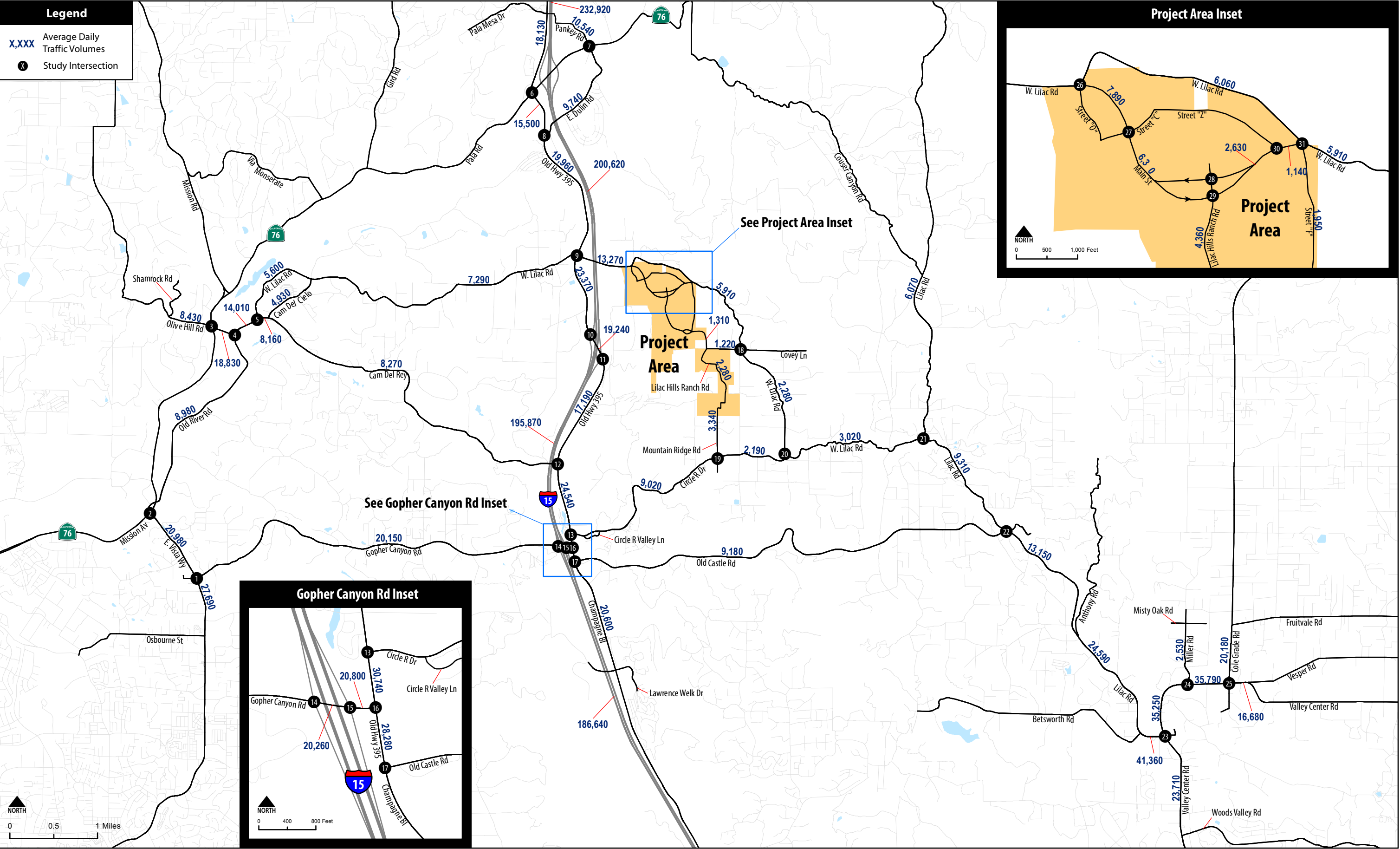




Lilac Hills Ranch - Mountain Ridge Road Fire Station Alternative

Figure 9-5
Roadway Average Daily Traffic Volumes -
Horizon Year Base Plus Project Conditions without Road 3

TABLE 9.9
ROADWAY SEGMENT LEVEL OF SERVICE RESULTS
HORIZON YEAR BASE PLUS PROJECT CONDITIONS
(without Road 3)

Roadway	From	To	Horizon Year with Project				Horizon Year w/o Project		Project ADT	GP Inconsistency ?
			Classification	LOS Threshold (LOS D)	ADT	LOS	ADT	LOS		
E. Dulin Road	Old Highway 395	SR-76	2.1E	10,900	9,740	D	6,700	C	3,040	No
W. Lilac Road	Camino Del Rey	Camino Del Cielo	2.2E	10,900	5,600	C	4,700	C	900	No
W. Lilac Road	Camino Del Cielo	Old Highway 395	2.2E	10,900	7,290	D	6,200	C	1,090	No
W. Lilac Road	Old Highway 395	Main Street	2.2C	13,500	13,270	D	3,600	B	9,670	No
W. Lilac Road	Main Street	Street "F"	2.2F*	8,700	6,060	B	4,400	B	1,660	No
W. Lilac Road	Street "F"	Running Creek Road	2.2F*	8,700	5,910	A	5,300	B	610	No
W. Lilac Road	Running Creek Road	Covey Lane	2.2F	8,700	3,610	B	3,000	A	610	No
W. Lilac Road	Covey Lane	Circle R Drive	2.2F	8,700	2,710	A	1,300	A	1,410	No
W. Lilac Road	Circle R Drive	Lilac Road	2.2F	8,700	3,020	A	1,900	A	1,120	No
Camino Del Cielo	Camino Del Rey	W. Lilac Road	2.2E	10,900	4,930	C	4,900	C	30	No
Olive Hill Road	Shamrock Road	SR-76	2.2E	10,900	8,430	D	8,400	D	30	No
Camino Del Rey	SR-76	Old River Road	4.2B	25,000	18,830	B	18,400	B	430	No
Camino Del Rey	Old River Road	W. Lilac Road	4.2B	25,000	14,010	A	13,100	A	910	No
Camino Del Rey	W. Lilac Road	Camino Del Cielo	4.2B	25,000	8,160	A	8,100	A	60	No
Camino Del Rey	Camino Del Cielo	Old Highway 395	2.2C	13,500	8,270	C	8,200	C	70	No
Gopher Canyon Road	E. Vista Way	I-15 SB Ramps	4.1B	30,800	20,150	B	19,600	B	550	No
Gopher Canyon Road	I-15 SB Ramps	I-15 NB Ramps	4.1B	30,800	20,260	B	19,100	B	1,160	No

TABLE 9.9
ROADWAY SEGMENT LEVEL OF SERVICE RESULTS
HORIZON YEAR BASE PLUS PROJECT CONDITIONS
(without Road 3)

Roadway	From	To	Horizon Year with Project				Horizon Year w/o Project		Project ADT	GP Inconsistency ?
			Classification	LOS Threshold (LOS D)	ADT	LOS	ADT	LOS		
Gopher Canyon Road	I-15 NB Ramps	Old Highway 395	4.1B	30,800	20,860	B	19,100	B	1,760	No
Circle R Drive	Old Highway 395	Mountain Ridge Road	2.2E	10,900	9,020	D	6,500	C	2,520	No
Circle R Drive	Mountain Ridge Road	W. Lilac Road	2.2E	10,900	2,620	B	2,000	B	620	No
Old Castle Road	Old Highway 395	Lilac Road	2.2D	13,500	9,180	C	9,100	C	80	No
E. Vista Way	SR-76	Gopher Canyon Road	4.1A	33,400	20,980	B	20,800	B	180	No
E. Vista Way	Gopher Canyon Road	Osborne Street	4.1A	33,400	27,690	C	27,400	C	290	No
Old River Road	SR-76	Camino Del Rey	2.2C	13,500	8,980	C	8,500	C	480	No
Old Highway 395	Pala Mesa Drive	SR-76	4.2B	25,000	18,130	B	17,400	B	730	No
Old Highway 395	SR-76	E. Dulin Road	2.1D	13,500	15,500	E accepted at LOS E/F	14,300	E accepted at LOS E/F	1,200	Yes > 200ADT
Old Highway 395	E. Dulin Road	W. Lilac Road	2.1D	13,500	19,960	F	15,700	E	4,260	Yes > 100ADT
Old Highway 395	W. Lilac Road	I-15 SB Ramps	4.2B	25,000	23,370	D	18,100	B	5,270	No
Old Highway 395	I-15 SB Ramps	I-15 NB Ramps	4.2B	25,000	19,240	B	16,900	B	2,340	No
Old Highway 395	I-15 NB Ramps	Camino Del Rey	4.1B	30,800	17,600	B	15,900	B	1,700	No
Old Highway 395	Camino Del Rey	Circle R Drive	4.1B	30,800	24,960	C	23,200	C	1,760	No
Old Highway 395	Circle R Drive	Gopher Canyon Road	4.1B	30,800	30,740	D	28,000	D	2,740	No
Old Highway 395	Gopher Canyon Road	Old Castle Road	4.1B	30,800	28,280	D	27,300	C	980	No

TABLE 9.9
ROADWAY SEGMENT LEVEL OF SERVICE RESULTS
HORIZON YEAR BASE PLUS PROJECT CONDITIONS
(without Road 3)

Roadway	From	To	Horizon Year with Project				Horizon Year w/o Project		Project ADT	GP Inconsistency ?
			Classification	LOS Threshold (LOS D)	ADT	LOS	ADT	LOS		
Champagne Boulevard	Old Castle Road	Lawrence Welk Drive	4.1B	30,800	20,600	B	19,700	B	900	No
Pankey Road	Pala Mesa Drive	SR-76	2.1A	15,000	10,540	B	9,700	A	840	No
Lilac Road	Couser Canyon Road	W. Lilac Road	2.2E	10,900	6,070	C	5,700	C	370	No
Lilac Road	W. Lilac Road	Old Castle Road	2.2E	10,900	9,310	D	8,600	D	710	No
Lilac Road	Old Castle Road	Anthony Road	2.1C	13,500	13,150	D	12,500	D	650	No
Lilac Road	Anthony Road	New Road 19 (east of Betsworth Road)	4.2B	25,000	24,590	D	24,200	D	390	No
Lilac Road	New Road 19 (east of Betsworth Road)	Valley Center Road	4.2B	25,000	41,360	F accepted at LOS E/F	41,100	F accepted at LOS E/F	260	Yes > 200ADT
Valley Center Road	Woods Valley Road	Lilac Road	4.2A	27,000	23,710	C	23,700	C	10	No
Valley Center Road	Lilac Road	Miller Road	4.1A	33,400	35,250	E	35,000	E	250	No < 400ADT
Valley Center Road	Miller Road	Indian Creek Road	4.2A	27,000	35,790	F accepted at LOS E/F	35,600	F accepted at LOS E/F	190	No < 200ADT
Valley Center Road	Indian Creek Road	Cole Grade Road	4.2A	27,000	25,890	D	25,680	D	190	No

TABLE 9.9
ROADWAY SEGMENT LEVEL OF SERVICE RESULTS
HORIZON YEAR BASE PLUS PROJECT CONDITIONS
(without Road 3)

Roadway	From	To	Horizon Year with Project				Horizon Year w/o Project		Project ADT	GP Inconsistency ?
			Classification	LOS Threshold (LOS D)	ADT	LOS	ADT	LOS		
Valley Center Road	Cole Grade Road	Vesper Road	4.2A	27,000	16,680	A	16,600	A	80	No
Miller Road	Misty Oak Road	Valley Center Road	2.3B	8,000	2,530	A	2,500	A	30	No
Cole Grade Road	Fruitvale Road	Valley Center Road	4.2A	27,000	20,180	B	20,100	B	80	No
Mountain Ridge Road	LHR Project Boundary	Circle R Drive	Rural Residential Collector (LPR)	7,000	3,340	acceptable	350	acceptable	2,990	No

Source: Chen Ryan Associates; May 2014

Notes:

Bold letter indicates unacceptable LOS E or F.

*Proposed downgrade from 2.2C to 2.2F.

Freeway Segment Analysis

The freeway segment level of service analysis was performed utilizing the methodology presented in Chapter 2.0. **Table 9.10** displays the resulting level of service for I-15 under Horizon Year Base Plus Project Conditions without Road 3. It should be noted that according to the 2050 RTP, I-15 between the Riverside County Boundary and SR-78 is planned to be widened by adding four (4) toll lanes by 2050. However, no secured funding sources were identified, hence this improvement was not assumed in this study.

As shown in the table, the following ten (10) freeway segments along I-15 would continue to operate at substandard LOS E or F under Horizon Year Base Plus Project conditions without Road 3:

- I-15, between the Riverside County Boundary and Old Highway 395 – LOS F, and the project traffic would increase the V/C ratio by more than 0.01;
- I-15, between Old Highway 395 and SR-76 – LOS F, and the project traffic would increase the V/C ratio by more than 0.01;
- I-15, between SR-76 and Old Highway 395 – LOS F, and the project traffic would increase the V/C ratio by more than 0.01;
- I-15, between Old Highway 395 and Gopher Canyon Road – LOS F, and the project traffic would increase the V/C ratio by more than 0.01;
- I-15, between Gopher Canyon Road and Deer Springs Road – LOS F, and the project traffic would increase the V/C ratio by more than 0.01;
- I-15, between Deer Springs Road and Centre City Parkway – LOS F, and the project traffic would increase the V/C ratio by more than 0.01;
- I-15, between Centre City Parkway and El Norte Parkway – LOS F, and the project traffic would increase the V/C ratio by more than 0.01;
- I-15, between El Norte Parkway and SR-78 – LOS F, and the project traffic would increase the V/C ratio by more than 0.01;
- I-15, between SR-78 and W Valley Parkway – LOS E, and the project traffic would not increase the V/C ratio by more than 0.01; and
- I-15, between Via Rancho Parkway and Bernardo Drive – LOS F, and the project traffic would not increase the V/C ratio by more than 0.01.

TABLE 9.10
 FREEWAY SEGMENT LEVEL OF SERVICE RESULTS
 HORIZON YEAR BASE PLUS PROJECT CONDITIONS
 (without Road 3)

Freeway	Segment	ADT	Peak Hour %	Peak Hour Volume	Directional Split	# of Lanes Per Direction	PHF	% of Heavy Vehicle	Volume (pc/h/ln)	V/C	LOS w/ Project	Change in V/C (compare to 2030 w/o project)	GP Inconsistency ?
I-15	Riverside County Boundary to Old Highway 395	268,880	8.4%	22,716	0.64	4	0.95	6.75%	3,926	1.671	F	0.017	Yes > 0.01
I-15	Old Highway 395 to SR-76	232,920	7.4%	17,327	0.73	4	0.95	6.75%	3,448	1.467	F	0.018	Yes > 0.01
I-15	SR-76 to Old Highway 395	200,620	7.8%	15,692	0.69	4	0.95	8.40%	2,950	1.255	F	0.018	Yes > 0.01
I-15	Old Highway 395 to Gopher Canyon Road	196,980	8.1%	15,908	0.67	4	0.95	8.40%	2,913	1.240	F	0.013	Yes > 0.01
I-15	Gopher Canyon Road to Deer Springs Road	186,620	8.1%	15,071	0.67	4	0.95	13.20%	2,823	1.201	F	0.015	Yes > 0.01
I-15	Deer Springs Road to Centre City Parkway	171,630	8.0%	13,789	0.66	4	0.95	13.20%	2,570	1.094	F	0.014	Yes > 0.01
I-15	Centre City Parkway to El Norte Parkway	195,720	7.9%	15,405	0.66	4	0.95	10.00%	2,830	1.204	F	0.012	Yes > 0.01
I-15	El Norte Parkway to SR-78	171,630	8.0%	13,789	0.66	4	0.95	13.20%	2,570	1.094	F	0.014	Yes > 0.01
I-15	SR-78 to W Valley Parkway	290,370	8.1%	23,632	0.60	7	0.95	10.00%	2,238	0.952	E	0.004	No < 0.01
I-15	W Valley Parkway to Auto Parkway	282,690	8.1%	23,007	0.60	7	0.95	10.00%	2,179	0.927	D	0.004	No

TABLE 9.10
FREEWAY SEGMENT LEVEL OF SERVICE RESULTS
HORIZON YEAR BASE PLUS PROJECT CONDITIONS
(without Road 3)

Freeway	Segment	ADT	Peak Hour %	Peak Hour Volume	Directional Split	# of Lanes Per Direction	PHF	% of Heavy Vehicle	Volume (pc/h/ln)	V/C	LOS w/ Project	Change in V/C (compare to 2030 w/o project)	GP Inconsistency ?
I-15	Auto Parkway to W Citracado Parkway	277,330	7.8%	21,509	0.60	7	0.95	10.00%	2,025	0.862	D	0.003	No
I-15	W Citracado Parkway to Via Rancho Parkway	280,040	7.8%	21,719	0.60	7	0.95	7.00%	2,016	0.858	D	0.003	No
I-15	Via Rancho Parkway to Bernardo Drive	393,280	7.4%	28,944	0.58	7	0.95	7.00%	2,606	1.109	F	0.002	No < 0.01
I-15	Bernardo Drive to Rancho Bernardo Road	261,810	7.4%	19,268	0.58	7	0.95	7.00%	1,735	0.738	C	0.002	No
I-15	Rancho Bernardo Road to Bernardo Center Drive	301,540	7.3%	22,139	0.54	7	0.95	7.00%	1,847	0.786	C	0.002	No
I-15	Bernardo Center Drive to Camino Del Norte	270,770	7.3%	19,880	0.54	7	0.95	7.00%	1,658	0.706	C	0.002	No

Source: Chen Ryan Associates; November 2014

Notes:

Bold letter indicates unacceptable LOS E or F.

ML = Managed Lane.

The additional traffic generated by the project would result in GP inconsistencies at eight (8) of the above freeway segments:

- I-15, between Riverside County Boundary and Old Highway 395;
- I-15, between Old Highway 395 and SR-76;
- I-15, between SR-76 and Old Highway 395;
- I-15, between Old Highway 395 and Gopher Canyon Road;
- I-15, between Gopher Canyon Road and Deer Springs Road;
- I-15, between Deer Springs Road and Centre City Parkway;
- I-15, between Centre City Parkway and El Norte Parkway; and
- I-15, between El Norte Parkway and SR-78.

9.3.3 Horizon Year without Road 3 Impact Significance and Mitigation

This section identifies inconsistencies with the currently adopted GP without Road 3.

Roadway Segments

Based on the County planning level impact criteria, the project traffic would result in GP inconsistencies at three (3) of the study area roadway segments, including:

- Old Highway 395, between SR-76 and E. Dulin Road;
- Old Highway 395, between E. Dulin Road and W. Lilac Road; and
- Lilac Road, between New Road 19 (east of Betsworth Road) and Valley Center Road.

A more detailed arterial analysis was conducted for these segments. The Highway Capacity Software (HCS) 2000 developed by McTrans was employed for a more detailed arterial analysis. The HCS arterial analysis methodology is based upon Chapter 15 of the Highway Capacity Manual (HCM) 2000, which determines average travel speed and facility level of service according to roadway functional classification. The subject segments were evaluated with free-flow speeds (FFS) of 35-40 mph. **Table 9.11** displays the arterial travel speed and level of service for Old Highway 395, Lilac Road and Valley Center Road, and the respective analysis worksheets are included in **Appendix AX**.

TABLE 9.11
ARTERIAL LEVEL OF SERVICE RESULTS
HORIZON YEAR BASE PLUS PROJECT CONDITIONS
(without Road 3)

Arterial	Free-Flow Speed (mph)	AM Peak Hour		PM Peak Hour	
		Speed (mph)	LOS	Speed (mph)	LOS
Old Highway 395, between SR-76 and E. Dulin Road	40	21.0	D	18.0	D
Old Highway 395, between E. Dulin Road and W. Lilac Road	40	22.6	C	22.4	C
Lilac Road, between New Road 19 (east of Betsworth Road) and Valley Center Road	35	19.3	D	18.7	D

Source: Chen Ryan Associates; May 2014

As shown in the table above, all three (3) segments would operate at acceptable LOS D or better under Horizon Year Base Plus Project (without Road 3) conditions based on the arterial analysis.

Freeways

The additional traffic generated by the proposed Lilac Hills Ranch project would have result in GP inconsistencies at the following eight (8) freeway segments:

- I-15, between Riverside County Boundary and Old Highway 395;
- I-15, between Old Highway 395 and SR-76;
- I-15, between SR-76 and Old Highway 395;
- I-15, between Old Highway 395 and Gopher Canyon Road;
- I-15, between Gopher Canyon Road and Deer Springs Road;
- I-15, between Deer Springs Road and Centre City Parkway;
- I-15, between Centre City Parkway and El Norte Parkway; and
- I-15, between El Norte Parkway and SR-78.

The 2050 RTP indicates that four (4) toll lanes are planned to be added along I-15, between the Riverside County Boundary and SR-78 by 2050. However, no secured funding sources were identified, hence this improvement was not assumed in this study. Furthermore, there are no planned I-15 (north of SR-78) mainline improvements as per SANDAG's 2050 RTP, thus the impacts would remain significant and unmitigable.

Table 9.12 summarizes potential inconsistencies associated with the Lilac Hills Ranch project under Horizon Year with Road 3 conditions.

TABLE 9.12
GP CONSISTENCIES SUMMARY
HORIZON YEAR BASE PLUS PROJECT CONDITIONS
(without Road 3)

GP Inconsistency Facility	Recommendation	Rationale
<i>Roadway Segment</i>		
Old Highway 395, between SR-76 and E. Dulin Road	Option 1 - None	- Continue accepting LOS E/F as in the current GP - Acceptable arterial speed
	Option 2 – Improve to 4.2B	Improve to acceptable LOS based on County's planning-level analysis.
Old Highway 395, between E. Dulin Road and W. Lilac Road	Option 1 - None	Acceptable arterial speed
	Option 2 – Improve to 4.2B	Improve to acceptable LOS based on County's planning-level analysis.
Lilac Road, between New Road 19 (east of Betsworth Road) and Valley Center Road	Option 1 - None	- Continue accepting LOS E/F as in the current GP - Acceptable arterial speed
	Option 2 – Improve to 6.2	Improve to acceptable LOS based on County's planning-level analysis.
<i>Freeway</i>		
I-15, between Riverside County Boundary and Old Highway 395	None	No planned improvement – no feasible mitigation
I-15, between Old Highway 395 and SR-76	None	No planned improvement – no feasible mitigation
I-15, between SR-76 and Old Highway 395	None	No planned improvement – no feasible mitigation
I-15, between Old Highway 395 and Gopher Canyon Road	None	No planned improvement – no feasible mitigation
I-15, between Gopher Canyon Road and Deer Springs Road	None	No planned improvement – no feasible mitigation
I-15, between Deer Springs Road and Centre City Parkway	None	No planned improvement – no feasible mitigation
I-15, between Centre City Parkway and El Norte Parkway	None	No planned improvement – no feasible mitigation
I-15, between El Norte Parkway and SR-78	None	No planned improvement – no feasible mitigation

Source: Chen Ryan Associates; May 2014

10.0 Findings and Recommendations

This chapter provides a summary of the key findings and study recommendations, including the level of service results and traffic mitigation requirements associated with the various scenarios.

10.1 Summary of Roadway Segment Analysis

Tables 10.1 displays roadway segment level of service results for each of the study scenarios analyzed. Note that Old Highway 395 was analyzed as a two-lane highway under Existing, Existing Plus Project (all phases), and Existing Plus Cumulative Projects Plus Project conditions.

10.2 Summary of Intersection Analysis

Table 10.2 displays intersection level of service results for each of the analyzed scenarios. Note that based on the County's request, no intersection analysis was conducted under Horizon Year conditions.

10.3 Summary of Freeway Analysis

Table 10.3 displays freeway level of service results for each of the analyzed scenarios.

10.4 Summary of Ramp Intersection Capacity Analysis

Table 10.4 displays freeway ramp intersection capacity analysis level of service results for each of the scenarios analyzed.

10.5 Summary of Significant Impacts and Mitigation Recommendations

Based upon the significant impact criteria discussed in Section 2.8, **Table 10.5** summarizes identified significant project-related impacts and recommended mitigations to roadway segments, intersections, and freeway segments under each of the scenarios analyzed. Detailed rationale for mitigation measures are display at the end of each study scenario in previous chapters.

TABLE 10.1
SUMMARY OF ROADWAY SEGMENT LEVEL OF SERVICE RESULTS

Roadway	Segment	Existing	E+P (Ph A)	E+P (Ph B)	E+P (Ph C)	E+P (Ph D)	E+P (Buildout)	E+C+P	Horizon w/ Road 3	H+P w/ Road 3	Horizon w/o Road 3	H+P w/o Road 3
E. Dulin Road	Old Highway 395 to SR-76	B	B	B	B	B	C	D	C	D	C	D
W. Lilac Road	Camino Del Rey to Camino Del Cielo	A	A	A	A	A	A	A	C	C	C	C
W. Lilac Road	Camino Del Cielo to Old Highway 395	A	A	A	A	A	A	A	C	D	C	D
W. Lilac Road	Old Highway 395 to Main Street	A	A	A	F	D	D	F	D	F	B	D
W. Lilac Road	Main Street to Street "F"	A	A	A	A	A	A	A	D	F	B	B
W. Lilac Road	Street "F" to Road 3 (Running Creek Road)	A	A	A	A	A	A	A	C	F	B	A
W. Lilac Road	Road 3 (Running Creek Road) to Covey Lane	A	A	A	A	A	A	A	A	A	A	B
W. Lilac Road	Covey Lane to Circle R Drive	A	A	A	A	A	A	A	A	A	A	A
W. Lilac Road	Circle R Drive to Lilac Road	A	A	A	A	A	A	A	A	A	A	A
Camino Del Cielo	Camino Del Rey to W. Lilac Road	A	A	A	A	A	A	A	C	C	C	C
Olive Hill Road	Shamrock Road to SR-76	A	A	A	A	A	A	A	D	D	D	D
Camino Del Rey	SR-76 to Old River Road	D	D	D	D	D	D	D	B	B	B	B
Camino Del Rey	Old River Road to W. Lilac Road	D	D	D	D	D	D	E	A	A	A	A
Camino Del Rey	W. Lilac Road to Camino Del Cielo	C	C	C	C	C	C	D	A	A	A	A
Camino Del Rey	Camino Del Cielo to Old Highway 395	A	A	A	A	A	A	B	C	C	C	C
Gopher Canyon Road	E. Vista Way to I-15 SB Ramps	F	F	F	F	F	F	F	B	B	B	B

TABLE 10.1
SUMMARY OF ROADWAY SEGMENT LEVEL OF SERVICE RESULTS

Roadway	Segment	Existing	E+P (Ph A)	E+P (Ph B)	E+P (Ph C)	E+P (Ph D)	E+P (Buildout)	E+C+P	Horizon w/ Road 3	H+P w/ Road 3	Horizon w/o Road 3	H+P w/o Road 3
Gopher Canyon Road	I-15 SB Ramps to I-15 NB Ramps	A	A	A	A	A	B	B	B	B	B	B
Gopher Canyon Road	I-15 NB Ramps to Old Highway 395	A	A	A	A	A	B	B	B	B	B	B
Circle R Drive	Old Highway 395 to Mountain Ridge Road	C	C	C	C	D	D	D	D	D	D	D
Circle R Drive	Mountain Ridge Road to W. Lilac Road	B	B	B	B	B	B	B	B	B	B	B
Old Castle Road	Old Highway 395 to Lilac Road	D	D	D	D	D	D	D	C	C	C	C
E. Vista Way	SR-76 to Gopher Canyon Road	E	E	E	E	E	E	F	B	B	B	B
E. Vista Way	Gopher Canyon Road to Osborne Street	F	F	F	F	F	F	F	C	C	C	C
Old River Road	SR-76 to Camino Del Rey	C	C	C	C	C	C	C	C	C	C	C
Old Highway 395*	Pala Mesa Drive to SR-76	D or better	D or better	D or better	D or better	D or better	D or better	D or better	A	A	B	B
Old Highway 395*	SR-76 to E. Dulin Road	D or better	D or better	D or better	D or better	D or better	D or better	D or better	E accepted at LOS E/F	E accepted at LOS E/F	E accepted at LOS E/F	E accepted at LOS E/F
Old Highway 395*	E. Dulin Road to W. Lilac Road	D or better	D or better	D or better	D or better	D or better	D or better	D or better	E	F	E	F
Old Highway 395*	W. Lilac Road to I-15 SB Ramps	D or better	D or better	D or better	D or better	D or better	D or better	D or better	C	E	B	D
Old Highway 395*	I-15 SB Ramps to I-15 NB Ramps	D or better	D or better	D or better	D or better	D or better	D or better	D or better	B	C	B	B

TABLE 10.1
SUMMARY OF ROADWAY SEGMENT LEVEL OF SERVICE RESULTS

Roadway	Segment	Existing	E+P (Ph A)	E+P (Ph B)	E+P (Ph C)	E+P (Ph D)	E+P (Buildout)	E+C+P	Horizon w/ Road 3	H+P w/ Road 3	Horizon w/o Road 3	H+P w/o Road 3
Old Highway 395*	I-15 NB Ramps to Camino Del Rey	D or better	D or better	D or better	D or better	D or better	D or better	D or better	B	B	B	B
Old Highway 395*	Camino Del Rey to Circle R Drive	D or better	D or better	D or better	D or better	D or better	D or better	D or better	B	B	C	C
Old Highway 395*	Circle R Drive to Gopher Canyon Road	D or better	D or better	D or better	D or better	D or better	D or better	D or better	D	D	D	D
Old Highway 395*	Gopher Canyon Road to Old Castle Road	D or better	D or better	D or better	D or better	D or better	D or better	D or better	C	C	C	D
Champagne Boulevard	Old Castle Road to Lawrence Welk Drive	C	C	C	C	C	C	D	B	B	B	B
Pankey Road	Pala Mesa Drive to SR-76	A	A	A	A	A	A	F	A	B	A	B
Lilac Road	Couser Canyon Road to W. Lilac Road	A	A	A	A	A	A	A	D	D	C	C
Lilac Road	W. Lilac Road to Old Castle Road	A	A	A	A	A	A	A	D	D	D	D
Lilac Road	Old Castle Road to Anthony Road	D	D	D	D	D	D	E	D	D	D	D
Lilac Road	Anthony Road to New Road 19 (east of Betsworth Road)	D	D	D	D	D	D	D	B	B	D	D
Lilac Road	New Road 19 (east of Betsworth Road) to Valley Center Road	D	D	D	D	D	D	D	F accepted at LOS E/F	F accepted at LOS E/F	F accepted at LOS E/F	F accepted at LOS E/F
Valley Center Road	Woods Valley Road to Lilac Road	C	C	C	C	C	C	D	C	C	C	C
Valley Center Road	Lilac Road to Miller Road	B	B	B	B	B	B	C	D	D	E	E

TABLE 10.1
SUMMARY OF ROADWAY SEGMENT LEVEL OF SERVICE RESULTS

Roadway	Segment	Existing	E+P (Ph A)	E+P (Ph B)	E+P (Ph C)	E+P (Ph D)	E+P (Buildout)	E+C+P	Horizon w/ Road 3	H+P w/ Road 3	Horizon w/o Road 3	H+P w/o Road 3
Valley Center Road	Miller Road to Indian Creek Road	C	C	C	C	C	C	D	F accepted at LOS E/F	F accepted at LOS E/F	F accepte d at LOS E/F	F accepted at LOS E/F
Valley Center Road	Indian Creek Road to Cole Grade Road	C	C	C	C	C	C	D	C	C	D	D
Valley Center Road	Cole Grade Road to Vesper Road	D	D	D	D	D	D	D	A	A	A	A
Miller Road	Misty Oak Road to Valley Center Road	A	A	A	A	A	A	A	A	A	A	A
Cole Grade Road	Fruitvale Road to Valley Center Road	D	D	D	D	D	D	E	B	B	B	B
Mountain Ridge Road	Project Boundary to Circle R Drive**	-	-	-	-	accepta ble	acceptabl e	accepta ble	accepta ble	accepta ble	accept able	accepta ble

Source: Chen Ryan Associates; May 2014

Notes:

Bold letter indicates unacceptable LOS E or F.

E = Existing

P = Project

Ph = Phase

C = Cumulative Projects

H = Horizon Year

*Old Highway 395 was analyzed as a two-lane highway prior to the Horizon Year analyses.

TABLE 10.2
SUMMARY OF INTERSECTION PEAK HOUR LEVEL OF SERVICE RESULTS

Intersection	Existing	E+P (Ph A)	E+P (Ph B)	E+P (Ph C)	E+P (Ph D)	E+P (Buildout)	E+C+P
	AM / PM	AM / PM	AM / PM	AM / PM	AM / PM	AM / PM	AM / PM
1. E. Vista Way / Gopher Canyon Road	F / F	F / F	F / F	F / F	D / D	D / D	F / F
2. SR-76 / Old River Road/E. Vista Way	C / C	C / C	C / C	C / C	C / C	C / C	D / D
3. SR-76 / Olive Hill Road/Camino Del Rey	C / C	C / C	C / C	C / C	C / C	C / C	D / D
4. Old River Road / Camino Del Rey	D / B	D / B	D / B	D / B	D / B	D / B	F / C
5. W. Lilac Road / Camino Del Rey	C / B	C / B	C / B	C / B	C / B	C / B	C / B
6. Old Highway 395 / SR-76	C / D	C / D	C / D	C / D	C / D	C / D	F / F
7. Pankey Road / SR-76	B / C	B / C	B / C	B / C	B / C	B / C	F / F
8. Old Highway 395 / E. Dulin Road	B / B	B / B	B / B	C / D	C / C	C / D	F / F
9. Old Highway 395 / W. Lilac Road	C / B	C / C	C / D	F / F	C / C	C / C	F / F
10. I-15 SB Ramps / Old Highway 395	B / B	B / B	B / B	B / B	B / B	B / B	E / F
11. I-15 NB Ramps / Old Highway 395	A / B	B / B	B / B	B / C	B / C	B / C	C / E
12. Old Highway 395 / Camino Del Rey	B / B	B / B	B / B	B / B	B / B	B / B	B / C
13. Old Highway 395 / Circle R Drive	C / C	C / C	C / D	D / D	E / F	B / B	F / F
14. I-15 SB Ramps / Gopher Canyon Road	F / F	F / F	F / F	F / F	F / F	F / F	F / F
15. I-15 NB Ramps / Gopher Canyon Road	D / F	D / F	D / F	E / F	F / F	F / F	F / F
16. Old Highway 395 / Gopher Canyon Road	B / B	B / B	B / B	B / B	B / B	B / C	C / D
17. Old Highway 395 / Old Castle Road	B / B	B / B	B / B	B / B	B / B	B / B	B / B
18. W. Lilac Road / Covey Lane	B / A	A / A	A / A	A / B	A / A	B / C	B / B
19. Mountain Ridge Road / Circle R Drive	A / A	A / A	A / B	A / B	A / B	A / C	C / C
20. W. Lilac Road / Circle R Drive	A / A	A / A	A / A	B / B	B / B	B / B	B / B

TABLE 10.2
SUMMARY OF INTERSECTION PEAK HOUR LEVEL OF SERVICE RESULTS

Intersection	Existing	E+P (Ph A)	E+P (Ph B)	E+P (Ph C)	E+P (Ph D)	E+P (Buildout)	E+C+P
	AM / PM	AM / PM	AM / PM	AM / PM	AM / PM	AM / PM	AM / PM
21. Lilac Road / W. Lilac Road	A / A	A / B	A / B	B / B	B / B	B / B	B / B
22. Lilac Road / Old Castle Road	B / C	B / C	B / C	B / C	B / C	B / C	B / D
23. Valley Center Rd / Lilac Road	B / C	B / C	B / C	B / C	B / C	B / C	D / D
24. Miller Road / Valley Center Road	C / D	C / D	C / D	C / D	C / D	C / D	C / F
25. Cole Grade Road / Valley Center Road	C / C	C / C	C / D	C / C	C / D	C / D	D / D
26. Street "O" / W. Lilac Road/Main Street	DNE	A / A	A / A	A / A	A / B	A / B	A / B
27. Main Street / Street "C"	DNE	A / A	A / A	A / A	A / A	A / A	A / A
28. Lilac Hills Ranch Road / Main Street North	DNE	DNE	DNE	A / A	A / A	A / A	A / A
29. Lilac Hills Ranch Road / Main Street South	DNE	DNE	DNE	A / A	A / A	A / A	A / A
30. Street "Z" / Main Street	DNE	A / A	A / A	A / A	A / A	A / A	A / A
31. W. Lilac Road/Street "F" / Main Street	DNE	A / A	A / A	A / A	A / A	A / A	A / A

Source: Chen Ryan Associates; May 2014

Notes:

Bold letter indicates unacceptable LOS E or F.

DNE = Does Not Exist

E = Existing

P = Project

Ph = Phase

C = Cumulative Projects

TABLE 10.3
SUMMARY OF FREEWAY SEGMENT LEVEL OF SERVICE RESULTS

Freeway	Segment	Existing	E+P (Ph A)	E+P (Ph B)	E+P (Ph C)	E+P (Ph D)	E+P (Buildout)	E+C+P	Horizon w/Road 3	H+P w/ Road 3	Horizon w/o Road 3	H+P w/o Road 3
I-15	Riverside County Boundary to Old Highway 395	D	D	D	D	D	D	F	F	F	F	F
I-15	Old Highway 395 to SR-76	D	D	D	D	D	D	F	F	F	F	F
I-15	SR-76 to Old Highway 395	C	C	C	C	C	C	F	F	F	F	F
I-15	Old Highway 395 to Gopher Canyon Rd	C	C	C	C	C	C	F	F	F	F	F
I-15	Gopher Canyon Rd to Deer Springs Rd	C	C	C	C	C	C	F	F	F	F	F
I-15	Deer Springs Rd to Centre City Pkwy	C	C	C	C	C	C	F	F	F	F	F
I-15	Centre City Pkwy to El Norte Pkwy	C	C	C	C	C	C	F	F	F	F	F
I-15	El Norte Pkwy to SR-78	C	C	C	C	C	C	F	F	F	F	F
I-15	SR-78 to W Valley Pkwy	B	C	C	C	C	C	C	F	F	F	F
I-15	W Valley Pkwy to Auto Pkwy	B	B	B	B	B	B	C	F	F	F	F
I-15	Auto Pkwy to W Citracado Pkwy	B	B	B	B	B	B	B	F	F	F	F
I-15	W Citracado Pkwy to Via Rancho Pkwy	B	B	B	B	B	B	C	E	E	E	E
I-15	Via Rancho Pkwy to Bernardo Dr	B	B	B	B	B	B	C	F	F	F	F

TABLE 10.3
SUMMARY OF FREEWAY SEGMENT LEVEL OF SERVICE RESULTS

Freeway	Segment	Existing	E+P (Ph A)	E+P (Ph B)	E+P (Ph C)	E+P (Ph D)	E+P (Buildout)	E+C+P	Horizon w/Road 3	H+P w/ Road 3	Horizon w/o Road 3	H+P w/o Road 3
I-15	Bernardo Dr to Rancho Bernardo Rd	B	B	B	B	B	B	B	E	E	E	E
I-15	Rancho Bernardo Rd to Bernardo Center Dr	B	B	B	B	B	B	B	F	F	F	F
I-15	Bernardo Center Dr to Camino Del Norte	B	B	B	B	B	B	B	E	E	E	E

Source: Chen Ryan Associates; May 2014

Notes:

Bold letter indicates unacceptable LOS E or F.

E = Existing

P = Project

Ph = Phase

C = Cumulative Projects

H = Horizon Year

TABLE 10.4
SUMMARY OF RAMP INTERSECTION CAPACITY ANALYSIS

Ramp Intersection	Peak Hour	Existing	E+P (Ph A)	E+P (Ph B)	E+P (Ph C)	E+P (Ph D)	E+P (Buildout)	E+C+P
SR-76 / Old River Road/E. Vista Way	AM	Over	Over	Over	Over	Over	Over	Over
	PM	At	At	At	At	At	At	Over
SR-76 / Olive Hill Road/Camino Del Rey	AM	At	At	At	At	At	At	Over
	PM	At	At	At	At	At	At	Over
SR-76 / Old Highway 395	AM	Under	Under	Under	Under	Under	Under	Over
	PM	Under	Under	Under	Under	Under	Under	Over

Source: Chen Ryan Associates; May 2014

Notes:

E = Existing

P = Project

Ph = Phase

C = Cumulative Projects

TABLE 10.5
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Location	E+P (Phase A)	E+P (Phases B)	E+P (Phases C)	E+P (Phases D)	E+P (Buildout)	Existing + Cumulative Projects + Project
<i>Roadway Segment</i>						
Camino Del Rey, Old River Road to W. Lilac Road	-	-	-	-	-	Cumulative Impact TIF Payments
W. Lilac Road, Old Highway 395 to Main Street	-	-	Direct Impact Improve to 2.2C	-	-	Cumulative Impact Project Improvement to 2.2C also Direct Impact under E+P (Phase C) Signalization at Old Highway 395 / W. Lilac Road and +1WBL
Gopher Canyon Road, E. Vista Way to Little Gopher Canyon Road	Direct Impact +1WBR @ E. Vista Way / Gopher Canyon Road	-	-	-	-	Cumulative Impact No feasible mitigation
Gopher Canyon Road, Little Canyon Road to I-15 SB Ramps	Direct Impact +1WBR @ E. Vista Way / Gopher Canyon Road	-	-	-	-	Cumulative Impact TIF Payments
E. Vista Way, SR-76 to Gopher Canyon Road	-	-	-	-	Direct Impact +1WBR & +1 NBR @ E. Vista Way / Gopher Canyon Road	Cumulative Impact TIF Payments

TABLE 10.5
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Location	E+P (Phase A)	E+P (Phases B)	E+P (Phases C)	E+P (Phases D)	E+P (Buildout)	Existing + Cumulative Projects + Project
E. Vista Way, Gopher Canyon Road to Osborne Street	-	-	Direct Impact +1WBR & +1 NBR @ E. Vista Way / Gopher Canyon Road	-	-	Cumulative Impact TIF Payments
Pankey Road, Pala Mesa Drive to SR-76	-	-	-	-	-	Cumulative Impact No feasible mitigation
Lilac Road, Old Castle Road to Anthony Road	-	-	-	-	-	Cumulative Impact Provide intermittent turn-lane
Cole Grade Road, Fruitvale Road and Valley Center Road	-	-	-	-	-	Cumulative Impact TIF Payments
<i>Intersection</i>						
1. E. Vista Way / Gopher Canyon Road	Direct Impact +1WBR	-	-	-	-	Cumulative Impact TIF Payments
6. Old Highway 395 / SR-76	-	-	-	-	-	Cumulative Impact Caltrans Facility – Significant and Unavoidable Impact
7. Pankey Road / SR-76	-	-	-	-	-	Cumulative Impact Caltrans Facility – Significant and Unavoidable Impact
8. Old Highway 395 / E. Dulin Road	-	-	-	-	-	Cumulative Impact Signalization

TABLE 10.5
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Location	E+P (Phase A)	E+P (Phases B)	E+P (Phases C)	E+P (Phases D)	E+P (Buildout)	Existing + Cumulative Projects + Project
9. Old Highway 395 / W. Lilac Road	-	-	Direct Impact Signalization +1WBL	-	-	Cumulative Impact TIF Payments also Direct Impact under E+P (Phase C) Project Improvements for Signalization and +1WBL
10. I-15 SB Ramps / Old Highway 395	-	-	-	-	-	Cumulative Impact TIF Payments
11. I-15 NB Ramps / Old Highway 395	-	-	-	-	-	Cumulative Impact TIF Payments
13. Old Highway 395 / Circle R Drive	-	-	-	Direct Impact Signalization	-	Cumulative Impact Signalization
14. I-15 SB Ramps / Gopher Canyon Road	-	Direct Impact Signalization – Caltrans' facility, significant and unavoidable impact	Direct Impact Signalization – Caltrans' facility, significant and unavoidable impact	Direct Impact Signalization – Caltrans' facility, significant and unavoidable impact	Direct Impact Signalization – Caltrans' facility, significant and unavoidable impact	Cumulative Impact TIF Payments
15. I-15 NB Ramps / Gopher Canyon Road	-	Direct Impact Signalization– Caltrans' facility, significant and unavoidable impact	Direct Impact Signalization– Caltrans' facility, significant and unavoidable impact	Direct Impact Signalization– Caltrans' facility, significant and unavoidable impact	Direct Impact Signalization– Caltrans' facility, significant and unavoidable impact	Cumulative Impact TIF Payments
24. Miller Road / Valley Center Road	-	-	-	-	-	Cumulative Impact Signalization

TABLE 10.5
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Location	E+P (Phase A)	E+P (Phases B)	E+P (Phases C)	E+P (Phases D)	E+P (Buildout)	Existing + Cumulative Projects + Project
<i>Freeway Segment</i>						
I-15, Riverside County Boundary to Old Highway 395	-	-	-	-	-	Cumulative Impact No feasible mitigation
I-15, Old Highway 395 to SR-76	-	-	-	-	-	Cumulative Impact No feasible mitigation
I-15, SR-76 to Old Highway 395	-	-	-	-	-	Cumulative Impact No feasible mitigation
I-15, Old Highway 395 to Gopher Canyon Rd	-	-	-	-	-	Cumulative Impact No feasible mitigation
I-15, Gopher Canyon Rd to Deer Springs Rd	-	-	-	-	-	Cumulative Impact No feasible mitigation
I-15, Deer Springs Rd to Centre City Pkwy	-	-	-	-	-	Cumulative Impact No feasible mitigation
I-15, Centre City Pkwy to El Norte Pkwy	-	-	-	-	-	Cumulative Impact No feasible mitigation
I-15, El Norte Pkwy to SR-78	-	-	-	-	-	Cumulative Impact No feasible mitigation

Source: Chen Ryan Associates; May 2014

Notes:

E = Existing

P = Project

N/A = Not Analyzed

11.0 Transportation Demand Management Program

To reduce the number of vehicle trips generated by the proposed development, the project applicant proposes implementation of all or some of Transportation Demand Management (TDM) measures listed below in order to reduce vehicle trips in favor of alternative modes of transportation. The TDM program will facilitate increased opportunities for transit, bicycling, and pedestrian travel, as well as providing the resources, means and incentives for ridesharing and carpooling opportunities. The following measures may be included in the TDM:

1. As shown in Figure 8-1, the project has developed a comprehensive trails network that was designed to provide safe bicycle and pedestrian access between the various project phases, land uses, parks/open spaces, schools and the Town Center area. The trails network will also provide connections to the various recreational trails and multi-modal facilities accessing the project site.
2. Provide bicycle racks along main travel corridors, adjacent to commercial developments, and at public parks and open spaces within the project site.
3. Provide bicycle racks at the office, multi-family and live/work buildings within the project site.
4. Coordinate a ride share or shuttle system that connects the various phases of the project to the Town Center area, as well as to external transit facilities and resources.
5. To help encourage carpooling, the project will include or identify a Park-n-Ride lot that will be available to its residents and employees.
6. Coordinate with SANDAG's iComute program for Carpool, Vanpool, and rideshare programs that are specific to the Lilac Hills development.
7. Promote available websites providing transportation options for residents and businesses.
8. Create and distribute a "new resident" information packet addressing alternative modes of transportation.
9. Coordinate with NCTD/MTS and SANDAG as to the future sighting of transit stops/stations within the project site.
10. Provide interim connections between Lilac Hills Ranch and the planned regional transit system, until such transit system is extended to the community. This will reduce vehicle trips and vehicle miles traveled (VMT) and could reduce the incidence of obesity, heart disease and hypertension by encouraging daily physical activity. The interim private transit services would be provided at complete buildout of the community and would terminate when a public transit linkage is proposed by the local transit district.
 - a) Service would be provided on demand rather than a service that is operated whether or not someone wants to travel at that time.

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- b) Subsidize rides on commercially available services such as taxis and/or shuttle vans.
 - c) Pick-ups and drop-offs would be at a central location in the development.
 - d) The HOA would set up accounts with the providers allowing residents to call a dispatcher to request service and obtain the discounted rate. The same or similar service could be called to return the rider to Lilac Hills Ranch.

Additional Options - The subsidized private or group shuttle trips could be supplemented by any of the options below to provide alternative ways to make connections to the regional transit system or to local destinations not served by that system:

- 1) Provide subsidized transit passes to encourage use of public or private transit. The subsidized private or group shuttle rides would increase the convenience of the regional public transportation system and therefore encourage a higher level of utilization.
- 2) Provide coordination/support of a Car Sharing system for those who want/need the improved convenience of driving to encourage Lilac Hills Ranch residents to drive themselves and other residents to their employment destination or a regional transit center.
- 3) Provide coordination/support for ride sharing or shuttle services with volunteer drivers such as the ones sponsored by the Independent Transportation Network once 75% of the community is occupied. ITN chapters around the country use volunteer drivers to provide rides to seniors. There is no reason that a general public version of this volunteer service could not operate successfully. The service could be coordinated/supported by the Homeowners' Association or by the local Transportation Management Organization.