

**TABLE 9.1
ROADWAY SEGMENT LEVEL OF SERVICE RESULTS
HORIZON YEAR BASE CONDITIONS
(with Road 3)**

Roadway	From	To	Classification	LOS Threshold (LOS D)	Average Daily Traffic (ADT)	Level of Service (LOS)
E. Dulin Road	Old Highway 395	SR-76	2.1E	10,900	6,600	C
W. Lilac Road	Camino Del Rey	Camino Del Cielo	2.2E	10,900	5,200	C
W. Lilac Road	Camino Del Cielo	Old Highway 395	2.2E	10,900	6,600	C
W. Lilac Road	Old Highway 395	Main Street	2.2C	13,500	11,400	D
W. Lilac Road	Main Street	Street "F"	2.2C	13,500	11,000	D
W. Lilac Road	Street "F"	Road 3	2.2C	13,500	8,200	C
W. Lilac Road	Road 3	Covey Lane	2.2F	8,700	1,200	A
W. Lilac Road	Covey Lane	Circle R Drive	2.2F	8,700	1,200	A
W. Lilac Road	Circle R Drive	Lilac Road	2.2F	8,700	1,800	A
Camino Del Cielo	Camino Del Rey	W. Lilac Road	2.2E	10,900	4,900	C
Olive Hill Road	Shamrock Road	SR-76	2.2E	10,900	9,200	D
Camino Del Rey	SR-76	Old River Road	4.2B	25,000	18,900	B
Camino Del Rey	Old River Road	W. Lilac Road	4.2B	25,000	13,500	A
Camino Del Rey	W. Lilac Road	Camino Del Cielo	4.2B	25,000	8,100	A
Camino Del Rey	Camino Del Cielo	Old Highway 395	2.2C	13,500	8,100	C
Gopher Canyon Road	E. Vista Way	I-15 SB Ramps	4.1B	30,800	20,000	B
Gopher Canyon Road	I-15 SB Ramps	I-15 NB Ramps	4.1B	30,800	19,500	B
Gopher Canyon Road	I-15 NB Ramps	Old Highway 395	4.1B	30,800	19,600	B
Circle R Drive	Old Highway 395	Mountain Ridge Road	2.2E	10,900	7,100	D
Circle R Drive	Mountain Ridge Road	W. Lilac Road	2.2E	10,900	2,700	B
Old Castle Road	Old Highway 395	Lilac Road	2.2D	13,500	7,800	C
E. Vista Way	SR-76	Gopher Canyon Road	4.1A	33,400	20,800	B
E. Vista Way	Gopher Canyon Road	Osborne Street	4.1A	33,400	27,600	C
Old River Road	SR-76	Camino Del Rey	2.2C	13,500	8,500	C
Old Highway 395	Pala Mesa Drive	SR-76	4.2B	25,000	15,900	A

**TABLE 9.1
ROADWAY SEGMENT LEVEL OF SERVICE RESULTS
HORIZON YEAR BASE CONDITIONS
(with Road 3)**

Roadway	From	To	Classification	LOS Threshold (LOS D)	Average Daily Traffic (ADT)	Level of Service (LOS)
Old Highway 395	SR-76	E. Dulin Road	2.1D	13,500	14,900	E accepted at LOS E/F
Old Highway 395	E. Dulin Road	W. Lilac Road	2.1D	13,500	16,100	E
Old Highway 395	W. Lilac Road	I-15 SB Ramps	4.2B	25,000	20,900	C
Old Highway 395	I-15 SB Ramps	I-15 NB Ramps	4.2B	25,000	17,100	B
Old Highway 395	I-15 NB Ramps	Camino Del Rey	4.1B	30,800	14,300	B
Old Highway 395	Camino Del Rey	Circle R Drive	4.1B	30,800	20,900	B
Old Highway 395	Circle R Drive	Gopher Canyon Road	4.1B	30,800	27,800	D
Old Highway 395	Gopher Canyon Road	Old Castle Road	4.1B	30,800	25,000	C
Champagne Boulevard	Old Castle Road	Lawrence Welk Drive	4.1B	30,800	19,600	B
Pankey Road	Pala Mesa Drive	SR-76	2.1A	15,000	9,600	A
Lilac Road	Couser Canyon Road	W. Lilac Road	2.2E	10,900	7,900	D
Lilac Road	W. Lilac Road	Old Castle Road	2.2E	10,900	8,300	D
Lilac Road	Old Castle Road	Anthony Road	2.1C	13,500	11,300	D
Lilac Road	Anthony Road	New Road 19 (east of Betsworth Road)	4.2B	25,000	19,200	B
Lilac Road	New Road 19 (east of Betsworth Road)	Valley Center Road	4.2B	25,000	33,900	F accepted at LOS E/F
Valley Center Road	Woods Valley Road	Lilac Road	4.2A	27,000	23,200	C
Valley Center Road	Lilac Road	Miller Road	4.1A	33,400	32,100	D
Valley Center Road	Miller Road	Indian Creek Road	4.2A	27,000	33,000	F accepted at LOS E/F
Valley Center Road	Indian Creek Road	Cole Grade Road	4.2A	27,000	23,790	C

**TABLE 9.1
ROADWAY SEGMENT LEVEL OF SERVICE RESULTS
HORIZON YEAR BASE CONDITIONS
(with Road 3)**

Roadway	From	To	Classification	LOS Threshold (LOS D)	Average Daily Traffic (ADT)	Level of Service (LOS)
Valley Center Road	Cole Grade Road	Vesper Road	4.2A	27,000	16,900	A
Miller Road	Misty Oak Road	Valley Center Road	2.3B	8,000	2,400	A
Cole Grade Road	Fruitvale Road	Valley Center Road	4.2A	27,000	18,000	B

Source: Chen Ryan Associates; May 2014

Note:

Bold letter indicates unacceptable LOS E or F.

Freeway Segment Analysis

The freeway segment level of service analysis was performed utilizing the methodology presented in Chapter 2.0. **Table 9.2** displays the resulting level of service for I-15 under Horizon Year Base conditions with 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 are projected to operate at substandard LOS E or F under Horizon Year Base conditions with 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.

9.2.2 Horizon Year Base Plus Project with Road 3

Average daily traffic volumes on study area roadway segments are displayed in **Figure 9-3**.

**TABLE 9.2
 FREEWAY SEGMENT LEVEL OF SERVICE RESULTS
 HORIZON YEAR BASE CONDITIONS
 (with 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	267,800	8.4%	22,624	0.64	4	0.95	6.75%	3,911	1.664	F
I-15	Old Highway 395 to SR-76	230,700	7.4%	17,162	0.73	4	0.95	6.75%	3,415	1.453	F
I-15	SR-76 to Old Highway 395	198,600	7.8%	15,534	0.69	4	0.95	8.40%	2,920	1.243	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	183,900	8.1%	14,852	0.67	4	0.95	13.20%	2,782	1.184	F
I-15	Deer Springs Road to Centre City Parkway	178,700	8.0%	14,357	0.66	4	0.95	13.20%	2,676	1.139	F
I-15	Centre City Parkway to El Norte Parkway	169,200	8.0%	13,594	0.66	4	0.95	13.20%	2,534	1.078	F
I-15	El Norte Parkway to SR-78	193,600	7.9%	15,238	0.66	4	0.95	10.00%	2,799	1.191	F
I-15	SR-78 to W Valley Parkway	288,800	8.1%	23,504	0.60	5+2ML	0.95	10.00%	2,226	0.947	E
I-15	W Valley Parkway to Auto Parkway	281,300	8.1%	22,893	0.60	5+2ML	0.95	10.00%	2,168	0.923	D
I-15	Auto Parkway to W Citracado Parkway	276,100	7.8%	21,413	0.60	5+2ML	0.95	10.00%	2,016	0.858	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	392,100	7.4%	28,857	0.58	5+2ML	0.95	7.00%	2,598	1.105	F

TABLE 9.2
FREEWAY SEGMENT LEVEL OF SERVICE RESULTS
HORIZON YEAR BASE CONDITIONS
(with Road 3)

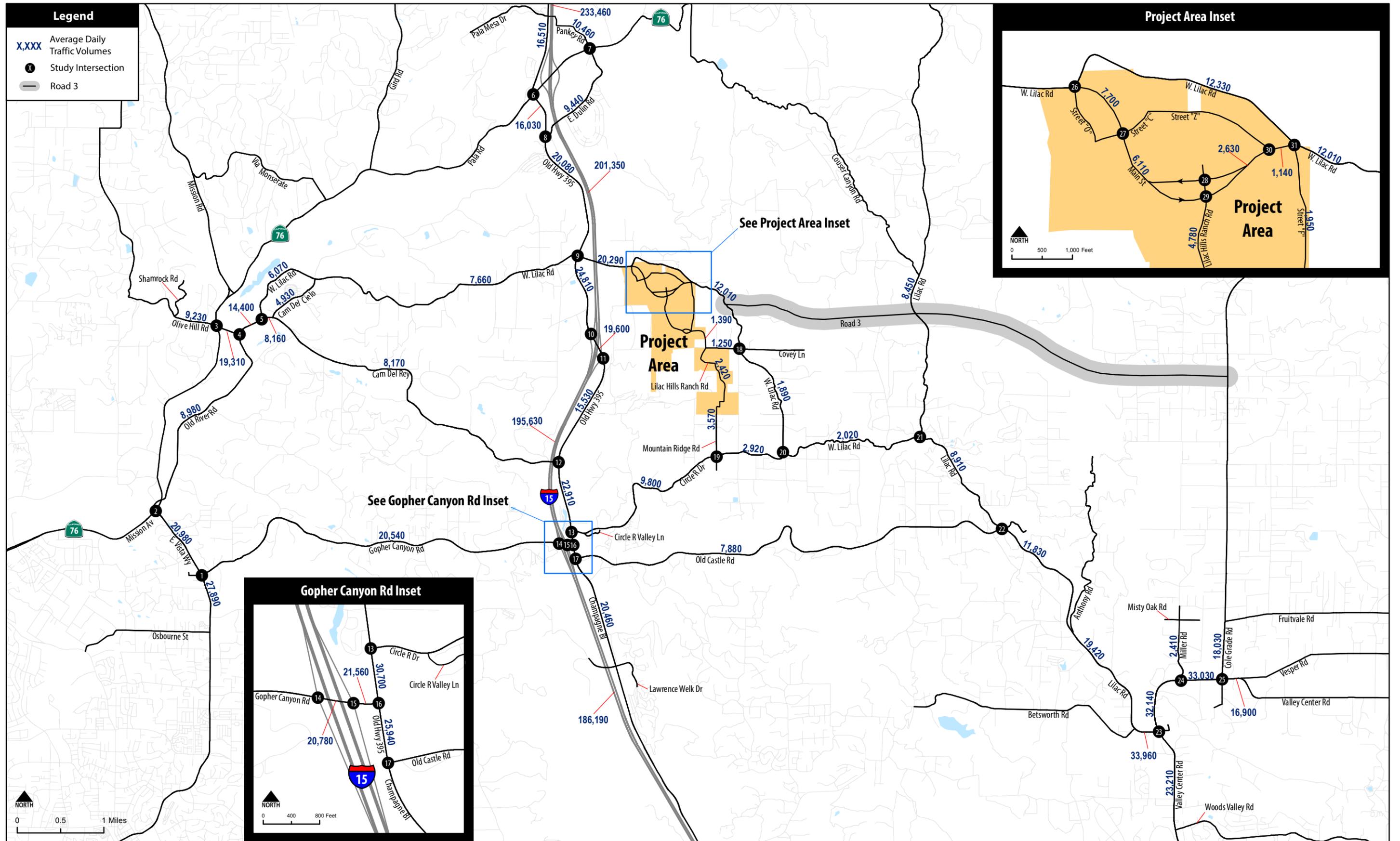
Freeway	Segment	ADT	Peak Hour %	Peak Hour Volume	Directional Split	# of Lanes Per Direction	Peak Hour Factor (PHF)	% of Heavy Vehicle	Volume (pc/h/ln)	V/C	LOS
I-15	Bernardo Drive to Rancho Bernardo Road	261,100	7.4%	19,216	0.58	5+2ML	0.95	7.00%	1,730	0.736	C
I-15	Rancho Bernardo Road to Bernardo Center Drive	300,500	7.3%	22,063	0.54	5+2ML	0.95	7.00%	1,840	0.783	C
I-15	Bernardo Center Drive to Camino Del Norte	269,300	7.3%	19,772	0.54	5+2ML	0.95	7.00%	1,649	0.702	C

Source: Chen Ryan Associates; May 2014

Notes:

Bold letter indicates unacceptable LOS E or F.

ML = Managed Lane.



Lilac Hills Ranch - Mountain Ridge Road Fire Station Alternative

Figure 9-3

Roadway Average Daily Traffic Volumes - Horizon Year Base Plus Project Conditions with Road 3

Roadway Segment Analysis

Table 9.3 displays the level of service analysis results for key roadway segments under Horizon Year Base Plus Project conditions with Road 3. Note that the Lilac Hills Ranch project proposes downgrading W. Lilac Road, between Main Street and the planned Road 3 from 2.2C to 2.2F.

As shown in the table, the following eight (8) roadway segments are projected to operate at substandard LOS E or F:

- W. Lilac Road, between Old Highway 395 and Main Street – LOS F, and the project would add more than 100 daily trips.
- W. Lilac Road, between Main Street and Street “F” – LOS F, and the project would add more than 100 daily trips.
- W. Lilac Road, between Street “F” and Road 3 – LOS F, and the project would add more than 100 daily trips.
- 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.
- Old Highway 395, between E. Dulin Road and W. Lilac Road – LOS F, and the project would add more than 100 daily trips.
- Old Highway 395, between W. Lilac Road I-15 SB Ramps – LOS E, and the project would add more than 400 daily trips.
- Lilac Road, between New Road 19 (east of Betsworth Road) and Valley Center Road – LOS F, and the project would add less than 200 daily trips. In addition, the County General Plan Update has accepted LOS E/F operations 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. In addition, 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 GP inconsistencies to 6 out of 8 of the roadway segments identified above and there include:

- W. Lilac Road, between Old Highway 395 and Main Street;
- W. Lilac Road, between Main Street and Street “F”;
- W. Lilac Road, between Street “F” and Road 3;
- Old Highway 395, between SR-76 and E. Dulin Road;
- Old Highway 395, between E. Dulin Road and W. Lilac Road; and
- Old Highway 395, between W. Lilac Road and I-15 SB Ramps.

**TABLE 9.3
ROADWAY SEGMENT LEVEL OF SERVICE RESULTS
HORIZON YEAR BASE PLUS PROJECT CONDITIONS
(with 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	9,440	D	6,600	C	2,840	No
W. Lilac Road	Camino Del Rey	Camino Del Cielo	2.2E	10,900	6,070	C	5,200	C	870	No
W. Lilac Road	Camino Del Cielo	Old Highway 395	2.2E	10,900	7,660	D	6,600	C	1,060	No
W. Lilac Road	Old Highway 395	Main Street	2.2C	13,500	20,290	F	11,400	D	8,890	Yes > 100ADT
W. Lilac Road	Main Street	Street "F"	2.2F*	8,700	12,330	F	11,000	D	1,330	Yes > 100ADT
W. Lilac Road	Street "F"	Road 3	2.2F*	8,700	12,230	F	11,000	D	1,230	Yes > 100ADT
W. Lilac Road	Road 3	Covey Lane	2.2F	8,700	9,430	A	1,200	A	1,230	No
W. Lilac Road	Covey Lane	Circle R Drive	2.2F	8,700	1,890	A	1,200	A	690	No
W. Lilac Road	Circle R Drive	Lilac Road	2.2F	8,700	2,020	A	1,800	A	220	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	9,230	D	9,200	D	30	No
Camino Del Rey	SR-76	Old River Road	4.2B	25,000	19,310	B	18,900	B	410	No
Camino Del Rey	Old River Road	W. Lilac Road	4.2B	25,000	14,400	A	13,500	A	900	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	8,170	C	8,100	C	70	No

**TABLE 9.3
ROADWAY SEGMENT LEVEL OF SERVICE RESULTS
HORIZON YEAR BASE PLUS PROJECT CONDITIONS
(with 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	E. Vista Way	I-15 SB Ramps	4.1B	30,800	20,540	B	20,000	B	540	No
Gopher Canyon Road	I-15 SB Ramps	I-15 NB Ramps	4.1B	30,800	20,780	B	19,500	B	1,280	No
Gopher Canyon Road	I-15 NB Ramps	Old Highway 395	4.1B	30,800	21,560	B	19,600	B	1,960	No
Circle R Drive	Old Highway 395	Mountain Ridge Road	2.2E	10,900	9,800	D	7,100	D	2,700	No
Circle R Drive	Mountain Ridge Road	W. Lilac Road	2.2E	10,900	3,350	B	2,700	B	650	No
Old Castle Road	Old Highway 395	Lilac Road	2.2D	13,500	7,880	C	7,800	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	27,890	C	27,600	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	16,510	A	15,900	A	610	No
Old Highway 395	SR-76	E. Dulin Road	2.1D	13,500	16,030	E accepted at LOS E/F	14,900	E accepted at LOS E/F	1,130	Yes > 200ADT
Old Highway 395	E. Dulin Road	W. Lilac Road	2.1D	13,500	20,080	F	16,100	E	3,980	Yes > 100ADT
Old Highway 395	W. Lilac Road	I-15 SB Ramps	4.2B	25,000	24,810	D	20,900	C	3,910	No

**TABLE 9.3
ROADWAY SEGMENT LEVEL OF SERVICE RESULTS
HORIZON YEAR BASE PLUS PROJECT CONDITIONS
(with 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		
Old Highway 395	I-15 SB Ramps	I-15 NB Ramps	4.2B	25,000	19,600	C	17,100	B	2,500	No
Old Highway 395	I-15 NB Ramps	Camino Del Rey	4.1B	30,800	15,950	B	14,300	B	1,650	No
Old Highway 395	Camino Del Rey	Circle R Drive	4.1B	30,800	22,600	B	20,900	B	1,700	No
Old Highway 395	Circle R Drive	Gopher Canyon Road	4.1B	30,800	30,700	D	27,800	D	2,900	No
Old Highway 395	Gopher Canyon Road	Old Castle Road	4.1B	30,800	25,940	C	25,000	C	940	No
Champagne Boulevard	Old Castle Road	Lawrence Welk Drive	4.1B	30,800	20,460	B	19,600	B	860	No
Pankey Road	Pala Mesa Drive	SR-76	2.1A	15,000	10,460	B	9,600	A	860	No
Lilac Road	Couser Canyon Road	W. Lilac Road	2.2E	10,900	8,450	D	7,900	D	550	No
Lilac Road	W. Lilac Road	Old Castle Road	2.2E	10,900	8,910	D	8,300	D	610	No
Lilac Road	Old Castle Road	Anthony Road	2.1C	13,500	11,830	D	11,300	D	530	No
Lilac Road	Anthony Road	New Road 19 (east of Betsworth Road)	4.2B	25,000	19,420	B	19,200	B	220	No
Lilac Road	New Road 19 (east of Betsworth Road)	Valley Center Road	4.2B	25,000	33,960	F accepted at LOS E/F	33,900	F accepted at LOS E/F	60	No < 200ADT
Valley Center Road	Woods Valley Road	Lilac Road	4.2A	27,000	23,210	C	23,200	C	10	No
Valley Center Road	Lilac Road	Miller Road	4.1A	33,400	32,140	D	32,100	D	40	No

**TABLE 9.3
ROADWAY SEGMENT LEVEL OF SERVICE RESULTS
HORIZON YEAR BASE PLUS PROJECT CONDITIONS
(with 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	Miller Road	Indian Creek Road	4.2A	27,000	33,030	F accepted at LOS E/F	33,000	F accepted at LOS E/F	30	No < 200ADT
Valley Center Road	Indian Creek Road	Cole Grade Road	4.2A	27,000	23,820	C	23,790	C	30	No
Valley Center Road	Cole Grade Road	Vesper Road	4.2A	27,000	16,900	A	16,900	A	0	No
Miller Road	Misty Oak Road	Valley Center Road	2.3B	8,000	2,410	A	2,400	A	10	No
Cole Grade Road	Fruitvale Road	Valley Center Road	4.2A	27,000	18,030	B	18,000	B	30	No
Mountain Ridge Road	LHR Project Boundary	Circle R Drive	Rural Residential Collector (LPR)	4,500	3,570	acceptab le	350	acceptab le	3,220	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 9.4** displays the resulting level of service for I-15 under Horizon Year Base Plus Project conditions with 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 base (no-project) conditions, 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 with 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 9.4
 FREEWAY SEGMENT LEVEL OF SERVICE RESULTS
 HORIZON YEAR BASE PLUS PROJECT CONDITIONS
 (with 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	270,510	8.4%	22,853	0.64	4	0.95	6.75%	3,950	1.681	F	0.017	Yes > 0.01
I-15	Old Highway 395 to SR-76	233,460	7.4%	17,368	0.73	4	0.95	6.75%	3,456	1.471	F	0.017	Yes > 0.01
I-15	SR-76 to Old Highway 395	201,350	7.8%	15,750	0.69	4	0.95	8.40%	2,960	1.260	F	0.017	Yes > 0.01
I-15	Old Highway 395 to Gopher Canyon Road	195,630	8.1%	15,799	0.67	4	0.95	8.40%	2,893	1.237	F	0.011	Yes > 0.01
I-15	Gopher Canyon Road to Deer Springs Road	186,170	8.1%	15,035	0.67	4	0.95	13.20%	2,817	1.199	F	0.015	Yes > 0.01
I-15	Deer Springs Road to Centre City Parkway	181,090	8.0%	14,549	0.66	4	0.95	13.20%	2,712	1.154	F	0.015	Yes > 0.01
I-15	Centre City Parkway to El Norte Parkway	171,300	8.0%	13,762	0.66	4	0.95	13.20%	2,565	1.091	F	0.013	Yes > 0.01
I-15	El Norte Parkway to SR-78	195,580	7.9%	15,394	0.66	4	0.95	10.00%	2,828	1.203	F	0.012	Yes > 0.01
I-15	SR-78 to W Valley Parkway	290,040	8.1%	23,605	0.60	5+2ML	0.95	10.00%	2,236	0.951	E	0.004	No < 0.01
I-15	W Valley Parkway to Auto Parkway	282,360	8.1%	22,980	0.60	5+2ML	0.95	10.00%	2,177	0.926	D	0.003	No

**TABLE 9.4
 FREEWAY SEGMENT LEVEL OF SERVICE RESULTS
 HORIZON YEAR BASE PLUS PROJECT CONDITIONS
 (with 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	277,100	7.8%	21,491	0.60	5+2ML	0.95	10.00%	2,023	0.861	D	0.003	No
I-15	W Citracado Parkway to Via Rancho Parkway	280,020	7.8%	21,717	0.60	5+2ML	0.95	7.00%	2,016	0.858	D	0.003	No
I-15	Via Rancho Parkway to Bernardo Drive	392,960	7.4%	28,921	0.58	5+2ML	0.95	7.00%	2,604	1.108	F	0.002	No < 0.01
I-15	Bernardo Drive to Rancho Bernardo Road	261,900	7.4%	19,275	0.58	5+2ML	0.95	7.00%	1,735	0.738	C	0.002	No
I-15	Rancho Bernardo Road to Bernardo Center Drive	301,230	7.3%	22,116	0.54	5+2ML	0.95	7.00%	1,845	0.785	C	0.002	No
I-15	Bernardo Center Drive to Camino Del Norte	269,980	7.3%	19,822	0.54	5+2ML	0.95	7.00%	1,653	0.704	C	0.002	No

Source: Chen Ryan Associates; November 2014

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.

9.2.3 Horizon Year with Road 3 GP Inconsistencies

This section identifies recommended improvement measures for roadway and freeway facilities that would be considered inconsistent with the currently adopted GP.

Roadway Segments

Based on the currently adopted County General Plan, the project traffic would result in GP inconsistencies at five (5) of the study area roadway segments:

- W. Lilac Road, between Old Highway 395 and Main Street;
- W. Lilac Road, between Main Street and Street “F”;
- W. Lilac Road, between Street “F” and Road 3;
- Old Highway 395, between SR-76 and E. Dulin Road; and
- Old Highway 395, between E. Dulin Road and W. Lilac Road.

W. Lilac Road, between Main Street and Street “F” and between Street “F” and Road 3, are projected to operate at LOS F mainly due to the classification downgrade (from 2.2C to 2.2F) proposal while Road 3 is still assumed as a part of the Mobility Element. However, after adoption of the County General Plan Update, SANDAG acquired the 902-acre Rancho Lilac property through its EMP in October 2011. SANDAG recorded a conservation easement over the entire 902 acres and designated this land as part of a 1,600 acre open space preserve in the State Route 76 corridor in North San Diego County. This acquisition may prevent implementation of the County’s planned Road 3, and make the deletion or substantial realignment of Road 3 from the currently adopted Mobility Element network a reasonable assumption for purposes of this scenario. In addition, traffic control along W. Lilac Road includes a number of roundabouts, with implementation of the project. It has been well documented by the La Jolla Bird Rock roundabouts and other national-level research that 2 lanes of travel with roundabouts can carry up to 25,000 cars per day, which exceeds the projected 12,330 ADT (maximum) for W. Lilac Road.

A more detailed arterial analysis was conducted for the other 3 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 9.5** displays the arterial travel speed and level of service for W. Lilac Road and Old Highway 395, and the respective analysis worksheets are included in **Appendix AW**.

TABLE 9.5
ARTERIAL LEVEL OF SERVICE RESULTS
HORIZON YEAR BASE PLUS PROJECT CONDITIONS
(with 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	16.5	C	16.1	C
Old Highway 395, between SR-76 and E. Dulin Road	40	20.9	D	17.7	D
Old Highway 395, between E. Dulin Road and W. Lilac Road	40	24.2	C	22.4	C

Source: Chen Ryan Associates; April 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 (with Road 3) conditions based on the arterial analysis.

In addition, traffic control along W. Lilac Road includes a number of roundabouts, with implementation of the project. It has been well documented by the La Jolla Bird Rock roundabouts and other national-level research that 2 lanes of travel with roundabouts can carry up to 25,000 cars per day, which exceeds the projected 20,290 ADT (maximum) for W. Lilac Road. A multi-purpose trail is also provided along the south side of W. Lilac Road and this will greatly improve safety and comfort for pedestrians and bicyclists.

Freeways

The additional traffic generated by the project would result in GP inconsistencies at eight (8) of the following 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 GP inconsistencies would remain significant and unmitigable.

Table 9.6 summarizes GP inconsistencies and recommended mitigation measures associated with the Lilac Hills Ranch project under Horizon Year with Road 3 conditions.

TABLE 9.6
GP CONSISTENCIES SUMMARY
HORIZON YEAR BASE PLUS PROJECT CONDITIONS
(with Road 3)

GP Inconsistency Facility	Recommendation	Rationale
<i>Roadway Segment</i>		
W. Lilac Road, between Old Highway 395 and Main Street	None	<ul style="list-style-type: 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
W. Lilac Road, between Main Street and Street "F"	None	<ul style="list-style-type: none"> • Roundabouts increase operational capacity • Road 3 could be eliminated from the Mobility Element network – this road would operate at acceptable LOS as a 2.2F without Road 3.
W. Lilac Road, between Street "F" and Road 3	None	<ul style="list-style-type: none"> • Roundabouts increase operational capacity • Road 3 could be eliminated from the Mobility Element network – this road would operate at acceptable LOS as a 2.2F without Road 3.
Old Highway 395, between SR-76 and E. Dulin Road	Option 1 - None	<ul style="list-style-type: 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

**TABLE 9.6
GP CONSISTENCIES SUMMARY
HORIZON YEAR BASE PLUS PROJECT CONDITIONS
(with Road 3)**

GP Inconsistency Facility	Recommendation	Rationale
	Option 2 – Improve to 4.2B	Improve to acceptable LOS based on County's planning-level analysis.
<i>Freeway</i>		
I-15, between Riverside County Boundary and Old Highway 395	No feasible mitigation	No planned improvement - Significant and Unavoidable Impact
I-15, between Old Highway 395 and SR-76	No feasible mitigation	No planned improvement - Significant and Unavoidable Impact
I-15, between SR-76 and Old Highway 395	No feasible mitigation	No planned improvement - Significant and Unavoidable Impact
I-15, between Old Highway 395 and Gopher Canyon Road	No feasible mitigation	No planned improvement - Significant and Unavoidable Impact
I-15, between Gopher Canyon Road and Deer Springs Road	No feasible mitigation	No planned improvement - Significant and Unavoidable Impact
I-15, between Deer Springs Road and Centre City Parkway	No feasible mitigation	No planned improvement - Significant and Unavoidable Impact
I-15, between Centre City Parkway and El Norte Parkway	No feasible mitigation	No planned improvement - Significant and Unavoidable Impact
I-15, between El Norte Parkway and SR-78	No feasible mitigation	No planned improvement - Significant and Unavoidable Impact

Source: Chen Ryan Associates; May 2014

9.3 Horizon Year without Road 3 Traffic Conditions

The following two (2) scenarios are discussed in this section:

- Horizon Year Base Conditions without Road 3
- Horizon Year Base Plus Project Conditions without Road 3

Level of service analyses under the Horizon Year conditions without Road 3 were conducted using the methodologies described in Chapter 2.0. At the County's request, intersection analysis was not conducted under the Horizon Year scenarios. Roadway and freeway segment level of service results are discussed separately below.

9.3.1 Horizon Year Base without Road 3

Average daily traffic volumes on study area roadway segments are displayed in **Figure 9-4**.

Roadway Segment Analysis

Table 9.7 displays the level of service analysis results for key roadway segments under Horizon Year Base Conditions without Road 3.

TABLE 9.7
ROADWAY SEGMENT LEVEL OF SERVICE RESULTS
HORIZON YEAR BASE CONDITIONS
(without Road 3)

Roadway	From	To	Classification	LOS Threshold (LOS D)	Average Daily Traffic (ADT)	Level of Service (LOS)
E. Dulin Road	Old Highway 395	SR-76	2.1E	10,900	6,700	C
W. Lilac Road	Camino Del Rey	Camino Del Cielo	2.2E	10,900	4,700	C
W. Lilac Road	Camino Del Cielo	Old Highway 395	2.2E	10,900	6,200	C
W. Lilac Road	Old Highway 395	Main Street	2.2C	13,500	3,600	B
W. Lilac Road	Main Street	Street "F"	2.2C	13,500	4,400	B
W. Lilac Road	Street "F"	Running Creek Road	2.2C	13,500	5,300	B
W. Lilac Road	Running Creek Road	Covey Lane	2.2F	8,700	3,000	A
W. Lilac Road	Covey Lane	Circle R Drive	2.2F	8,700	1,300	A
W. Lilac Road	Circle R Drive	Lilac Road	2.2F	8,700	1,900	A
Camino Del Cielo	Camino Del Rey	W. Lilac Road	2.2E	10,900	4,900	C
Olive Hill Road	Shamrock Road	SR-76	2.2E	10,900	8,400	D
Camino Del Rey	SR-76	Old River Road	4.2B	25,000	18,400	B
Camino Del Rey	Old River Road	W. Lilac Road	4.2B	25,000	13,100	A
Camino Del Rey	W. Lilac Road	Camino Del Cielo	4.2B	25,000	8,100	A
Camino Del Rey	Camino Del Cielo	Old Highway 395	2.2C	13,500	8,200	C
Gopher Canyon Road	E. Vista Way	I-15 SB Ramps	4.1B	30,800	19,600	B
Gopher Canyon Road	I-15 SB Ramps	I-15 NB Ramps	4.1B	30,800	19,100	B
Gopher Canyon Road	I-15 NB Ramps	Old Highway 395	4.1B	30,800	19,100	B
Circle R Drive	Old Highway 395	Mountain Ridge Road	2.2E	10,900	6,500	C
Circle R Drive	Mountain Ridge Road	W. Lilac Road	2.2E	10,900	2,000	B
Old Castle Road	Old Highway 395	Lilac Road	2.2D	13,500	9,100	C
E. Vista Way	SR-76	Gopher Canyon Road	4.1A	33,400	20,800	B
E. Vista Way	Gopher Canyon Road	Osborne Street	4.1A	33,400	27,400	C
Old River Road	SR-76	Camino Del Rey	2.2C	13,500	8,500	C

TABLE 9.7
ROADWAY SEGMENT LEVEL OF SERVICE RESULTS
HORIZON YEAR BASE CONDITIONS
(without Road 3)

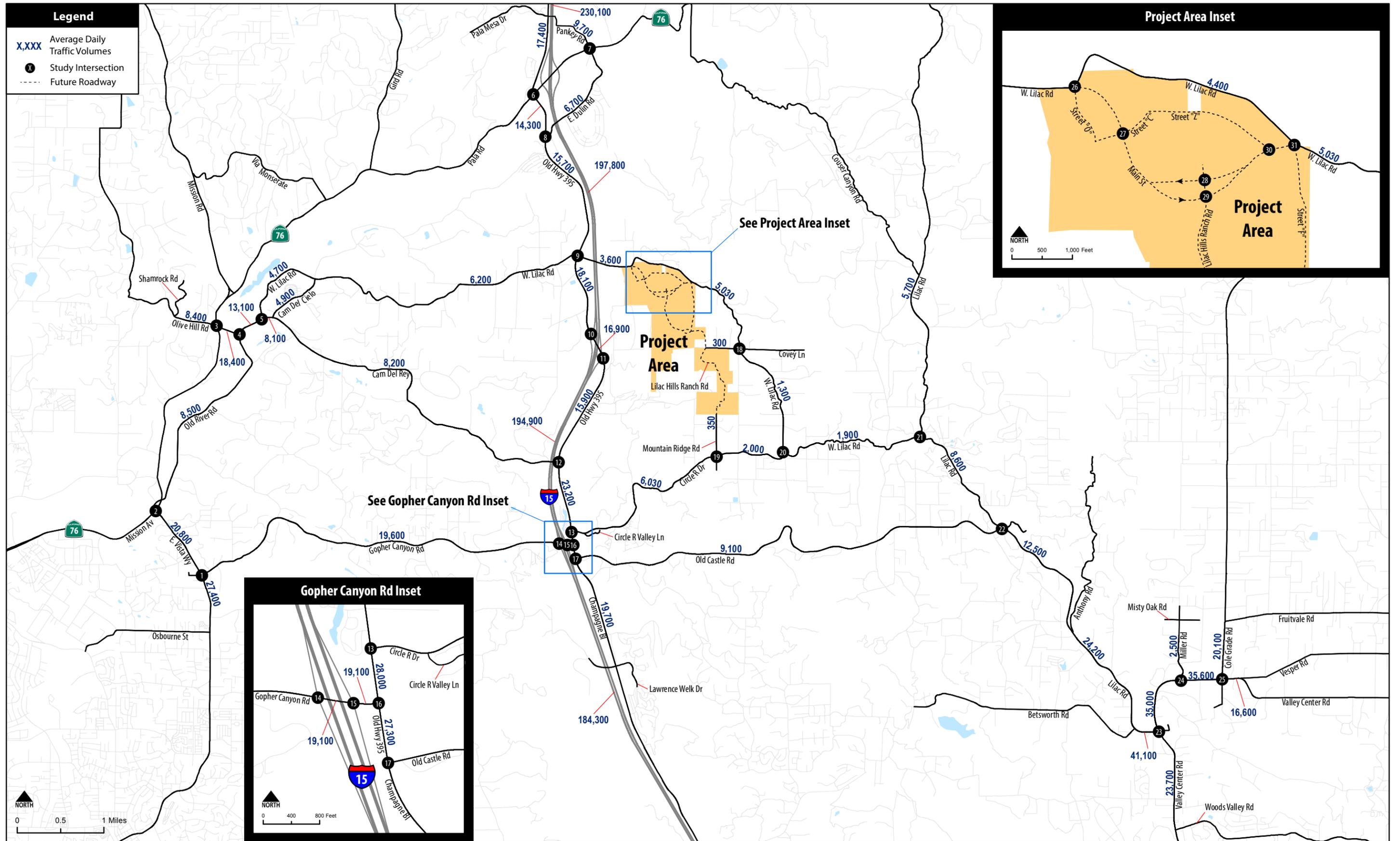
Roadway	From	To	Classification	LOS Threshold (LOS D)	Average Daily Traffic (ADT)	Level of Service (LOS)
Old Highway 395	Pala Mesa Drive	SR-76	4.2B	25,000	17,400	B
Old Highway 395	SR-76	E. Dulin Road	2.1D	13,500	14,300	E accepted at LOS E/F
Old Highway 395	E. Dulin Road	W. Lilac Road	2.1D	13,500	15,700	E
Old Highway 395	W. Lilac Road	I-15 SB Ramps	4.2B	25,000	18,100	B
Old Highway 395	I-15 SB Ramps	I-15 NB Ramps	4.2B	25,000	16,900	B
Old Highway 395	I-15 NB Ramps	Camino Del Rey	4.1B	30,800	15,900	B
Old Highway 395	Camino Del Rey	Circle R Drive	4.1B	30,800	23,200	C
Old Highway 395	Circle R Drive	Gopher Canyon Road	4.1B	30,800	28,000	D
Old Highway 395	Gopher Canyon Road	Old Castle Road	4.1B	30,800	27,300	C
Champagne Boulevard	Old Castle Road	Lawrence Welk Drive	4.1B	30,800	19,700	B
Pankey Road	Pala Mesa Drive	SR-76	2.1A	15,000	9,700	A
Lilac Road	Couser Canyon Road	W. Lilac Road	2.2E	10,900	5,700	C
Lilac Road	W. Lilac Road	Old Castle Road	2.2E	10,900	8,600	D
Lilac Road	Old Castle Road	Anthony Road	2.1C	13,500	12,500	D
Lilac Road	Anthony Road	New Road 19 (east of Betsworth Road)	4.2B	25,000	24,200	D
Lilac Road	New Road 19 (east of Betsworth Road)	Valley Center Road	4.2B	25,000	41,100	F accepted at LOS E/F
Valley Center Road	Woods Valley Road	Lilac Road	4.2A	27,000	23,700	C
Valley Center Road	Lilac Road	Miller Road	4.1A	33,400	35,000	E

**TABLE 9.7
ROADWAY SEGMENT LEVEL OF SERVICE RESULTS
HORIZON YEAR BASE CONDITIONS
(without Road 3)**

Roadway	From	To	Classification	LOS Threshold (LOS D)	Average Daily Traffic (ADT)	Level of Service (LOS)
Valley Center Road	Miller Road	Indian Creek Road	4.2A	27,000	35,600	F accepted at LOS E/F
Valley Center Road	Indian Creek Road	Cole Grade Road	4.2A	27,000	25,680	D
Valley Center Road	Cole Grade Road	Vesper Road	4.2A	27,000	16,600	A
Miller Road	Misty Oak Road	Valley Center Road	2.3B	8,000	2,500	A
Cole Grade Road	Fruitvale Road	Valley Center Road	4.2A	27,000	20,100	B

Source: Chen Ryan Associates; May 2014

Note:
Bold letter indicates unacceptable LOS E or F.



Lilac Hills Ranch - Mountain Ridge Road Fire Station Alternative

Figure 9-4

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

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	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
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.

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**.

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 five (5) roadway segments would operate at substandard LOS E or F:

- 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.