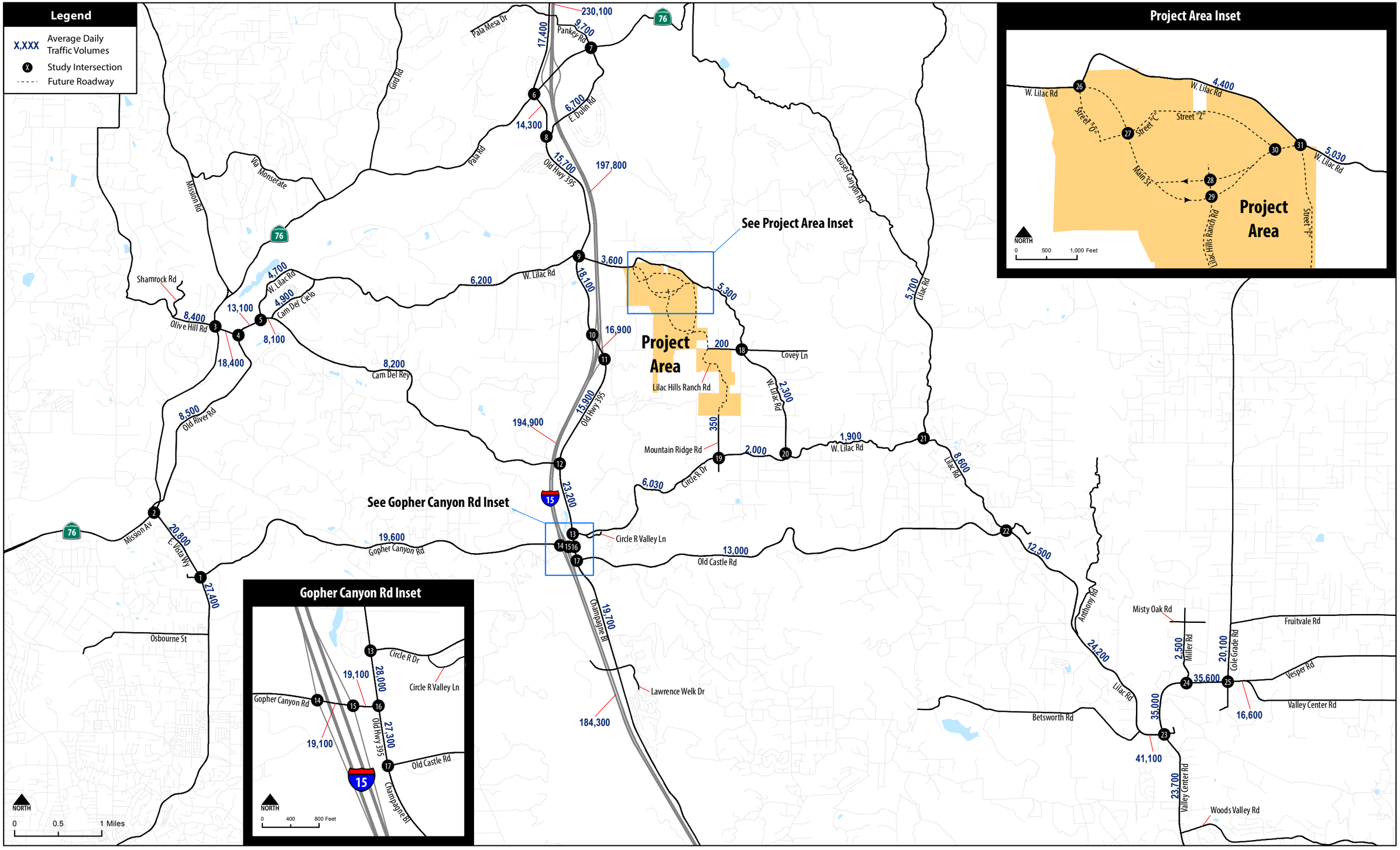


Lilac Hills Ranch Traffic Impact Study

CHEN RYAN

Figure 9-4
Roadway Average Daily Traffic Volumes -
Horizon Year Base Conditions without Road 3

As shown in Table 9.7, the following five (5) study area roadway segments are projected to operate at substandard LOS E/F under Horizon Year Base conditions without Road 3:

- Old Highway 395, between SR-76 and E. Dulin Road – LOS E, and the County General Plan Update has accepted LOS E/F operations along this segment;
- Old Highway 395, between E. Dulin Road and W. Lilac Road – LOS E;
- Lilac Road, between New Road 19 (east of Betsworth Road) and Valley Center Road – LOS F, and the County General Plan Update has accepted LOS E/F operations along this segment;
- Valley Center Road, between Lilac Road and Miller Road – LOS E; and
- Valley Center Road, between Miller Road and Indian Creek Road – LOS F, and the County General Plan Update has accepted LOS E/F operations along this segment.

Freeway Segment Analysis

The freeway segment level of service analysis was performed utilizing the methodology presented in Chapter 2.0. **Table 9.8** displays the resulting level of service for I-15 under Horizon Year Base 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, similar to the Horizon Year Base with Road 3 scenario, the following ten (10) freeway segments along I-15 are projected to operate at substandard LOS E or F under Horizon Year Base conditions without Road 3:

- I-15, between the Riverside County Boundary and Old Highway 395 – LOS F;
- I-15, between Old Highway 395 and SR-76 – LOS F;
- I-15, between SR-76 and Old Highway 395 – LOS F;
- I-15, between Old Highway 395 and Gopher Canyon Road – LOS F;
- I-15, between Gopher Canyon Road and Deer Springs Road – LOS F;
- I-15, between Deer Springs Road and Centre City Parkway – LOS F;
- I-15, between Centre City Parkway and El Norte Parkway – LOS F;
- I-15, between El Norte Parkway and SR-78 – LOS F;
- I-15, between SR-78 and W Valley Parkway – LOS E; and
- I-15, between Via Rancho Parkway and Bernardo Drive – LOS F.

TABLE 9.8
FREEWAY SEGMENT LEVEL OF SERVICE RESULTS
HORIZON YEAR BASE CONDITIONS
(without Road 3)

Freeway	Segment	ADT	Peak Hour %	Peak Hour Volume	Directional Split	# of Lanes Per Direction	Peak Hour Factor (PHF)	% of Heavy Vehicle	Volume (pc/h/ln)	V/C	LOS
I-15	Riverside County Boundary to Old Highway 395	266,100	8.4%	22,481	0.64	4	0.95	6.75%	3,886	1.654	F
I-15	Old Highway 395 to SR-76	230,100	7.4%	17,118	0.73	4	0.95	6.75%	3,406	1.449	F
I-15	SR-76 to Old Highway 395	197,800	7.8%	15,472	0.69	4	0.95	8.40%	2,908	1.238	F
I-15	Old Highway 395 to Gopher Canyon Road	194,900	8.1%	15,740	0.67	4	0.95	8.40%	2,882	1.226	F
I-15	Gopher Canyon Road to Deer Springs Road	184,300	8.1%	14,884	0.67	4	0.95	13.20%	2,788	1.186	F
I-15	Deer Springs Road to Centre City Parkway	179,200	8.0%	14,397	0.66	4	0.95	13.20%	2,683	1.142	F
I-15	Centre City Parkway to El Norte Parkway	169,500	8.0%	13,618	0.66	4	0.95	13.20%	2,538	1.080	F
I-15	El Norte Parkway to SR-78	193,700	7.9%	15,246	0.66	4	0.95	10.00%	2,801	1.192	F
I-15	SR-78 to W Valley Parkway	289,100	8.1%	23,528	0.60	5+2ML	0.95	10.00%	2,229	0.948	E
I-15	W Valley Parkway to Auto Parkway	281,600	8.1%	22,918	0.60	5+2ML	0.95	10.00%	2,171	0.924	D
I-15	Auto Parkway to W Citracado Parkway	276,300	7.8%	21,429	0.60	5+2ML	0.95	10.00%	2,018	0.859	D
I-15	W Citracado Parkway to Via Rancho Parkway	279,100	7.8%	21,646	0.60	5+2ML	0.95	7.00%	2,009	0.855	D
I-15	Via Rancho Parkway to Bernardo Drive	392,400	7.4%	28,880	0.58	5+2ML	0.95	7.00%	2,600	1.106	F
I-15	Bernardo Drive to Rancho Bernardo Road	261,000	7.4%	19,209	0.58	5+2ML	0.95	7.00%	1,729	0.736	C

TABLE 9.8
FREEWAY SEGMENT LEVEL OF SERVICE RESULTS
HORIZON YEAR BASE CONDITIONS
(without Road 3)

Freeway	Segment	ADT	Peak Hour %	Peak Hour Volume	Directional Split	# of Lanes Per Direction	Peak Hour Factor (PHF)	% of Heavy Vehicle	Volume (pc/h/ln)	V/C	LOS
I-15	Rancho Bernardo Road to Bernardo Center Drive	300,800	7.3%	22,085	0.54	5+2ML	0.95	7.00%	1,842	0.784	C
I-15	Bernardo Center Drive to Camino Del Norte	270,100	7.3%	19,831	0.54	5+2ML	0.95	7.00%	1,654	0.704	C

Source: Chen Ryan Associates; May 2014

Notes:
Bold letter indicates unacceptable LOS E or F.
ML = Managed Lane.
Changes in this table are associated with a copy and paste error.

9.3.2 Horizon Year Base Plus Project without Road 3

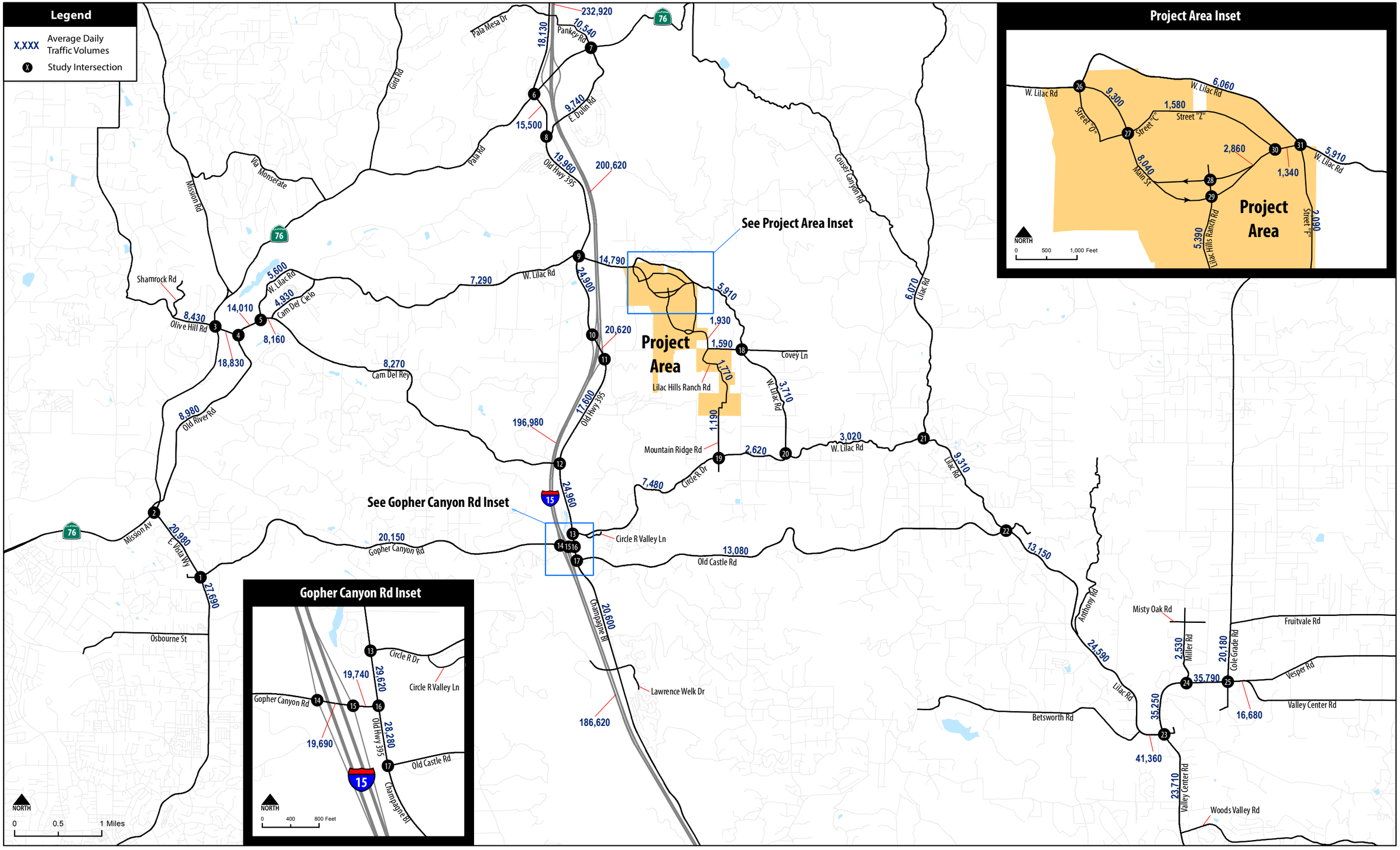
Average daily traffic volumes on study area roadway segments are displayed in **Figure 9-5**. Note that this figure was modified to reflect both "Change 1" and "Change 2" as described in the "Summary of Major Changes to the TIS" section of the "Executive Summary".

Roadway Segment Analysis

Table 9.9 displays the level of service analysis results for key roadway segments under Horizon Year Base Plus Project Conditions without Road 3. Note that the Lilac Hills Ranch project proposes to downgrade W. Lilac Road, between Main Street and the planned Road 3 (Running Creek Road) from 2.2C to 2.2F.

As shown in the table, the following six (6) roadway segments would operate at substandard LOS E or F:

- W. Lilac Road, between Old Highway 395 and Main Street – LOS E, and the project would add more than 200 daily trips. The additional traffic generated by the Lilac Hills Ranch project would result in a GP inconsistency at this segment.
- Old Highway 395, between SR-76 and E. Dulin Road – LOS E, and the project would add more than 200 daily trips. The County General Plan Update has accepted LOS E/F operations along this segment. The additional traffic generated by the Lilac Hills Ranch project would result in a GP inconsistency at this segment.
- Old Highway 395, between E. Dulin Road and W. Lilac Road – LOS F, and the project would add more than 100 daily trips. The additional traffic generated by the Lilac Hills Ranch project would result in a GP inconsistency at this segment.
- Lilac Road, between New Road 19 (east of Betsworth Road) and Valley Center Road – LOS F, and the project would add more than 200 daily trips. The County General Plan Update has accepted LOS E/F operations at this segment. The additional traffic generated by the Lilac Hills Ranch project would result in a GP inconsistency at this segment.
- Valley Center Road, between Lilac Road and Miller Road - LOS E, and the project would add less than 400 daily trips. The additional traffic generated by the Lilac Hills Ranch project would not result in GP inconsistency at this segment.
- Valley Center Road, between Miller Road and Indian Creek Road – LOS F, and the project would add less than 200 daily trips. The County General Plan Update has accepted LOS E/F operations at this segment. The additional traffic generated by the Lilac Hills Ranch project would not result in GP inconsistency at this segment.



Lilac Hills Ranch Traffic Impact Study

CHEN RYAN

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	14,790	E	3,600	B	11,190	*Yes > 200ADT*
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	19,690	B	19,100	B	590	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	19,740	B	19,100	B	640	No
Circle R Drive	Old Highway 395	Mountain Ridge Road	2.2E	10,900	7,480	C	6,500	C	980	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	24,900	D	18,100	B	5,800	No
Old Highway 395	I-15 SB Ramps	I-15 NB Ramps	4.2B	25,000	20,620	B	16,900	B	3,720	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	29,620	D	28,000	D	1,620	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
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

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		
Cole Grade Road	Fruitvale Road	Valley Center Road	4.2A	27,000	20,180	B	20,100	B	80	No

Source: Chen Ryan Associates; May 2014

Notes:
Bold letter indicates unacceptable LOS E or F.
*Proposed downgrade from 2.2C to 2.2F.
Changes in this table are associated with both "Change 1" and "Change 2" as described in the "Summary of Major Changes to the TIS" section of the "Executive Summary".

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	181,330	8.0%	14,568	0.66	4	0.95	13.20%	2,715	1.155	F	0.014	*Yes* *> 0.01*
I-15	Centre City Parkway to El Norte Parkway	171,330	8.0%	13,765	0.66	4	0.95	13.20%	2,565	1.092	F	0.012	*Yes* *> 0.01*
I-15	El Norte Parkway to SR-78	195,420	7.9%	15,381	0.66	4	0.95	10.00%	2,826	1.202	F	0.011	*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; May 2014

Notes:
Bold letter indicates unacceptable LOS E or F.
ML = Managed Lane.
Changes in this table are associated with both “Change 1” as described in the “Summary of Major Changes to the TIS” section of the “Executive Summary”.

The additional traffic generated by the proposed 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 four (4) of the study area roadway segments, including:

- W. Lilac Road, between Old Highway 395 and Main Street;
- 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
W. Lilac Road, between Old Highway 395 and Main Street	35	23.0	B	22.6	B
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

Note:
Changes in this table are associated with both "Change 1" and "Change 2" as described in the "Summary of Major Changes to the TIS" section of the "Executive Summary".

As shown in the table above, all four (4) 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
Roadway Segment		
W. Lilac Road, between Old Highway 395 and Main Street	None	• Roundabouts increase operational capacity • Improve pedestrian and bicycle facility - multi-purpose trail • Acceptable arterial speed • R-O-W constrains at the I-15 overpass
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.
Freeway		
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

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

GP Inconsistency Facility	Recommendation	Rationale
I-15, between El Norte Parkway and SR-78	None	No planned improvement – no feasible mitigation

Source: Chen Ryan Associates; May 2014

Note:
Changes in this table are associated with both "Change 1" and "Change 2" as described in the "Summary of Major Changes to the TIS" section of the "Executive Summary".

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	E
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	A	B	B	B	B	B
Gopher Canyon Road	I-15 NB Ramps to Old Highway 395	A	A	A	A	A	A	B	B	B	B	B
Circle R Drive	Old Highway 395 to Mountain Ridge Road	C	C	C	C	C	C	D	D	D	C	C
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 accepted 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

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.
Changes in this table are associated with both “Change 1” and “Change 2” as described in the “Summary of Major Changes to the TIS” section of the “Executive Summary”.

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 / D	C / D	F / F
10. I-15 SB Ramps / Old Highway 395	B / B	B / B	B / B	B / B	B / C	B / C	F / F
11. I-15 NB Ramps / Old Highway 395	A / B	B / B	B / B	B / C	B / C	B / C	C / F
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	D / 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	D / F	D / F	E / F	F / F
16. Old Highway 395 / Gopher Canyon Road	B / B	B / B	B / B	B / B	B / B	B / B	C / C
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	B / B	B / B	B / B
19. Mountain Ridge Road / Circle R Drive	A / A	A / A	A / B	A / B	A / B	A / C	B / B
20. W. Lilac Road / Circle R Drive	A / A	A / A	A / A	B / B	B / B	B / B	B / B
21. Lilac Road / W. Lilac Road	A / A	A / B	A / B	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
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	B / B	B / C
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 / B	A / B
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
Changes in this table are associated with both "Change 1" and "Change 2" as described in the "Summary of Major Changes to the TIS" section of the "Executive Summary".

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		
Roadway Segment								
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 – also Direct Impact under E+P (Phase C) • Project Improvement to 2.2C • 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		
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		

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		
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		
Intersection								
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		
9. Old Highway 395 / W. Lilac Road	-	-	Direct Impact • Signalization • +1WBL	-	-	Cumulative Impact – also Direct Impact under E+P (Phase C) • TIF Payments • 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		

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		
24. Miller Road / Valley Center Road	-	-	-	-	-	Cumulative Impact Signalization		
Freeway Segment								
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; May2014

Notes:
E = Existing
P = Project
N/A = Not Analyzed
Changes in this table are associated with “Change 1” - “Change “4” as described in the “Summary of Major Changes to the TIS” section of the “Executive Summary”.

11.0 Construction Traffic

This chapter identifies potential traffic impacts associated with the Lilac Hills Ranch project construction traffic.

11.1 Construction Related Traffic Generation

Project construction is expected to be phased over up to 20 years. It is assumed that the worst case scenario occurs during the last project phase (Phase E) after which previous phases (will be occupied. Therefore, Phase D plus construction traffic is assumed as the worst case scenario.

All earthwork associated with the construction of this project will be balanced on-site; therefore, no import or export of soil is anticipated. The construction traffic analyzed here mainly focuses on construction material transport activities and trips generated by construction workers. Neither construction material transport activities nor construction workers will generate traffic during the peak commute hours (both AM and PM) since all deliveries and pick-ups are planned to occur during off-peak hours, while construction workers are scheduled to arrive before 7 a.m. and leave by 3:30 p.m.. Therefore, no intersection peak hour analysis is necessary for assessing potential construction related traffic impacts.

Based upon information provided by RECON Environmental, Inc., approximately 66 daily truck trips and 372 daily construction worker trips will be generated by the last project construction phase. **Table 11.1** displays the assumed construction related vehicle trip generation.

TABLE 11.1
PROJECT CONSTRUCTION TRIP GENERATION

Type	Daily Trips	PCE	Daily Vehicle Trips
Truck	66	2.5	165
Construction Worker	372	1.0	372
Total	-	-	537

Source: RECON Environmental, Inc., Chen Ryan Associates: May 2014

As shown in the table, a total of 537 daily vehicle trips would be generated during the last construction phase.

Additionally, the project is expected to generate 6 truck trips (equivalent to 15 vehicle trips) per day from waste water transport activities between the project site to the Moosa Water Reclamation Facility located along Circle R Drive, just east of Old Highway 395. Note that this waste water transport activity only happens for the first 100 units, after which a temporary line from the project site down to the Moosa facility will be construed via Mountain Ridge Road to Circle R Drive.

11.2 Construction Related Traffic Impacts

As described previously in Section 11.1, the worst case scenario during construction represents "Phase D Plus Construction Traffic". **Table 11.2** displays the total daily trips generate by the worst case scenario.

TABLE 11.2
WORST CASE TRIP GENERATION
DURING CONSTRUCTION

Scenario	Daily Trips
Phase D (displayed in Table 4.7)	12,936
Construction	537
Total	13,473

Source: Chen Ryan Associates: May 2014

As shown above, the worst case scenario (Phase D Plus Construction) would generate a total of 13,473 daily trips. Project impacts for both Phase D and Phase E (project buildout) were discussed in Chapter 5. It is reasonable to believe that the worst case scenario associated with construction impacts would be less than impacts associated with buildout of the project since Phase E (buildout) would generate a total of 15,151 external daily trips (greater than 13,473 ADT). It can be concluded that no additional (to Phase E) impacts associated with construction related traffic would occur to the study area roadway network.

12.0 No-School Alternative

This chapter provides a discussion of the "No School" alternative and how this alternative would affect the study area network.

12.1 No-School Project Trip Generation

It is important to note that no other trip generating land uses will be proposed in place of the school, in other words, the proposed "with school" land uses represents the worst case in terms of project trips generation, as shown in Table 4.8. **Table 12.1** displays the total and external project traffic generated by the "No School" alternative. As shown, a total of 18,334 daily trips including 1,316 AM peak hour trips and 1,730 PM peak hour trips would be generated by project buildout "without school" as opposed to the 19,406 daily trips generated by the proposed "with school" scenario.

12.2 Students Trip Generation, Distribution, and Assignment

The residential trip generation rates provided in the SANDAG's *Guide to Vehicular Traffic Generation Rates for the San Diego Region* (SANDAG, April 2002) already account for all trip purposes including home-work, home-shopping, home-school, etc. However, to address potential concerns of school needs not being met on-site, an AM peak hour intersection analysis was conducted assuming all students from the Lilac Hills Ranch project would travel to Valley Center proper. PM peak hour intersection operation was not analyzed since school dismissals occur prior to the commute peak hour (4 p.m. – 6 p.m.).

The Valley Center-Pauma Unified School District uses 0.5 elementary school students per household and 0.2 high school students per household factors to estimate the number of students generated by future developments. **Table 12.2** displays the total number of students expected to attend school. SANDAG's *Guide to Vehicular Traffic Generation Rates for the San Diego Region* (SANDAG, April 2002) was utilized for student trip generation.

As shown in Table 12.2, the Lilac Hills Ranch project would generate 256 high school students and 639 elementary school students resulting in 1,354 average daily trips with 393 trips in the AM peak hour.

The AM peak hour trips generated by students needing to attend school outside of the project site were distributed to Valley Center proper along W. Lilac Road, Lilac Road and Valley Center Road. This should represent the worst case scenario for evaluating potential student traffic impacts on the transportation network in Valley Center. These trips were added to the Existing Plus Project Buildout (Phase E) with "No School" scenario. **Figure 12.1** displays both the route to school and the AM peak hour intersection volumes.

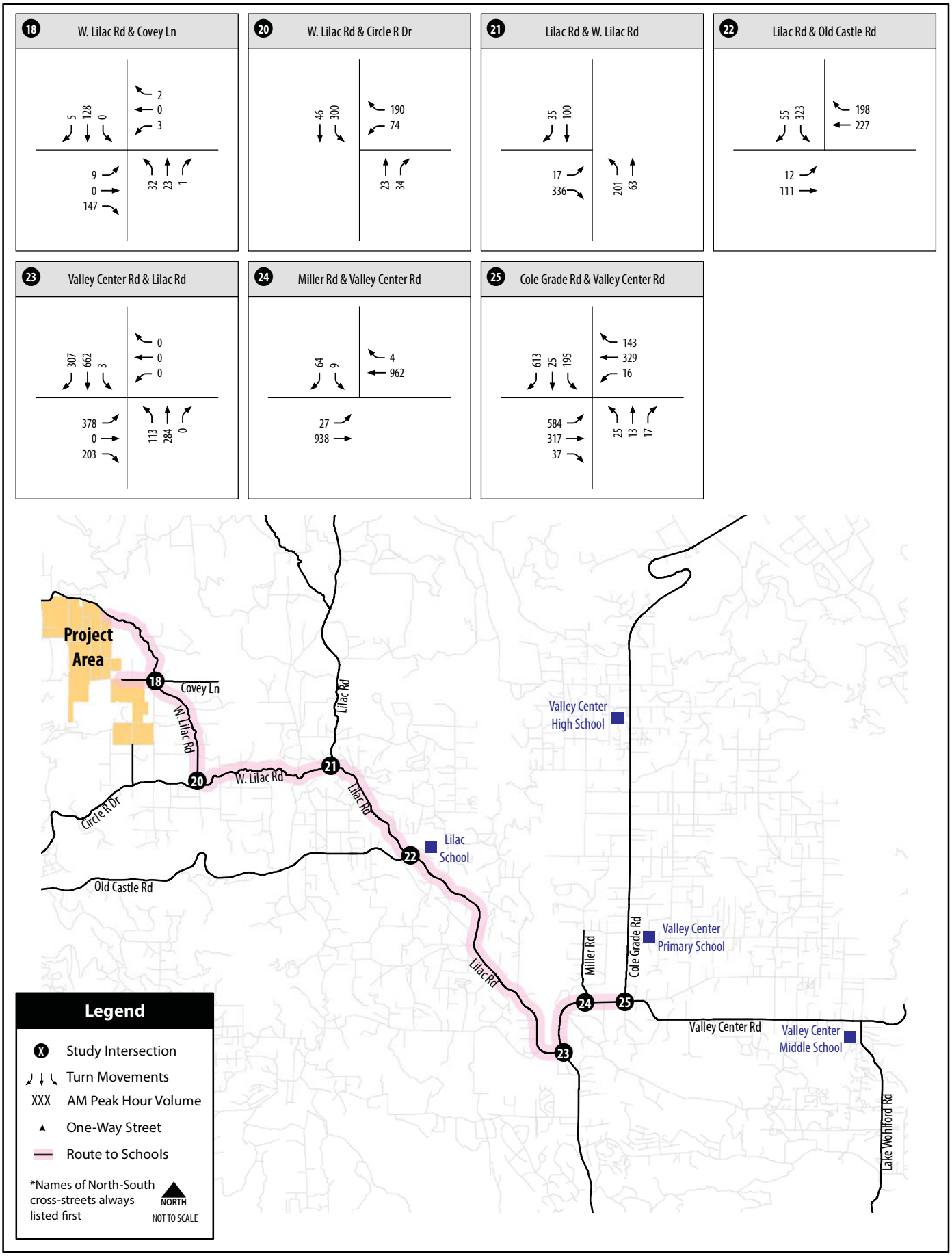
TABLE 12.1
LILAC HILLS RANCH INTERNAL AND EXTERNAL PROJECT TRIPS
NO SCHOOL ALTERNATIVE

Land Use	Quantity	Total Trips			Internal Trips				External Trips			
		Daily	AM Peak Hour	PM Peak Hour	% Internal	Daily	AM Peak Hour	PM Peak Hour	% External	Daily	AM Peak Hour	PM Peak Hour
Single Family	903 DU	9,030	722 (217-in / 506-out)	903 (632-in / 271-out)	10%	903	72 (22-in / 51-out)	90 (63-in / 27-out)	90%	8,127	650 (195-in / 455-out)	813 (569-in / 244-out)
Multi-Family	375 DU	2,250	180 (36-in / 144-out)	203 (142-in / 61-out)	10%	225	18 (4-in / 14-out)	20 (14-in / 6-out)	90%	2,025	162 (32-in / 130-out)	182 (128-in / 55-out)
Senior Community	468 DU	1,872	94 (37-in / 56-out)	131 (79-in / 52-out)	10%	187	9 (4-in / 6-out)	13 (8-in / 5-out)	90%	1,685	84 (34-in / 51-out)	118 (71-in / 47-out)
Assisted Living	200 bed	500	20 (12-in / 8-out)	40 (20-in / 20-out)	10%	50	2 (1-in / 1-out)	4 (2-in / 2-out)	90%	450	18 (11-in / 7-out)	36 (18-in / 18-out)
Specialty/Strip Commercial	61.5 KSF	2,460	74 (44-in / 30-out)	221 (111-in / 111-out)	50%	1,230	37 (22-in / 15-out)	111 (55-in / 55-out)	50%	1,230	37 (22-in / 15-out)	111 (55-in / 55-out)
Office	28.5 KSF	399	60 (54-in / 6-out)	60 (12-in / 48-out)	10%	40	6 (5-in / 1-out)	6 (1-in / 5-out)	90%	359	54 (48-in / 5-out)	54 (11-in / 43-out)
Country Inn / B&B	50 room	450	36 (14-in / 22-out)	41 (24-in / 16-out)	10%	45	4 (1-in / 2-out)	4 (2-in / 2-out)	90%	405	32 (13-in / 19-out)	36 (22-in / 15-out)
Church	10.7 AC	321	16 (10-in / 6-out)	26 (13-in / 13-out)	50%	161	8 (5-in / 3-out)	13 (6-in / 6-out)	50%	161	8 (5-in / 3-out)	13 (6-in / 6-out)
Elementary School (K-5)	0 student	0	0 (0-in / 0-out)	0 (0-in / 0-out)	80%	0	0 (0-in / 0-out)	0 (0-in / 0-out)	20%	0	0 (0-in / 0-out)	0 (0-in / 0-out)
Middle School (6-8)	0 student	0	0 (0-in / 0-out)	0 (0-in / 0-out)	80%	0	0 (0-in / 0-out)	0 (0-in / 0-out)	20%	0	0 (0-in / 0-out)	0 (0-in / 0-out)
Recreation Center	40.0 KSF	915	108 (57-in / 51-out)	95 (38-in / 57-out)	50%	458	54 (29-in / 25-out)	48 (19-in / 29-out)	50%	458	54 (29-in / 25-out)	48 (19-in / 29-out)

TABLE 12.1
LILAC HILLS RANCH INTERNAL AND EXTERNAL PROJECT TRIPS
NO SCHOOL ALTERNATIVE

Land Use	Quantity	Total Trips			Internal Trips				External Trips			
		Daily	AM Peak Hour	PM Peak Hour	% Internal	Daily	AM Peak Hour	PM Peak Hour	% External	Daily	AM Peak Hour	PM Peak Hour
Neighborhood/ County Park	23.8 AC	119	5 (2-in / 2-out)	10 (5-in / 5-out)	80%	95	4 (2-in / 2-out)	8 (4-in / 4-out)	20%	24	1 (0-in / 0-out)	2 (1-in / 1-out)
Water Reclamation	2.4 AC	14	2 (1-in / 1-out)	1 (1-in / 1-out)	50%	7	1 (0-in / 0-out)	1 (0-in / 0-out)	50%	7	1 (0-in / 0-out)	1 (0-in / 0-out)
Recycling Center	0.6 AC	4	0 (0-in / 0-out)	0 (0-in / 0-out)	50%	2	0 (0-in / 0-out)	0 (0-in / 0-out)	50%	2	0 (0-in / 0-out)	0 (0-in / 0-out)
Total		18,334	1,316 (485-in / 831-out)	1,730 (1076-in / 655-out)	19%	3,402	215 (95-in / 120-out)	317 (176-in / 141-out)	81%	14,932	1,102 (390-in / 712-out)	1,413 (900-in / 513-out)

Source: Chen Ryan Associates; May 2014



Lilac Hills Ranch Traffic Impact Study

Figure 12-1

Intersection AM Peak Hour Traffic Volumes - Existing Plus Project Buildout w/o On-Site School Conditions

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TABLE 12.2
LILAC HILLS RANCH STUDENT TRIP GENERATION

Land Use	# of Residential Units	Student Generation Factor	# of Students	Trip Rate	Daily Trips	AM Peak Hour	
						%	Trips
Elementary School	1,278*	.5 / DU	639	1.6 / Student	1,022	32%	327 (196-in / 131-out)
High School		.2 / DU	256	1.3 / Student	332	20%	66 (46-in / 20-out)
Total			895		1,354		393 (243-in / 151-out)

Source: Valley Center-Pauma Unified School District, SANDAG Trip Generation Manual, Chen Ryan Associates; May 2014

Note:
1,278 DU = Total of 1,746 DU – 468 Senior DU.

12.3 Project Buildout (Phase E) without On-Site School Traffic Impact

Table 12.3 displays AM peak hour intersection level of service and average vehicle delay results under Existing Plus Project (Phases E) without On-Site School conditions. Level of service calculation worksheets are provided in **Appendix AY**.

TABLE 12.3
AM PEAK HOUR INTERSECTION LEVEL OF SERVICE RESULTS
EXISTING PLUS PROJECT BUILDOUT WITHOUT ON-SITE SCHOOL CONDITIONS

Intersection	Traffic Control	With Project Buildout no On-Site School		Existing		Change in Delay (sec.)	Direct Impact?
		Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS		
18. W. Lilac Road / Covey Lane	TWSC	11.8	B	8.8	B	3.0	No
20. W. Lilac Road / Circle R Drive	OWSC	25.6	D	9.3	A	16.3	No
21. Lilac Road / W. Lilac Road	OWSC	17.0	C	9.6	A	7.4	No
22. Lilac Road / Old Castle Road	OWSC	30.5	D	11.8	B	18.7	No
23. Valley Center Rd / Lilac Road	Signal	13.4	B	10.5	B	2.9	No
24. Miller Road / Valley Center Road	OWSC	23.1	C	16.9	C	6.2	No
25. Cole Grade Road / Valley Center Road	Signal	35.6	D	31.1	C	4.5	No

Source: Chen Ryan Associates; May 2014

Notes:
OWSC = One-Way Stop Controlled.
TWSC = Two-Way Stop Controlled.
For two-way stop controlled intersections, the delay shown is the worst delay experienced by any of the approaches.
Changes in this table are associated with both "Change 1" as described in the "Summary of Major Changes to the TIS" section of the "Executive Summary".

As shown in table 12.3, all intersections along the route to school (in Valley Center proper) would operate at LOS D or better during the AM peak hour under the Existing Plus Project Buildout (Phase E) without On-Site School scenario. Student traffic would not result in any significant impact to Valley Center intersections along the assumed school route if no schools are being built on-site of the Lilac Hills Ranch project.

13.0 Weekend Church Traffic

This chapter identifies and documents potential traffic impacts associated with weekend church traffic since churches generate higher traffic on weekends, particularly Sundays. During days of worship, the northern gate at the senior community entrance (Lilac Hills Ranch Road/Covey Lane) will be opened to provide internal circulation and access for residents living on the north side of Covey Lane. Mountain Ridge Road, a private road with a 2,500 ADT design capacity, provides primary and direct access for churchgoers from outside of the Lilac Hills Ranch development. Given the nature of non-peak hour services of most churches, this chapter focuses on the weekend roadway (Mountain Ridge Road) daily traffic, rather than intersection peak hour conditions.

It is very important to note that unlike churches, most other land uses generate less traffic on the weekend when compared to weekdays. For example, according to the *ITE Trip Generation Manual 9th Edition* Land Use Code 251, a senior detached unit generates approximately 63% of all trips on Sunday when compared to weekdays (2.32 vs. 3.68). The Lilac Hills Ranch gated senior community has 468 senior units and will primarily take access from Mountain Ridge Road.

Table 13.1 displays the estimated weekend daily traffic along Mountain Ridge Road when the proposed church is in service.

TABLE 13.1
MOUNTAIN RIDGE ROAD WEEKEND ADT
WITH CHURCH SERVICES

Mountain Ridge Road	Daily Traffic	Source or Calculation
Existing Weekend	130	Data collected by NDS on 9/15 and 9/16/2012, included in Appendix AZ.
Modified Weekday Project Buildout Trip Assignment	840	Figure 4-14A
Additional Weekend Church Traffic	480	• quadruple church trip generation rate on Sunday @ 120/acre (30/acre weekday -> 10.7x120=1,284 ADT • subtract church trips already included in trip assignment -> 1,284-321=963 ADT • assume 50% churchgoers live in Lilac Hills Ranch development -> 481 ADT
Lower Weekend Trip Generation by Senior Housing	-250	• senior community weekday trip generation rate -> 4/du • Sunday trip generation derived from SANDAG rate -> 4x63%=2.52/du • 187 senior detached units in SFS-5 and SFS-6 of Lilac Hills Ranch • Sunday traffic generated by senior units -> 187x2.52=471 ADT • weekday traffic generated by senior units -> 187x4=748 ADT • approximately 90% of the senior units would utilize Mountain Ridge Road
Total Weekend	1,200	Sum of above.

Source: NDS, SANDAG Trip Generation Manual, Chen Ryan Associates; May 2014

Note:
Changes in this table are associated with both "Change 1" and "Change 2" as described in the "Summary of Major Changes to the TIS" section of the "Executive Summary".

As shown, Mountain Ridge Road is estimated to carry a maximum of 1,200 ADT on the weekend, within the 2,500 ADT design capacity for this road. Therefore, the Lilac Hills Ranch church weekend trips would not have a significant impact on Mountain Ridge Road.

14.0 North County Specific Residential Trip Generation and Effects

LOS Engineering has conducted trip generation surveys (included in **Appendix AAA**) for both single family and multi-family uses in North County, specifically in the communities of Valley Center, Bonsall, and Fallbrook. Based upon our review of the *LOS Engineering*'s analysis, it appeared that the surveyed North County specific residential trip generation rates represent a more recent and relevant trip generation to the proposed project location and surrounding environments when compared to the current SANDAG trip generation rates for the following reasons:

- Outdated (residential has five data points from 1994 and one from 1998 while multifamily has four data points from 1980, two from 1981, and two from 1998);
- Single family rates based on data collected south of SR-56 with one data point from Oceanside; and
- Multi-family rates based on data collected south of SR-56 with one data point from Carlsbad (as shown in Figure 2).

14.1 Trip Generation Comparison

Table 14.1 displays both the SANDAG and the North County specific residential trip generation rates.

TABLE 14.1
RESIDENTIAL TRIP GENERATION RATE COMPARISONS

Land Use	Rate Source	Daily Rate	AM Peak Hour		PM Peak Hour	
			%	(In : Out) Ratio	%	(In : Out) Ratio
Single Family	SANDAG	10 / DU	8%	(3 : 7)	10%	(7 : 3)
	NC Specific	6.9 / DU	9.4%	(2.5 : 7.5)	8.7%	(6.3 : 3.7)
Multi-Family (> 20 DU / AC)	SANDAG	6 / DU	8%	(2 : 8)	9%	(7 : 3)
	NC Specific	4.8 / DU	7.9%	(3.4 : 6.6)	9.1%	(6.2 : 3.8)

Source: SANDAG Trip Generation Manual, LOS Engineering; May 2014

As shown, the surveyed North County specific residential trip generation rates are generally lower than the SANDAG trip generation rates by 20-30%. When these rates are applied to the proposed project land uses, a total of 12,226 external daily trips would be generated by project buildout, including 1,014 AM peak hour trips and 1,073 PM peak hour trips.

External project trip generation based on the SANDAG rates were discussed in Chapter 4 of this report and utilized as the basis for all impact analyses in order to provide the worst case scenario, as well as to be consistent with the common practice in our region. As reported in Table 4.9, the proposed project would generate 15,151 external daily trips with 1,171 in the AM peak hour and 1,433 in the PM peak hour.

14.2 Effects of the North County Specific Rates

To better understand how the surveyed North County specific residential trip generation rates would affect the study area traffic operations, analyses were conducted for the various facility types (roadway, intersection, two-lane highway, and freeway) using identical methodology as described in Chapter 2.

Table 14.2 summarizes and compares the potential project direct and cumulative impacts, as well as General Plan inconsistencies (Horizon Year) for project traffic generated based on both the North County specific residential trip generation rates and the SANDAG rates.

As shown in the table, project traffic generated with the North County specific residential rates would not result in project impacts at the following locations when compared to project traffic generated with the SANDAG rates:

Existing Plus Project (Phase C)

- E. Vista Way, between Gopher Canyon Road and Osborne Street

Existing Plus Project (Phase E, Buildout)

- E. Vista Way, between SR-76 and Gopher Canyon Road

Horizon Year Base Plus Project with Road 3

- I-15, between Centre City Parkway and El Norte Parkway
- I-15, between El Norte Parkway and SR-78

Horizon Year Base Plus Project without Road 3

- Valley Center Road, between Miller Rd and Indian Creek Rd
- I-15, between Centre City Parkway and El Norte Parkway
- I-15, between El Norte Parkway and SR-78

TABLE 14.2
SIGNIFICANT IMPACT COMPARISONS
NORTH COUNTY SPECIFIC RATES VS. SANDAG RATES

Impacted Facility	E+P (Ph A)		E+P (Ph B)		E+P (Ph C)		E+P (Ph D)		E+P (Ph E, Buildout)		E+C+P		H+P (w/ Rd 3)		H+P (w/o Rd 3)	
	NC	SAN	NC	SAN	NC	SAN	NC	SAN	NC	SAN	NC	SAN	NC	SAN	NC	SAN
Roadway																
Camino Del Rey, Old River Rd to W. Lilac Rd											●	●				
W. Lilac Rd, Old Highway 395 to Main St					●	●					●	●	●	●		
W. Lilac Rd, Main St to St "F"													●	●		
W. Lilac Rd, St "F" to Covey Ln													●	●		
Old Highway 395, E. Dulin Rd to W. Lilac Rd													●	●	●	●
Old Highway 395, W. Lilac Rd to I-15 SB Ramps													●	●		
Gopher Canyon Rd, E. Vista Wy to I-15 SB Ramps					●	●	●	●	●	●	●	●				
E. Vista Wy, SR-76 to Gopher Canyon Rd										●	●	●				
E. Vista Wy, Gopher Canyon Rd to Osborne St						●	●	●	●	●	●	●				
Pankey Rd, Pala Mesa Dr to SR-76											●	●				
Lilac Rd, Old Castle Rd to Anthony Rd											●	●				
Lilac Rd, New Road 19 (east of Betsworth Rd) to Valley Center Rd															●	●
Intersection																
E. Vista Way / Gopher Canyon Road	●	●									●	●	N/A	N/A	N/A	N/A
SR-76 / Old River Road/E. Vista Way													N/A	N/A	N/A	N/A

TABLE 14.2
SIGNIFICANT IMPACT COMPARISONS
NORTH COUNTY SPECIFIC RATES VS. SANDAG RATES

Impacted Facility	E+P (Ph A)		E+P (Ph B)		E+P (Ph C)		E+P (Ph D)		E+P (Ph E, Buildout)		E+C+P		H+P (w/ Rd 3)		H+P (w/o Rd 3)	
	NC	SAN	NC	SAN	NC	SAN	NC	SAN	NC	SAN	NC	SAN	NC	SAN	NC	SAN
SR-76 / Olive Hill Road/Camino Del Rey													N/A	N/A	N/A	N/A
Old Highway 395 / SR-76											●	●	N/A	N/A	N/A	N/A
Pankey Road / SR-76											●	●	N/A	N/A	N/A	N/A
Old Highway 395 / E. Dulin Road											●	●	N/A	N/A	N/A	N/A
Old Highway 395 / W. Lilac Road					●	●					●	●	N/A	N/A	N/A	N/A
I-15 SB Ramps / Old Highway 395											●	●	N/A	N/A	N/A	N/A
I-15 NB Ramps / Old Highway 395											●	●	N/A	N/A	N/A	N/A
Old Highway 395 / Circle R Drive							●	●			●	●	N/A	N/A	N/A	N/A
I-15 SB Ramps / Gopher Canyon Road			●	●							●	●	N/A	N/A	N/A	N/A
I-15 NB Ramps / Gopher Canyon Road			●	●							●	●	N/A	N/A	N/A	N/A
Miller Road / Valley Center Road											●	●	N/A	N/A	N/A	N/A
Freeway																
I-15, Riverside Co. Boundary to Old Highway 395											●	●	●	●	●	●
I-15, Old Highway 395 to SR-76											●	●	●	●	●	●
I-15, SR-76 to Old Highway 395											●	●	●	●	●	●
I-15, Old Highway 395 to Gopher Canyon Rd											●	●	●	●	●	●
I-15, Gopher Canyon Rd to Deer Springs Rd											●	●	●	●	●	●

TABLE 14.2
SIGNIFICANT IMPACT COMPARISONS
NORTH COUNTY SPECIFIC RATES VS. SANDAG RATES

Impacted Facility	E+P (Ph A)		E+P (Ph B)		E+P (Ph C)		E+P (Ph D)		E+P (Ph E, Buildout)		E+C+P		H+P (w/ Rd 3)		H+P (w/o Rd 3)	
	NC	SAN	NC	SAN	NC	SAN	NC	SAN	NC	SAN	NC	SAN	NC	SAN	NC	SAN
I-15, Deer Springs Rd to Centre City Pkwy											●	●	●	●	●	●
I-15, Centre City Pkwy to El Norte Pkwy											●	●		●		●
I-15, El Norte Pkwy to SR-78											●	●		●		●

Source: Chen Ryan Associates; May 2014

Notes:
E = Existing
P = Project
Ph = Phase
C = Cumulative Projects
H = Horizon Year
NC = North County Specific
SAN = SANDAG
N/A = Not Analyzed
Changes in this table are associated with both "Change 1" and "Change 2" as described in the "Summary of Major Changes to the TIS" section of the "Executive Summary".

- ● Impacted under North County Specific Rates.
- ● Impacted under SANDAG Rates.

15.0 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.

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.