
SANTA MONICA MOUNTAINS CONSERVANCY MOUNTAINS
RECREATION AND CONSERVATION AUTHORITY
CITY OF MALIBU, CALIFORNIA

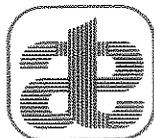
TRAFFIC AND PARKING STUDY

January 21, 2010

ATE Project #09061

Prepared for:

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**TRAFFIC AND PARKING STUDY FOR THE SANTA MONICA MOUNTAINS
CONSERVANCY MOUNTAINS RECREATION AND CONSERVATION AUTHORITY
PROJECT – CITY OF MALIBU, CALIFORNIA**

Associated Transportation Engineers (ATE) has prepared the following traffic and parking study for the Santa Monica Mountains Conservancy Mountains Recreation and Conservation Authority Project, located within and adjacent to the City of Malibu.

We appreciate the opportunity to assist Dudek & Associates with this project.

Associated Transportation Engineers

By: Scott A. Schell, AICP
Principal Transportation Planner

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INTRODUCTION

The following study, prepared by Associated Transportation Engineers, contains an analysis of the potential traffic and parking impacts associated with the Santa Monica Mountains Conservancy and Mountains Recreation and Conservation Authority (SMMC/MRCA) Parks Project, located within and adjacent to the City of Malibu.

The analysis assesses potential traffic and parking impacts for five park areas: Ramirez Canyon Park, Escondido Canyon Park, Latigo Trailhead, Corral Canyon Park, and the Malibu Bluffs Open Space. The study analyzes potential traffic impacts to the regional roadways in the study area based on the combined traffic resulting from the changes proposed at the five park areas. Potential traffic impacts are assessed based on City of Malibu and Los Angeles County impact criteria. The study also analyzes each park individually, addressing potential traffic impacts to the local streets in the vicinity of the park sites and reviewing the adequacy of the parking facilities proposed for each park.

PROJECT DESCRIPTION

The study focuses on the improvements proposed for: Ramirez Canyon Park, Escondido Canyon Park, Latigo Trailhead, Corral Canyon Park, and the Malibu Bluffs Open Space. Figure 1 shows the location of the parks within the Malibu coastal area and the following text describes the improvements.

Ramirez Canyon Park

Ramirez Canyon Park is located off Ramirez Canyon Road in the City of Malibu. The park serves as the home for the Santa Monica Mountains Conservancy administrative offices and the on-site park ranger/maintenance supervisor residence. Public gardens, meeting facilities, a public access trail, and a picnic area are located within this park. The project proposes to develop 5 new campsites. Access to Ramirez Canyon Park is provided through a gated entrance at the terminus of Ramirez Canyon Road. The park currently provides 56 parking spaces plus 4 van accessible spaces. The main parking area would be limited to 80 daily trips, as permitted by the Coastal Development Permit 4-98-334 and based on the Traffic Generation Assessment Santa Monica Mountains Conservancy, December 17, 1999, prepared by Crain & Associates. As these daily "allowable" trips are a combination of inbound and outbound trips, the total number of inbound trips is half of the daily trips (40 inbound, 40 outbound trips). Vehicular access to Ramirez Canyon Park will be monitored to ensure that the total number of trips to and from the site do not exceed 80 daily trips. Additional hike-in access will be provided from three parking areas located along Kanan Dume Road. The parking areas currently consist of dirt shoulders that accommodate parallel parking for approximately 12 vehicles. The project is proposing to pave and reconfigure these lots to provide 28 standard spaces and 8 ADA spaces for a total of 36 parking spaces (a net increase of 24 spaces).

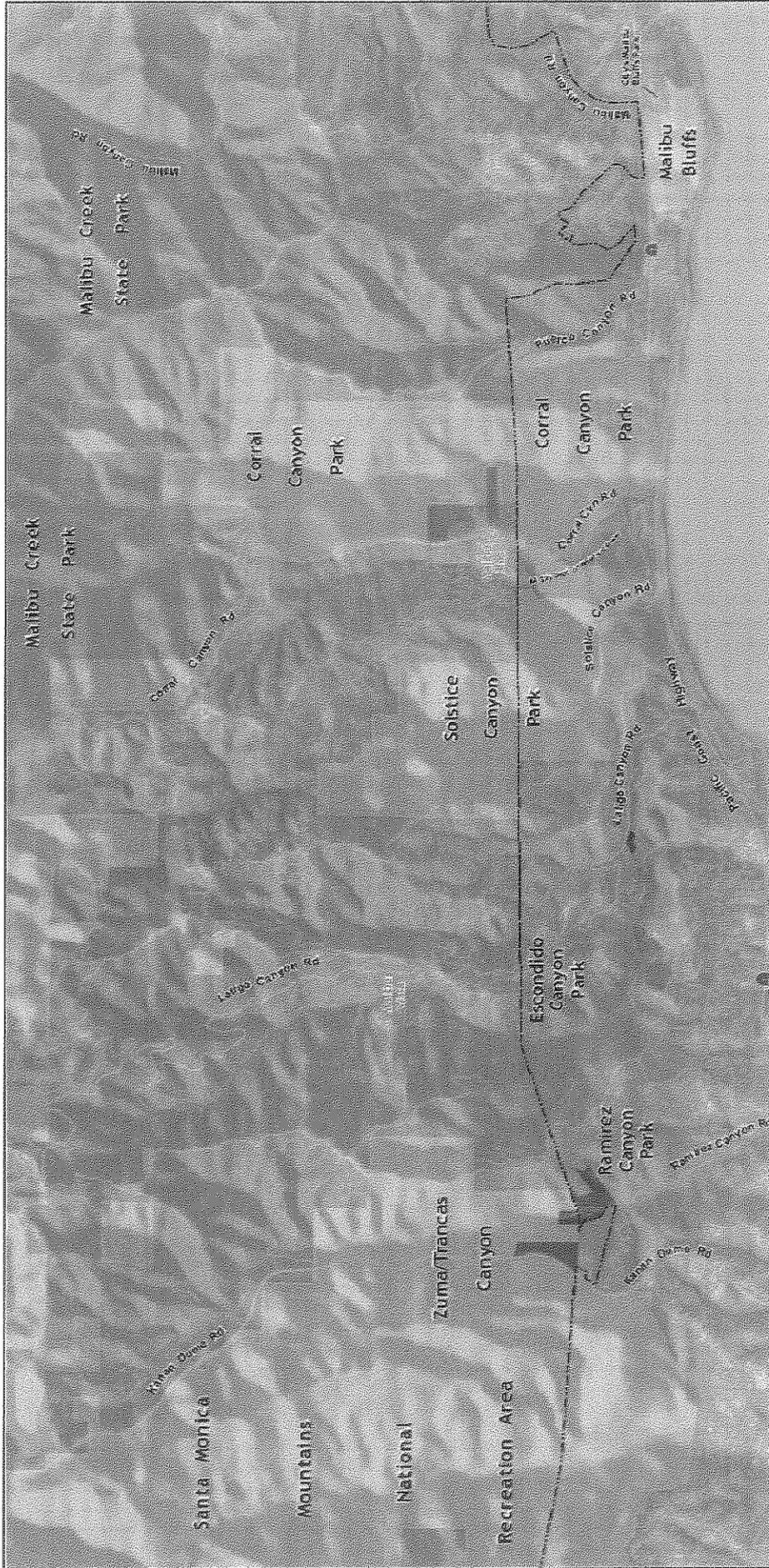
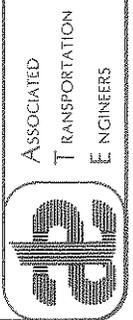


FIGURE 1

PARK LOCATIONS MAP



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Escondido Canyon Park

Escondido Canyon Park is bounded by Winding Way to the south and Latigo Canyon Road to the east in the City of Malibu. The project proposes to develop 13 new campsites. Access to Escondido Canyon Park is provided via Winding Way. The park currently provides 10 parking spaces in a parking lot located on Winding Way adjacent to Pacific Coast Highway (PCH), approximately one mile south of the park boundary. The project includes a new parking lot on Winding Way east of Porterdale Drive to accommodate 11 standard spaces, 3 RV/trailer spaces, and 2 ADA spaces, for a total of 16 parking spaces.

Latigo Trailhead

Latigo Trailhead is located off of Latigo Canyon Road in the City of Malibu. The project proposes to develop 5 new campsites. Currently there is no paved parking available for the Latigo Trailhead. The project includes a new parking lot on Latigo Canyon Road to accommodate 8 standard spaces and 1 ADA space, for a total of 9 parking spaces.

Corral Canyon Park

Corral Canyon Park is bounded by Corral Canyon Road to the west and PCH to the south. The park provides picnic areas, as well as a 2.5 mile loop trail for hikers. The project proposes 16 new campsites. Corral Canyon Park currently provides 13 standard spaces, 1 ADA space, and 1 trailer space, for a total of 15 parking spaces. The project includes re-striping the parking lot to include 19 standard spaces and 2 ADA spaces, for a total of 21 parking spaces.

Malibu Bluffs Open Space

The Malibu Bluffs Open Space area is bounded by PCH to the north and the Pacific Ocean to the south. The project proposes to develop 32 new campsites and a new day-use area with picnic amenities. The project includes the development of four new parking areas with a total of 43 standard spaces and 9 ADA spaces, for a total of 52 parking spaces.

REGIONAL CIRCULATION SYSTEM

The following section reviews the operation of the regional roadway network serving the five park sites. Additional analyses of the local streets serving the individual park sites are presented in separate sections of this study.

EXISTING CONDITIONS

Street Network

Regional access to the five park sites is provided by PCH. PCH is a north/south State Highway (SR 1) that traverses the California coast. PCH extends northwest of the park sites connecting to the City of Oxnard. PCH extends southeast of the park sites providing access the Los Angeles urban area. Within the Malibu area, PCH is a four-lane highway that traverses in an east/west direction. The major intersections along PCH are signalized.

Roadway Volumes

Figure 2 shows the Existing Average Daily (ADT) traffic volumes for PCH, as obtained from Caltrans. As shown in Table 1, the key segments of PCH in the project area carry between 26,900 and 29,500 ADT. Because traffic flow on street networks is most constrained at intersections, detailed traffic flow analyses focus on the operating conditions of critical intersections during peak travel periods. The following section reviews the operations at the key intersections on PCH.

Table 1
Existing Roadway Volumes – Pacific Coast Highway

Roadway Segment	Existing ADT
PCH e/o Kanan Dume Road	29,500
PCH e/o Latigo Canyon Road	27,500
PCH e/o John Tyler Drive	26,900
PCH e/o Malibu Canyon Road	29,300

Intersection Operations

Existing A.M. and P.M. peak hour volumes were collected for the key intersections along PCH on March 25, 2008 and September 22, 2009. The A.M. peak hour period is defined as the highest 1-hour period between 7:00 and 9:00 A.M.; and the P.M. peak hour period is defined as the highest 1-hour period between 4:00 and 6:00 P.M. Figure 2 shows the existing A.M. and P.M. peak hour traffic volumes for the intersections along PCH.

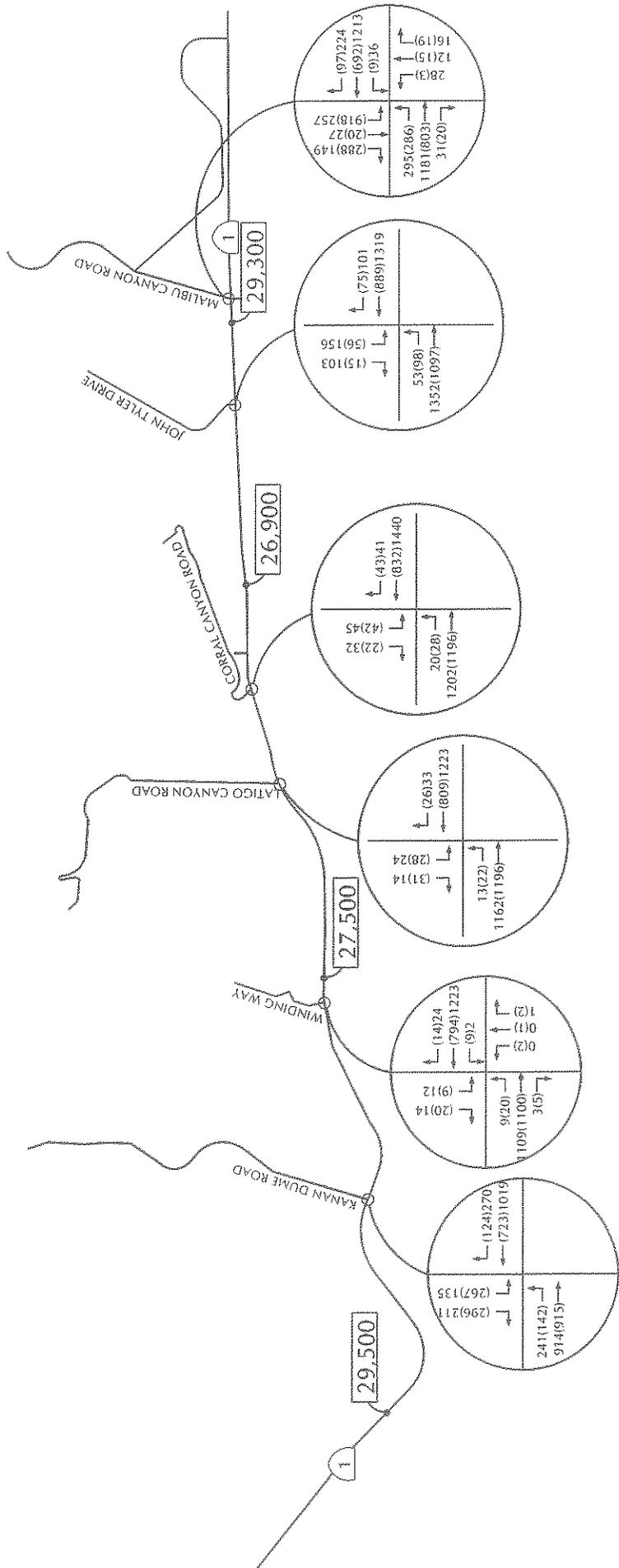


FIGURE 2

REGIONAL TRAFFIC SYSTEM -
EXISTING TRAFFIC VOLUMES

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Levels of service were calculated for the signalized intersections using the ICU procedure outlined in the Los Angeles County Traffic Impact Analysis Report Guidelines (calculation worksheets are contained in the Technical Appendix). The ICU methodology is also consistent with the procedures outlined in the Los Angeles County Congestion Management Program (CMP).¹ Levels of service for the stop-sign controlled intersections were calculated using the methodologies outlined in the Highway Capacity Manual². The Highway Capacity Manual levels of service are based on the average number of seconds of control delay per vehicle using the intersection during the peak one-hour period. Existing levels of service are shown in Table 2.

**Table 2
Existing Intersection Levels of Service**

Intersection	Control	A.M. Peak Hour		P.M. Peak Hour	
		V/C or Delay	LOS	V/C or Delay	LOS
PCH/Kanan Dume Road	Signal	0.498	A	0.611	B
PCH/Winding Way	Stop-Sign	18.5 sec	C	42.8 sec	E
PCH/Latigo Canyon Road	Stop-Sign	24.2 sec	C	> 50.0 sec	F
PCH/Corral Canyon Road	Stop-Sign	16.3 sec	C	28.3 sec	D
PCH/John Tyler Drive	Signal	0.457	A	0.599	A
PCH/Malibu Canyon Road	Signal	0.722	C	0.699	B

The data presented in Table 2 show that the majority of the study-area intersections currently operate at LOS C or better, indicating relatively good operations. The LOS D-F reported for the unsignalized intersections at PCH/Winding Way, PCH/Latigo Canyon Road, and PCH/Corral Canyon Road are related to the delays for turning from the side streets onto PCH (e.g. turning from Winding Way, Latigo Canyon Road, and Corral Canyon Road). PCH traffic does not stop and operates at LOS A. The delays for turning left onto PCH at Winding Way, Latigo Canyon Road, and Corral Canyon Road exceed 25 seconds, which equates to LOS D-F.

¹ Congestion Management Program for Los Angeles County, Los Angeles County Metropolitan Transportation Authority, July 2004.

² Highway Capacity Manual, Transportation Research Special Report 209, National Research Council, 2000.

TRAFFIC IMPACT THRESHOLDS

City of Malibu

The City of Malibu has established criteria that are used to determine a significant traffic impact resulting from construction of a project. A significant impact would result if an intersection operating at LOS D, E, or F with a V/C ratio of greater than 0.800 would experience a project-related V/C ratio increase equal to, or greater than, 0.020.

Los Angeles County

The County of Los Angeles Department of Public Works indicates that a project impact would be considered significant if the conditions in Table 3 are met.

Table 3
County of Los Angeles
Significant Project Traffic Impact

LOS	Final V/C Ratio	Project-Related Increase in V/C
C	> 0.701 – 0.800	Equal to or greater than 0.040
D	> 0.801 – 0.900	Equal to or greater than 0.020
E,F	> 0.900	Equal to or greater than 0.010

CEQA

A proposed project may also have a significant impact on traffic, circulation, and parking if it would:

- o Create potential hazards due to addition of traffic to a roadway that has design features (e.g., narrow width, roadside ditches, sharp curves, poor sight distance, inadequate pavement structure) or that supports uses that would be incompatible with substantial increases in traffic.

PROJECT-GENERATED TRAFFIC

Project Trip Generation

Weekday trip generation estimates were developed for each park site based on the number of new campsites plus the increase in day-use facilities. The trip generation estimates developed for the campsites assumed that all of the campsites would be utilized on a daily basis and that each campsite would turnover each day (two trips per site). The analysis assumes that 15% of the campsite's traffic would occur during the A.M. and P.M. peak hour periods.

The trip generation estimates developed for the day-use facilities are based on the number of net new parking spaces. Data presented in the San Diego Traffic Generators manual for Regional Parks and data on file at ATE was used to develop the trip generation estimates for the day-use facilities. The trip generation rate for the day-use areas include the trips associated with shuttle busses, park ranger patrols, refuse pick-up, etc. The analysis assumes that one vehicle per campsite would utilize the new parking spaces, with the remaining spaces being allocated to the day-use facilities.

A separate analysis was completed for the Ramirez Canyon Park based on the vehicle limitations associated with this park site. Existing "baseline" traffic estimates for the park were developed utilizing vehicle trip data collected by the MRCA. Future traffic levels are based on the 40 round trips per day limitation.

Table 4 shows the weekday trip generation calculations for the project.

**Table 4
Project Trip Generation**

Land Use	Size	ADT		A.M. Peak Hour		P.M. Peak Hour	
		Rate	Trips	Rate	Trips	Rate	Trips
Ramirez Canyon Park – Kanan Dume Road							
Day-Use Area	26 paved spaces ^a	3.6	94	0.14	4	0.29	8
Ramirez Canyon Park							
Baseline Traffic	N/A	N/A	54	N/A	5	N/A	5
Future Traffic ^b	N/A	N/A	80	N/A	8	N/A	8
Net Traffic Increase	N/A	N/A	26	N/A	3	N/A	3
Subtotal			120		7		11
Escondido Canyon Park							
Campsites	13 campsites	2.0	26	0.15	2	0.15	2
Day-Use Area ^c	3 paved spaces	3.6	11	0.14	0	0.29	1
Subtotal			37		2		3
Latigo Trailhead							
Campsites	5 campsites	2.0	10	0.15	1	0.15	1
Day-Use Area	4 paved spaces	3.6	14	0.14	1	0.29	1
Subtotal			24		2		2
Corral Canyon Park							
Campsites	16 campsites	2.0	32	0.15	2	0.15	2
Day-Use Area	5 paved spaces	N3.6	18	0.14	1	0.29	1
Subtotal			50		3		3
Malibu Bluffs Open Space							
Campsites	32 campsites	2.0	64	0.15	5	0.15	5
Day-Use Area ^c	20 paved spaces	3.6	72	0.14	3	0.29	6
Subtotal			136		8		11
TOTAL			367		22		30

^a Currently there are 12 parking spaces in the dirt lots on Kanan Dume Road. The project proposes to develop 26 paved parking spaces for a net increase of 14 spaces. The analysis assumes no credit for the existing spaces as a worst-case scenario.

^b Future traffic for Ramirez Canyon Park based on total allowable trips (40 inbound and 40 outbound trips for a total of 80 ADT).

^c Day-Use Area trips include trips associated with shuttle busses, park ranger patrols, refuse pick-up, etc.

The data presented in Table 4 show that the proposed project would generate 367 ADT, 22 A.M. peak hour trips, and 30 P.M. peak hour trips.

Increased Transit Use

Table 4 shows that the proposed project would generate 367 ADT. Based on an average vehicle occupancy (AVO) of 2.5 people per vehicle, approximately 450 people would visit the parks per day via automobiles (367 ADT = 183 cars. 183 cars x 2.5 AVO = 460

people via automobiles). Assuming 10% of visitors would utilize alternative forms of transportation (such as walking, cycling, shuttle, MTA busses), a maximum 46 additional passengers per day would use MTA busses (4 to 6 passengers per hour). These additional passengers would not impact the capacity of the MTA bus system.

Project Trip Distribution and Assignment

Project trip distribution percentages were determined based on existing traffic patterns and consideration of the population centers in the region. Table 5 and Figure 3 show the trip distribution percentages. Figure 4 shows the assignment of project traffic on the regional traffic system. Figure 5 shows the existing + project traffic volumes for the regional roadways and intersections.

**Table 5
Project Trip Distribution Percentages**

Origin/Destination	Direction	Distribution %
PCH	West	30%
PCH	East	50%
Local Roads ^a	North	20%
Total		100%

^aLocal roads include Kanan Dume Road, Las Virgenes Road, etc. to the north.

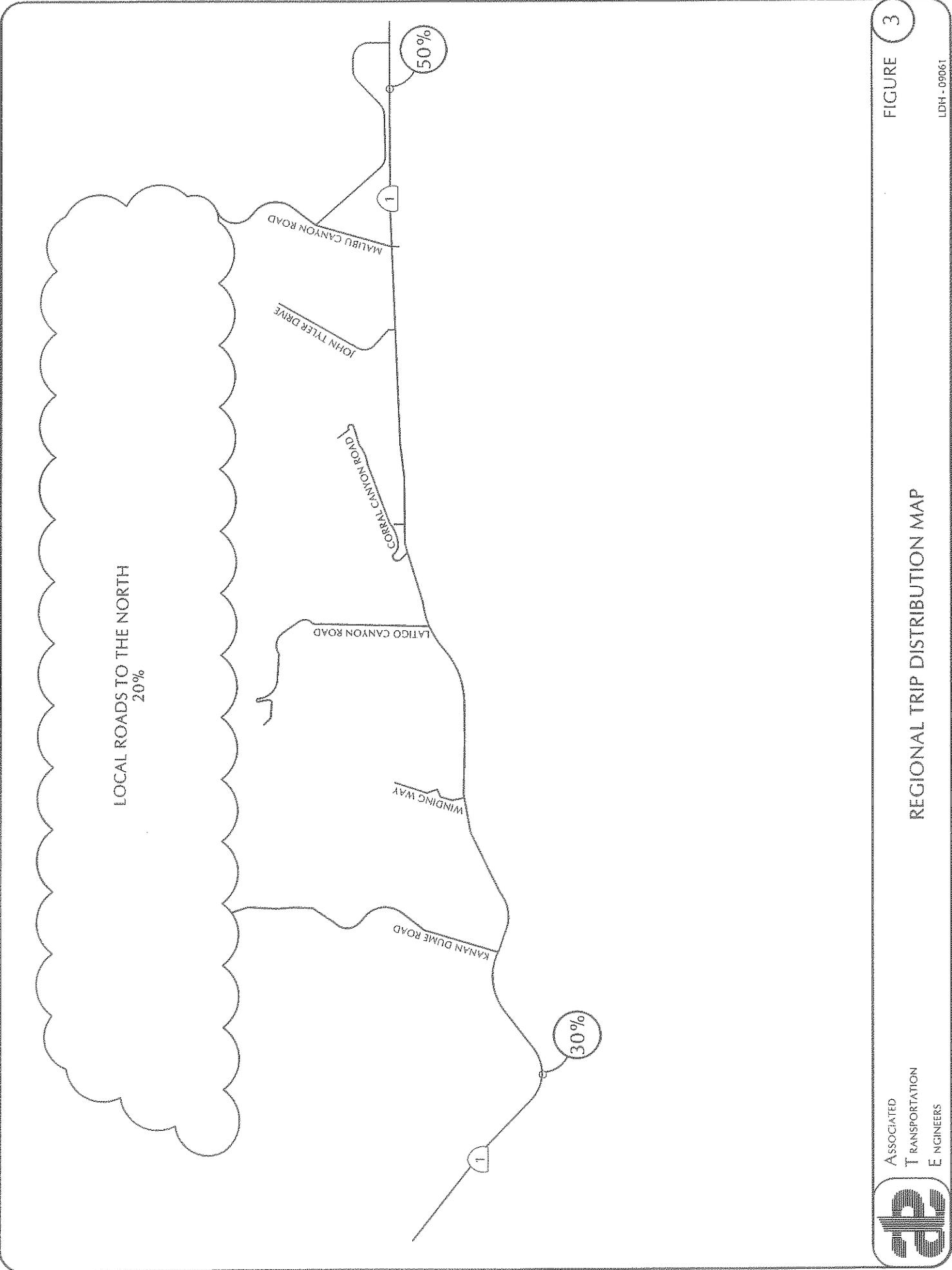
PROJECT-SPECIFIC IMPACTS

Existing + Project Roadway Operations

Table 6 compares the Existing and Existing + Project ADT forecasts. The table also shows the percent increase in traffic resulting from the project.

**Table 6
Existing + Project Average Daily Traffic Volumes**

Roadway Segment	Existing ADT	Existing + Project ADT	Project-Added ADT	% Increase	Impact?
PCH e/o Kanan Dume Road	29,500	29,611	111	0.37%	No
PCH e/o Latigo Canyon Road	27,500	27,682	182	0.66%	No
PCH e/o John Tyler Drive	26,900	27,094	194	0.72%	No
PCH e/o Malibu Canyon Road	29,300	29,524	224	0.76%	No



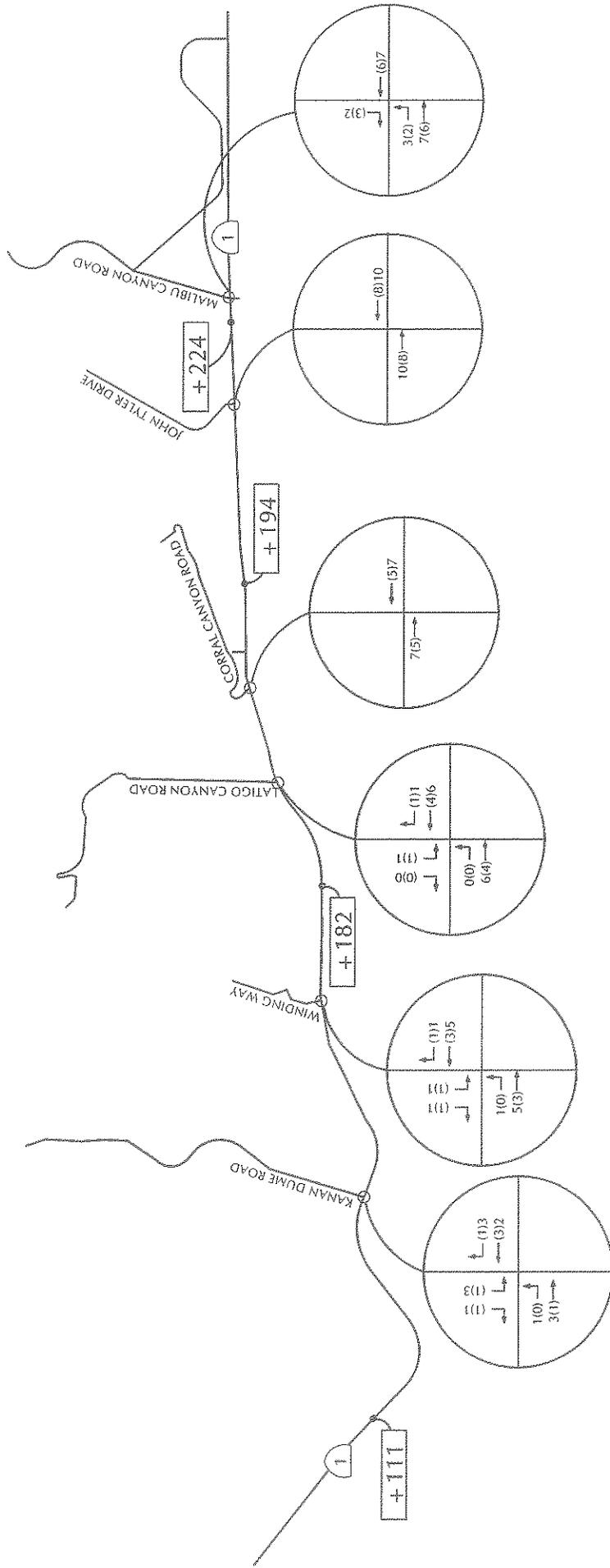
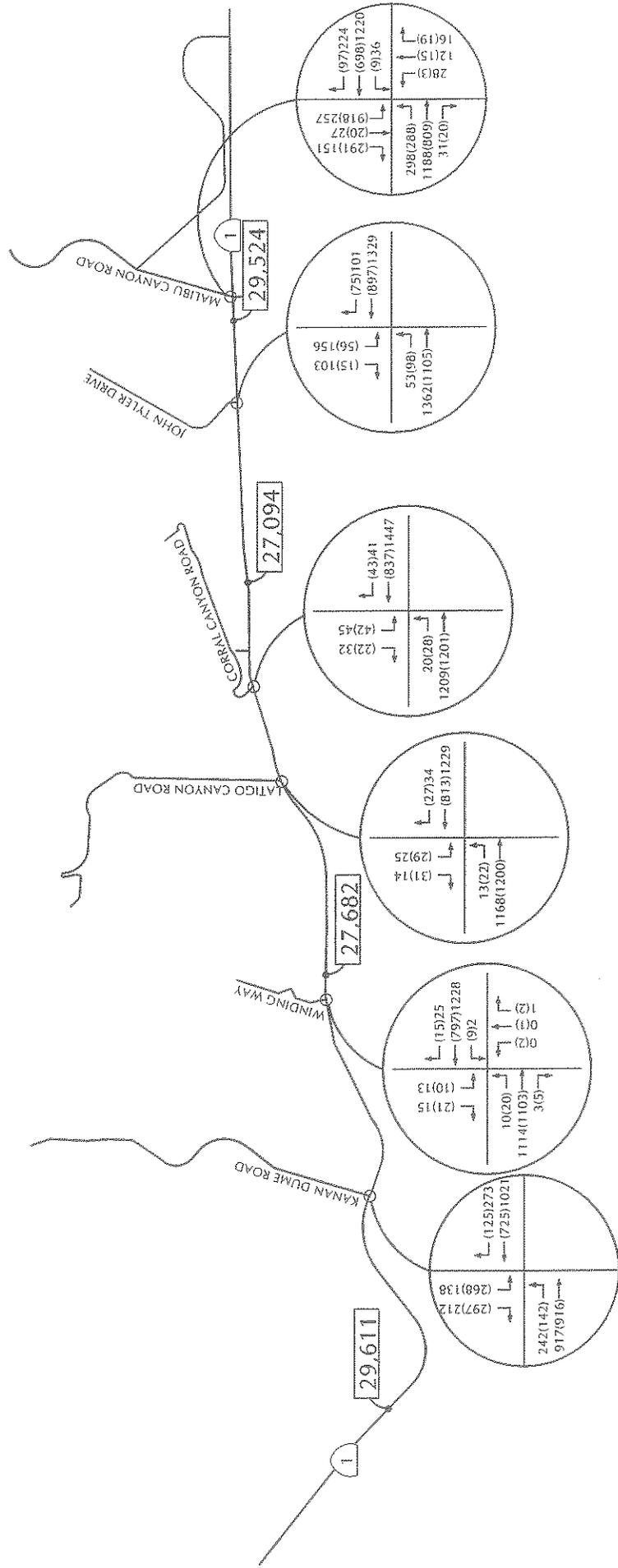


FIGURE 4

REGIONAL TRAFFIC SYSTEM -
PROJECT-ADDED TRAFFIC VOLUMES



REGIONAL TRAFFIC SYSTEM -
EXISTING + PROJECT TRAFFIC VOLUMES

Table 6 shows that the project would result in less than 1% increase under Existing + Project conditions. This increase would not measurably affect roadway operations along PCH. A more detailed analysis of the project impacts to the intersections along PCH is provided below.

Existing + Project Intersection Operations

Tables 7 and 8 compare the Existing and Existing + Project levels of service for the A.M. and P.M. peak hour period, respectively.

**Table 7
Existing and Existing + Project Levels of Service
A.M. Peak Hour Period**

Roadway Segment	A.M. Peak Hour ICU or Delay/LOS		V/C or % Increase	Impact?
	Existing	Existing + Project		
PCH/Kanan Dume Road	0.498/LOS A	0.500/LOS A	0.002	No
PCH/Winding Way	18.5sec/LOS C	19.0sec/LOS C	0.004	No
PCH/Latigo Canyon Road	24.2sec/LOS C	24.9sec/LOS C	0.005	No
PCH/Corral Canyon Road	16.3sec/LOS C	16.3sec/LOS C	0.005	No
PCH/John Tyler Drive	0.457/LOS A	0.459/LOS A	0.002	No
PCH/Malibu Canyon Road	0.722/LOS C	0.725/LOS C	0.003	No

^a The poor level of service for the unsignalized intersections is due to delays on the side-street. The mainline (PCH) does not stop and operates at LOS A.

**Table 8
Existing and Existing + Project Levels of Service
P.M. Peak Hour Period**

Roadway Segment	P.M. Peak Hour ICU or Delay/LOS		V/C or % Increase	Impact?
	Existing	Existing + Project		
PCH/Kanan Dume Road	0.611/LOS B	0.613/LOS B	0.002	No
PCH/Winding Way ^a	42.8sec/LOS E	44.9sec/LOS E	0.006	No
PCH/Latigo Canyon Road ^a	> 50.0sec/LOS F	> 50.0sec/LOS F	0.006	No
PCH/Corral Canyon Road ^a	28.3sec/LOS D	28.8sec/LOS D	0.005	No
PCH/John Tyler Drive	0.599/LOS A	0.597/LOS A	0.003	No
PCH/Malibu Canyon Road	0.699/LOS B	0.703/LOS B	0.004	No

^a The poor level of service for the unsignalized intersections is due to delays on the side-street. The mainline (PCH) does not stop and operates at LOS A.

The data presented in Tables 7 and 8 shows that the SMMC/MRCA Project would not generate significant impacts based on the adopted thresholds.

CUMULATIVE IMPACTS

This section analyzes the potential traffic impacts associated with the SMMC/MRCA project under Cumulative conditions. Year 2025 was used as the target year for the cumulative analysis.

Cumulative Traffic Forecasts

Year 2025 traffic volumes were forecast for the regional roadway network assuming a 2.0% per year ambient growth rate and development of the approved and pending developments located in the surrounding areas of the City of Malibu and the County of Los Angeles. The cumulative projects are listed in the Technical Appendix for reference. Trip generation estimates were calculated for the cumulative projects using the rates published in the ITE Trip Generation report. The trips generated by the cumulative projects were then distributed and assigned to the study-area street network based on patterns developed for other projects in the area as well as existing traffic patterns observed in the area. Figure 6 shows the Cumulative traffic volumes for the regional traffic system. Figure 7 show the Cumulative + Project traffic volumes for the regional roadways and intersections.

Cumulative + Project Roadway Operations

Table 9 compares the Cumulative and Cumulative + Project ADT forecasts. The table also shows the percent increase in traffic resulting from the project.

Table 9
Cumulative + Project Average Daily Traffic Volumes

Roadway Segment	Cumulative ADT	Cumulative + Project ADT	Project-Added ADT	% Increase	Impact?
PCH e/o Kanan Dume Road	45,100	45,211	111	0.25%	No
PCH e/o Latigo Canyon Road	42,400	42,582	182	0.43%	No
PCH e/o John Tyler Drive	41,400	41,594	194	0.47%	No
PCH e/o Malibu Canyon Road	45,300	45,524	224	0.49%	No

Table 9 shows that the project would result in less than 1% increase under Existing + Project conditions. This increase would not measurably affect roadway operations along PCH. A more detailed analysis of the project impacts to the intersections along PCH is provided below.

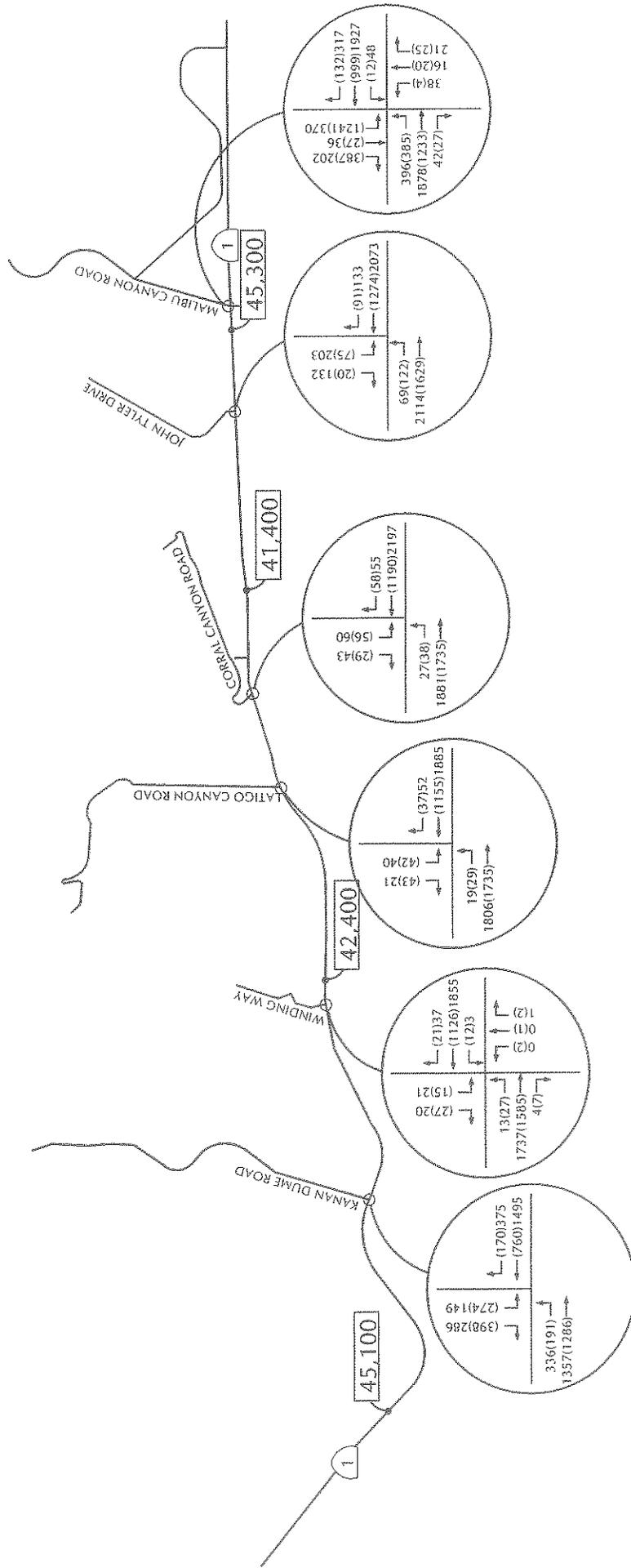
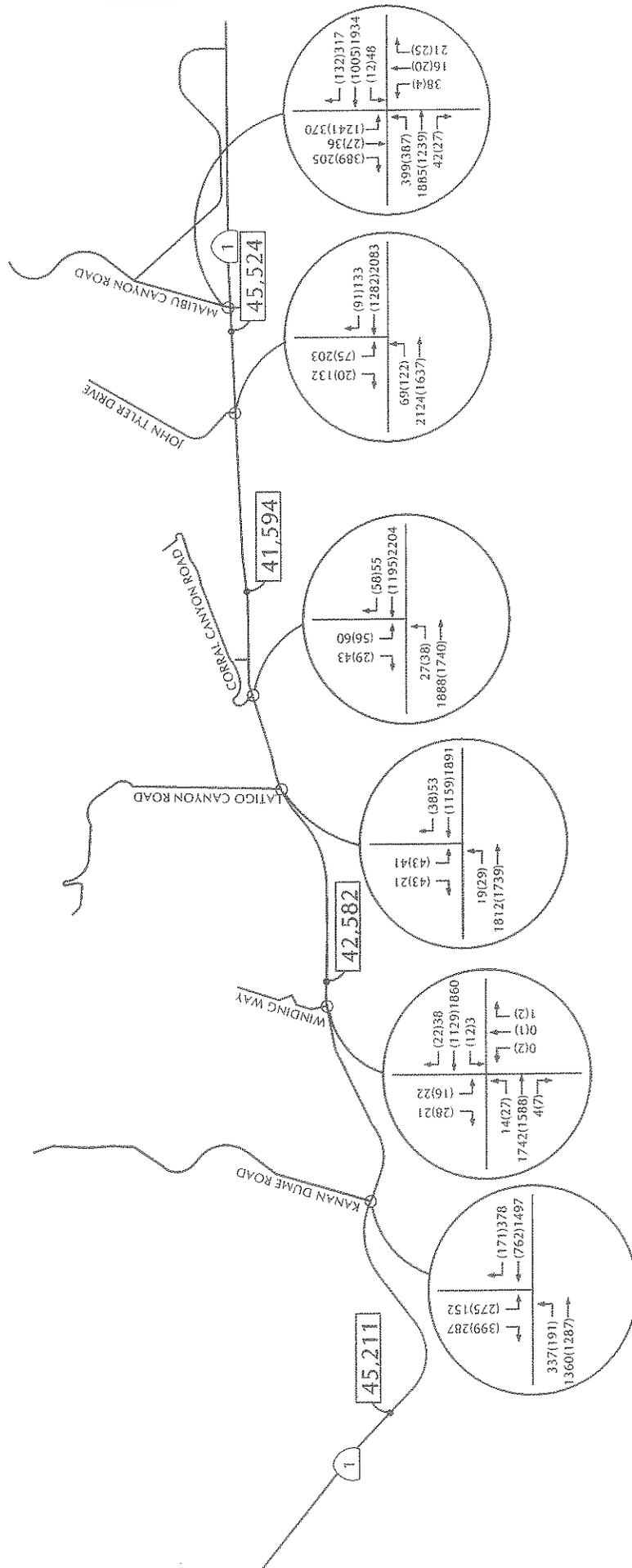


FIGURE 6

REGIONAL TRAFFIC SYSTEM -
CUMULATIVE (YEAR 2025 + RELATED PROJECTS) TRAFFIC VOLUMES

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REGIONAL TRAFFIC SYSTEM -
CUMULATIVE (YEAR 2025 + RELATED PROJECTS) + PROJECT TRAFFIC VOLUMES

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Cumulative + Project Intersection Operations

Tables 10 and 11 compare the Cumulative and Cumulative + Project levels of service for the A.M. and P.M. peak hour periods, respectively.

Table 10
Cumulative and Cumulative + Project Levels of Service
A.M. Peak Hour Period

Roadway Segment	A.M. Peak Hour ICU or Delay/LOS		V/C or % increase	Impact?
	Cumulative	Cumulative + Project		
PCH/Kanan Dume Road	0.543/LOS A	0.543/LOS A	0.000	No
PCH/Winding Way ^a	> 50.0sec/LOS F	> 50.0sec/LOS F	0.003	No
PCH/Latigo Canyon Road ^a	> 50.0sec/LOS F	> 50.0sec/LOS F	0.003	No
PCH/Corral Canyon Road ^a	27.5sec/LOS D	27.5sec/LOS D	0.003	No
PCH/John Tyler Drive	0.632/LOS B	0.635/LOS B	0.003	No
PCH/Malibu Canyon Road	0.941/LOS E	0.943/LOS E	0.002	No

^a The poor level of service for the unsignalized intersections is due to delays on the side-street. The mainline (PCH) does not stop and operates at LOS A.

Table 11
Cumulative and Cumulative + Project Levels of Service
P.M. Peak Hour Period

Roadway Segment	P.M. Peak Hour ICU or Delay/LOS		V/C or % increase	Impact?
	Cumulative	Cumulative + Project		
PCH/Kanan Dume Road	0.824/LOS D	0.827/LOS D	0.003	No
PCH/Winding Way ^a	> 50.0sec/LOS F	> 50.0sec/LOS F	0.005	No
PCH/Latigo Canyon Road ^a	> 50.0sec/LOS F	> 50.0sec/LOS F	0.004	No
PCH/Corral Canyon Road ^a	> 50.0sec/LOS F	> 50.0sec/LOS F	0.003	No
PCH/John Tyler Drive	0.854/LOS D	0.854/LOS D	0.000	No
PCH/Malibu Canyon Road	0.999/LOS E	1.004/LOS E	0.005	No

^a The poor level of service for the unsignalized intersections is due to delays on the side-street. The mainline (PCH) does not stop and operates at LOS A.

The data presented in Tables 10 and 11 shows that the SMMC/MRCA Project would not generate significant cumulative impacts based on the adopted thresholds.

Weekend Traffic Analysis

Review of the historical traffic volume data shows that the peak weekend traffic volumes along PCH are 10-20% higher than peak weekday at some locations. The following analysis was therefore conducted to determine the project's potential impacts on weekends.

Weekend trip generation estimates were developed for the project using the same methodology used to develop the weekday estimates. The estimates are based on the number of new campsites proposed and the increases in parking provided for day-use activities at the park sites. The data presented in Table 12 shows that the project would generate 504 daily trips and 35 peak hour trips on weekends.

The traffic analysis completed for the weekday period found that the project would generate 367 daily trips, 22 A. M. peak hour trips, and 30 P.M. peak hour trips. The impact analysis found that the project would not increase the V/C ratios at the key study-area intersections by 1% or 2% during the weekday peak hour period, and thus would not generate significant project-specific or cumulative impacts based on the thresholds adopted by the City of Malibu and the County of Los Angeles. The 504 daily trips and 35 peak hour trips generated by the project on weekends would also result in traffic additions of less than 1% or 2% to the area roadways and intersections. The project would therefore not generate significant impacts on weekends based on the adopted traffic impact thresholds.

**Table 12
Weekend Project Trip Generation**

Land Use	Size	ADT		Peak Hour	
		Rate	Trips	Rate	Trips
Ramirez Canyon Park – Kanan Dume Road					
Day-Use Traffic	26 paved spaces ^a	5.3	138	0.29	8
Ramirez Canyon Park					
Baseline Traffic	N/A	N/A	16	N/A	2
Future Traffic ^b	N/A	N/A	80	N/A	8
New Traffic	N/A	N/A	64	N/A	6
Subtotal			202		14
Escondido Canyon Park					
Campsites	13 sites	2.0	26	0.15	2
Day-Use Traffic ^c	3 parking spaces	5.3	16	0.36	1
Subtotal			42		3
Latigo Trailhead					
Campsites	5 sites	2.0	10	0.15	1
Day-Use Traffic	4 parking spaces	5.3	21	0.36	1
Subtotal			31		2
Corral Canyon Park					
Campsites	16 sites	2.0	32	0.15	2
Day-Use Traffic	5 parking spaces	5.3	27	0.36	2
Subtotal			59		4
Malibu Bluffs Open Space					
Campsites	32 sites	2.0	64	0.15	5
Day-Use Traffic ^c	20 parking spaces	5.3	106	0.36	7
Subtotal			170		12
TOTAL			504		35

^a Currently there are approximately 12 parking spaces in the dirt lots on Kanan Dume Road. The project proposes to develop 36 paved parking spaces for a net increase of 24 spaces. The analysis assumes no credit for the existing spaces as a worst-case scenario.

^b Future traffic for Ramirez Canyon Park based on total allowable trips (40 inbound and 40 outbound trips for a total of 80 ADT).

^c Day-Use Area trips include trips associated with shuttle busses, park ranger patrols, refuse pick-up, etc.

Increased Transit Use - Weekends

Table 12 shows that the proposed project would generate 504 ADT. Based on an average vehicle occupancy (AVO) of 2.5 people per vehicle, approximately 630 people would visit the parks per day via automobiles (504 ADT = 252 cars. 252 cars x 2.5 AVO = 630 people via automobiles). Assuming 10% of visitors would utilize alternative forms of transportation (such as walking, cycling, shuttle, MTA busses), as a maximum 63 additional passengers per day would use MTA busses (6 to 8 additional passengers per hour). These additional passengers would not impact the MTA bus system.

SITE SPECIFIC TRAFFIC AND PARKING ANALYSIS

RAMIREZ CANYON PARK

Local Street Network

Figure 8 shows the local street network adjacent to the Ramirez Canyon Park site. Access to Ramirez Canyon Park is provided via Ramirez Canyon Road which extends northerly from PCH and terminates just north of the park entrance. Secondary access to the park is provided via West Winding Way which extends north from PCH and connects to Delaplane Road. Delaplane Road extends northwesterly from West Winding Way to Ramirez Canyon Road. All three of the roadways are two-lane local roads. The Ramirez Canyon Road and Delaplane Road access connections to the canyon are gated.

Additional hike-in access to Ramirez Canyon Park is proposed via the three enhanced parking areas proposed along Kanan Dume Road. Kanan Dume Road is a 4-lane road adjacent to the three proposed parking areas, and is striped as a 2-lane road south of the parking areas.

Local Roadway Operations

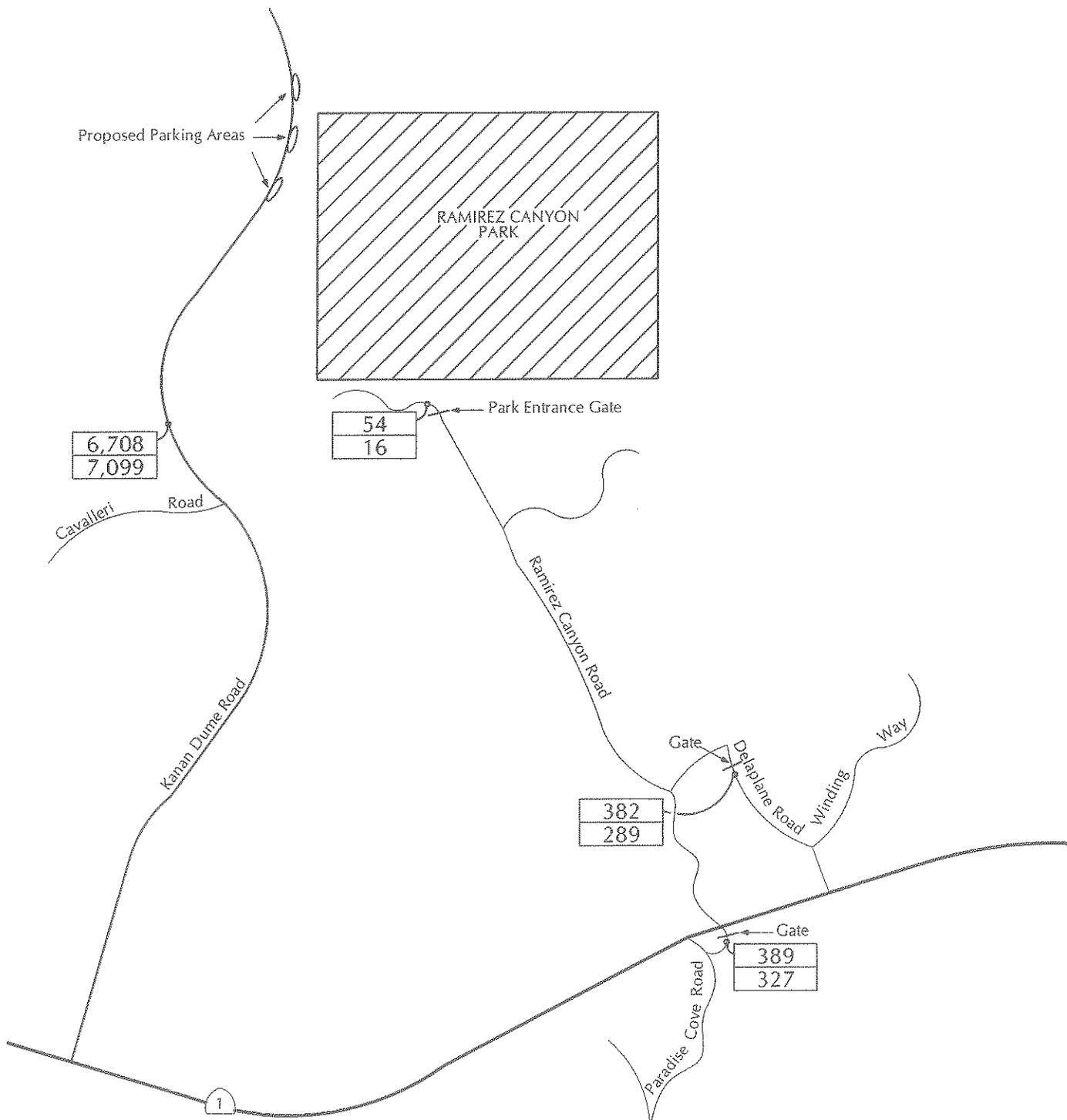
Traffic volumes were collected on Ramirez Canyon Road and Delaplane Road adjacent to the entrance gates, and on Kanan Dume Road north of Cavalleri Road (count data is contained in the Technical Appendix). Figure 8 shows the existing ADT volumes for the weekday and weekend periods.

The operational characteristics of the study-area roadways were analyzed based on a standard set of engineering roadway design capacities (see Technical Appendix). Table 13 shows the ADT volumes and levels of service for the study-area roadways.

Table 13
Existing Average Daily Traffic Volumes

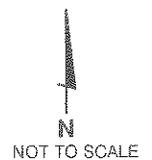
Roadway Segment	Geometry	Weekday ADT	Weekend ADT	LOS
Kanan Dume Road n/o Cavalleri Road	2-lane undivided	6,708	7,099	LOS A
Ramirez Canyon Road s/o Entrance Gate	2-lane undivided	389	327	LOS A
Delaplane Road s/o Entrance Gate	2-lane undivided	382	289	LOS A

The data presented in Table 13 show that all of the local roadways operate at LOS A during weekdays and weekends. The volumes on Ramirez Canyon Road and Delaplane Road are relatively light, with less than 400 ADT on weekdays and weekends.



LEGEND

X	- Weekday Average Daily Traffic Volume
X	- Weekend Average Daily Traffic Volume



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RAMIREZ CANYON PARK
EXISTING AVERAGE DAILY TRAFFIC VOLUMES

FIGURE 8

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Trip Generation

Weekday and weekend trip generation estimates were developed for the Ramirez Canyon Park components of the project, as summarized below in Table 14. A more detailed discussion of the trip generation analysis completed for the park is contained in the Regional Circulation System section of the report (see page 7).

Table 14
Ramirez Canyon Park Trip Generation Summary

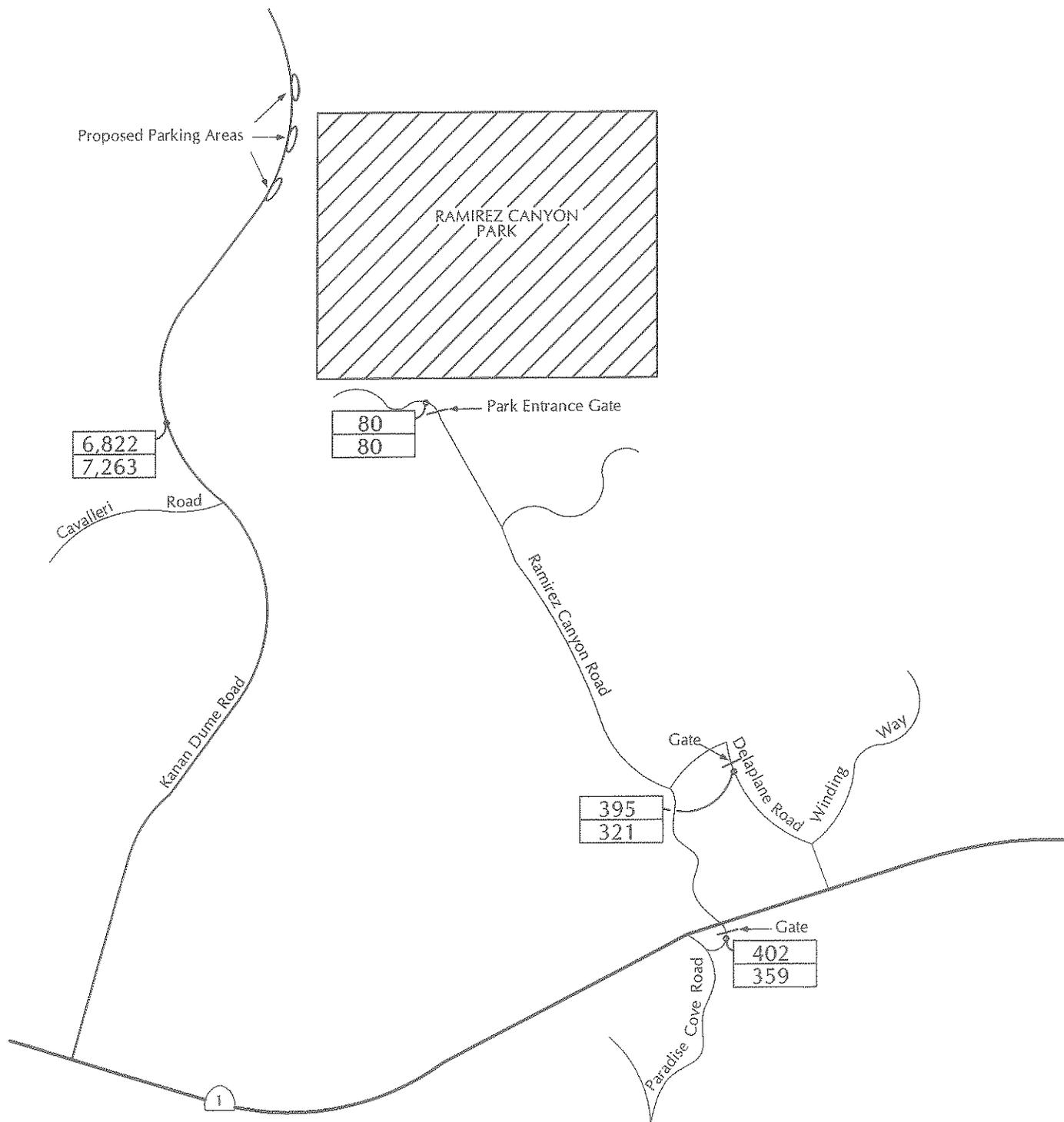
Land Use	Size	Weekday Trips			Weekend Trips	
		ADT	A.M. Peak Hour	P.M. Peak Hour	ADT	Peak Hour
Ramirez Canyon Park	N/A	26	3	3	64	6
Kanan Dume Parking	26 parking spaces ^a	94	4	8	138	8
Total		120	7	11	202	14

^a Currently there are 12 parking spaces in the dirt lots on Kanan Dume Road. The project proposes to develop 26 paved spaces for a net increase of 14 paved spaces. The analysis assumes no credit for the existing spaces as a worst-case scenario.

The data presented in Table 14 show that the Ramirez Canyon Park Project would generate 120 ADT, 7 A.M., and 11 P.M. peak hour trips during weekdays, and 202 ADT and 14 peak hour trips on weekends. This traffic includes the trips that would be generated at Ramirez Canyon Park (26 ADT on weekdays and 64 ADT on weekends) and the trips that would be generated from the new parking areas (94 ADT on weekdays and 138 ADT on weekends).

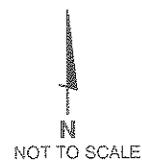
Trip Distribution and Assignment

The traffic generated at Ramirez Canyon Park and the Kanan Dume Road parking areas was distributed onto the local street network based on the distribution model summarized previously in the Regional Circulation System section of this report (see Figure 3). Figure 9 shows the Existing + Project ADT volumes for the study-area roadways for the weekday and weekend periods.



LEGEND

X	- Weekday Average Daily Traffic Volume
X	- Weekend Average Daily Traffic Volume



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RAMIREZ CANYON PARK
EXISTING + PROJECT AVERAGE DAILY TRAFFIC VOLUMES

FIGURE

9

LDH - 09061

Existing + Project Roadway Operations

Tables 15 and 16 compare the Existing and Existing + Project ADT volumes and levels of service for the weekday and weekend periods, respectively.

Table 15
Ramirez Canyon Park – Existing + Project Weekday ADT Volumes

Roadway Segment	Existing ADT	Existing + Project ADT	Project-Added ADT	LOS
Kanan Dume Road n/o Cavalleri Road	6,708	6,822	114	LOS A
Ramirez Canyon Road s/o Entrance Gate	389	402	13	LOS A
Delaplane Road s/o Entrance Gate	382	395	13	LOS A

Table 16
Ramirez Canyon Park – Existing + Project Weekend ADT Volumes

Roadway Segment	Existing ADT	Existing + Project ADT	Project-Added ADT	LOS
Kanan Dume Road n/o Cavalleri Road	7,099	7,263	164	LOS A
Ramirez Canyon Road s/o Entrance Gate	327	359	32	LOS A
Delaplane Road s/o Entrance Gate	289	321	32	LOS A

The data presented in Tables 15 and 16 show that the study-area roadways would continue to operate at LOS A with project-added traffic. The project would not impact the operation of Ramirez Canyon Road, Delaplane Road and Kanan Dume Road.

Ramirez Canyon Roadway and Emergency Access Improvements

The project is proposing to improve Ramirez Canyon Road and Delaplane Road to enhance vehicular and emergency access. The improvements include widening the existing access roads and removal of encroachments in the road easements, as necessary, to meet emergency access requirements. The project would also extend Via Acero as a paved road to connect with Kanan Dume Road to provide a second emergency access route into and out of Ramirez Canyon.

These improvements will more than offset the increase in traffic due to the project components proposed at Ramirez Canyon Park and will enhance overall vehicle and emergency access along Ramirez Canyon Road. The existing roadway creates friction between opposing traffic and the widening will help to improve day-to-day operations along the roadway, as well as peak hour activity (or when events are being held at the park).

The widening of Ramirez Canyon Road and the extension of Via Acero as secondary access to Ramirez Canyon would significantly improve emergency access and evacuation. Widening Ramirez Canyon Road will ensure that emergency vehicles can enter the canyon during periods when evacuations are occurring, and would provide additional capacity for evacuation flows. Providing the secondary emergency access route into Ramirez Canyon will allow emergency vehicles to enter the canyon from two points and will provide a new route for evacuation. This route would be used for evacuating Ramirez Canyon Park in the event of an emergency, thus no vehicles would be added to Ramirez Canyon Road south of the park site.

Kanan Dume Roadway Improvements

The project is proposing to provide additional parking spaces in the three existing shoulder parking areas located along Kanan Dume Road. These spaces would serve the park trailheads located adjacent to Kanan Dume Road. Figure 10 shows the conceptual layout developed for the proposed parking areas.

Kanan Dume Road is four lanes wide adjacent to Parking Areas 2 and 3 and merges to two lanes south of the entrance to Parking Area 1. The posted speed along this section of roadway is 50 MPH. Kanan Dume Road is a public road maintained by Los Angeles County and the proposed parking lot improvements are located within the public right-of-way. The improvements would therefore need to meet Los Angeles County standards.

County staff have reviewed the proposed parking areas and have recommended that the following signing and striping improvements be implemented along Kanan Dume Road adjacent to the three parking areas to accommodate ingress and egress:

1. Relocate the southbound lane reduction transition from its current location south of the southern-most parking area to a point north of the northern-most parking area. The lane reduction transition would end prior to the northern-most parking area.
2. Provide one travel lane and one paved shoulder in each direction and a two-way left-turn lane from the end point of the southbound lane reduction transition to the southern-most parking area. This configuration would be similar to the striping on Kanan Dume Road south of Cavalleri Road.
3. Provide a northbound right-turn lane approaching the three parking areas. The County has recommended a minimum 50-foot turn lane with a 90-foot taper.

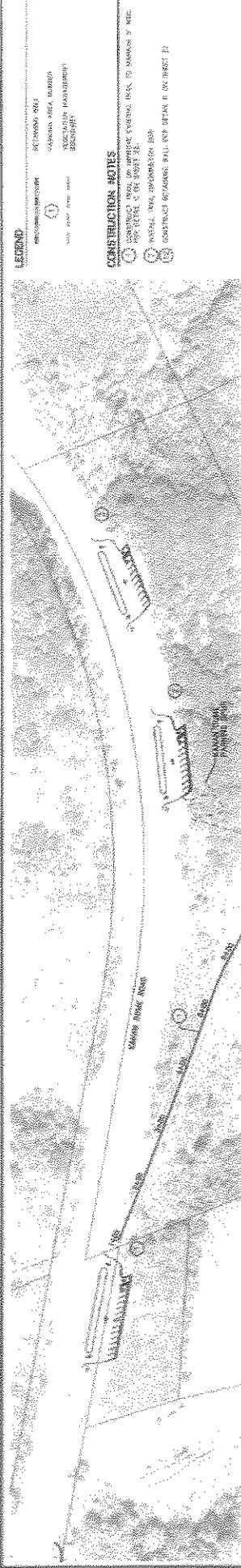
Parking Analysis

Parking at Ramirez Canyon Park is accommodated in existing parking areas that contain 56 regular spaces plus 4 ADA spaces, for a total of 60 spaces.

As reviewed previously in this study, vehicular operations at Ramirez Canyon Park will be limited to 40 round trips per day. The maximum number of vehicles that could be parked at Ramirez Canyon Park would therefore be limited to 40. The 60 parking spaces provided at the park would satisfy this parking demand. Table 17 summarizes the parking data for Ramirez Canyon Park.

Table 17
Ramirez Canyon Park – Parking Summary

Land Use	Size	Peak Parking Demand	Spaces Provided	Surplus
Park Operations	N/A	40 spaces	60 spaces	+ 20 spaces

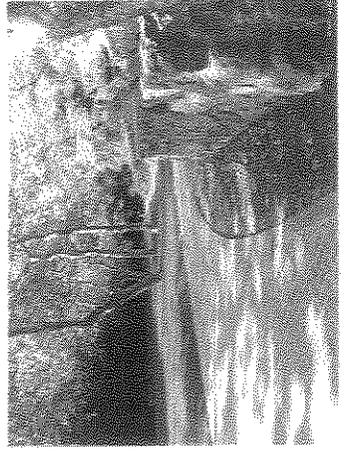
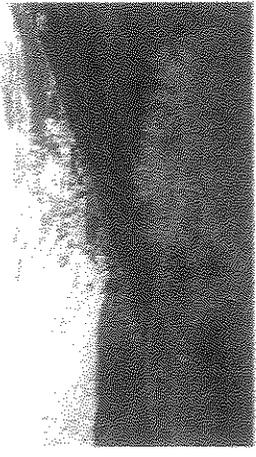
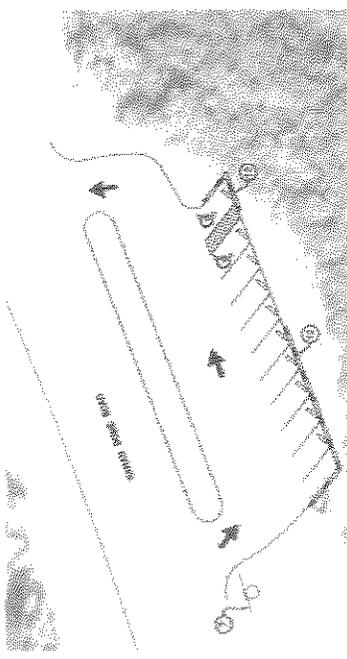
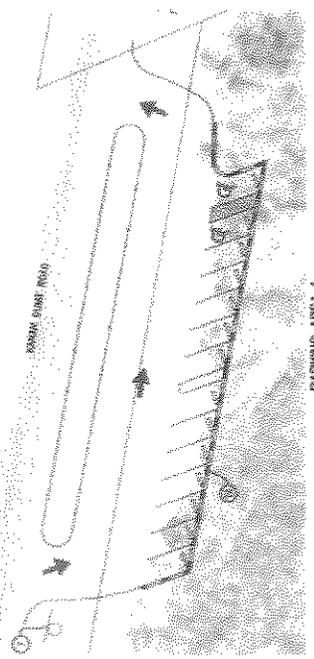
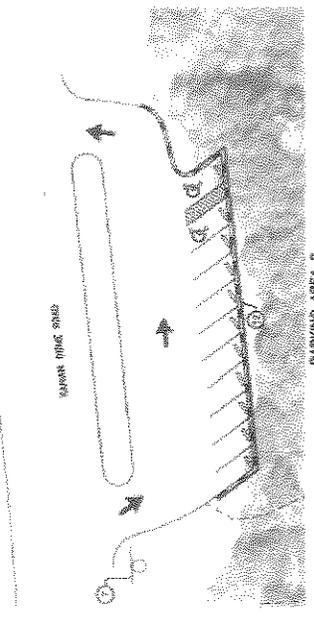


LEGEND

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CONSTRUCTION NOTES

① EXISTING ROAD TO REMAIN EXCEPT FOR THE PORTION TO BE RECONSTRUCTED
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RAMIREZ CANYON

EXISTING MEADOW AREA

CONCEPT

KANAN DUNE ROAD PARKING
 RAMIREZ CANYON
 SANTA MONICA MOUNTAINS CONSERVANCY
 MALIBU, CALIFORNIA

CITY OF MALIBU
 REVIEWED BY: [Signature]
 SCALE: [Scale]



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ESCONDIDO CANYON PARK

Existing Street Network

Figure 11 illustrates the local street network adjacent to Escondido Canyon Park. Access to the new parking area that would serve the campsites proposed for Escondido Canyon Park would be provided via Winding Way which extends northerly from PCH.

Existing Roadway Operations

Traffic counts were conducted on Winding Way to determine existing weekday and weekend traffic flows (count data is contained in the Technical Appendix). The existing weekday and weekend ADT volumes are illustrated in Figure 11.

The operational characteristics of the study-area roadways were analyzed based on standard engineering roadway design capacities (see Technical Appendix). Table 18 shows the existing weekday and weekend ADT volumes and levels of service for Winding Way.

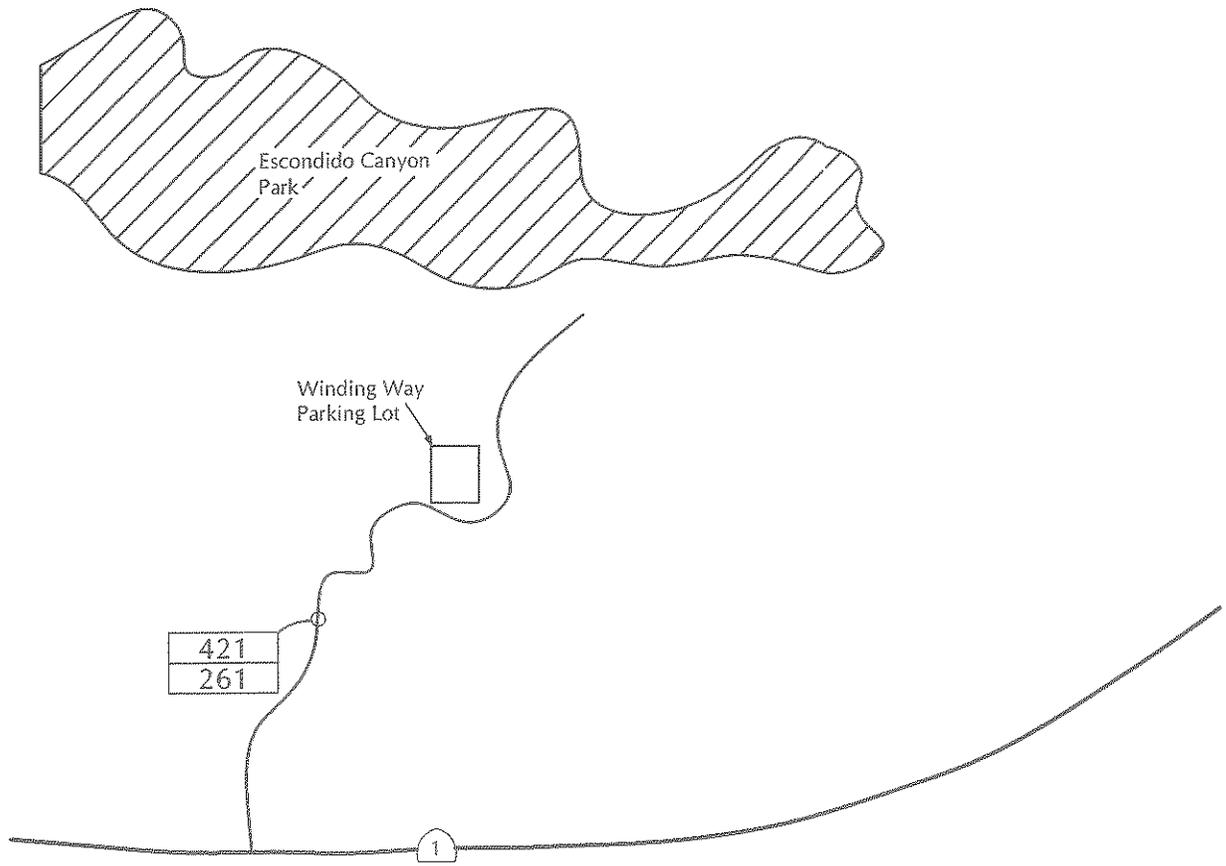
Table 18
Escondido Canyon Park – Existing ADT and LOS

Roadway Segment	Geometry	Weekday ADT	Weekend ADT	LOS
Winding Way	2-lane undivided	421	261	LOS A

As shown in Table 18, Winding Way operates at LOS A during both weekdays and weekends. The volumes on Winding Way are relatively light, with less than 500 ADT on weekdays and weekends.

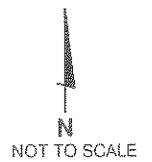
Project Trip Generation

Weekday and weekend trip generation estimates were developed for the Escondido Canyon Park components of the project, as summarized below in Table 19. A more detailed discussion of the trip generation analysis completed for Escondido Canyon Park is contained in the Regional Circulation System section of the report (see page 7).



LEGEND

X	- Weekday Average Daily Traffic Volume
X	- Weekend Average Daily Traffic Volume



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ESCONDIDO CANYON PARK
EXISTING AVERAGE DAILY TRAFFIC VOLUMES

FIGURE 11

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**Table 19
Escondido Canyon Park – Trip Generation Summary**

Land Use	Size	Weekday Trips			Weekend Trips	
		ADT	A.M. Peak Hour	P.M. Peak Hour	ADT	Peak Hour
Escondido Canyon Park Campsites	13 sites	26	2	2	26	2
Day-Use Area ^a	3 parking spaces	11	0	1	16	1
Total		37	2	3	42	3

^a Day-Use Area trips include trips associated with shuttle busses, park ranger patrols, refuse pick-up, etc.

The data presented in Table 19 show that the Escondido Canyon Park Project would generate 37 ADT, 2 A.M., and 3 P.M. peak hour trips during weekdays, and 42 ADT and 3 peak hour trips on weekends.

Site Access and Circulation

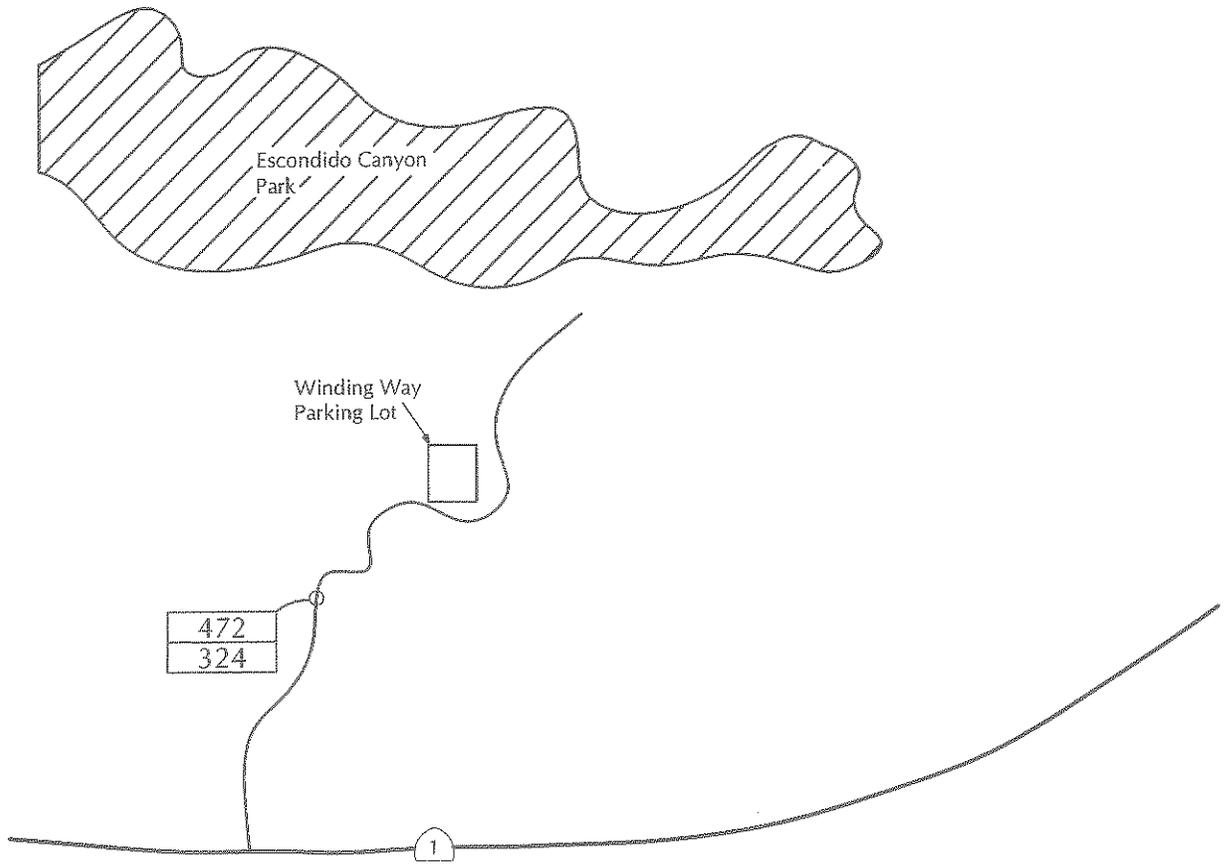
Vehicular access to Escondido Canyon Park would be provided via a new driveway connection on Winding Way that accesses the parking lot and a new accessible drop-off point for the park. Figure A in the Technical Appendix shows the proposed parking lot and driveway connection to Winding Way. Vehicles entering the site would turn left into the parking lot and turn right to exit. The ultimate design and location of the driveway connection needs to ensure that adequate sight distance is provided for left-turns into the lot and right-turns out of the lot.

Trip Distribution and Assignment

The traffic generated at Escondido Canyon Park was distributed onto the local street network based on the distribution model summarized previously in the Regional Circulation System section of the report (see Figure 3). Figure 12 shows the weekday and weekend Existing + Project ADT volumes for the study-area roadways.

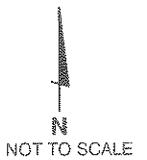
Existing + Project Roadway Operations

Tables 20 and 21 compare the Existing and Existing + Project roadway ADT volumes and levels of service for the weekday and weekend periods, respectively.



LEGEND

X	- Weekday Average Daily Traffic Volume
X	- Weekend Average Daily Traffic Volume



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ESCONDIDO CANYON PARK
EXISTING + PROJECT AVERAGE DAILY TRAFFIC VOLUMES

FIGURE 12

LDH - 09061

Table 20
Escondido Canyon Park – Existing + Project Weekday ADT Volumes

Roadway Segment	Existing ADT	Existing + Project ADT	Project-Added ADT	LOS
Winding Way	421	472	51	LOS A

Table 21
Escondido Canyon Park – Existing + Project Weekend ADT Volumes

Roadway Segment	Existing ADT	Existing + Project ADT	Project-Added ADT	LOS
Winding Way	261	324	63	LOS A

The data presented in Tables 20 and 21 show that Winding Way will continue to operate at LOS A with the addition of project traffic. The project would not impact the operation of Winding Way.

Parking Analysis

The Escondido Canyon Park project includes 13 new campsites. The project is proposing to construct a new parking lot on Winding Way east of Porterdale Drive that will provide 11 standard spaces, 3 RV/trailer spaces, and 2 ADA spaces, for a total of 16 parking spaces.

Parking demands for the campsites were estimated assuming that each campsite was full and that each site would have one vehicle parked in the lot. Based on these assumptions, the total parking demand generated by the campsites would be 13 spaces. The 16 new parking spaces provided in the parking lot would satisfy the parking demands generated by the campsites and provide 3 extra spaces for public users of the park. Table 22 summarizes the parking data for Escondido Canyon Park.

Table 22
Escondido Canyon Park – Parking Summary

Land Use	Size	Peak Parking Demand	Spaces Provided	Surplus
Campsites	13 sites	13 spaces	16 spaces	+ 3 spaces

LATIGO TRAILHEAD

Existing Street Network

Figure 13 illustrates the local street network adjacent to Latigo Trailhead. Access to the new parking area that would serve the campsites proposed for Latigo Trailhead would be provided via Latigo Canyon Road which extends northerly from PCH.

Existing Roadway Operations

Traffic counts were conducted on Latigo Canyon Road to determine existing weekday and weekend traffic flows (count data is contained in the Technical Appendix). The existing weekday and weekend ADT volumes are illustrated in Figure 13.

The operational characteristics of the study-area roadways were analyzed based on standard engineering roadway design capacities (see Technical Appendix). Table 23 shows the existing weekday and weekend ADT volumes and levels of service for Latigo Canyon Road.

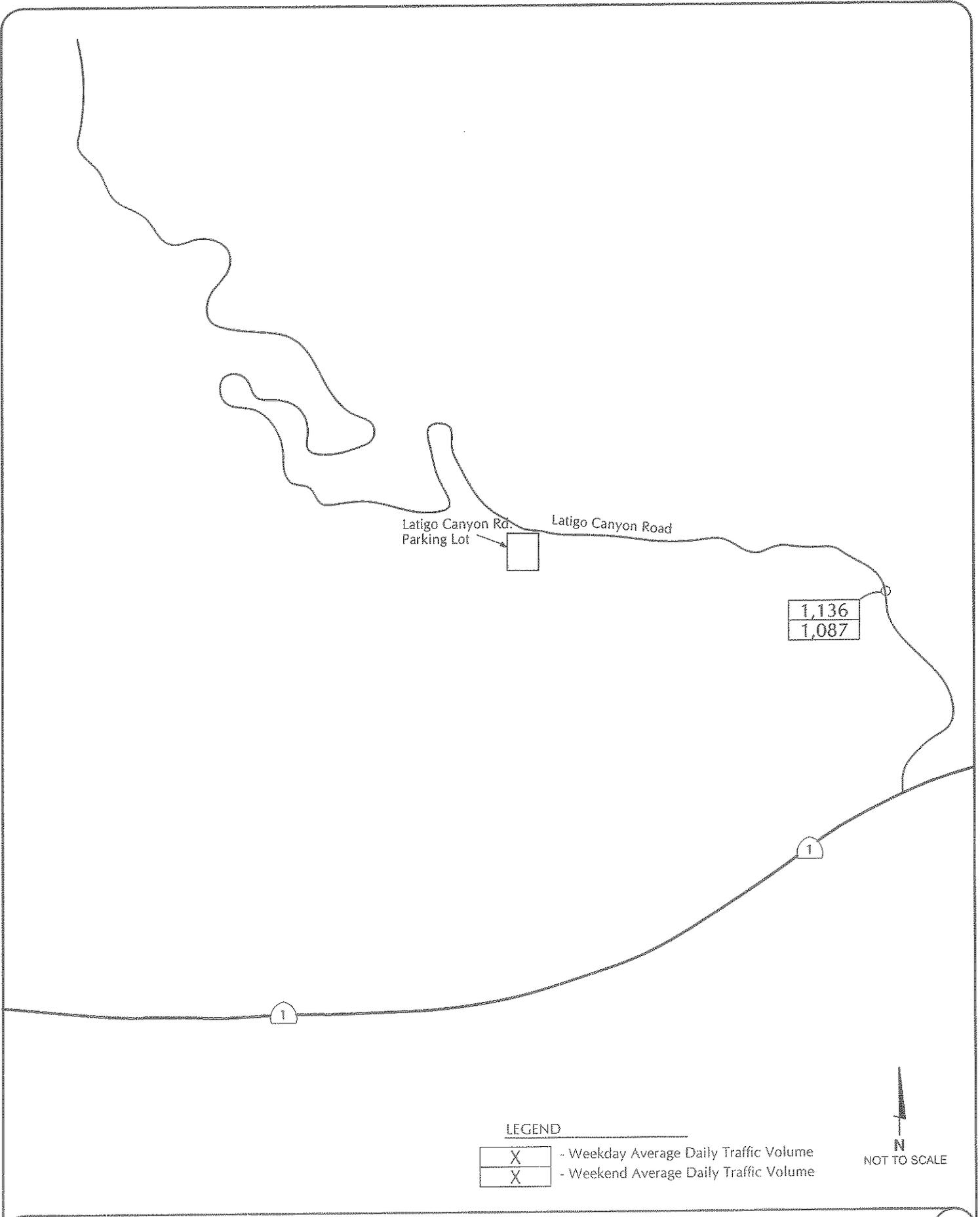
Table 23
Latigo Trailhead– Existing ADT and LOS

Roadway Segment	Geometry	Weekday ADT	Weekend ADT	LOS
Latigo Canyon Road	2-lane undivided	1,136	1,087	LOS A

As shown in Table 23, Latigo Canyon Road operates at LOS A during both weekdays and weekends.

Project Trip Generation

Weekday and weekend trip generation estimates were developed for the Latigo Trailhead components of the project, as summarized below in Table 24. A more detailed discussion of the trip generation analysis completed for Latigo Trailhead is contained in the Regional Circulation System section of the report (see page 7).



**Table 24
Latigo Trailhead – Trip Generation Summary**

Land Use	Size	Weekday Trips			Weekend Trips	
		ADT	A.M. Peak Hour	P.M. Peak Hour	ADT	Peak Hour
Latigo Trailhead Campsites	5 sites	10	1	1	10	1
Day-Use Area	4 parking spaces	14	1	1	21	1
Total		24	2	2	31	2

The data presented in Table 24 show that the Latigo Trailhead Project would generate 24 ADT, 2 A.M., and 2 P.M. peak hour trips during weekdays, and 31 ADT and 2 peak hour trips on weekends.

Trip Distribution and Assignment

The traffic generated at Latigo Trailhead was distributed onto the local street network based on the distribution model summarized previously in the Regional Circulation System section of the report (see Figure 3). Figure 14 shows the weekday and weekend Existing + Project ADT volumes for the study-area roadways.

Existing + Project Roadway Operations

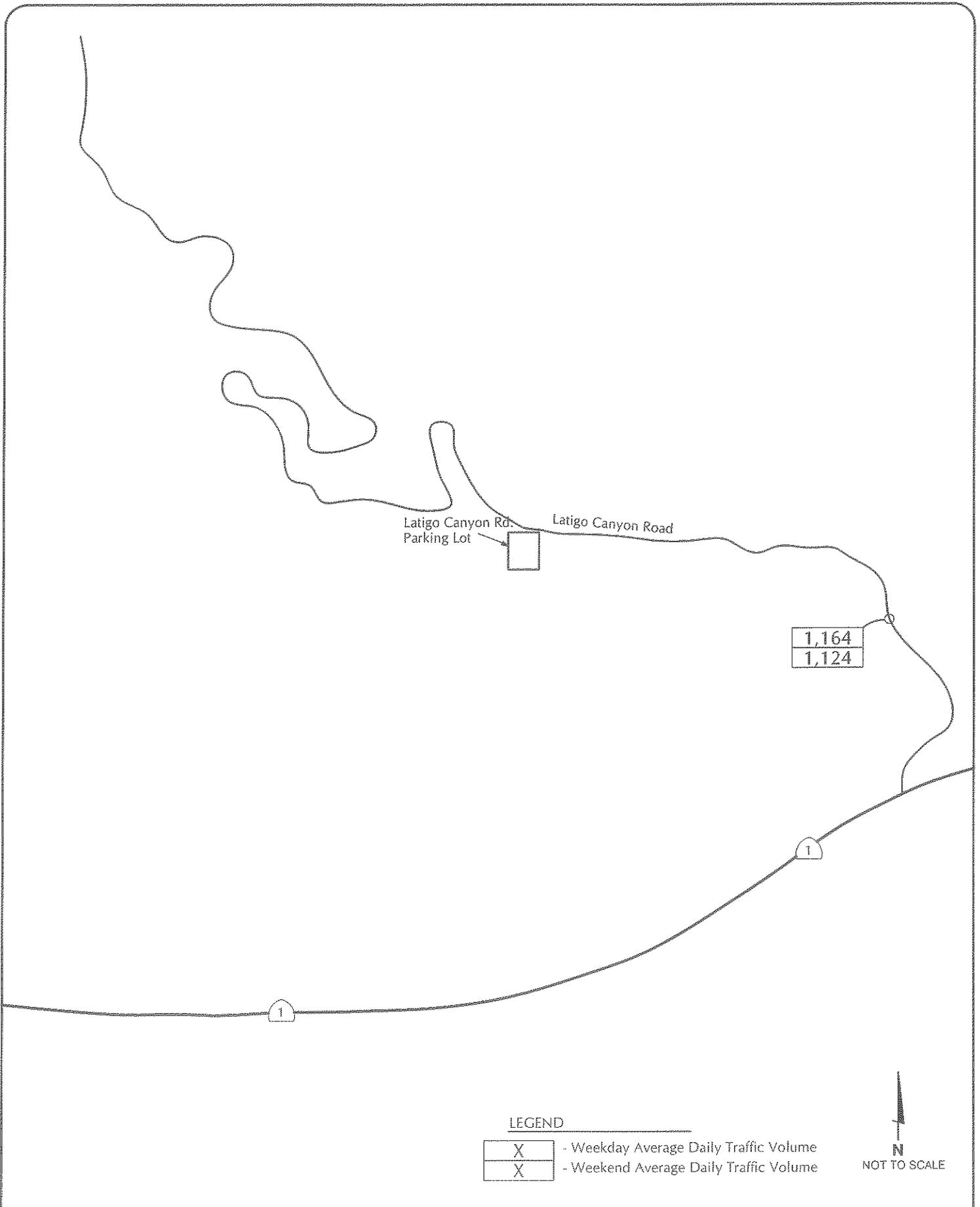
Tables 25 and 26 compare the Existing and Existing + Project roadway ADT volumes and levels of service for the weekday and weekend periods, respectively.

**Table 25
Latigo Trailhead – Existing + Project Weekday ADT Volumes**

Roadway Segment	Existing ADT	Existing + Project ADT	Project-Added ADT	LOS
Latigo Canyon Road	1,136	1,164	28	LOS A

**Table 26
Latigo Trailhead – Existing + Project Weekend ADT Volumes**

Roadway Segment	Existing ADT	Existing + Project ADT	Project-Added ADT	LOS
Latigo Canyon Road	1,087	1,124	37	LOS A



The data presented in Tables 25 and 26 show that Latigo Canyon Road will continue to operate at LOS A with the addition of project traffic. The project would not impact the operation of Latigo Canyon Road.

Parking Analysis

The Latigo Trailhead project includes 5 new campsites. The project is proposing to construct a new parking lot on Latigo Canyon Road north of PCH that will provide 8 standard spaces and 1 ADA space, for a total of 9 parking spaces.

Parking demands for the campsites were estimated assuming that each campsite was full and that each site would have one vehicle parked in the lot. Based on these assumptions, the total parking demand generated by the campsites would be 5 spaces. The 9 new parking spaces provided in the parking lot would satisfy the parking demands generated by the campsites and provide 4 extra spaces for public users of the park. Table 27 summarizes the parking data for Latigo Trailhead.

**Table 27
Latigo Trailhead – Parking Summary**

Land Use	Size	Peak Parking Demand	Spaces Provided	Surplus
Campsites	5 sites	5 spaces	9 spaces	+ 4 spaces

CORRAL CANYON PARK

Local Street Network

Figure 15 shows the local street network adjacent to the Corral Canyon Park site. Access to Corral Canyon Park is currently provided via a driveway on PCH that accesses the existing parking lot. The project would maintain the existing driveway and is proposing to implement an accessible drop-off point where an existing park maintenance road currently takes access from PCH. Traffic generated by the new campsites would utilize the existing parking lot driveway and the proposed accessible drop-off driveway on PCH. Based on this access plan, the traffic generated at Corral Canyon Park would not affect the local streets in the area.

Project Trip Generation

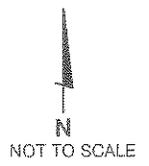
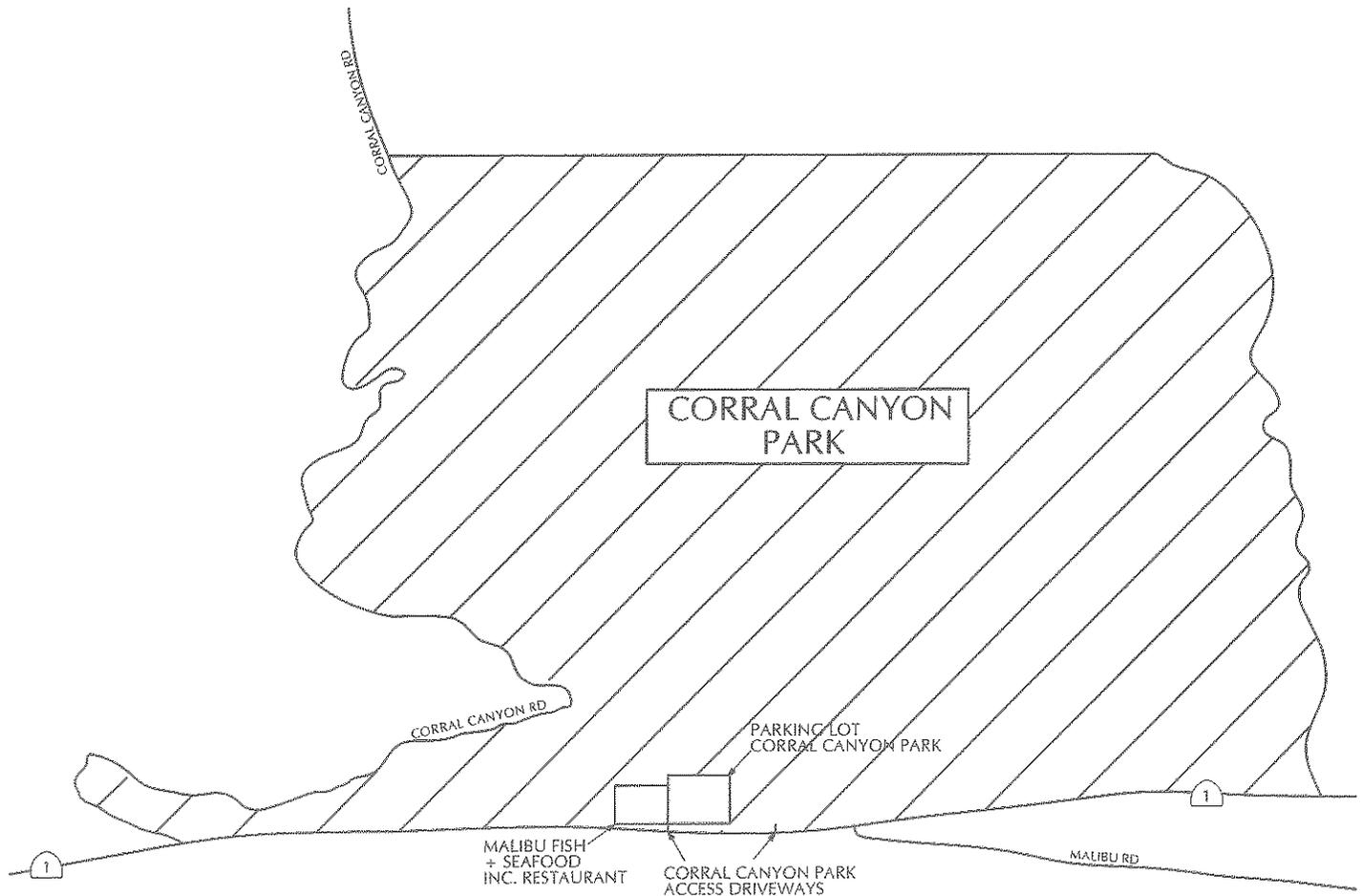
Weekday and weekend trip generation estimates were developed for the Corral Canyon Park components of the project, as summarized below in Table 28. A more detailed discussion of the trip generation analysis completed for Corral Canyon Park is contained in the Regional Circulation System section of the report (see page 7).

Table 28
Corral Canyon Park – Trip Generation Summary

Land Use	Size	Weekday Trips			Weekend Trips	
		ADT	A.M. Peak Hour	P.M. Peak Hour	ADT	Peak Hour
Corral Canyon Park Campsites	16 sites	32	2	2	32	2
Day-Use Area	5 parking spaces	18	1	1	27	2
Total		50	3	3	59	4

The data presented in Table 28 show that the Corral Canyon Park project would generate 50 ADT, 3 A.M., and 3 P.M. peak hour trips during weekdays, and 59 ADT and 4 peak hour trips on weekends.

As reviewed above, access to the Corral Canyon Park site would be provided via two connections to PCH and the traffic generated at the park would not affect the local streets in the area.



Site Access and Circulation

Vehicular access to Corral Canyon Park project would be provided via the existing driveway on PCH that serves the existing parking lot and a new accessible drop-off point that would be located where the existing park maintenance road intersects PCH. The unimproved road would be upgraded to provide room to accommodate one drop-off vehicle to allow visitors with special needs to gain access to the park trail system. The improvements will consist of leveling the area and providing room for a parking space and a vehicle turnaround.

Work required to implement the new drop-off area would occur within the PCH right-of-way, and thus would be subject to the review of Caltrans. Caltrans staff have reviewed the preliminary plans and have indicated that the turnaround area should be widened to better facilitate vehicular movements at this location.

An alternative access design is being reviewed for this location where ADA parking would be provided at the existing lot on PCH. The alternative design would provide an ADA compliant access walkway between the existing lot on PCH and the ADA accessible trailhead to the east.

Parking Analysis

Parking Supply

Corral Canyon Park currently provides 13 standard spaces, 1 ADA space, and 1 trailer space, for a total of 15 parking spaces.

Parking Surveys

Parking surveys were conducted at Corral Canyon Park from 10:00 A.M. through 5:00 P.M. on Friday, April 6, 2007 (non-summer) and on Saturday, July 28, 2007 (summer). The number of vehicles parked in the lot were recorded on an hourly basis to determine the current parking demands. Worksheets showing the results of the parking surveys are contained in the Technical Appendix. Table 29 summarizes the peak summer and non-summer parking demands observed at the site.

Table 29
Corral Canyon Park Existing Peak Parking Demands

Date	Peak Time	Available Spaces	Occupied Spaces	% Occupied
Friday 4/6/2007	1:00 P.M.	15	12	80%
Saturday 7/28/2007	1:30 P.M.	15	15	100%

The data presented in Table 29 shows that the peak parking demand during the non-summer weekday period occurred at 1:00 P.M. when the lot was 80% occupied (12 occupied spaces). During the summer weekend period, the peak parking demand occurred at 1:30 P.M. when the lot was 100% occupied (15 occupied spaces). It was noted that during the lunch hour, parking for the Malibu Fish & Seafood Inc. restaurant, located adjacent to the Corral Canyon Park parking lot, overflowed into the park parking lot. The field surveys showed that 10 cars from the restaurant used the lot during the non-summer period and 12 cars used the lot during the summer period.

Future Parking Supply

The project includes re-striping the existing parking lot to include 19 standard spaces and 2 ADA spaces for a total of 21 parking spaces.

Future Parking Demands

Parking demands for the 16 campsites were estimated assuming that each campsite was full and that each site would have one vehicle. Based on these assumptions, the total parking demand generated by the campsites would be 16 spaces.

Existing + Project Parking Demands

Table 30 presents the future non-summer weekday and summer weekend parking demand estimates for Corral Canyon Park.

**Table 30
Corral Canyon Park – Future Parking Occupancies**

Study Period	Existing Demand	Project Demand	Existing + Project Demand	Spaces Provided	Surplus or Deficit
Non-Summer Weekday	12 spaces	16 spaces	28 spaces	21 spaces	-7 spaces
Summer Weekend	15 spaces	16 spaces	31 spaces	21 spaces	-10 spaces

The data presented in Table 30 show that the parking demand would be 28 spaces during non-summer weekdays and 31 spaces during summer weekends. The parking supply would not satisfy the parking demand for the proposed 16 new campsites.

It is noted that the existing parking demands observed at Corral Canyon Park include between 10 and 12 cars that came from the restaurant. By eliminating the restaurant parkers, the future parking demands would be between 16 and 18 spaces during non-summer weekdays and 19 and 21 spaces during summer weekends. Therefore the parking supply of 21 spaces would satisfy the parking demands.

Parking Management Plan

As reviewed above, parking for the Malibu Fish & Seafood Inc. restaurant overflows into the Corral Canyon Park parking lot during busy periods. Field observations found that that between 10 and 12 cars parked in the lot during peak hours to use the restaurant. By eliminating restaurant parkers, future parking demands with the proposed campsites would range from 16-18 spaces during the non-summer periods and 19-21 spaces during the summer periods, which would be accommodated within the proposed parking supply or 21 spaces.

In order to satisfy the parking demands at the Corral Canyon Park, a Parking Management Plan should be developed by the SMMC/MRCA to manage the parking supply for the Corral Canyon Park site. Parking lot enforcement (signs, ordinance enforcement and/or parking attendants) would reduce restaurant parking in the park parking lot. The plan could include spaces that are reserved for campers, with additional parking available offsite at the other parks in the area (i.e. Solstice Canyon Park, Escondido Canyon parking areas, or Ramirez Canyon Park parking areas along Kanan Dume Road). Under the Parking Management Plan, campers who must park off site would unload at the Corral Canyon Park parking lot, park offsite and then be shuttled back to the park via the proposed ParkLINK shuttle. The ParkLINK Shuttle Service Area map is provided in the Technical Appendix. The plan should also include a short-term loading area be reserved for campers who must unload and then park offsite. Information on the parking plan should be available for park users either online or at the Corral Canyon Park parking lot, to direct park users of where to park if the parking lot is full.

MALIBU BLUFFS OPEN-SPACE

Existing Street Network

Figure 16 illustrates the local street network adjacent to Malibu Bluffs Open Space area. Access to the three main parking areas that would serve the campsites and day-use functions proposed for the Malibu Bluffs Open Space would be provided via two new driveway connections to PCH east and west of the John Tyler Drive intersection. These three parking lots would contain 43 standard spaces and 9 ADA spaces, for a total of 52 parking spaces. A small three-space parking lot is proposed on Malibu Road and the southern edge of the bluffs property. Traffic generated by the new campsites and the day-use parking areas would utilize the new driveway connections on PCH, with a minor amount of traffic associated with the three parking spaces proposed on Malibu Road (less than 20 ADT). Given the proposed access and parking plan, the traffic generated at the Malibu Bluffs Open Space would not affect the local streets in the area.

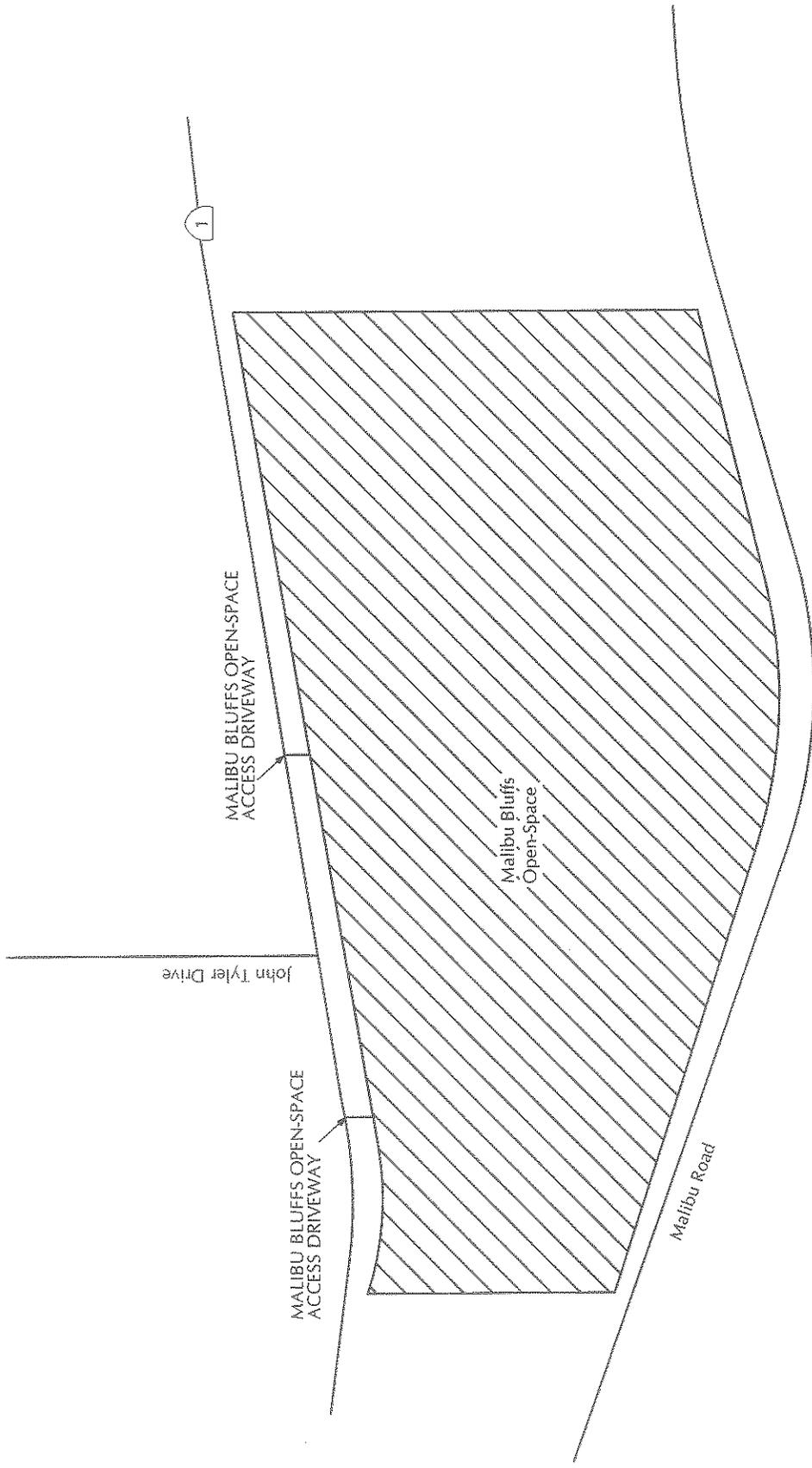
Project Trip Generation

Weekday and weekend trip generation estimates were developed for the Malibu Bluffs Open Space components of the project, as summarized below in Table 31. A more detailed discussion of the trip generation analysis completed for Malibu Bluffs Open Space is contained in the Regional Circulation System section of the report (see page 7).

**Table 31
Malibu Bluffs Open Space Trip Generation Summary**

Land Use	Size	Weekday Trips			Weekend Trips	
		ADT	A.M. Peak Hour	P.M. Peak Hour	ADT	Peak Hour
Malibu Bluffs Open Space						
Campsites	32 sites	64	5	5	64	5
Day-Use Area ^a	20 paved spaces	72	3	6	106	7
Total		136	8	11	170	12

The data presented in Table 31 show that the Malibu Bluffs Open Space Project would generate 136 ADT, 8 A.M., and 11 P.M. peak hour trips during weekdays, and 170 ADT and 12 peak hour trips on weekends.



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MALIBU BLUFFS OPEN-SPACE

Given that primary access to the Malibu Bluffs Open Space site would be provided via two new connections to PCH, the traffic generated at the Malibu Bluffs Open Space would not affect the local streets in the area. The three parking spaces proposed on Malibu Road would generate 10 ADT on weekdays and 16 ADT on weekends and would not affect the operation of Malibu Road.

Site Access and Circulation

Primary access to the Malibu Bluffs Open Space Project would be provided via two new driveway connections to PCH east and west of the John Tyler Drive intersection. The plan developed for these improvements is shown on Figure B (contained in the Technical Appendix). The plan calls for construction of the driveways with acceleration and deceleration lanes on PCH. There is a median on PCH that would preclude left-turns into and out of the driveways.

The two new driveway connections to PCH east and west of the John Tyler Drive intersection would operate with right-turns in and right-turns out of the project site only. Levels of service for these new driveway connections were calculated using Existing + Project traffic volumes. Figure C in the Technical Appendix shows the driveway volumes. Table 32 shows the levels of service for the new driveway connections to PCH.

**Table 32
Driveway Levels of Service**

Intersection	Existing + Project Delay/LOS	
	A.M. Peak Hour	P.M. Peak Hour
PCH/Dwy #1 ^a	13.1sec/LOS B	14.4 sec/LOS B
PCH/Dwy #2 ^b	12.8sec/LOS B	15.1sec/LOS C

^a Dwy #1 is located to the west of the John Tyler Drive. Dwy #1 provides access to parking lots #1 and #2.

^b Dwy #2 is located to the east of John Tyler Drive. Dwy #2 provides access to parking lot #3.

The data presented in Table 32 shows that the new driveway connections to PCH would operate acceptably within LOS B-C range.

The new access connections to PCH will require an encroachment permit from Caltrans. The design of the access connections will therefore need to meet Caltrans standards for private driveway connections to the state highway. Given that the driveways will be limited to right-turn in and right-turn out movements and will be designed to Caltrans standards (including geometry and sight distance), they will operate acceptably without creating significant safety impacts to PCH.

Parking Analysis

The Malibu Bluffs Open Space Project includes a total of 32 new campsites. The project is proposing to construct four new parking areas on the bluffs site providing 43 standard spaces and 9 ADA spaces, for a total of 52 parking spaces.

Parking demands for the campsites were estimated assuming that each campsite was full and that each site would have one vehicle parked on-site. Based on these assumptions, the total parking demand generated by the campsites would be 32 spaces. The 52 new parking spaces provided in the parking lot would satisfy the parking demands generated by the campsites and provide 20 extra spaces for public users of the park. Table 33 summarizes the parking data for the Malibu Bluffs Open Space.

Table 33
Malibu Bluffs Open-Space Parking Summary

Land Use	Size	Peak Demand	Spaces Provided	Surplus
Campsites	32 sites	32 spaces	52 spaces	+ 20 spaces

NEW BASELINE SCENARIO

An additional scenario was analyzed assuming a second baseline for the traffic analysis with no existing trips to/from the Ramirez Canyon Park on Ramirez Canyon Road. Therefore, the following analysis provides worst-case conditions and maximum impacts and mitigations.

Roadway Volumes

Figure 17 shows the Baseline Average Daily (ADT) traffic volumes for PCH assuming no existing trips to/from Ramirez Canyon Road. As shown in Table 34, the key segments on PCH in the project area carry between 26,900 and 29,500 ADT.

**Table 34
Baseline Roadway Volumes – Pacific Coast Highway**

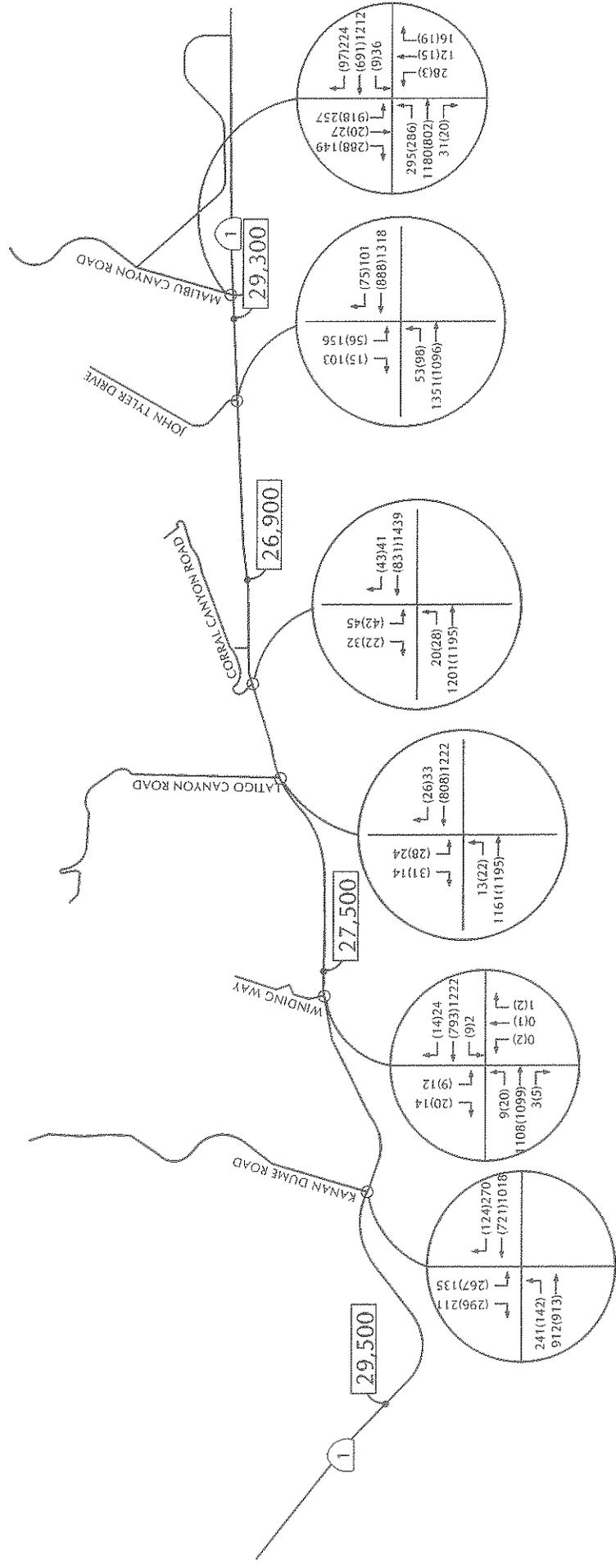
Roadway Segment	Baseline ADT
PCH e/o Kanan Dume Road	29,500
PCH e/o Latigo Canyon Road	27,500
PCH e/o John Tyler Drive	26,900
PCH e/o Malibu Canyon Road	29,300

Intersection Operations

Figure 17 shows the Baseline A.M. and P.M. peak hour traffic volumes for the intersections along PCH assuming no existing trips to/from Ramirez Canyon Road. Baseline levels of service are shown in Table 35.

**Table 35
Baseline Intersection Levels of Service**

Intersection	Control	A.M. Peak Hour		P.M. Peak Hour	
		V/C or Delay	LOS	V/C or Delay	LOS
PCH/Kanan Dume Road	Signal	0.497	A	0.611	B
PCH/Winding Way	Stop-Sign	16.2sec	C	28.4sec	D
PCH/Latigo Canyon Road	Stop-Sign	24.1sec	C	> 50.0sec	F
PCH/Corral Canyon Road	Stop-Sign	18.4sec	C	42.8sec	E
PCH/John Tyler Drive	Signal	0.457	A	0.597	A
PCH/Malibu Canyon Road	Signal	0.722	C	0.699	B



REGIONAL TRAFFIC SYSTEM -
BASELINE TRAFFIC VOLUMES

Project Trip Generation

Weekday trip generation estimates were developed similarly to the previous analysis completed for the project, however, with the assumption that there are no existing trips to/from Ramirez Canyon Road. Table 36 shows the weekday trip generation calculations for the project.

**Table 36
Project Trip Generation**

Land Use	Size	ADT		A.M. Peak Hour		P.M. Peak Hour	
		Rate	Trips	Rate	Trips	Rate	Trips
Ramirez Canyon Park – Kanan Dume Road							
Day-Use Area	26 paved spaces ^a	3.6	94	0.14	4	0.29	8
Ramirez Canyon Park							
Baseline Traffic	N/A	N/A	0	N/A	0	N/A	0
Future Traffic ^b	N/A	N/A	80	N/A	8	N/A	8
Net Traffic Increase	N/A	N/A	80	N/A	8	N/A	8
Subtotal			174		12		16
Escondido Canyon Park							
Campsites	13 campsites	2.0	26	0.15	2	0.15	2
Day-Use Area ^c	3 paved spaces	3.6	11	0.14	0	0.29	1
Subtotal			37		2		3
Latigo Trailhead							
Campsites	5 campsites	2.0	10	0.15	1	0.15	1
Day-Use Area	4 paved spaces	3.6	14	0.14	1	0.29	1
Subtotal			24		2		2
Corral Canyon Park							
Campsites	16 campsites	2.0	32	0.15	2	0.15	2
Day-Use Area	5 paved spaces	3.6	18	0.14	1	0.29	1
Subtotal			50		3		2
Malibu Bluffs Open Space							
Campsites	32 campsites	2.0	64	0.15	5	0.15	5
Day-Use Area ^c	20 paved spaces	3.6	72	0.14	3	0.29	7
Subtotal			136		8		12
TOTAL			421		27		35

^a Currently there are 12 parking spaces in the dirt lots on Kanan Dume Road. The project proposes to develop 36 paved parking spaces for a net increase of 24 spaces. The analysis assumes no credit for the existing spaces as a worst-case scenario.

^b Future traffic for Ramirez Canyon Park based on total allowable trips (40 inbound and 40 outbound trips for a total of 80 ADT).

^c Day-Use Area trips include trips associated with shuttle busses, park ranger patrols, refuse pick-up, etc.

The data presented in Table 36 show that the proposed project would generate 421 ADT, 27 A.M. peak hour trips, and 35 P.M. peak hour trips assuming that there are no existing trips to/from Ramirez Canyon Road.

The project trip distribution percentages are the same as the previous analysis. Figure 18 shows the assignment of project traffic on the regional traffic system assuming that there are no existing trips to/from Ramirez Canyon Road. Figure 19 shows the Baseline + Project traffic volumes for the regional roadways and intersections.

Baseline + Project Roadway Operations

Table 37 compares the Baseline and Baseline + Project ADT forecasts. The table also shows the percent increase in traffic resulting from the project.

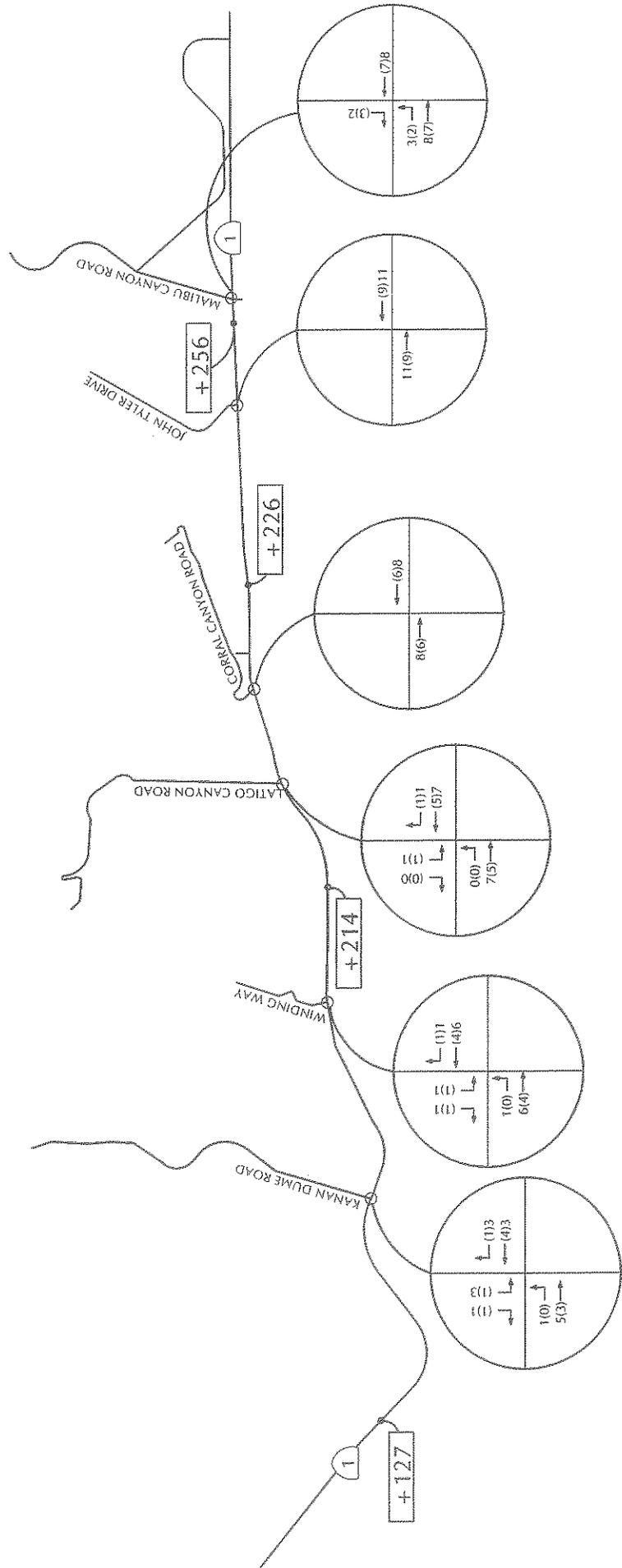
**Table 37
Baseline + Project Average Daily Traffic Volumes**

Roadway Segment	Baseline ADT	Baseline + Project ADT	Project-Added ADT	% Increase	Impact?
PCH e/o Kanan Dume Road	29,500	29,627	127	0.43%	No
PCH e/o Latigo Canyon Road	27,500	27,714	214	0.77%	No
PCH e/o John Tyler Drive	26,900	27,126	226	0.84%	No
PCH e/o Malibu Canyon Road	29,300	29,556	256	0.87%	No

Table 37 show that the project would result in less than 1% increase under Baseline + Project conditions. This increase would not measurably affect roadway operations along PCH.

Baseline + Project Intersection Operations

Tables 38 and 39 compare the Baseline and Baseline + Project levels of service for the A.M. and P.M. peak hour periods, respectively.



REGIONAL TRAFFIC SYSTEM -
 BASELINE PROJECT-ADDED TRAFFIC VOLUMES



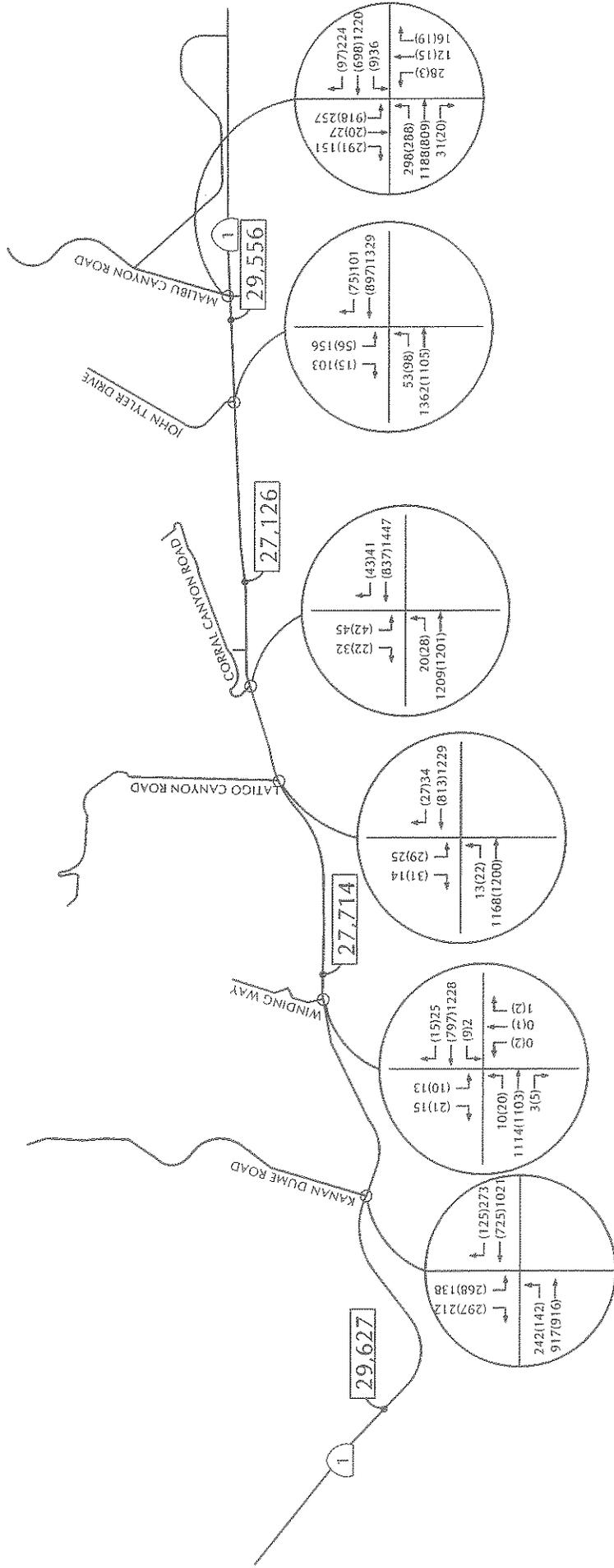


Table 38
Baseline and Baseline + Project Levels of Service
A.M. Peak Hour Period

Roadway Segment	A.M. Peak Hour ICU or Delay/LOS		V/C or % Increase	Impact?
	Baseline	Baseline + Project		
PCH/Kanan Dume Road	0.497/LOS A	0.500/LOS A	0.003	No
PCH/Winding Way	16.2sec/LOS C	19.0sec/LOS C	0.006	No
PCH/Latigo Canyon Road	24.1sec/LOS C	24.9sec/LOS C	0.006	No
PCH/Corral Canyon Road	18.4sec/LOS C	16.3sec/LOS C	0.005	No
PCH/John Tyler Drive	0.457/LOS A	0.459/LOS A	0.002	No
PCH/Malibu Canyon Road	0.722/LOS C	0.725/LOS C	0.003	No

Table 39
Baseline and Baseline + Project Levels of Service
P.M. Peak Hour Period

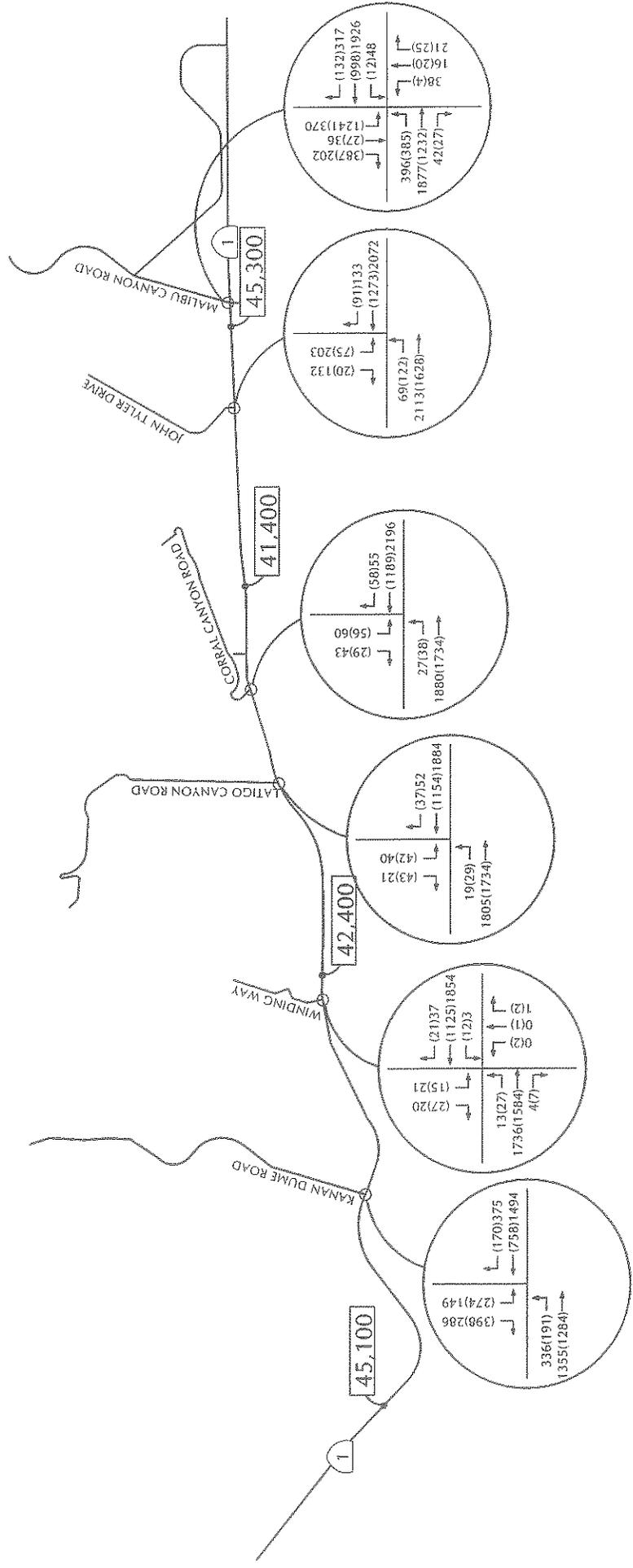
Roadway Segment	P.M. Peak Hour ICU or Delay/LOS		V/C or % Increase	Impact?
	Baseline	Baseline + Project		
PCH/Kanan Dume Road	0.611/LOS A	0.613/LOS B	0.002	No
PCH/Winding Way ^a	28.4sec/LOS D	44.9sec/LOS E	0.007	No
PCH/Latigo Canyon Road ^a	> 50.0sec/LOS F	> 50.0sec/LOS F	0.006	No
PCH/Corral Canyon Road ^a	42.8sec/LOS E	28.8sec/LOS D	0.006	No
PCH/John Tyler Drive	0.597/LOS A	0.597/LOS A	0.000	No
PCH/Malibu Canyon Road	0.699/LOS B	0.703/LOS B	0.004	No

^a The poor level of service for the unsignalized intersections is due to delays on the side-street. The mainline (PCH) does not stop and operates at LOS A.

The data presented in Tables 38 and 39 shows that the SMMC/MRCA Project would not generate significant impacts based on the adopted thresholds.

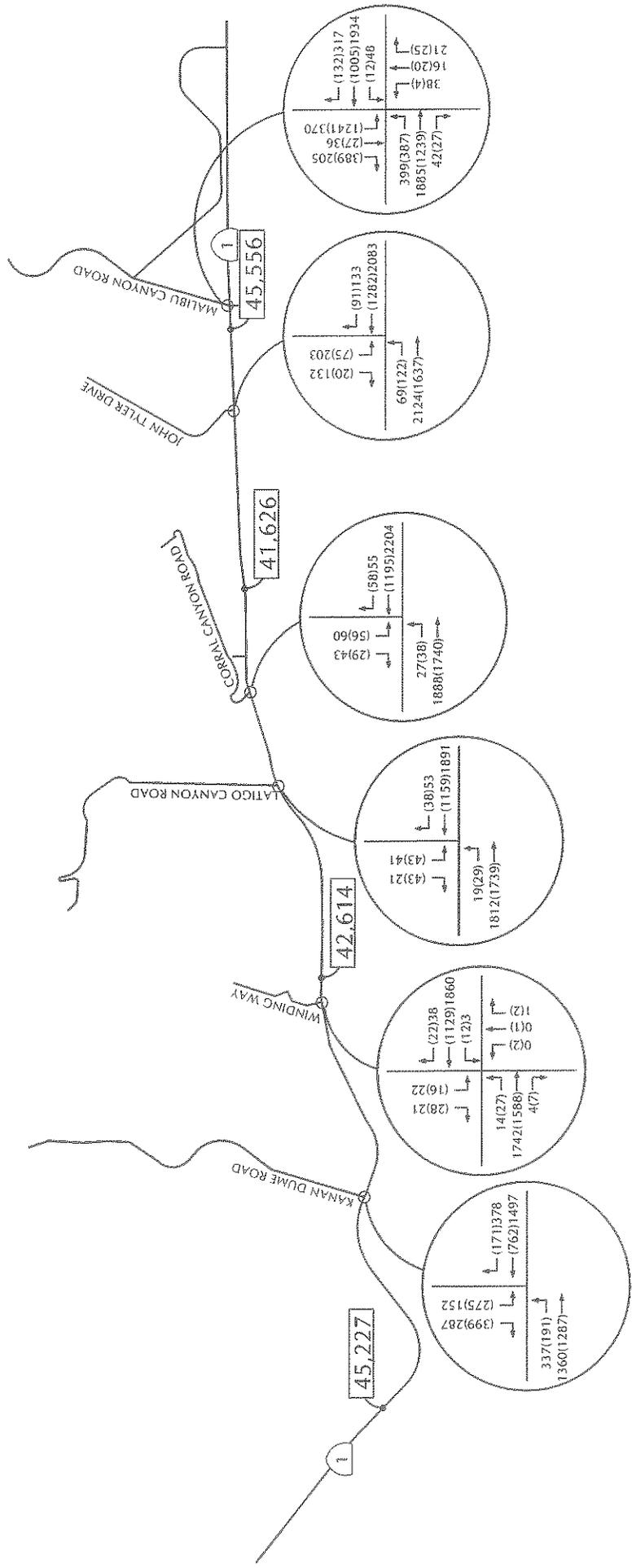
Cumulative Baseline Traffic Forecasts

Year 2025 traffic volumes were forecast for the regional roadway network similarly to the previous analysis completed for the project, however, with the assumption that there are no existing trips to/from Ramirez Canyon Road. Figure 20 shows the Cumulative Baseline traffic volumes for the regional traffic system. Figure 21 show the Cumulative Baseline + project traffic volumes for the regional roadways and intersections.



REGIONAL TRAFFIC SYSTEM -
CUMULATIVE BASELINE (YEAR 2025 + RELATED PROJECTS) TRAFFIC VOLUMES





REGIONAL TRAFFIC SYSTEM -
 CUMULATIVE BASELINE (YEAR 2025 + RELATED PROJECTS) + PROJECT TRAFFIC VOLUMES



Cumulative Baseline Roadway Operations

Table 40 compares the Cumulative Baseline and Cumulative Baseline + Project forecasts. The table also shows the percent increases in traffic resulting from the project.

Table 40
Cumulative Baseline + Project Average Daily Traffic Volumes

Roadway Segment	Cumulative Baseline ADT	Cumulative Baseline + Project ADT	Project-Added ADT	% Increase	Impact?
PCH e/o Kanan Dume Road	45,100	45,227	127	0.28%	No
PCH e/o Latigo Canyon Road	42,400	42,614	214	0.50%	No
PCH e/o John Tyler Drive	41,400	41,626	226	0.54%	No
PCH e/o Malibu Canyon Road	45,300	45,556	256	0.56%	No

Table 40 show that the project would result in less than 1% increase under Baseline + Project conditions. This increase would not measurably affect roadway operations along PCH.

Cumulative Baseline Intersection Operations

Tables 41 and 42 compare the Cumulative Baseline and Cumulative Baseline + project levels of service for the A.M. and P.M. peak hour periods, respectively.

Table 41
Cumulative Baseline and Cumulative Baseline + Project Levels of Service
A.M. Peak Hour Period

Roadway Segment	A.M. Peak Hour ICU or Delay/LOS		V/C or % increase	Impact?
	Cumulative Baseline	Cumulative Baseline + Project		
PCH/Kanan Dume Road	0.542/LOS A	0.543/LOS A	0.001	No
PCH/Winding Way ^a	> 50.0sec/LOS F	> 50.0sec/LOS F	0.004	No
PCH/Latigo Canyon Road ^a	> 50.0sec/LOS F	> 50.0sec/LOS F	0.004	No
PCH/Corral Canyon Road ^a	27.3/LOS D	27.5sec/LOS D	0.004	No
PCH/John Tyler Drive	0.632/LOS B	0.635/LOS B	0.003	No
PCH/Malibu Canyon Road	0.941/LOS E	0.943/LOS E	0.002	No

^a The poor level of service for the unsignalized intersections is due to delays on the side-street. The mainline (PCH) does not stop and operates at LOS A.

Table 42
Cumulative Baseline and Cumulative Baseline + Project Levels of Service
P.M. Peak Hour Period

Roadway Segment	P.M. Peak Hour ICU or Delay/LOS		V/C or % increase	Impact?
	Cumulative Baseline	Cumulative Baseline + Project		
PCH/Kanan Dume Road	0.824/LOS D	0.827/LOS D	0.003	No
PCH/Winding Way ^a	> 50.0sec/LOS F	> 50.0sec/LOS F	0.004	No
PCH/Latigo Canyon Road ^a	> 50.0sec/LOS F	> 50.0sec/LOS F	0.004	No
PCH/Corral Canyon Road ^a	> 50.0sec/LOS F	> 50.0sec/LOS F	0.004	No
PCH/John Tyler Drive	0.854/LOS D	0.854/LOS D	0.000	No
PCH/Malibu Canyon Road	0.999/LOS E	1.004/LOS E	0.005	No

^a The poor level of service for the unsignalized intersections is due to delays on the side-street. The mainline (PCH) does not stop and operates at LOS A.

The data presented in Tables 41 and 42 shows that the SMMC/MRCA Project would not generate significant cumulative impacts based on the adopted thresholds.

Weekend Traffic Analysis

Weekend trip generation estimates were developed for the project using the same methodology as the previous analysis completed for the project, however, with the assumption that there are no existing trips to/from Ramirez Canyon Road. Table 43 shows the project's trip generation estimates for weekends.

**Table 43
Weekend Project Trip Generation**

Land Use	Size	ADT		Peak Hour	
		Rate	Trips	Rate	Trips
Ramirez Canyon Park – Kanan Dume Road					
Day-Use Traffic	26 paved spaces ^a	5.3	138	0.29	8
Ramirez Canyon Park					
Baseline Traffic	N/A	N/A	0	N/A	0
Future Traffic ^b	N/A	N/A	80	N/A	8
New Traffic	N/A	N/A	80	N/A	8
Subtotal			218		16
Escondido Canyon Park					
Campsites	13 sites	2.0	26	0.15	2
Day-Use Traffic ^c	3 parking spaces	5.3	16	0.36	1
Subtotal			42		3
Latigo Trailhead					
Campsites	5 sites	2.0	10	0.15	1
Day-Use Traffic	4 parking spaces	5.3	21	0.36	1
Subtotal			31		2
Corral Canyon Park					
Campsites	16 sites	2.0	32	0.15	2
Day-Use Traffic	5 parking spaces	5.3	18	0.36	1
Subtotal			50		3
Malibu Bluffs Open Space					
Campsites	32 sites	2.0	64	0.15	5
Day-Use Traffic ^c	20 parking spaces	5.3	106	0.36	7
Subtotal			170		12
TOTAL			511		36

^a Currently there are approximately 12 parking spaces in the dirt lots on Kanan Dume Road. The project proposes to develop 36 paved parking spaces for a net increase of 24 spaces. The analysis assumes no credit for the existing spaces as a worst-case scenario.

^b Future traffic for Ramirez Canyon Park based on total allowable trips (40 inbound and 40 outbound trips for a total of 80 ADT).

^c Day-Use Area trips include trips associated with shuttle busses, park ranger patrols, refuse pick-up, etc.

The data presented in Table 43 shows that the project would generate 511 ADT and 36 peak hour trips on weekends assuming that there are no existing trips to/from Ramirez Canyon Road.

The traffic analysis completed for the weekday period found that the project would generate 421 average daily trips, 27 A.M. peak hour trips, and 35 P.M. peak hour trips. The impact analysis found that the project would not increase the V/C ratios at the key study-area intersections by 1% or 2% during the weekday peak hour period, and thus

would not generate significant project-specific or cumulative impacts based on the thresholds adopted by the City of Malibu and the County of Los Angeles. The 511 daily trips and 36 peak hour trips generated by the project on weekends would also result in traffic additions of less than 1% or 2% to the area roadways and intersections. The project would therefore not generated significant impacts on weekends based on the adopted traffic impact thresholds.

Ramirez Canyon Park – Baseline Roadway Operations

Figure 22 shows the baseline roadway volumes for weekday and weekend periods assuming no existing trips to/from Ramirez Canyon Road. Table 44 shows the baseline ADT volumes and levels of service for the study-area roadways.

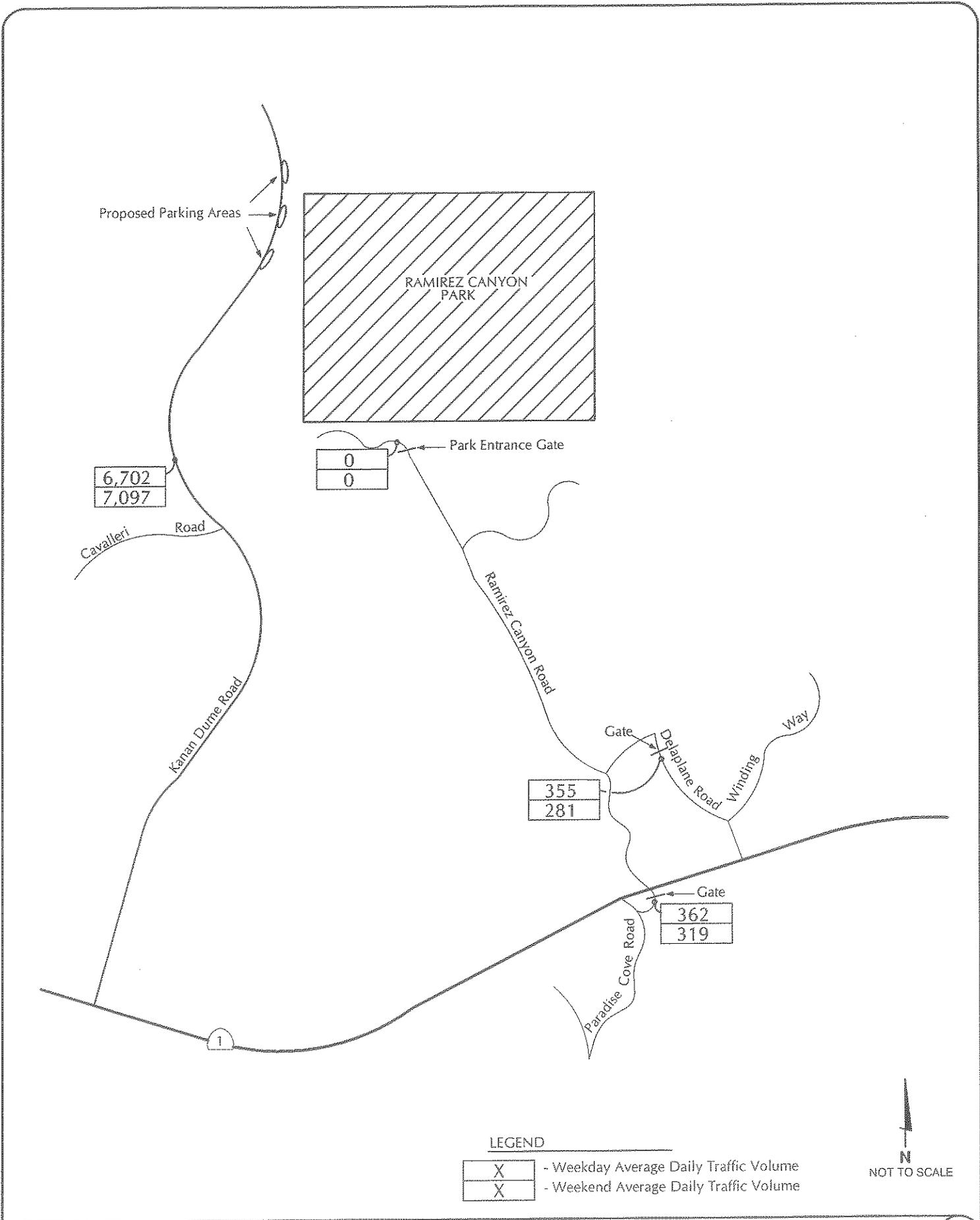
**Table 44
Baseline Average Daily Traffic Volumes**

Roadway Segment	Geometry	Weekday ADT	Weekend ADT	LOS
Kanan Dume Road n/o Cavalleri Road	2-lane undivided	6,702	7,097	LOS A
Ramirez Canyon Road s/o Entrance Gate	2-lane undivided	362	319	LOS A
Delaplane Road s/o Entrance Gate	2-lane undivided	355	281	LOS A

The data presented in Table 44 show that all the local roadways operate at LOS A during weekdays and weekends. The volumes on Ramirez Canyon Road and Delaplane Road are relatively light, with less than 400 ADT on weekdays and weekends.

Ramirez Canyon Park – Trip Generation

Weekday and weekend trip generation estimates were developed using the same methodology as the previous analysis completed for the project, however, with the assumption that there are no existing trips to/from Ramirez Canyon Road, as summarized below in Table 45.



**Table 45
Ramirez Canyon Park Trip Generation Summary**

Land Use	Size	Weekday Trips			Weekend Trips	
		ADT	A.M. Peak Hour	P.M. Peak Hour	ADT	Peak Hour
Ramirez Canyon Park	N/A	80	8	8	80	8
Kanan Dume Parking	26 parking spaces ^a	94	4	8	138	8
Total		174	12	16	218	16

^a Currently there are 12 parking spaces in the dirt lots on Kanan Dume Road. The project proposes to develop 36 paved spaces for a net increase of 24 paved spaces. The analysis assumes no credit for the existing spaces as a worst-case scenario.

The data presented in Table 45 show that the Ramirez Canyon Park Project would generate 174 ADT, 12 A.M., and 16 P.M. peak hour trips during weekdays, and 218 ADT and 16 peak hour trips on weekends assuming that there are no existing trips to/from Ramirez Canyon Road.

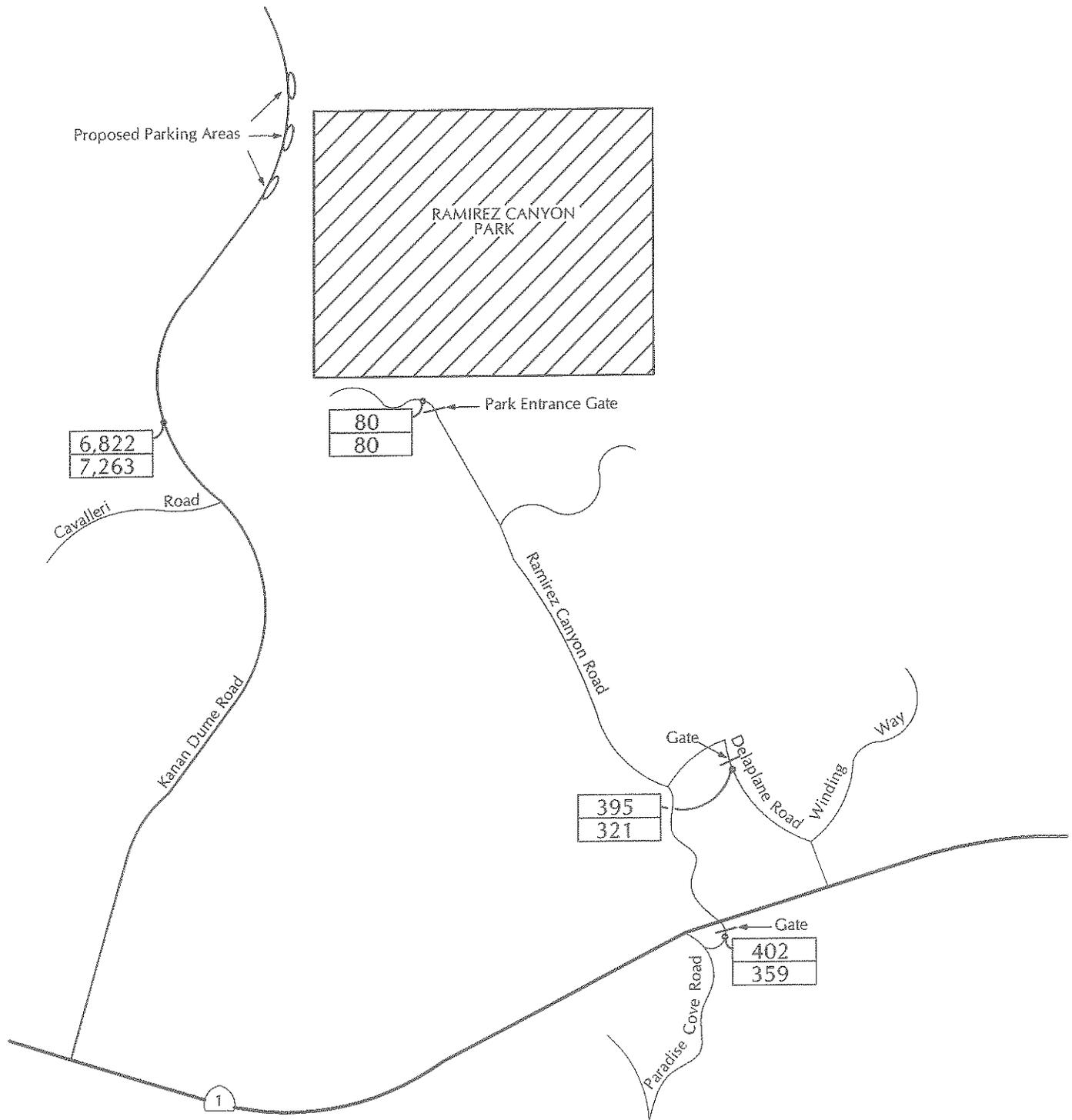
The traffic generated at Ramirez Canyon Park and the Kanan Dume Road parking areas was distributed onto the local street network using the same methodology as the previous analysis. Figure 23 shows the Baseline + Project ADT volumes for the study-area roadways for the weekday and weekend periods.

Ramirez Canyon Park – Baseline + Project Roadway Operations

Tables 46 and 47 compare the Baseline and Baseline + Project ADT volumes and levels of service for the weekday and weekend periods, respectively.

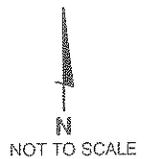
**Table 46
Ramirez Canyon Park – Baseline + Project Weekday ADT Volumes**

Roadway Segment	Baseline ADT	Baseline + Project ADT	Project-Added ADT	LOS
Kanan Dume Road n/o Cavalleri Road	6,702	6,822	122	LOS A
Ramirez Canyon Road s/o Entrance Gate	362	402	40	LOS A
Delaplaine Road s/o Entrance Gate	355	395	40	LOS A



LEGEND

X	- Weekday Average Daily Traffic Volume
X	- Weekend Average Daily Traffic Volume



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RAMIREZ CANYON PARK
BASELINE + PROJECT AVERAGE DAILY TRAFFIC VOLUMES

FIGURE 23

LDH - 09061

Table 47
Ramirez Canyon Park – Existing + Project Weekend ADT Volumes

Roadway Segment	Baseline ADT	Baseline + Project ADT	Project-Added ADT	LOS
Kanan Dume Road n/o Cavalleri Road	7,097	7,263	166	LOS A
Ramirez Canyon Road s/o Entrance Gate	319	359	40	LOS A
Delaplane Road s/o Entrance Gate	281	321	40	LOS A

The data presented in Tables 46 and 47 show that the study-area roadways would continue to operate at LOS A with project-added traffic. The project would not impact the operation of Ramirez Canyon Road, Delaplane Road and Kanan Dume Road.

□ □ □

REFERENCES AND PERSONS CONTACTED

Associated Transportation Engineers

Scott A. Schell, AICP, PTP Principal Transportation Planner
Dan L. Dawson, PTP Supervising Transportation Planner
Lauren D. Hobson, EIT Traffic Engineer
Matthew Farrington, Transportation Planner

References

Congestion Management Program for Los Angeles County, Los Angeles County Metropolitan Transportation Authority, July 2004.

Highway Capacity Manual, Transportation Research Special Report 209, National Research Council, 2000.

San Diego Traffic Generators, San Diego Association of Governments, April 2002.

Persons Contacted

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April Winecki, Dudek
Judi Tamasi, Mountain Recreation and Conservation Authority
Lisa Soghor, Mountain Recreation and Conservation Authority

TECHINCAL APPENDIX

Contents:

Figures A-C
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Traffic Count Data
Engineering Design Capacity Thresholds
PARKLINK Shuttle Service Area Map
Cumulative Projects Trip Generation Worksheet
Intersection Level of Service Calculations

TECHINCAL APPENDIX

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Figures A-C
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Figures A-C

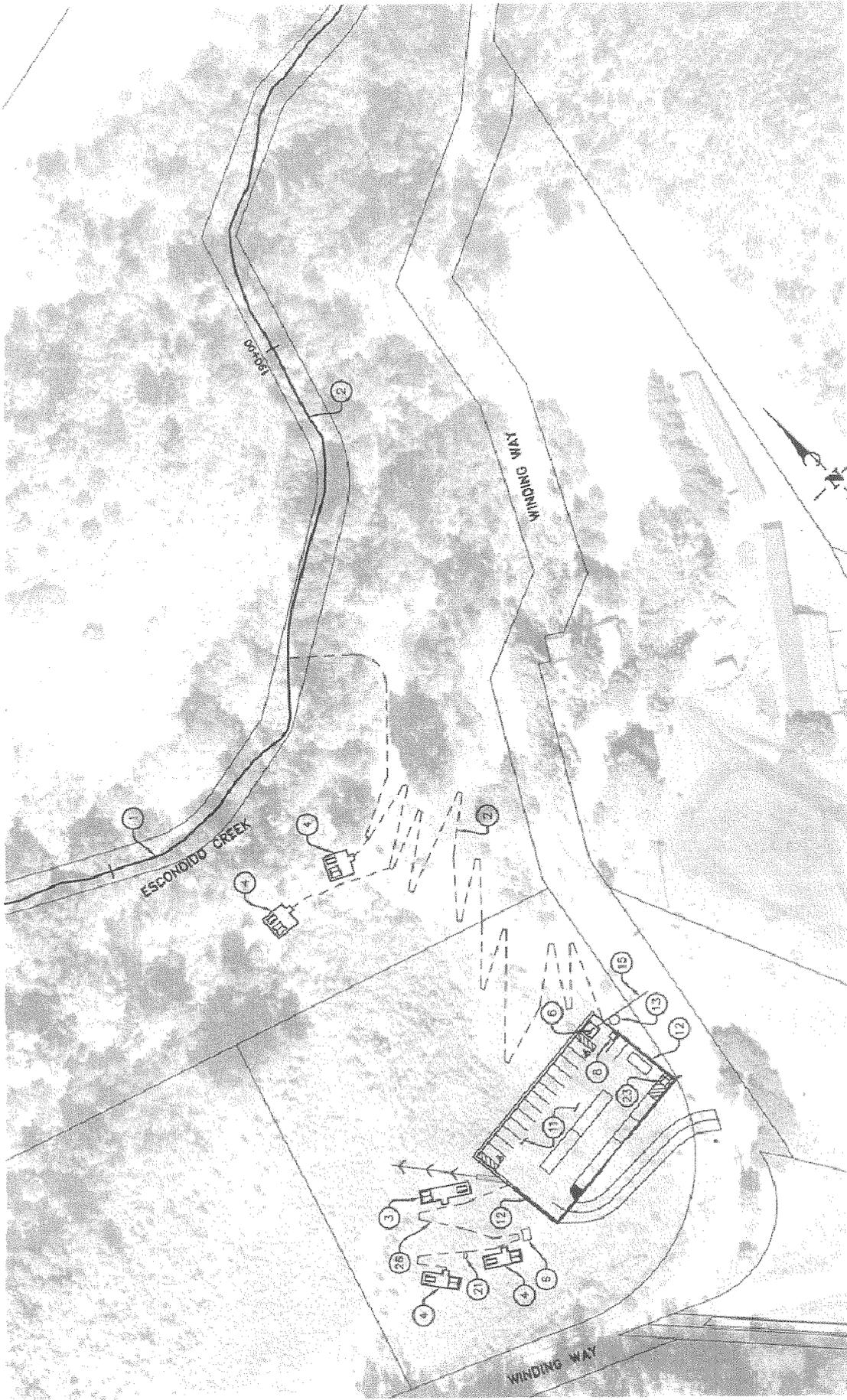
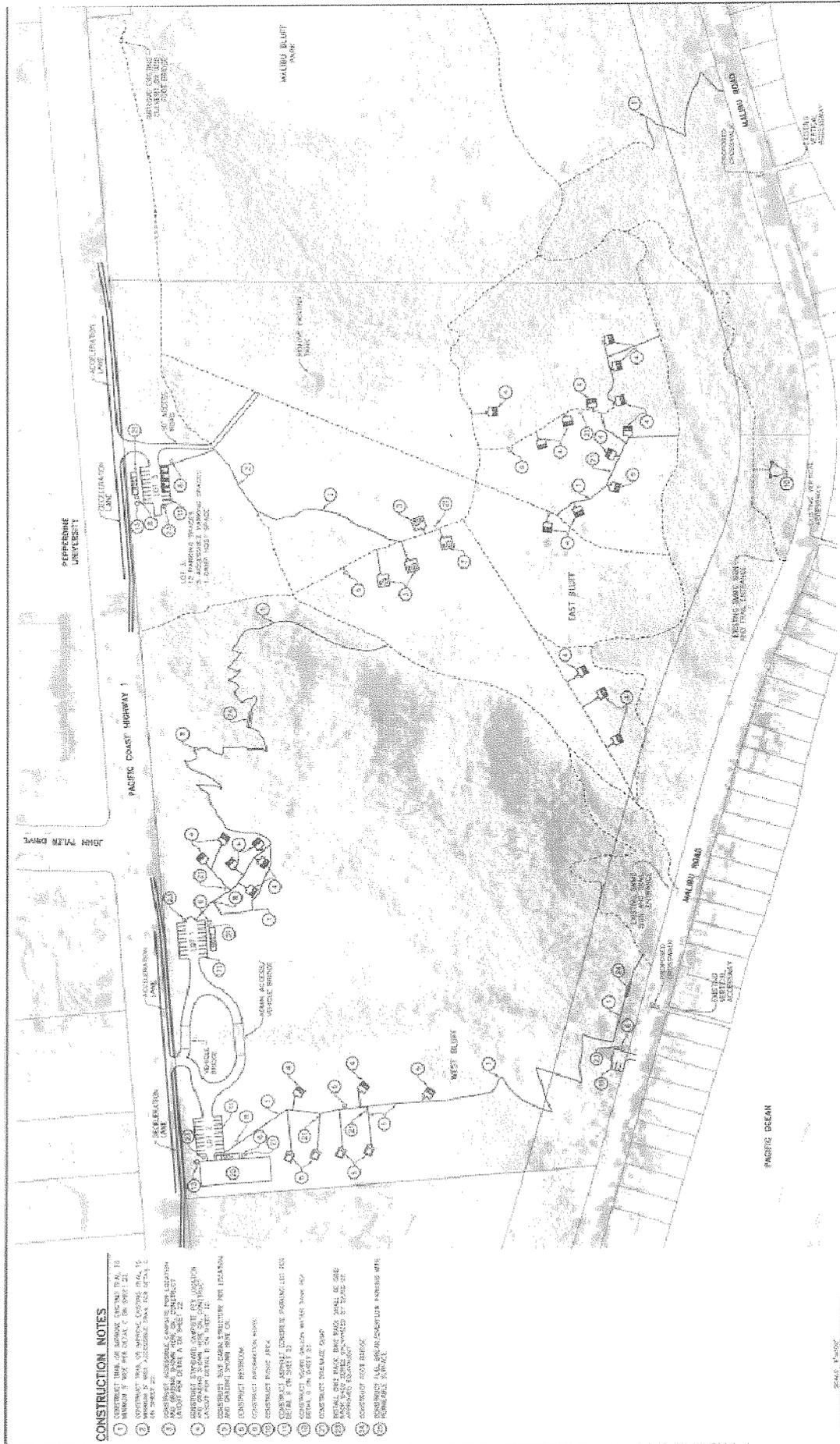


FIGURE A

ESCONDIDO CANYON PARK - PROJECT SITE PLAN

LDH - 09061

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ENGINEERS



- CONSTRUCTION NOTES**
1. CONTRACT SHALL BE AWARD TO THE LOWEST BIDDER TO CONSTRUCT THE WORK SHOWN ON SHEET 21 OF 23.
 2. CONTRACTOR SHALL MAINTAIN EXISTING PARKING SPACES TO REMAIN UNLESS OTHERWISE NOTED ON SHEET 22.
 3. CONTRACTOR SHALL MAINTAIN EXISTING TRAILS TO REMAIN UNLESS OTHERWISE NOTED ON SHEET 22.
 4. CONTRACTOR SHALL MAINTAIN EXISTING TRAILS TO REMAIN UNLESS OTHERWISE NOTED ON SHEET 22.
 5. CONTRACTOR SHALL MAINTAIN EXISTING TRAILS TO REMAIN UNLESS OTHERWISE NOTED ON SHEET 22.
 6. CONTRACTOR SHALL MAINTAIN EXISTING TRAILS TO REMAIN UNLESS OTHERWISE NOTED ON SHEET 22.
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 9. CONTRACTOR SHALL MAINTAIN EXISTING TRAILS TO REMAIN UNLESS OTHERWISE NOTED ON SHEET 22.
 10. CONTRACTOR SHALL MAINTAIN EXISTING TRAILS TO REMAIN UNLESS OTHERWISE NOTED ON SHEET 22.
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 16. CONTRACTOR SHALL MAINTAIN EXISTING TRAILS TO REMAIN UNLESS OTHERWISE NOTED ON SHEET 22.
 17. CONTRACTOR SHALL MAINTAIN EXISTING TRAILS TO REMAIN UNLESS OTHERWISE NOTED ON SHEET 22.
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 19. CONTRACTOR SHALL MAINTAIN EXISTING TRAILS TO REMAIN UNLESS OTHERWISE NOTED ON SHEET 22.
 20. CONTRACTOR SHALL MAINTAIN EXISTING TRAILS TO REMAIN UNLESS OTHERWISE NOTED ON SHEET 22.
 21. CONTRACTOR SHALL MAINTAIN EXISTING TRAILS TO REMAIN UNLESS OTHERWISE NOTED ON SHEET 22.
 22. CONTRACTOR SHALL MAINTAIN EXISTING TRAILS TO REMAIN UNLESS OTHERWISE NOTED ON SHEET 22.
 23. CONTRACTOR SHALL MAINTAIN EXISTING TRAILS TO REMAIN UNLESS OTHERWISE NOTED ON SHEET 22.
 24. CONTRACTOR SHALL MAINTAIN EXISTING TRAILS TO REMAIN UNLESS OTHERWISE NOTED ON SHEET 22.
 25. CONTRACTOR SHALL MAINTAIN EXISTING TRAILS TO REMAIN UNLESS OTHERWISE NOTED ON SHEET 22.

CONCEPT PLAN

MALIBU BLUFFS
SANTA MONICA MOUNTAINS CONSERVANCY
MALIBU, CALIFORNIA

CITY OF MALIBU
SERVICES DEPT.
PROJECT NO. 09-0010
DATE

DUDEK
3111 EAST ANTONIO STREET
SANTA ANITA, CA 94067
PHONE (415) 852-2000

Pontius & Strain
111 East Adams Street
Santa Barbara, CA 93101
Phone (805) 965-2000

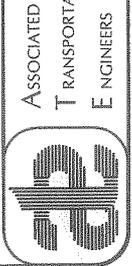
BELE & FORTE
PROJECT DESIGNER
111 East Adams Street
Santa Barbara, CA 93101
Phone (805) 965-2000

DESIGN NO. 09-0010
DATE 09-20-10

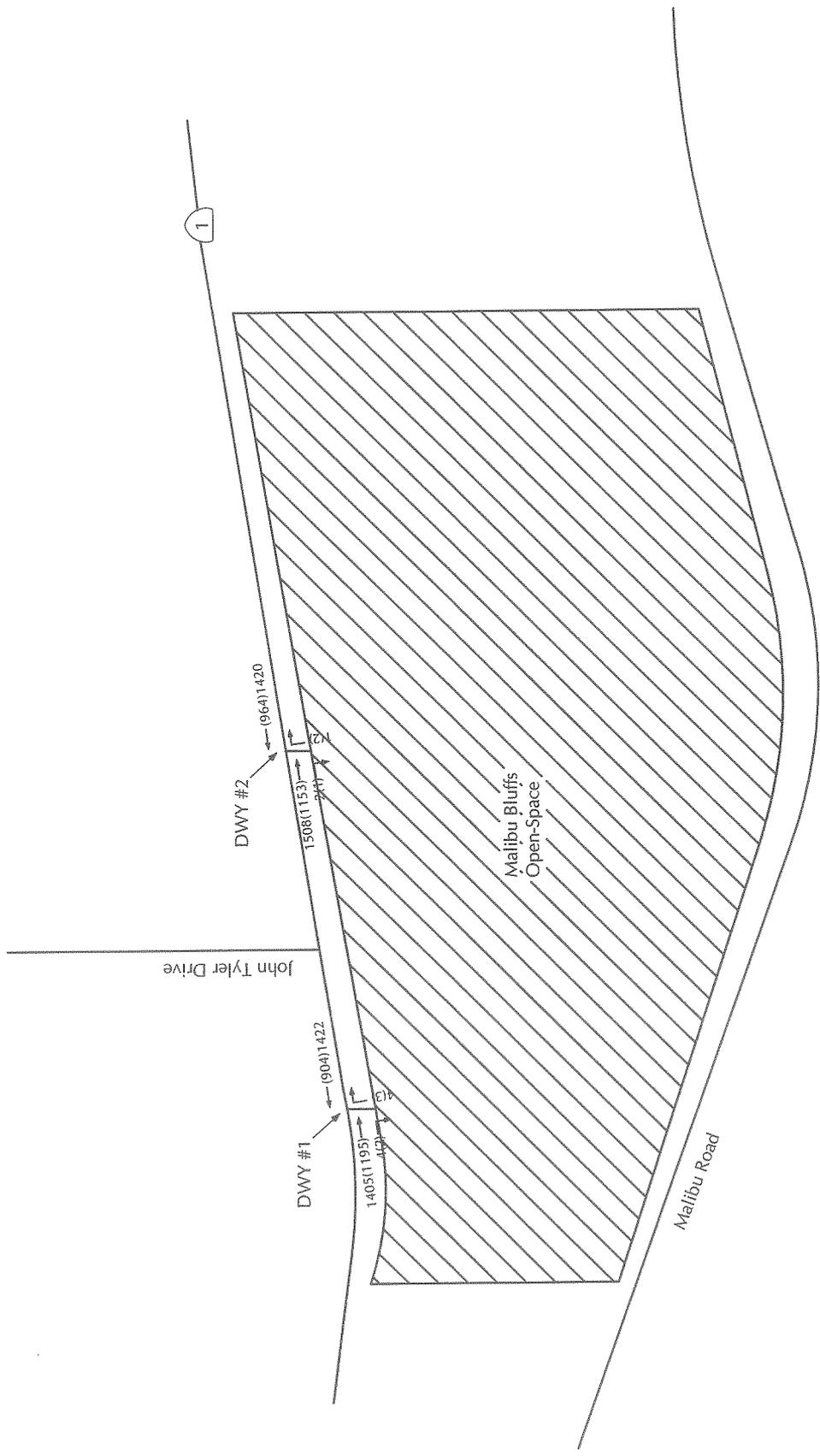
SCALE: PLANS
1" = 20'

FIGURE B

MALIBU BLUFFS OPEN SPACE - PROJECT SITE PLAN



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ENGINEERS

EXISTING + PROJECT TRAFFIC VOLUMES
MALIBU BLUFFS OPEN-SPACE NEW DRIVEWAY CONNECTIONS

FIGURE C

LDH - 06121

Parking Count Data

CORRAL CANYON PARK

DATE: 4/6/2007 Friday

HOURLY PARKING TOTALS

TIME	TOTAL				
	SPACES	CARS	HANDI.	ILL.	% OCCUPIED
10:00	15	-	-	-	-
11:00	15	-	-	-	-
12:00	15	1	0	0	7%
1:00	15	12	0	1	87%
2:00	15	12	0	0	80%
3:00	15	8	0	0	53%
4:00	15	3	0	0	20%
5:00	15	1	0	0	7%

* 13 marked spaces + 1 handi. space + 1 trailer space

* adj. to seafood restaurant, during lunch hour rush, people used park parking lot to visit restaurant

**ASSOCIATED TRANSPORTATION ENGINEERS
CORRAL CANYON PARK**

DATE: 7/28/2007 Saturday

HOURLY PARKING TOTALS

TIME	TOTAL					
	SPACES	CARS	HANDI.	TRAILER	ILL.	% OCCUPIED
11:40	15	3	0	1	0	27%
1:33	15	13	1	0	2	107%
2:33	15	13	1	0	2	107%
3:40	15	13	1	0	2	107%

Notes: Parking lot includes 13 regular spaces + 1 ADA space + 1 trailer space.
Parking lot is located adj. to a seafood restaurant. During the lunch-hour rush, people used the parking lot for the park to visit the restaurant.

**ASSOCIATED TRANSPORTATION ENGINEERS
KANAN DUME ROAD PARKING SURVEY**

DATE: 7/28/2007 Saturday

**HOURLY PARKING TOTALS
PARKING AREA 1**

TIME	TOTAL		
	SPACES	CARS	% OCCUPIED
11:00	9	0	0%
12:15	9	0	0%
1:20	9	0	0%
2:15	9	0	0%

PARKING AREA 2

TIME	TOTAL		
	SPACES	CARS	% OCCUPIED
11:00	7	0	0%
12:15	7	1	14%
1:20	7	0	0%
2:15	7	0	0%

PARKING AREA 3

TIME	TOTAL		
	SPACES	CARS	% OCCUPIED
11:00	7	0	0%
12:15	7	0	0%
1:20	7	0	0%
2:15	7	0	0%

Traffic Count Data

**ASSOCIATED TRANSPORTATION ENGINEERS
SANTA MONICA CONSERVANCY PARKS PROJECT**

RAMIREZ CANYON PARK STAFF TRIPS LOG SUMMARY

Date	Total Park Trips
Friday 7/20/2007	18
Saturday 7/21/2007	2
Sunday 7/22/2007	2
Monday 7/23/2007	19
Tuesday 7/24/2007	18
Wednesday 7/25/2007	15
Thursday 7/26/2007	25
Friday 7/27/2007	31

Total Weekday Average: 21
Total Weekend Average: 2

WILTEC

Phone: (626) 564-1944

Fax: (626) 564-0969

24-HOUR ADT COUNT SUMMARY

CLIENT: CRAIN AND ASSOCIATES
 PROJECT: TRAFFIC COUNTS
 LOCATION: KANAN DUME ROAD NORTH OF
 CAVALLERI ROAD
 DATE: SATURDAY DECEMBER 2, 2006

DIRECTION:		NB				HOUR TOTALS
TIME	00-15	15-30	30-45	45-60		
0:00	15	9	3	8	35	
1:00	8	9	6	3	26	
2:00	5	7	2	1	15	
3:00	3	3	3	5	14	
4:00	0	2	1	2	5	
5:00	2	4	3	5	14	
6:00	7	8	9	18	42	
7:00	30	26	24	28	108	
8:00	25	35	46	55	161	
9:00	60	53	59	68	240	
10:00	61	59	55	65	240	
11:00	63	61	62	50	236	
12:00	59	68	58	64	249	
13:00	80	53	68	78	279	
14:00	74	70	72	68	284	
15:00	66	84	84	72	306	
16:00	77	70	65	75	287	
17:00	95	88	74	54	311	
18:00	60	54	54	32	200	
19:00	27	32	34	34	127	
20:00	16	24	22	30	92	
21:00	18	23	28	44	113	
22:00	26	22	32	22	102	
23:00	28	22	20	20	90	
				TOTAL	3576	
AM PEAK HOUR		1045-1145				
VOLUME		251				
PM PEAK HOUR		1645-1745				
VOLUME		332				

DIRECTION:		SB				HOUR TOTALS
TIME	00-15	15-30	30-45	45-60		
0:00	8	13	12	10	43	
1:00	9	6	4	2	21	
2:00	5	0	5	3	13	
3:00	4	2	2	1	9	
4:00	2	0	1	2	5	
5:00	2	1	8	4	15	
6:00	10	6	14	15	45	
7:00	18	27	28	35	108	
8:00	40	43	49	62	194	
9:00	45	39	43	40	167	
10:00	54	47	46	56	203	
11:00	68	68	62	79	277	
12:00	83	69	91	79	322	
13:00	75	63	61	85	284	
14:00	66	69	67	78	280	
15:00	63	62	53	80	258	
16:00	72	74	62	57	265	
17:00	61	73	45	48	227	
18:00	43	48	42	44	177	
19:00	49	51	46	42	188	
20:00	34	24	23	32	113	
21:00	32	32	29	41	134	
22:00	29	23	20	23	95	
23:00	15	27	21	17	80	
				TOTAL	3523	
AM PEAK HOUR		1100-1200				
VOLUME		277				
PM PEAK HOUR		1200-1300				
VOLUME		322				

TOTAL BI-DIRECTIONAL VOLUME	7099
-----------------------------	------

WILTEC

Phone: (626) 564-1944

Fax: (626) 564-0969

24-HOUR ADT COUNT SUMMARY

CLIENT: CRAIN AND ASSOCIATES
 PROJECT: TRAFFIC COUNTS
 LOCATION: KANAN DUME ROAD NORTH OF
 CAVALLERI ROAD
 DATE: SUNDAY DECEMBER 3, 2006

DIRECTION:		NB				HOUR TOTALS
TIME	00-15	15-30	30-45	45-60		
0:00	18	12	16	12	58	
1:00	13	14	6	10	43	
2:00	10	10	5	5	30	
3:00	6	4	4	1	15	
4:00	4	3	5	0	12	
5:00	0	1	3	3	7	
6:00	4	6	9	12	31	
7:00	12	13	10	22	57	
8:00	19	27	28	26	100	
9:00	26	42	31	44	143	
10:00	36	47	46	54	183	
11:00	52	52	61	68	233	
12:00	62	64	72	84	282	
13:00	61	66	64	64	255	
14:00	58	66	59	65	248	
15:00	80	68	84	69	301	
16:00	56	75	68	66	265	
17:00	68	64	38	42	212	
18:00	44	35	14	23	116	
19:00	29	31	25	26	111	
20:00	34	24	22	22	102	
21:00	30	16	15	9	70	
22:00	16	8	14	6	44	
23:00	8	8	7	6	29	
TOTAL					2947	
AM PEAK HOUR		1100-1200				
VOLUME		233				
PM PEAK HOUR		1500-1600				
VOLUME		301				

DIRECTION:		SB				HOUR TOTALS
TIME	00-15	15-30	30-45	45-60		
0:00	16	10	10	16	52	
1:00	8	4	7	6	25	
2:00	10	7	4	8	29	
3:00	5	2	2	0	9	
4:00	1	1	2	3	7	
5:00	2	1	4	8	15	
6:00	6	5	5	10	26	
7:00	10	12	8	22	52	
8:00	21	21	23	23	88	
9:00	27	24	34	42	127	
10:00	54	46	55	47	202	
11:00	41	60	65	52	218	
12:00	56	69	55	68	248	
13:00	80	76	85	87	328	
14:00	68	61	73	76	278	
15:00	90	62	70	86	308	
16:00	67	64	70	50	251	
17:00	60	45	41	40	186	
18:00	34	36	43	37	150	
19:00	18	29	24	20	91	
20:00	35	26	27	22	110	
21:00	24	21	22	21	88	
22:00	16	11	10	8	45	
23:00	11	7	3	1	22	
TOTAL					2955	
AM PEAK HOUR		1100-1200				
VOLUME		218				
PM PEAK HOUR		1300-1400				
VOLUME		328				

TOTAL BI-DIRECTIONAL VOLUME	5902
-----------------------------	------

WILTEC

Phone: (626) 564-1944

Fax: (626) 564-0969

24-HOUR ADT COUNT SUMMARY

CLIENT: CRAIN AND ASSOCIATES
 PROJECT: TRAFFIC COUNTS
 LOCATION: KANAN DUME ROAD NORTH OF
 CAVALLERI ROAD
 DATE: MONDAY DECEMBER 4, 2006

DIRECTION:		NB				HOUR TOTALS
TIME	00-15	15-30	30-45	45-60		
0:00	6	3	2	4	15	
1:00	3	0	1	3	7	
2:00	0	3	2	1	6	
3:00	3	1	2	0	6	
4:00	0	3	1	2	6	
5:00	2	6	3	13	24	
6:00	17	20	27	16	80	
7:00	33	46	34	48	161	
8:00	51	52	53	55	211	
9:00	47	54	48	65	214	
10:00	64	57	52	43	216	
11:00	68	40	56	48	212	
12:00	50	54	56	48	208	
13:00	66	58	46	56	226	
14:00	56	66	70	77	269	
15:00	78	82	102	78	340	
16:00	76	92	81	64	313	
17:00	92	92	74	65	323	
18:00	60	52	44	42	198	
19:00	40	35	18	27	120	
20:00	23	10	18	19	70	
21:00	10	14	12	11	47	
22:00	12	14	11	10	47	
23:00	6	8	9	6	29	
TOTAL					3348	
AM PEAK HOUR		0945-1045				
VOLUME		238				
PM PEAK HOUR		1530-1630				
VOLUME		348				

DIRECTION:		SB				HOUR TOTALS
TIME	00-15	15-30	30-45	45-60		
0:00	2	4	2	2	10	
1:00	5	2	4	1	12	
2:00	1	1	2	2	6	
3:00	0	1	1	0	2	
4:00	0	0	1	7	8	
5:00	4	5	15	11	35	
6:00	20	31	44	62	157	
7:00	69	76	98	98	341	
8:00	84	60	64	59	267	
9:00	55	66	53	52	226	
10:00	72	42	50	45	209	
11:00	46	42	43	68	199	
12:00	67	48	53	54	222	
13:00	59	36	47	63	205	
14:00	45	50	65	55	215	
15:00	57	70	59	52	238	
16:00	58	51	49	65	223	
17:00	51	52	58	68	229	
18:00	57	49	38	36	180	
19:00	32	27	40	36	135	
20:00	25	25	18	31	99	
21:00	21	13	16	16	66	
22:00	22	13	13	10	58	
23:00	5	6	4	4	19	
TOTAL					3361	
AM PEAK HOUR		0715-0815				
VOLUME		356				
PM PEAK HOUR		1430-1530				
VOLUME		247				

TOTAL BI-DIRECTIONAL VOLUME	6709
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Description 1 : Ramierez Canyon Road
 Description 2 :
 Description 3 :

Site: 06121

Volume (1 Ch/pg., 60 Min., 7 Days)
 Channel: Near lane fl

Interval	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Weekday	Week
Begin	7/16/2007	7/17/2007	7/18/2007	7/19/2007	7/20/2007	7/21/2007	7/22/2007	Avg	Avg
12:00 AM	*	*	*	*	*	6	33	*	19
1:00 AM	*	*	*	*	*	2	22	*	12
2:00 AM	*	*	*	*	*	3	11	*	7
3:00 AM	*	*	*	*	*	0	0	*	0
4:00 AM	*	*	*	*	*	0	0	*	0
5:00 AM	*	*	*	*	*	1	1	*	1
6:00 AM	*	*	*	*	*	1	2	*	1
7:00 AM	*	*	*	*	*	12	3	*	7
8:00 AM	*	*	*	*	*	12	9	*	10
9:00 AM	*	*	*	*	15	15	15	15	15
10:00 AM	*	*	*	*	25	19	19	25	21
11:00 AM	*	*	*	*	30	17	11	30	19
12:00 PM	*	*	*	*	17	19	27	17	21
1:00 PM	*	*	*	*	30	15	7	30	17
2:00 PM	*	*	*	*	30	18	14	30	20
3:00 PM	*	*	*	*	42	17	23	42	27
4:00 PM	*	*	*	*	25	19	14	25	19
5:00 PM	*	*	*	*	30	15	23	30	22
6:00 PM	*	*	*	*	20	26	16	20	20
7:00 PM	*	*	*	*	14	27	15	14	18
8:00 PM	*	*	*	*	9	44	13	9	22
9:00 PM	*	*	*	*	16	25	7	13	15
10:00 PM	*	*	*	*	9	29	5	9	14
11:00 PM	*	*	*	*	1	15	6	1	7
Totals	*	*	*	*	310	357	296	310	334
AM Peak Volume	*	*	*	*	11:00 AM	10:00 AM	12:00 AM	11:00 AM	10:00 AM
PM Peak Volume	*	*	*	*	3:00 PM	8:00 PM	12:00 PM	3:00 PM	3:00 PM
					42	44	27	42	27

MEMARK, Incorporated

Description 1 : Ramirez Canyon Road
 Description 2 :
 Description 3 :

Site:

06121

Volume (1 Ch/pg., 60 Min., 7 Days)
 Channel: Near lane fl

Interval	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Weekday	Week
Begin	7/23/2007	7/24/2007	7/25/2007	7/26/2007	7/27/2007	7/28/2007	7/29/2007	Avg	Avg
12:00 AM	1	1	0	1	2	4	*	1	1
1:00 AM	0	2	0	0	1	2	*	0	0
2:00 AM	1	0	0	0	0	0	*	0	0
3:00 AM	1	3	2	2	1	4	*	1	2
4:00 AM	3	1	0	2	1	2	*	1	1
5:00 AM	1	2	2	2	1	3	*	1	1
6:00 AM	4	6	12	5	7	8	*	6	7
7:00 AM	9	11	14	11	13	7	*	11	10
8:00 AM	25	26	21	23	18	15	*	22	21
9:00 AM	34	19	22	24	30	16	*	25	24
10:00 AM	31	23	17	14	20	13	*	21	19
11:00 AM	25	27	38	29	32	30	*	30	30
12:00 PM	28	31	23	29	34	*	*	29	29
1:00 PM	32	43	28	39	38	*	*	36	36
2:00 PM	43	36	28	32	34	*	*	34	34
3:00 PM	40	36	47	51	65	*	*	47	47
4:00 PM	31	39	30	31	30	*	*	32	32
5:00 PM	24	37	33	39	34	*	*	33	33
6:00 PM	12	16	20	14	14	*	*	15	15
7:00 PM	15	9	15	14	11	*	*	11	11
8:00 PM	11	4	10	6	16	*	*	9	9
9:00 PM	6	11	7	8	12	*	*	8	8
10:00 PM	4	8	7	2	9	*	*	6	6
11:00 PM	1	1	4	3	4	*	*	2	2
Totals	380	392	380	378	427	81	*	381	378
AM Peak	9:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM	8:00 AM	*	11:00 AM	11:00 AM
Volume	34	27	38	29	32	16	*	30	30
PM Peak	2:00 PM	1:00 PM	3:00 PM	3:00 PM	3:00 PM	*	*	3:00 PM	3:00 PM
Volume	43	43	47	51	65	*	*	47	47

INTERVIEW, INCORPORATED

Site: 06121

Description 1 : Winding Way
 Description 2 : s/o Gate
 Description 3 :

Volume (1 Ch/pg., 60 Min., 7 Days)
 Channel: Near lane fl

Interval	Mon 7/16/2007	Tue 7/17/2007	Wed 7/18/2007	Thu 7/19/2007	Fri 7/20/2007	Sat 7/21/2007	Sun 7/22/2007	Weekday Avg	Week Avg
12:00 AM	*	*	*	*	*	4	2	*	3
1:00 AM	*	*	*	*	*	4	4	*	4
2:00 AM	*	*	*	*	*	2	4	*	3
3:00 AM	*	*	*	*	*	0	1	*	0
4:00 AM	*	*	*	*	*	1	0	*	0
5:00 AM	*	*	*	*	*	2	2	*	2
6:00 AM	*	*	*	*	*	6	4	*	5
7:00 AM	*	*	*	*	*	19	2	*	10
8:00 AM	*	*	*	*	*	13	3	*	8
9:00 AM	*	*	*	*	6	28	14	6	16
10:00 AM	*	*	*	*	44	19	11	44	24
11:00 AM	*	*	*	*	36	35	14	36	28
12:00 PM	*	*	*	*	28	25	22	28	25
1:00 PM	*	*	*	*	34	26	13	34	24
2:00 PM	*	*	*	*	23	31	7	23	20
3:00 PM	*	*	*	*	41	32	17	41	30
4:00 PM	*	*	*	*	17	20	21	17	19
5:00 PM	*	*	*	*	16	20	9	16	15
6:00 PM	*	*	*	*	20	21	15	20	18
7:00 PM	*	*	*	*	14	14	21	14	16
8:00 PM	*	*	*	*	11	15	5	11	10
9:00 PM	*	*	*	*	0	10	5	0	8
10:00 PM	*	*	*	*	6	18	6	6	10
11:00 PM	*	*	*	*	4	3	7	4	4
Totals	*	*	*	*	311	368	209	311	302
AM Peak Volume	*	*	*	*	10:00 AM 44	11:00 AM 35	9:00 AM 14	10:00 AM 44	11:00 AM 28
PM Peak Volume	*	*	*	*	3:00 PM 41	3:00 PM 32	12:00 PM 22	3:00 PM 41	3:00 PM 30

Description 1 : Winding Way
 Description 2 : s/o Gate
 Description 3 :

Site: 06121

Volume (1 Ch/pg., 60 Min., 7 Days)
 Channel: Near lane fl

Interval	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Weekday	Week
Begin	7/23/2007	7/24/2007	7/25/2007	7/26/2007	7/27/2007	7/28/2007	7/29/2007	Avg	Avg
12:00 AM	1	3	2	5	2	12	*	2	4
1:00 AM	0	0	2	1	3	2	*	1	1
2:00 AM	0	0	3	0	0	4	*	0	1
3:00 AM	1	2	1	1	1	0	*	1	1
4:00 AM	3	6	3	1	0	2	*	2	2
5:00 AM	3	2	2	3	2	1	*	2	2
6:00 AM	6	19	15	14	11	7	*	13	12
7:00 AM	16	19	23	13	18	20	*	17	18
8:00 AM	22	31	15	28	35	14	*	26	24
9:00 AM	31	32	28	62	38	28	*	39	37
10:00 AM	25	22	31	29	35	4	*	28	24
11:00 AM	19	18	34	34	45	*	*	29	29
12:00 PM	30	32	31	35	39	*	*	33	33
1:00 PM	25	32	23	26	23	*	*	25	25
2:00 PM	30	18	16	24	24	*	*	22	22
3:00 PM	25	25	26	43	40	*	*	31	31
4:00 PM	26	20	26	12	15	*	*	19	19
5:00 PM	17	18	26	19	21	*	*	20	20
6:00 PM	16	18	13	27	10	*	*	16	16
7:00 PM	19	13	13	12	13	*	*	14	14
8:00 PM	6	13	9	12	18	*	*	11	11
9:00 PM	12	7	7	5	7	*	*	7	7
10:00 PM	3	4	7	6	7	*	*	5	5
11:00 PM	0	6	2	7	4	*	*	3	3
Totals	336	365	358	419	409	94	*	366	361
AM Peak Volume	9:00 AM 31	9:00 AM 37	11:00 AM 34	9:00 AM 62	11:00 AM 43	9:00 AM 28	*	9:00 AM 39	9:00 AM 37
PM Peak Volume	12:00 PM 30	12:00 PM 32	12:00 PM 31	3:00 PM 43	3:00 PM 40	*	*	12:00 PM 33	12:00 PM 33

24-HOUR ADT COUNT SUMMARY

CLIENT: ASSOCIATED TRANSPORTATION ENGINEERS
 PROJECT: MALIBU TUBE COUNTS
 LOCATION: LATIGO CANYON ROAD SOUTH OF WILLMOTT LANE
 DATE: FRIDAY MARCH 28, 2008

DIRECTION:		NB				HOUR TOTALS
TIME	00-15	15-30	30-45	45-60		
0:00	0	1	0	1	2	
1:00	0	0	0	1	1	
2:00	1	0	0	1	2	
3:00	0	0	0	0	0	
4:00	0	1	0	0	1	
5:00	0	0	0	1	1	
6:00	1	4	1	5	11	
7:00	10	7	9	5	31	
8:00	12	6	8	8	34	
9:00	11	4	6	6	27	
10:00	10	13	7	6	36	
11:00	8	5	9	4	26	
12:00	8	8	8	8	32	
13:00	9	10	9	6	34	
14:00	8	10	13	15	46	
15:00	11	9	14	7	41	
16:00	18	8	8	8	42	
17:00	4	17	8	11	40	
18:00	16	12	11	10	49	
19:00	6	10	10	3	29	
20:00	7	8	5	7	27	
21:00	9	4	9	4	26	
22:00	3	7	5	6	21	
23:00	1	5	1	2	9	
TOTAL					568	
AM PEAK HOUR		0945-1045				
VOLUME		36				
PM PEAK HOUR		1715-1815				
VOLUME		52				

DIRECTION:		SB				HOUR TOTALS
TIME	00-15	15-30	30-45	45-60		
0:00	1	0	0	0	1	
1:00	0	0	0	0	0	
2:00	0	0	0	0	0	
3:00	0	0	1	0	1	
4:00	0	0	0	1	1	
5:00	1	0	1	3	5	
6:00	2	7	6	10	25	
7:00	8	3	8	10	29	
8:00	14	13	14	14	55	
9:00	7	10	8	11	36	
10:00	11	10	8	17	46	
11:00	10	9	7	5	31	
12:00	13	14	8	16	51	
13:00	11	17	11	5	44	
14:00	10	12	7	9	38	
15:00	14	9	15	16	54	
16:00	16	13	9	9	47	
17:00	9	4	8	9	30	
18:00	6	4	11	6	27	
19:00	7	2	5	2	16	
20:00	4	3	3	0	10	
21:00	1	4	2	3	10	
22:00	2	0	2	3	7	
23:00	2	0	0	2	4	
TOTAL					568	
AM PEAK HOUR		0800-0900				
VOLUME		55				
PM PEAK HOUR		1530-1630				
VOLUME		60				

TOTAL BI-DIRECTIONAL VOLUME	1136
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24-HOUR ADT COUNT SUMMARY

CLIENT: ASSOCIATED TRANSPORTATION ENGINEERS
 PROJECT: MALIBU TUBE COUNTS
 LOCATION: LATIGO CANYON ROAD SOUTH OF WILLMOTT LANE
 DATE: SATURDAY MARCH 29, 2008

DIRECTION:		NB				HOUR TOTALS
TIME	00-15	15-30	30-45	45-60		
0:00	2	1	2	1	6	
1:00	1	0	0	0	1	
2:00	0	1	1	2	4	
3:00	0	0	1	0	1	
4:00	0	1	0	0	1	
5:00	0	1	0	0	1	
6:00	0	0	2	5	7	
7:00	4	5	1	0	10	
8:00	10	5	4	10	29	
9:00	12	7	8	10	37	
10:00	4	5	6	7	22	
11:00	7	6	4	6	23	
12:00	5	9	6	10	30	
13:00	12	9	8	14	43	
14:00	11	11	10	12	44	
15:00	15	12	8	13	48	
16:00	12	10	5	8	35	
17:00	13	17	3	7	40	
18:00	6	8	8	6	28	
19:00	6	5	7	6	24	
20:00	4	8	4	3	19	
21:00	8	7	7	4	26	
22:00	9	1	4	4	18	
23:00	5	2	1	0	8	
TOTAL					505	
AM PEAK HOUR		0845-0945				
VOLUME		37				
PM PEAK HOUR		1430-1530				
VOLUME		49				

DIRECTION:		SB				HOUR TOTALS
TIME	00-15	15-30	30-45	45-60		
0:00	0	3	0	0	3	
1:00	0	0	0	0	0	
2:00	0	0	1	0	1	
3:00	0	0	0	1	1	
4:00	1	0	1	0	2	
5:00	2	0	1	1	4	
6:00	1	1	3	4	9	
7:00	6	8	6	3	23	
8:00	6	17	17	12	52	
9:00	8	23	24	12	67	
10:00	17	6	4	6	33	
11:00	14	21	9	8	52	
12:00	13	14	17	4	48	
13:00	11	14	14	10	49	
14:00	8	11	10	17	46	
15:00	16	12	8	4	40	
16:00	6	11	10	8	35	
17:00	8	18	7	15	48	
18:00	4	6	5	8	23	
19:00	6	4	0	3	13	
20:00	6	3	4	2	15	
21:00	1	4	2	2	9	
22:00	0	2	3	1	6	
23:00	2	0	1	0	3	
TOTAL					582	
AM PEAK HOUR		0915-1015				
VOLUME		76				
PM PEAK HOUR		1430-1530				
VOLUME		55				

TOTAL BI-DIRECTIONAL VOLUME	1087
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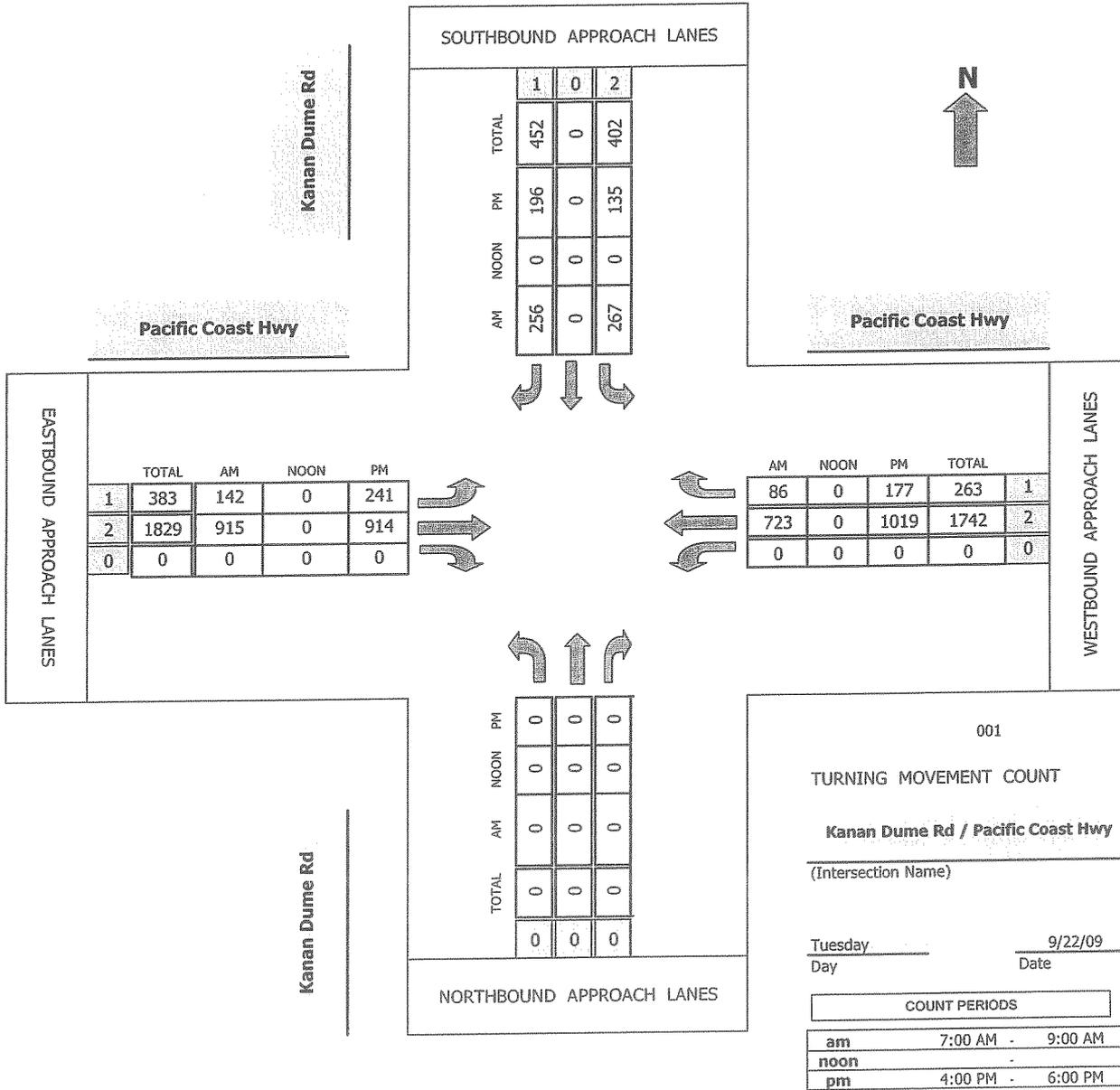
Intersection Turning Movement

Prepared by:

National Data & Surveying Services

TMC Summary of Kanan Dume Rd/Pacific Coast Hwy

Project #: 09-5301-001



CONTROL: Signalized

AM PEAK HOUR 730 AM
 NOON PEAK HOUR 0 AM
 PM PEAK HOUR 400 PM

Intersection Turning Movement

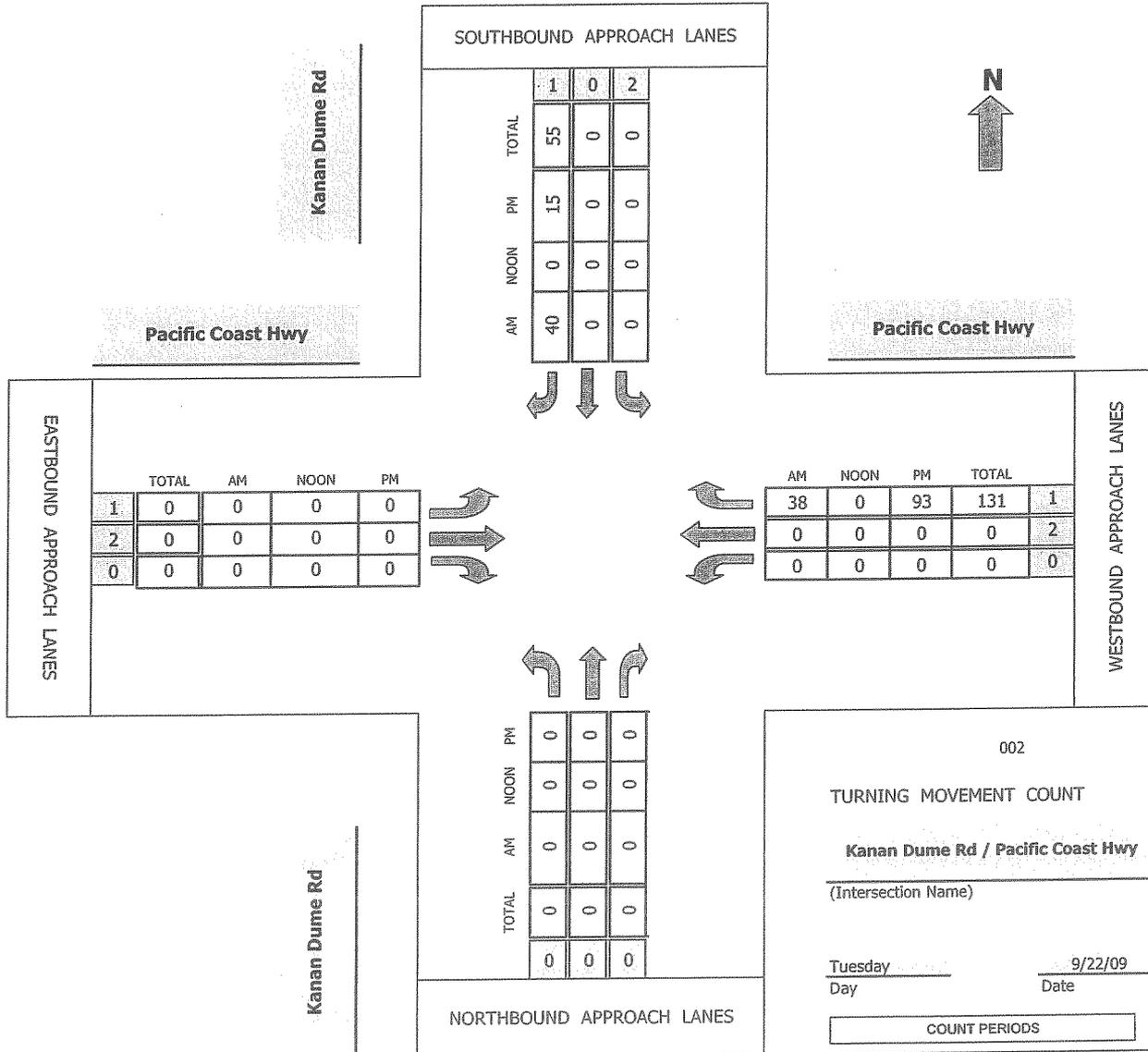
Prepared by:

National Data & Surveying Services

TMC Summary of Kanan Dume Rd/Pacific Coast Hwy

Project #: 09-5301-001

Right Turns on Red



CONTROL: Signalized

AM PEAK HOUR	730 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	400 PM

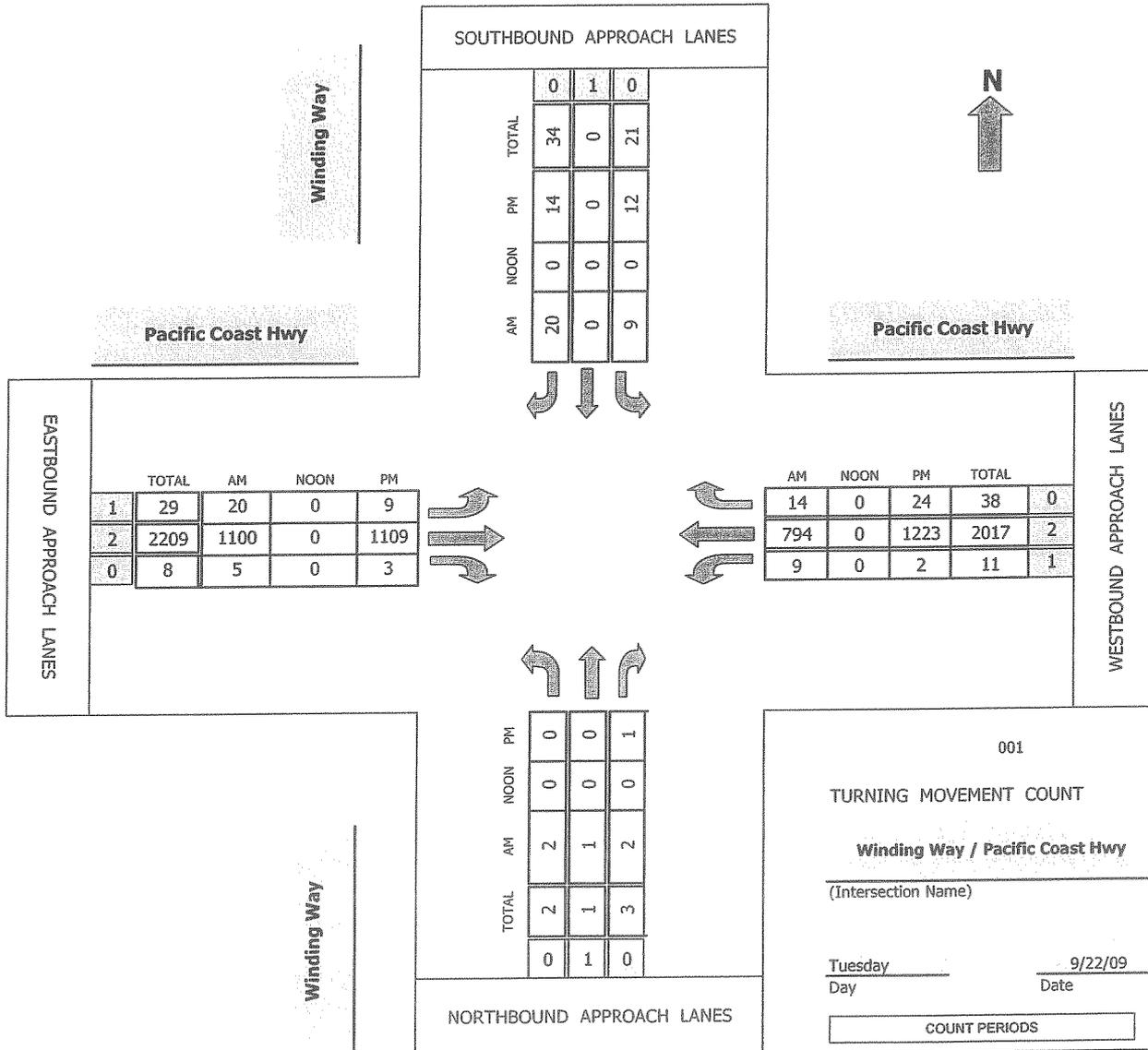
Intersection Turning Movement

Prepared by:

National Data & Surveying Services

TMC Summary of Winding Way/Pacific Coast Hwy

Project #: 09-5301-002



CONTROL: 2-Way Stop (NB/SB)

AM PEAK HOUR 730 AM
NOON PEAK HOUR 0 AM
PM PEAK HOUR 430 PM

Engineering Design Capacity Thresholds

SANTA BARBARA COUNTY PUBLIC WORKS DEPARTMENT
ROADWAY DESIGN CAPACITIES

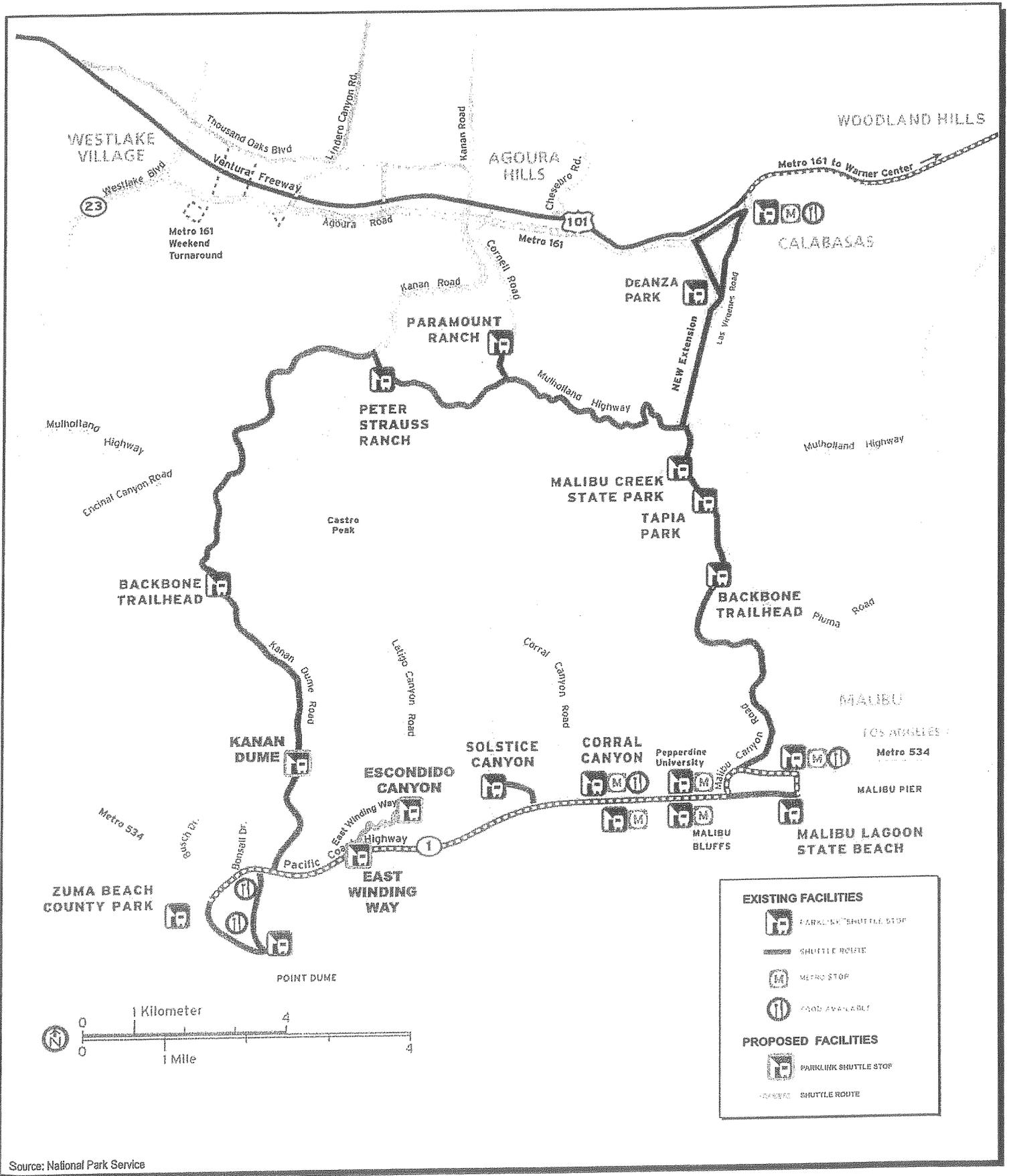
TYPE OF ROADWAY	# OF LANES	LOS A		LOS B		LOS C		LOS D		LOS E	
		Low	High								
Arterial	2 Lanes	8,100	12,000	9,400	14,000	10,800	16,000	12,100	18,000	13,500	20,000
Arterial	4 Lanes	16,100	23,900	18,900	27,900	21,600	31,900	24,300	35,900	27,000	39,900
Major	2 Lanes	6,500	9,600	7,500	11,200	8,600	12,800	9,700	14,400	10,800	16,000
Major	4 Lanes	12,900	19,200	15,100	22,300	17,200	25,500	19,400	28,700	21,600	31,900
Collector	--	4,600	7,100	5,400	8,200	6,200	9,400	6,900	10,600	7,700	11,800

The roadway capacities listed above are "rule of thumb" figures only. Some factors which affect these capacities are intersections (numbers and configuration), degrees of access control, roadway grades, design geometrics (horizontal and vertical alignment standards), sight distance, level of truck and bus traffic and level of pedestrian and bicycle traffic.



ASSOCIATED TRANSPORTATION ENGINEERS
 100 N. Hope Avenue, Suite 4, Santa Barbara, CA 93110 • (805) 687-4418

PARKLINK Shuttle Service Area Map



Santa Monica Mountains Conservancy/Mountains Recreation & Conservation Authority
 Public Works Plan
 ParkLINK Shuttle Service Area

FIGURE
 7

Cumulative Projects Trip Generation Worksheet

Project	Land Use	Size	Pass-by Factor		ADT		AM Peak Hour		PM Peak Hour	
			Rate	Trips	Rate	Trips	Rate	Trips	Rate	Trips
3700 La Paz	Specialty Retail	77,834	1.00	46.55	3,623	2.71	211	4.55	354	
Schultz	Office	54,224	1.00	22.21	1,204	1.55	84	3.30	179	
	Specialty Retail	19,425	1.00	46.55	904	2.71	53	4.55	88	
Wave Property	Office	19,425	1.00	22.21	431	1.55	30	3.30	64	
	Specialty Retail	32,500	1.00	46.55	1,513	2.71	88	4.55	148	
Storm Water Treatment Facility	Office	32,500	1.00	22.21	722	1.55	50	3.30	107	
	Office	560	1.00	22.21	12	1.55	1	3.30	2	
Waste Water Treatment Facility	Office	10,200	1.00	22.21	227	1.55	16	3.30	34	
Windsail	Restaurant	7,250	1.00	127.15	922	0.81	6	10.92	79	
Pierview	Restaurant	10,240	1.00	127.15	1,302	0.81	8	10.92	112	
Portshhead	Office	14,950	1.00	22.21	332	1.55	23	3.30	49	
22065 PCH	Condos	8	1.00	5.86	47	0.44	4	0.52	4	
Hajian	Office	9,700	1.00	22.21	215	1.55	15	3.30	32	
Forge Lodge	Bed & Breakfast	26	1.00	5.63	146	0.56	15	0.47	12	
Rancho Malibu	Hotel	146	1.00	8.17	1,193	0.56	82	0.59	86	
Adamson	Health Club	6,052	1.00	32.93	199	1.38	8	4.05	25	
	Specialty Retail	56,000	1.00	46.55	2,607	2.71	152	4.55	255	
Trancas Market ^a	Shopping Center	37,375	0.66	N/A	1,405	1.00	37	N/A	131	
Trancas Canyon Park	Park	14	1.00	20.00	273	0.01	0	1.80	25	
Pepperdine University	University	N/A	1.00	N/A	-727	N/A	-65	N/A	-50	
Malibu Colony Drive	SFD	4	1.00	9.57	38	0.75	3	1.01	4	
Malibu Road	SFD	17	1.00	9.57	163	0.75	13	1.01	17	
Serra Retreat	Condo	2	1.00	5.86	12	0.44	1	0.52	1	
	SFD	7	1.00	9.57	67	0.75	6	1.01	7	
Whole Foods	Supermarket	50,000	1.00	102.24	5,112	3.59	180	10.51	526	
City Hall/Office Building	Gov't Office Building	20,000	1.00	68.93	1,379	5.88	118	1.21	25	
Shopping Center	Specialty Retail	99,177	1.00	46.55	4,617	1.54	153	6.38	632	
Rancho Malibu Hotel	Hotel	146	1.00	8.17	1,193	0.56	82	0.59	86	
PCH Residential	SFD	5	1.00	9.57	48	0.75	4	1.01	5	
King Gillette Park	Park	N/A	1.00	N/A	360	N/A	42	N/A	41	
Total					29,179		1,420		3,080	

^a Net new trips, assumes 34% Pass-by factor

Intersection Level of Service Calculations

#05061 SMMC/MRCA

REF:

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 9/22/2009

TIME PERIOD: A.M. PEAK HOUR

N/S STREET: KANAN DUME ROAD

E/W STREET: PCH

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING:	0	0	0	267	0	296	142	915	0	0	723	123
(B) PROJECT-ADDED	0	0	0	1	0	1	0	1	0	0	3	1
(C) CUMULATIVE	0	0	0	274	0	398	191	1286	0	0	760	170

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND		SOUTH BOUND		EAST BOUND		WEST BOUND	
	L	T	LL	R	L	TT	TT	R

TRAFFIC SCENARIOS

- SCENARIO 1 = EXISTING VOLUMES (A)
 SCENARIO 2 = EXISTING + PROJECT VOLUMES(A + B)
 SCENARIO 3 = CUMULATIVE (C)
 SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B + C)

LEVEL OF SERVICE CALCULATIONS

MOVE- MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES				SCENARIO V/C RATIOS					
			1	2	3	4	1	2	3	4		
NBL	0	0	0	0	0	0	-	-	-	-		
NBT	0	0	0	0	0	0	-	-	-	-		
NBR	0	0	0	0	0	0	-	-	-	-		
SBL	2	3200	267	268	274	275	0.083 *	0.084 *	0.086 *	0.086 *		
SBT	0	2880	0	0	0	0	0.000	0.000	0.000	0.000		
SBR	1	1600	296	297	398	399	0.185	0.186	0.249	0.249		
EBL	1	1600	142	142	191	191	0.089 *	0.089 *	0.119 *	0.119 *		
EBT	2	3200	915	916	1286	1287	0.286	0.286	0.402	0.402		
EBR	0	0	0	0	0	0	-	-	-	-		
WBL	0	0	0	0	0	0	-	-	-	-		
WBT	2	3200	723	726	760	763	0.226 *	0.227 *	0.238 *	0.238 *		
WBR	1	1600	123	124	170	171	0.077	0.078	0.106	0.107		
LOST TIME:							0.100 *	0.100 *	0.100 *	0.100 *		
TOTAL INTERSECTION CAPACITY UTILIZATION:							0.498	0.500	0.543	0.543		
SCENARIO LEVEL OF SERVICE:							A	A	A	A		

NOTES:

#09061 SMMC/MRCA

REF:

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 9/22/2009

TIME PERIOD: P.M. PEAK HOUR

N/S STREET: KANAN DUME ROAD

E/W STREET: PCH

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING:	0	0	0	135	0	211	241	914	0	0	1019	270
(B) PROJECT-ADDED	0	0	0	3	0	1	1	3	0	0	2	3
(C) CUMULATIVE	0	0	0	149	0	286	336	1357	0	0	1495	375

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
		LL R	L TT	TT R

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
 SCENARIO 2 = EXISTING+ PROJECT VOLUMES(A + B)
 SCENARIO 3 = CUMULATIVE (C)
 SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B + C)

LEVEL OF SERVICE CALCULATIONS

MOVE- MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES				SCENARIO V/C RATIOS					
			1	2	3	4	1	2	3	4		
NBL	0	0	0	0	0	0	-	-	-	-		
NBT	0	0	0	0	0	0	-	-	-	-		
NBR	0	0	0	0	0	0	-	-	-	-		
SBL	2	3200	135	138	149	152	0.042 *	0.043 *	0.047 *	0.048 *		
SBT	0	2880	0	0	0	0	0.000	0.000	0.000	0.000		
SBR (a)	1	1600	181	182	246	247	0.113	0.114	0.154	0.154		
EBL	1	1600	241	242	336	337	0.151 *	0.151 *	0.210 *	0.211 *		
EBT	2	3200	914	917	1357	1360	0.286	0.287	0.424	0.425		
EBR	0	0	0	0	0	0	-	-	-	-		
WBL	0	0	0	0	0	0	-	-	-	-		
WBT	2	3200	1019	1021	1495	1497	0.318 *	0.319 *	0.467 *	0.468 *		
WBR (b)	1	1600	186	188	259	261	0.116	0.118	0.162	0.163		
LOST TIME:							0.100 *	0.100 *	0.100 *	0.100 *		
TOTAL INTERSECTION CAPACITY UTILIZATION:							0.611	0.613	0.824	0.827		
SCENARIO LEVEL OF SERVICE:							B	B	D	D		

NOTES:

RTOR: (a) 14%
 (b) 31%

Printed: 10/05/09

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	LDH	Intersection	PCH/WINDING WAY
Agency/Co.	ATE	Jurisdiction	MALIBU
Date Performed	9/22/09	Analysis Year	EXISTING AM PEAK HOUR
Analysis Time Period	EXISTING		
Project Description SMMC/MRCS			
East/West Street: PCH		North/South Street: WINDING WAY	
Intersection Orientation: East-West		Study Period (hrs): 0.25	

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	20	1100	5	9	794	14
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	20	1100	5	9	794	14
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	2	0	1	2	0
Configuration	L	T	TR	L	T	TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	2	1	2	9	0	20
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	2	1	2	9	0	20
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)	0			0		
Flared Approach	N			N		
Storage	0			0		
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L	LTR			LTR		
v (veh/h)	20	9	5			29		
C (m) (veh/h)	826	639	104			227		
v/c	0.02	0.01	0.05			0.13		
95% queue length	0.07	0.04	0.15			0.43		
Control Delay (s/veh)	9.5	10.7	41.4			23.2		
LOS	A	B	E			C		
Approach Delay (s/veh)	--	--	41.4			23.2		
Approach LOS	--	--	E			C		

AWD=18.5s, LOSC

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	LDH	Intersection	02
Agency/Co.	ATE	Jurisdiction	MALIBU
Date Performed	9/22/09	Analysis Year	EXISTING PM PEAK HOUR
Analysis Time Period	EXISTING		
Project Description SMMC/MRCS			
East/West Street: PCH		North/South Street: WINDING WAY	
Intersection Orientation: East-West		Study Period (hrs): 0.25	

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	9	1109	3	2	1223	24
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	9	1109	3	2	1223	24
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	2	0	1	2	0
Configuration	L	T	TR	L	T	TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	0	0	1	12	0	14
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	1	12	0	14
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L	LTR			LTR		
v (veh/h)	9	2	1			26		
C (m) (veh/h)	565	635	480			94		
v/c	0.02	0.00	0.00			0.28		
95% queue length	0.05	0.01	0.01			1.02		
Control Delay (s/veh)	11.5	10.7	12.5			57.3		
LOS	B	B	B			F		
Approach Delay (s/veh)	--	--	12.5			57.3		
Approach LOS	--	--	B			F		

AWD = 42.8s = LOS E

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	LDH	Intersection	PCH/WINDING WAY
Agency/Co.	ATE	Jurisdiction	MALIBU
Date Performed	9/22/09	Analysis Year	EXISTING+PROJECT AM
Analysis Time Period	EXISTING		PEAK HOUR

Project Description SMMC/MRCS	
East/West Street: PCH	North/South Street: WINDING WAY
Intersection Orientation: East-West	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound			
	Movement	1	2	3	4	5	6
		L	T	R	L	T	R
Volume (veh/h)		20	1103	5	9	797	15
Peak-Hour Factor, PHF		1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)		20	1103	5	9	797	15
Percent Heavy Vehicles		0	--	--	0	--	--
Median Type	Undivided						
RT Channelized				0			0
Lanes		1	2	0	1	2	0
Configuration		L	T	TR	L	T	TR
Upstream Signal			0			0	

Minor Street	Northbound			Southbound			
	Movement	7	8	9	10	11	12
		L	T	R	L	T	R
Volume (veh/h)		2	1	2	10	0	21
Peak-Hour Factor, PHF		1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)		2	1	2	10	0	21
Percent Heavy Vehicles		0	0	0	0	0	0
Percent Grade (%)			0			0	
Flared Approach			N			N	
Storage			0			0	
RT Channelized				0			0
Lanes		0	1	0	0	1	0
Configuration			LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
			7	8	9	10	11	12
Movement	1	4						
Lane Configuration	L	L		LTR			LTR	
v (veh/h)	20	9		5			31	
C (m) (veh/h)	823	638		103			221	
v/c	0.02	0.01		0.05			0.14	
95% queue length	0.07	0.04		0.15			0.48	
Control Delay (s/veh)	9.5	10.7		41.7			23.9	
LOS	A	B		E			C	
Approach Delay (s/veh)	--	--		41.7			23.9	
Approach LOS	--	--		E			C	

AWD=19.0s = LOSC

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	LDH	Intersection	02
Agency/Co.	ATE	Jurisdiction	MALIBU
Date Performed	9/22/09	Analysis Year	EXISTING+PROJECT PM PEAK HOUR
Analysis Time Period	EXISTING		

Project Description SMMC/MRCS	
East/West Street: PCH	North/South Street: WINDING WAY
Intersection Orientation: East-West	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound			
	Movement	1	2	3	4	5	6
		L	T	R	L	T	R
Volume (veh/h)		10	1114	3	2	1228	25
Peak-Hour Factor, PHF		1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)		10	1114	3	2	1228	25
Percent Heavy Vehicles		0	--	--	0	--	--
Median Type	Undivided						
RT Channelized				0			0
Lanes		1	2	0	1	2	0
Configuration		L	T	TR	L	T	TR
Upstream Signal			0			0	

Minor Street	Northbound			Southbound			
	Movement	7	8	9	10	11	12
		L	T	R	L	T	R
Volume (veh/h)		0	0	1	13	0	15
Peak-Hour Factor, PHF		1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)		0	0	1	13	0	15
Percent Heavy Vehicles		0	0	0	0	0	0
Percent Grade (%)			0			0	
Flared Approach			N			N	
Storage			0			0	
RT Channelized				0			0
Lanes		0	1	0	0	1	0
Configuration			LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound			
	Movement	1	4	7	8	9	10	11	12
Lane Configuration		L	L		LTR			LTR	
v (veh/h)		10	2		1			28	
C (m) (veh/h)		562	633		478			92	
v/c		0.02	0.00		0.00			0.30	
95% queue length		0.05	0.01		0.01			1.15	
Control Delay (s/veh)		11.5	10.7		12.5			60.4	
LOS		B	B		B			F	
Approach Delay (s/veh)		--	--		12.5			60.4	
Approach LOS		--	--		B			F	

AWD = 44.9s - LOS E

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	LDH	Intersection	02_CU_AM
Agency/Co.	ATE	Jurisdiction	MALIBU
Date Performed	9/22/09	Analysis Year	CUMULATIVE AM PEAK HOUR
Analysis Time Period	CUMULATIVE		

Project Description SMMC/MRCS	
East/West Street: PCH	North/South Street: WINDING WAY
Intersection Orientation: East-West	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	27	1585	7	12	1126	21
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	27	1585	7	12	1126	21
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	2	0	1	2	0
Configuration	L	T	TR	L	T	TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	2	1	2	15	0	27
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	2	1	2	15	0	27
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LTR			LTR	
v (veh/h)	27	12		5			42	
C (m) (veh/h)	616	418		31			80	
v/c	0.04	0.03		0.16			0.52	
95% queue length	0.14	0.09		0.50			2.25	
Control Delay (s/veh)	11.1	13.9		142.3			91.6	
LOS	B	B		F			F	
Approach Delay (s/veh)	--	--	142.3			91.6		
Approach LOS	--	--	F			F		

AWD > 50.0s = LOS F

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	LDH	Intersection	02_CU_PM
Agency/Co.	ATE	Jurisdiction	MALIBU
Date Performed	9/22/09	Analysis Year	CUMULATIVE PM PEAK HOUR
Analysis Time Period	CUMULATIVE		
Project Description SMMC/MRCS		North/South Street: WINDING WAY	
East/West Street: PCH		Study Period (hrs): 0.25	
Intersection Orientation: East-West			

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	13	1737	4	3	1855	37
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	13	1737	4	3	1855	37
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	2	0	1	2	0
Configuration	L	T	TR	L	T	TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	0	0	1	21	0	20
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	1	21	0	20
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LTR			LTR	
v (veh/h)	13	3		1			41	
C (m) (veh/h)	320	366		299			17	
v/c	0.04	0.01		0.00			2.41	
95% queue length	0.13	0.02		0.01			5.70	
Control Delay (s/veh)	16.7	14.9		17.1			1110	
LOS	C	B		C			F	
Approach Delay (s/veh)	--	--		17.1			1110	
Approach LOS	--	--		C			F	

AWD = > 50 sec. / LOS F

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	LDH	Intersection	02_CU_AM
Agency/Co.	ATE	Jurisdiction	MALIBU
Date Performed	9/22/09	Analysis Year	CUMULATIVE + PROJ AM
Analysis Time Period	CUMULATIVE + PROJECT		PEAK HOUR
Project Description SMMC/MRCS			
East/West Street: PCH		North/South Street: WINDING WAY	
Intersection Orientation: East-West		Study Period (hrs): 0.25	

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	27	1588	7	12	1129	22
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	27	1588	7	12	1129	22
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	2	0	1	2	0
Configuration	L	T	TR	L	T	TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	2	1	2	16	0	28
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	2	1	2	16	0	28
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L	LTR			LTR		
v (veh/h)	27	12	5			44		
C (m) (veh/h)	614	416	31			76		
v/c	0.04	0.03	0.16			0.58		
95% queue length	0.14	0.09	0.50			2.53		
Control Delay (s/veh)	11.1	13.9	142.3			103.6		
LOS	B	B	F			F		
Approach Delay (s/veh)	--	--	142.3			103.6		
Approach LOS	--	--	F			F		

AWD > 50.0s = LOS F

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	LDH	Intersection	02_CU_PM
Agency/Co.	ATE	Jurisdiction	MALIBU
Date Performed	9/22/09	Analysis Year	CUMULATIVE +PROJ PM
Analysis Time Period	CUMULATIVE+PROJECT		PEAK HOUR

Project Description SMMC/MRCS	
East/West Street: PCH	North/South Street: WINDING WAY
Intersection Orientation: East-West	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound			
	Movement	1	2	3	4	5	6
		L	T	R	L	T	R
Volume (veh/h)		14	1742	4	3	1860	38
Peak-Hour Factor, PHF		1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)		14	1742	4	3	1860	38
Percent Heavy Vehicles		0	--	--	0	--	--
Median Type	Undivided						
RT Channelized				0			0
Lanes		1	2	0	1	2	0
Configuration		L	T	TR	L	T	TR
Upstream Signal			0			0	

Minor Street	Northbound			Southbound			
	Movement	7	8	9	10	11	12
		L	T	R	L	T	R
Volume (veh/h)		0	0	1	22	0	21
Peak-Hour Factor, PHF		1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)		0	0	1	22	0	21
Percent Heavy Vehicles		0	0	0	0	0	0
Percent Grade (%)			0			0	
Flared Approach			N			N	
Storage			0			0	
RT Channelized				0			0
Lanes		0	1	0	0	1	0
Configuration			LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
			7	8	9	10	11	12
Movement	1	4						
Lane Configuration	L	L		LTR			LTR	
v (veh/h)	14	3		1			43	
C (m) (veh/h)	318	364		297			17	
v/c	0.04	0.01		0.00			2.53	
95% queue length	0.14	0.02		0.01			5.96	
Control Delay (s/veh)	16.8	15.0		17.2			1160	
LOS	C	B		C			F	
Approach Delay (s/veh)	--	--		17.2			1160	
Approach LOS	--	--		C			F	

AWD > 50.0s = LOS F

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	LDH	Intersection	02
Agency/Co.	ATE	Jurisdiction	MALIBU
Date Performed	9/22/09	Analysis Year	EXISTING AM PEAK HOUR
Analysis Time Period	EXISTING		
Project Description SMMC/MRCS			
East/West Street: PCH		North/South Street: LATIGO CANYON ROAD	
Intersection Orientation: East-West		Study Period (hrs): 0.25	

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	22	1196			809	26
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	22	1196	0	0	809	26
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	2	0	0	2	0
Configuration	L	T			T	TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				28		31
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	28	0	31
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L						LR	
v (veh/h)	22						59	
C (m) (veh/h)	807						204	
v/c	0.03						0.29	
95% queue length	0.08						1.15	
Control Delay (s/veh)	9.6						29.7	
LOS	A						D	
Approach Delay (s/veh)	--	--					29.7	
Approach LOS	--	--					D	

AWD = 24.2s = LOS C

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	LDH	Intersection	02
Agency/Co.	ATE	Jurisdiction	MALIBU
Date Performed	9/22/09	Analysis Year	EXISTING PM PEAK HOUR
Analysis Time Period	EXISTING		

Project Description		SMMC/MRCS	
East/West Street:		PCH	
North/South Street:		LATIGO CANYON ROAD	
Intersection Orientation:		East-West	
Study Period (hrs):		0.25	

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	13	1162			1223	33
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	13	1162	0	0	1223	33
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	2	0	0	2	0
Configuration	L	T			T	TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				24		14
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	24	0	14
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L						LR	
v (veh/h)	13						38	
C (m) (veh/h)	561						96	
v/c	0.02						0.40	
95% queue length	0.07						1.61	
Control Delay (s/veh)	11.6						65.2	
LOS	B						F	
Approach Delay (s/veh)	--	--					65.2	
Approach LOS	--	--					F	

AWD > 50.0s = LOS F

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	LDH	Intersection	02
Agency/Co.	ATE	Jurisdiction	MALIBU
Date Performed	9/22/09	Analysis Year	EXISTING+PROJECT AM
Analysis Time Period	EXISTING		PEAK HOUR

Project Description SMMC/MRCS	
East/West Street: PCH	North/South Street: LATIGO CANYON ROAD
Intersection Orientation: East-West	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movement	Eastbound			Westbound		
	1 L	2 T	3 R	4 L	5 T	6 R
Volume (veh/h)	22	1200			813	27
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	22	1200	0	0	813	27
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	2	0	0	2	0
Configuration	L	T			T	TR
Upstream Signal		0			0	

Minor Street Movement	Northbound			Southbound		
	7 L	8 T	9 R	10 L	11 T	12 R
Volume (veh/h)				29		31
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	29	0	31
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach Storage		N			N	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
	1	4	7	8	9	10	11	12
Movement							LR	
Lane Configuration	L							
v (veh/h)	22						60	
C (m) (veh/h)	804						200	
v/c	0.03						0.30	
95% queue length	0.08						1.20	
Control Delay (s/veh)	9.6						30.5	
LOS	A						D	
Approach Delay (s/veh)	--	--					30.5	
Approach LOS	--	--					D	

AWD = 24.9s = LOSC

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	LDH	Intersection	02
Agency/Co.	ATE	Jurisdiction	MALIBU
Date Performed	9/22/09	Analysis Year	EXISTING+PROJECT PM PEAK HOUR
Analysis Time Period	EXISTING		

Project Description SMMC/MRCS	
East/West Street: PCH	North/South Street: LATIGO CANYON ROAD
Intersection Orientation: East-West	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	13	1168			1229	34
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	13	1168	0	0	1229	34
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	2	0	0	2	0
Configuration	L	T			T	TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				25		14
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	25	0	14
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L						LR	
v (veh/h)	13						39	
C (m) (veh/h)	557						93	
v/c	0.02						0.42	
95% queue length	0.07						1.73	
Control Delay (s/veh)	11.6						69.2	
LOS	B						F	
Approach Delay (s/veh)	--	--					69.2	
Approach LOS	--	--					F	

AWD > 50.0s = LOS F

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	LDH	Intersection	03_CU_AM
Agency/Co.	ATE	Jurisdiction	MALIBU
Date Performed	9/22/09	Analysis Year	CUMULATIVE AM PEAK HOUR
Analysis Time Period	CUMULATIVE		

Project Description <i>SMMC/MRCS</i>	
East/West Street: <i>PCH</i>	North/South Street: <i>LATIGO CANYON ROAD</i>
Intersection Orientation: <i>East-West</i>	Study Period (hrs): <i>0.25</i>

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	29	1735			1155	37
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	29	1735	0	0	1155	37
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	<i>Undivided</i>					
RT Channelized			0			0
Lanes	1	2	0	0	2	0
Configuration	L	T			T	TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				42		43
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	42	0	43
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L						LR	
v (veh/h)	29						85	
C (m) (veh/h)	593						81	
v/c	0.05						1.05	
95% queue length	0.15						5.90	
Control Delay (s/veh)	11.4						205.9	
LOS	B						F	
Approach Delay (s/veh)	--	--					205.9	
Approach LOS	--	--					F	

AWD > 50.0s = LOS F

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	LDH	Intersection	02 CU_PM
Agency/Co.	ATE	Jurisdiction	MALIBU
Date Performed	9/22/09	Analysis Year	CUMULATIVE PM PEAK HOUR
Analysis Time Period	CUMULATIVE		
Project Description SMMC/MRCS			
East/West Street: PCH		North/South Street: LATIGO CANYON ROAD	
Intersection Orientation: East-West		Study Period (hrs): 0.25	

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	19	1806			1885	52
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	19	1806	0	0	1885	52
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	2	0	0	2	0
Configuration	L	T			T	TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				40		21
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	40	0	21
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L						LR	
v (veh/h)	19						61	
C (m) (veh/h)	307						19	
v/c	0.06						3.21	
95% queue length	0.20						8.08	
Control Delay (s/veh)	17.5						1414	
LOS	C						F	
Approach Delay (s/veh)	--	--					1414	
Approach LOS	--	--					F	

AWD = 750 sec. / LOS F

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	LDH	Intersection	03_CU_AM
Agency/Co.	ATE	Jurisdiction	MALIBU
Date Performed	9/22/09	Analysis Year	CUMULATIVE+PROJ AM
Analysis Time Period	CUMULATIVE+PROJECT		PEAK HOUR

Project Description SMMC/MRCS	
East/West Street: PCH	North/South Street: LATIGO CANYON ROAD
Intersection Orientation: East-West	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	29	1739			1159	38
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	29	1739	0	0	1159	38
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	2	0	0	2	0
Configuration	L	T			T	TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				43		43
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	43	0	43
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L						LR	
v (veh/h)	29						86	
C (m) (veh/h)	590						78	
v/c	0.05						1.10	
95% queue length	0.15						6.20	
Control Delay (s/veh)	11.4						227.3	
LOS	B						F	
Approach Delay (s/veh)	--	--					227.3	
Approach LOS	--	--					F	

AWD > 50.0s = LOS F

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	LDH	Intersection	03_CU_PM
Agency/Co.	ATE	Jurisdiction	MALIBU
Date Performed	9/22/09	Analysis Year	CUMULATIVE +PROJ PM
Analysis Time Period	CUMULATIVE+PROJECT		PEAK HOUR
Project Description SMMC/MRCS			
East/West Street: PCH		North/South Street: LATIGO CANYON ROAD	
Intersection Orientation: East-West		Study Period (hrs): 0.25	

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	19	1812			1891	53
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	19	1812	0	0	1891	53
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	2	0	0	2	0
Configuration	L	T			T	TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				41		21
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	41	0	21
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L						LR	
v (veh/h)	19						62	
C (m) (veh/h)	306						19	
v/c	0.06						3.26	
95% queue length	0.20						8.21	
Control Delay (s/veh)	17.5						1437	
LOS	C						F	
Approach Delay (s/veh)	--	--					1437	
Approach LOS	--	--					F	

AWD > 50.0s = LOS F

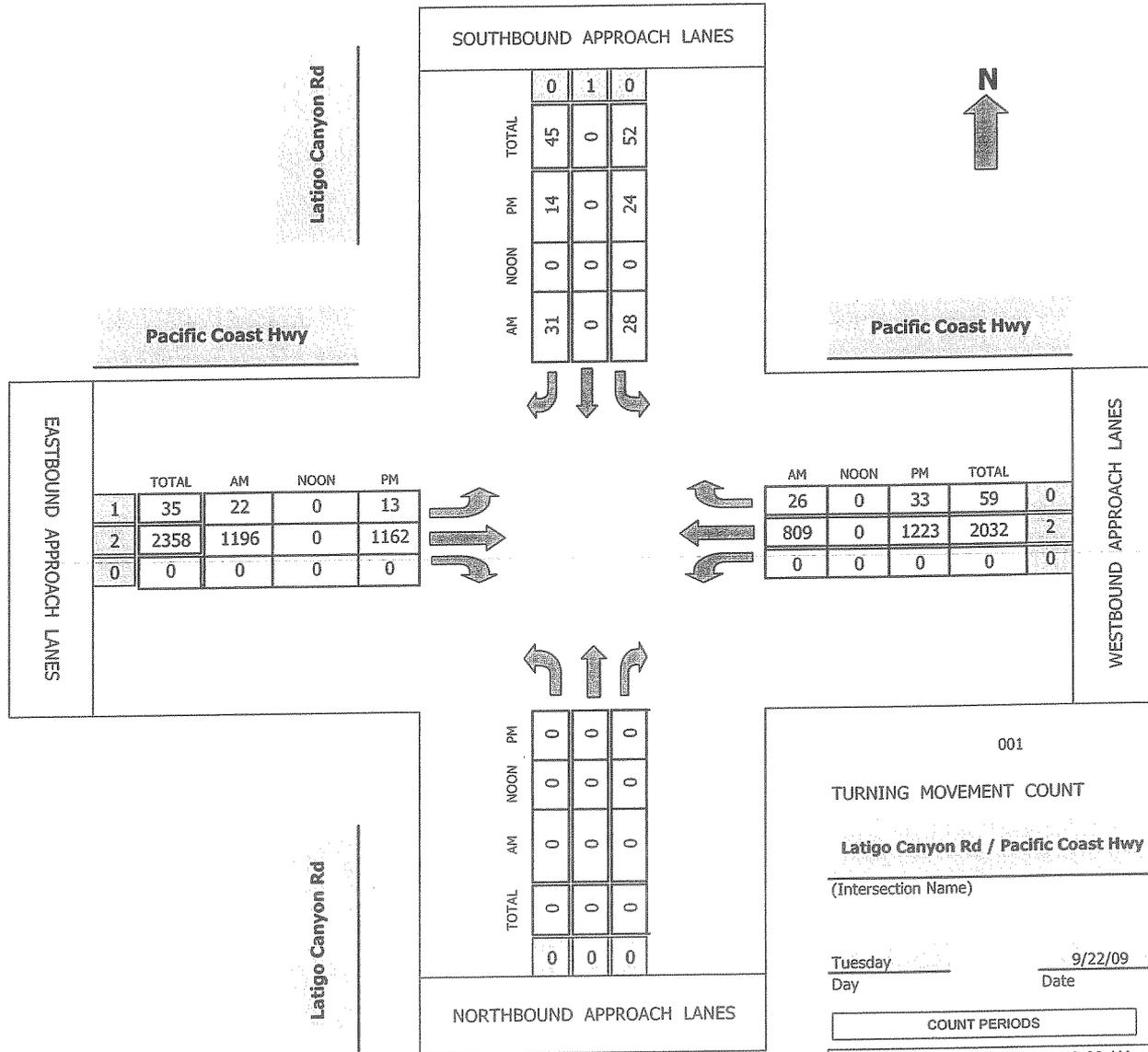
Intersection Turning Movement

Prepared by:

National Data & Surveying Services

TMC Summary of Latigo Canyon Rd/Pacific Coast Hwy

Project #: 09-5301-003



CONTROL: 1-Way Stop (SB)

AM PEAK HOUR 730 AM
NOON PEAK HOUR 0 AM
PM PEAK HOUR 430 PM

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	LDH	Intersection	02
Agency/Co.	ATE	Jurisdiction	MALIBU
Date Performed	9/22/09	Analysis Year	EXISTING AM PEAK HOUR
Analysis Time Period	EXISTING		
Project Description SMMC/MRCS			
East/West Street: PCH		North/South Street: CORRAL CANYON ROAD	
Intersection Orientation: East-West		Study Period (hrs): 0.25	

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	28	1196			832	43
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	28	1196	0	0	832	43
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Two Way Left Turn Lane					
RT Channelized			0			0
Lanes	1	2	0	0	2	0
Configuration	L	T			T	TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				42		22
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	42	0	22
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	1	0	1
Configuration				L		R

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L					L		R
v (veh/h)	28					42		22
C (m) (veh/h)	780					241		572
v/c	0.04					0.17		0.04
95% queue length	0.11					0.62		0.12
Control Delay (s/veh)	9.8					23.1		11.5
LOS	A					C		B
Approach Delay (s/veh)	--	--				19.1		
Approach LOS	--	--				C		

AWD=16.3s = LOS C

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	LDH	Intersection	02
Agency/Co.	ATE	Jurisdiction	MALIBU
Date Performed	9/22/09	Analysis Year	EXISTING PM PEAK HOUR
Analysis Time Period	EXISTING		
Project Description SMMC/MRCS			
East/West Street: PCH		North/South Street: CORRAL CANYON ROAD	
Intersection Orientation: East-West		Study Period (hrs): 0.25	

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	20	1202			1440	41
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	20	1202	0	0	1440	41
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Two Way Left Turn Lane					
RT Channelized			0			0
Lanes	1	2	0	0	2	0
Configuration	L	T			T	TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				45		32
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	45	0	32
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	1	0	1
Configuration				L		R

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L					L		R
v (veh/h)	20					45		32
C (m) (veh/h)	460					136		364
v/c	0.04					0.33		0.09
95% queue length	0.14					1.33		0.29
Control Delay (s/veh)	13.2					44.0		15.8
LOS	B					E		C
Approach Delay (s/veh)	--	--				32.3		
Approach LOS	--	--				D		

AWD = 28.3s = LOS D

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	LDH	Intersection	02
Agency/Co.	ATE	Jurisdiction	MALIBU
Date Performed	9/22/09	Analysis Year	EXISTING+PROJECT AM PEAK HOUR
Analysis Time Period	EXISTING		

Project Description SMMC/MRCS	
East/West Street: PCH	North/South Street: CORRAL CANYON ROAD
Intersection Orientation: East-West	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	28	1201			837	43
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	28	1201	0	0	837	43
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Two Way Left Turn Lane					
RT Channelized			0			0
Lanes	1	2	0	0	2	0
Configuration	L	T			T	TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				42		22
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	42	0	22
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	1	0	1
Configuration				L		R

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L					L		R
v (veh/h)	28					42		22
C (m) (veh/h)	777					240		570
v/c	0.04					0.17		0.04
95% queue length	0.11					0.62		0.12
Control Delay (s/veh)	9.8					23.2		11.6
LOS	A					C		B
Approach Delay (s/veh)	--	--				19.2		
Approach LOS	--	--				C		

AWD = 16.3s = LOSC

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	LDH	Intersection	02
Agency/Co.	ATE	Jurisdiction	MALIBU
Date Performed	9/22/09	Analysis Year	EXISTING+PROJECT PM
Analysis Time Period	EXISTING		PEAK HOUR

Project Description SMMC/MRCS	
East/West Street: PCH	North/South Street: CORRAL CANYON ROAD
Intersection Orientation: East-West	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound			
	Movement	1	2	3	4	5	6
		L	T	R	L	T	R
Volume (veh/h)		20	1209			1447	41
Peak-Hour Factor, PHF		1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)		20	1209	0	0	1447	41
Percent Heavy Vehicles		0	--	--	0	--	--
Median Type	Two Way Left Turn Lane						
RT Channelized				0			0
Lanes		1	2	0	0	2	0
Configuration		L	T			T	TR
Upstream Signal			0			0	

Minor Street	Northbound			Southbound			
	Movement	7	8	9	10	11	12
		L	T	R	L	T	R
Volume (veh/h)					45		32
Peak-Hour Factor, PHF		1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)		0	0	0	45	0	32
Percent Heavy Vehicles		0	0	0	0	0	0
Percent Grade (%)			0			0	
Flared Approach			N			N	
Storage			0			0	
RT Channelized				0			0
Lanes		0	0	0	1	0	1
Configuration					L		R

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
			7	8	9	10	11	12
Movement	1	4						
Lane Configuration	L					L		R
v (veh/h)	20					45		32
C (m) (veh/h)	458					134		362
v/c	0.04					0.34		0.09
95% queue length	0.14					1.35		0.29
Control Delay (s/veh)	13.2					44.9		15.9
LOS	B					E		C
Approach Delay (s/veh)	--	--					32.8	
Approach LOS	--	--					D	

AWD = 28.8s = LOS D

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	LDH	Intersection	04_CU_AM
Agency/Co.	ATE	Jurisdiction	MALIBU
Date Performed	9/22/09	Analysis Year	CUMULATIVE AM PEAK HOUR
Analysis Time Period	CUMULATIVE		

Project Description SMMC/MRCS	
East/West Street: PCH	North/South Street: CORRAL CANYON ROAD
Intersection Orientation: East-West	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound			
	Movement	1	2	3	4	5	6
		L	T	R	L	T	R
Volume (veh/h)		38	1735			1190	58
Peak-Hour Factor, PHF		1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)		38	1735	0	0	1190	58
Percent Heavy Vehicles		0	--	--	0	--	--
Median Type	Two Way Left Turn Lane						
RT Channelized				0			0
Lanes		1	2	0	0	2	0
Configuration		L	T			T	TR
Upstream Signal			0			0	

Minor Street	Northbound			Southbound			
	Movement	7	8	9	10	11	12
		L	T	R	L	T	R
Volume (veh/h)					56		29
Peak-Hour Factor, PHF		1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)		0	0	0	56	0	29
Percent Heavy Vehicles		0	0	0	0	0	0
Percent Grade (%)		0			0		
Flared Approach		N			N		
Storage		0			0		
RT Channelized				0			0
Lanes		0	0	0	1	0	1
Configuration					L		R

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound			
	Movement	1	4	7	8	9	10	11	12
Lane Configuration		L					L		R
v (veh/h)		38					56		29
C (m) (veh/h)		565					144		433
v/c		0.07					0.39		0.07
95% queue length		0.22					1.66		0.21
Control Delay (s/veh)		11.8					45.1		13.9
LOS		B					E		B
Approach Delay (s/veh)		--	--				34.4		
Approach LOS		--	--				D		

AWD = 27.5 sec. / LOS D

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	LDH	Intersection	04_CU_PM
Agency/Co.	ATE	Jurisdiction	MALIBU
Date Performed	9/22/09	Analysis Year	CUMULATIVE PM PEAK HOUR
Analysis Time Period	CUMULATIVE		

Project Description SMMC/MRCS	
East/West Street: PCH	North/South Street: CORRAL CANYON ROAD
Intersection Orientation: East-West	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	27	1881			2197	55
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	27	1881	0	0	2197	55
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Two Way Left Turn Lane					
RT Channelized			0			0
Lanes	1	2	0	0	2	0
Configuration	L	T			T	TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				60		43
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	60	0	43
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	1	0	1
Configuration				L		R

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L					L		R
v (veh/h)	27					60		43
C (m) (veh/h)	232					53		202
v/c	0.12					1.13		0.21
95% queue length	0.39					5.20		0.78
Control Delay (s/veh)	22.6					291.0		27.6
LOS	C					F		D
Approach Delay (s/veh)	--	--				181.0		
Approach LOS	--	--				F		

AWD = 750 sec. / LOS F

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	LDH	Intersection	04_CU_AM
Agency/Co.	ATE	Jurisdiction	MALIBU
Date Performed	9/22/09	Analysis Year	CUMULATIVE+PROJE AM PEAK HOUR
Analysis Time Period	CUMULATIVE+PROJECT		
Project Description SMMC/MRCS			
East/West Street: PCH		North/South Street: CORRAL CANYON ROAD	
Intersection Orientation: East-West		Study Period (hrs): 0.25	

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
	1	2	3	4	5	6
Movement	L	T	R	L	T	R
Volume (veh/h)	38	1740			1195	58
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	38	1740	0	0	1195	58
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Two Way Left Turn Lane					
RT Channelized			0			0
Lanes	1	2	0	0	2	0
Configuration	L	T			T	TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
	7	8	9	10	11	12
Movement	L	T	R	L	T	R
Volume (veh/h)				56		29
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	56	0	29
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	1	0	1
Configuration				L		R

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
			7	8	9	10	11	12
Movement	1	4				10	11	12
Lane Configuration	L					L		R
v (veh/h)	38					56		29
C (m) (veh/h)	562					144		432
v/c	0.07					0.39		0.07
95% queue length	0.22					1.66		0.21
Control Delay (s/veh)	11.9					45.1		13.9
LOS	B					E		B
Approach Delay (s/veh)	--	--				34.5		
Approach LOS	--	--				D		

AWD = 27.5s = LOS D

54

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	LDH	Intersection	04_CU_PM
Agency/Co.	ATE	Jurisdiction	MALIBU
Date Performed	9/22/09	Analysis Year	CUMULATIVE+PROJ PM PEAK HOUR
Analysis Time Period	CUMULATIVE+PROJECT		
Project Description SMMC/MRCS			
East/West Street: PCH		North/South Street: CORRAL CANYON ROAD	
Intersection Orientation: East-West		Study Period (hrs): 0.25	

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	27	1888			2204	55
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	27	1888	0	0	2204	55
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Two Way Left Turn Lane					
RT Channelized			0			0
Lanes	1	2	0	0	2	0
Configuration	L	T			T	TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				60		43
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	60	0	43
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	1	0	1
Configuration				L		R

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L					L		R
v (veh/h)	27					60		43
C (m) (veh/h)	230					53		201
v/c	0.12					1.13		0.21
95% queue length	0.39					5.20		0.79
Control Delay (s/veh)	22.7					291.0		27.7
LOS	C					F		D
Approach Delay (s/veh)	--	--				181.1		
Approach LOS	--	--				F		

AWD > 50.0s = LOS F

#09061 SMMC/MRCA

REF:

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 3/25/2008

TIME PERIOD: A.M. PEAK HOUR

N/S STREET: JOHN TYLER DRIVE

E/W STREET: PCH

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING:	0	0	0	56	0	15	98	1097	0	0	889	75
(B) PROJECT-ADDED	0	0	0	0	0	0	0	8	0	0	8	0
(C) CUMULATIVE	0	0	0	75	0	20	122	1629	0	0	1274	91

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND			SOUTH BOUND			EAST BOUND		WEST BOUND	
	L	T	R	L	LR	R	L	TT	TT	R

TRAFFIC SCENARIOS

- SCENARIO 1 = EXISTING VOLUMES (A)
 SCENARIO 2 = EXISTING + PROJECT VOLUMES(A + B)
 SCENARIO 3 = CUMULATIVE (C)
 SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B + C)

LEVEL OF SERVICE CALCULATIONS

MOVE- MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES				SCENARIO V/C RATIOS					
			1	2	3	4	1	2	3	4		
NBL	0	0	0	0	0	0	-	-	-	-		
NBT	0	0	0	0	0	0	-	-	-	-		
NBR	0	0	0	0	0	0	-	-	-	-		
SBL	2	3200	56	56	75	75	0.018 *	0.018 *	0.023 *	0.023 *		
SBT	0	2880	0	0	0	0	0.000	0.000	0.000	0.000		
SBR	1	1600	15	15	20	20	0.009	0.009	0.013	0.013		
EBL	1	1600	98	98	122	122	0.061 *	0.061 *	0.076	0.076		
EBT	2	3200	1097	1105	1629	1637	0.343	0.345	0.509 *	0.512 *		
EBR	0	0	0	0	0	0	-	-	-	-		
WBL	0	0	0	0	0	0	-	-	-	-		
WBT	2	3200	889	897	1274	1282	0.278 *	0.280 *	0.398	0.401		
WBR	1	1600	75	75	91	91	0.047	0.047	0.057	0.057		
LOST TIME:							0.100 *	0.100 *	0.100 *	0.100 *		
TOTAL INTERSECTION CAPACITY UTILIZATION:							0.457	0.459	0.632	0.635		
SCENARIO LEVEL OF SERVICE:							A	A	B	B		

NOTES:

Printed: 10/05/09

#09061 SMMC/MRCA

REF:

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 3/25/2008

TIME PERIOD: P.M. PEAK HOUR

N/S STREET: JOHN TYLER DRIVE

E/W STREET: PCH

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING:	0	0	0	156	0	103	53	1352	0	0	1319	101
(B) PROJECT-ADDED	0	0	0	0	0	0	0	10	0	0	10	0
(C) CUMULATIVE	0	0	0	203	0	132	69	2114	0	0	2073	133

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND			SOUTH BOUND			EAST BOUND		WEST BOUND	
	L	T	R	L	R	R	L	TT	TT	R

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
 SCENARIO 2 = EXISTING + PROJECT VOLUMES(A + B)
 SCENARIO 3 = CUMULATIVE (C)
 SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B + C)

LEVEL OF SERVICE CALCULATIONS

MOVE- MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES				SCENARIO V/C RATIOS					
			1	2	3	4	1	2	3	4		
NBL	0	0	0	0	0	0	-	-	-	-		
NBT	0	0	0	0	0	0	-	-	-	-		
NBR	0	0	0	0	0	0	-	-	-	-		
SBL	2	3200	156	156	203	203	0.049 *	0.049 *	0.063 *	0.063 *		
SBT	0	2880	0	0	0	0	0.000	0.000	0.000	0.000		
SBR	1	1600	103	103	132	132	0.064	0.064	0.083	0.083		
EBL	1	1600	53	53	69	69	0.033 *	0.033 *	0.043 *	0.043 *		
EBT	2	3200	1352	1362	2114	2124	0.423	0.426	0.661	0.664		
EBR	0	0	0	0	0	0	-	-	-	-		
WBL	0	0	0	0	0	0	-	-	-	-		
WBT	2	3200	1319	1329	2073	2083	0.412 *	0.415 *	0.648 *	0.651 *		
WBR	1	1600	101	101	133	133	0.063	0.063	0.083	0.083		
LOST TIME:							0.100 *	0.100 *	0.100 *	0.100 *		
TOTAL INTERSECTION CAPACITY UTILIZATION:							0.594	0.597	0.854	0.857		
SCENARIO LEVEL OF SERVICE:							A	A	D	D		

NOTES:

Printed: 10/05/09

#09061 SMMC/MRCA

REF:

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 3/25/2008

TIME PERIOD: A.M. PEAK HOUR

N/S STREET: MALIBU CANYON ROAD

E/W STREET: PCH

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING:	3	15	19	918	20	288	286	803	20	9	692	97
(B) PROJECT-ADDED	0	0	0	0	0	3	2	6	0	0	6	0
(C) CUMULATIVE	4	20	25	1241	27	387	27	1233	385	12	999	132

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND		SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	L	T	R	L	T	R	L	T	R

TRAFFIC SCENARIOS

- SCENARIO 1 = EXISTING VOLUMES (A)
- SCENARIO 2 = EXISTING + PROJECT VOLUMES(A + B)
- SCENARIO 3 = CUMULATIVE (C)
- SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B + C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES				SCENARIO V/C RATIOS					
			1	2	3	4	1	2	3	4		
NBL	0	0	3	3	4	4	-	-	-	-		
NBT	1	1600	15	15	20	20	0.023 *	0.023 *	0.031 *	0.031 *		
NBR	0	0	19	19	25	25	-	-	-	-		
SBL	2	3200	918	918	1241	1241	0.290 *	0.290 *	0.388 *	0.388 *		
SBT	0	2880	20	20	27	27	0.007	0.007	0.009	0.009		
SBR	1	1600	288	291	387	390	0.180	0.182	0.242	0.244		
EBL	2	3200	286	288	27	29	0.089 *	0.090 *	0.110 *	0.110 *		
EBT	1	1600	803	809	1233	1239	0.502	0.506	0.771	0.774		
EBR	1	1600	20	20	385	385	0.013	0.013	0.241	0.241		
WBL	1	1600	9	9	12	12	0.006	0.006	0.008	0.008		
WBT	2	3200	692	698	999	1005	0.220 *	0.222 *	0.312 *	0.314 *		
WBR	1	1600	67	67	91	91	0.042	0.042	0.057	0.057		
LOST TIME:							0.100 *	0.100 *	0.100 *	0.100 *		
TOTAL INTERSECTION CAPACITY UTILIZATION:							0.722	0.725	0.941	0.943		
SCENARIO LEVEL OF SERVICE:							C	C	E	E		

NOTES:

RTOR:

#09061 SMMC/MRCA

REF:

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 3/25/2008

TIME PERIOD: P.M. PEAK HOUR

N/S STREET: MALIBU CANYON ROAD

E/W STREET: PCH

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING:	28	12	16	257	27	149	295	1181	31	36	1213	224
(B) PROJECT-ADDED	0	0	0	0	0	2	3	7	0	0	7	0
(C) CUMULATIVE	38	16	21	370	36	202	396	1878	42	48	1927	317

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	LTR			L LT R			LL T TR			L TT R		

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = EXISTING + PROJECT VOLUMES(A+B)

SCENARIO 3 = CUMULATIVE (C)

SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE- MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES				SCENARIO V/C RATIOS					
			1	2	3	4	1	2	3	4		
NBL	0	0	28	28	38	38	-	-	-	-		
NBT	1	1600	12	12	16	16	0.035 *	0.035 *	0.047 *	0.047 *		
NBR	0	0	16	16	21	21	-	-	-	-		
SBL	2	3200	257	257	370	370	0.080	0.080	0.116	0.116		
SBT	0	2880	27	27	36	36	0.009	0.009	0.013	0.013		
SBR	1	1600	149	151	202	204	0.093 *	0.094 *	0.126 *	0.128 *		
EBL	2	3200	295	298	396	399	0.092 *	0.093 *	0.124 *	0.125 *		
EBT	1	1600	1181	1188	1878	1885	0.738	0.743	1.174	1.178		
EBR	1	1600	31	31	42	42	0.019	0.019	0.026	0.026		
WBL	1	1600	36	36	48	48	0.023	0.023	0.030	0.030		
WBT	2	3200	1213	1220	1927	1934	0.379 *	0.381 *	0.602 *	0.604 *		
WBR	1	1600	155	155	219	219	0.097	0.097	0.137	0.137		
LOST TIME:							0.100 *	0.100 *	0.100 *	0.100 *		
TOTAL INTERSECTION CAPACITY UTILIZATION:							0.699	0.703	0.999	1.004		
SCENARIO LEVEL OF SERVICE:							B	B	E	E		

NOTES:

RTOR:

Intersection Level of Service Calculations

New Baseline Scenario

#09061 SMMC/MRCA

REF:

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 9/22/2009

TIME PERIOD: A.M. PEAK HOUR

N/S STREET: KANAN DUME ROAD

E/W STREET: PCH

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING:	0	0	0	267	0	296	142	913	0	0	721	123
(B) PROJECT-ADDED	0	0	0	1	0	1	0	3	0	0	4	1
(C) CUMULATIVE	0	0	0	274	0	398	191	1284	0	0	758	170

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND		SOUTH BOUND		EAST BOUND		WEST BOUND	
	L	T	L	R	L	TT	TT	R

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = EXISTING+ PROJECT VOLUMES(A+B)

SCENARIO 3 = CUMULATIVE (C)

SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE- MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES				SCENARIO V/C RATIOS			
			1	2	3	4	1	2	3	4
NBL	0	0	0	0	0	0	-	-	-	-
NBT	0	0	0	0	0	0	-	-	-	-
NBR	0	0	0	0	0	0	-	-	-	-
SBL	2	3200	267	268	274	275	0.083 *	0.084 *	0.086 *	0.086 *
SBT	0	2880	0	0	0	0	0.000	0.000	0.000	0.000
SBR	1	1600	296	297	398	399	0.185	0.186	0.249	0.249
EBL	1	1600	142	142	191	191	0.089 *	0.089 *	0.119 *	0.119 *
EBT	2	3200	913	916	1284	1287	0.285	0.286	0.401	0.402
EBR	0	0	0	0	0	0	-	-	-	-
WBL	0	0	0	0	0	0	-	-	-	-
WBT	2	3200	721	725	758	762	0.225 *	0.227 *	0.237 *	0.238 *
WBR	1	1600	123	124	170	171	0.077	0.078	0.106	0.107
LOST TIME:							0.100 *	0.100 *	0.100 *	0.100 *
TOTAL INTERSECTION CAPACITY UTILIZATION:							0.497	0.500	0.542	0.543
SCENARIO LEVEL OF SERVICE:							A	A	A	A

NOTES:

#09061 SMMC/MRCA

REF:

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 9/22/2009

TIME PERIOD: P.M. PEAK HOUR

N/S STREET: KANAN DUME ROAD

E/W STREET: PCH

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING:	0	0	0	135	0	211	241	912	0	0	1018	270
(B) PROJECT-ADDED	0	0	0	3	0	1	1	5	0	0	3	3
(C) CUMULATIVE	0	0	0	149	0	286	336	1355	0	0	1494	375

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
		LL R	L TT	TT R

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = EXISTING+ PROJECT VOLUMES(A+B)

SCENARIO 3 = CUMULATIVE (C)

SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE- MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES				SCENARIO V/C RATIOS					
			1	2	3	4	1	2	3	4		
NBL	0	0	0	0	0	0	-	-	-	-		
NBT	0	0	0	0	0	0	-	-	-	-		
NBR	0	0	0	0	0	0	-	-	-	-		
SBL	2	3200	135	138	149	152	0.042 *	0.043 *	0.047 *	0.048 *		
SBT	0	2880	0	0	0	0	0.000	0.000	0.000	0.000		
SBR (a)	1	1600	181	182	246	247	0.113	0.114	0.154	0.154		
EBL	1	1600	241	242	336	337	0.151 *	0.151 *	0.210 *	0.211 *		
EBT	2	3200	912	917	1355	1360	0.285	0.287	0.423	0.425		
EBR	0	0	0	0	0	0	-	-	-	-		
WBL	0	0	0	0	0	0	-	-	-	-		
WBT	2	3200	1018	1021	1494	1497	0.318 *	0.319 *	0.467 *	0.468 *		
WBR (b)	1	1600	186	188	259	261	0.116	0.118	0.162	0.163		
LOST TIME:							0.100 *	0.100 *	0.100 *	0.100 *		
TOTAL INTERSECTION CAPACITY UTILIZATION:							0.611	0.613	0.824	0.827		
SCENARIO LEVEL OF SERVICE:							B	B	D	D		

NOTES:

RTOR: (a) 14%
(b) 31%

Printed: 11/04/09

TWO-WAY STOP CONTROL SUMMARY

General Information				Site Information				
Analyst	LDH			Intersection	PCH/WINDING WAY			
Agency/Co.	ATE			Jurisdiction	MALIBU			
Date Performed	9/22/09			Analysis Year	EXISTING AM PEAK HOUR			
Analysis Time Period	EXISTING							
Vehicle Volumes and Adjustments								
Major Street	Eastbound			Westbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)	20	1099	5	9	793	14		
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR (veh/h)	20	1099	5	9	793	14		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Undivided							
RT Channelized			0			0		
Lanes	1	2	0	1	2	0		
Configuration	L	T	TR	L	T	TR		
Upstream Signal		0			0			
Minor Street	Northbound			Southbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)	2	1	2	9	0	20		
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR (veh/h)	2	1	2	9	0	20		
Percent Heavy Vehicles	0	0	0	0	0	0		
Percent Grade (%)		0			0			
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	0	1	0	0	1	0		
Configuration		LTR			LTR			
Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L	LTR			LTR		
v (veh/h)	20	9	5			29		
C (m) (veh/h)	827	640	105			228		
v/c	0.02	0.01	0.05			0.13		
95% queue length	0.07	0.04	0.15			0.43		
Control Delay (s/veh)	9.5	10.7	41.0			23.1		
LOS	A	B	E			C		
Approach Delay (s/veh)	--	--	41.0			23.1		
Approach LOS	--	--	E			C		

AWD=18.4s = LOSC

TWO-WAY STOP CONTROL SUMMARY

General Information			Site Information		
Analyst	LDH		Intersection	02	
Agency/Co.	ATE		Jurisdiction	MALIBU	
Date Performed	9/22/09		Analysis Year	EXISTING PM PEAK HOUR	
Analysis Time Period	EXISTING				
Project Description SMMC/MRCS					
East/West Street: PCH			North/South Street: WINDING WAY		
Intersection Orientation: East-West			Study Period (hrs): 0.25		

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	9	1108	3	2	1222	24
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	9	1108	3	2	1222	24
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	2	0	1	2	0
Configuration	L	T	TR	L	T	TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	0	0	1	12	0	14
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	1	12	0	14
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LTR			LTR	
v (veh/h)	9	2		1			26	
C (m) (veh/h)	566	636		480			94	
v/c	0.02	0.00		0.00			0.28	
95% queue length	0.05	0.01		0.01			1.02	
Control Delay (s/veh)	11.5	10.7		12.5			57.3	
LOS	B	B		B			F	
Approach Delay (s/veh)	--	--		12.5			57.3	
Approach LOS	--	--		B			F	

AWD = 42.8s = LOS E

TWO-WAY STOP CONTROL SUMMARY

General Information			Site Information		
Analyst	LDH		Intersection	02_CU_AM	
Agency/Co.	ATE		Jurisdiction	MALIBU	
Date Performed	9/22/09		Analysis Year	CUMULATIVE AM PEAK HOUR	
Analysis Time Period	CUMULATIVE				
Project Description			SMMC/MRCS		
East/West Street:			PCH		
North/South Street:			WINDING WAY		
Intersection Orientation:			East-West		
Study Period (hrs):			0.25		

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
	1	2	3	4	5	6
Movement	L	T	R	L	T	R
Volume (veh/h)	27	1584	7	12	1125	21
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	27	1584	7	12	1125	21
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	2	0	1	2	0
Configuration	L	T	TR	L	T	TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
	7	8	9	10	11	12
Movement	L	T	R	L	T	R
Volume (veh/h)	2	1	2	15	0	27
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	2	1	2	15	0	27
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
			7	8	9	10	11	12
Movement	1	4						
Lane Configuration	L	L		LTR			LTR	
v (veh/h)	27	12		5			42	
C (m) (veh/h)	617	418		31			80	
v/c	0.04	0.03		0.16			0.52	
95% queue length	0.14	0.09		0.50			2.25	
Control Delay (s/veh)	11.1	13.9		142.3			91.6	
LOS	B	B		F			F	
Approach Delay (s/veh)	--	--		142.3			91.6	
Approach LOS	--	--		F			F	

AWD > 50.0s = LOS F

TWO-WAY STOP CONTROL SUMMARY

General Information			Site Information		
Analyst	LDH		Intersection	02_CU_PM	
Agency/Co.	ATE		Jurisdiction	MALIBU	
Date Performed	9/22/09		Analysis Year	CUMULATIVE PM PEAK HOUR	
Analysis Time Period	CUMULATIVE				
Project Description			SMMC/MRCS		
East/West Street:			PCH		
North/South Street:			WINDING WAY		
Intersection Orientation:			East-West		
Study Period (hrs):			0.25		

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	13	1736	4	3	1854	37
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	13	1736	4	3	1854	37
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	2	0	1	2	0
Configuration	L	T	TR	L	T	TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	0	0	1	21	0	20
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	1	21	0	20
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L	LTR			LTR		
v (veh/h)	13	3	1			41		
C (m) (veh/h)	320	366	299			17		
v/c	0.04	0.01	0.00			2.41		
95% queue length	0.13	0.02	0.01			5.70		
Control Delay (s/veh)	16.7	14.9	17.1			1110		
LOS	C	B	C			F		
Approach Delay (s/veh)	--	--	17.1			1110		
Approach LOS	--	--	C			F		

AWD > 50.0s = LOS F

TWO-WAY STOP CONTROL SUMMARY

General Information			Site Information		
Analyst	LDH		Intersection	02	
Agency/Co.	ATE		Jurisdiction	MALIBU	
Date Performed	9/22/09		Analysis Year	EXISTING AM PEAK HOUR	
Analysis Time Period	EXISTING				
Project Description			SMCC/MRCS		
East/West Street:			PCH		
			North/South Street: LATIGO CANYON ROAD		
Intersection Orientation:			East-West		
			Study Period (hrs): 0.25		

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	22	1195			808	26
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	22	1195	0	0	808	26
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	2	0	0	2	0
Configuration	L	T			T	TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				28		31
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	28	0	31
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L						LR	
v (veh/h)	22						59	
C (m) (veh/h)	808						205	
v/c	0.03						0.29	
95% queue length	0.08						1.14	
Control Delay (s/veh)	9.6						29.5	
LOS	A						D	
Approach Delay (s/veh)	--	--					29.5	
Approach LOS	--	--					D	

AWD = 24.1s = LOS C

TWO-WAY STOP CONTROL SUMMARY

General Information			Site Information		
Analyst	LDH		Intersection	02	
Agency/Co.	ATE		Jurisdiction	MALIBU	
Date Performed	9/22/09		Analysis Year	EXISTING PM PEAK HOUR	
Analysis Time Period	EXISTING				
Project Description: SMMC/MRCS			North/South Street: LATIGO CANYON ROAD		
East/West Street: PCH			Study Period (hrs): 0.25		
Intersection Orientation: East-West					

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	13	1161			1222	33
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	13	1161	0	0	1222	33
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	2	0	0	2	0
Configuration	L	T			T	TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				24		14
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	24	0	14
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L						LR	
v (veh/h)	13						38	
C (m) (veh/h)	561						96	
v/c	0.02						0.40	
95% queue length	0.07						1.61	
Control Delay (s/veh)	11.6						65.2	
LOS	B						F	
Approach Delay (s/veh)	--	--					65.2	
Approach LOS	--	--					F	

AWD > 50.0s = LOS F

TWO-WAY STOP CONTROL SUMMARY

General Information			Site Information		
Analyst	LDH		Intersection	03_CU_AM	
Agency/Co.	ATE		Jurisdiction	MALIBU	
Date Performed	9/22/09		Analysis Year	CUMULATIVE AM PEAK HOUR	
Analysis Time Period	CUMULATIVE				
Project Description			SMMC/MRCS		
East/West Street:			PCH		
North/South Street:			LATIGO CANYON ROAD		
Intersection Orientation:			East-West		
Study Period (hrs):			0.25		

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	29	1734			1154	37
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	29	1734	0	0	1154	37
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	2	0	0	2	0
Configuration	L	T			T	TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				42		43
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	42	0	43
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L						LR	
v (veh/h)	29						85	
C (m) (veh/h)	593						81	
v/c	0.05						1.05	
95% queue length	0.15						5.90	
Control Delay (s/veh)	11.4						205.9	
LOS	B						F	
Approach Delay (s/veh)	--	--					205.9	
Approach LOS	--	--					F	

AWD > 50.0s = LOS F

TWO-WAY STOP CONTROL SUMMARY

General Information				Site Information			
Analyst	LDH	Intersection	03_CU_PM				
Agency/Co.	ATE	Jurisdiction	MALIBU				
Date Performed	9/22/09	Analysis Year	CUMULATIVE PM PEAK HOUR				
Analysis Time Period	CUMULATIVE						
Project Description							
Project Description			SMCC/MRCS				
East/West Street:			PCH				
Intersection Orientation:			East-West				
			North/South Street: LATIGO CANYON ROAD				
			Study Period (hrs): 0.25				
Vehicle Volumes and Adjustments							
Major Street	Eastbound			Westbound			
Movement	1	2	3	4	5	6	
	L	T	R	L	T	R	
Volume (veh/h)	19	1805			1884	52	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR (veh/h)	19	1805	0	0	1884	52	
Percent Heavy Vehicles	0	--	--	0	--	--	
Median Type	Undivided						
RT Channelized			0			0	
Lanes	1	2	0	0	2	0	
Configuration	L	T			T	TR	
Upstream Signal		0			0		
Minor Street	Northbound			Southbound			
Movement	7	8	9	10	11	12	
	L	T	R	L	T	R	
Volume (veh/h)				40		21	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR (veh/h)	0	0	0	40	0	21	
Percent Heavy Vehicles	0	0	0	0	0	0	
Percent Grade (%)		0			0		
Flared Approach		N			N		
Storage		0			0		
RT Channelized			0			0	
Lanes	0	0	0	0	0	0	
Configuration					LR		
Delay, Queue Length, and Level of Service							
Approach	Eastbound	Westbound	Northbound			Southbound	
Movement	1	4	7	8	9	10	11
Lane Configuration	L						LR
v (veh/h)	19						61
C (m) (veh/h)	308						19
v/c	0.06						3.21
95% queue length	0.20						8.08
Control Delay (s/veh)	17.5						1414
LOS	C						F
Approach Delay (s/veh)	--	--					1414
Approach LOS	--	--					F

AWD > 50.0s = LOS F

TWO-WAY STOP CONTROL SUMMARY

General Information				Site Information			
Analyst	LDH	Intersection	02	Agency/Co.	ATE	Jurisdiction	MALIBU
Date Performed	9/22/09	Analysis Year	EXISTING AM PEAK HOUR				
Analysis Time Period	EXISTING						
Project Description				SMMC/MRCS			
East/West Street:				PCH			
Intersection Orientation:				East-West			
				North/South Street: CORRAL CANYON ROAD			
				Study Period (hrs): 0.25			

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	28	1195			831	43
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	28	1195	0	0	831	43
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Two Way Left Turn Lane					
RT Channelized			0			0
Lanes	1	2	0	0	2	0
Configuration	L	T			T	TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				42		22
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	42	0	22
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	1	0	1
Configuration				L		R

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L					L		R
v (veh/h)	28					42		22
C (m) (veh/h)	781					242		573
v/c	0.04					0.17		0.04
95% queue length	0.11					0.61		0.12
Control Delay (s/veh)	9.8					23.0		11.5
LOS	A					C		B
Approach Delay (s/veh)	--	--				19.0		
Approach LOS	--	--				C		

AWD = 16.2s = LOS C

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	LDH	Intersection	02
Agency/Co.	ATE	Jurisdiction	MALIBU
Date Performed	9/22/09	Analysis Year	EXISTING PM PEAK HOUR
Analysis Time Period	EXISTING		
Project Description SMMC/MRCS		North/South Street: CORRAL CANYON ROAD	
East/West Street: PCH		Study Period (hrs): 0.25	
Intersection Orientation: East-West			

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	20	1201			1439	41
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	20	1201	0	0	1439	41
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Two Way Left Turn Lane					
RT Channelized			0			0
Lanes	1	2	0	0	2	0
Configuration	L	T			T	TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				45		32
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	45	0	32
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	1	0	1
Configuration				L		R

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L					L		R
v (veh/h)	20					45		32
C (m) (veh/h)	461					136		364
v/c	0.04					0.33		0.09
95% queue length	0.14					1.33		0.29
Control Delay (s/veh)	13.2					44.0		15.8
LOS	B					E		C
Approach Delay (s/veh)	--	--						32.3
Approach LOS	--	--						D

AWD = 28.4s = LOS D

TWO-WAY STOP CONTROL SUMMARY

General Information				Site Information				
Analyst	LDH	Intersection	04_CU_AM					
Agency/Co.	ATE	Jurisdiction	MALIBU					
Date Performed	9/22/09	Analysis Year	CUMULATIVE AM PEAK HOUR					
Analysis Time Period	CUMULATIVE							
Vehicle Volumes and Adjustments								
Major Street		Eastbound			Westbound			
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)	38	1734			1189	58		
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR (veh/h)	38	1734	0	0	1189	58		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane							
RT Channelized			0			0		
Lanes	1	2	0	0	2	0		
Configuration	L	T			T	TR		
Upstream Signal		0			0			
Minor Street		Northbound			Southbound			
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)				56		29		
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR (veh/h)	0	0	0	56	0	29		
Percent Heavy Vehicles	0	0	0	0	0	0		
Percent Grade (%)		0			0			
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	0	0	0	1	0	1		
Configuration				L		R		
Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L					L		R
v (veh/h)	38					56		29
C (m) (veh/h)	565					145		433
v/c	0.07					0.39		0.07
95% queue length	0.22					1.64		0.21
Control Delay (s/veh)	11.8					44.7		13.9
LOS	B					E		B
Approach Delay (s/veh)	--	--				34.2		
Approach LOS	--	--				D		

AWD = 27.3s = LOS D

TWO-WAY STOP CONTROL SUMMARY

General Information				Site Information				
Analyst	LDH	Intersection	04_CU_PM					
Agency/Co.	ATE	Jurisdiction	MALIBU					
Date Performed	9/22/09	Analysis Year	CUMULATIVE PM PEAK HOUR					
Analysis Time Period	CUMULATIVE							
Project Description				SMMC/MRCS				
East/West Street:				PCH				
Intersection Orientation:				East-West				
				North/South Street: CORRAL CANYON ROAD				
				Study Period (hrs): 0.25				
Vehicle Volumes and Adjustments								
Major Street	Eastbound			Westbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)	27	1880			2196	55		
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR (veh/h)	27	1880	0	0	2196	55		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane							
RT Channelized			0			0		
Lanes	1	2	0	0	2	0		
Configuration	L	T			T	TR		
Upstream Signal		0			0			
Minor Street	Northbound			Southbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)				60		43		
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR (veh/h)	0	0	0	60	0	43		
Percent Heavy Vehicles	0	0	0	0	0	0		
Percent Grade (%)		0			0			
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	0	0	0	1	0	1		
Configuration				L		R		
Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L					L		R
v (veh/h)	27					60		43
C (m) (veh/h)	232					53		202
v/c	0.12					1.13		0.21
95% queue length	0.39					5.20		0.78
Control Delay (s/veh)	22.6					291.0		27.6
LOS	C					F		D
Approach Delay (s/veh)	--	--				181.0		
Approach LOS	--	--				F		

AWD > 50.0s = LOS F

#09061 SMMC/MRCA

REF:

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 3/25/2008

TIME PERIOD: A.M. PEAK HOUR

N/S STREET: JOHN TYLER DRIVE

E/W STREET: PCH

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING:	0	0	0	56	0	15	98	1096	0	0	888	75
(B) PROJECT-ADDED	0	0	0	0	0	0	0	9	0	0	9	0
(C) CUMULATIVE	0	0	0	75	0	20	122	1628	0	0	1273	91

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND			SOUTH BOUND			EAST BOUND		WEST BOUND	
	L	T	R	L	LR	R	L	TT	TT	R

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = EXISTING + PROJECT VOLUMES(A + B)

SCENARIO 3 = CUMULATIVE (C)

SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B + C)

LEVEL OF SERVICE CALCULATIONS

MOVE- MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES				SCENARIO V/C RATIOS			
			1	2	3	4	1	2	3	4
NBL	0	0	0	0	0	0	-	-	-	-
NBT	0	0	0	0	0	0	-	-	-	-
NBR	0	0	0	0	0	0	-	-	-	-
SBL	2	3200	56	56	75	75	0.018 *	0.018 *	0.023 *	0.023 *
SBT	0	2880	0	0	0	0	0.000	0.000	0.000	0.000
SBR	1	1600	15	15	20	20	0.009	0.009	0.013	0.013
EBL	1	1600	98	98	122	122	0.061 *	0.061 *	0.076	0.076
EBT	2	3200	1096	1105	1628	1637	0.343	0.345	0.509 *	0.512 *
EBR	0	0	0	0	0	0	-	-	-	-
WBL	0	0	0	0	0	0	-	-	-	-
WBT	2	3200	888	897	1273	1282	0.278 *	0.280 *	0.398	0.401
WBR	1	1600	75	75	91	91	0.047	0.047	0.057	0.057
LOST TIME:							0.100 *	0.100 *	0.100 *	0.100 *
TOTAL INTERSECTION CAPACITY UTILIZATION:							0.457	0.459	0.632	0.635
SCENARIO LEVEL OF SERVICE:							A	A	B	B

NOTES:

#09061 SMMC/MRCA

REF:

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 3/25/2008
 TIME PERIOD: P.M. PEAK HOUR
 N/S STREET: JOHN TYLER DRIVE
 E/W STREET: PCH
 CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING:	0	0	0	156	0	103	53	1351	0	0	1318	101
(B) PROJECT-ADDED	0	0	0	0	0	0	0	11	0	0	11	0
(C) CUMULATIVE	0	0	0	203	0	132	69	2113	0	0	2072	133

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND			SOUTH BOUND			EAST BOUND		WEST BOUND	
	L	LR	R	L	LR	R	L	TT	TT	R

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
 SCENARIO 2 = EXISTING + PROJECT VOLUMES(A+B)
 SCENARIO 3 = CUMULATIVE (C)
 SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES				SCENARIO V/C RATIOS					
			1	2	3	4	1	2	3	4		
NBL	0	0	0	0	0	0	-	-	-	-		
NBT	0	0	0	0	0	0	-	-	-	-		
NBR	0	0	0	0	0	0	-	-	-	-		
SBL	2	3200	156	156	203	203	0.049 *	0.049 *	0.063 *	0.063 *		
SBT	0	2880	0	0	0	0	0.000	0.000	0.000	0.000		
SBR	1	1600	103	103	132	132	0.064	0.064	0.083	0.083		
EBL	1	1600	53	53	69	69	0.033 *	0.033 *	0.043 *	0.043 *		
EBT	2	3200	1351	1362	2113	2124	0.422	0.426	0.660	0.664		
EBR	0	0	0	0	0	0	-	-	-	-		
WBL	0	0	0	0	0	0	-	-	-	-		
WBT	2	3200	1318	1329	2072	2083	0.412 *	0.415 *	0.648 *	0.651 *		
WBR	1	1600	101	101	133	133	0.063	0.063	0.083	0.083		
LOST TIME:							0.100 *	0.100 *	0.100 *	0.100 *		
TOTAL INTERSECTION CAPACITY UTILIZATION:							0.594	0.597	0.854	0.857		
SCENARIO LEVEL OF SERVICE:							A	A	D	D		

NOTES:

#09061 SMMC/MRCA

REF:

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 3/25/2008

TIME PERIOD: A.M. PEAK HOUR

N/S STREET: MALIBU CANYON ROAD

E/W STREET: PCH

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING:	3	15	19	918	20	288	286	802	20	9	691	97
(B) PROJECT-ADDED	0	0	0	0	0	3	2	7	0	0	7	0
(C) CUMULATIVE	4	20	25	1241	27	387	27	1232	385	12	998	132

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	LTR			L LT R			LL T TR			L TT R		

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = EXISTING + PROJECT VOLUMES(A+B)

SCENARIO 3 = CUMULATIVE (C)

SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE- MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES				SCENARIO V/C RATIOS					
			1	2	3	4	1	2	3	4		
NBL	0	0	3	3	4	4	-	-	-	-		
NBT	1	1600	15	15	20	20	0.023 *	0.023 *	0.031 *	0.031 *		
NBR	0	0	19	19	25	25	-	-	-	-		
SBL	2	3200	918	918	1241	1241	0.290 *	0.290 *	0.388 *	0.388 *		
SBT	0	2880	20	20	27	27	0.007	0.007	0.009	0.009		
SBR	1	1600	288	291	387	390	0.180	0.182	0.242	0.244		
EBL	2	3200	286	288	27	29	0.089 *	0.090 *	0.110 *	0.110 *		
EBT	1	1600	802	809	1232	1239	0.501	0.506	0.770	0.774		
EBR	1	1600	20	20	385	385	0.013	0.013	0.241	0.241		
WBL	1	1600	9	9	12	12	0.006	0.006	0.008	0.008		
WBT	2	3200	691	698	998	1005	0.220 *	0.222 *	0.312 *	0.314 *		
WBR	1	1600	67	67	91	91	0.042	0.042	0.057	0.057		
LOST TIME:							0.100 *	0.100 *	0.100 *	0.100 *		
TOTAL INTERSECTION CAPACITY UTILIZATION:							0.722	0.725	0.941	0.943		
SCENARIO LEVEL OF SERVICE:							C	C	E	E		

NOTES:

RTOR:

#09061 SMMC/MRCA

REF:

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 3/25/2008

TIME PERIOD: P.M. PEAK HOUR

N/S STREET: MALIBU CANYON ROAD

E/W STREET: PCH

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING:	28	12	16	257	27	149	295	1180	31	36	1212	224
(B) PROJECT-ADDED	0	0	0	0	0	2	3	8	0	0	8	0
(C) CUMULATIVE	38	16	21	370	36	202	396	1877	42	48	1926	317

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	LTR			L LT R			LL T TR			L TT R		

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = EXISTING + PROJECT VOLUMES(A + B)

SCENARIO 3 = CUMULATIVE (C)

SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B + C)

LEVEL OF SERVICE CALCULATIONS

MOVE- MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES				SCENARIO V/C RATIOS					
			1	2	3	4	1	2	3	4		
NBL	0	0	28	28	38	38	-	-	-	-		
NBT	1	1600	12	12	16	16	0.035 *	0.035 *	0.047 *	0.047 *		
NBR	0	0	16	16	21	21	-	-	-	-		
SBL	2	3200	257	257	370	370	0.080	0.080	0.116	0.116		
SBT	0	2880	27	27	36	36	0.009	0.009	0.013	0.013		
SBR	1	1600	149	151	202	204	0.093 *	0.094 *	0.126 *	0.128 *		
EBL	2	3200	295	298	396	399	0.092 *	0.093 *	0.124 *	0.125 *		
EBT	1	1600	1180	1188	1877	1885	0.738	0.743	1.173	1.178		
EBR	1	1600	31	31	42	42	0.019	0.019	0.026	0.026		
WBL	1	1600	36	36	48	48	0.023	0.023	0.030	0.030		
WBT	2	3200	1212	1220	1926	1934	0.379 *	0.381 *	0.602 *	0.604 *		
WBR	1	1600	155	155	219	219	0.097	0.097	0.137	0.137		
LOST TIME:							0.100 *	0.100 *	0.100 *	0.100 *		
TOTAL INTERSECTION CAPACITY UTILIZATION:							0.699	0.703	0.999	1.004		
SCENARIO LEVEL OF SERVICE:							B	B	E	E		

NOTES:

RTOR:

TWO-WAY STOP CONTROL SUMMARY

General Information				Site Information			
Analyst	LDH	Intersection	PCH/DWY #1	Agency/Co.	ATE	Jurisdiction	MALIBU
Date Performed	11/4/09	Analysis Year	EX+PR AM PEAK HOUR	Analysis Time Period	EXISTING		
Project Description				SMMC/MRCS			
East/West Street:				PCH			
Intersection Orientation:				East-West			
				North/South Street: DWY #1			
				Study Period (hrs): 0.25			

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		1195	2		904	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	1195	2	0	904	0
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized			0			0
Lanes	0	2	1	0	2	0
Configuration		T	R		T	
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)			3			
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	3	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	1	0	0	0
Configuration			R			

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration					R			
v (veh/h)					3			
C (m) (veh/h)					450			
v/c					0.01			
95% queue length					0.02			
Control Delay (s/veh)					13.1			
LOS					B			
Approach Delay (s/veh)	--	--	13.1					
Approach LOS	--	--	B					

TWO-WAY STOP CONTROL SUMMARY

General Information			Site Information		
Analyst	LDH		Intersection	PCH/DWY #1	
Agency/Co.	ATE		Jurisdiction	MALIBU	
Date Performed	11/4/09		Analysis Year	EX+PR PM PEAK HOUR	
Analysis Time Period	EXISTING				
Project Description: SMMC/MRCS			North/South Street: DWY #1		
East/West Street: PCH			Study Period (hrs): 0.25		
Intersection Orientation: East-West					

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		1405	4		1422	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	1405	4	0	1422	0
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized			0			0
Lanes	0	2	1	0	2	0
Configuration		T	R		T	
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)			4			
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	4	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	1	0	0	0
Configuration			R			

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration					R			
v (veh/h)					4			
C (m) (veh/h)					385			
v/c					0.01			
95% queue length					0.03			
Control Delay (s/veh)					14.4			
LOS					B			
Approach Delay (s/veh)	--	--	14.4					
Approach LOS	--	--	B					

TWO-WAY STOP CONTROL SUMMARY

General Information			Site Information		
Analyst	LDH		Intersection	PCH/DWY #2	
Agency/Co.	ATE		Jurisdiction	MALIBU	
Date Performed	11/4/09		Analysis Year	EX+PR AM PEAK HOUR	
Analysis Time Period	EXISTING				
Project Description: SMMC/MRCS			North/South Street: DWY #2		
East/West Street: PCH			Study Period (hrs): 0.25		
Intersection Orientation: East-West					

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		1153	1		964	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	1153	1	0	964	0
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized			0			0
Lanes	0	2	1	0	2	0
Configuration		T	R		T	
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)			2			
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	2	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	1	0	0	0
Configuration			R			

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration					R			
v (veh/h)					2			
C (m) (veh/h)					466			
v/c					0.00			
95% queue length					0.01			
Control Delay (s/veh)					12.8			
LOS					B			
Approach Delay (s/veh)	--	--	12.8					
Approach LOS	--	--	B					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	LDH	Intersection	PCH/DWY #2
Agency/Co.	ATE	Jurisdiction	MALIBU
Date Performed	11/4/09	Analysis Year	EX+PR PM PEAK HOUR
Analysis Time Period	EXISTING		

Project Description	SMMC/MRCS	North/South Street:	DWY #2
East/West Street:	PCH	Study Period (hrs):	0.25
Intersection Orientation:	East-West		

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
	1	2	3	4	5	6
Movement	L	T	R	L	T	R
Volume (veh/h)		1508	2		1420	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	1508	2	0	1420	0
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized			0			0
Lanes	0	2	1	0	2	0
Configuration		T	R		T	
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
	7	8	9	10	11	12
Movement	L	T	R	L	T	R
Volume (veh/h)			1			
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	1	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	1	0	0	0
Configuration			R			

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
			7	8	9	10	11	12
Movement	1	4						
Lane Configuration					R			
v (veh/h)					1			
C (m) (veh/h)					356			
v/c					0.00			
95% queue length					0.01			
Control Delay (s/veh)					15.1			
LOS					C			
Approach Delay (s/veh)	--	--	15.1					
Approach LOS	--	--	C					