.00
Satd. Flow (perm)	680	3480		151	3492			1462			1381	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	90	1185	148	247	624	61	24	18	19	267	36	429
RTOR Reduction (vph)	0	9	0	0	7	0	0	14	0	0	0	189
Lane Group Flow (vph)	90	1324	0	247	678	0	0	47	0	0	303	240
Turn Type	Perm			pm+pt			Perm			Perm		Perm
Protected Phases		2		1	6			4			4	
Permitted Phases	2			6			4			4		4
Actuated Green, G (s)	44.6	44.6		58.3	58.3			23.7			23.7	23.7
Effective Green, g (s)	44.6	44.6		58.3	58.3			23.7			23.7	23.7
Actuated g/C Ratio	0.50	0.50		0.65	0.65			0.26			0.26	0.26
Clearance Time (s)	4.5	4.5		3.0	4.5			3.5			3.5	3.5
Vehicle Extension (s)	0.2	0.2		0.2	0.2			0.2			0.2	0.2
Lane Grp Cap (vph)	337	1725		276	2262			385			364	417
v/s Ratio Prot		0.38		c0.11	0.19							
v/s Ratio Perm	0.13			c0.47				0.03			c0.22	0.15
v/c Ratio	0.27	0.77		0.89	0.30			0.12			0.83	0.58
Uniform Delay, d1	13.2	18.5		23.9	6.9			25.2			31.3	28.8
Progression Factor	1.00	1.00		1.09	2.40			1.00			1.00	1.00
Incremental Delay, d2	1.9	3.3		21.3	0.2			0.1			14.3	1.2
Delay (s)	15.1	21.8		47.4	16.9			25.3			45.6	30.0
Level of Service	B	C		D	B			C			D	C
Approach Delay (s)		21.4			25.0			25.3			36.5	
Approach LOS		C			C			C			D	

Intersection Summary			
HCM Average Control Delay	26.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.5
Intersection Capacity Utilization	84.9%	ICU Level of Service	E
Analysis Period (min)	15		

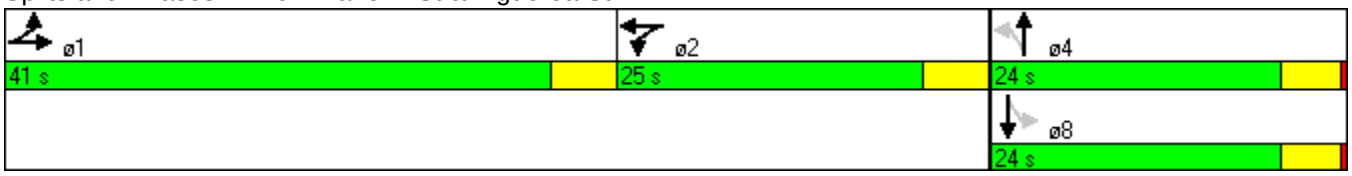
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	856	581	84	572	166	224	22	76
Turn Type	Split		Split		Perm		Perm	
Protected Phases	1	1	2	2		4		8
Permitted Phases					4		8	
Detector Phase	1	1	2	2	4	4	8	8
Switch Phase								
Minimum Initial (s)	18.0	18.0	18.0	18.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	23.0	23.0	20.5	20.5	20.5	20.5
Total Split (s)	41.0	41.0	25.0	25.0	24.0	24.0	24.0	24.0
Total Split (%)	45.6%	45.6%	27.8%	27.8%	26.7%	26.7%	26.7%	26.7%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	31.3	31.3	25.7	25.7		19.5		19.5
Actuated g/C Ratio	0.35	0.35	0.29	0.29		0.22		0.22
v/c Ratio	0.85	0.86	0.17	0.75		0.97		0.40
Control Delay	36.9	31.4	27.5	34.5		59.9		12.9
Queue Delay	0.5	0.3	0.0	0.0		0.0		0.0
Total Delay	37.3	31.8	27.5	34.5		59.9		12.9
LOS	D	C	C	C		E		B
Approach Delay		33.6		33.8		59.9		12.9
Approach LOS		C		C		E		B

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 28 (31%), Referenced to phase 2:WBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 36.7 Intersection LOS: D
Intersection Capacity Utilization 90.4% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 10: Anaheim St & Figueroa St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	856	581	33	84	572	176	166	224	200	22	76	181
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Util. Factor	0.91	0.91		1.00	0.95			0.95			0.95	
Frt	1.00	1.00		1.00	0.96			0.95			0.90	
Flt Protected	0.95	0.98		0.95	1.00			0.99			1.00	
Satd. Flow (prot)	1610	3310		1770	3414			3313			3182	
Flt Permitted	0.95	0.98		0.95	1.00			0.74			0.81	
Satd. Flow (perm)	1610	3310		1770	3414			2488			2572	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	856	581	33	84	572	176	166	224	200	22	76	181
RTOR Reduction (vph)	0	3	0	0	30	0	0	72	0	0	142	0
Lane Group Flow (vph)	479	988	0	84	718	0	0	518	0	0	137	0
Turn Type	Split			Split			Perm			Perm		
Protected Phases	1	1		2	2			4			8	
Permitted Phases							4			8		
Actuated Green, G (s)	31.3	31.3		25.7	25.7			19.5			19.5	
Effective Green, g (s)	31.3	31.3		25.7	25.7			19.5			19.5	
Actuated g/C Ratio	0.35	0.35		0.29	0.29			0.22			0.22	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Vehicle Extension (s)	0.2	0.2		0.2	0.2			3.0			3.0	
Lane Grp Cap (vph)	560	1151		505	975			539			557	
v/s Ratio Prot	0.30	c0.30		0.05	c0.21							
v/s Ratio Perm								c0.21			0.05	
v/c Ratio	0.86	0.86		0.17	0.74			0.96			0.25	
Uniform Delay, d1	27.2	27.3		24.1	29.1			34.9			29.2	
Progression Factor	0.97	0.96		1.00	1.00			1.00			1.00	
Incremental Delay, d2	8.1	4.3		0.7	5.0			29.0			0.2	
Delay (s)	34.6	30.5		24.8	34.0			63.9			29.4	
Level of Service	C	C		C	C			E			C	
Approach Delay (s)		31.8			33.1			63.9			29.4	
Approach LOS		C			C			E			C	

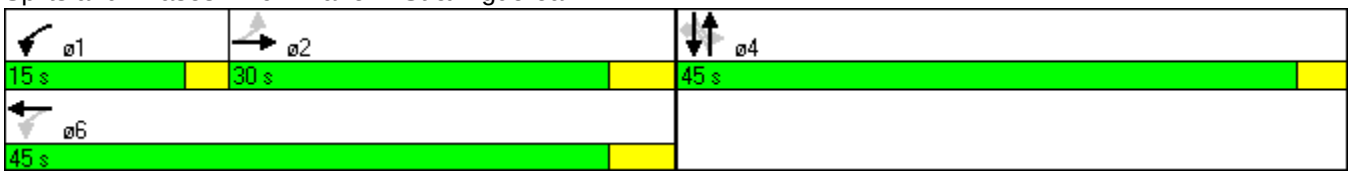
Intersection Summary			
HCM Average Control Delay	37.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	90.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	32	967	241	508	10	6	405	65	622
Turn Type	Perm		pm+pt		Perm		Perm		Perm
Protected Phases		2	1	6		4		4	
Permitted Phases	2		6		4		4		4
Detector Phase	2	2	1	6	4	4	4	4	4
Switch Phase									
Minimum Initial (s)	13.0	13.0	7.0	13.0	18.0	18.0	18.0	18.0	18.0
Minimum Split (s)	21.0	21.0	11.0	21.0	22.0	22.0	22.0	22.0	22.0
Total Split (s)	30.0	30.0	15.0	45.0	45.0	45.0	45.0	45.0	45.0
Total Split (%)	33.3%	33.3%	16.7%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Yellow Time (s)	4.5	4.5	3.0	4.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	3.0	4.5	3.5	3.5	3.5	3.5	3.5
Lead/Lag	Lag	Lag	Lead						
Lead-Lag Optimize?	Yes	Yes	Yes						
Recall Mode	C-Max	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	33.7	33.7	48.7	47.2		34.8		34.8	34.8
Actuated g/C Ratio	0.37	0.37	0.54	0.52		0.39		0.39	0.39
v/c Ratio	0.11	0.85	0.89	0.29		0.07		0.90	0.81
Control Delay	24.3	36.3	45.0	18.5		8.1		46.3	22.7
Queue Delay	0.0	0.2	0.0	0.0		0.0		0.0	0.0
Total Delay	24.3	36.5	45.0	18.5		8.1		46.3	22.7
LOS	C	D	D	B		A		D	C
Approach Delay		36.1		26.7		8.1		32.9	
Approach LOS		D		C		A		C	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 32.2 Intersection LOS: C
Intersection Capacity Utilization 87.9% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 9: Anaheim St & Figueroa Pl



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	32	967	153	241	508	35	10	6	25	405	65	622
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	12	12	12	12	12	12
Total Lost time (s)	4.5	4.5		3.0	4.5			3.5			3.5	3.5
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frt	1.00	0.98		1.00	0.99			0.92			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.96	1.00
Satd. Flow (prot)	1652	3467		1652	3505			1689			1786	1583
Flt Permitted	0.45	1.00		0.11	1.00			0.91			0.73	1.00
Satd. Flow (perm)	781	3467		189	3505			1550			1353	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	32	967	153	241	508	35	10	6	25	405	65	622
RTOR Reduction (vph)	0	12	0	0	5	0	0	15	0	0	0	154
Lane Group Flow (vph)	32	1108	0	241	538	0	0	26	0	0	470	468
Turn Type	Perm			pm+pt			Perm			Perm		Perm
Protected Phases		2		1	6			4			4	
Permitted Phases	2			6			4			4		4
Actuated Green, G (s)	33.8	33.8		47.2	47.2			34.8			34.8	34.8
Effective Green, g (s)	33.8	33.8		47.2	47.2			34.8			34.8	34.8
Actuated g/C Ratio	0.38	0.38		0.52	0.52			0.39			0.39	0.39
Clearance Time (s)	4.5	4.5		3.0	4.5			3.5			3.5	3.5
Vehicle Extension (s)	0.2	0.2		0.2	0.2			0.2			0.2	0.2
Lane Grp Cap (vph)	293	1302		268	1838			599			523	612
v/s Ratio Prot		0.32		c0.10	0.15							
v/s Ratio Perm	0.04			c0.37				0.02			c0.35	0.30
v/c Ratio	0.11	0.85		0.90	0.29			0.04			0.90	0.76
Uniform Delay, d1	18.3	25.8		22.2	12.0			17.2			25.9	24.0
Progression Factor	1.00	1.00		1.05	1.39			1.00			1.00	1.00
Incremental Delay, d2	0.8	7.1		21.6	0.3			0.0			17.6	5.1
Delay (s)	19.0	32.9		44.8	16.9			17.2			43.6	29.1
Level of Service	B	C		D	B			B			D	C
Approach Delay (s)		32.5			25.5			17.2			35.4	
Approach LOS		C			C			B			D	

Intersection Summary			
HCM Average Control Delay	31.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.5
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		

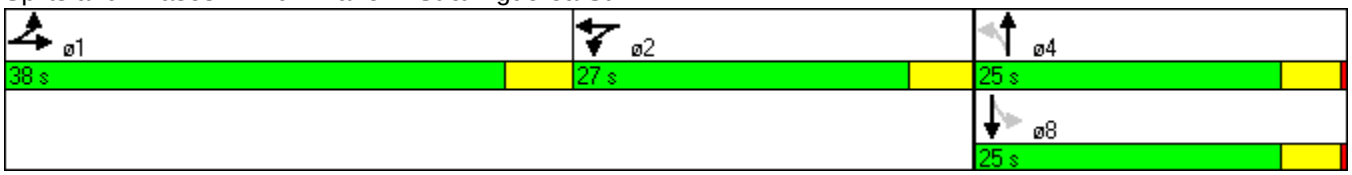
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	580	811	93	532	181	196	49	74
Turn Type	Split		Split		Perm		Perm	
Protected Phases	1	1	2	2		4		8
Permitted Phases					4		8	
Detector Phase	1	1	2	2	4	4	8	8
Switch Phase								
Minimum Initial (s)	18.0	18.0	18.0	18.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	23.0	23.0	20.5	20.5	20.5	20.5
Total Split (s)	38.0	38.0	27.0	27.0	25.0	25.0	25.0	25.0
Total Split (%)	42.2%	42.2%	30.0%	30.0%	27.8%	27.8%	27.8%	27.8%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	29.3	29.3	27.8	27.8		19.4		19.4
Actuated g/C Ratio	0.33	0.33	0.31	0.31		0.22		0.22
v/c Ratio	0.87	0.88	0.17	0.75		0.89		0.38
Control Delay	32.3	26.6	26.4	30.6		40.3		22.1
Queue Delay	0.3	0.3	0.0	0.0		0.0		0.0
Total Delay	32.6	27.0	26.4	30.6		40.3		22.1
LOS	C	C	C	C		D		C
Approach Delay		28.8		30.1		40.3		22.1
Approach LOS		C		C		D		C

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 35 (39%), Referenced to phase 2:WBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 31.1 Intersection LOS: C
Intersection Capacity Utilization 90.7% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 10: Anaheim St & Figueroa St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	580	811	27	93	532	306	181	196	260	49	74	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Util. Factor	0.91	0.91		1.00	0.95			0.95			0.95	
Frt	1.00	1.00		1.00	0.95			0.94			0.95	
Flt Protected	0.95	0.99		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1610	3355		1770	3345			3276			3321	
Flt Permitted	0.95	0.99		0.95	1.00			0.80			0.60	
Satd. Flow (perm)	1610	3355		1770	3345			2670			2028	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	580	811	27	93	532	306	181	196	260	49	74	60
RTOR Reduction (vph)	0	2	0	0	84	0	0	141	0	0	47	0
Lane Group Flow (vph)	458	958	0	93	754	0	0	496	0	0	136	0
Turn Type	Split			Split			Perm			Perm		
Protected Phases	1	1		2	2			4			8	
Permitted Phases							4			8		
Actuated Green, G (s)	29.3	29.3		27.8	27.8			19.4			19.4	
Effective Green, g (s)	29.3	29.3		27.8	27.8			19.4			19.4	
Actuated g/C Ratio	0.33	0.33		0.31	0.31			0.22			0.22	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Vehicle Extension (s)	0.2	0.2		0.2	0.2			3.0			3.0	
Lane Grp Cap (vph)	524	1092		547	1033			576			437	
v/s Ratio Prot	0.28	c0.29		0.05	c0.23							
v/s Ratio Perm								c0.19			0.07	
v/c Ratio	0.87	0.88		0.17	0.73			0.86			0.31	
Uniform Delay, d1	28.6	28.7		22.7	27.8			34.0			29.7	
Progression Factor	0.72	0.73		1.00	1.00			1.00			1.00	
Incremental Delay, d2	9.1	4.8		0.7	4.5			12.5			0.4	
Delay (s)	29.7	25.6		23.4	32.3			46.5			30.1	
Level of Service	C	C		C	C			D			C	
Approach Delay (s)		27.0			31.4			46.5			30.1	
Approach LOS		C			C			D			C	

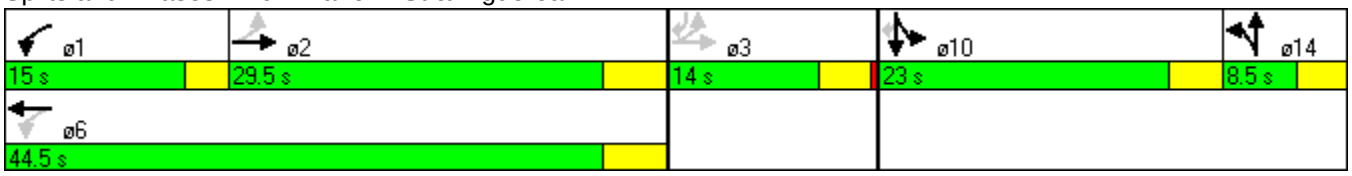
Intersection Summary			
HCM Average Control Delay	32.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	90.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR	ø3
Lane Configurations								
Volume (vph)	90	1185	247	624	18	36	429	
Turn Type	custom		pm+pt				custom	
Protected Phases		2	1	6	14	10		3
Permitted Phases	2 3	2 3	6				3 10	
Detector Phase	2 3	2	1	6	14	10	3 10	
Switch Phase								
Minimum Initial (s)		13.0	7.0	13.0	5.0	18.0		4.0
Minimum Split (s)		21.0	11.0	21.0	8.5	22.0		8.0
Total Split (s)	43.5	29.5	15.0	44.5	8.5	23.0	37.0	14.0
Total Split (%)	48.3%	32.8%	16.7%	49.4%	9.4%	25.6%	41.1%	16%
Yellow Time (s)		4.5	3.0	4.5	3.5	3.5		3.5
All-Red Time (s)		0.0	0.0	0.0	0.0	0.0		0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	3.0	4.5	3.5	3.5	4.0	
Lead/Lag		Lag	Lead					
Lead-Lag Optimize?		Yes	Yes					
Recall Mode		C-Max	None	C-Max	None	None		None
Act Effct Green (s)	42.7	42.7	44.6	43.1	5.0	18.7	31.6	
Actuated g/C Ratio	0.47	0.47	0.50	0.48	0.06	0.21	0.35	
v/c Ratio	0.28	0.80	0.88	0.41	0.53	0.81	0.61	
Control Delay	19.3	25.8	48.8	6.5	48.4	52.7	14.7	
Queue Delay	0.0	0.2	0.0	0.0	0.0	0.0	0.0	
Total Delay	19.3	26.0	48.8	6.5	48.4	52.7	14.7	
LOS	B	C	D	A	D	D	B	
Approach Delay		25.6		17.7	48.4	30.4		
Approach LOS		C		B	D	C		

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 17 (19%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 24.8 Intersection LOS: C
Intersection Capacity Utilization 84.9% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 9: Anaheim St & Figueroa Pl



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	1185	148	247	624	61	24	18	19	267	36	429
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	12	12	12	12	12	12
Total Lost time (s)	4.5	4.5		3.0	4.5			3.5			3.5	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frt	1.00	0.98		1.00	0.99			0.96			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.96	1.00
Satd. Flow (prot)	1652	3480		1652	3492			1750			1784	1583
Flt Permitted	0.39	1.00		0.13	1.00			0.98			0.96	1.00
Satd. Flow (perm)	680	3480		220	3492			1750			1784	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	90	1185	148	247	624	61	24	18	19	267	36	429
RTOR Reduction (vph)	0	11	0	0	8	0	0	18	0	0	0	146
Lane Group Flow (vph)	90	1322	0	247	677	0	0	43	0	0	303	283
Turn Type	custom			pm+pt			Split			Split		custom
Protected Phases		2		1	6		14	14		10	10	
Permitted Phases	2 3	2 3		6								3 10
Actuated Green, G (s)	42.5	38.0		42.4	42.4			4.0			18.7	32.1
Effective Green, g (s)	42.5	38.0		42.4	42.4			4.0			18.7	32.1
Actuated g/C Ratio	0.47	0.42		0.47	0.47			0.04			0.21	0.36
Clearance Time (s)		4.5		3.0	4.5			3.5			3.5	
Vehicle Extension (s)		0.2		0.2	0.2			0.2			0.2	
Lane Grp Cap (vph)	321	1643		275	1645			78			371	565
v/s Ratio Prot		c0.26		c0.11	0.19			c0.02			c0.17	
v/s Ratio Perm	0.13	0.12		c0.31								0.18
v/c Ratio	0.28	0.80		0.90	0.41			0.55			0.82	0.50
Uniform Delay, d1	14.4	22.8		21.9	15.6			42.1			34.0	22.7
Progression Factor	1.00	1.00		1.08	0.37			1.00			1.00	1.00
Incremental Delay, d2	0.5	3.0		25.3	0.6			4.2			12.4	0.7
Delay (s)	14.9	25.7		48.9	6.4			46.3			46.4	23.4
Level of Service	B	C		D	A			D			D	C
Approach Delay (s)		25.0			17.7			46.3			32.9	
Approach LOS		C			B			D			C	

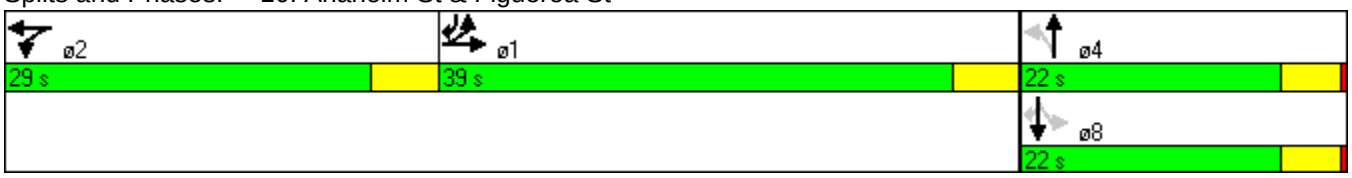
Intersection Summary			
HCM Average Control Delay	25.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	84.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	856	581	84	572	166	224	22	76	181
Turn Type	Split		Split		Perm		Perm		pm+ov
Protected Phases	1	1	2	2		4		8	1
Permitted Phases					4		8		8
Detector Phase	1	1	2	2	4	4	8	8	1
Switch Phase									
Minimum Initial (s)	18.0	18.0	18.0	18.0	5.0	5.0	5.0	5.0	18.0
Minimum Split (s)	23.0	23.0	23.0	23.0	20.5	20.5	20.5	20.5	23.0
Total Split (s)	39.0	39.0	29.0	29.0	22.0	22.0	22.0	22.0	39.0
Total Split (%)	43.3%	43.3%	32.2%	32.2%	24.4%	24.4%	24.4%	24.4%	43.3%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	4.5
All-Red Time (s)	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag	Lead	Lead					Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					Yes
Recall Mode	None	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	30.8	30.8	30.1	30.1	15.6	15.6		15.6	50.9
Actuated g/C Ratio	0.34	0.34	0.33	0.33	0.17	0.17		0.17	0.57
v/c Ratio	0.87	0.87	0.14	0.64	0.74	0.58		0.40	0.20
Control Delay	27.2	21.9	24.6	28.3	55.4	20.6		37.6	5.4
Queue Delay	0.6	0.5	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	27.9	22.4	24.6	28.3	55.4	20.6		37.6	5.4
LOS	C	C	C	C	E	C		D	A
Approach Delay		24.2		27.9		30.4		16.7	
Approach LOS		C		C		C		B	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:WBTL, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 25.7	Intersection LOS: C
Intersection Capacity Utilization 82.3%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 10: Anaheim St & Figueroa St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	856	581	33	84	572	176	166	224	200	22	76	181
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5			4.5	4.5
Lane Util. Factor	0.91	0.91		1.00	0.95		1.00	0.95			1.00	1.00
Frt	1.00	1.00		1.00	0.96		1.00	0.93			1.00	0.85
Flt Protected	0.95	0.98		0.95	1.00		0.95	1.00			0.99	1.00
Satd. Flow (prot)	1610	3310		1770	3414		1770	3289			1842	1583
Flt Permitted	0.95	0.98		0.95	1.00		0.69	1.00			0.75	1.00
Satd. Flow (perm)	1610	3310		1770	3414		1292	3289			1398	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	856	581	33	84	572	176	166	224	200	22	76	181
RTOR Reduction (vph)	0	3	0	0	29	0	0	165	0	0	0	32
Lane Group Flow (vph)	479	988	0	84	719	0	166	259	0	0	98	149
Turn Type	Split			Split			Perm			Perm		pm+ov
Protected Phases	1	1		2	2			4			8	1
Permitted Phases							4			8		8
Actuated Green, G (s)	30.8	30.8		30.1	30.1		15.6	15.6			15.6	46.4
Effective Green, g (s)	30.8	30.8		30.1	30.1		15.6	15.6			15.6	46.4
Actuated g/C Ratio	0.34	0.34		0.33	0.33		0.17	0.17			0.17	0.52
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5			4.5	4.5
Vehicle Extension (s)	0.2	0.2		0.2	0.2		3.0	3.0			3.0	0.2
Lane Grp Cap (vph)	551	1133		592	1142		224	570			242	895
v/s Ratio Prot	0.30	c0.30		0.05	c0.21			0.08				0.06
v/s Ratio Perm							c0.13				0.07	0.04
v/c Ratio	0.87	0.87		0.14	0.63		0.74	0.45			0.40	0.17
Uniform Delay, d1	27.7	27.8		20.9	25.2		35.3	33.4			33.1	11.6
Progression Factor	0.58	0.59		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	8.3	4.5		0.5	2.6		12.4	0.6			1.1	0.0
Delay (s)	24.3	20.8		21.4	27.9		47.7	34.0			34.2	11.6
Level of Service	C	C		C	C		D	C			C	B
Approach Delay (s)		22.0			27.2			37.8			19.5	
Approach LOS		C			C			D			B	

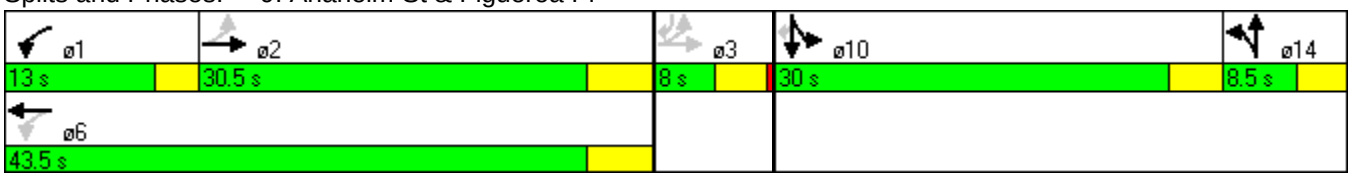
Intersection Summary			
HCM Average Control Delay	26.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	82.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR	ø3
Lane Configurations								
Volume (vph)	32	967	241	508	6	65	622	
Turn Type	custom		pm+pt				custom	
Protected Phases		2	1	6	14	10		3
Permitted Phases	2 3	2 3	6				10 3	
Detector Phase	2 3	2	1	6	14	10	10 3	
Switch Phase								
Minimum Initial (s)		13.0	7.0	13.0	5.0	18.0		4.0
Minimum Split (s)		21.0	11.0	21.0	8.5	22.0		8.0
Total Split (s)	38.5	30.5	13.0	43.5	8.5	30.0	38.0	8.0
Total Split (%)	42.8%	33.9%	14.4%	48.3%	9.4%	33.3%	42.2%	9%
Yellow Time (s)		4.5	3.0	4.5	3.5	3.5		3.5
All-Red Time (s)		0.0	0.0	0.0	0.0	0.0		0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	3.0	4.5	3.5	3.5	3.5	
Lead/Lag		Lag	Lead					
Lead-Lag Optimize?		Yes	Yes					
Recall Mode		C-Max	None	C-Max	None	None		None
Act Effct Green (s)	39.1	39.1	45.5	44.0	5.0	24.9	32.9	
Actuated g/C Ratio	0.43	0.43	0.51	0.49	0.06	0.28	0.37	
v/c Ratio	0.09	0.74	0.91	0.32	0.35	0.95	0.80	
Control Delay	19.0	25.9	52.0	6.4	31.3	62.7	21.0	
Queue Delay	0.0	0.2	0.0	0.0	0.0	0.0	0.0	
Total Delay	19.0	26.1	52.0	6.4	31.3	62.7	21.0	
LOS	B	C	D	A	C	E	C	
Approach Delay		25.9		20.5	31.3	39.0		
Approach LOS		C		C	C	D		

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 76 (84%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 29.2 Intersection LOS: C
Intersection Capacity Utilization 87.9% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 9: Anaheim St & Figueroa Pl



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	32	967	153	241	508	35	10	6	25	405	65	622
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	12	12	12	12	12	12
Total Lost time (s)	4.5	4.5		3.0	4.5			3.5			3.5	3.5
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frt	1.00	0.98		1.00	0.99			0.92			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.96	1.00
Satd. Flow (prot)	1652	3467		1652	3505			1689			1786	1583
Flt Permitted	0.45	1.00		0.12	1.00			0.99			0.96	1.00
Satd. Flow (perm)	781	3467		213	3505			1689			1786	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	32	967	153	241	508	35	10	6	25	405	65	622
RTOR Reduction (vph)	0	14	0	0	5	0	0	24	0	0	0	212
Lane Group Flow (vph)	32	1106	0	241	538	0	0	17	0	0	470	410
Turn Type	custom			pm+pt			Split			Split		custom
Protected Phases		2		1	6		14	14		10	10	
Permitted Phases	2 3	2 3		6								10 3
Actuated Green, G (s)	38.2	33.7		42.6	42.6			3.0			24.9	32.9
Effective Green, g (s)	38.2	33.7		42.6	42.6			3.0			24.9	28.9
Actuated g/C Ratio	0.42	0.37		0.47	0.47			0.03			0.28	0.32
Clearance Time (s)		4.5		3.0	4.5			3.5			3.5	
Vehicle Extension (s)		0.2		0.2	0.2			0.2			0.2	
Lane Grp Cap (vph)	331	1472		259	1659			56			494	508
v/s Ratio Prot		c0.25		c0.10	0.15			c0.01			c0.26	
v/s Ratio Perm	0.04	0.07		c0.34								0.26
v/c Ratio	0.10	0.75		0.93	0.32			0.30			0.95	0.81
Uniform Delay, d1	15.5	24.5		21.9	14.7			42.5			32.0	28.0
Progression Factor	1.00	1.00		0.97	0.41			1.00			1.00	1.00
Incremental Delay, d2	0.1	2.2		31.4	0.4			1.1			28.3	8.6
Delay (s)	15.7	26.7		52.6	6.4			43.6			60.3	36.6
Level of Service	B	C		D	A			D			E	D
Approach Delay (s)		26.4			20.6			43.6			46.8	
Approach LOS		C			C			D			D	

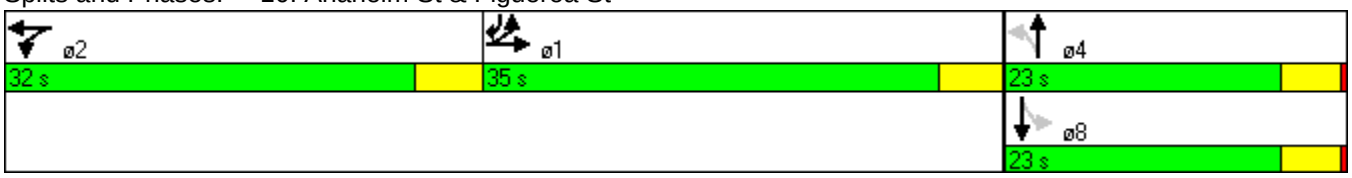
Intersection Summary			
HCM Average Control Delay	32.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	580	811	93	532	181	196	49	74	60
Turn Type	Split		Split		Perm		Perm		Over
Protected Phases	1	1	2	2		4		8	1
Permitted Phases					4		8		
Detector Phase	1	1	2	2	4	4	8	8	1
Switch Phase									
Minimum Initial (s)	18.0	18.0	18.0	18.0	5.0	5.0	5.0	5.0	18.0
Minimum Split (s)	23.0	23.0	23.0	23.0	20.5	20.5	20.5	20.5	23.0
Total Split (s)	35.0	35.0	32.0	32.0	23.0	23.0	23.0	23.0	35.0
Total Split (%)	38.9%	38.9%	35.6%	35.6%	25.6%	25.6%	25.6%	25.6%	38.9%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	4.5
All-Red Time (s)	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag	Lead	Lead					Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					Yes
Recall Mode	None	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	28.3	28.3	31.5	31.5	16.8	16.8		16.8	28.3
Actuated g/C Ratio	0.31	0.31	0.35	0.35	0.19	0.19		0.19	0.31
v/c Ratio	0.91	0.91	0.15	0.67	0.81	0.56		0.70	0.11
Control Delay	38.3	31.0	23.1	24.9	62.5	16.3		55.7	6.4
Queue Delay	0.6	0.7	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	38.8	31.7	23.1	24.9	62.5	16.3		55.7	6.4
LOS	D	C	C	C	E	B		E	A
Approach Delay		34.0		24.8		29.4		39.5	
Approach LOS		C		C		C		D	

Intersection Summary			
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 56 (62%), Referenced to phase 2:WBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay: 30.7		Intersection LOS: C	
Intersection Capacity Utilization 86.6%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 10: Anaheim St & Figueroa St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	580	811	27	93	532	306	181	196	260	49	74	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5			4.5	4.5
Lane Util. Factor	0.91	0.91		1.00	0.95		1.00	0.95			1.00	1.00
Frt	1.00	1.00		1.00	0.95		1.00	0.91			1.00	0.85
Flt Protected	0.95	0.99		0.95	1.00		0.95	1.00			0.98	1.00
Satd. Flow (prot)	1610	3355		1770	3345		1770	3237			1826	1583
Flt Permitted	0.95	0.99		0.95	1.00		0.64	1.00			0.51	1.00
Satd. Flow (perm)	1610	3355		1770	3345		1198	3237			944	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	580	811	27	93	532	306	181	196	260	49	74	60
RTOR Reduction (vph)	0	2	0	0	85	0	0	211	0	0	0	41
Lane Group Flow (vph)	458	958	0	93	753	0	181	245	0	0	123	19
Turn Type	Split			Split			Perm			Perm		Over
Protected Phases	1	1		2	2			4			8	1
Permitted Phases							4			8		
Actuated Green, G (s)	28.3	28.3		31.4	31.4		16.8	16.8			16.8	28.3
Effective Green, g (s)	28.3	28.3		31.4	31.4		16.8	16.8			16.8	28.3
Actuated g/C Ratio	0.31	0.31		0.35	0.35		0.19	0.19			0.19	0.31
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5			4.5	4.5
Vehicle Extension (s)	0.2	0.2		0.2	0.2		3.0	3.0			3.0	0.2
Lane Grp Cap (vph)	506	1055		618	1167		224	604			176	498
v/s Ratio Prot	0.28	c0.29		0.05	c0.22			0.08				0.01
v/s Ratio Perm							c0.15				0.13	
v/c Ratio	0.91	0.91		0.15	0.64		0.81	0.40			0.70	0.04
Uniform Delay, d1	29.6	29.6		20.1	24.6		35.1	32.2			34.2	21.4
Progression Factor	0.73	0.74		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	13.2	7.3		0.5	2.8		18.9	0.4			11.5	0.0
Delay (s)	35.0	29.3		20.6	27.4		53.9	32.6			45.7	21.4
Level of Service	C	C		C	C		D	C			D	C
Approach Delay (s)		31.1			26.7			38.7			37.7	
Approach LOS		C			C			D			D	

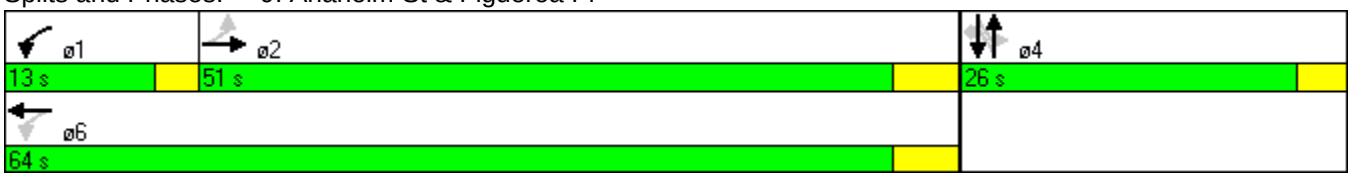
Intersection Summary			
HCM Average Control Delay	31.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	86.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	97	1454	265	746	26	19	307	39	526
Turn Type	Perm		pm+pt		Perm		Perm		Perm
Protected Phases		2	1	6		4		4	
Permitted Phases	2		6		4		4		4
Detector Phase	2	2	1	6	4	4	4	4	4
Switch Phase									
Minimum Initial (s)	13.0	13.0	7.0	13.0	18.0	18.0	18.0	18.0	18.0
Minimum Split (s)	21.0	21.0	11.0	21.0	22.0	22.0	22.0	22.0	22.0
Total Split (s)	51.0	51.0	13.0	64.0	26.0	26.0	26.0	26.0	26.0
Total Split (%)	56.7%	56.7%	14.4%	71.1%	28.9%	28.9%	28.9%	28.9%	28.9%
Yellow Time (s)	4.5	4.5	3.0	4.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	3.0	4.5	3.5	3.5	3.5	3.5	3.5
Lead/Lag	Lag	Lag	Lead						
Lead-Lag Optimize?	Yes	Yes	Yes						
Recall Mode	C-Max	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	46.5	46.5	61.0	59.5		22.5		22.5	22.5
Actuated g/C Ratio	0.52	0.52	0.68	0.66		0.25		0.25	0.25
v/c Ratio	0.31	0.89	1.01	0.35		0.20		1.01	0.90
Control Delay	16.1	27.3	73.5	3.7		21.9		87.6	37.8
Queue Delay	0.0	25.7	0.0	0.8		0.0		0.0	0.0
Total Delay	16.1	53.0	73.5	4.5		21.9		87.6	37.8
LOS	B	D	E	A		C		F	D
Approach Delay		50.9		21.5		21.9		57.6	
Approach LOS		D		C		C		E	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 65 (72%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 43.5 Intersection LOS: D
Intersection Capacity Utilization 96.3% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 9: Anaheim St & Figueroa Pl



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	97	1454	165	265	746	65	26	19	20	307	39	526
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	12	12	12	12	12	12
Total Lost time (s)	4.5	4.5		3.0	4.5			3.5			3.5	3.5
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frt	1.00	0.98		1.00	0.99			0.96			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.96	1.00
Satd. Flow (prot)	1652	3485		1652	3497			1750			1784	1583
Flt Permitted	0.35	1.00		0.08	1.00			0.68			0.73	1.00
Satd. Flow (perm)	601	3485		140	3497			1217			1367	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	97	1454	165	265	746	65	26	19	20	307	39	526
RTOR Reduction (vph)	0	10	0	0	7	0	0	15	0	0	0	188
Lane Group Flow (vph)	97	1609	0	265	804	0	0	50	0	0	346	338
Turn Type	Perm			pm+pt			Perm			Perm		Perm
Protected Phases		2		1	6			4			4	
Permitted Phases	2			6			4			4		4
Actuated Green, G (s)	46.5	46.5		59.5	59.5			22.5			22.5	22.5
Effective Green, g (s)	46.5	46.5		59.5	59.5			22.5			22.5	22.5
Actuated g/C Ratio	0.52	0.52		0.66	0.66			0.25			0.25	0.25
Clearance Time (s)	4.5	4.5		3.0	4.5			3.5			3.5	3.5
Vehicle Extension (s)	0.2	0.2		0.2	0.2			0.2			0.2	0.2
Lane Grp Cap (vph)	311	1801		261	2312			304			342	396
v/s Ratio Prot		0.46		c0.11	0.23							
v/s Ratio Perm	0.16			c0.56				0.04			c0.25	0.21
v/c Ratio	0.31	0.89		1.02	0.35			0.16			1.01	0.85
Uniform Delay, d1	12.5	19.5		27.7	6.7			26.4			33.8	32.2
Progression Factor	1.00	1.00		1.59	0.54			1.00			1.00	1.00
Incremental Delay, d2	2.6	7.3		41.4	0.2			0.1			51.7	15.6
Delay (s)	15.1	26.8		85.6	3.8			26.5			85.4	47.7
Level of Service	B	C		F	A			C			F	D
Approach Delay (s)		26.2			23.9			26.5			62.7	
Approach LOS		C			C			C			E	

Intersection Summary			
HCM Average Control Delay	34.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.5
Intersection Capacity Utilization	96.3%	ICU Level of Service	F
Analysis Period (min)	15		

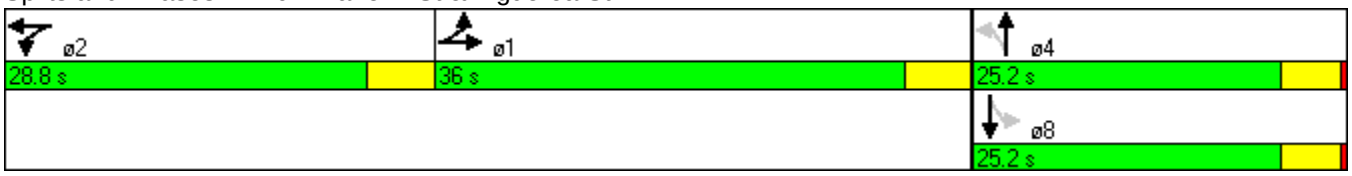
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	1041	703	90	685	186	240	24	82
Turn Type	Split		Split		Perm		Perm	
Protected Phases	1	1	2	2		4		8
Permitted Phases					4		8	
Detector Phase	1	1	2	2	4	4	8	8
Switch Phase								
Minimum Initial (s)	18.0	18.0	18.0	18.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	23.0	23.0	20.5	20.5	20.5	20.5
Total Split (s)	36.0	36.0	28.8	28.8	25.2	25.2	25.2	25.2
Total Split (%)	40.0%	40.0%	32.0%	32.0%	28.0%	28.0%	28.0%	28.0%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag	Lead	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	31.5	31.5	24.3	24.3		20.7		20.7
Actuated g/C Ratio	0.35	0.35	0.27	0.27		0.23		0.23
v/c Ratio	1.03	1.03	0.19	0.98		1.01		0.41
Control Delay	55.9	46.8	26.6	57.4		70.6		12.6
Queue Delay	9.7	14.2	0.0	0.0		0.0		0.0
Total Delay	65.7	61.1	26.6	57.4		70.6		12.6
LOS	E	E	C	E		E		B
Approach Delay		62.6		54.7		70.6		12.6
Approach LOS		E		D		E		B

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 52 (58%), Referenced to phase 2:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 57.8 Intersection LOS: E
Intersection Capacity Utilization 104.3% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 10: Anaheim St & Figueroa St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1041	703	35	90	685	260	186	240	215	24	82	194
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Util. Factor	0.91	0.91		1.00	0.95			0.95			0.95	
Frt	1.00	1.00		1.00	0.96			0.95			0.90	
Flt Protected	0.95	0.98		0.95	1.00			0.99			1.00	
Satd. Flow (prot)	1610	3312		1770	3393			3313			3183	
Flt Permitted	0.95	0.98		0.95	1.00			0.73			0.78	
Satd. Flow (perm)	1610	3312		1770	3393			2437			2505	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1041	703	35	90	685	260	186	240	215	24	82	194
RTOR Reduction (vph)	0	2	0	0	44	0	0	71	0	0	149	0
Lane Group Flow (vph)	583	1194	0	90	901	0	0	570	0	0	151	0
Turn Type	Split			Split			Perm			Perm		
Protected Phases	1	1		2	2			4			8	
Permitted Phases							4			8		
Actuated Green, G (s)	31.5	31.5		24.3	24.3			20.7			20.7	
Effective Green, g (s)	31.5	31.5		24.3	24.3			20.7			20.7	
Actuated g/C Ratio	0.35	0.35		0.27	0.27			0.23			0.23	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Vehicle Extension (s)	0.2	0.2		0.2	0.2			3.0			3.0	
Lane Grp Cap (vph)	564	1159		478	916			561			576	
v/s Ratio Prot	c0.36	0.36		0.05	c0.27							
v/s Ratio Perm								c0.23			0.06	
v/c Ratio	1.03	1.03		0.19	0.98			1.02			0.26	
Uniform Delay, d1	29.2	29.2		25.3	32.7			34.6			28.4	
Progression Factor	0.66	0.67		1.00	1.00			1.00			1.00	
Incremental Delay, d2	33.2	25.1		0.9	26.1			42.2			0.2	
Delay (s)	52.6	44.7		26.1	58.7			76.8			28.6	
Level of Service	D	D		C	E			E			C	
Approach Delay (s)		47.3			55.9			76.8			28.6	
Approach LOS		D			E			E			C	

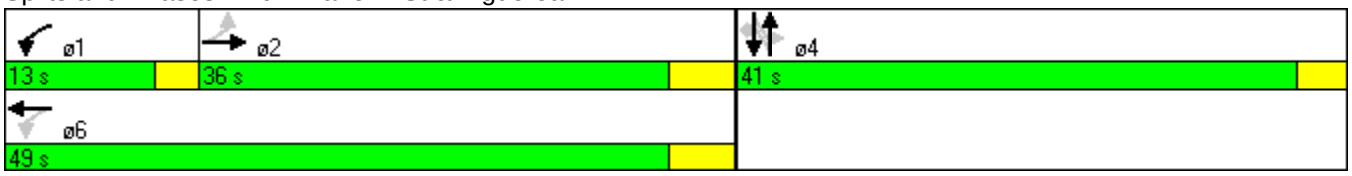
Intersection Summary			
HCM Average Control Delay	53.2	HCM Level of Service	D
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	104.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	34	1109	259	605	11	6	509	70	746
Turn Type	Perm		pm+pt		Perm		Perm		Perm
Protected Phases		2	1	6		4		4	
Permitted Phases	2		6		4		4		4
Detector Phase	2	2	1	6	4	4	4	4	4
Switch Phase									
Minimum Initial (s)	13.0	13.0	7.0	13.0	18.0	18.0	18.0	18.0	18.0
Minimum Split (s)	21.0	21.0	11.0	21.0	22.0	22.0	22.0	22.0	22.0
Total Split (s)	36.0	36.0	13.0	49.0	41.0	41.0	41.0	41.0	41.0
Total Split (%)	40.0%	40.0%	14.4%	54.4%	45.6%	45.6%	45.6%	45.6%	45.6%
Yellow Time (s)	4.5	4.5	3.0	4.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	3.0	4.5	3.5	3.5	3.5	3.5	3.5
Lead/Lag	Lag	Lag	Lead						
Lead-Lag Optimize?	Yes	Yes	Yes						
Recall Mode	C-Max	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	31.5	31.5	46.0	44.5		37.5		37.5	37.5
Actuated g/C Ratio	0.35	0.35	0.51	0.49		0.42		0.42	0.42
v/c Ratio	0.14	1.04	0.98	0.37		0.07		1.04	0.95
Control Delay	21.9	66.1	52.9	7.4		9.0		75.8	40.8
Queue Delay	0.0	39.9	0.0	0.0		0.0		0.0	0.0
Total Delay	21.9	106.1	52.9	7.4		9.0		75.8	40.8
LOS	C	F	D	A		A		E	D
Approach Delay		103.9		20.5		9.0		56.1	
Approach LOS		F		C		A		E	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 78 (87%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.04
Intersection Signal Delay: 64.0 Intersection LOS: E
Intersection Capacity Utilization 99.3% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 9: Anaheim St & Figueroa Pl



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	34	1109	166	259	605	38	11	6	27	509	70	746
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	12	12	12	12	12	12
Total Lost time (s)	4.5	4.5		3.0	4.5			3.5			3.5	3.5
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frt	1.00	0.98		1.00	0.99			0.92			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.96	1.00
Satd. Flow (prot)	1652	3470		1652	3508			1687			1784	1583
Flt Permitted	0.41	1.00		0.12	1.00			0.89			0.72	1.00
Satd. Flow (perm)	709	3470		202	3508			1518			1342	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	34	1109	166	259	605	38	11	6	27	509	70	746
RTOR Reduction (vph)	0	13	0	0	5	0	0	16	0	0	0	128
Lane Group Flow (vph)	34	1262	0	259	638	0	0	28	0	0	579	618
Turn Type	Perm			pm+pt			Perm			Perm		Perm
Protected Phases		2		1	6			4			4	
Permitted Phases	2			6			4			4		4
Actuated Green, G (s)	31.5	31.5		44.5	44.5			37.5			37.5	37.5
Effective Green, g (s)	31.5	31.5		44.5	44.5			37.5			37.5	37.5
Actuated g/C Ratio	0.35	0.35		0.49	0.49			0.42			0.42	0.42
Clearance Time (s)	4.5	4.5		3.0	4.5			3.5			3.5	3.5
Vehicle Extension (s)	0.2	0.2		0.2	0.2			0.2			0.2	0.2
Lane Grp Cap (vph)	248	1215		261	1735			633			559	660
v/s Ratio Prot		0.36		c0.11	0.18							
v/s Ratio Perm	0.05			c0.38				0.02			c0.43	0.39
v/c Ratio	0.14	1.04		0.99	0.37			0.04			1.04	0.94
Uniform Delay, d1	20.0	29.2		24.3	14.1			15.6			26.2	25.1
Progression Factor	1.00	1.00		0.90	0.51			1.00			1.00	1.00
Incremental Delay, d2	1.1	36.4		33.9	0.3			0.0			47.6	20.4
Delay (s)	21.1	65.7		55.7	7.5			15.6			73.9	45.5
Level of Service	C	E		E	A			B			E	D
Approach Delay (s)		64.5			21.3			15.6			57.9	
Approach LOS		E			C			B			E	

Intersection Summary			
HCM Average Control Delay	50.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.5
Intersection Capacity Utilization	99.3%	ICU Level of Service	F
Analysis Period (min)	15		

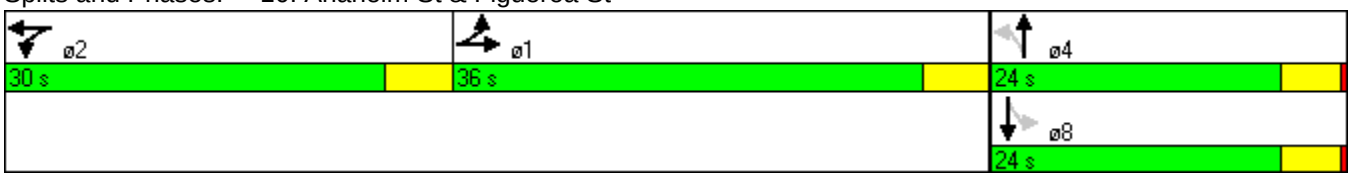
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	631	1007	100	631	194	210	53	79
Turn Type	Split		Split		Perm		Perm	
Protected Phases	1	1	2	2		4		8
Permitted Phases					4		8	
Detector Phase	1	1	2	2	4	4	8	8
Switch Phase								
Minimum Initial (s)	18.0	18.0	18.0	18.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	23.0	23.0	20.5	20.5	20.5	20.5
Total Split (s)	36.0	36.0	30.0	30.0	24.0	24.0	24.0	24.0
Total Split (%)	40.0%	40.0%	33.3%	33.3%	26.7%	26.7%	26.7%	26.7%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag	Lead	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	31.0	31.0	25.8	25.8		19.7		19.7
Actuated g/C Ratio	0.34	0.34	0.29	0.29		0.22		0.22
v/c Ratio	0.98	0.97	0.20	0.95		0.95		0.42
Control Delay	28.4	23.0	25.8	46.6		50.3		23.2
Queue Delay	5.4	7.3	0.0	0.0		0.0		0.0
Total Delay	33.7	30.2	25.8	46.6		50.3		23.2
LOS	C	C	C	D		D		C
Approach Delay		31.4		44.7		50.3		23.2
Approach LOS		C		D		D		C

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 56 (62%), Referenced to phase 2:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.98
Intersection Signal Delay: 38.5 Intersection LOS: D
Intersection Capacity Utilization 101.8% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 10: Anaheim St & Figueroa St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	631	1007	29	100	631	368	194	210	279	53	79	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Util. Factor	0.91	0.91		1.00	0.95			0.95			0.95	
Frt	1.00	1.00		1.00	0.94			0.94			0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1610	3364		1770	3344			3276			3321	
Flt Permitted	0.95	1.00		0.95	1.00			0.80			0.58	
Satd. Flow (perm)	1610	3364		1770	3344			2655			1936	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	631	1007	29	100	631	368	194	210	279	53	79	64
RTOR Reduction (vph)	0	2	0	0	93	0	0	139	0	0	50	0
Lane Group Flow (vph)	543	1122	0	100	906	0	0	544	0	0	146	0
Turn Type	Split			Split			Perm			Perm		
Protected Phases	1	1		2	2			4			8	
Permitted Phases							4			8		
Actuated Green, G (s)	31.0	31.0		25.8	25.8			19.7			19.7	
Effective Green, g (s)	31.0	31.0		25.8	25.8			19.7			19.7	
Actuated g/C Ratio	0.34	0.34		0.29	0.29			0.22			0.22	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Vehicle Extension (s)	0.2	0.2		0.2	0.2			3.0			3.0	
Lane Grp Cap (vph)	555	1159		507	959			581			424	
v/s Ratio Prot	c0.34	0.33		0.06	c0.27							
v/s Ratio Perm								c0.20			0.08	
v/c Ratio	0.98	0.97		0.20	0.95			0.94			0.34	
Uniform Delay, d1	29.2	29.0		24.3	31.4			34.5			29.7	
Progression Factor	0.62	0.62		1.00	1.00			1.00			1.00	
Incremental Delay, d2	7.2	3.2		0.9	18.5			22.6			0.5	
Delay (s)	25.3	21.2		25.1	49.9			57.1			30.2	
Level of Service	C	C		C	D			E			C	
Approach Delay (s)		22.5			47.6			57.1			30.2	
Approach LOS		C			D			E			C	

Intersection Summary			
HCM Average Control Delay	37.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	101.8%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	97	1454	265	750	26	19	307	39	537
Turn Type	Perm		pm+pt		Perm		Perm		Perm
Protected Phases		2	1	6		4		4	
Permitted Phases	2		6		4		4		4
Detector Phase	2	2	1	6	4	4	4	4	4
Switch Phase									
Minimum Initial (s)	13.0	13.0	7.0	13.0	18.0	18.0	18.0	18.0	18.0
Minimum Split (s)	21.0	21.0	11.0	21.0	22.0	22.0	22.0	22.0	22.0
Total Split (s)	51.0	51.0	13.0	64.0	26.0	26.0	26.0	26.0	26.0
Total Split (%)	56.7%	56.7%	14.4%	71.1%	28.9%	28.9%	28.9%	28.9%	28.9%
Yellow Time (s)	4.5	4.5	3.0	4.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	3.0	4.5	3.5	3.5	3.5	3.5	3.5
Lead/Lag	Lag	Lag	Lead						
Lead-Lag Optimize?	Yes	Yes	Yes						
Recall Mode	C-Max	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	46.5	46.5	61.0	59.5		22.5		22.5	22.5
Actuated g/C Ratio	0.52	0.52	0.68	0.66		0.25		0.25	0.25
v/c Ratio	0.31	0.89	1.01	0.35		0.20		1.01	0.92
Control Delay	16.1	27.3	73.3	3.7		21.9		87.6	41.3
Queue Delay	0.0	25.7	0.0	0.8		0.0		0.0	0.0
Total Delay	16.1	53.0	73.3	4.5		21.9		87.6	41.3
LOS	B	D	E	A		C		F	D
Approach Delay		50.9		21.4		21.9		59.4	
Approach LOS		D		C		C		E	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 65 (72%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 43.9 Intersection LOS: D
Intersection Capacity Utilization 96.3% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 9: Anaheim St & Figueroa Pl

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	97	1454	165	265	750	65	26	19	20	307	39	537
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	12	12	12	12	12	12
Total Lost time (s)	4.5	4.5		3.0	4.5			3.5			3.5	3.5
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frt	1.00	0.98		1.00	0.99			0.96			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.96	1.00
Satd. Flow (prot)	1652	3485		1652	3497			1750			1784	1583
Flt Permitted	0.34	1.00		0.08	1.00			0.68			0.73	1.00
Satd. Flow (perm)	598	3485		140	3497			1217			1367	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	97	1454	165	265	750	65	26	19	20	307	39	537
RTOR Reduction (vph)	0	10	0	0	7	0	0	15	0	0	0	187
Lane Group Flow (vph)	97	1609	0	265	808	0	0	50	0	0	346	350
Turn Type	Perm			pm+pt			Perm			Perm		Perm
Protected Phases		2		1	6			4			4	
Permitted Phases	2			6			4			4		4
Actuated Green, G (s)	46.5	46.5		59.5	59.5			22.5			22.5	22.5
Effective Green, g (s)	46.5	46.5		59.5	59.5			22.5			22.5	22.5
Actuated g/C Ratio	0.52	0.52		0.66	0.66			0.25			0.25	0.25
Clearance Time (s)	4.5	4.5		3.0	4.5			3.5			3.5	3.5
Vehicle Extension (s)	0.2	0.2		0.2	0.2			0.2			0.2	0.2
Lane Grp Cap (vph)	309	1801		261	2312			304			342	396
v/s Ratio Prot		0.46		c0.11	0.23							
v/s Ratio Perm	0.16			c0.56				0.04			c0.25	0.22
v/c Ratio	0.31	0.89		1.02	0.35			0.16			1.01	0.88
Uniform Delay, d1	12.5	19.5		27.7	6.7			26.4			33.8	32.5
Progression Factor	1.00	1.00		1.59	0.54			1.00			1.00	1.00
Incremental Delay, d2	2.6	7.3		41.2	0.2			0.1			51.7	19.8
Delay (s)	15.2	26.8		85.4	3.8			26.5			85.4	52.3
Level of Service	B	C		F	A			C			F	D
Approach Delay (s)		26.2			23.8			26.5			65.2	
Approach LOS		C			C			C			E	

Intersection Summary			
HCM Average Control Delay	34.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.5
Intersection Capacity Utilization	96.3%	ICU Level of Service	F
Analysis Period (min)	15		

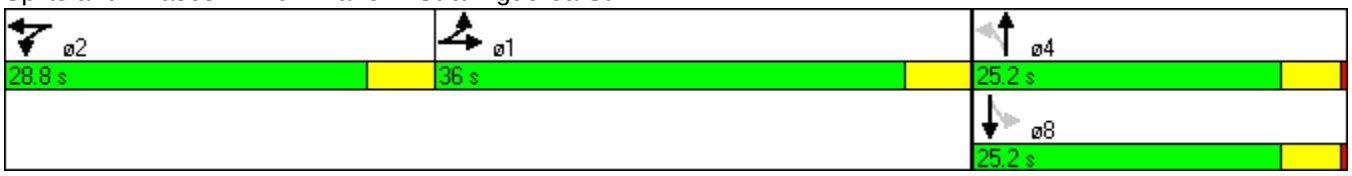
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	1041	703	90	688	187	240	24	82
Turn Type	Split		Split		Perm		Perm	
Protected Phases	1	1	2	2		4		8
Permitted Phases					4		8	
Detector Phase	1	1	2	2	4	4	8	8
Switch Phase								
Minimum Initial (s)	18.0	18.0	18.0	18.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	23.0	23.0	20.5	20.5	20.5	20.5
Total Split (s)	36.0	36.0	28.8	28.8	25.2	25.2	25.2	25.2
Total Split (%)	40.0%	40.0%	32.0%	32.0%	28.0%	28.0%	28.0%	28.0%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag	Lead	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	31.5	31.5	24.3	24.3		20.7		20.7
Actuated g/C Ratio	0.35	0.35	0.27	0.27		0.23		0.23
v/c Ratio	1.03	1.03	0.19	0.99		1.02		0.41
Control Delay	55.9	46.8	26.6	58.1		71.5		12.6
Queue Delay	9.7	14.2	0.0	0.0		0.0		0.0
Total Delay	65.7	61.1	26.6	58.1		71.5		12.6
LOS	E	E	C	E		E		B
Approach Delay		62.6		55.4		71.5		12.6
Approach LOS		E		E		E		B

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 52 (58%), Referenced to phase 2:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 58.1 Intersection LOS: E
Intersection Capacity Utilization 104.4% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 10: Anaheim St & Figueroa St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1041	703	35	90	688	260	187	240	215	24	82	194
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Util. Factor	0.91	0.91		1.00	0.95			0.95			0.95	
Frt	1.00	1.00		1.00	0.96			0.95			0.90	
Flt Protected	0.95	0.98		0.95	1.00			0.99			1.00	
Satd. Flow (prot)	1610	3312		1770	3394			3313			3183	
Flt Permitted	0.95	0.98		0.95	1.00			0.72			0.78	
Satd. Flow (perm)	1610	3312		1770	3394			2436			2503	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1041	703	35	90	688	260	187	240	215	24	82	194
RTOR Reduction (vph)	0	2	0	0	44	0	0	70	0	0	149	0
Lane Group Flow (vph)	583	1194	0	90	904	0	0	572	0	0	151	0
Turn Type	Split			Split			Perm			Perm		
Protected Phases	1	1		2	2			4			8	
Permitted Phases							4			8		
Actuated Green, G (s)	31.5	31.5		24.3	24.3			20.7			20.7	
Effective Green, g (s)	31.5	31.5		24.3	24.3			20.7			20.7	
Actuated g/C Ratio	0.35	0.35		0.27	0.27			0.23			0.23	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Vehicle Extension (s)	0.2	0.2		0.2	0.2			3.0			3.0	
Lane Grp Cap (vph)	564	1159		478	916			560			576	
v/s Ratio Prot	c0.36	0.36		0.05	c0.27							
v/s Ratio Perm								c0.23			0.06	
v/c Ratio	1.03	1.03		0.19	0.99			1.02			0.26	
Uniform Delay, d1	29.2	29.2		25.3	32.7			34.6			28.4	
Progression Factor	0.66	0.67		1.00	1.00			1.00			1.00	
Incremental Delay, d2	33.2	25.1		0.9	26.8			43.5			0.2	
Delay (s)	52.6	44.7		26.1	59.5			78.2			28.6	
Level of Service	D	D		C	E			E			C	
Approach Delay (s)		47.3			56.6			78.2			28.6	
Approach LOS		D			E			E			C	

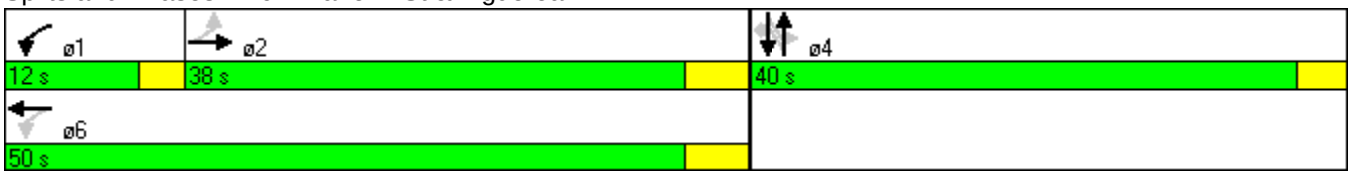
Intersection Summary			
HCM Average Control Delay	53.6	HCM Level of Service	D
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	104.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	34	1166	259	610	11	6	509	70	761
Turn Type	Perm		pm+pt		Perm		Perm		Perm
Protected Phases		2	1	6		4		4	
Permitted Phases	2		6		4		4		4
Detector Phase	2	2	1	6	4	4	4	4	4
Switch Phase									
Minimum Initial (s)	13.0	13.0	7.0	13.0	18.0	18.0	18.0	18.0	18.0
Minimum Split (s)	21.0	21.0	11.0	21.0	22.0	22.0	22.0	22.0	22.0
Total Split (s)	38.0	38.0	12.0	50.0	40.0	40.0	40.0	40.0	40.0
Total Split (%)	42.2%	42.2%	13.3%	55.6%	44.4%	44.4%	44.4%	44.4%	44.4%
Yellow Time (s)	4.5	4.5	3.0	4.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	3.0	4.5	3.5	3.5	3.5	3.5	3.5
Lead/Lag	Lag	Lag	Lead						
Lead-Lag Optimize?	Yes	Yes	Yes						
Recall Mode	C-Max	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	33.5	33.5	47.0	45.5		36.5		36.5	36.5
Actuated g/C Ratio	0.37	0.37	0.52	0.51		0.41		0.41	0.41
v/c Ratio	0.13	1.02	1.05	0.36		0.07		1.06	0.98
Control Delay	20.4	60.0	75.4	6.3		9.3		85.3	48.3
Queue Delay	0.0	61.7	0.0	0.0		0.0		0.0	0.0
Total Delay	20.4	121.7	75.4	6.3		9.3		85.3	48.3
LOS	C	F	E	A		A		F	D
Approach Delay		119.2		26.0		9.3		64.3	
Approach LOS		F		C		A		E	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 75 (83%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.06
Intersection Signal Delay: 74.7 Intersection LOS: E
Intersection Capacity Utilization 101.0% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 9: Anaheim St & Figueroa Pl



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	34	1166	170	259	610	38	11	6	27	509	70	761
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	12	12	12	12	12	12
Total Lost time (s)	4.5	4.5		3.0	4.5			3.5			3.5	3.5
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frt	1.00	0.98		1.00	0.99			0.92			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.96	1.00
Satd. Flow (prot)	1652	3472		1652	3508			1687			1784	1583
Flt Permitted	0.41	1.00		0.11	1.00			0.88			0.72	1.00
Satd. Flow (perm)	705	3472		191	3508			1502			1342	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	34	1166	170	259	610	38	11	6	27	509	70	761
RTOR Reduction (vph)	0	13	0	0	5	0	0	16	0	0	0	134
Lane Group Flow (vph)	34	1323	0	259	643	0	0	28	0	0	579	627
Turn Type	Perm			pm+pt			Perm			Perm		Perm
Protected Phases		2		1	6			4			4	
Permitted Phases	2			6			4			4		4
Actuated Green, G (s)	33.5	33.5		45.5	45.5			36.5			36.5	36.5
Effective Green, g (s)	33.5	33.5		45.5	45.5			36.5			36.5	36.5
Actuated g/C Ratio	0.37	0.37		0.51	0.51			0.41			0.41	0.41
Clearance Time (s)	4.5	4.5		3.0	4.5			3.5			3.5	3.5
Vehicle Extension (s)	0.2	0.2		0.2	0.2			0.2			0.2	0.2
Lane Grp Cap (vph)	262	1292		243	1773			609			544	642
v/s Ratio Prot		0.38		c0.11	0.18							
v/s Ratio Perm	0.05			c0.43				0.02			c0.43	0.40
v/c Ratio	0.13	1.02		1.07	0.36			0.05			1.06	0.98
Uniform Delay, d1	18.6	28.2		24.3	13.5			16.2			26.8	26.3
Progression Factor	1.00	1.00		1.12	0.45			1.00			1.00	1.00
Incremental Delay, d2	1.0	31.4		55.0	0.2			0.0			56.8	29.2
Delay (s)	19.7	59.7		82.3	6.3			16.2			83.6	55.5
Level of Service	B	E		F	A			B			F	E
Approach Delay (s)		58.7			28.0			16.2			67.6	
Approach LOS		E			C			B			E	

Intersection Summary			
HCM Average Control Delay	53.8	HCM Level of Service	D
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.5
Intersection Capacity Utilization	101.0%	ICU Level of Service	G
Analysis Period (min)	15		

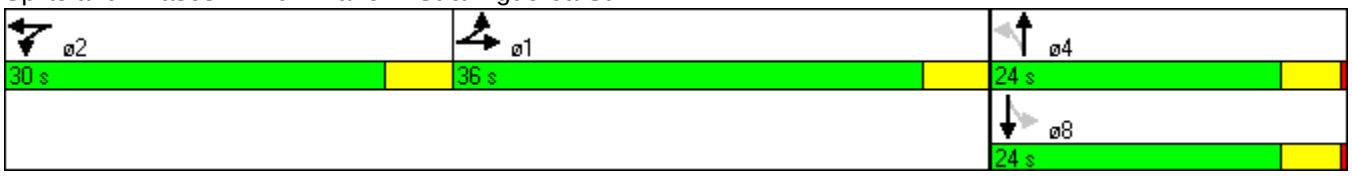
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	675	1020	100	635	195	210	53	79
Turn Type	Split		Split		Perm		Perm	
Protected Phases	1	1	2	2		4		8
Permitted Phases					4		8	
Detector Phase	1	1	2	2	4	4	8	8
Switch Phase								
Minimum Initial (s)	18.0	18.0	18.0	18.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	23.0	23.0	20.5	20.5	20.5	20.5
Total Split (s)	36.0	36.0	30.0	30.0	24.0	24.0	24.0	24.0
Total Split (%)	40.0%	40.0%	33.3%	33.3%	26.7%	26.7%	26.7%	26.7%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag	Lead	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	31.5	31.5	25.5	25.5		19.5		19.5
Actuated g/C Ratio	0.35	0.35	0.28	0.28		0.22		0.22
v/c Ratio	0.99	0.99	0.20	0.97		0.96		0.42
Control Delay	31.0	25.5	25.8	49.6		52.4		23.3
Queue Delay	7.6	12.2	0.0	0.0		0.0		0.0
Total Delay	38.7	37.7	25.8	49.6		52.4		23.3
LOS	D	D	C	D		D		C
Approach Delay		38.0		47.5		52.4		23.3
Approach LOS		D		D		D		C

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 56 (62%), Referenced to phase 2:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.99
Intersection Signal Delay: 42.7 Intersection LOS: D
Intersection Capacity Utilization 103.0% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 10: Anaheim St & Figueroa St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	675	1020	29	100	635	368	195	210	279	53	79	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Util. Factor	0.91	0.91		1.00	0.95			0.95			0.95	
Frt	1.00	1.00		1.00	0.94			0.94			0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1610	3361		1770	3344			3276			3321	
Flt Permitted	0.95	1.00		0.95	1.00			0.80			0.57	
Satd. Flow (perm)	1610	3361		1770	3344			2654			1924	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	675	1020	29	100	635	368	195	210	279	53	79	64
RTOR Reduction (vph)	0	2	0	0	92	0	0	138	0	0	50	0
Lane Group Flow (vph)	560	1162	0	100	911	0	0	546	0	0	146	0
Turn Type	Split			Split			Perm			Perm		
Protected Phases	1	1		2	2			4			8	
Permitted Phases							4			8		
Actuated Green, G (s)	31.5	31.5		25.5	25.5			19.5			19.5	
Effective Green, g (s)	31.5	31.5		25.5	25.5			19.5			19.5	
Actuated g/C Ratio	0.35	0.35		0.28	0.28			0.22			0.22	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Vehicle Extension (s)	0.2	0.2		0.2	0.2			3.0			3.0	
Lane Grp Cap (vph)	564	1176		502	947			575			417	
v/s Ratio Prot	c0.35	0.35		0.06	c0.27							
v/s Ratio Perm								c0.21			0.08	
v/c Ratio	0.99	0.99		0.20	0.96			0.95			0.35	
Uniform Delay, d1	29.1	29.1		24.5	31.8			34.8			29.9	
Progression Factor	0.61	0.61		1.00	1.00			1.00			1.00	
Incremental Delay, d2	9.7	5.5		0.9	21.4			25.3			0.5	
Delay (s)	27.5	23.2		25.4	53.2			60.0			30.4	
Level of Service	C	C		C	D			E			C	
Approach Delay (s)		24.6			50.7			60.0			30.4	
Approach LOS		C			D			E			C	

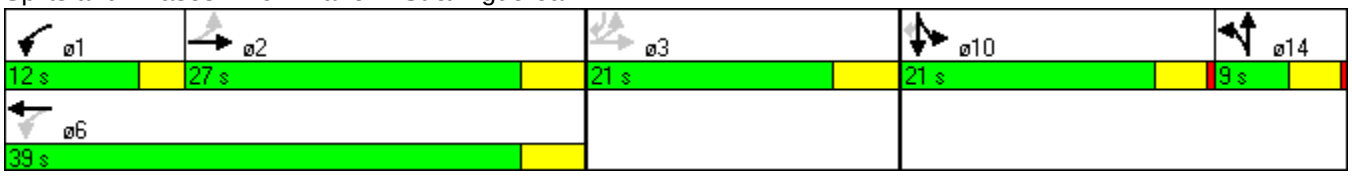
Intersection Summary			
HCM Average Control Delay	39.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	103.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR	ø3
Lane Configurations								
Volume (vph)	97	1454	265	750	19	39	537	
Turn Type	custom		pm+pt				custom	
Protected Phases		2	1	6	14	10		3
Permitted Phases	2 3	2 3	6				10 3	
Detector Phase	2 3	2	1	6	14	10	10 3	
Switch Phase								
Minimum Initial (s)		13.0	7.0	13.0	5.0	4.0		13.0
Minimum Split (s)		21.0	11.0	21.0	9.0	20.0		21.0
Total Split (s)	48.0	27.0	12.0	39.0	9.0	21.0	42.0	21.0
Total Split (%)	53.3%	30.0%	13.3%	43.3%	10.0%	23.3%	46.7%	23%
Yellow Time (s)		4.5	3.0	4.5	3.5	3.5		4.5
All-Red Time (s)		0.0	0.0	0.0	0.5	0.5		0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	3.0	4.5	4.0	4.0	4.0	
Lead/Lag		Lag	Lead					
Lead-Lag Optimize?		Yes	Yes					
Recall Mode		C-Max	None	C-Max	None	None		Max
Act Effct Green (s)	43.5	43.5	37.8	36.3	5.0	17.0	38.0	
Actuated g/C Ratio	0.48	0.48	0.42	0.40	0.06	0.19	0.42	
v/c Ratio	0.34	0.96	0.94	0.57	0.57	1.03	0.71	
Control Delay	18.5	36.6	46.7	12.3	51.5	94.2	21.2	
Queue Delay	0.0	16.8	0.0	0.4	0.0	0.0	0.0	
Total Delay	18.5	53.4	46.7	12.7	51.5	94.2	21.2	
LOS	B	D	D	B	D	F	C	
Approach Delay		51.4		21.0	51.5	49.8		
Approach LOS		D		C	D	D		

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 64 (71%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 42.3 Intersection LOS: D
Intersection Capacity Utilization 96.3% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 9: Anaheim St & Figueroa Pl



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	97	1454	165	265	750	65	26	19	20	307	39	537
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	12	12	12	12	12	12
Total Lost time (s)	4.5	4.5		3.0	4.5			4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frt	1.00	0.98		1.00	0.99			0.96			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.96	1.00
Satd. Flow (prot)	1652	3485		1652	3497			1750			1784	1583
Flt Permitted	0.34	1.00		0.16	1.00			0.98			0.96	1.00
Satd. Flow (perm)	598	3485		282	3497			1750			1784	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	97	1454	165	265	750	65	26	19	20	307	39	537
RTOR Reduction (vph)	0	11	0	0	7	0	0	18	0	0	0	95
Lane Group Flow (vph)	97	1608	0	265	808	0	0	47	0	0	346	442
Turn Type	custom			pm+pt			Split			Split		custom
Protected Phases		2		1	6		14	14		10	10	
Permitted Phases	2 3	2 3		6								10 3
Actuated Green, G (s)	42.7	38.2		35.5	35.5			4.0			17.0	38.0
Effective Green, g (s)	42.7	38.2		35.5	35.5			4.0			17.0	33.5
Actuated g/C Ratio	0.47	0.42		0.39	0.39			0.04			0.19	0.37
Clearance Time (s)		4.5		3.0	4.5			4.0			4.0	
Vehicle Extension (s)		0.2		0.2	0.2			3.0			3.0	
Lane Grp Cap (vph)	284	1653		276	1379			78			337	589
v/s Ratio Prot		c0.23		c0.12	0.23			c0.03			c0.19	
v/s Ratio Perm	0.16	0.23		c0.26								0.28
v/c Ratio	0.34	0.97		0.96	0.59			0.60			1.03	0.75
Uniform Delay, d1	14.8	25.4		22.5	21.5			42.2			36.5	24.6
Progression Factor	1.00	1.00		0.53	0.53			1.00			1.00	1.00
Incremental Delay, d2	3.3	16.6		31.5	1.1			12.3			56.0	5.2
Delay (s)	18.1	41.9		43.4	12.4			54.6			92.5	29.8
Level of Service	B	D		D	B			D			F	C
Approach Delay (s)		40.6			20.0			54.6			54.4	
Approach LOS		D			C			D			D	

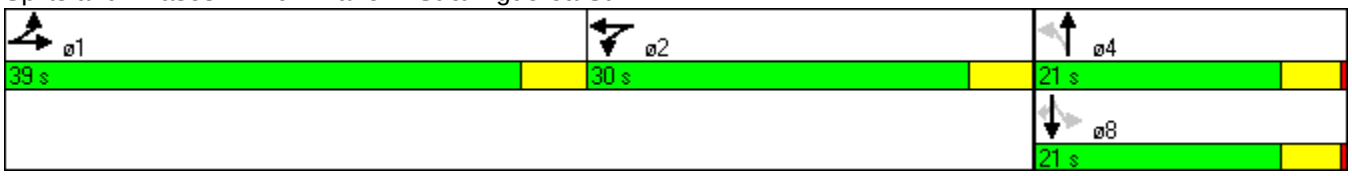
Intersection Summary			
HCM Average Control Delay	38.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	96.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	1041	703	90	688	187	240	24	82	194
Turn Type	Split		Split		Perm		Perm		Perm
Protected Phases	1	1	2	2		4		8	
Permitted Phases					4		8		8
Detector Phase	1	1	2	2	4	4	8	8	8
Switch Phase									
Minimum Initial (s)	18.0	18.0	18.0	18.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	23.0	23.0	20.5	20.5	20.5	20.5	20.5
Total Split (s)	39.0	39.0	30.0	30.0	21.0	21.0	21.0	21.0	21.0
Total Split (%)	43.3%	43.3%	33.3%	33.3%	23.3%	23.3%	23.3%	23.3%	23.3%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	33.8	33.8	27.1	27.1	15.6	15.6		15.6	15.6
Actuated g/C Ratio	0.38	0.38	0.30	0.30	0.17	0.17		0.17	0.17
v/c Ratio	0.96	0.96	0.17	0.89	0.85	0.61		0.48	0.45
Control Delay	31.7	24.6	25.3	41.0	68.7	21.3		41.1	8.6
Queue Delay	9.5	10.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	41.2	34.6	25.3	41.0	68.7	21.3		41.1	8.6
LOS	D	C	C	D	E	C		D	A
Approach Delay		36.7		39.6		35.1		20.1	
Approach LOS		D		D		D		C	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 28 (31%), Referenced to phase 2:WBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.96	
Intersection Signal Delay: 35.9	Intersection LOS: D
Intersection Capacity Utilization 95.4%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 10: Anaheim St & Figueroa St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1041	703	35	90	688	260	187	240	215	24	82	194
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5			4.5	4.5
Lane Util. Factor	0.91	0.91		1.00	0.95		1.00	0.95			1.00	1.00
Frt	1.00	1.00		1.00	0.96		1.00	0.93			1.00	0.85
Flt Protected	0.95	0.98		0.95	1.00		0.95	1.00			0.99	1.00
Satd. Flow (prot)	1610	3312		1770	3394		1770	3288			1842	1583
Flt Permitted	0.95	0.98		0.95	1.00		0.68	1.00			0.68	1.00
Satd. Flow (perm)	1610	3312		1770	3394		1270	3288			1269	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1041	703	35	90	688	260	187	240	215	24	82	194
RTOR Reduction (vph)	0	2	0	0	43	0	0	178	0	0	0	160
Lane Group Flow (vph)	583	1194	0	90	905	0	187	277	0	0	106	34
Turn Type	Split			Split			Perm			Perm		Perm
Protected Phases	1	1		2	2			4			8	
Permitted Phases							4			8		8
Actuated Green, G (s)	33.8	33.8		27.1	27.1		15.6	15.6			15.6	15.6
Effective Green, g (s)	33.8	33.8		27.1	27.1		15.6	15.6			15.6	15.6
Actuated g/C Ratio	0.38	0.38		0.30	0.30		0.17	0.17			0.17	0.17
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5			4.5	4.5
Vehicle Extension (s)	0.2	0.2		0.2	0.2		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	605	1244		533	1022		220	570			220	274
v/s Ratio Prot	c0.36	0.36		0.05	c0.27			0.08				
v/s Ratio Perm							c0.15				0.08	0.02
v/c Ratio	0.96	0.96		0.17	0.89		0.85	0.49			0.48	0.12
Uniform Delay, d1	27.5	27.4		23.2	30.0		36.1	33.6			33.6	31.4
Progression Factor	0.58	0.58		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	12.4	6.8		0.7	11.2		25.6	0.7			1.7	0.2
Delay (s)	28.3	22.6		23.8	41.2		61.6	34.2			35.2	31.6
Level of Service	C	C		C	D		E	C			D	C
Approach Delay (s)		24.5			39.7			42.2			32.9	
Approach LOS		C			D			D			C	

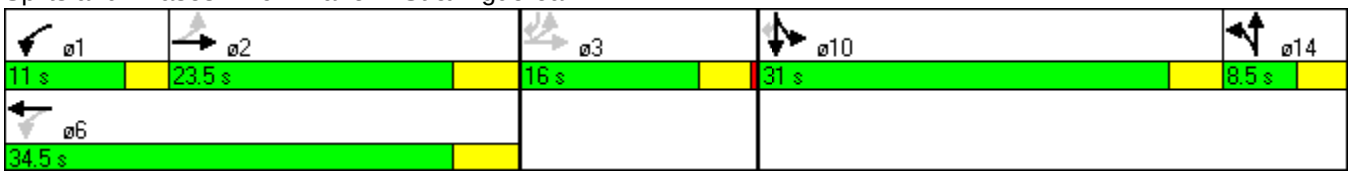
Intersection Summary			
HCM Average Control Delay	32.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	95.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR	ø3
Lane Configurations								
Volume (vph)	34	1166	259	610	6	70	761	
Turn Type	custom		pm+pt				custom	
Protected Phases		2	1	6	14	10		3
Permitted Phases	2 3	2 3	6				3 10	
Detector Phase	2 3	2	1	6	14	10	3 10	
Switch Phase								
Minimum Initial (s)		13.0	7.0	13.0	5.0	18.0		4.0
Minimum Split (s)		21.0	11.0	21.0	8.5	22.0		8.0
Total Split (s)	39.5	23.5	11.0	34.5	8.5	31.0	47.0	16.0
Total Split (%)	43.9%	26.1%	12.2%	38.3%	9.4%	34.4%	52.2%	18%
Yellow Time (s)		4.5	3.0	4.5	3.5	3.5		3.5
All-Red Time (s)		0.0	0.0	0.0	0.0	0.0		0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	3.0	4.5	3.5	3.5	4.0	
Lead/Lag		Lag	Lead					
Lead-Lag Optimize?								
Recall Mode		C-Max	None	C-Max	None	None		None
Act Effct Green (s)	35.0	35.0	34.9	33.4	5.0	27.5	43.0	
Actuated g/C Ratio	0.39	0.39	0.39	0.37	0.06	0.31	0.48	
v/c Ratio	0.12	0.98	0.87	0.50	0.37	1.06	0.88	
Control Delay	19.3	47.9	38.1	13.0	31.5	88.5	28.3	
Queue Delay	0.0	35.7	0.0	0.0	0.1	0.0	0.0	
Total Delay	19.3	83.6	38.1	13.0	31.6	88.5	28.3	
LOS	B	F	D	B	C	F	C	
Approach Delay		82.0		20.2	31.6	54.3		
Approach LOS		F		C	C	D		

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 32 (36%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.06
Intersection Signal Delay: 56.0 Intersection LOS: E
Intersection Capacity Utilization 101.0% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 9: Anaheim St & Figueroa Pl



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	34	1166	170	259	610	38	11	6	27	509	70	761
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	12	12	12	12	12	12
Total Lost time (s)	4.5	4.5		3.0	4.5			3.5			3.5	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frt	1.00	0.98		1.00	0.99			0.92			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.96	1.00
Satd. Flow (prot)	1652	3472		1652	3508			1687			1784	1583
Flt Permitted	0.41	1.00		0.19	1.00			0.99			0.96	1.00
Satd. Flow (perm)	705	3472		338	3508			1687			1784	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	34	1166	170	259	610	38	11	6	27	509	70	761
RTOR Reduction (vph)	0	14	0	0	5	0	0	26	0	0	0	111
Lane Group Flow (vph)	34	1322	0	259	643	0	0	18	0	0	579	650
Turn Type	custom			pm+pt			Split			Split		custom
Protected Phases		2		1	6		14	14		10	10	
Permitted Phases	2 3	2 3		6								3 10
Actuated Green, G (s)	34.1	29.6		32.0	32.0			3.0			27.5	43.5
Effective Green, g (s)	34.1	29.6		32.0	32.0			3.0			27.5	43.5
Actuated g/C Ratio	0.38	0.33		0.36	0.36			0.03			0.31	0.48
Clearance Time (s)		4.5		3.0	4.5			3.5			3.5	
Vehicle Extension (s)		0.2		0.2	0.2			0.2			0.2	
Lane Grp Cap (vph)	267	1316		287	1247			56			545	765
v/s Ratio Prot		c0.20		c0.11	0.18			c0.01			c0.32	
v/s Ratio Perm	0.05	0.18		0.21								0.41
v/c Ratio	0.13	1.00		0.90	0.52			0.32			1.06	0.85
Uniform Delay, d1	18.2	30.2		24.0	22.9			42.5			31.2	20.4
Progression Factor	1.00	1.00		0.58	0.55			1.00			1.00	1.00
Incremental Delay, d2	0.2	25.9		17.8	0.8			1.2			56.2	9.0
Delay (s)	18.5	56.1		31.6	13.3			43.7			87.4	29.4
Level of Service	B	E		C	B			D			F	C
Approach Delay (s)		55.2			18.5			43.7			54.4	
Approach LOS		E			B			D			D	

Intersection Summary			
HCM Average Control Delay	45.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.5
Intersection Capacity Utilization	101.0%	ICU Level of Service	G
Analysis Period (min)	15		

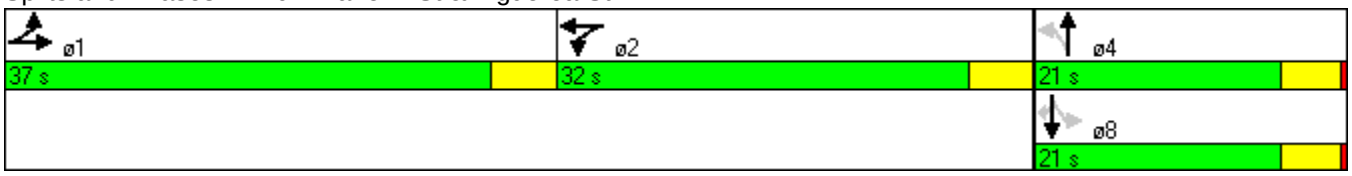
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	675	1020	100	635	195	210	53	79	64
Turn Type	Split		Split		Perm		Perm		Perm
Protected Phases	1	1	2	2		4		8	
Permitted Phases					4		8		8
Detector Phase	1	1	2	2	4	4	8	8	8
Switch Phase									
Minimum Initial (s)	18.0	18.0	18.0	18.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	23.0	23.0	20.5	20.5	20.5	20.5	20.5
Total Split (s)	37.0	37.0	32.0	32.0	21.0	21.0	21.0	21.0	21.0
Total Split (%)	41.1%	41.1%	35.6%	35.6%	23.3%	23.3%	23.3%	23.3%	23.3%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	32.1	32.1	28.0	28.0	16.4	16.4		16.4	16.4
Actuated g/C Ratio	0.36	0.36	0.31	0.31	0.18	0.18		0.18	0.18
v/c Ratio	0.98	0.97	0.18	0.89	0.93	0.60		0.91	0.19
Control Delay	35.9	28.3	24.1	36.8	85.0	17.5		93.5	10.1
Queue Delay	7.7	10.3	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	43.6	38.6	24.1	36.8	85.0	17.5		93.5	10.1
LOS	D	D	C	D	F	B		F	B
Approach Delay		40.3		35.6		36.7		66.3	
Approach LOS		D		D		D		E	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 80 (89%), Referenced to phase 2:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.98
Intersection Signal Delay: 39.6 Intersection LOS: D
Intersection Capacity Utilization 98.7% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 10: Anaheim St & Figueroa St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	675	1020	29	100	635	368	195	210	279	53	79	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5			4.5	4.5
Lane Util. Factor	0.91	0.91		1.00	0.95		1.00	0.95			1.00	1.00
Frt	1.00	1.00		1.00	0.94		1.00	0.91			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	1.00
Satd. Flow (prot)	1610	3361		1770	3344		1770	3236			1826	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.62	1.00			0.43	1.00
Satd. Flow (perm)	1610	3361		1770	3344		1152	3236			794	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	675	1020	29	100	635	368	195	210	279	53	79	64
RTOR Reduction (vph)	0	2	0	0	91	0	0	228	0	0	0	52
Lane Group Flow (vph)	560	1162	0	100	912	0	195	261	0	0	132	12
Turn Type	Split			Split			Perm			Perm		Perm
Protected Phases	1	1		2	2			4			8	
Permitted Phases							4			8		8
Actuated Green, G (s)	32.1	32.1		28.0	28.0		16.4	16.4			16.4	16.4
Effective Green, g (s)	32.1	32.1		28.0	28.0		16.4	16.4			16.4	16.4
Actuated g/C Ratio	0.36	0.36		0.31	0.31		0.18	0.18			0.18	0.18
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5			4.5	4.5
Vehicle Extension (s)	0.2	0.2		0.2	0.2		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	574	1199		551	1040		210	590			145	288
v/s Ratio Prot	c0.35	0.35		0.06	c0.27			0.08				
v/s Ratio Perm							c0.17				0.17	0.01
v/c Ratio	0.98	0.97		0.18	0.88		0.93	0.44			0.91	0.04
Uniform Delay, d1	28.6	28.5		22.6	29.4		36.2	32.7			36.1	30.3
Progression Factor	0.66	0.66		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	13.7	7.4		0.7	10.4		42.1	0.5			48.8	0.1
Delay (s)	32.5	26.2		23.4	39.8		78.3	33.3			84.9	30.4
Level of Service	C	C		C	D		E	C			F	C
Approach Delay (s)		28.3			38.3			46.1			67.1	
Approach LOS		C			D			D			E	

Intersection Summary			
HCM Average Control Delay	36.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	98.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			