Alpine 21 Residential 20 Lot Subdivision (TM 5431)

Country Meadows Road, Alpine, CA 91901

August 28, 2017

Draft Focused Traffic Impact Study

Project Owner:

Jones Engineers, Inc.
535 North Highway 101, Suite A
Solana Beach, CA 92075

Prepared for The County of San Diego by Justin Rasas (RCE 60690) with:

LOS Engineering, Inc.
11622 El Camino Real, Suite 100, San Diego, CA 92130
Phone 619-890-1253, Fax 619-374-7247

Job #1609

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Glossary of Terms and Acronyms

ADT .... Average Daily Traffic
LOS .... Level of Service
MPH .... Miles per Hour
TIS .... Traffic Impact Study
V/C .... Volume to Capacity Ratio

Executive Summary
Alpine 21 Residential Lot Subdivision (MT 5431)

The project is a Tentative Map (TM) of 20 residential lots on approximately 83 acres. The project is generally located north of I-8 and east of Victoria Circle in the unincorporated San Diego County community of Alpine, California.

The project trip generation was calculated using SANDAG trip rates from the *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*, April 2002. Since completion of this traffic impact study, the project has been refined from 21 residential lots down to 20 residential lots. Therefore, this traffic study is based on a slightly conservative analysis with 21 residential lots. Based on SANDAG rates, the project with 21 residential estate lots is calculated to generate 252 Average Daily Trips (ADT), 20 AM peak hour trips (6 inbound and 14 outbound), and 26 PM peak hour trips (18 inbound and 8 outbound). The project is calculated to generate less than 25 peak hour directional trips; therefore, this issue specific traffic analysis includes only segment analyses.

The project is calculated to have no direct impacts. The project trips will be distributed on mobility element roadways in the County that were analyzed by the Traffic Impact Fee (TIF) program. Therefore, the project applicant proposes to pay into the TIF program. A summary of potential impacts and recommended mitigation measures are shown in **Table E-1**.

TABLE E-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION

Roadway Facility	Near-Term Direct Impacts
Intersections	NA (< 25 peak hour trips) (no mitigation required)
Segments	0 (no mitigation required)
Freeways	NA (no mitigation required)
Ramps	NA (< 20 peak hour trips) (no mitigation required)

Notes: NA – Not Applicable as project traffic was less than the threshold required for analysis. Note: The project trips do not contribute to a cumulative impact; however, project trips will be distributed on mobility element roadways in the County that were analyzed by the Traffic Impact Fee (TIF) program. At the time building permits are issued, the project would be required to participate in the TIF program.

1.0 Introduction

This report describes the existing roadway network in the vicinity of the project site and includes a review of the existing and proposed activities for weekday daily traffic when the project is completed. The format of this study includes the following chapters:

1.0 Introduction
2.0 Existing Conditions
3.0 Project Impact Analysis
4.0 General Plan Consistency
5.0 Summary of Recommended Mitigation
6.0 References
7.0 List of Preparers and Persons and Organizations Contacted

1.1 Purpose of the Report

The purpose of this traffic impact study is to determine and analyze potential traffic impacts for the proposed residential subdivision with 20 residential lots.

1.2 Project Location and Description

The project is a Tentative Map 5431 (TM 5431) of 20 residential lots on approximately 83 acres. The project is generally located north of I-8 and east of Victoria Circle in the unincorporated San Diego County community of Alpine, California. The project will have a single point of access connecting linearly with the existing Country Meadows Road. The single point of access was determined to be acceptable by both the Alpine Fire Protection District and the San Diego County Fire Authority.

The location of the project is shown in **Figure 1.** The map of the Focused Traffic Impact Study (TIS) area based on direction from County staff is shown in **Figure 2.** A site plan is shown in **Figure 3**.

1.3 Planning Requirements

The proposed project is consistent with the existing land use and does not propose a General Plan Amendment, does not proposed a Specific Plan Amendment, and does not proposes a rezone.

Figure 1: Project Location

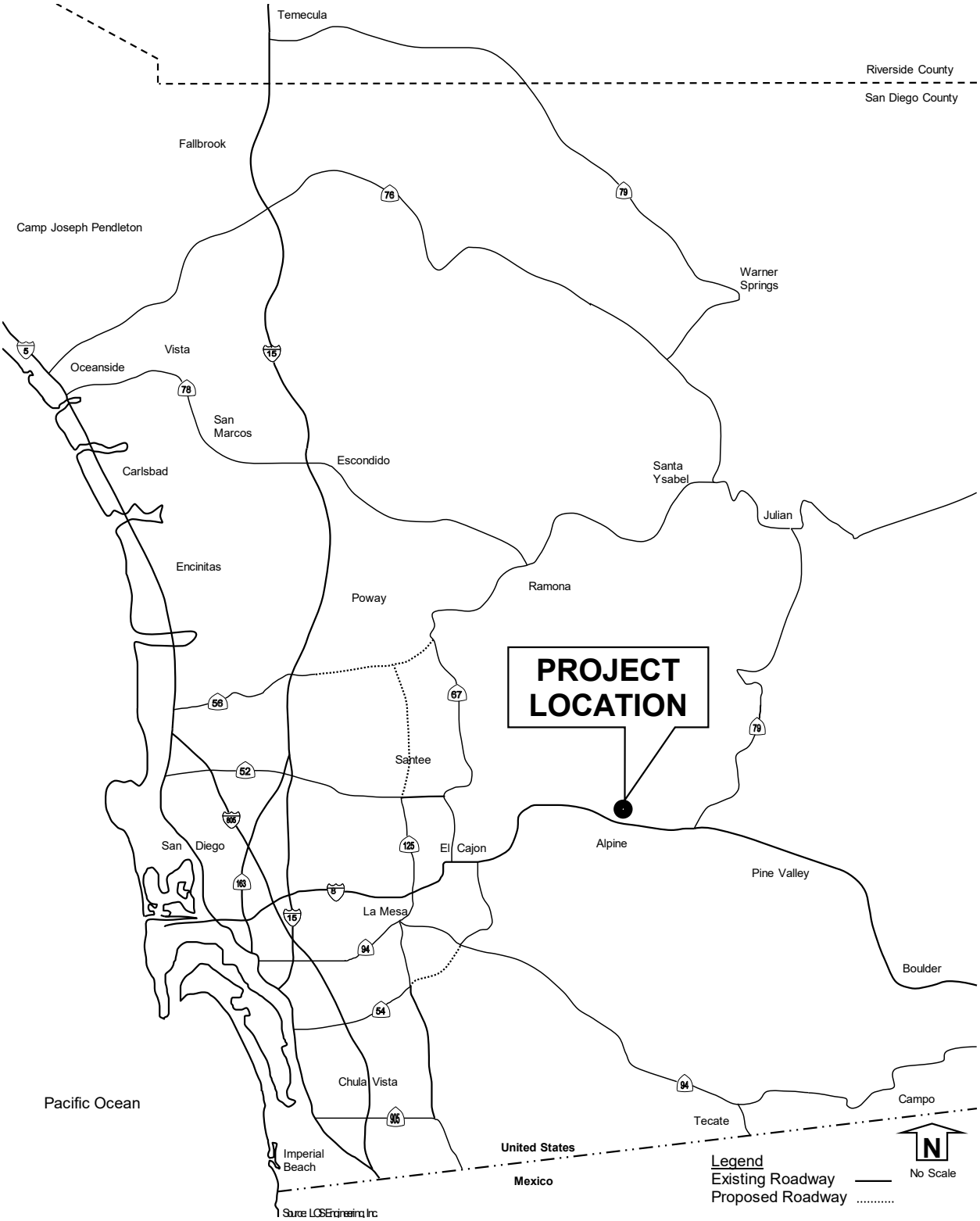


Figure 2: Focused TIS Study Segments

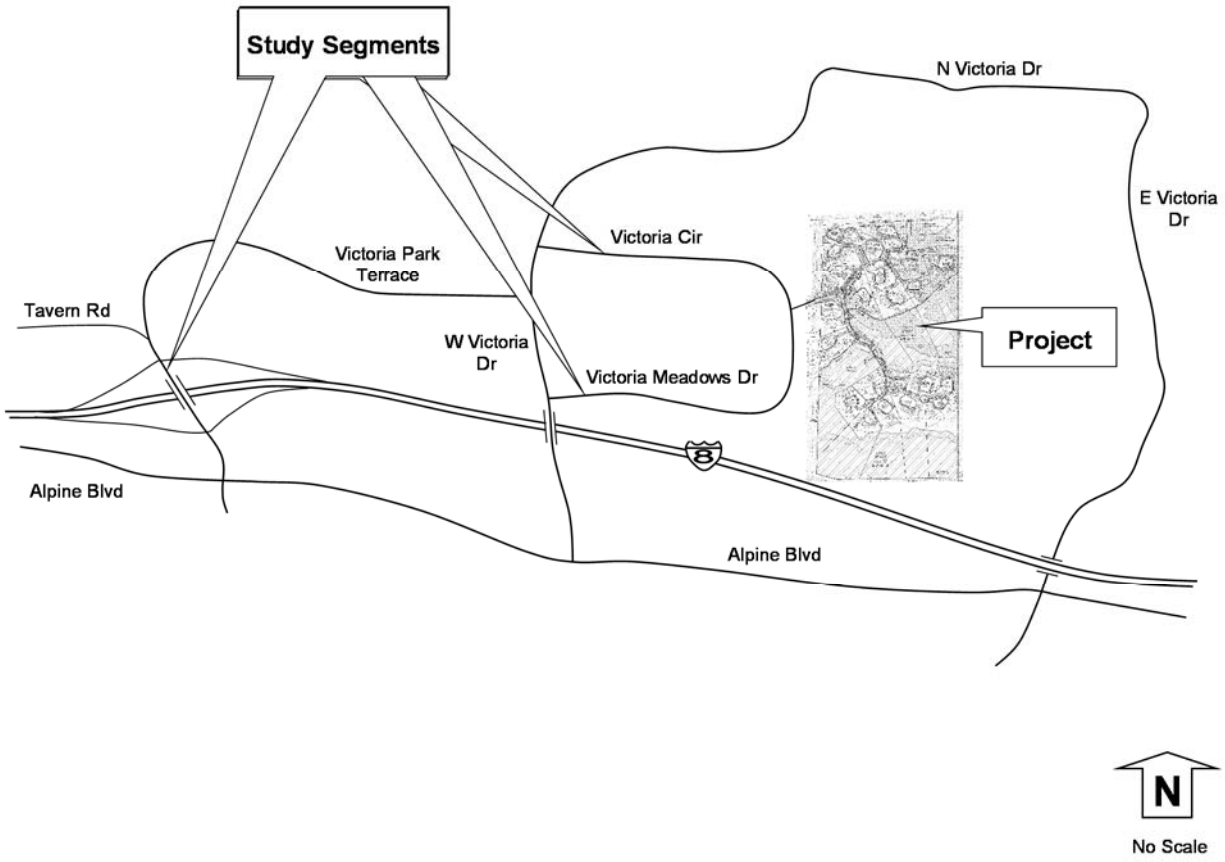
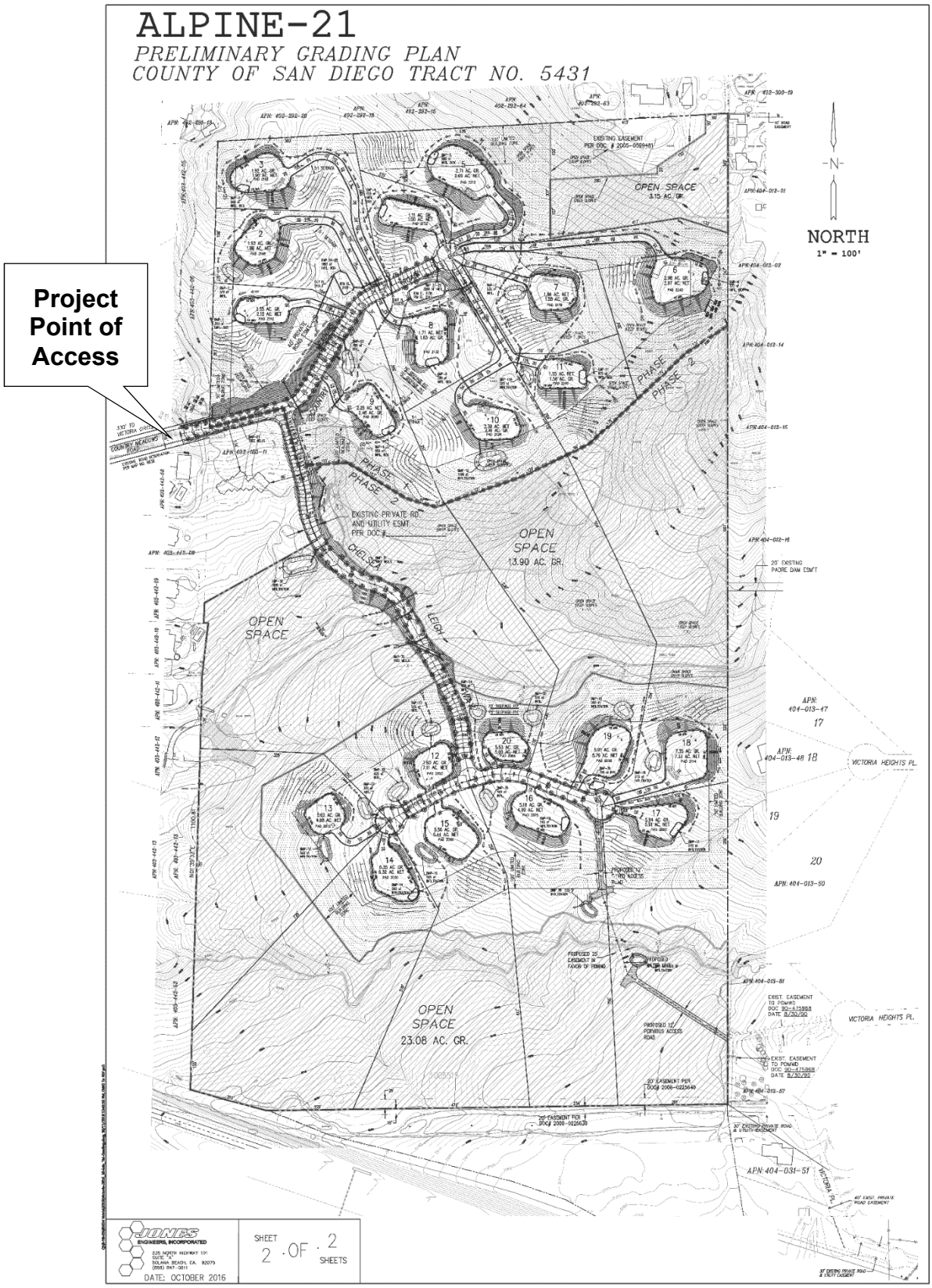


Figure 3: Site Plan



Source: Jones Engineers, Incorporated

1.4 Significance Criteria

This section describes traffic impact significance criteria applied to this project and the SANDAG Congestion Management Program (CMP) requirements.

1.4.1 County of San Diego Guidelines for Determining Significance

Based on the San Diego County *Report Format & Content Requirements Transportation and Traffic*, dated August 24, 2011, a project may have the following allowable increases on congested roadway segments and intersections as shown in **Table 1**.

TABLE 1: COUNTY OF SAN DIEGO SIGNIFICANT TRAFFIC IMPACT THRESHOLDS

Measures of Significant Project Impacts to Congestion Allowable Increases on Congested Roads and Intersections					
Operations	Road Segments			Intersections	
	2-Lane Road	4-Lane Road	6-Lane Road	Signalized	Un-signalized
LOS E	200 ADT	400 ADT	600 ADT	Delay of 2 seconds or less	20 or less peak hour trips on a critical movement
LOS F	100 ADT	200 ADT	300 ADT	Either a Delay of 1 second, or 5 peak hour trips or less on a critical movement	5 or less peak hour trips on a critical movement

Source: County of San Diego *Guidelines for Determining Significance* Tables 1 and 2. Note: A critical movement is one that is experiencing excessive queues. By adding proposed project trips from a list of projects, these same tables are used to determine if total cumulative impacts are significant. If cumulative impacts are found to be significant, each project that contributes any trips must mitigate it's share of the cumulative impacts. The County may also determine impacts have occurred on roads even when a project's traffic or cumulative impacts do not trigger an unacceptable level of service, when such traffic uses a significant amount of remaining road capacity.

A direct impact would occur when the significance criteria are exceeded. If the proposed project exceeds the values provided in the above table, then the individually proposed project would result in a direct traffic impact. Specific improvements to mitigate direct impacts must be identified.

A cumulative impact would occur when two conditions are met: 1) build-out of all near-term projects results in a cumulative traffic impact and 2) the amount of traffic generated by the individual proposed project contributes (even in a small part) to that cumulative impact. Both conditions must be met for an individual project to result in a cumulative traffic impact.

Potential mitigation measures may include traffic signal improvements (i.e. signal coordination), physical road improvements, street re-striping and parking prohibitions, fair-share contributions, and transportation demand management programs.

1.4.2 SANDAG Congestion Management Program Requirements

The Congestion Management Program, is intended to determine if a large project (greater than 2,400 daily trips or 200 peak hour trips) will adversely impact the CMP transportation system. A CMP analysis is NOT included because this project is calculated to generate less than 2,400 ADT and less than 200 peak hour trips.

2.0 Existing Conditions

This section describes the study area street system and daily segment volumes.

2.1 Existing Transportation Conditions

The project site has access to non-mobility roadways (Victoria Circle and Victoria Meadows Drive) before reaching a mobility roadway (W. Victoria Drive). A copy of the County Mobility Element Network for Alpine is included in **Appendix A**. Victoria Circle is generally constructed with approximately 40 feet of pavement width and one travel lane in each direction. Victoria Meadows Drive is generally constructed with approximately 40 feet of pavement width and one travel lane in each direction. Speed limit signed were not observed on the aforementioned roadways. Additionally, the segment of Tavern Road between Victoria Park Terrace and Alpine Boulevard was also analyzed as this is the closest interchange to the proposed project. Tavern Road is classified as a 4.1A Major Road and is currently constructed within approximately 36 feet of pavement width as a two lane roadway with back to back left turn lanes over I-8.

2.1.1 Existing Traffic Volumes and LOS Analyses

Existing daily volumes (with count dates) were collected on the following roadway segments:

1) Tavern Rd between Victoria Park Terrace and Alpine Blvd (Wednesday, 4/20/2016)
2) Victoria Circle east of W. Victoria Drive (Wednesday, 4/20/2016)
3) Victoria Meadows Drive east of W. Victoria Drive (Wednesday, 4/20/2016)

Count data are included in **Appendix B**. The existing roadway conditions are shown in **Figure 4** with existing daily volumes shown on **Figure 5**. The segment LOS are shown in **Table 2**.

TABLE 2: EXISTING SEGMENT LEVEL OF SERVICE

Segment	Current Classification (as built)	LOS E Capacity	Existing		
			Daily Volume	V/C	LOS
Tavern Road	4.1A Major				
Victoria Park Terrace and Alpine Blvd	(2U+CLTL)	19,000	15,102	0.795	E
Victoria Circle	Non-Mobility Rd				
W. Victoria Dr and Country Meadows Rd	(2U+P)	4,500	272	0.060	C
Victoria Meadows Drive	Non-Mobility Rd				
W. Victoria Dr and Country Meadows Rd	(2U+P)	4,500	429	0.095	C

Notes: Classification (2U+CLTL = 2 lanes undivided with a continuous left turn lane, P = Parking). Daily volume is a 24 hour volume. LOS: Level of Service. V/C: Volume to Capacity Ratio.

Under existing conditions, all study segment were calculated to operate at LOS C or better except for Tavern Road between Victoria Park Terrace and Alpine Blvd (LOS E).

2.2 Existing Parking, Transit and On-site Circulation

The existing site is not developed and has no existing parking. On-site circulation is shown on the site plan. The Metropolitan Transit System shows Bus Route 864 and 888 along Alpine Blvd near the project site (map included in **Appendix C**).

Figure 4: Existing Roadway Conditions

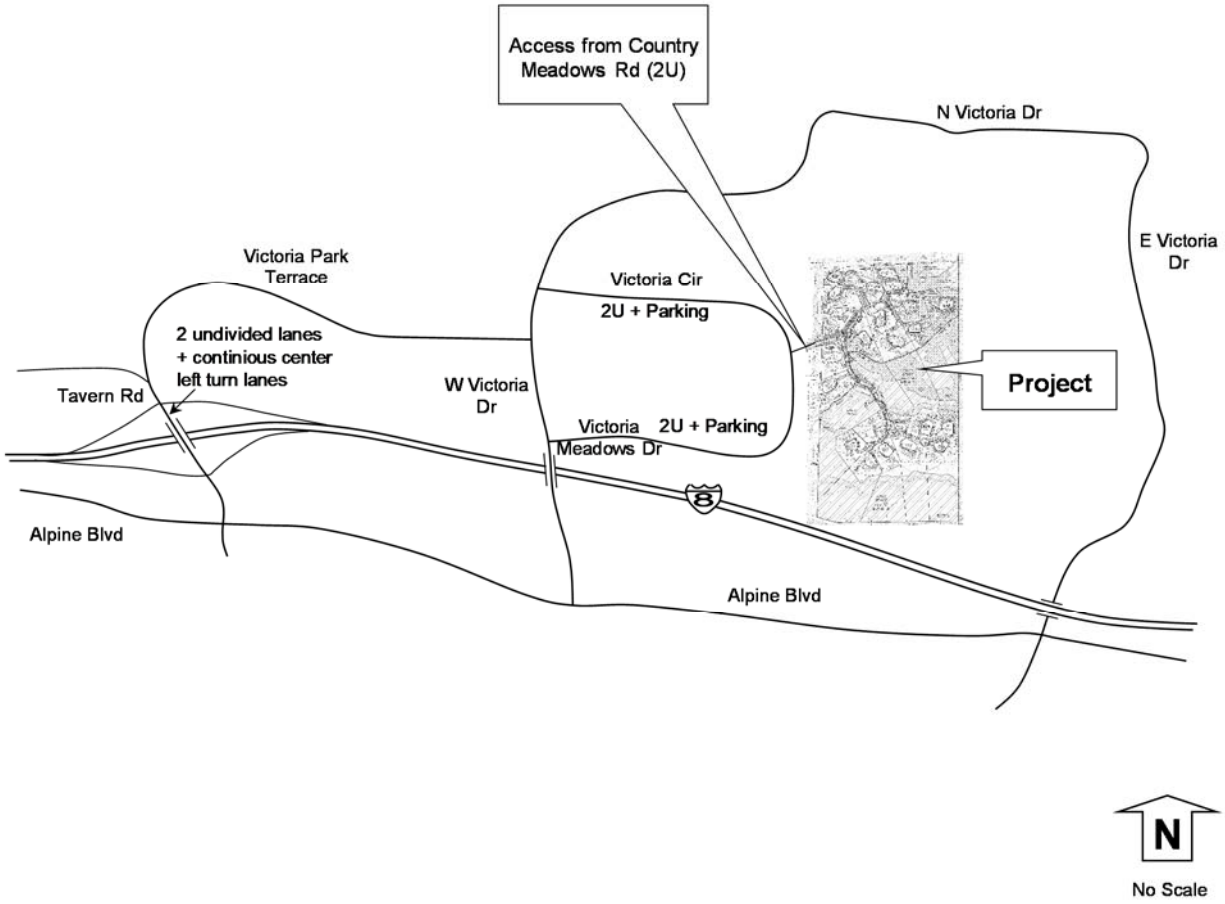
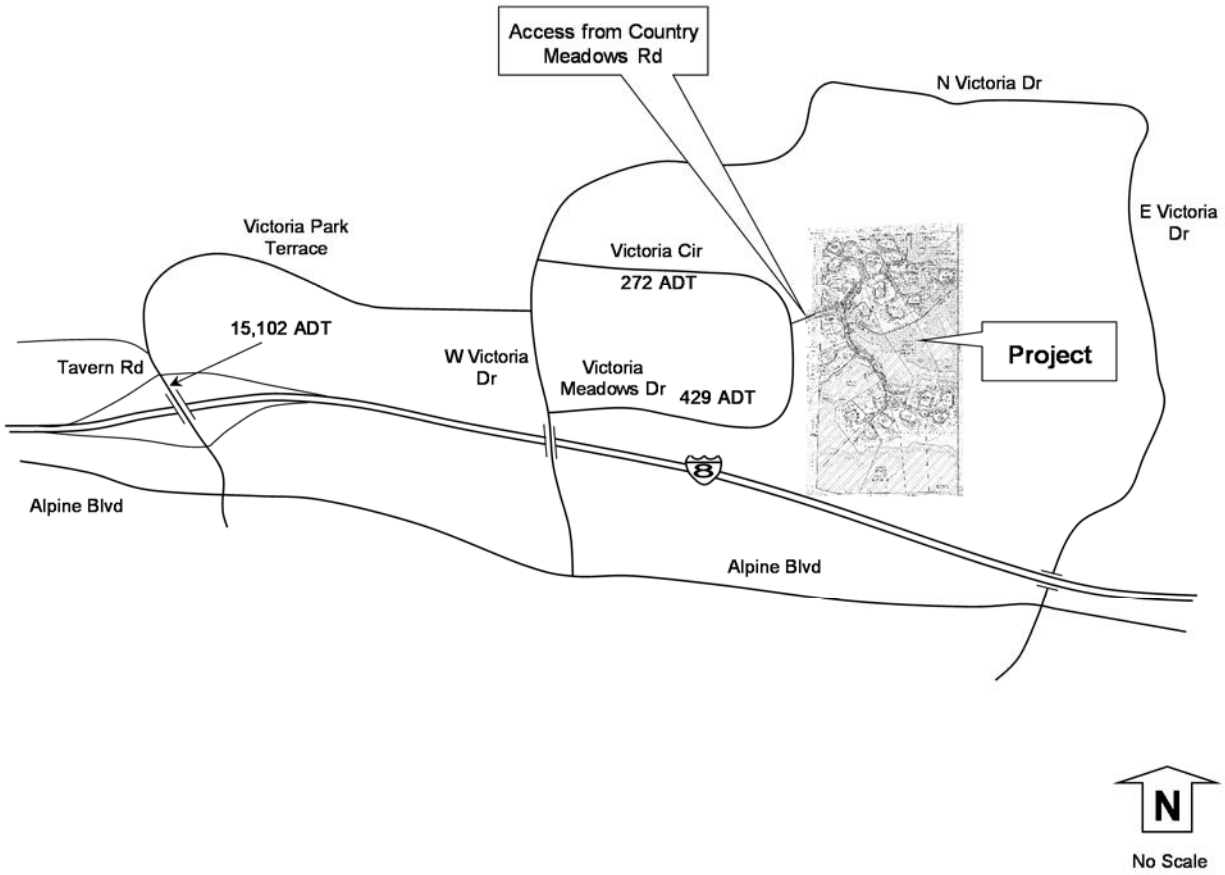


Figure 5: Existing Volumes



3.0 Project Impact Analysis

This section describes the traffic analysis methodology.

3.1 Analysis and Methodology

The project study area was based on direction from County staff and guidelines as outlined in the County of San Diego *Guidelines for Determining Significance and Report Format and Content Requirements Transportation and Traffic* dated August 24, 2011.

The traffic analyses prepared for this study were based on the *Highway Capacity Manual* (HCM) analysis using Level of Service (LOS) evaluation criteria. The operating conditions of the study roadway segments are measured using the HCM LOS designations, which range from A through F. LOS A represents the best operating condition and LOS F denotes the worst operating condition. The individual LOS criteria for each roadway component are described below.

3.1.1 Street Segments

The street segments were analyzed based on the functional classification of the roadway using the County of San Diego *Average Daily Vehicle Trips* capacity lookup table. The roadway segment capacity and LOS standards used to analyze street segments are summarized in **Table 3**.

TABLE 3: STREET SEGMENT DAILY CAPACITY AND LOS (COUNTY OF SAN DIEGO GENERAL PLAN UPDATE)

Proposed GPU Road Classification		LOS A	LOS B	LOS C	LOS D	LOS E
Expressway	6.1	<36,000	<54,000	<70,000	<86,000	<108,000
Prime Arterial	6.2	<22,200	<37,000	<44,600	<50,000	<57,000
Major Road w/raised median	4.1A	<14,800	<24,700	<29,600	<33,400	<37,000
Major Rd w/intermittent turn lanes	4.1B	<13,700	<22,800	<27,400	<30,800	<34,200
Boulevard w/raised median	4.2A	<18,000	<21,000	<24,000	<27,000	<30,000
Boulevard w/Intermittent turn lanes	4.2B	<16,800	<19,600	<22,500	<25,000	<28,000
Community Collector w/raised median	2.1A	<10,000	<11,700	<13,400	<15,000	<19,000
Community Collector w/cont. turn lane	2.1B	<3,000	<6,000	<9,500	<13,500	<19,000
Community Collector w/intermit. turn lane	2.1C	<3,000	<6,000	<9,500	<13,500	<19,000
Community Collector w/improvement opt.	2.1D	<3,000	<6,000	<9,500	<13,500	<19,000
Community Collector	2.1E	<1,900	<4,100	<7,100	<10,900	<16,200
Light Collector w/raised median	2.2A	<3,000	<6,000	<9,500	<13,500	<19,000
Light Collector w/continuous left turn lane	2.2B	<3,000	<6,000	<9,500	<13,500	<19,000
Light Collector w/intermittent turn lane	2.2C	<3,000	<6,000	<9,500	<13,500	<19,000
Light Collector w/ passing lane	2.2D	<3,000	<6,000	<9,500	<13,500	<19,000
Light Collector - no median	2.2E	<1,900	<4,100	<7,100	<10,900	<16,200
Light Collector w/ reduced shoulder	2.2F	<5,800	<6,800	<7,800	<8,700	<9,700
Minor Collector w/raised median	2.3A	<3,000	<6,000	<7,000	<8,000	<9,000
Minor Collector w/intermittent turn lane	2.3B	<3,000	<6,000	<7,000	<8,000	<9,000
Minor Collector – no median	2.3C	<1,900	<4,100	<6,000	<7,000	<8,000
Non-Mobility Element Roads						
Residential Collector (2 lanes 40')	NA			<4,500		
Residential Road (2 lanes 36')	NA			<1,500		

Source: County of San Diego Public Road Standards, March, 2012.

3.2 Project Trip Generation

The project trip generation was calculated using SANDAG trip rates from the *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*, April 2002. Since completion of this traffic impact study, the project has been refined from 21 residential lots down to 20 residential lots. Therefore, this traffic study is based on a slightly conservative analysis with 21 residential lots. Based on SANDAG rates, the project with 21 residential estate lots is calculated to generate 252 Average Daily Trips (ADT), 20 AM peak hour trips (6 inbound and 14 outbound), and 26 PM peak hour trips (18 inbound and 8 outbound) as shown in **Table 4.**

TABLE 4: PROJECT TRAFFIC GENERATION

Proposed							AM				PM	
Land Use	Rate	Size & Units	ADT	%	Split		IN	OUT	%	Split	IN	OUT
Residential - Estate	12 /DU	21 DU	**252**	8%	0.3	0.7	**6**	**14**	10%	0.7 0.3	**18**	**8**

Source: SANDAG *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region,* April 2002.

DU - Dwelling Unit; ADT-Average Daily Traffic; Split-percent inbound and outbound.

As shown in Table 4, the project is calculated to generate less than 25 peak hour directional trips; therefore, this issue specific traffic analysis includes only segment analyses.

3.3 Project Distribution and Assignment

The project distribution was based on a review of surrounding roadways, access to I-8, proximity to local attractors (i.e. retail and schools), and a discussion with County staff. The project distribution is shown in **Figure 6** while the project trip assignment is shown in **Figure 7**.

Figure 6: Distribution

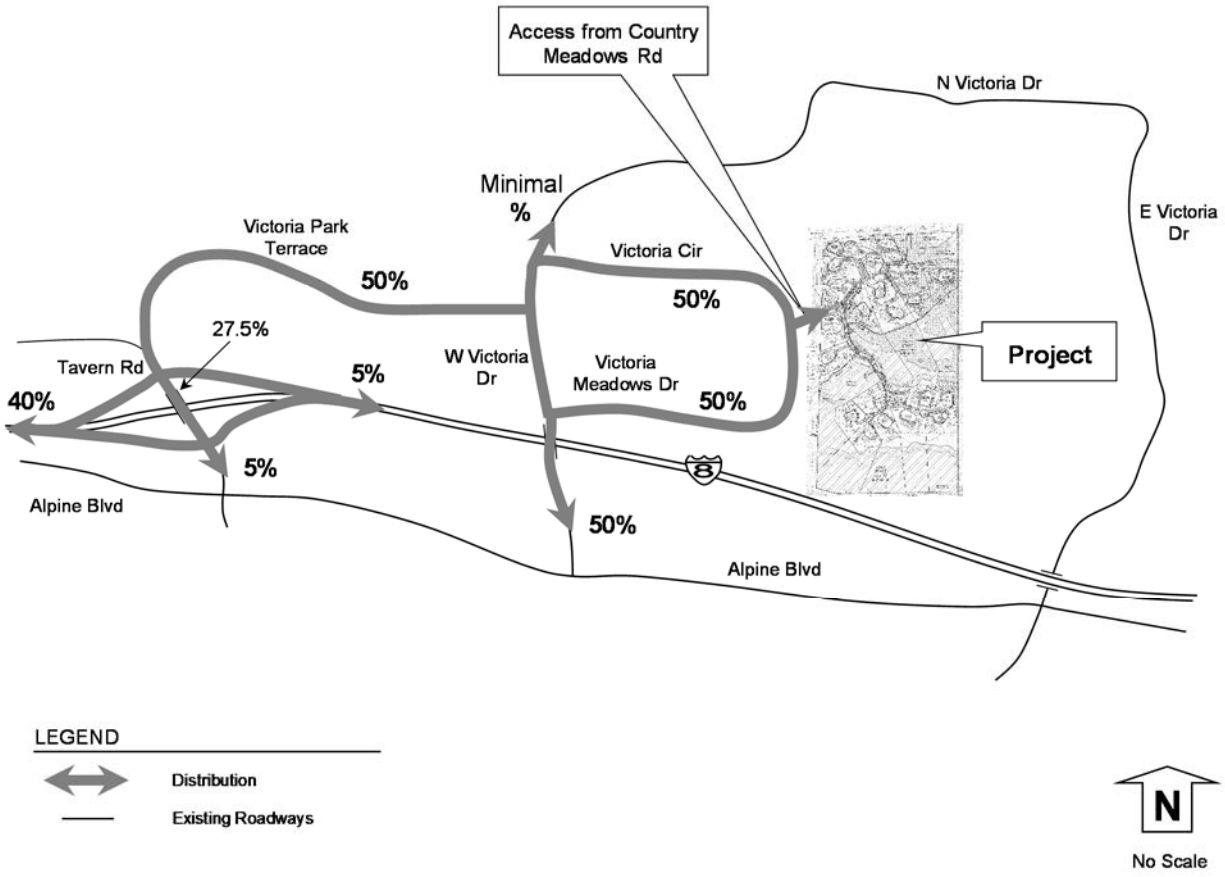
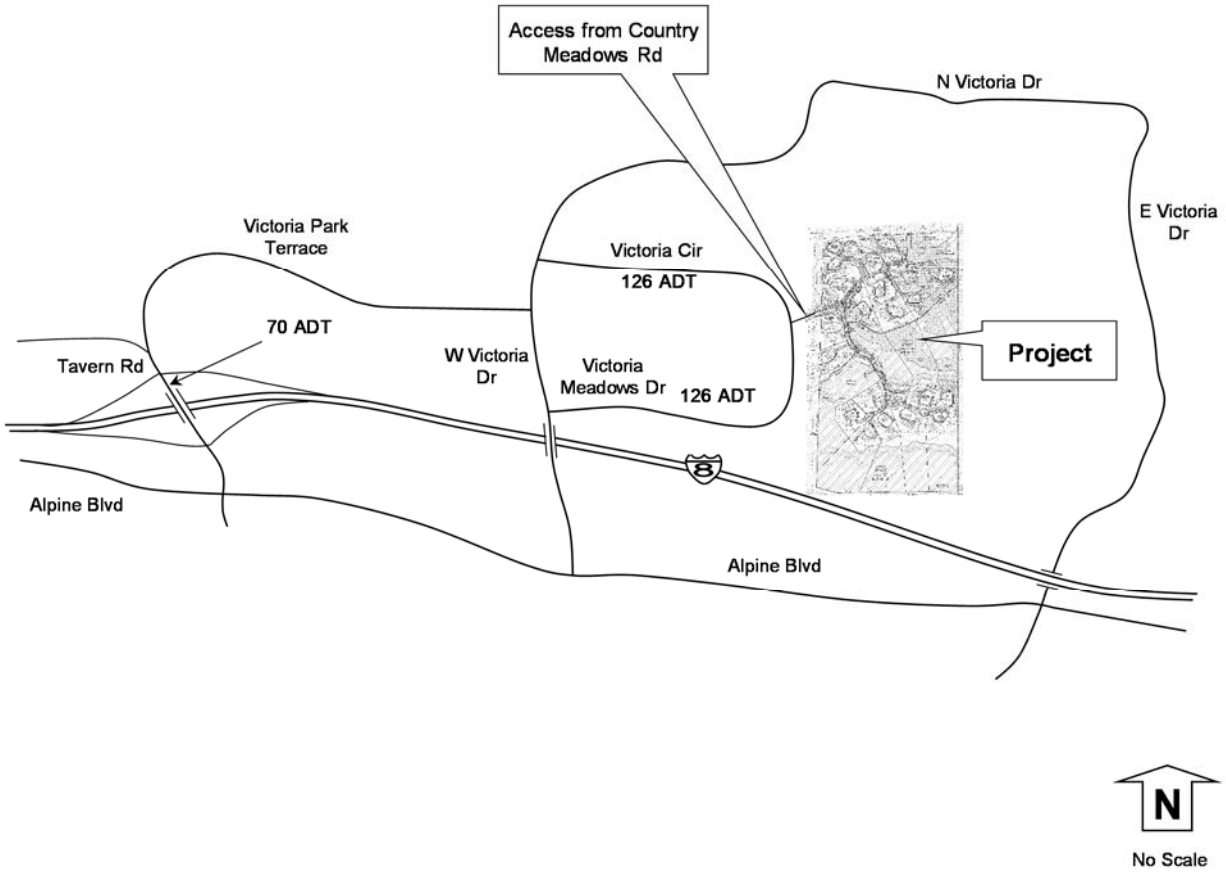


Figure 7: Assignment



3.4 Existing + Project Conditions

This section will summarize the analysis for the addition of project traffic onto existing daily traffic conditions. The daily volumes are shown in **Figure 8**. The LOS calculated for the study segments are shown in **Table 5**.

TABLE 5: EXISTING + PROJECT SEGMENT LEVEL OF SERVICE

Segment	Current Classification (as built)	LOS E Capacity	Existing			Project	Existing + Project				
			Daily Volume	V/C	LOS	Daily Volume	Daily Volume	V/C	LOS	Change in V/C	Project Impact?
Tavern Road	4.1A Major										
Victoria Park Terrace and Alpine Blvd	(2U+CLTL)	19,000	15,102	0.795	E	70	15,172	0.799	E	0.004	No
Victoria Circle	Non-Mobility Rd										
W. Victoria Dr and Country Meadows Rd	(2U+P)	4,500	272	0.060	C	126	398	0.088	C	0.028	No
Victoria Meadows Drive	Non-Mobility Rd										
W. Victoria Dr and Country Meadows Rd	(2U+P)	4,500	429	0.095	C	126	555	0.123	C	0.028	No

Notes: Classification (2U+CLTL = 2 lanes undivided with a continuous left turn lane, P = Parking). Daily volume is a 24 hour volume. LOS: Level of Service. V/C: Volume to Capacity Ratio.

Under existing + project conditions, all study segments were calculated to operate at LOS C or better except for Tavern Road between Victoria Park Terrace and Alpine Blvd (LOS E). The project is calculated to have no significant direct impacts.

3.5 Ramps

An on-ramp analysis was not prepared because the project is calculated to add 6 AM peak hour trips to the Tavern Road westbound on-ramp (AM 14 outbound trips x 40% = 6), which is less than the trigger of 20 peak hour trips requiring to analyze a Caltrans freeway on-ramp.

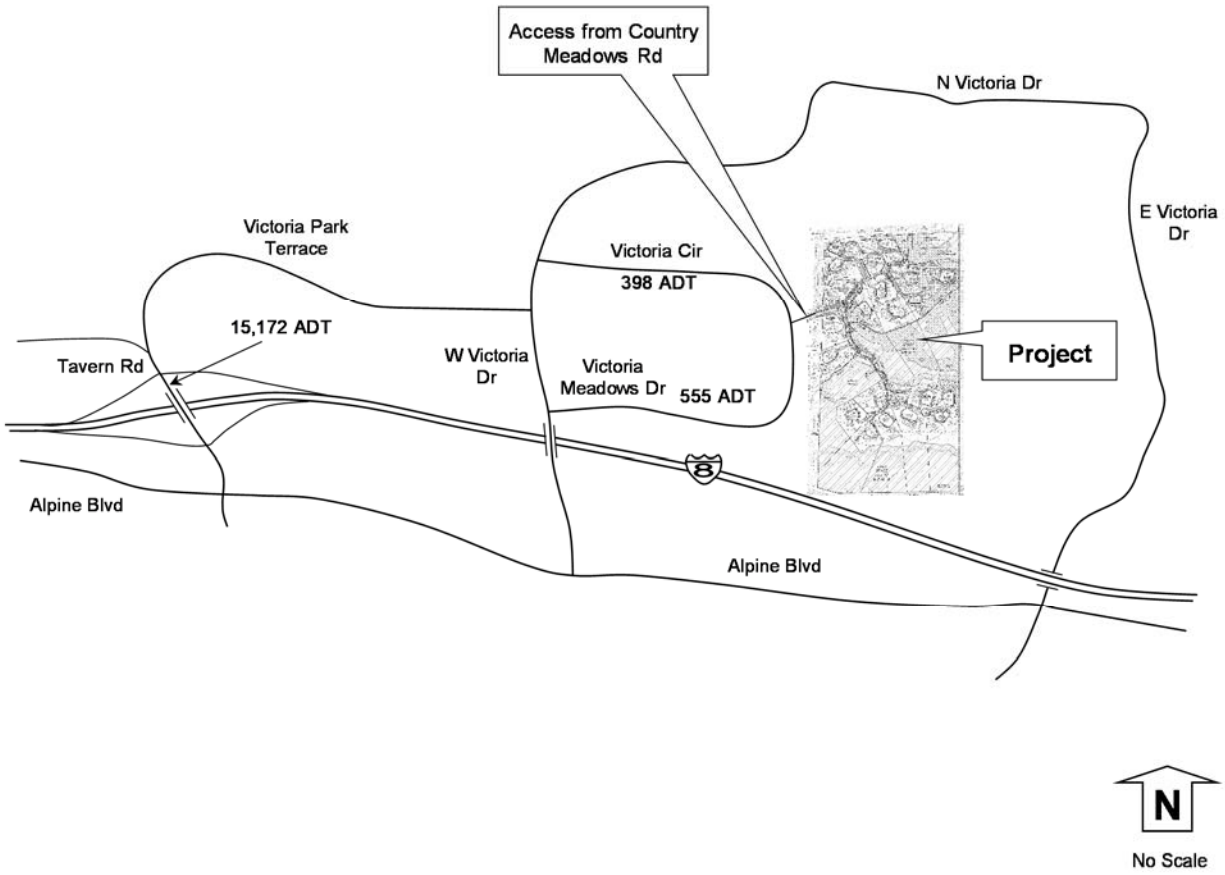
3.6 Congestion Management Program

A CMP analysis was not prepared because the project is calculated to generate less than 2,400 ADT and less than 200 peak hour trips.

3.7 Hazards Due to an Existing Transportation Design Feature

No known existing hazards were identified as part of the analysis.

Figure 8: Existing + Project Volumes



3.8 Hazards to Pedestrians or Bicyclists

The applicant proposes to maintain existing conditions as they relate to pedestrians and bicyclists.

3.9 Public Transportation

The Metropolitan Transit System shows Bus Route 864 and 888 along Alpine Blvd near the project site.

3.10 Site Access and On-Site Circulation

Site access is proposed as a continuation of the terminus of Country Meadows Road; therefore, a corner sight distance analysis is not applicable because the connection is linear. On-site circulation is proposed by a network of several roadways ending in cul-de-sacs.

The mobility element identified a "New Road 23" that bisects the project site (Appendix A). The applicant is not proposing to create this New Road 23 connection.

3.11 Parking Capacity

On-site parking is proposed on project driveways and in garages.

3.12 Impact Summary Table

The project is calculated to have no direct impacts based on the County of San Diego significance criteria as summarized below in **Table 6**.

TABLE 6: IMPACT SUMMARY TABLE

Roadway Facility	Near-Term Direct Impacts
Intersections	NA (< 25 peak hour trips)
Segments	0
Freeways	Not Applicable
Ramps	Not Applicable

4.0 General Plan Consistency

The proposed project is consistent with the General Plan Update; therefore, and a build-out analysis is not required.

5.0 Summary of Recommended Mitigation

The project is calculated to have no direct impacts as shown in **Table 7**.

TABLE 7: SUMMARY OF POTENTIAL PROJECT IMPACTS AND MITIGATION IF REQUIRED

Roadway Facility	Near-Term Direct Impacts
Intersections	NA (< 25 peak hour trips) (no mitigation required)
Segments	0 (no mitigation required)
Freeways	NA (no mitigation required)
Ramps	NA (no mitigation required)

Notes: NA – Not Applicable as project traffic was less than the threshold required for analysis. Note: The project trips do not contribute to a cumulative impact; however, project trips will be distributed on mobility element roadways in the County that were analyzed by the Traffic Impact Fee (TIF) program. At the time building permits are issued, the project would be required to participate in the TIF program.

The project trips will be distributed on mobility element roadways in the County that were analyzed by the Traffic Impact Fee (TIF) program. Therefore, the project applicant proposes to pay into the TIF program to mitigate any potential cumulative impacts. The County of San Diego has developed an overall programmatic solution that addresses existing and projected future road deficiencies in the unincorporated portion of San Diego County. This program includes the adoption of a TIF program to fund improvements to roadways necessary to mitigate potential cumulative impacts caused by traffic from future development. Based on SANDAG regional growth and land use forecasts, the SANDAG Regional Transportation Model was utilized to analyze projected build-out development conditions on the existing mobility element roadway network throughout the unincorporated area of the County. Based on the results of the traffic modeling, funding necessary to construct transportation facilities that will mitigate cumulative impacts from new development was identified. Existing roadway deficiencies will be corrected through improvement project funded by other public funding sources, such as TransNet, gas tax, and grants. Potential cumulative impacts to the region's freeways have been addressed in SANDAG's Regional Transportation Plan (RTP). This plan, which considers freeway buildout over the next 30 years, will use funds from TransNET, state, and federal funding to improve freeways to projected level of service objectives in the RTP.

The proposed project generates 240 new daily trips (20 Dwelling Units x 12 ADT/DU). These trips will be distributed on the mobility element roadways in the County that were analyzed by the TIF program, some of which currently or are projected to operate at inadequate levels of service. These project trips therefore contribute to a potential significant cumulative impact and mitigation is required. The potential growth represented by this project was included in the growth projections upon which the TIF project is based. Therefore, payment of the TIF, which will be required at issuance of building permits will mitigate potential cumulative impacts to less than significant.

6.0 References

County of San Diego. August 24, 2011. *Guidelines for Determining Significance and Report Format and Content Requirements Traffic and Transportation.*

Trafficware Corporation, 2003. Synchro 8.0 computer software.

Transportation Research Board National Research Council Washington, D.C. 2000. *Highway Capacity Manual 2000*. CD ROM.

7.0 List of Preparers and Persons and Organizations Contacted

7.1 List of Preparers

Justin Rasas, P.E. (RCE 60690), LOS Engineering, Inc. Author

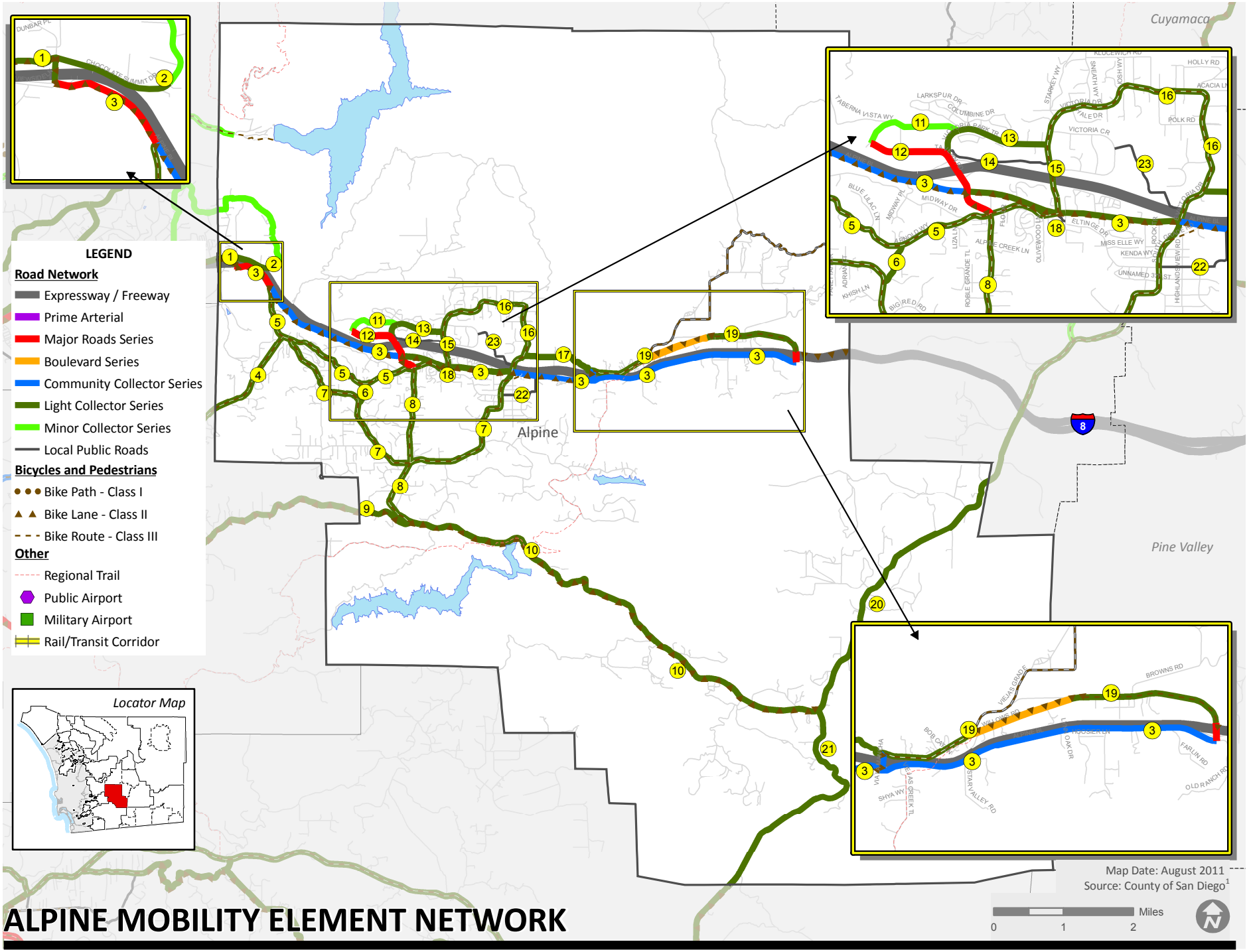
7.2 Organizations Contacted

Mr. Will Brown, Pacific Traffic Data Services, Inc.

Mr. Darcy Jones, P.E., Client

Appendix A

County of San Diego Mobility Element Excerpts



ALPINE MOBILITY ELEMENT NETWORK

Mobility Element Network—Alpine Community Planning Area Matrix			
ID[a]	Road Segment	Designation/Improvement #.#X = [# of lanes].[roadway classification][improvement]	Special Circumstances
1	Old Highway 80 (SC1930) Segment: Lakeside community boundary to Chocolate Summit Drive	2.2B Light Collector Continuous Turn Lanes	None
2	Chocolate Summit Drive (SC1930) / Broad Oaks Road Segment: Old Highway 80 to Lakeside community boundary	2.2E Light Collector Old Highway 80 to Chocolate Creek Road 2.3C Minor Collector Chocolate Creek Road to Lakeside community boundary	None
3	Alpine Boulevard (SF 1402) / (SC 1883) Segment: Dunbar Lane to East Willows Road	4.1B Major Road Intermittent Turn Lanes—Dunbar Lane to Arnold Way 2.1D Community Collector Improvement Options [Raised Median]—Arnold Way to Tavern Road 2.2A Light Collector Raised Median/Continuous Turn Lane—Tavern Road to South Grade Road 2.1D Community Collector Improvement Options [Intermittent Turn Lanes]—South Grade Road to West Willows Road 2.1C Community Collector West Willows Road to East Willows Road	Accepted at LOS E/F Segment: Boulder Road to Louise Drive Shoulder as Parking Lane Separate Bike Lane required—Tavern Road to South Grade Road
4	Harbison Canyon Road (SF 1402) Segment: Arnold Way to Crest/Dehesa community boundary	2.2A Light Collector Raised Median—Arnold Way to Bridle Run 2.2C Light Collector Intermittent turn Lanes—Bridle Run to Crest/Dehesa boundary	None

Mobility Element Network—Alpine Community Planning Area Matrix			
ID[a]	Road Segment	Designation/Improvement #.#X = [# of lanes].[roadway classification][improvement]	Special Circumstances
5	Arnold Way (SC 1971) Segment: Alpine Boulevard (western end near Harbison Canyon Road) to Alpine Boulevard (near West Victoria Drive)	2.2C Light Collector Intermittent Turn Lanes—Alpine Boulevard (western end) to South Grade Road 2.2F Light Collector Reduced Shoulder—South Grade Road to Foss Road 2.2C Light Collector Intermittent Turn Lanes—Foss Road to Tavern Road 2.2A Light Collector Raised Median/Continuous Turn Lane—Tavern Road to Alpine Boulevard (near West Victoria Drive)	Improvement Option Segment: South Grade Road to Foss Road—Reduce shoulder width to six feet for use as a bike lane (requires parking prohibition) Segment: Tavern Road to Alpine Boulevard—Combined Raised Median and Continuous Turn Lane, as appropriate Shoulder as Parking Lane Separate Bike Lane required—Tavern Road to Alpine Boulevard
6	Foss Road Segment: Arnold Way to South Grade Road	2.2E Light Collector	None
7	South Grade Road (SA 370) Segment: Arnold Way to Alpine Boulevard	2.2E Light Collector Arnold Way to Via Viejas 2.2C Light Collector Intermittent Turn Lanes—Via Viejas to Alpine Boulevard	None
8	Tavern Road (SA 380) Segment: Tavern Lane to Japatul Road	4.1A Major Road Raised Median—Tavern Lane to Alpine Boulevard 2.2D Light Collector Improvement Options [Raised Median]—Arnold Way to South Grade Road 2.2E Light Collector South Grade Road to Japatul Road	None Caltrans Facilities Programming Improvements (widening) of the Interstate 8 overpass is not programmed in the 2030 RTP (Reasonably Expected Revenue scenario)
9	Dehesa Road (SF 1401) Segment: Crest-Dehesa community boundary to Tavern Road	2.2E Light Collector	None

Mobility Element Network—Alpine Community Planning Area Matrix			
ID[a]	Road Segment	Designation/Improvement #.#X = [# of lanes].[roadway classification][improvement]	Special Circumstances
10	Japatul Road (SF 1401.1) Segment: Tavern Road to Japatul Valley Road	2.2F Light Collector Reduced Shoulder	Improvement Option Reduce shoulder width to six feet for use as a bike lane (requires parking prohibition)
11	New Road 11 Segment: Victoria Park Terrace to Tavern Lane	2.3A Minor Collector Raised Median	None
12	Tavern Lane Segment: New Road 11 to Tavern Road	4.1A Major Road Median [Continuous Left Turn Lane]	None
13	Victoria Park Terrace (SC 1985) Segment: Tavern Road (at Tavern Lane) to West Victoria Drive	2.2A Light Collector Raised Median	None
14	New Road 14 Segment: Tavern Road (at Tavern Lane) to West Victoria Drive	Local Public Road	None
15	West Victoria Drive (SC 1990) Segment: Alpine Boulevard to Victoria Park Terrace	2.2E Light Collector	Shoulder as Parking Lane Separate Bike Lane required—Interstate 8 to Alpine Boulevard
16	North / East Victoria Drive (SC 1990) Segment: Victoria Park Terrace to South Grade Road	2.2F Light Collector Reduced Shoulder—Victoria Park Terrace to Otto Avenue 2.2C Light Collector Intermittent Turn Lanes—Otto Avenue to South Grade Road	Improvement Option Segment: Victoria Park Terrace to Otto Avenue—Reduce shoulder width to six feet for use as a bike lane (requires parking prohibition)
17	Otto Avenue Segment: East Victoria Road to West Willows Road	2.2C Light Collector Intermittent Turn Lanes	None

Mobility Element Network—Alpine Community Planning Area Matrix			
ID[a]	Road Segment	Designation/Improvement #.#X = [# of lanes].[roadway classification][improvement]	Special Circumstances
18	New Road 18 Segment: Alpine Boulevard at West Victoria Drive to Eltinge Drive at Marshall Road	Local Public Road	None
19	Willows Road (SC 2000) Segment: Otto Avenue to Alpine Boulevard	2.2E Light Collector Otto Avenue to Viejas Casino area 4.2A Boulevard Raised Median—Viejas Casino area 2.2E Light Collector Viejas Casino area to I-8 westbound on-ramp at East Willows Road 4.1A Major Road Raised Median—I-8 westbound on-ramp at East Willows Road to Alpine Boulevard	Accepted at LOS F Segment: Alpine Boulevard to Viejas Grade Road
20	Japatul Valley Road (SF 1401.1) Segment: Japatul Road to Central Mountain Subregion boundary	2.2F Light Collector Reduced Shoulder	Improvement Option Reduce shoulder width to six feet for use as a bike lane (requires parking prohibition)
21	Lyons Valley Road (SA 390) Segment: Japatul Road to Jamul/Dulzura Subregion boundary	2.2F Light Collector Reduced Shoulder	Improvement Option Reduce shoulder width to six feet for use as a bike lane (requires parking prohibition)
22	Viejas View Place Segment: Alpine Boulevard to South Grade Road	Local Public Road	None
23	New Road 23 Segment: Victoria Circle to East Victoria Drive	Local Public Road	None

a. ID = Roadway segment on Figure M-A-1

Appendix B

Count Data

WEDNESDAY - APRIL 20, 2016 CITY: ALPINE PROJECT: PTD16-0422-02

TAVERN - I-8 WB RAMPS TO I-8 EB RAMPS

AM Period	NB		SB		EB	WB		PM Period	NB		SB		EB	WB	
00:00	15		8					12:00	153		86				
00:15	5		2					12:15	164		67				
00:30	9		2					12:30	162		80				
00:45	6	35	1	13			48	12:45	149	628	69	302			930
01:00	10		2					13:00	159		71				
01:15	6		6					13:15	158		69				
01:30	5		3					13:30	163		78				
01:45	5	26	1	12			38	13:45	155	635	68	286			921
02:00	5		1					14:00	162		80				
02:15	9		1					14:15	178		86				
02:30	2		1					14:30	165		79				
02:45	8	24	1	4			28	14:45	143	648	85	330			978
03:00	3		1					15:00	172		71				
03:15	7		0					15:15	257		99				
03:30	16		1					15:30	219		94				
03:45	12	38	3	5			43	15:45	165	813	94	358			1171
04:00	15		3					16:00	175		96				
04:15	30		4					16:15	206		83				
04:30	40		4					16:30	165		84				
04:45	46	131	5	16			147	16:45	156	702	74	337			1039
05:00	98		10					17:00	194		74				
05:15	144		16					17:15	214		82				
05:30	129		7					17:30	179		73				
05:45	155	526	22	55			581	17:45	153	740	53	282			1022
06:00	187		16					18:00	174		47				
06:15	201		25					18:15	144		46				
06:30	234		27					18:30	128		43				
06:45	212	834	15	83			917	18:45	113	559	36	172			731
07:00	208		29					19:00	111		38				
07:15	244		35					19:15	96		34				
07:30	237		38					19:30	93		32				
07:45	187	876	51	153			1029	19:45	89	389	23	127			516
08:00	217		46					20:00	72		16				
08:15	174		56					20:15	83		24				
08:30	212		96					20:30	83		21				
08:45	225	828	82	280			1108	20:45	70	308	17	78			386
09:00	192		81					21:00	60		12				
09:15	180		78					21:15	65		11				
09:30	189		100					21:30	56		6				
09:45	151	712	91	350			1062	21:45	40	221	8	37			258
10:00	165		97					22:00	44		8				
10:15	162		91					22:15	28		7				
10:30	146		76					22:30	31		7				
10:45	124	597	73	337			934	22:45	24	127	7	29			156
11:00	152		80					23:00	17		8				
11:15	159		89					23:15	18		2				
11:30	145		83					23:30	21		3				
11:45	164	620	101	353			973	23:45	14	70	3	16			86
Total Vol.		5247		1661			**6908**			5840		2354			**8194**

Daily Totals

NB	SB	EB	WB	**Combined**
11087	4015			**15102**

	AM			**PM**		
Split %	76.0%	24.0%	**45.7%**	71.3%	28.7%	**54.3%**
Peak Hour	06:45	09:30	**08:30**	15:15	15:15	**15:15**
Volume	901	379	**1146**	816	383	**1199**
P.H.F.	0.92	0.95	**0.93**	0.78	0.97	**0.84**

WEDNESDAY - APRIL 20, 2016 CITY: ALPINE PROJECT: PTD16-0422-02

VICTORIA CIR - E/O VICTORIA

AM Period	NB	SB	EB		WB			PM Period	NB	SB	EB		WB		
00:00			0		0			12:00			1		0		
00:15			0		0			12:15			0		2		
00:30			0		0			12:30			5		0		
00:45			0	0	0	0		12:45			1	7	1	3	10
01:00			0		0			13:00			4		3		
01:15			0		1			13:15			2		2		
01:30			0		0			13:30			2		1		
01:45			0	0	0	1	1	13:45			0	8	4	10	18
02:00			0		0			14:00			6		1		
02:15			0		0			14:15			5		1		
02:30			0		0			14:30			3		3		
02:45			0	0	0	0		14:45			2	16	4	9	25
03:00			0		0			15:00			1		3		
03:15			0		0			15:15			6		3		
03:30			0		0			15:30			5		3		
03:45			0	0	1	1	1	15:45			5	17	4	13	30
04:00			0		1			16:00			1		1		
04:15			0		1			16:15			2		2		
04:30			0		0			16:30			4		3		
04:45			0	0	0	2	2	16:45			2	9	1	7	16
05:00			0		0			17:00			3		1		
05:15			0		2			17:15			4		0		
05:30			0		0			17:30			2		2		
05:45			1	1	3	5	6	17:45			3	12	1	4	16
06:00			2		4			18:00			3		1		
06:15			0		5			18:15			3		0		
06:30			0		4			18:30			2		0		
06:45			0	2	3	16	18	18:45			0	8	2	3	11
07:00			5		4			19:00			4		1		
07:15			1		9			19:15			2		0		
07:30			1		0			19:30			3		1		
07:45			1	8	5	18	26	19:45			1	10	1	3	13
08:00			0		1			20:00			1		2		
08:15			2		4			20:15			3		1		
08:30			1		4			20:30			1		0		
08:45			1	4	1	10	14	20:45			1	6	1	4	10
09:00			2		2			21:00			0		0		
09:15			3		2			21:15			1		1		
09:30			2		3			21:30			2		0		
09:45			1	8	1	8	16	21:45			1	4	0	1	5
10:00			1		1			22:00			3		0		
10:15			2		4			22:15			0		0		
10:30			1		3			22:30			1		0		
10:45			1	5	2	10	15	22:45			1	5	0	0	5
11:00			1		2			23:00			1		0		
11:15			1		3			23:15			0		0		
11:30			0		0			23:30			0		0		
11:45			4	6	2	7	13	23:45			0	1	0	0	1
Total Vol.				34		78	**112**					103		57	**160**

Daily Totals

NB	SB	EB	WB	Combined
		137	135	**272**

	AM			PM		
Split %	30.4%	69.6%	**41.2%**	64.4%	35.6%	**58.8%**
Peak Hour	11:45	06:30	**06:30**	15:00	14:30	**15:00**
Volume	10	20	**26**	17	13	**30**
P.H.F.	0.50	0.56	**0.65**	0.71	0.81	**0.83**

WEDNESDAY - APRIL 20, 2016 CITY: ALPINE PROJECT: PTD16-0422-02

VICTORIA MEADOWS - E/O VICTORIA

AM Period	NB	SB	EB		WB			PM Period	NB	SB	EB		WB		
00:00			0		1			12:00			5		3		
00:15			0		0			12:15			7		2		
00:30			2		0			12:30			2		4		
00:45			0	2	0	1	3	12:45			6	20	5	14	34
01:00			1		0			13:00			1		7		
01:15			0		0			13:15			2		1		
01:30			0		0			13:30			1		2		
01:45			0	1	0	0	1	13:45			0	4	3	13	17
02:00			0		0			14:00			2		0		
02:15			0		0			14:15			2		4		
02:30			0		0			14:30			2		4		
02:45			0	0	0	0		14:45			5	11	4	12	23
03:00			0		0			15:00			5		1		
03:15			0		0			15:15			5		6		
03:30			0		0			15:30			4		5		
03:45			0	0	0	0		15:45			4	18	1	13	31
04:00			0		2			16:00			3		6		
04:15			0		2			16:15			7		4		
04:30			1		3			16:30			7		4		
04:45			0	1	2	9	10	16:45			6	23	5	19	42
05:00			0		2			17:00			1		1		
05:15			2		2			17:15			7		3		
05:30			0		1			17:30			13		6		
05:45			1	3	4	9	12	17:45			6	27	5	15	42
06:00			1		4			18:00			5		2		
06:15			0		3			18:15			2		3		
06:30			2		6			18:30			4		1		
06:45			1	4	4	17	21	18:45			3	14	2	8	22
07:00			1		4			19:00			5		3		
07:15			1		8			19:15			1		1		
07:30			6		2			19:30			6		3		
07:45			2	10	3	17	27	19:45			3	15	2	9	24
08:00			2		5			20:00			0		1		
08:15			0		6			20:15			6		0		
08:30			3		5			20:30			1		2		
08:45			2	7	4	20	27	20:45			1	8	1	4	12
09:00			3		1			21:00			0		1		
09:15			2		7			21:15			3		0		
09:30			3		6			21:30			2		2		
09:45			1	9	4	18	27	21:45			3	8	0	3	11
10:00			3		3			22:00			0		0		
10:15			3		5			22:15			2		0		
10:30			0		3			22:30			1		0		
10:45			2	8	0	11	19	22:45			1	4	0	0	4
11:00			0		2			23:00			0		1		
11:15			3		0			23:15			0		0		
11:30			3		5			23:30			0		0		
11:45			2	8	3	10	18	23:45			1	1	0	1	2
Total Vol.				53		112	**165**					153		111	**264**

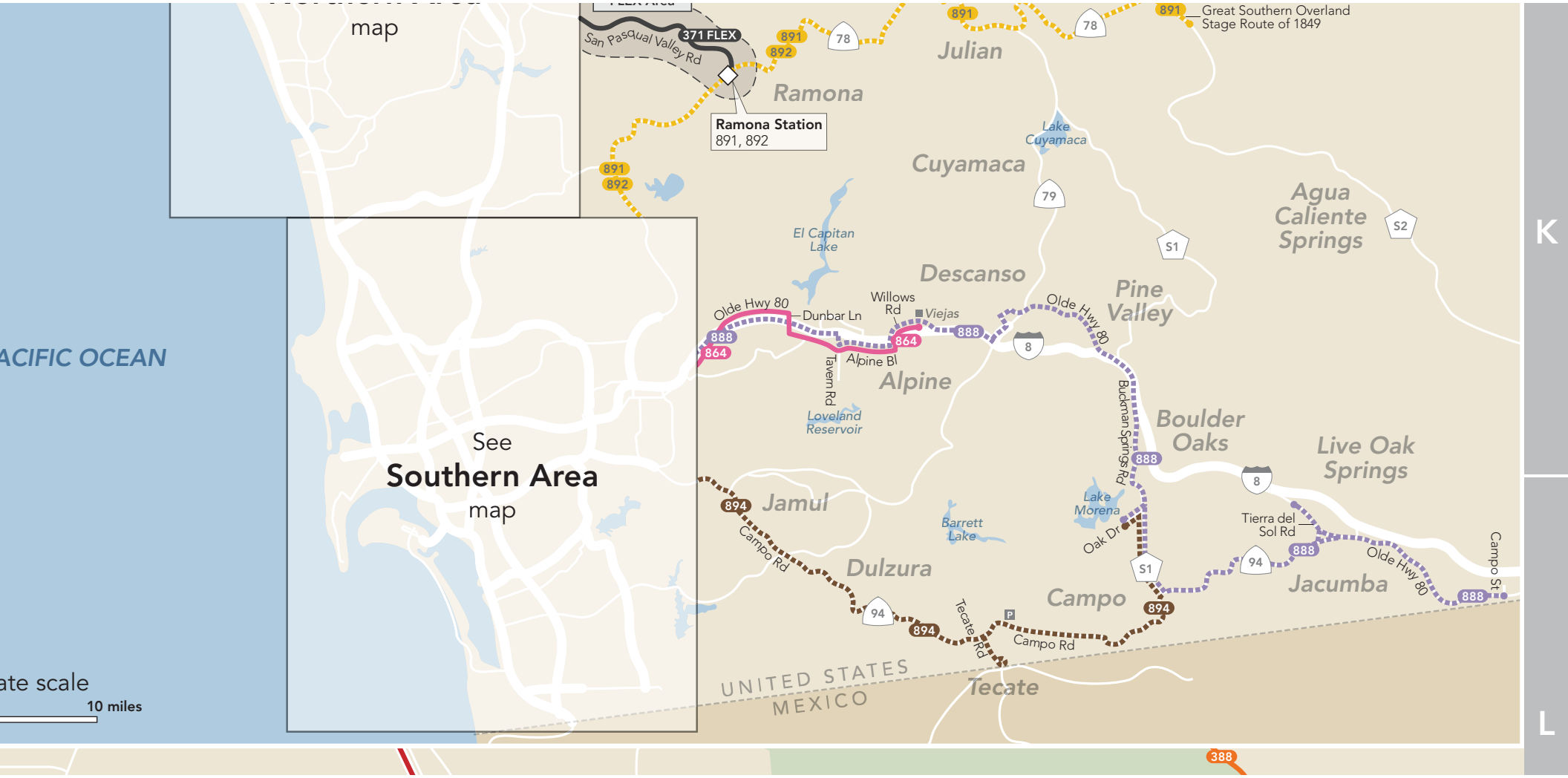
Daily Totals

NB	SB	EB	WB	Combined
		206	223	**429**

	AM			PM		
Split %	32.1%	67.9%	**38.5%**	58.0%	42.0%	**61.5%**
Peak Hour	11:30	06:30	**11:30**	17:15	16:00	**17:15**
Volume	17	22	**30**	31	19	**47**
P.H.F.	0.61	0.69	**0.83**	0.60	0.79	**0.62**

Appendix C

Transit Service


map
371 FLEX
San Pasqual Valley Rd
891
892
78
Julian
Great Southern Overland Stage Route of 1849
Ramona
Ramona Station
891, 892
Lake Cuyamaca
Cuyamaca
79
Agua Caliente Springs
S2
S1
El Capitan Lake
Descanso
Pine Valley
Olde Hwy 80
Dunbar Ln
Willows Rd
Viejas
888
864
Alpine Bl
Tavern Rd
Alpine
8
Buckman Springs Rd
Loveland Reservoir
Boulder Oaks
Live Oak Springs
See
Southern Area
map
894
Jamul
Campo Rd
Barrett Lake
Lake Morena
Oak Dr
Tierra del Sol Rd
94
Dulzura
Campo
Jacumba
Campo St
Tecate Rd
P
UNITED STATES
MEXICO
Tecate
ACIFIC OCEAN
ate scale
10 miles
388
K
L