

TRAFFIC IMPACT ANALYSIS

For

TORREY MEADOWS DRIVE BRIDGE

Prepared for the

CITY OF SAN DIEGO

&

T.Y. LIN INTERNATIONAL

1st Submittal: May 21, 2014

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TRANSPORTATION ANALYSIS TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
1.0 EXECUTIVE SUMMARY	1-1
2.0 INTRODUCTION	2-1
3.0 PROPOSED PROJECT	3-1
4.0 METHODOLOGY	4-1
5.0 EXISTING CONDITIONS.....	5-1
6.0 EXISTING WITH PROJECT.....	6-1
7.0 OPENING DAY (YEAR 2015).....	7-1
8.0 YEAR 2035 WITHOUT PROJECT	8-1
9.0 YEAR 2035 WITH PROJECT	9-1
10.0 CONCLUSIONS AND RECOMMENDATIONS	10-1
11.0 REFERENCES	11-1
12.0 URBAN SYSTEMS ASSOCIATES, INC., PREPARERS	12-1

LIST OF FIGURES

<u>Number</u>	<u>Page</u>
2-1 Project Location Map	2-2
2-2 Torrey Meadows Drive Bridge Layout.....	2-3
2-3 Study Area Boundary and Intersection Key	2-5
3-1 Near Term Project Only Average Daily Traffic	3-2
3-2 Near Term Project Only AM / PM Peak Hour Traffic	3-3
3-3 Year 2035 Project Only Average Daily Traffic.....	3-5
3-4 Year 2035 Project Only AM / PM Peak Hour Traffic	3-6
5-1 Existing Average Daily Traffic.....	5-3
5-2 Existing Lane Configurations	5-4
5-3 Existing AM/PM Peak Hour Traffic.....	5-7
6-1 Existing With Project Average Daily Traffic	6-2
6-2 Existing With Project AM/PM Peak Hour Traffic	6-4
7-1 Opening Day (2015) Average Daily Traffic.....	7-2
7-2 Opening Day (2015) AM/PM Peak Hour Traffic.....	7-4
8-1 Year 2035 Without Project Average Daily Traffic	8-2
8-2 Year 2035 Without Project AM/PM Peak Hour Traffic.....	8-5
9-1 Year 2035 With Project Average Daily Traffic.....	9-2
9-2 Year 2035 With Project AM/PM Peak Hour Traffic	9-5

LIST OF TABLES

<u>Number</u>	<u>Page</u>
1-1 Existing Without and Existing With Project Street Segment Comparison.....	1-3
1-2 Year 2035 Without and Year 2035 With Street Segment Comparison	1-4
1-3 Existing Without and Existing With Project Intersection Comparison	1-5
1-4 Year 2035 Without and Year 2035 With Project Intersection Comparison	1-6
2-1 Study Area Street Segments and Intersections	2-6
4-1 Levels of Service Criteria for Signalized and Un-signalized Intersections	4-5
4-2 Significance Thresholds.....	4-7
4-3 Roadway Classifications.....	4-8
5-1 Existing Street Segment Levels of Service.....	5-6
5-2 Existing Intersection Levels of Service	5-8
6-1 Existing With Project Street Segment Levels of Service.....	6-3
6-2 Existing With Project Intersection Levels of Service	6-5
7-1 Opening Day (2015) Street Segment Levels of Service	7-3
7-2 Opening Day (2015) Intersection Levels of Service.....	7-5
8-1 Year 2035 Without Project Street Segment Levels of Service	8-3
8-2 Year 2035 Without Project Intersection Levels of Service	8-6
9-1 Year 2035 With Project Street Segment Levels of Service	9-3
9-2 Year 2035 With Project Intersection Levels of Service.....	9-6
10-1 Existing Without and Existing With Project Street Segment Significance	10-9
10-2 Existing Without and Existing With Project Intersection Comparison	10-10
10-3 Year 2035 Without and Year 2035 With Project Street Segment Comparison.....	10-13
10-4 Year 2035 Without and Year 2035 With Intersection Comparison.....	10-14

APPENDICES

- A. SANDAG Series 12 Forecast
- B. Existing Traffic Counts / Signal Timing Sheets
- C. Existing Synchro Worksheets
- D. Existing With Project Synchro Worksheets
- E. Opening Day Synchro Worksheets & Growth Factoring Worksheets
- F. Year 2035 Without Project Synchro Worksheets
- G. Year 2035 Factoring Worksheets
- H. Year 2035 With Project Synchro Worksheets

1.0 EXECUTIVE SUMMARY

Urban Systems Associates, Inc. (USAI) was retained by T.Y. Lin International to determine potential transportation impacts and appropriate mitigation measures for the construction of Torrey Meadows Drive bridge over State Route 56 (SR-56) referred to as the “Project” in this report. The project proposes to construct a bridge overcrossing SR-56 2,640 feet west of Camino Del Sur (PM 6.12) in the Torrey Highlands community of San Diego. This project has been assigned to Project Development Category 4B.

The purpose of the project is to connect the divided community of Torrey Highlands, which is currently bisected by SR-56. In addition, the execution of this project would physically integrate Torrey Highlands to the greater Rancho Penasquitos and Santaluz communities north of State Route 56. The proposed bridge would provide residents an alternative way to entering and leaving their cul-de-sac community.

The proposed project will serve motor vehicles, bicyclists and pedestrians by providing an alternative route to cross SR-56 and travel within the community. The Torrey Highlands community is a developing suburban community expected to see a significant increase in traffic with future development.

The analysis evaluates the diversion of traffic due to the construction of the Torrey Meadows Drive Bridge as an alternative route to the Camino Del Sur interchange. The following five (5) scenarios were included in this report: Existing, Existing With Project, Opening Day, Year 2035 Without Project, and Year 2035 With Project. The term “Opening Day” is meant to discuss a condition occurring at the project’s estimated opening day (Year 2015) where traffic is diverted from Camino Del Sur interchange

as a result of the Torrey Meadows Bridge. The term “Year 2035” is meant to discuss traffic conditions in the Year 2035. The analysis year used for modeling purposes is the Year 2035.

Study Results:

Based upon this transportation impact analysis, it was determined that development of the proposed project would have the following impacts:

Impacts:

Street Segments – The proposed project is expected to have no direct project impacts to street segments in the Existing With Project scenario as shown in **Table 1-1**. The proposed project is expected to have no significant cumulative project impacts in the Year 2035 With Project scenario as shown in **Table 1-2**.

Intersections – As shown in **Table 1-3**, the project is expected to have no direct project impacts to intersections in the Existing With Project scenario. The proposed project is expected to have no significant cumulative intersection impacts in the Year 2030 With Project scenario as shown in **Table 1-4**.

Mitigation:

The proposed project is not expected to have any direct or cumulative significant impacts, therefore, no mitigation is proposed.

TABLE 1-1

Existing Without and Existing With Project Street Segment Comparison

Road	Segment	Class.	Existing			Existing + Project			Δ V/C	Is this impact Significant?
			LOS	Volume	V/C	LOS	Volume	V/C		
Camino Del Sur	Alpine Ridge Road to Torrey Meadows Drive	4-M	B	20,424	0.51	C	20,424	0.51	0.000	NO
	Torrey Meadows Drive to Highland Village Place	4-M	C	21,940	0.55	B	19,640	0.49	-0.058	NO
	SR-56 WB Ramps to SR-56 EB Ramps	4-M	B	18,099	0.45	B	15,799	0.39	-0.058	NO
	SR-56 EB Ramps to Torrey Santa Fe Road	4-M	A	11,723	0.29	A	9,423	0.24	-0.058	NO
Torrey Meadows Drive	Via Ambrosa to Via Fortezza	2-Ca	A	726	0.05	A	3,026	0.20	0.153	NO
Torrey Santa Fe Road	Torrey Meadows Drive to Santa Fe Summit (Units 2&3) Main Access*	2-Ca	A	2,947	0.20	B	5,247	0.35	0.153	NO
	Santa Fe Summit (Units 2&3) Main Access* to Camino Del Sur	2-Ca	C	7,873	0.52	B	5,573	0.37	-0.153	NO

Legend:

LOS= Level of Service

V/C= Volume to Capacity Ratio

Δ V/C= Change in V/C ratio

TABLE 1-2

Year 2035 Without and Year 2035 With Project Street Segment Comparison

Road	Segment	Class.	Year 2035			Year 2035 + Project			Δ V/C	Is this impact Significant?
			LOS	Volume	V/C	LOS	Volume	V/C		
Camino Del Sur	Alpine Ridge Road to Torrey Meadows Drive	4-M	C	23,700	0.59	C	23,700	0.59	0.000	<i>NO</i>
	Torrey Meadows Drive to Highland Village Place	4-M	C	26,300	0.66	C	23,100	0.58	-0.080	<i>NO</i>
	SR-56 WB Ramps to SR-56 EB Ramps	4-M	C	27,800	0.70	C	24,600	0.62	-0.080	<i>NO</i>
	SR-56 EB Ramps to Torrey Santa Fe Road	4-M	D	35,000	0.88	D	31,800	0.80	-0.080	<i>NO</i>
Torrey Meadows Drive	Via Ambrosa to Via Fortezza	2-Ca	A	766	0.05	A	3,200	0.21	0.162	<i>NO</i>
Torrey Santa Fe Road	Torrey Meadows Drive to Santa Fe Summit (Units 2&3) Main Access*	2-Ca	A	3,800	0.25	C	7,000	0.47	0.213	<i>NO</i>
	Santa Fe Summit (Units 2&3) Main Access* to Camino Del Sur	4-M	B	20,800	0.52	B	17,600	0.44	-0.080	<i>NO</i>

Legend:

LOS= Level of Service

V/C= Volume to Capacity Ratio

Δ V/C= Change in V/C ratio

TABLE 1-3

Existing Without and Existing With Project Intersection Comparison

#	Intersection	Existing				Existing + Project							
		AM Peak Hour		PM Peak Hour		AM Peak Hour		Δ	S ?	PM Peak Hour		Δ	S ?
		D	LOS	D	LOS	D	LOS			D	LOS		
1	Torrey Meadows Dr./Via Fortezza	29.1	C	21.6	C	20.5	C	-8.6	No	18.0	B	-3.6	No
2	Camino Del Sur/Torrey Meadows Dr.	22.7	C	19.4	B	26.1	C	3.4	No	22.1	C	2.7	No
3	Camino Del Sur/Highland Village Pl.	10.9	B	14.2	B	10.8	B	-0.1	No	14.0	B	-0.2	No
4	Torrey Santa Fe Rd./Torrey Meadows Dr.	6.9	A	7.7	A	7.7	A	0.8	No	8.3	A	0.6	No
5	Camino Del Sur/SR-56 WB Ramps	24.1	C	26.3	C	24.7	C	0.6	No	26.4	C	0.1	No
6	Camino Del Sur/SR-56 EB Ramps	27.2	C	30.5	C	27.8	C	0.6	No	30.9	C	0.4	No
7	Camino Del Sur/Torrey Santa Fe Rd.	20.1	C	20.9	C	19.5	B	-0.6	No	20.6	C	-0.3	No

Notes:

LOS = Level of Service

Δ = Change

S = Significant

D= Delay

TABLE 1-4

Year 2035 Without and Year 2035 With Project Intersection Comparison

#	Intersection	Year 2035				Year 2035 + Project							
		AM Peak Hour		PM Peak Hour		AM Peak Hour		Δ	S ?	PM Peak Hour		Δ	S ?
		D	LOS	D	LOS	D	LOS			D	LOS		
1	Torrey Meadows Dr./Via Fortezza	30.8	C	23.2	C	20.4	C	-10.4	No	17.9	B	-5.3	No
2	Camino Del Sur/Torrey Meadows Dr.	25.9	C	21.6	C	35.0	C	9.1	No	23.5	C	1.9	No
3	Camino Del Sur/Highland Village Pl.	11.8	B	14.3	B	11.9	B	0.1	No	14.3	B	0.0	No
4	Torrey Santa Fe Rd./Torrey Meadows Dr.	7.1	A	7.5	A	8.1	A	1.0	No	8.3	A	0.8	No
5	Camino Del Sur/SR-56 WB Ramps	26.7	C	36.1	D	26.7	C	0.0	No	35.2	D	-0.9	No
6	Camino Del Sur/SR-56 EB Ramps	27.3	C	32.6	C	26.5	C	-0.8	No	32.1	C	-0.5	No
7	Camino Del Sur/Torrey Santa Fe Rd.	49.7	D	52.7	D	39.0	D	-10.7	No	49.5	D	-3.2	No

Notes:

LOS = Level of Service

Δ = Change

S = Significant

D= Delay

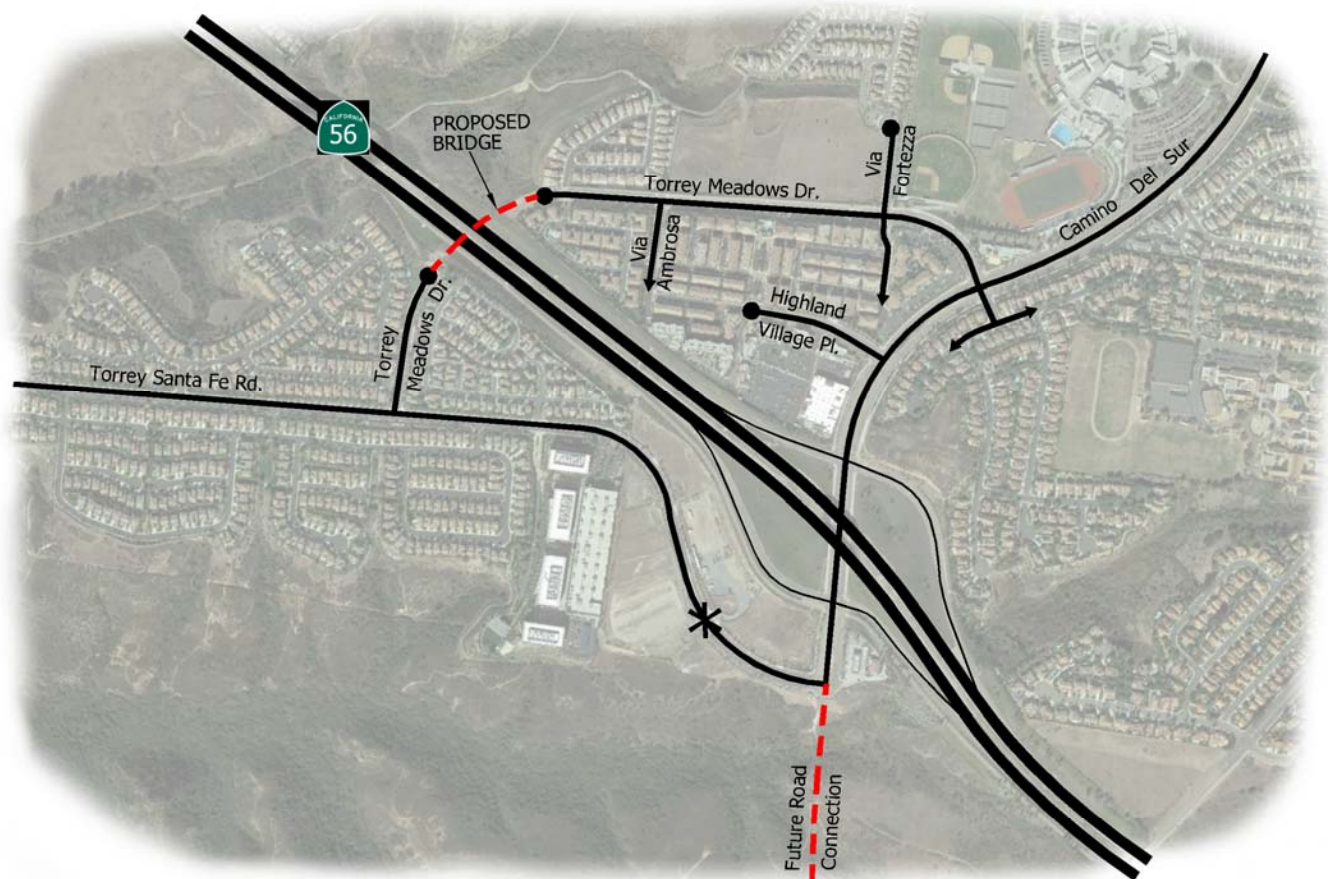
2.0 INTRODUCTION

The purpose of this analysis is to determine potential transportation impacts and appropriate mitigation measures for the construction of Torrey Meadows Drive bridge over State Route 56 (SR-56). The project proposes to construct a bridge overcrossing SR-56 2,640 feet west of Camino Del Sur (PM 6.12) in the Torrey Highlands community of San Diego. This project has been assigned to Project Development Category 4B. The project location is shown on **Figure 2-1**.

The purpose of the project is to connect the divided community of Torrey Highlands, which is currently bisected by SR-56. In addition, the execution of this project would physically integrate Torrey Highlands to the greater Rancho Penasquitos and Santaluz communities north of State Route 56. The proposed 2 lane bridge would provide residents an alternative way to entering and leaving their cul-de-sac community. A layout of the Torrey Meadows Bridge is provided in **Figure 2-2**.

A SANDAG Series 12 Year 2035 Select Link traffic model (**Appendix A**) was prepared to determine horizon year traffic volumes and the amount of diverted traffic from the Camino Del Sur interchange due to the construction of the proposed Torrey Meadows bridge.

The geographical study area was based on the agreed upon scope of work. **Figure 2-3** shows the study area boundary and the intersection key selected for the study. USAI then gathered information or oversaw the machine and manual traffic counts of the existing ADT and peak hour traffic flow data for the study intersections and street segments. **Table 2-1** lists the study area street segments and intersections.



LEGEND

* = Future Main Access to Santa Fe Summit (Units 2 & 3)

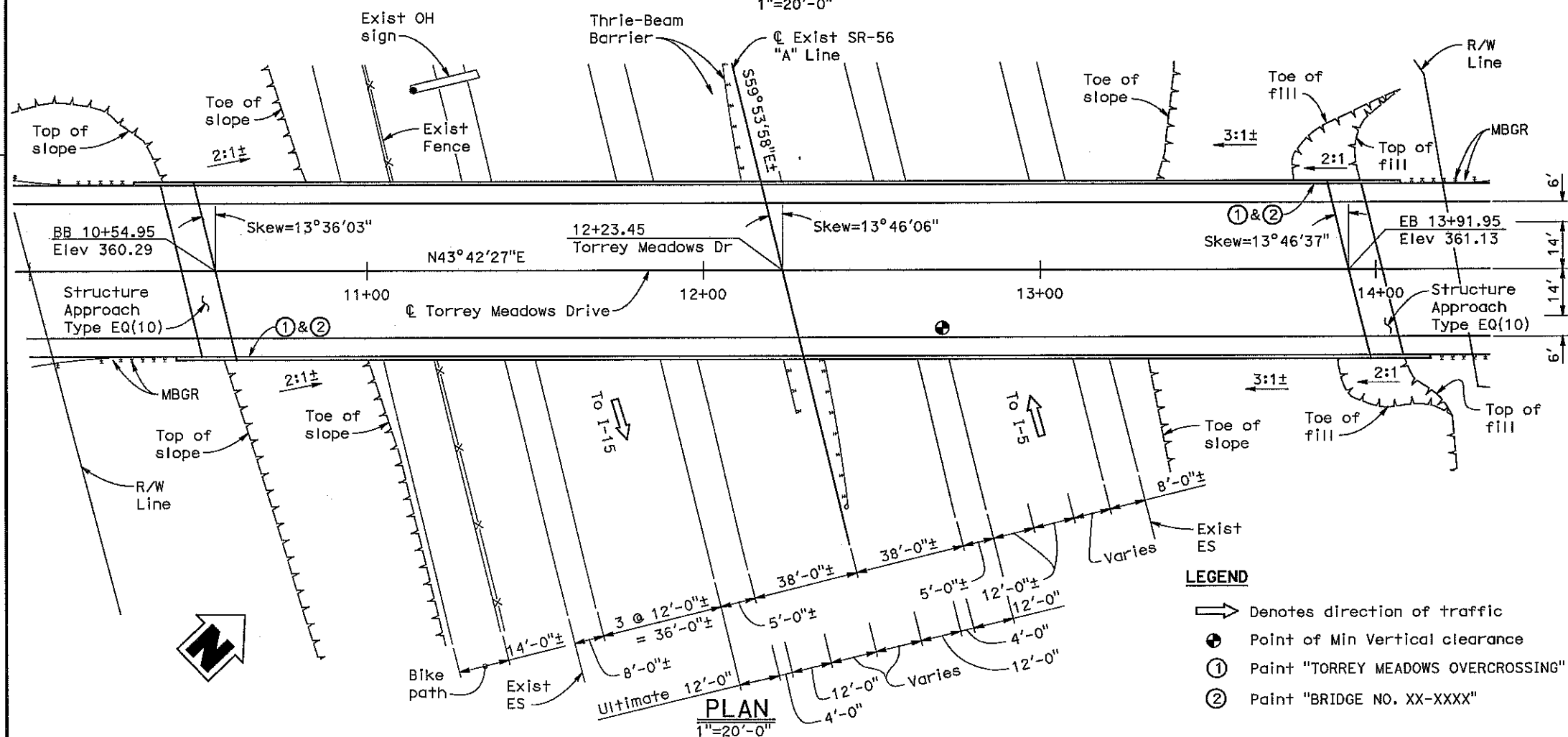
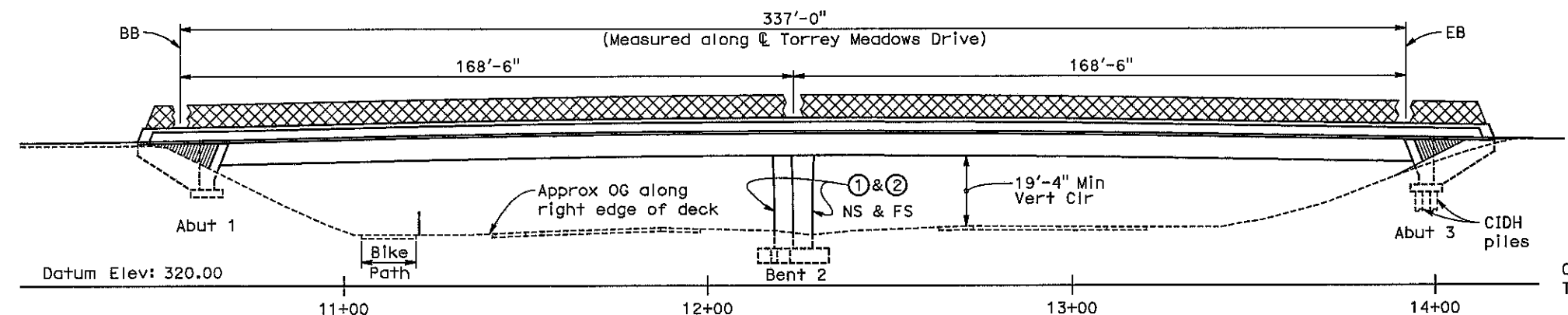
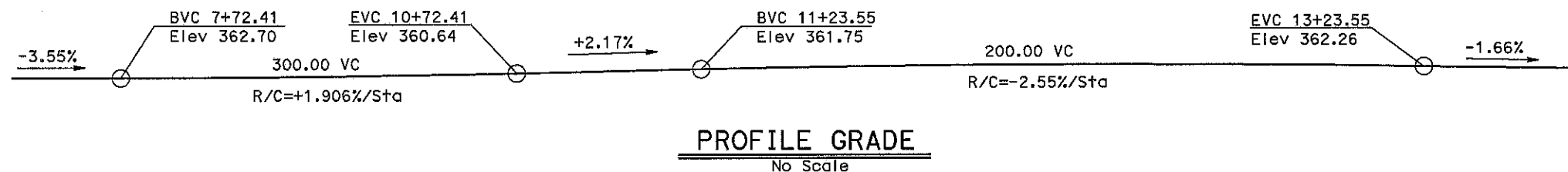


FIGURE 2-1
Project Location Map

**BRIDGE LAYOUT
IS PROVIDED IN THE FOLLOWING SHEETS IN 11 X 17 SIZE
(2 SHEETS)**

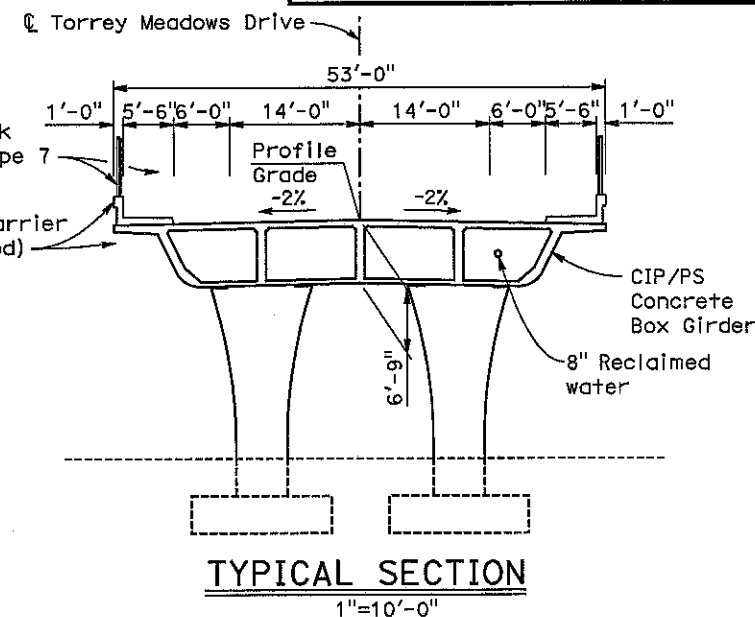
FIGURE 2-2
Torrey Meadows Drive Bridge Layout

File: \\projects\701118_torrey_meadows_drive\gn\701118-a-gp01.dgn
Date: 3/30/2010 Time: 02:23:58 AM
User: imartin



LEGEND

- ➡ Denotes direction of traffic
- ⊙ Point of Min Vertical clearance
- ① Paint "TORREY MEADOWS OVERCROSSING"
- ② Paint "BRIDGE NO. XX-XXXX"



Vehicular Traffic

- N/A New alignment. No traffic at the site.
- N/A Traffic will be detoured away from the site.
- N/A Traffic will be carried on the structure. Stage construction will/will not be required.
- X Traffic will pass under the structure on SR-56 (Name of St. or Hwy.)
 - A. N/A No falsework allowed over traffic.
 - B. X Falsework opening(s) required:

	Temporary Vertical Clearance	Width of Traffic Opening
E Bnd	15'-0"	49'-0"
W Bnd	15'-0"	49'-0"
N/A Two-way	N/A	N/A
 - C. N/A Temporary traffic lane reduction needed for footing excavation.

Pedestrian Traffic

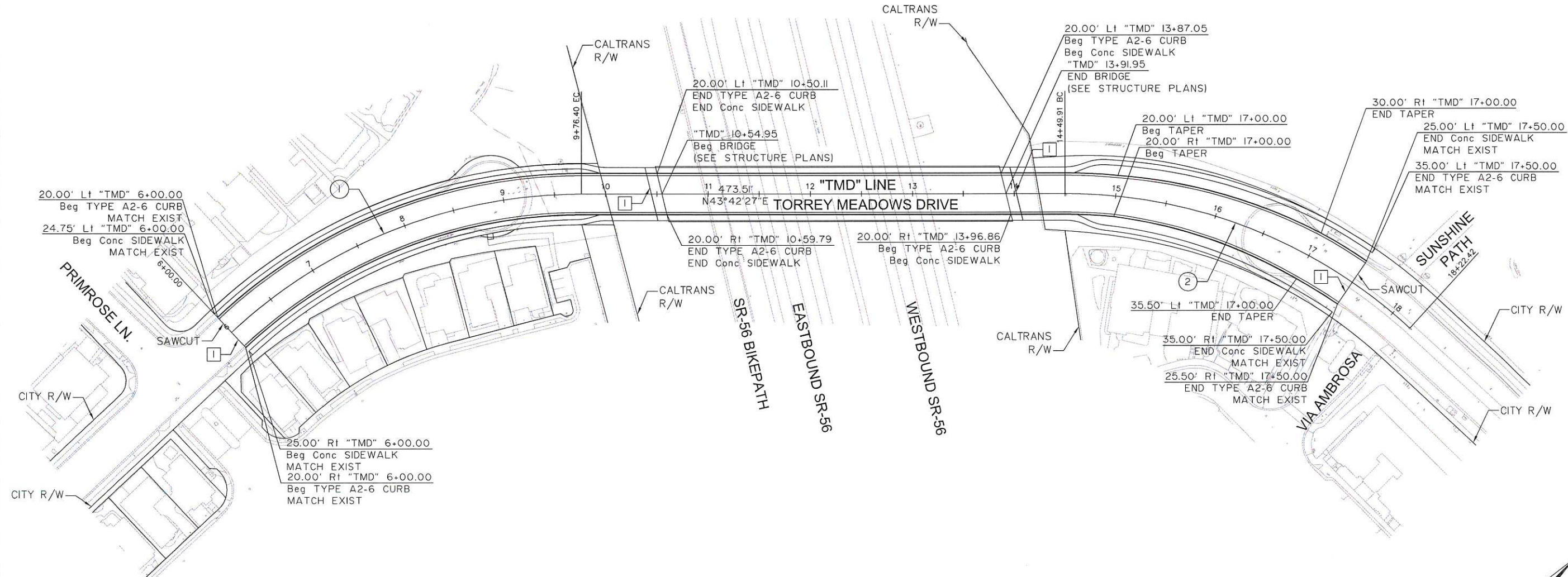
Falsework opening required on Bike path (Name of St.)
Location Span 1 Height 12'-0" Width 20'-0"

29880-XXX-D

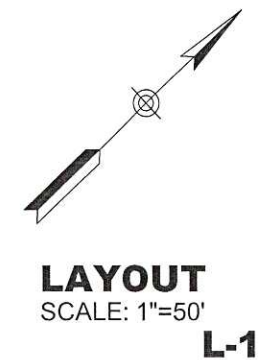
DESIGN OVERSIGHT	DESIGN	BY Jim Rucker	CHECKED	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY" PERMIT DESIGN VEHICLE	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO. 57-XXXX	TORREY MEADOWS DRIVE			
SIGN OFF DATE	DETAILS	BY Ivan Martin	CHECKED	LAYOUT	BY Ivan Martin	PROJECT ENGINEER	POST MILES XX.X	GENERAL PLAN			
DESIGN GENERAL PLAN SHEET (ENGLISH) (REV. 06-01-09)	QUANTITIES	BY	CHECKED	SPECIFICATIONS	BY	PLANS AND SPECS COMPARED	CU XXXXX EA XXXXXX	REVISION DATES (PRELIMINARY STAGE ONLY)			
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS							DISREGARD PRINTS BEARING EARLIER REVISION DATES	1 XX			

FILE => #REQUEST

TIME PLOTTED => \$TIME
DATE PLOTTED => \$DATE
USERNAME => \$USER

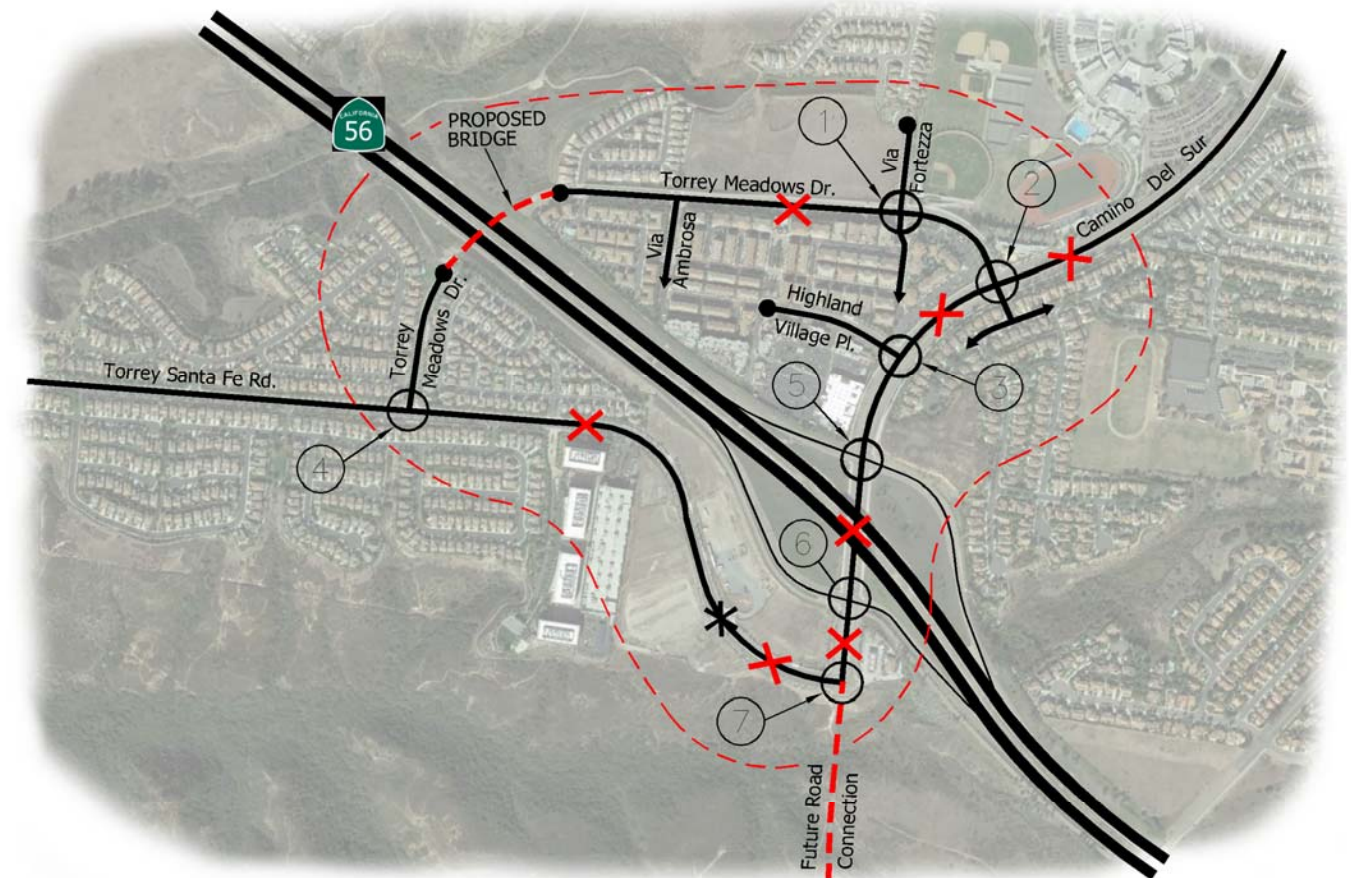


CENTERLINE CURVE DATA				
CURVE	RADIUS	DELTA	TANGENT	LENGTH
①	500.00'	43°07'55"	197.62'	376.40'
②	500.00'	42°41'11"	195.38'	372.51'



In order to summarize project impacts and required mitigation, this report is divided into the following text sections:

- 1.0 Executive Summary
- 2.0 Introduction
- 3.0 Proposed Project
- 4.0 Methodology
- 5.0 Existing Conditions
- 6.0 Existing With Project
- 7.0 Opening Day (Year 2015)
- 8.0 Year 2035 Without Project
- 9.0 Year 2035 With Project
- 10.0 Conclusions and Recommendations
- 11.0 References
- 12.0 Urban Systems Associates, Inc., Preparers



LEGEND



= Study Intersections



= Study Street Segments



= Study Area Boundary



= Future Main Access to Santa Fe Summit (Units 2 & 3)



FIGURE 2-3

Study Area Boundary / Intersection Key

TABLE 2-1
Study Area Street Segments and Intersections

Street Segments	
Road	Segment
Camino Del Sur	Alpine Ridge Road to Torrey Meadows Drive
Camino Del Sur	Torrey Meadows Drive to Highland Village Place
Camino Del Sur	SR-56 WB Ramps to SR-56 EB Ramps
Camino Del Sur	SR-56 EB Ramps to Torrey Santa Fe Road
Torrey Meadows Drive	Via Ambrosa to Via Fortezza
Torrey Santa Fe Road	Torrey Meadows Dr. to Santa Fe Summit(Units 2&3) Main Access
Torrey Santa Fe Road	Santa Fe Summit(Units 2&3) Main Access to Camino Del Sur

Intersections	
Number	Intersection
1	Torrey Meadows Dr./Via Fortezza
2	Camino Del Sur/Torrey Meadows Dr.
3	Camino Del Sur/Highland Village Pl.
4	Torrey Santa Fe Rd./Torrey Meadows Dr.
5	Camino Del Sur/SR-56 WB Ramps
6	Camino Del Sur/SR-56 EB Ramps
7	Camino Del Sur/Torrey Santa Fe Rd.

3.0 PROPOSED PROJECT

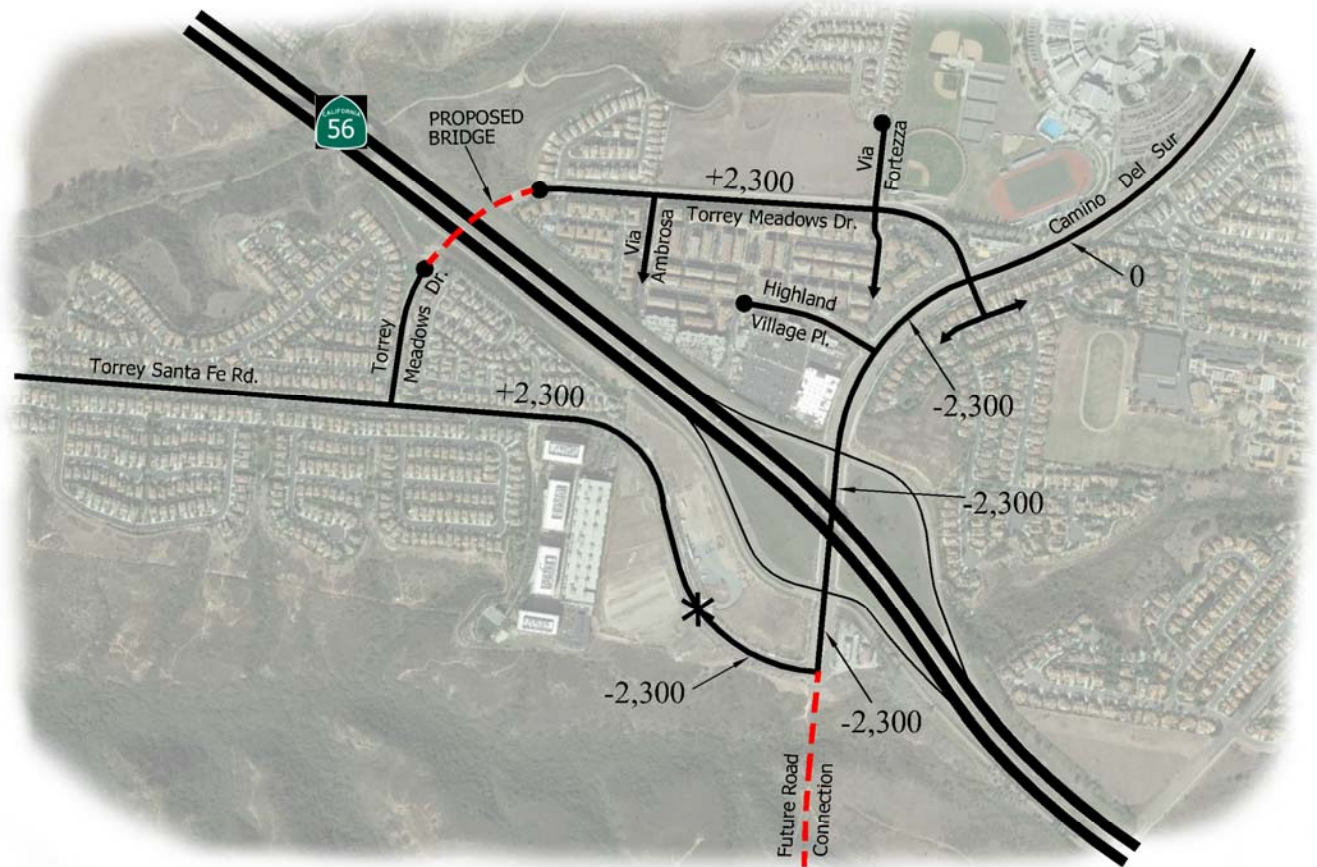
The project proposes to construct a Torrey Meadows Drive Bridge over SR-56. As previously mentioned, this analysis evaluates the diversion of traffic due to the construction of the Torrey Meadows Drive Bridge as an alternative route to the SR-56/Camino Del Sur interchange.

3.1 NEAR TERM TRAFFIC DIVERSION

The proposed bridge would provide residents an alternative way of entering and leaving their cul-de-sac community. According to the Year 2035 select link traffic model prepared by SANDAG, an estimated 3,200 average daily trips (ADT) would be diverted from the Camino Del Sur interchange. In the Near Term, only a portion of traffic from the community would use the bridge since the community is not currently built out. For analysis purposes, an estimated 2,300 ADT was assumed to be diverted from the Camino Del Sur interchange in the Near Term scenario. **Figure 3-1** shows the assumed diversion of daily traffic on study roadway segments due to the proposed bridge. The figure shows 2,300 ADT is diverted from Camino Del Sur interchange and distributed to Torrey Meadows Drive north of SR-56.

For study intersections, AM and PM peak hour traffic was assumed to be diverted in a similar manner to daily traffic. The traffic model shows an estimated future (Year 2035) traffic volume of 24,600 ADT on Camino Del Sur between the SR-56 WB and EB ramps. Utilizing the 2,300 ADT for the Near Term scenario, an estimated 9.0% ($2,300 / 24,600$) would be diverted from the Camino Del Sur interchange. Therefore, this same diversion percentage was used to estimate peak hour diversion, see **Figure 3-2**. As shown at Intersection #2 (Camino Del Sur / Torrey Meadows Dr.), traffic is diverted from Camino Del Sur towards the interchange and distributed onto Torrey Meadows Drive towards the bridge.

Project only peak hour turn movement worksheets are provided in **Appendix B**.



LEGEND

* = Future Main Access to Santa Fe Summit (Units 2 & 3)



FIGURE 3-1
Near Term Project Only Average Daily Traffic

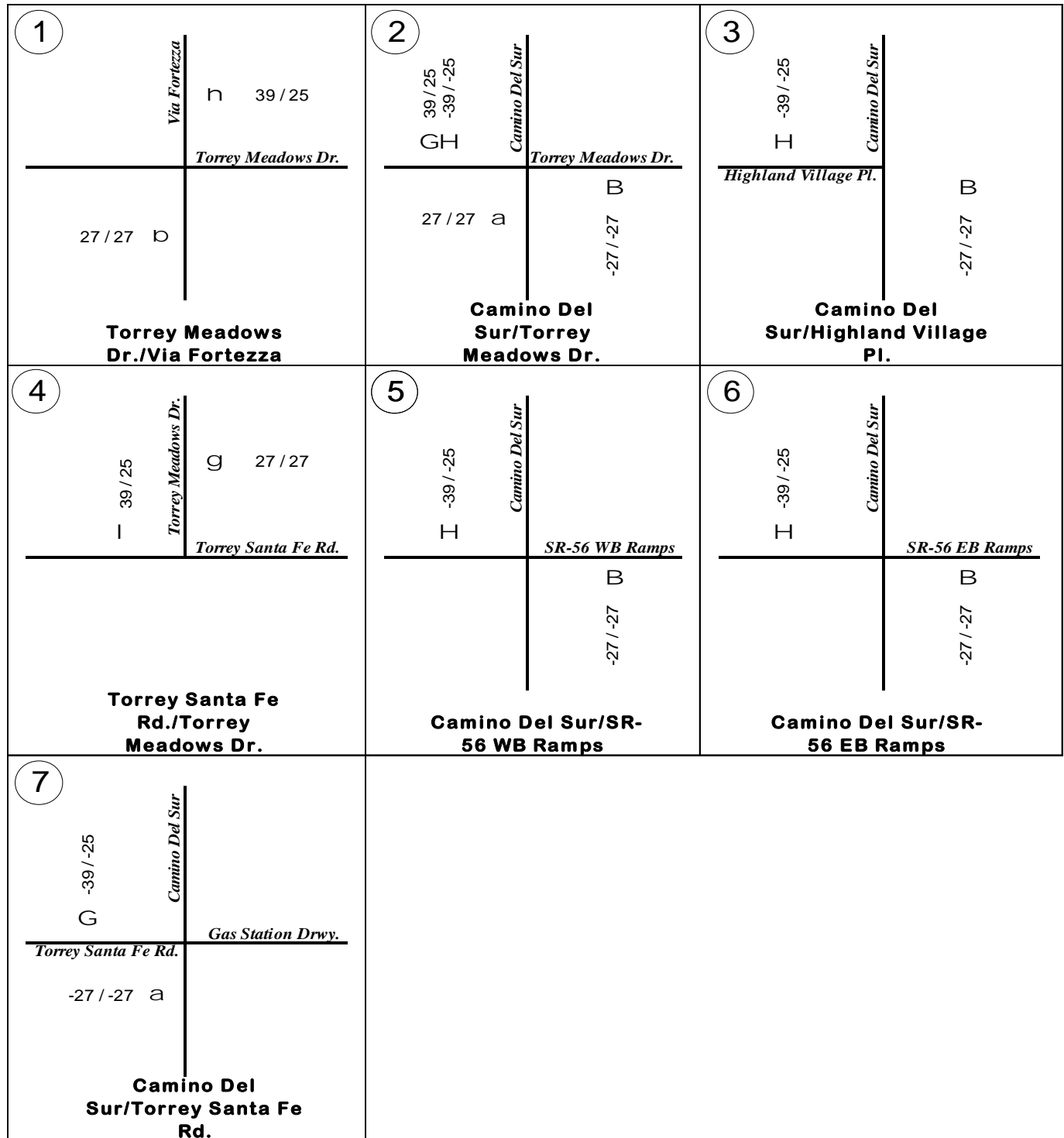


FIGURE 3-2

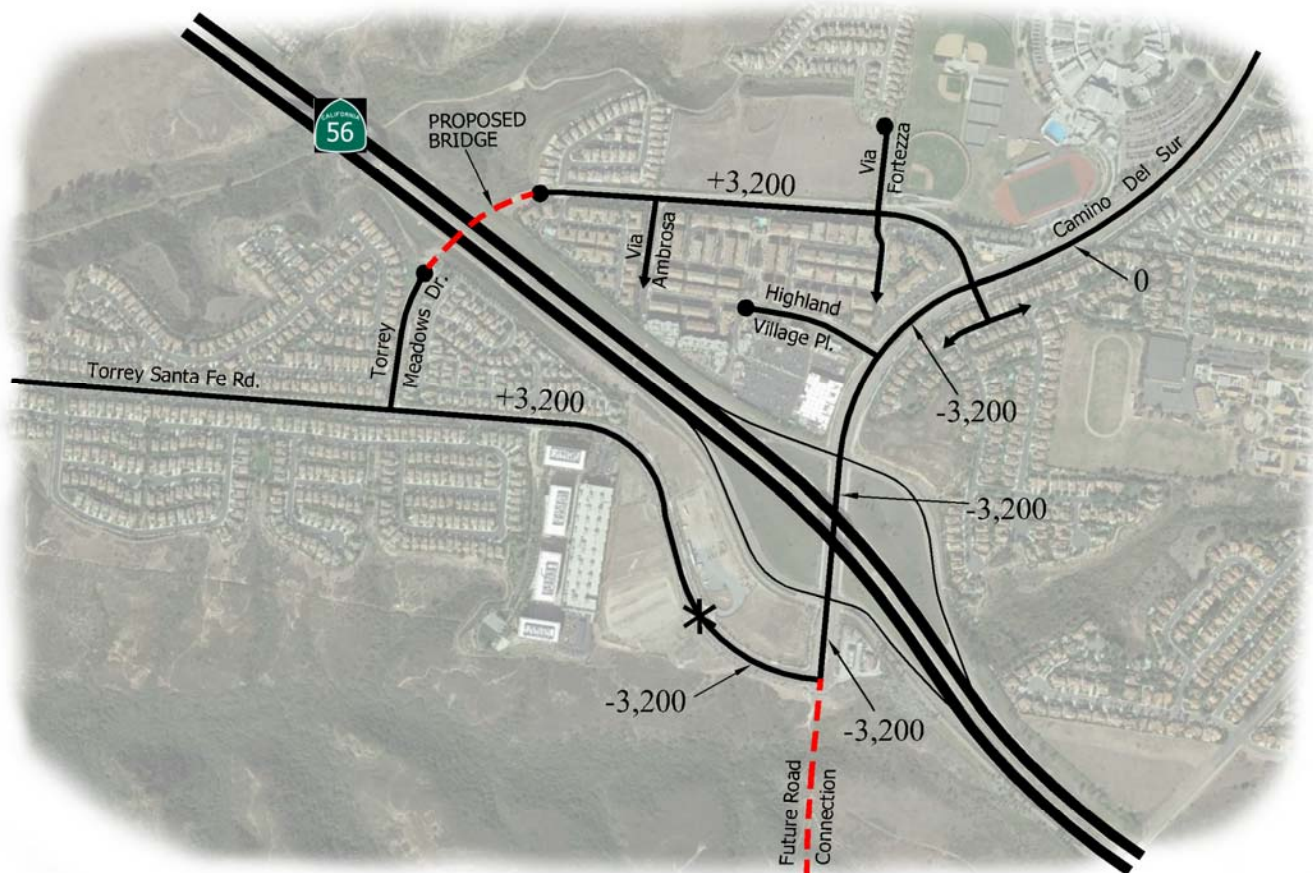
Near Term Project Only AM/PM Peak Hour Traffic Volumes

3.2 YEAR 2035 TRAFFIC DIVERSION

As mentioned in the Near Term traffic diversion section, the Year 2035 select link traffic model estimated 3,200 average daily trips (ADT) are diverted from the Camino Del Sur interchange. **Figure 3-3** shows the diversion of daily traffic i.e. 3,200 ADT on study roadway segments due to the proposed bridge.

For study intersections, AM and PM peak hour traffic was assumed to be diverted in a similar manner to daily traffic. The traffic model shows an estimated future (Year 2035) traffic volume of 24,600 ADT on Camino Del Sur between the SR-56 WB and EB ramps. Utilizing the 3,200 ADT for the Year 2035 scenario, an estimated 13.0% ($3,200 / 24,600$) would be diverted from the Camino Del Sur interchange. Therefore, this same diversion percentage was used to estimate peak hour diversion, see **Figure 3-4**. As shown at Intersection #2 (Camino Del Sur / Torrey Meadows Dr.), traffic is diverted from Camino Del Sur towards the interchange and distributed onto Torrey Meadows Drive towards the proposed bridge.

Project only peak hour turn movement worksheets are provided in **Appendix B**.



LEGEND

* = Future Main Access to Santa Fe Summit (Units 2 & 3)



FIGURE 3-3
Year 2035 Project Only Average Daily Traffic

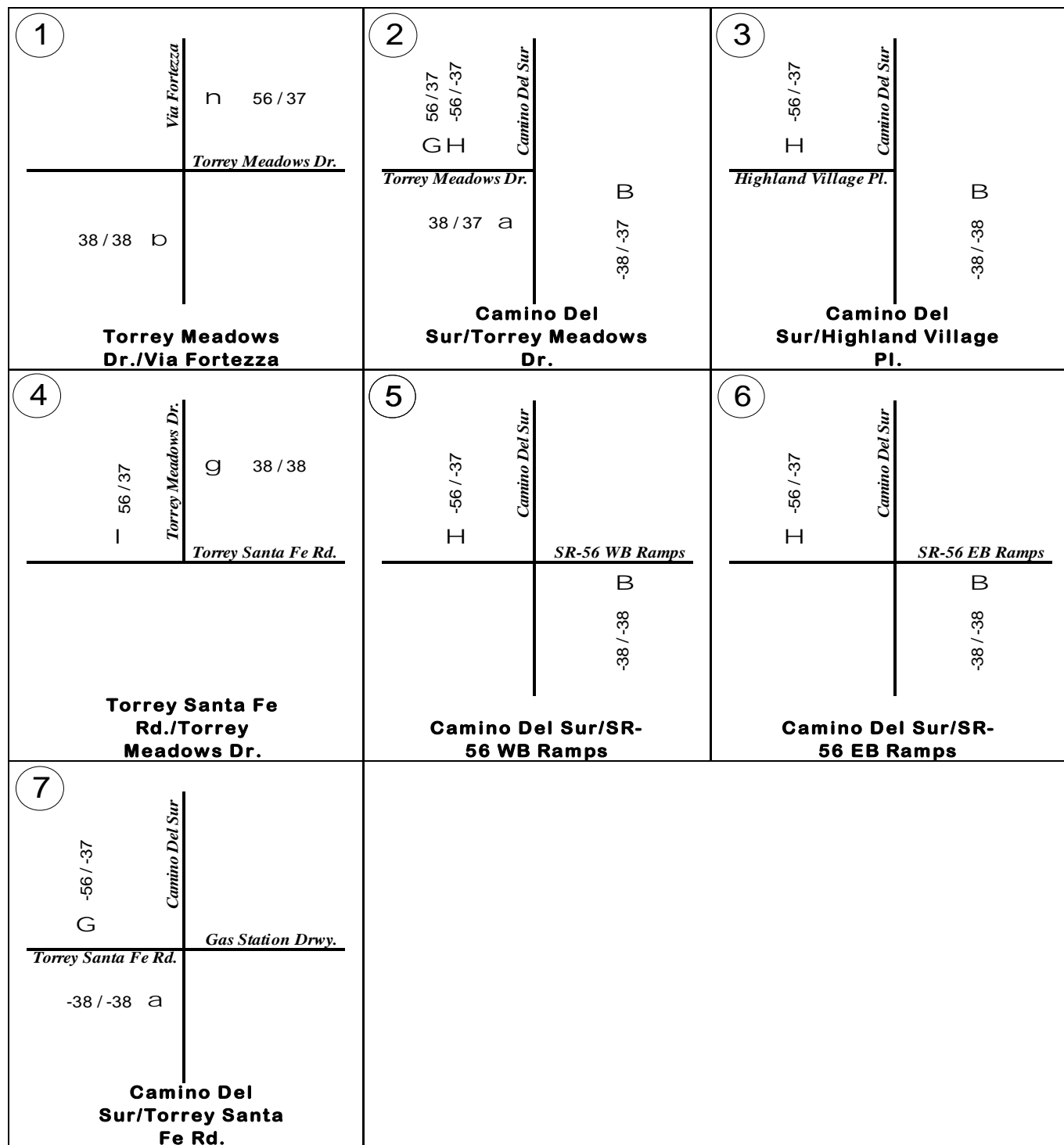


FIGURE 3-4

Year 2035 Project Only AM/PM Peak Hour Traffic Volumes

4.0 METHODOLOGY

This section of the report describes various analysis procedures and criteria that are used to determine if the proposed project has a significant impact and if mitigation is required. Mitigation may be either specific improvements by the project for a direct or cumulative impact or a financial contribution toward an improvement by others if a cumulative impact occurs. Two criteria must be met before project mitigation is required. First, the intersection or street segment must be projected to operate at an unacceptable LOS after project trips are added (i.e., “E” or “F” as discussed below). Second, the amount of project traffic must be significant based on the application of criteria also discussed below. For an intersection, if the change in delay anticipated due to the project is greater than 2 seconds or 1 second and the LOS is “E” or “F” respectively, then the project’s intersection impacts would be considered significant. For a street segment, if the change in volume to capacity ratio (V/C ratio) anticipated due to the project exceeds 0.02 or 0.01, and the LOS is “E” or “F,” respectively, then the project’s street segment impact would be considered significant. If project traffic causes an intersection, roadway segment, or freeway segment to degrade from LOS “D” to LOS “E” or LOS “F,” the project impact would be significant and project mitigation is required. For freeway segment impacts to be considered significant, the segment would need to operate at an unacceptable LOS and exceed a change in V/C ratio of 0.01 or 0.005 for LOS “E” and “F,” respectively. A project ramp meter impact would be significant if the ramp meter calculations show 15 minutes of delay or greater and the change in delay due to the project is greater than 2 minutes or 1 minute and the freeway mainline segments are expected to operate at LOS “E” and “F,” respectively, using the most restrictive meter rate method. For this study both the freeway and ramp meter criteria are not applicable because there are no freeways or freeway ramps within our project study area.

4.1 CITY OF SAN DIEGO GUIDELINES

The City of San Diego has developed a Traffic Impact Study Manual (July 1998). The stated purpose of the Traffic Impact Study Manual is “....to ensure consistency with all applicable City and State regulations.” The Traffic Impact Study Manual provides guidance regarding preparation of traffic impact reports in the City of San Diego. Since the proposed project is located in the City of San Diego, this traffic impact report follows the procedures outlined in their traffic manual. The manual includes guidelines for forecasting, trip generation and assignment, and analysis procedures.

The City’s Significance Determination Thresholds (2011) establish criteria that identify the allowable change in delay or V/C ratio due to project impacts. This publication also establishes criteria for measuring project impacts at intersections. This method establishes an allowable increase in delay at intersections due to the addition of project trips. The City Traffic Impact Study Manual specifies use of the most current Highway Capacity Manual (HCM) operational method for studying intersections. For analyzing intersections, a software package called Synchro is used. This software package is a direct and faithful application of the HCM methodology.

4.2 TRIP DISTRIBUTION

The projected trips were diverted from the SR-56/Camino Del Sur interchange due to the construction of the Torrey Meadows Drive bridge. A Series 12 Year 2035 Select Link traffic model is included in **Appendix A** which illustrates the diversion of traffic in the community due to the bridge.

4.3 STREET LOS THRESHOLD

When analyzing street segments, the LOS must be determined. LOS is a measure used to describe the conditions of traffic flow. LOS is expressed using letter designations from “A” to “F.” LOS “A” represents the best case, and LOS “F” represents the worst case. Generally LOS “A” through “C” represents free-flowing traffic conditions with little or no delay. LOS “D” represents limited congestion and some delay. However, the duration of periods of delay is acceptable to most people. LOS “E” and “F” represent significant delays on local streets, which are generally unacceptable for urban design purposes. The LOS descriptions are from Chapter 9 of the HCM (Transportation Research Board 2000).

The City of San Diego has developed LOS threshold tables based on the different functional street classifications and their ability to carry traffic. For the City of San Diego, LOS “D” is the acceptable LOS standard for roadways and intersections.

4.4 INTERSECTION LOS PROCEDURES

The City and Regional Congestion Management Program (CMP) guidelines, as adopted by SANDAG (2006), determine the procedures to be used for intersection peak hour analysis. To determine an intersection peak hour LOS, the CMP guidelines require use of the most recent procedure from Chapter 9 of the HCM (Transportation Research Board 2000). The procedure in Chapter 9, which is used to analyze signalized intersections, is the “operational method.” This method determines LOS based on average control delay expressed in seconds. **Table 4-1** shows the LOS based upon the delay. A computer

program is used to complete the analysis. As discussed above, the City and CMP guidelines have established LOS “D” or better as the objective for intersections and street segments.

4.5 CMP ENHANCED CEQA REVIEW GUIDELINES

As discussed above, the CMP regional guidelines were developed by SANDAG to provide a set of procedures for completing enhanced California Environmental Quality Act (CEQA) review for certain projects. The guidelines, prepared by SANDAG, stipulate that any development project generating 2,400 or more ADT, or 200 or more peak hour trips, must be evaluated in accordance with the requirements of the Regional CMP. The CMP analysis must include the traffic LOS impacts on affected freeways and Regionally Significant Arterial systems, which includes all designated CMP roadways. In order to conform to the region’s CMP, local jurisdictions must adopt and implement a land use analysis program to assess impacts of land use decisions on the regional transportation system.

As discussed in Section 2.0, the study area for this TIA was based on the agreed upon scope of work. Based on the scope of work, seven (7) street segments and seven (7) intersections were evaluated in this analysis to determine if any significant impacts occur as a result of the proposed Torrey Meadows Drive bridge.

TABLE 4-1

Level of Service Criteria for Signalized Intersections

Level of Service	Control Delay Per Vehicle (sec)
A	≤ 10
B	> 10 and ≤ 20
C	> 20 and ≤ 35
D	> 35 and ≤ 55
E	> 55 and ≤ 80
F	> 80

Source: Transportation Research Board 2000, Table 9-1

Level of Service Criteria for Un-signalized Intersections

Level of Service	Control Delay Per Vehicle (sec)
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

Source: Transportation Research Board 2000, Table 10-7

4.6 FREEWAY SEGMENT LOS PROCEDURES

To determine the LOS of main-lane freeway segments, a V/C analysis would be conducted consistent with California Department of Transportation (Caltrans) District 11 Procedures for Estimating Freeway Level of Service. This analysis study area does not include any freeway or freeway ramps so these procedures have not been utilized.

4.7 SIGNIFICANCE THRESHOLDS

As discussed above, two criteria must be met before project traffic mitigation is required. First, an unacceptable LOS (i.e., “E” or “F”) must occur, and second, significance thresholds for only project traffic must be exceeded. Alternatively, if project traffic causes a facility to degrade from LOS “D” to “E,” a significant impact would occur. The City’s significance thresholds are summarized in **Table 4-2**. These thresholds are used in this analysis along with LOS to determine if project mitigation is required. **Table 4-3** shows the roadway classifications for the City of San Diego.

TABLE 4-2
Significance Thresholds

Level of Service with Project *	Allowable Change Due To Project Impact **					
	Freeways		Roadway Segments		Intersections	Ramp Metering
	V/C	Speed (mph)	V/C	Speed (mph)	Delay (sec.)	Delay (min.)
E (or ramp meter delays above 15 min.)	0.010	1.0	0.02	1.0	2.0	2.0
F (or ramp meter delays above 15 min.)	0.005	0.5	0.01	0.5	1.0	1.0

Note 1: The allowable increase in delay at a ramp meter with more than 15 minutes delay and freeway LOS E is 2 minutes.

Note 2: The allowable increase in delay at a ramp meter with more than 15 minutes delay and freeway LOS F is 1 minute.

* All LOS measurements are based upon Highway Capacity Manual procedures for peak-hour conditions. However, V/C ratios for roadway segments are estimated on an ADT/24-hour traffic volume basis (using Table 2 of the City's Traffic Impact Study Manual. The acceptable LOS for freeways, roadways, and intersections is generally "D" ("C" for undeveloped locations). For metered freeway ramps, LOS does not apply. However, ramp meter delays above 15 minutes are considered excessive.

** If a proposed project's traffic causes the values shown in the table to be exceeded, the impacts are determined to be significant. The project applicant shall then identify feasible improvements (within the Traffic Impact Study) that will restore/and maintain the traffic facility at an acceptable LOS. If the LOS with the proposed project becomes unacceptable (see above * note), or if the project adds a significant amount of peak-hour trips to cause any traffic queues to exceed on- or off-ramp storage capacities, the project applicant shall be responsible for mitigating the project's direct significant and/or cumulatively considerable traffic impacts.

KEY: Delay = Average control delay per vehicle measured in seconds for intersections, or minutes for ramp meters
LOS = Level of Service
Speed = Speed measured in miles per hour
V/C = Volume to Capacity ratio

TABLE 4-3
Roadway Classifications

STREET CLASSIFICATION	LANES	LEVEL OF SERVICE				
		A	B	C	D	E
Freeway	8 lanes	60,000	84,000	120,000	140,000	150,000
Freeway	6 lanes	45,000	63,000	90,000	110,000	120,000
Freeway	4 lanes	30,000	42,000	60,000	70,000	80,000
Expressway	6 lanes	30,000	42,000	60,000	70,000	80,000
Primary Arterial	6 lanes	25,000	35,000	50,000	55,000	60,000
Major Arterial	6 lanes	20,000	28,000	40,000	45,000	50,000
Major Arterial	4 lanes	15,000	21,000	30,000	35,000	40,000
Collector	4 lanes	10,000	14,000	20,000	25,000	30,000
Collector (no center lane) continuous left-turn lane)	4 lanes 2 lanes	5,000	7,000	10,000	13,000	15,000
Collector (no fronting property)	2 lanes	4,000	5,500	7,500	9,000	10,000
Collector (commercial-industrial fronting)	2 lanes	2,500	3,500	5,000	6,500	8,000
Collector (multifamily)	2 lanes	2,500	3,500	5,000	6,500	8,000
Sub-Collector (single-family)	2 lanes	—	—	2,200	—	—

Legend

XX/XXX= Approximate recommended ADT based on the City of San Diego Street Design Manual.

NOTES:

1. The volumes and the average daily level of service listed above are only intended as a general planning guideline.
2. Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors.

5.0 EXISTING CONDITIONS

The project proposes to construct a bridge over SR-56 connecting Torrey Meadows Drive. See **Figure 2-1** for the project location.

5.1 EXISTING ROADWAY FACILITIES

Camino Del Sur – is functionally classified as a four-lane Major Arterial in the Torrey Highlands community within the project area. It currently provides two vehicular travel lanes in each direction divided by a center raised median with a posted speed limit of 45 mph. Class II bike lanes are provided on both sides of the street. On-street parking is prohibited on both sides of the street. The curb to curb width of the road with the median is 108 feet. In the current Torrey Highlands Community Plan, Camino Del Sur (previously referred to as Camino Ruiz) is ultimately classified as a six (6) lane Major Arterial from Carmel Valley Road to Torrey Santa Fe Road.

Torrey Meadows Drive – is functionally classified as a two-lane Collector that runs in a southwest to northeast direction and is presently divided by SR-56, creating two cul-de-sacs on either side of the highway. South of SR-56, Torrey Meadows Drive consists of two 20 foot wide traveled lanes, a 10 foot wide two way left turn lane, and 5 foot wide non-contiguous sidewalks. Even though the project area is situated in a low-medium density residential zone, no residential units front Torrey Meadows Drive. Parking is provided on both sides of the street and Class II bike lanes are not provided on either side of the street. The curb to curb width is 50 feet and the posted speed limit is 25 mph.

Torrey Santa Fe Road - is functionally classified as a two-lane Collector with a two-way left turn lane in the center from Torrey Meadows Drive to Camino Del Sur. The speed limit is 25 mph and Class II bike lanes are provided on both sides of the street. Parking is not allowed on either side of the street and the curb to curb width is 50 feet.

5.2 EXISTING TRAFFIC VOLUMES

Figure 5-1 shows the existing average weekday 24-hour traffic volumes for street segments in the project study area. Existing street segment functional classifications were used for purposes of this analysis. **Figure 5-2** shows the lane configurations for the existing roadway network at the study area intersections evaluated.



LEGEND

* = Future Main Access to Santa Fe Summit (Units 2 & 3)

Count Dates: April 2014 & March 2013

FIGURE 5-1
Existing Average Daily Traffic Volumes

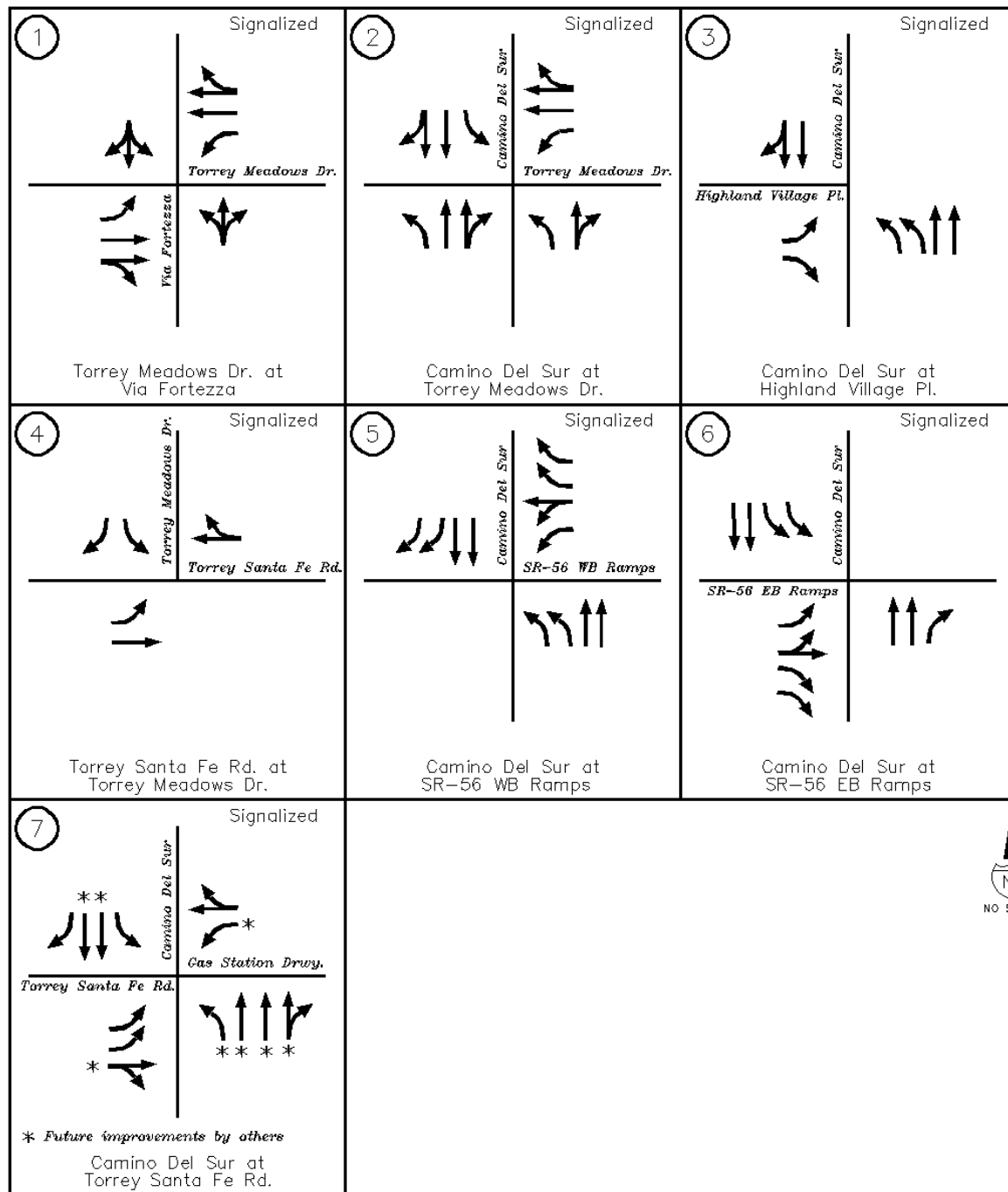


FIGURE 5-2

Existing Lane Configurations

Traffic counts summarized on **Figure 5-1** were counted on Wednesday, April 16th, 2014 and Wednesday, March 13, 2013. **Appendix B** includes the existing count data for street segments and intersections as well as signal timing sheets for study intersections.

5.3 STREET SEGMENT ANALYSIS

As shown on **Table 5-1**, all street segments are projected to operate at an acceptable LOS (C or Better) in the existing condition.

5.4 EXISTING INTERSECTIONS

As previously discussed in Section 5.2, **Figure 5-2** shows the existing lane configurations for the intersections in the study area.

5.5 EXISTING INTERSECTION PEAK HOUR VOLUMES AND LOS

Figure 5-3 shows the existing AM and PM peak hour intersection traffic data, which was collected at the intersections. The analysis of peak hour intersection performance was based on the 2000 HCM using operational analysis procedures. A computer program (Synchro), which is based on the HCM, was used to complete the analysis. As shown on **Table 5-2**, all intersections currently operate at a LOS “C” or better during the AM and PM peak hour periods. LOS calculation worksheets for existing conditions may be found in **Appendix C**.

TABLE 5-1

Existing Street Segment Levels of Service

Road	Segment	Standard	Class.	Cap.	Volume	V/C	LOS
Camino Del Sur	Alpine Ridge Road to Torrey Meadows Drive	SD	4-M	40,000	20,424	0.51	B
	Torrey Meadows Drive to Highland Village Place	SD	4-M	40,000	21,940	0.55	C
	SR-56 WB Ramps to SR-56 EB Ramps	SD	4-M	40,000	18,099	0.45	B
	SR-56 EB Ramps to Torrey Santa Fe Road	SD	4-M	40,000	11,723	0.29	A
Torrey Meadows Drive	Via Ambrosa to Via Fortezza	SD	2-Ca	15,000	726	0.05	A
Torrey Santa Fe Road	Torrey Meadows Drive to Santa Fe Summit(Units 2&3) Main Access*	SD	2-Ca	15,000	2,947	0.20	A
	Santa Fe Summit(Units 2&3) Main Access* to Camino Del Sur	SD	2-Ca	15,000	7,873	0.52	C

Legend:

Class. = Functional Class

Cap. = Capacity

LOS = Level of Service

4-M = 4 Lane Major Arterial

2-Ca = 2 Lane Collector with continuous left turn lane

Notes:

Count Dates: April 2014 & March 2013

*Santa Fe Summit (Units 2&3) Main Access is approximately 700 feet west of Camino Del Sur.

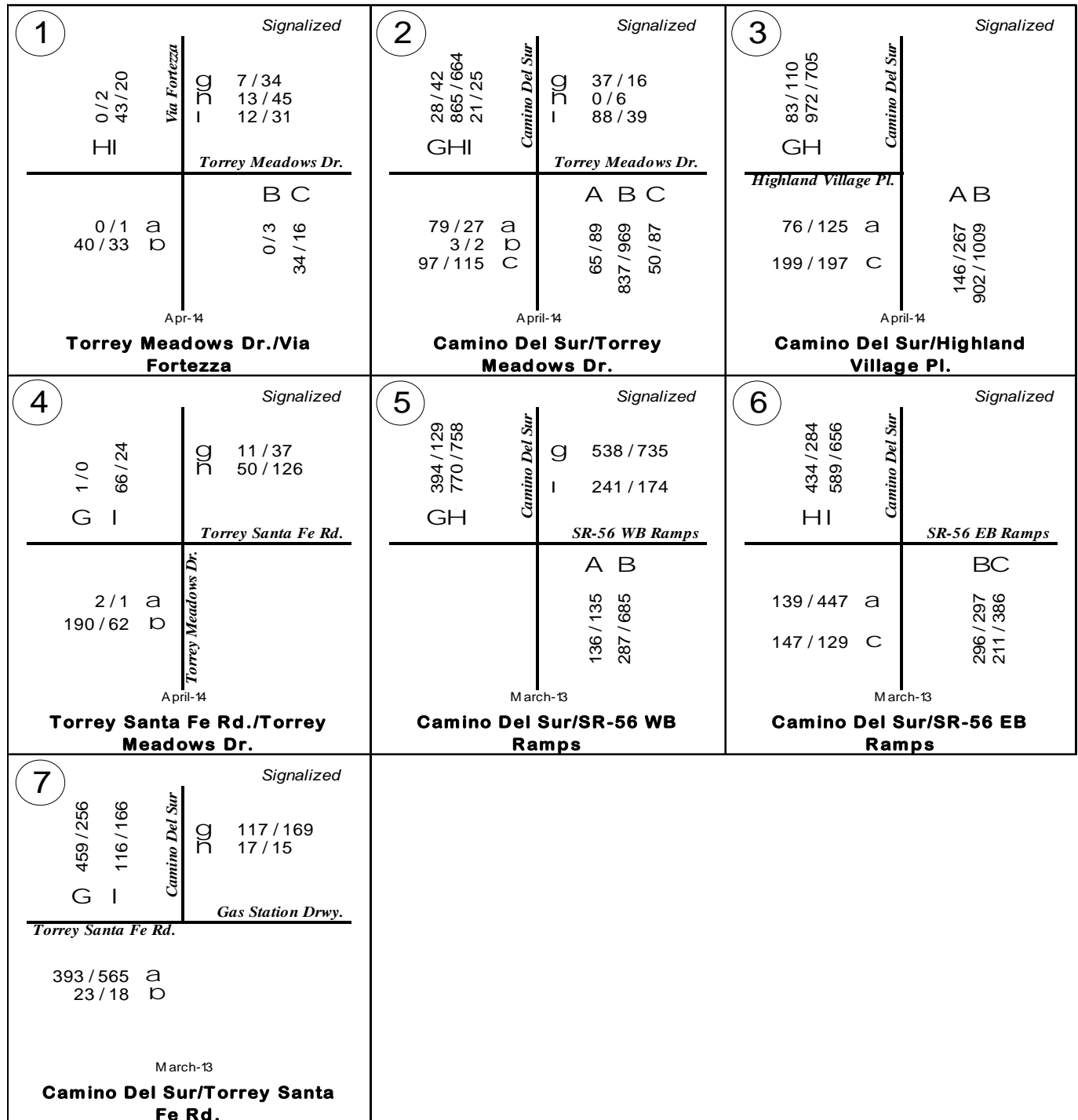


FIGURE 5-3
Existing AM/PM Peak Hour Traffic

TABLE 5-2
Existing Intersection Levels of Service

Number	Intersection	Control	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1	Torrey Meadows Dr./Via Fortezza	Signalized	29.1	C	21.6	C
2	Camino Del Sur/Torrey Meadows Dr.	Signalized	22.7	C	19.4	B
3	Camino Del Sur/Highland Village Pl.	Signalized	10.9	B	14.2	B
4	Torrey Santa Fe Rd./Torrey Meadows Dr.	Signalized	6.9	A	7.7	A
5	Camino Del Sur/SR-56 WB Ramps	Signalized	24.1	C	26.3	C
6	Camino Del Sur/SR-56 EB Ramps	Signalized	27.2	C	30.5	C
7	Camino Del Sur/Torrey Santa Fe Rd.	Signalized	20.1	C	20.9	C

Notes:

LOS = Level of Service

6.0 EXISTING WITH PROJECT

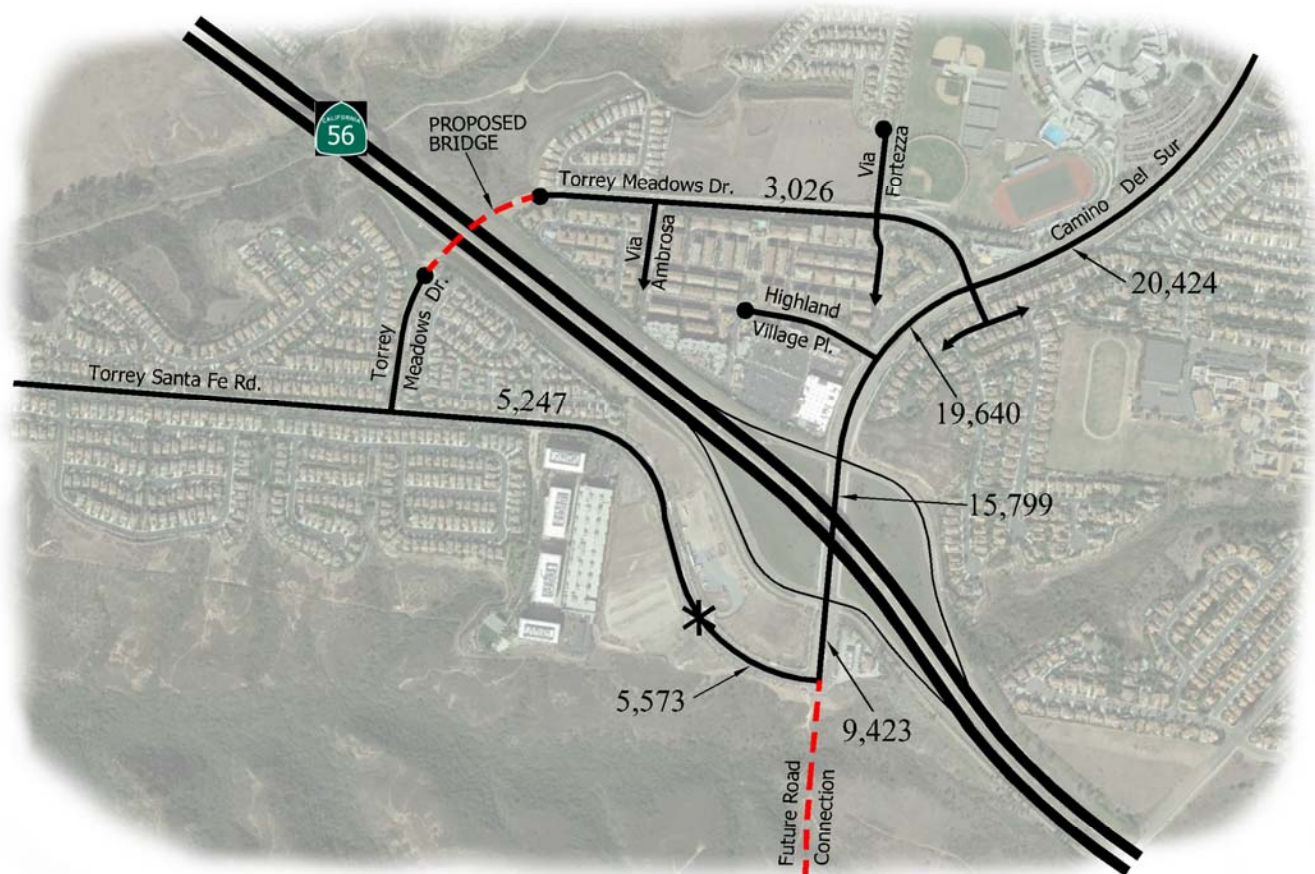
The purpose of this chapter is to evaluate the impacts of the Existing With Project analysis. This analysis evaluates the project's "direct impacts" by comparing existing conditions without project to existing conditions with the project. **Appendix D** includes the Existing With Project Synchro worksheets which is the basis for the following discussion.

6.1 STREET SEGMENTS

Street segments LOS with project traffic were determined by adding expected Near Term Project Only daily volumes (refer to Section 3.1 in this report) to the counted existing daily volumes. **Figure 6-1** shows the Existing With Project average daily traffic volumes. **Table 6-1** shows street segment LOS with the diversion of traffic due to the proposed Torrey Meadows bridge. As shown, all study street segments are projected to operate acceptable levels of service when traffic is diverted.

6.2 INTERSECTIONS

Near Term Project Only traffic for the AM and PM peaks (refer to Section 3.1 in this report) were added to existing traffic as shown in **Figure 6-2**. Intersection delays and LOS for the Existing With Project peak hour traffic is provided in **Table 6-2**. As shown, all intersections analyzed within the study area are projected to operate at acceptable LOS "C" or better.



LEGEND

* = Future Main Access to Santa Fe Summit (Units 2 & 3)



FIGURE 6-1

Existing + Project Average Daily Traffic Volumes

TABLE 6-1
Existing + Project Street Segment Levels of Service

Road	Segment	Standard	Class.	Cap.	Volume	V/C	LOS
Camino Del Sur	Alpine Ridge Road to Torrey Meadows Drive	SD	4-M	40,000	20,424	0.51	C
	Torrey Meadows Drive to Highland Village Place	SD	4-M	40,000	19,640	0.49	B
	SR-56 WB Ramps to SR-56 EB Ramps	SD	4-M	40,000	15,799	0.39	B
	SR-56 EB Ramps to Torrey Santa Fe Road	SD	4-M	40,000	9,423	0.24	A
Torrey Meadows Drive	Via Ambrosa to Via Fortezza	SD	2-Ca	15,000	3,026	0.20	A
Torrey Santa Fe Road	Torrey Meadows Drive to Santa Fe Summit(Units 2&3) Main Access*	SD	2-Ca	15,000	5,247	0.35	B
	Santa Fe Summit(Units 2&3) Main Access* to Camino Del Sur	SD	2-Ca	15,000	5,573	0.37	B

Legend:

Class. = Functional Class

Cap. = Capacity

LOS = Level of Service

4-M = 4 Lane Major Arterial

2-Ca = 2 Lane Collector with continuous left turn lane

Notes:

*Santa Fe Summit (Units 2&3) Main Access is approximately 700 feet west of Camino Del Sur.

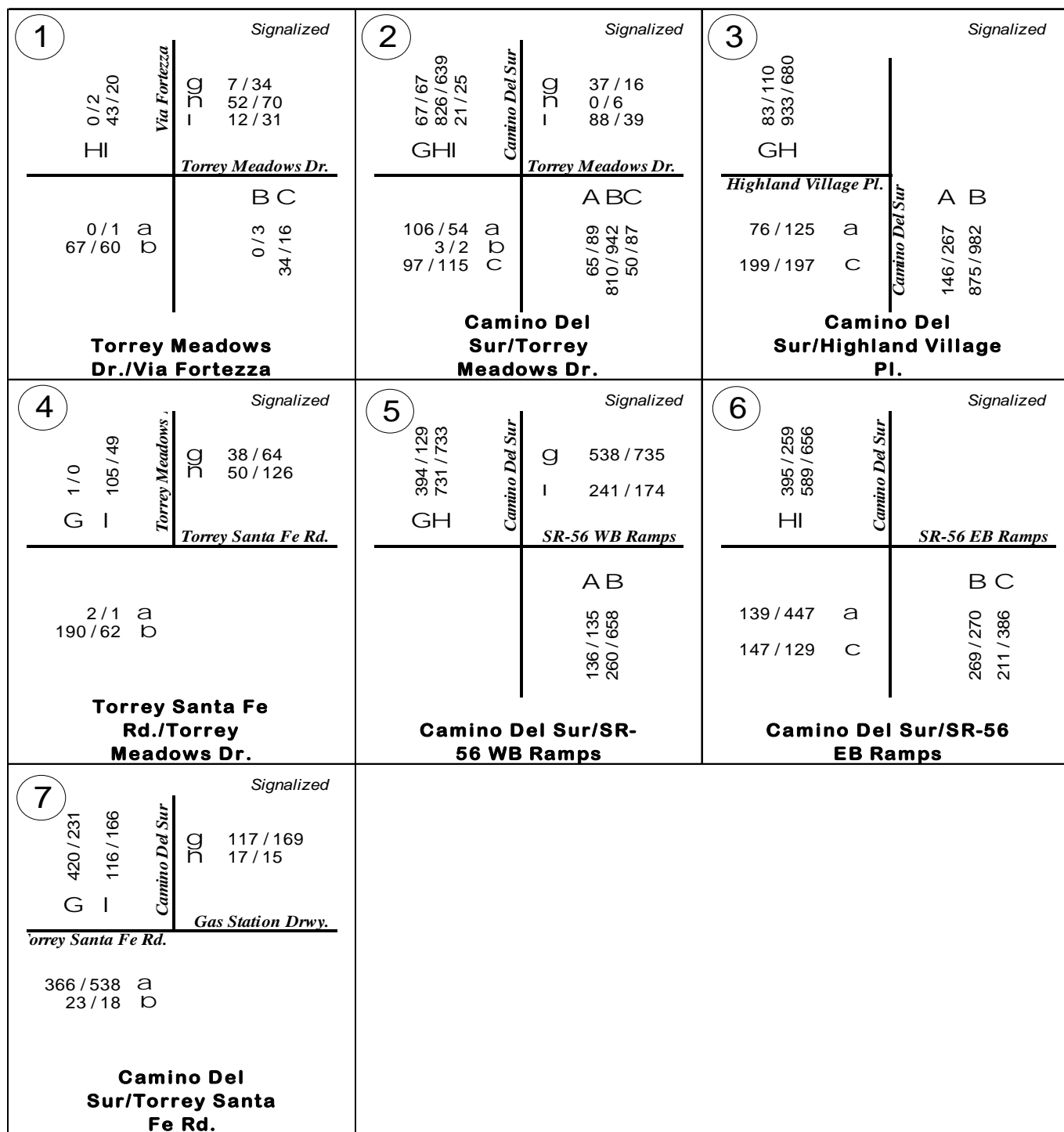


FIGURE 6-2

Existing + Project AM/PM Peak Hour Traffic

TABLE 6-2

Existing + Project Intersection Levels of Service

Number	Intersection	Control	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1	Torrey Meadows Dr./Via Fortezza	Signalized	20.5	C	18	B
2	Camino Del Sur/Torrey Meadows Dr.	Signalized	26.1	C	22.1	C
3	Camino Del Sur/Highland Village Pl.	Signalized	10.8	B	14	B
4	Torrey Santa Fe Rd./Torrey Meadows Dr.	Signalized	7.7	A	8.3	A
5	Camino Del Sur/SR-56 WB Ramps	Signalized	24.7	C	26.4	C
6	Camino Del Sur/SR-56 EB Ramps	Signalized	27.8	C	30.9	C
7	Camino Del Sur/Torrey Santa Fe Rd.	Signalized	19.5	B	20.6	C

Notes:

Delay= sec./veh.

LOS = Level of Service

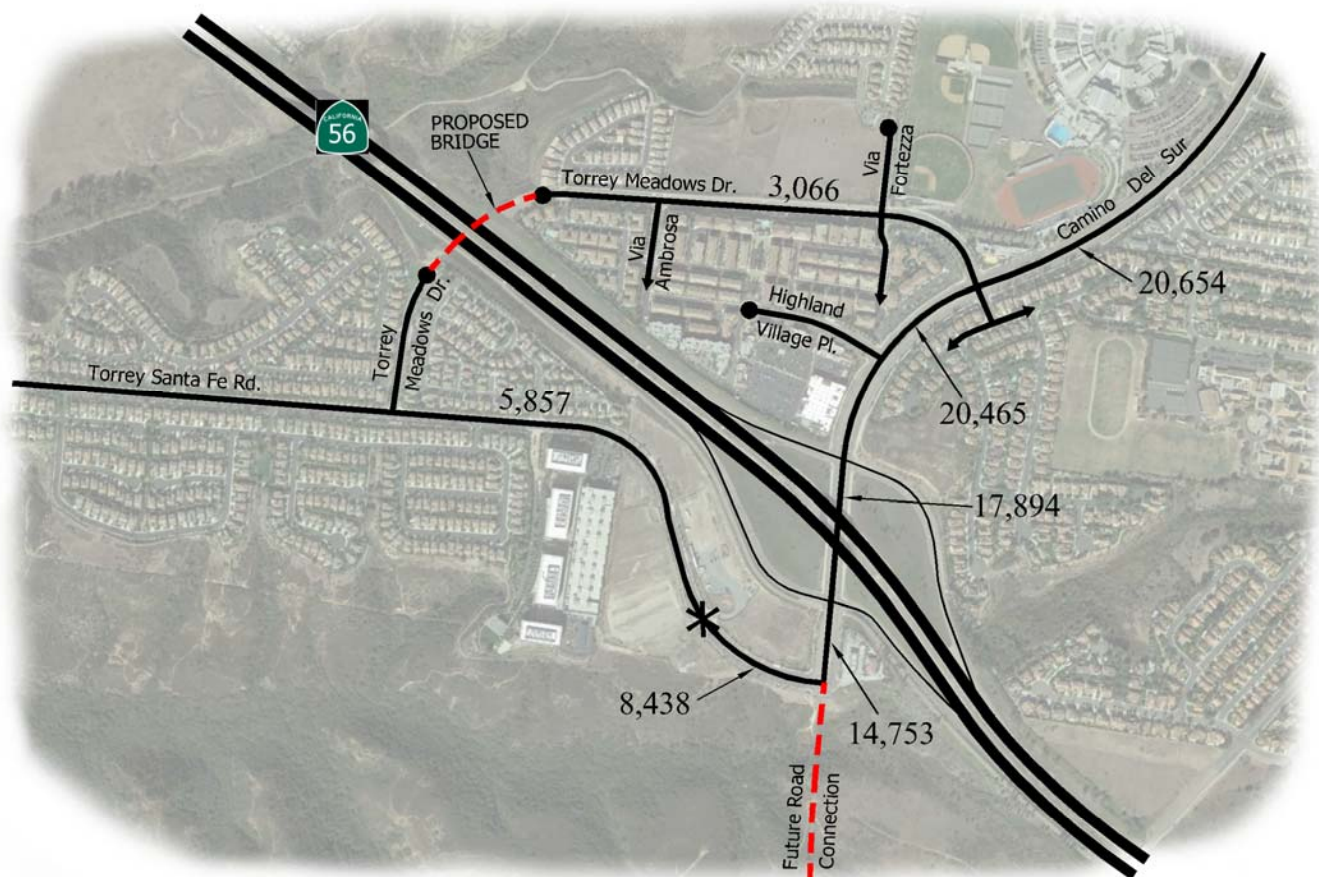
7.0 OPENING DAY (YEAR 2015)

The term “Opening Day” is meant to discuss a condition occurring at the project’s estimated opening day (Year 2015) where traffic is diverted from Camino Del Sur interchange as a result of the Torrey Meadows Bridge. Opening Day traffic volumes were derived by adding Existing With Project traffic volumes to a growth factor.

Appendix E includes the worksheets and information on how the growth factor was calculated for both daily and peak hour traffic volumes within the study area.

Figure 7-1 shows the daily traffic volumes for Opening Day. As shown on **Table 7-1**, all street segments are projected to operate at acceptable levels of service.

Figure 7-2 shows the AM / PM peak hour traffic volumes for Opening Day. Study intersections are projected to operate at acceptable levels of service in both the AM and PM peak hours as shown in **Table 7-2**.



LEGEND

* = Future Main Access to Santa Fe Summit (Units 2 & 3)



FIGURE 7-1

Opening Day (2015) Average Daily Traffic Volumes

TABLE 7-1
Opening Day (2015) Street Segment Levels of Service

Road	Segment	Standard	Class.	Cap.	Volume	V/C	LOS
Camino Del Sur	Alpine Ridge Road to Torrey Meadows Drive	SD	4-M	40,000	20,654	0.52	C
	Torrey Meadows Drive to Highland Village Place	SD	4-M	40,000	20,465	0.51	C
	SR-56 WB Ramps to SR-56 EB Ramps	SD	4-M	40,000	17,894	0.45	B
	SR-56 EB Ramps to Torrey Santa Fe Road	SD	4-M	40,000	14,753	0.37	A
Torrey Meadows Drive	Via Ambrosa to Via Fortezza	SD	2-Ca	15,000	3,066	0.20	A
Torrey Santa Fe Road	Torrey Meadows Drive to Santa Fe Summit(Units 2&3) Main Access*	SD	2-Ca	15,000	5,857	0.39	A
	Santa Fe Summit(Units 2&3) Main Access* to Camino Del Sur	SD	2-Ca	15,000	8,438	0.56	D

Legend:

Class. = Functional Class

Cap. = Capacity

LOS = Level of Service

4-M = 4 Lane Major Arterial

2-Ca = 2 Lane Collector with continuous left turn lane

Notes:

*Santa Fe Summit (Units 2&3) Main Access is approximately
700 feet west of Camino Del Sur.

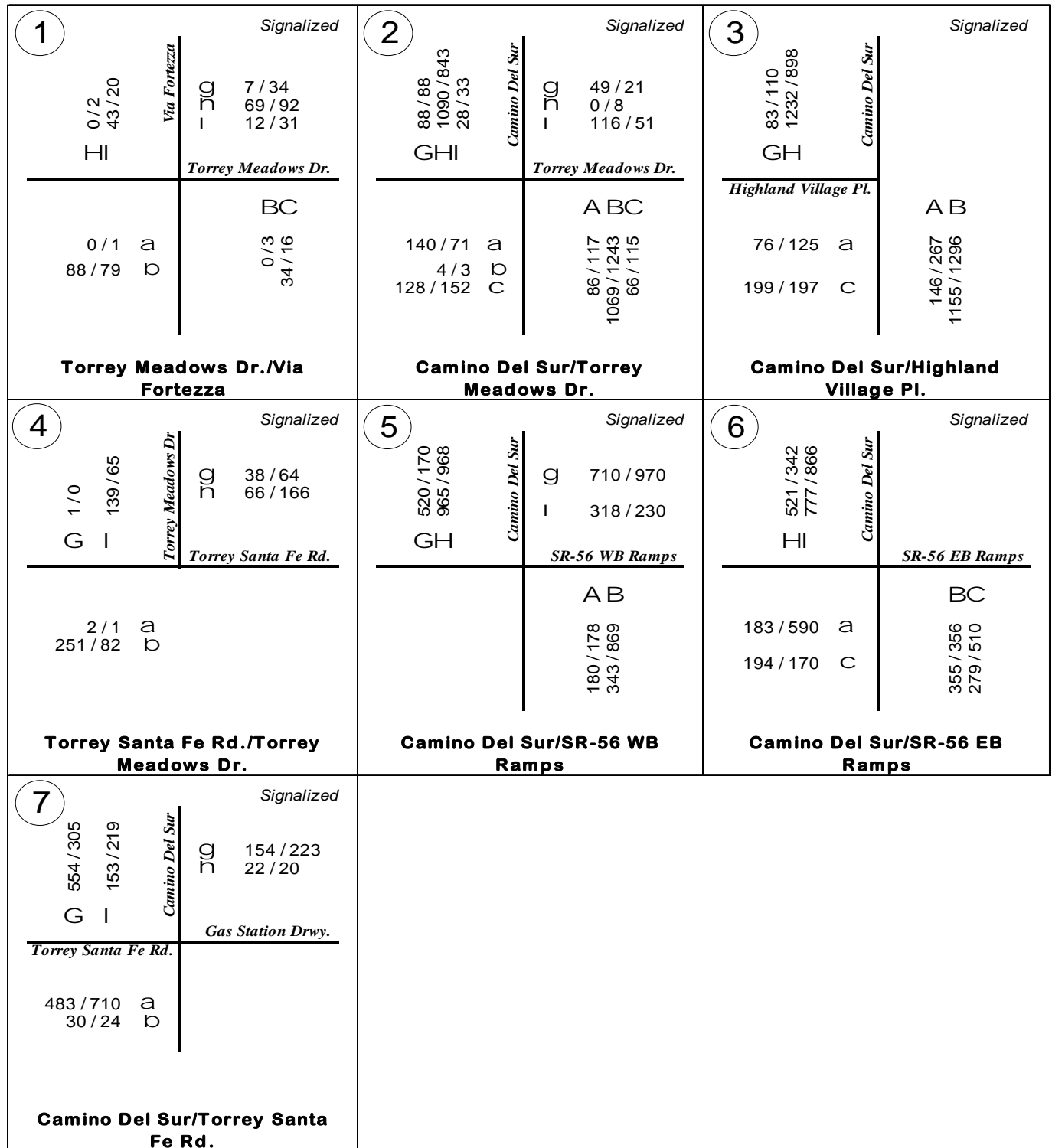


FIGURE 7-2

Opening Day (2015) AM/PM Peak Hour Traffic

TABLE 7-2
Opening Day (2015) Intersection Levels of Service

Number	Intersection	Control	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1	Torrey Meadows Dr./Via Fortezza	Signalized	18.5	B	16.6	B
2	Camino Del Sur/Torrey Meadows Dr.	Signalized	42.2	D	27.1	C
3	Camino Del Sur/Highland Village Pl.	Signalized	10.6	B	13.3	B
4	Torrey Santa Fe Rd./Torrey Meadows Dr.	Signalized	8.1	A	8.6	A
5	Camino Del Sur/SR-56 WB Ramps	Signalized	25.7	C	31.6	C
6	Camino Del Sur/SR-56 EB Ramps	Signalized	25.4	C	32.2	C
7	Camino Del Sur/Torrey Santa Fe Rd.	Signalized	21	C	22.3	C

Notes:

LOS = Level of Service

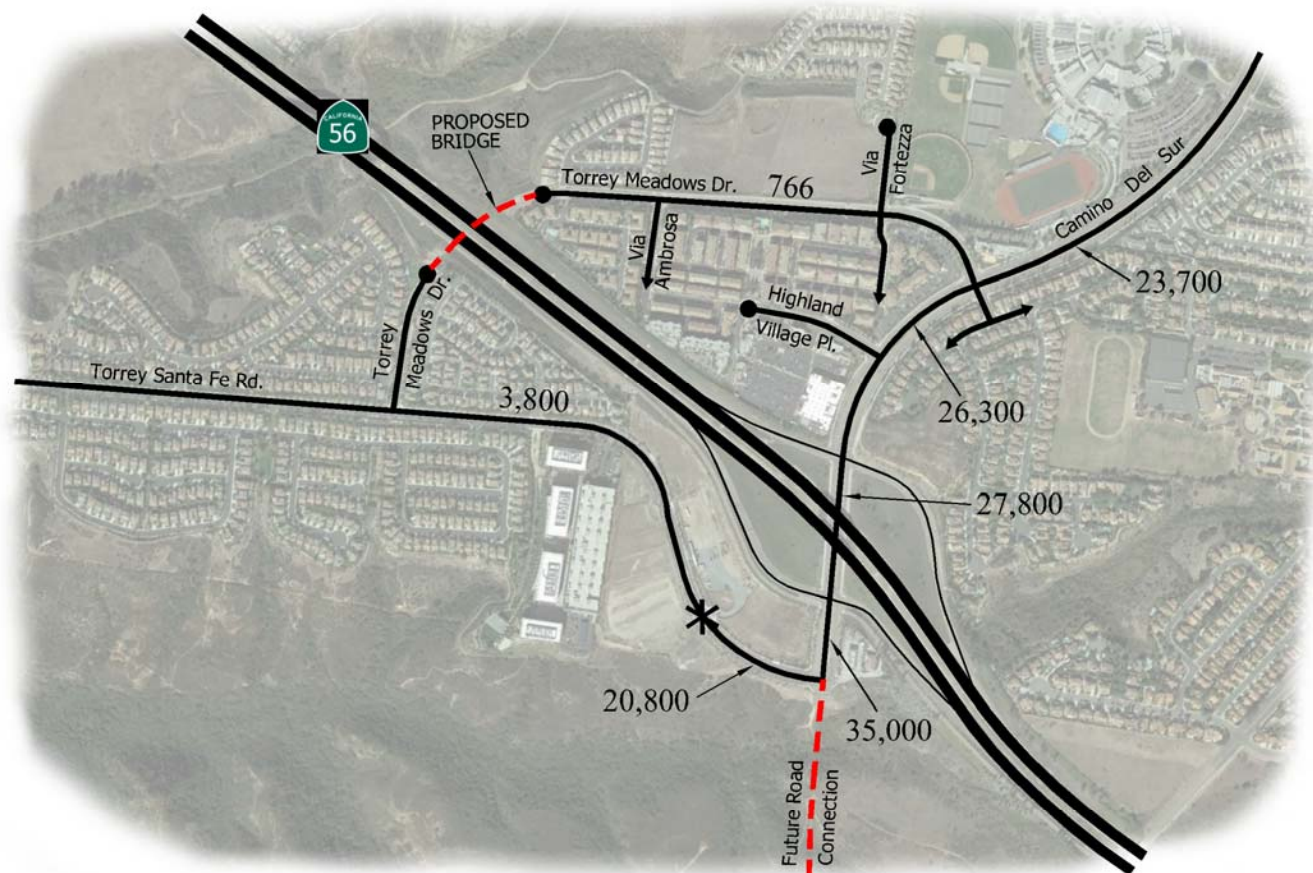
8.0 YEAR 2035 WITHOUT PROJECT

As previously mentioned, a Select Link Series 12 Year 2035 traffic model was prepared by SANDAG to determine the future traffic volumes with the construction of the Torrey Meadows Drive bridge. The future traffic volumes in the Year 2035 Without Project scenario are derived by subtracting the Year 2035 Project Only volumes (refer to Section 3.2 in this report) from the Year 2035 With Project volumes. In the future (Year 2035) scenarios, Torrey Santa Fe Road from the Santa Fe Summit (Units 2&3) Main Access to Camino Del Sur is assumed to be widened to a four (4) lane Major Arterial due to future development along Torrey Santa Fe Road.

8.1 STREET SEGMENTS

Figure 8-1 shows average daily traffic volumes in the Year 2035 Without Project scenario.

Table 8-1 shows street segment LOS without project traffic. As shown in the table, all street segments are projected to operate at acceptable levels of service.



LEGEND

* = Future Main Access to Santa Fe Summit (Units 2 & 3)

FIGURE 8-1

Year 2035 Without Project Average Daily Traffic Volumes

TABLE 8-1

Year 2035 Without Project Street Segment Levels of Service

Road	Segment	Standard	Class.	Cap.	Volume	V/C	LOS
Camino Del Sur	Alpine Ridge Road to Torrey Meadows Drive	SD	4-M	40,000	23,700	0.59	C
	Torrey Meadows Drive to Highland Village Place	SD	4-M	40,000	26,300	0.66	C
	SR-56 WB Ramps to SR-56 EB Ramps	SD	4-M	40,000	27,800	0.70	C
	SR-56 EB Ramps to Torrey Santa Fe Road	SD	4-M	40,000	35,000	0.88	D
Torrey Meadows Drive	Via Ambrosa to Via Fortezza	SD	2-Ca	15,000	766	0.05	A
Torrey Santa Fe Road	Torrey Meadows Drive to Santa Fe Summit (Units 2&3) Main Access*	SD	2-Ca	15,000	3,800	0.25	A
	Santa Fe Summit (Units 2&3) Main Access* to Camino Del Sur	SD	4-M	40,000	20,800	0.52	B

Legend:

Class. = Functional Class

Cap. = Capacity

LOS = Level of Service

4-M = 4 Lane Major Arterial

2-Ca = 2 Lane Collector with continuous left turn lane

Note:

*Future widening to be constructed by the proposed Santa Fe Summit (Units 2&3) project. Santa Fe Summit (Units 2&3) Main Access is approximately 700 feet west of Camino Del Sur.

8.2 INTERSECTIONS

Figure 8-2 shows the peak hour traffic volumes from the other projects when added to existing peak hour volumes at the study area intersections. **Table 8-2** shows the resulting AM and PM peak hour LOS. As shown in **Table 8-2**, all intersections are projected to operate at acceptable levels of service.

Appendix F includes the Year 2035 Without Project Synchro worksheets.

<div>1</div> <div>Signalized</div> <div><div><div>0/2 45/21 HI</div><div>Via Fortezza</div><div><div>7/34 -1/37 12/31</div></div></div><div><div>Torrey Meadows Dr.</div><div>BC</div><div><div>0/1 a 33/25 b</div><div>0/3 36/17</div></div></div><div>Torrey Meadows Dr./Via Fortezza</div></div>	<div>2</div> <div>Signalized</div> <div><div><div>15/34 1028/789 21/25 GHI</div><div>Camino Del Sur</div><div><div>43/19 0/6 104/46</div></div></div><div><div>Torrey Meadows Dr.</div><div>ABC</div><div><div>85/26 a 3/2 b 114/135 C</div><div>69/94 978/1130 50/87</div></div></div><div>Camino Del Sur/Torrey Meadows Dr.</div></div>	<div>3</div> <div>Signalized</div> <div><div><div>83/110 1153/837 GH</div><div>Camino Del Sur</div><div><div>Highland Village Pl.</div><div>AB</div><div><div>89/147 a 234/232 C</div><div>146/267 1067/1193</div></div></div><div>Camino Del Sur/Highland Village Pl.</div></div></div>
<div>4</div> <div>Signalized</div> <div><div><div>1/0 84/28 G I</div><div>Torrey Meadows Dr.</div><div><div>0/26 50/126</div></div></div><div><div>Torrey Santa Fe Rd.</div><div></div><div><div>2/1 a 253/83 b</div><div></div></div></div><div>Torrey Santa Fe Rd./Torrey Meadows Dr.</div></div>	<div>5</div> <div>Signalized</div> <div><div><div>788/258 1194/1178 GH</div><div>Camino Del Sur</div><div><div>723/988 324/234</div></div></div><div><div>SR-56 WB Ramps</div><div>AB</div><div><div></div><div>272/270 443/1063</div></div></div><div>Camino Del Sur/SR-56 WB Ramps</div></div>	<div>6</div> <div>Signalized</div> <div><div><div>1389/911 804/896 HI</div><div>Camino Del Sur</div><div><div>SR-56 EB Ramps</div><div>BC</div><div><div>216/696 a 496/435 C</div><div>457/458 288/527</div></div></div><div>Camino Del Sur/SR-56 EB Ramps</div></div></div>
<div>7</div> <div>Signalized</div> <div><div><div>1064/442 444/1083 286/186 GHI</div><div>Camino Del Sur</div><div><div>139/187 41/13 56/66</div></div></div><div><div>Torrey Santa Fe Rd.</div><div>ABC</div><div><div>379/1083 a 21/33 b 164/159 C</div><div>166/46 1213/1000 29/35</div></div></div><div>Camino Del Sur/Torrey Santa Fe Rd.</div></div>		

FIGURE 8-2

Year 2035 Without Project AM/PM Peak Hour Traffic

TABLE 8-2

Year 2035 Without Project Intersection Levels of Service

Number	Intersection	Control	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1	Torrey Meadows Dr./Via Fortezza	Signalized	30.8	C	23.2	C
2	Camino Del Sur/Torrey Meadows Dr.	Signalized	25.9	C	21.6	C
3	Camino Del Sur/Highland Village Pl.	Signalized	11.8	B	14.3	B
4	Torrey Santa Fe Rd./Torrey Meadows Dr.	Signalized	7.1	A	7.5	A
5	Camino Del Sur/SR-56 WB Ramps	Signalized	26.7	C	36.1	D
6	Camino Del Sur/SR-56 EB Ramps	Signalized	27.3	C	32.6	C
7	Camino Del Sur/Torrey Santa Fe Rd.	Signalized	49.7	D	52.7	D

Notes:

LOS = Level of Service

9.0 YEAR 2035 WITH PROJECT

This section of the report evaluates the Year 2035 With Project traffic conditions. Traffic volumes from this section are taken directly from the Series 12 Year 2035 Select Link traffic model prepared by SANDAG. As previously mentioned, the Year 2035 With Project scenario assumes Torrey Santa Fe Road from the Santa Fe Summit (Units 2&3) Main Access to Camino Del Sur is a 4 lane Major.

9.1 STREET SEGMENTS

Figure 9-1 shows average daily traffic volumes per the traffic model with the exception of Torrey Santa Fe Road from Torrey Meadows Drive to Santa Fe Summits Main Access. The daily traffic volume on this segment is assumed in this analysis to be 7,000 ADT to be higher than Opening Day traffic.

Table 9-1 shows street segment levels of service. As shown, all street segments analyzed in the study area are projected to operate at LOS D or better.



LEGEND

* = Future Main Access to Santa Fe Summit (Units 2 & 3)

FIGURE 9-1

Year 2035 With Project Average Daily Traffic Volumes

TABLE 9-1

Year 2035 With Project Street Segment Levels of Service

Road	Segment	Standard	Class.	Cap.	Volume	V/C	LOS
Camino Del Sur	Alpine Ridge Road to Torrey Meadows Drive	SD	4-M	40,000	23,700	0.59	C
	Torrey Meadows Drive to Highland Village Place	SD	4-M	40,000	23,100	0.58	C
	SR-56 WB Ramps to SR-56 EB Ramps	SD	4-M	40,000	24,600	0.62	C
	SR-56 EB Ramps to Torrey Santa Fe Road	SD	4-M	40,000	31,800	0.80	D
Torrey Meadows Drive	Via Ambrosa to Via Fortezza	SD	2-Ca	15,000	3,200	0.21	A
Torrey Santa Fe Road	Torrey Meadows Drive to Santa Fe Summit (Units 2&3) Main Access*	SD	2-Ca	15,000	7,000	0.47	C
	Santa Fe Summit (Units 2&3) Main Access* to Camino Del Sur	SD	4-M	40,000	17,600	0.44	B

Legend:

Class. = Functional Class

Cap. = Capacity

LOS = Level of Service

4-M = 4 Lane Major Arterial

2-Ca = 2 Lane Collector with continuous left turn lane

Note:

Future volumes taken from SANDAG Series 12

Year 2035 Forecast Plot

*Future widening to be constructed by the proposed Santa Fe Summit (Units 2&3) project. Santa Fe Summit (Units 2&3) Main Access is approximately 700 feet west of Camino Del Sur.

*Volume factored up to be higher than Opening Day traffic.

9.2 INTERSECTIONS

Figure 9-2 shows traffic volumes during AM/PM peak hours at study area intersections in the Year 2035 With Project scenario. AM/PM peak hour turn volumes were established by using a factoring method based on Existing With Project volumes and Year 2035 With Project volumes except for Intersection #7 (Camino Del Sur / Torrey Santa Fe Road). Peak hour turn volumes at Camino Del Sur / Torrey Santa Fe were taken from the approved Rhodes Crossing Traffic Study dated March 17, 2003. The peak hour volumes from this intersection seemed reasonable and assumed the future Camino Del Sur connection to the south. **Appendix G** includes the factoring worksheets for future volumes.

Table 9-2 includes study area intersection LOS with the proposed Torrey Meadows Drive bridge. As shown in **Table 9-2**, all intersections are projected to operate at acceptable levels of service.

Appendix H includes the Year 2035 With Project Synchro worksheets.

<div>1</div> <div>Signalized</div> <div><div><div>0/2 45/21 HI</div><div>Via Fortezza</div><div><div>7/34 55/74 12/31</div><div>— JIQ</div></div></div><div>Torrey Meadows Dr.</div><div><div>0/1 a 71/63 b</div><div>BC 0/3 36/17</div></div><div>Torrey Meadows Dr./Via Fortezza</div></div>	<div>2</div> <div>Signalized</div> <div><div><div>71/71 972/752 21/25 GHI</div><div>Camino Del Sur</div><div><div>43/19 0/6 104/46</div><div>— JIQ</div></div></div><div>Torrey Meadows Dr.</div><div><div>123/63 a 3/2 b 114/135 C</div><div>ABC 69/94 940/1093 50/87</div></div><div>Camino Del Sur/Torrey Meadows Dr.</div></div>	<div>3</div> <div>Signalized</div> <div><div><div>83/110 1097/800 GH</div><div>Camino Del Sur</div><div><div>146/267 1029/1155</div><div>—</div></div></div><div>Highland Village Pl.</div><div><div>89/147 a 234/232 C</div><div>AB</div></div><div>Camino Del Sur/Highland Village Pl.</div></div>
<div>4</div> <div>Signalized</div> <div><div><div>1/0 140/65 G I</div><div>Torrey Meadows Dr</div><div><div>38/64 50/126</div><div>— JIQ</div></div></div><div>Torrey Santa Fe Rd.</div><div><div>2/1 a 253/83 b</div><div></div></div><div>Torrey Santa Fe Rd./Torrey Meadows Dr.</div></div>	<div>5</div> <div>Signalized</div> <div><div><div>788/258 1138/114' GH</div><div>Camino Del Sur</div><div><div>723/988 324/234</div><div>— G I</div></div></div><div>SR-56 WB Ramps</div><div><div>272/270 405/1025</div><div>AB</div></div><div>Camino Del Sur/SR-56 WB Ramps</div></div>	<div>6</div> <div>Signalized</div> <div><div><div>1333/874 804/896 HI</div><div>Camino Del Sur</div><div><div>419/420 288/527</div><div>—</div></div></div><div>SR-56 EB Ramps</div><div><div>216/696 a 496/435 C</div><div>BC</div></div><div>Camino Del Sur/SR-56 EB Ramps</div></div>
<div>7</div> <div>Signalized</div> <div><div><div>1008/405 444/1083 286/186 GHI</div><div>Camino Del Sur</div><div><div>139/187 41/13 56/66</div><div>— JIQ</div></div></div><div>Gas Station Drwy.</div><div><div>341/1045 a 21/33 b 164/159 C</div><div>ABC 166/46 1213/1000 29/35</div></div><div>Camino Del Sur/Torrey Santa Fe Rd.</div></div>		

FIGURE 9-2

Year 2035 With Project AM/PM Peak Hour Traffic

TABLE 9-2

Year 2035 With Project Intersection Levels of Service

Number	Intersection	Control	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1	Torrey Meadows Dr./Via Fortezza	Signalized	20.4	C	17.9	B
2	Camino Del Sur/Torrey Meadows Dr.	Signalized	35	C	23.5	C
3	Camino Del Sur/Highland Village Pl.	Signalized	11.9	B	14.3	B
4	Torrey Santa Fe Rd./Torrey Meadows Dr.	Signalized	8.1	A	8.3	A
5	Camino Del Sur/SR-56 WB Ramps	Signalized	26.7	C	35.2	D
6	Camino Del Sur/SR-56 EB Ramps	Signalized	26.5	C	32.1	C
7	Camino Del Sur/Torrey Santa Fe Rd.	Signalized	39	D	49.5	D

Notes:

LOS = Level of Service

10.0 CONCLUSIONS AND RECOMMENDATIONS

10.1 PROJECT DESCRIPTION

The proposed Torrey Meadows Drive bridge over SR-56 would connect two neighborhoods and would provide an alternative route to the Camino Del Sur interchange.

10.2.1 EXISTING CONDITIONS

Street Segments:

All street segments are shown to operate at LOS “C” or better in the Existing condition.

Intersections:

All intersections are expected to operate at LOS “C” or better in the Existing condition.

EXISTING WITH PROJECT

When the diverted project traffic due to the bridge is added to existing traffic, the following results occur.

Street Segments:

All street segments are anticipated to operate at acceptable levels of service in the Existing With Project scenario.

Intersections:

- All intersections are projected to operate at LOS “C” or better in the Existing With Project scenario.

10.2.2 OPENING DAY (YEAR 2015)

Street Segments:

All street segments are anticipated to operate at LOS “C” or better in the Opening Day scenario.

Intersections:

All intersections are projected to operate at LOS “C” or better in the Opening Day scenario.

10.3 DIRECT IMPACTS:

Street Segments:

Table 10-1 shows the summary of the direct impacts in the Existing Plus Project scenario for street segments within the study area. As shown, there are no significant direct street segment impacts expected as a result of the proposed Torrey Meadows Drive bridge.

Intersections:

Table 10-2 shows the summary of the direct impacts in the Existing with Project scenario for intersections within the study area. As shown in the table, there are no significant impacts.

TABLE 10-1

Existing Without and Existing With Project Street Segment Significance

Road	Segment	Class.	Existing			Existing + Project			Δ V/C	Is this impact Significant?
			LOS	Volume	V/C	LOS	Volume	V/C		
Camino Del Sur	Alpine Ridge Road to Torrey Meadows Drive	4-M B		20,424	0.51	C	20,424	0.51	0.000	<i>NO</i>
	Torrey Meadows Drive to Highland Village Place	4-M C		21,940	0.55	B	19,640	0.49	-0.058	<i>NO</i>
	SR-56 WB Ramps to SR-56 EB Ramps	4-M B		18,099	0.45	B	15,799	0.39	-0.058	<i>NO</i>
	SR-56 EB Ramps to Torrey Santa Fe Road	4-M A		11,723	0.29	A	9,423	0.24	-0.058	<i>NO</i>
Torrey Meadows Drive	Via Ambrosa to Via Fortezza	2-Ca A		726	0.05	A	3,026	0.20	0.153	<i>NO</i>
Torrey Santa Fe Road	Torrey Meadows Drive to Santa Fe Summit (Units 2&3) Main Access*	2-Ca A		2,947	0.20	B	5,247	0.35	0.153	<i>NO</i>
	Santa Fe Summit (Units 2&3) Main Access* to Camino Del Sur	2-Ca C		7,873	0.52	B	5,573	0.37	-0.153	<i>NO</i>

Legend:

LOS= Level of Service

V/C= Volume to Capacity Ratio

Δ V/C= Change in V/C ratio

TABLE 10-2

Existing Without and Existing With Project Intersection Comparison

#	Intersection	Existing				Existing + Project							
		AM Peak Hour		PM Peak Hour		AM Peak Hour		Δ	S ?	PM Peak Hour		Δ	S ?
		D	LOS	D	LOS	D	LOS			D	LOS		
1	Torrey Meadows Dr./Via Fortezza	29.1	C	21.6	C	20.5	C	-8.6	No	18.0	B	-3.6	No
2	Camino Del Sur/Torrey Meadows Dr.	22.7	C	19.4	B	26.1	C	3.4	No	22.1	C	2.7	No
3	Camino Del Sur/Highland Village Pl.	10.9	B	14.2	B	10.8	B	-0.1	No	14.0	B	-0.2	No
4	Torrey Santa Fe Rd./Torrey Meadows Dr.	6.9	A	7.7	A	7.7	A	0.8	No	8.3	A	0.6	No
5	Camino Del Sur/SR-56 WB Ramps	24.1	C	26.3	C	24.7	C	0.6	No	26.4	C	0.1	No
6	Camino Del Sur/SR-56 EB Ramps	27.2	C	30.5	C	27.8	C	0.6	No	30.9	C	0.4	No
7	Camino Del Sur/Torrey Santa Fe Rd.	20.1	C	20.9	C	19.5	B	-0.6	No	20.6	C	-0.3	No

Notes:

LOS = Level of Service

Δ = Change

S = Significant

D= Delay

10.4 YEAR 2035 WITHOUT PROJECT

When future Year 2035 volumes without project are evaluated, the following results occur.

Street Segments:

All street segments are projected to operate at LOS “D” or better in the Year 2035 Without Project condition.

Intersections:

All intersections are projected to operate at LOS “D” or better in this condition without the project.

10.5 YEAR 2035 WITH PROJECT

When future model volumes including project traffic are evaluated, the following results occur.

Street Segments:

All street segments are projected to operate at LOS “D” or better in the Year 2035 With Project condition.

Intersections:

All intersections are projected to operate at LOS “D” or better in this condition with the project.

10.6 CUMULATIVE LONG TERM (YEAR 2035) IMPACTS

Street Segments:

Table 10-3 shows the summary of the cumulative impacts in the Year 2035 With Project scenario for street segments within the study area. As shown, there are no significant street segment impacts as a result of the proposed Torrey Meadows Drive bridge.

Intersections:

Table 10-4 shows the summary of the cumulative impacts in the Year 2035 With Project scenario for intersections within the study area. As shown, there are no significant impacts expected as the result of proposed Torrey Meadows Drive bridge.

TABLE 10-3

Year 2035 Without & Year 2035 With Project Street Segment Comparison

Road	Segment	Class.	Year 2035			Year 2035 + Project			Δ V/C	Is this impact Significant?
			LOS	Volume	V/C	LOS	Volume	V/C		
Camino Del Sur	Alpine Ridge Road to Torrey Meadows Drive	4-M	C	23,700	0.59	C	23,700	0.59	0.000	<i>NO</i>
	Torrey Meadows Drive to Highland Village Place	4-M	C	26,300	0.66	C	23,100	0.58	-0.080	<i>NO</i>
	SR-56 WB Ramps to SR-56 EB Ramps	4-M	C	27,800	0.70	C	24,600	0.62	-0.080	<i>NO</i>
	SR-56 EB Ramps to Torrey Santa Fe Road	4-M	D	35,000	0.88	D	31,800	0.80	-0.080	<i>NO</i>
Torrey Meadows Drive	Via Ambrosa to Via Fortezza	2-Ca	A	766	0.05	A	3,200	0.21	0.162	<i>NO</i>
Torrey Santa Fe Road	Torrey Meadows Drive to Santa Fe Summit (Units 2&3) Main Access*	2-Ca	A	3,800	0.25	C	7,000	0.47	0.213	<i>NO</i>
	Santa Fe Summit (Units 2&3) Main Access* to Camino Del Sur	4-M	B	20,800	0.52	B	17,600	0.44	-0.080	<i>NO</i>

Legend:

LOS= Level of Service

V/C= Volume to Capacity Ratio

Δ V/C= Change in V/C ratio

TABLE 10-4

Year 2035 With and Without Project Intersection Summary

#	Intersection	Year 2035				Year 2035 + Project							
		AM Peak Hour		PM Peak Hour		AM Peak Hour		Δ	S ?	PM Peak Hour		Δ	S ?
		D	LOS	D	LOS	D	LOS			D	LOS		
1	Torrey Meadows Dr./Via Fortezza	30.8	C	23.2	C	20.4	C	-10.4	No	17.9	B	-5.3	No
2	Camino Del Sur/Torrey Meadows Dr.	25.9	C	21.6	C	35.0	C	9.1	No	23.5	C	1.9	No
3	Camino Del Sur/Highland Village Pl.	11.8	B	14.3	B	11.9	B	0.1	No	14.3	B	0.0	No
4	Torrey Santa Fe Rd./Torrey Meadows Dr.	7.1	A	7.5	A	8.1	A	1.0	No	8.3	A	0.8	No
5	Camino Del Sur/SR-56 WB Ramps	26.7	C	36.1	D	26.7	C	0.0	No	35.2	D	-0.9	No
6	Camino Del Sur/SR-56 EB Ramps	27.3	C	32.6	C	26.5	C	-0.8	No	32.1	C	-0.5	No
7	Camino Del Sur/Torrey Santa Fe Rd.	49.7	D	52.7	D	39.0	D	-10.7	No	49.5	D	-3.2	No

Notes:

LOS = Level of Service

Δ = Change

S = Significant

D= Delay

10.7 MITIGATION

STREET SEGMENTS:

The analysis shows no direct or cumulative significant impact will occur as a result of the proposed project. Therefore, no mitigation has been identified on any of the studied street segments.

INTERSECTIONS:

The analysis shows no direct or cumulative significant impacts will occur as the result of the proposed project. Therefore, no mitigation has been identified for any of the study intersections.

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