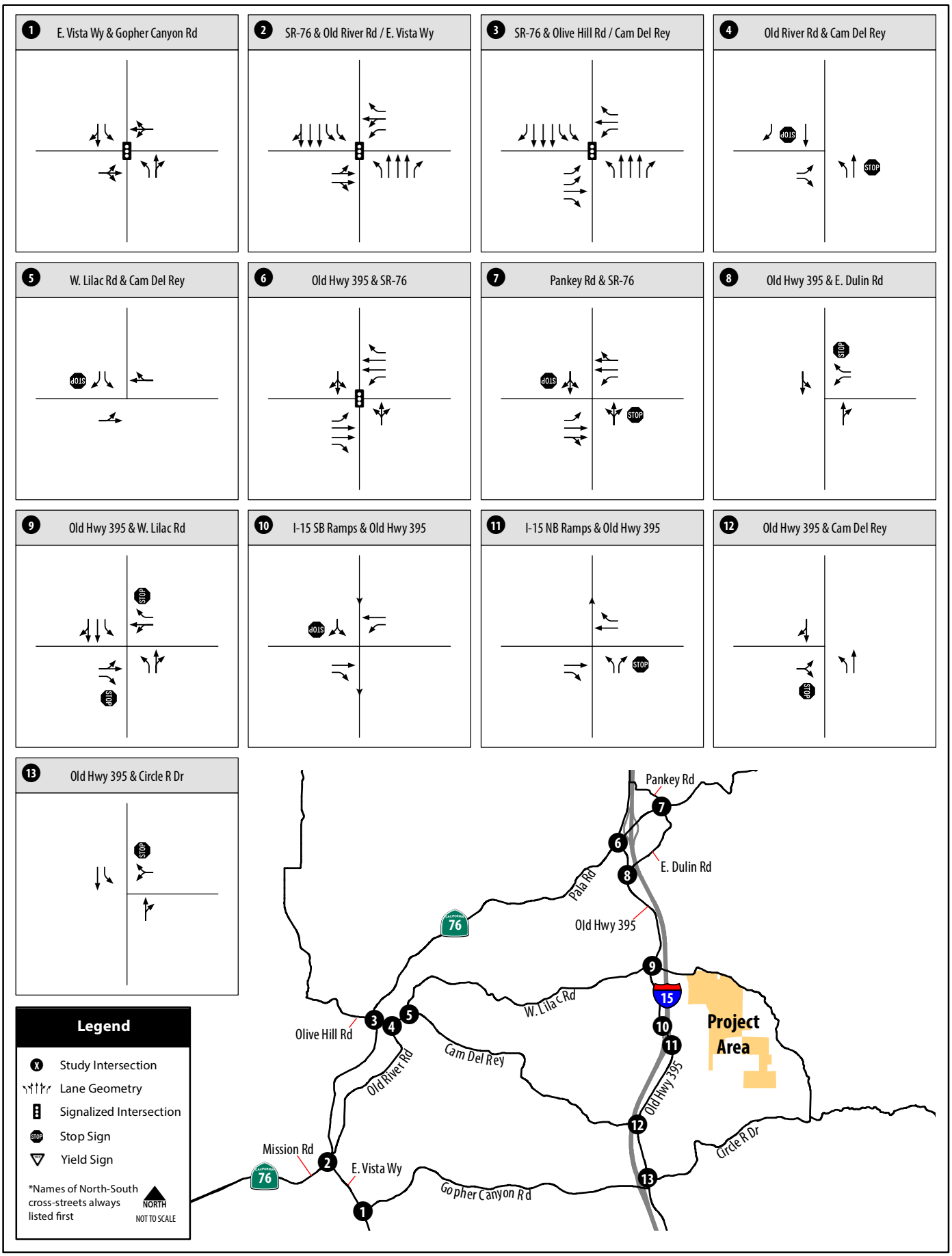

Lilac Hills Ranch Traffic Impact Study

Figure 6-2B (Intersections 1-13)
Intersection Geometrics -
Existing Plus Cumulative Projects Plus Project Conditions

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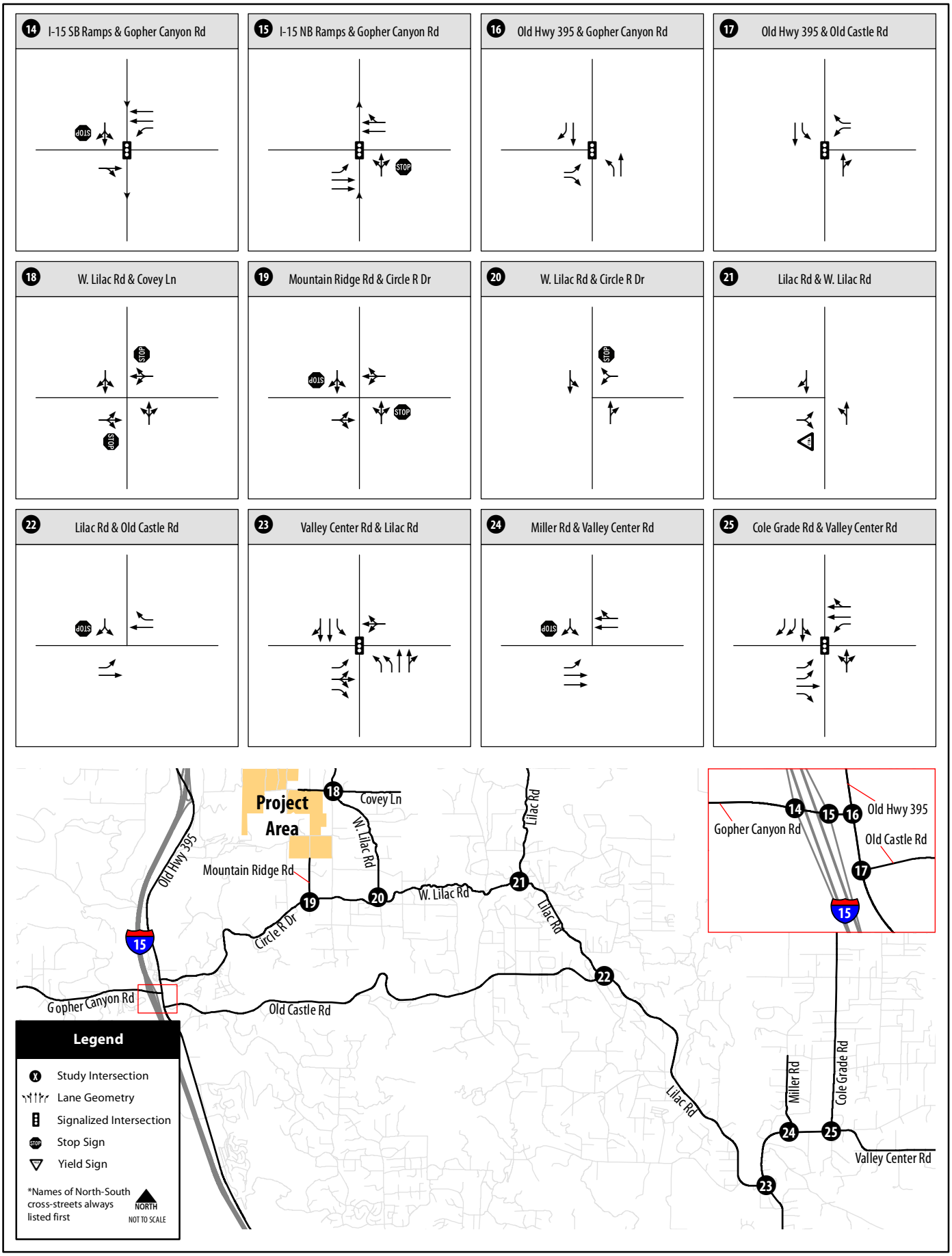
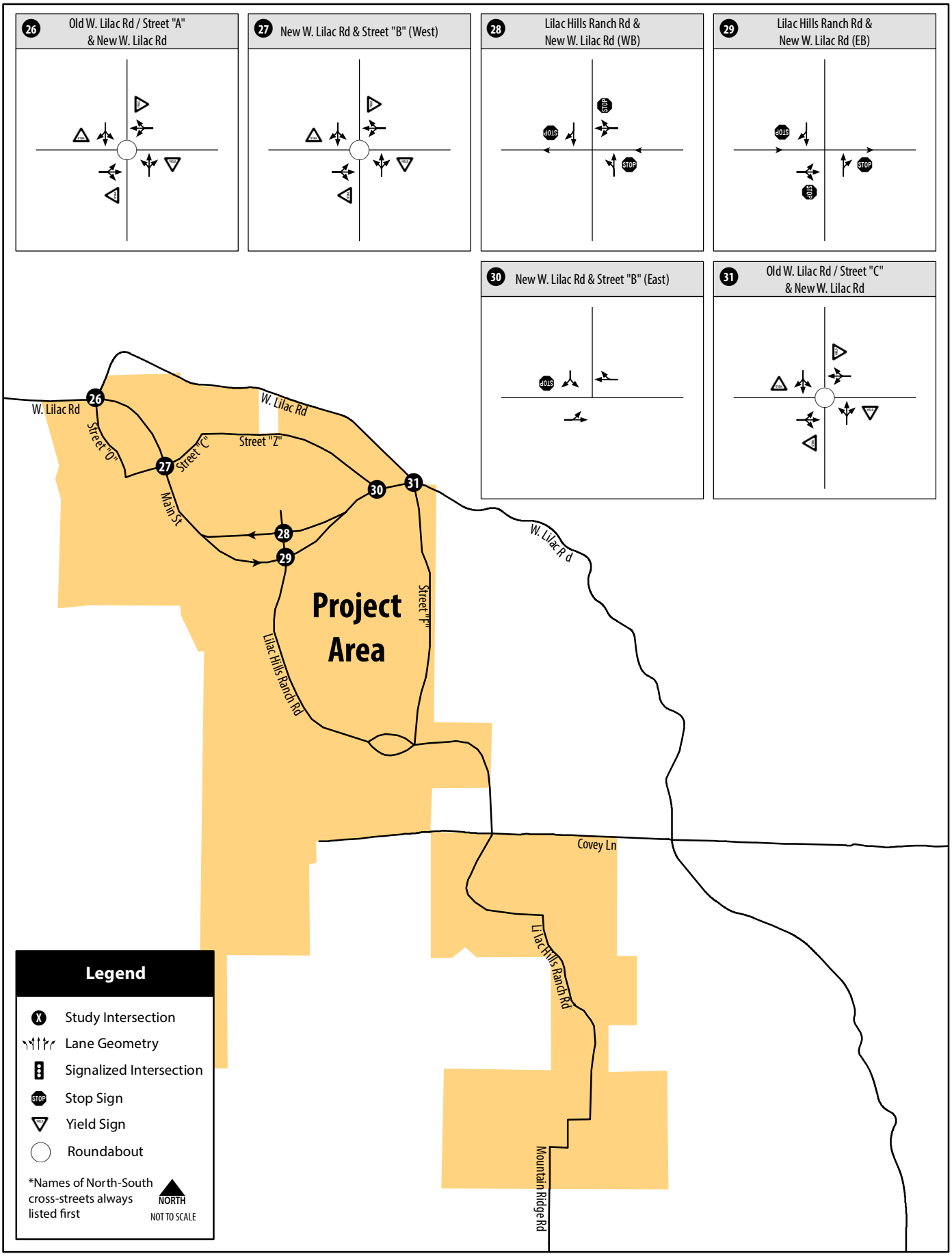


Lilac Hills Ranch Traffic Impact Study

Figure 6-2B (Intersections 14-25)
Intersection Geometrics -
Existing Plus Cumulative Projects Plus Project Conditions

CHEN RYAN



Lilac Hills Ranch Traffic Impact Study

Figure 6-2B (Intersections 26-31)
Intersection Geometrics -
Existing Plus Cumulative Projects Plus Project Conditions

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6.3 Existing Plus Cumulative Projects Plus Project Traffic Conditions

Level of service analyses under Existing Plus Cumulative Projects Plus Project conditions were conducted using the methodologies described in Chapter 2.0. Roadway segment, intersection, freeway segment, and ramp intersection level of service results are discussed separately below. Average daily traffic volumes on study area roadway segments are displayed in **Figure 6-3A**, while peak hour traffic volumes at the key study area intersections are displayed in **Figure 6-3B**. Note that the traffic volume figures were modified to reflect the project access "Change 1" and additional cumulative project "Change 4" as described in the "Summary of Major Changes to the TIS" section of the "Executive Summary".

Roadway Segment Analysis

Table 6.2 displays the level of service analysis results for key roadway segments under Existing Plus Cumulative Projects Plus Project conditions. As shown in the table, the following nine (9) roadway segments would operate substandard LOS E or F:

- W. Lilac Road, between Old Highway 395 and Main Street – LOS F, and the cumulative projects plus the proposed project would add more than 100 daily trips.
- Camino Del Rey, between Old River Road and W. Lilac Road - LOS E, and the cumulative projects plus the proposed project would add more than 200 daily trips.
- Gopher Canyon Road, between E. Vista Way and Little Gopher Canyon Road – LOS F, and the cumulative projects plus the proposed project would add more than 100 daily trips.
- Gopher Canyon Road, between Little Gopher Canyon Road and I-15 SB Ramps – LOS F, and the cumulative projects plus the proposed project would add more than 100 daily trips.
- E. Vista Way, between SR-76 and Gopher Canyon Road – LOS F, and the cumulative projects plus the proposed project would add more than 100 daily trips.
- E. Vista Way, between Gopher Canyon Road and Osborne Street – LOS F, and the cumulative projects plus the proposed project would add more than 100 daily trips.
- Pankey Road, between Pala Mesa Drive and SR-76 - LOS F, and the cumulative projects would add more than 100 daily trips.
- Lilac Road, between Old Castle Road and Anthony Road - LOS E, and the cumulative projects plus the proposed project would add more than 200 daily trips.
- Cole Grade Road, between Fruitvale Road and Valley Center Road - LOS E, and the cumulative projects plus the proposed project would add more than 200 daily trips.

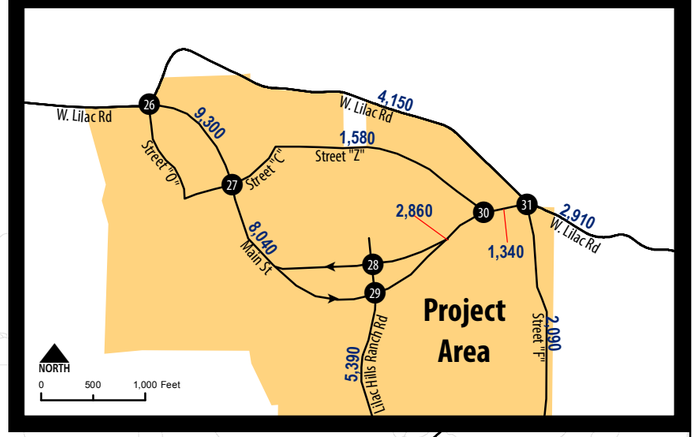
Based upon the significance criteria discussed in Section 2.8, the additional traffic generated by the proposed Lilac Hills Ranch project and the anticipated cumulative projects would result in cumulative impacts to all nine (9) roadway segments.

Legend

X,XXX Average Daily Traffic Volumes

(X) Study Intersection

Project Area Inset



Gopher Canyon Rd Inset

Lilac Hills Ranch Traffic Impact Study

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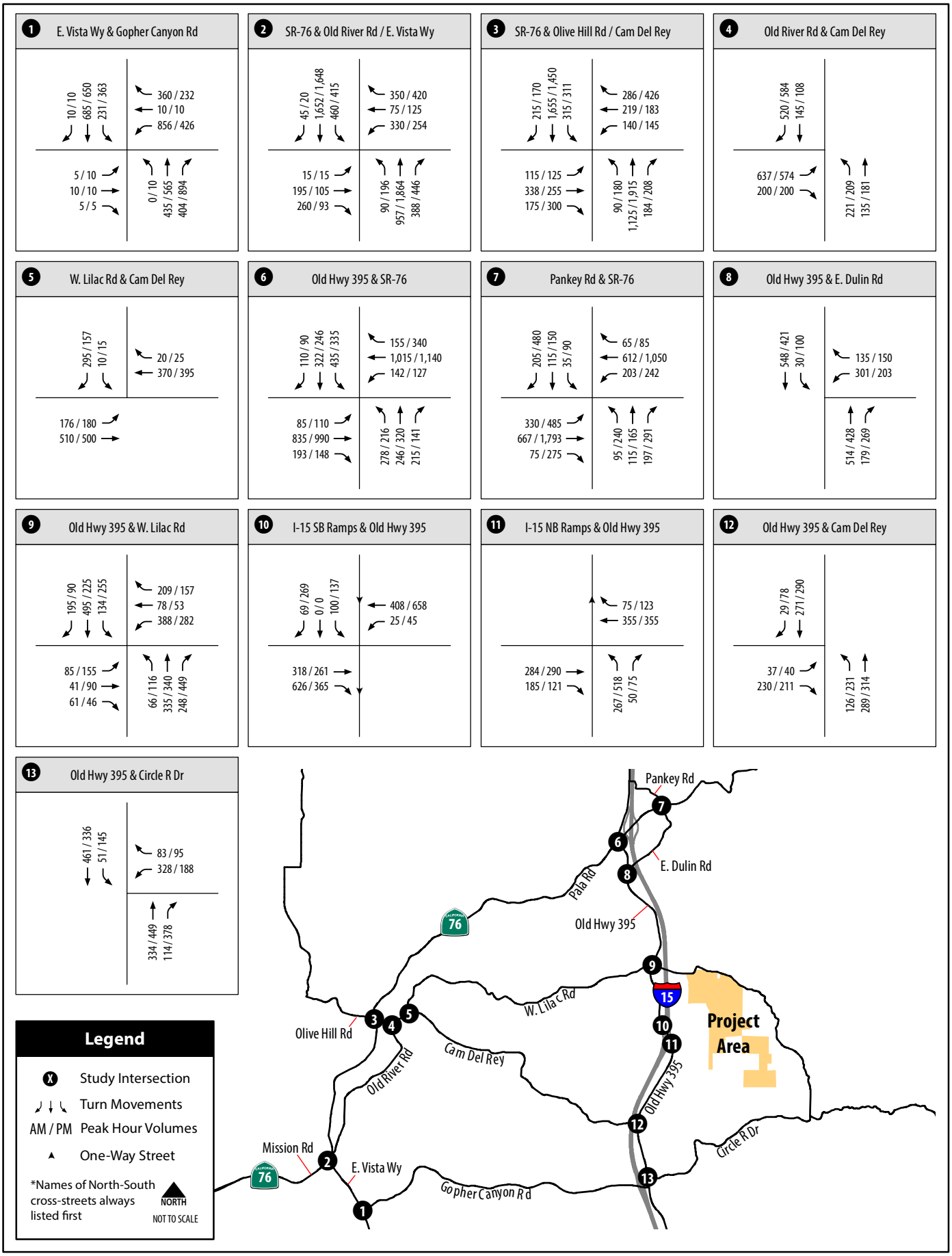
Figure 6-3A

Roadway Average Daily Traffic Volumes - Existing Plus Cumulative Projects Plus Project Conditions



Lilac Hills Ranch Traffic Impact Study

Figure 6-3B (Intersections 1-13)
Intersection Peak Hour Traffic Volumes -
Existing Plus Cumulative Projects Plus Project Conditions

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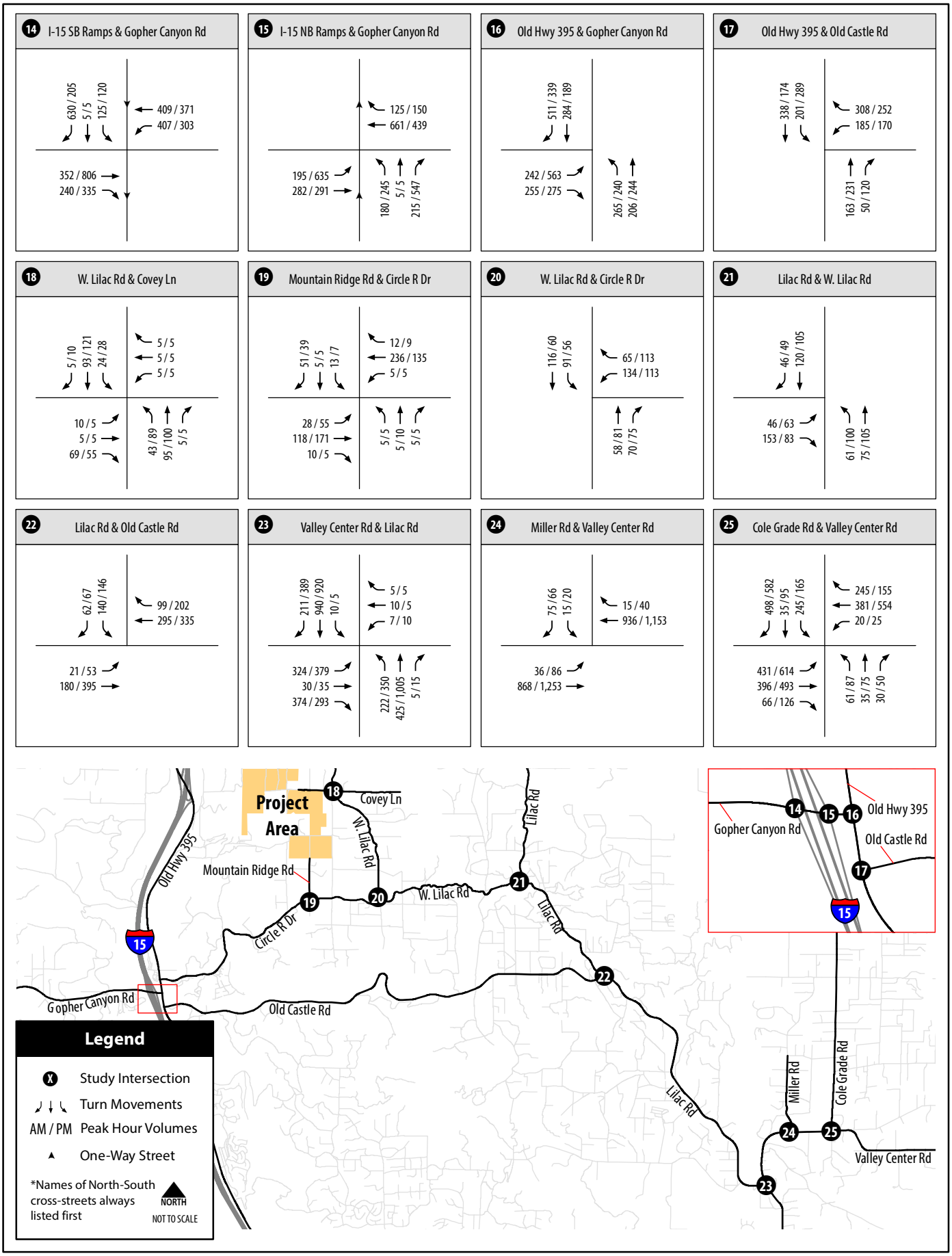
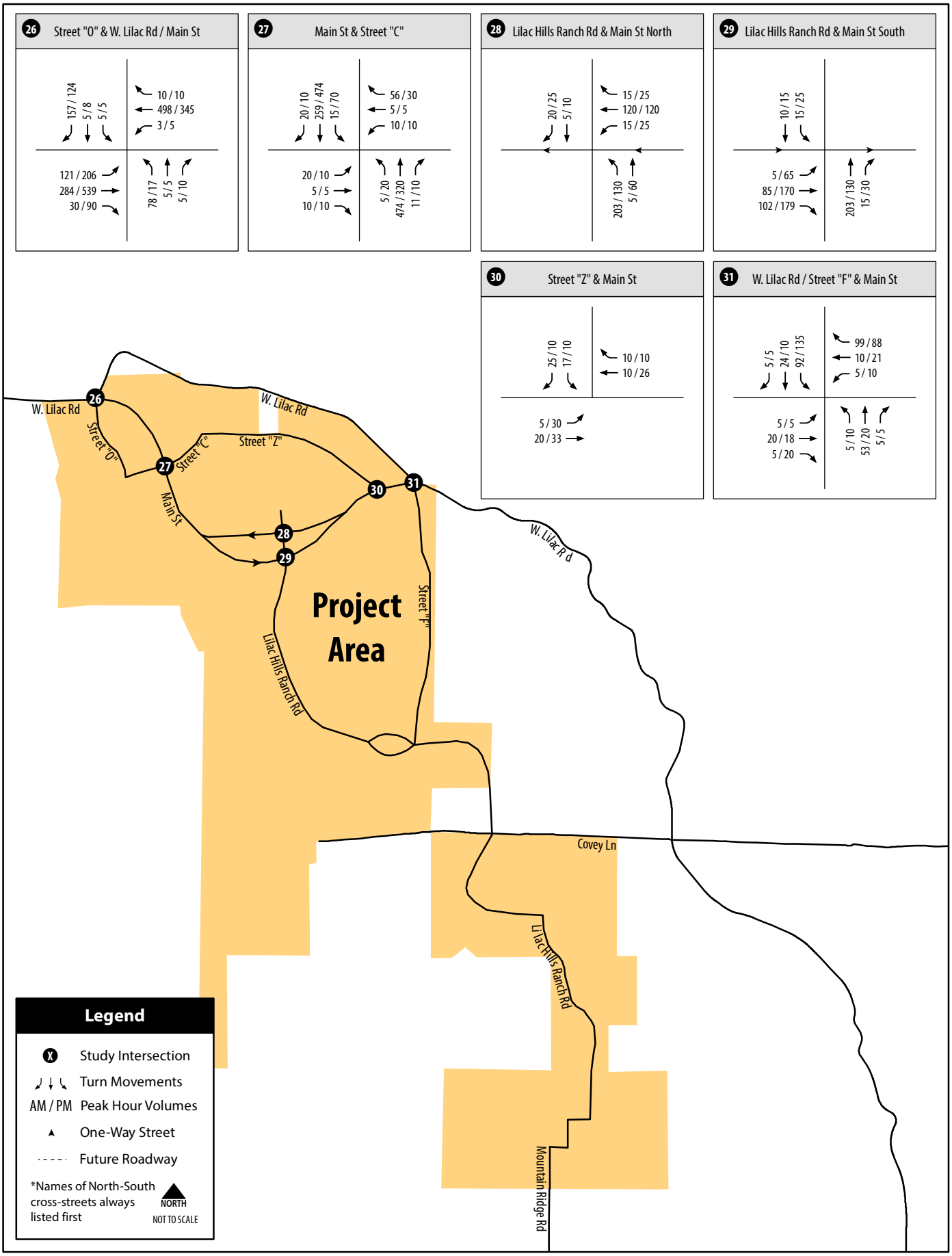


Lilac Hills Ranch Traffic Impact Study

Figure 6-3B (Intersections 14-25)
Intersection Peak Hour Traffic Volumes - Existing Plus Cumulative Projects Plus Project Conditions

CHEN RYAN



Lilac Hills Ranch Traffic Impact Study

Figure 6-3B (Intersections 26-31)
Intersection Peak Hour Traffic Volumes -
Existing Plus Cumulative Projects Plus Project Conditions

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TABLE 6.2
ROADWAY SEGMENT LEVEL OF SERVICE RESULTS
EXISTING PLUS CUMULATIVE PROJECTS PLUS PROJECT CONDITIONS

Roadway	From	To	With Cumulative Projects + Project				Existing		Cumulative Projects + Project ADT	Cumulative Impact?
			Cross-Section	LOS Threshold (LOS D)	ADT	LOS	ADT	LOS		
E. Dulin Road	Old Highway 395	SR-76	2-Ln	9,800	7,330	D	1,830	B	5,500	No
W. Lilac Road	Camino Del Rey	Camino Del Cielo	2-Ln	7,800	3,330	A	2,270	A	1,060	No
W. Lilac Road	Camino Del Cielo	Old Highway 395	2-Ln	7,800	3,530	A	2,140	A	1,390	No
W. Lilac Road	Old Highway 395	Main Street	2-Ln	8,700	14,580	F	1,150	A	12,350	*Yes > 100ADT*
W. Lilac Road	Main Street	Street "F"	2-Ln	7,800	4,150	A	1,150	A	2,000	No
W. Lilac Road	Street "F"	Covey Lane	2-Ln	7,800	2,910	A	1,150	A	760	No
W. Lilac Road	Covey Lane	Circle R Drive	2-Ln	7,800	3,120	A	480	A	2,140	No
W. Lilac Road	Circle R Drive	Lilac Road	2-Ln	7,800	3,820	A	1,170	A	2,400	No
Camino Del Cielo	Camino Del Rey	W. Lilac Road	2-Ln	10,900	980	A	630	A	350	No
Olive Hill Road	Shamrock Road	SR-76	2-Ln	8,700	4,410	A	3,380	A	1,030	No
Camino Del Rey	SR-76	Old River Road	2-Ln	10,900	10,300	D	9,350	D	950	No
Camino Del Rey	Old River Road	W. Lilac Road	2-Ln	9,800	11,960	E	8,640	D	3,320	*Yes > 200ADT*
Camino Del Rey	W. Lilac Road	Camino Del Cielo	2-ln w/ SM	13,500	9,550	D	6,730	C	2,820	No
Camino Del Rey	Camino Del Cielo	Old Highway 395	2-Ln	7,800	5,600	B	4,850	A	750	No
Gopher Canyon Road	E. Vista Way	I-15 SB Ramps	2-Ln	9,800	17,370	F	15,310	F	1,960	*Yes > 100ADT*
Gopher Canyon Road	I-15 SB Ramps	I-15 NB Ramps	4-Ln	30,800	18,440	B	12,390	A	5,950	No

TABLE 6.2
ROADWAY SEGMENT LEVEL OF SERVICE RESULTS
EXISTING PLUS CUMULATIVE PROJECTS PLUS PROJECT CONDITIONS

Roadway	From	To	With Cumulative Projects + Project				Existing		Cumulative Projects + Project ADT	Cumulative Impact?
			Cross-Section	LOS Threshold (LOS D)	ADT	LOS	ADT	LOS		
Gopher Canyon Road	I-15 NB Ramps	Old Highway 395	4-Ln	30,800	18,260	B	11,870	A	6,290	No
Circle R Drive	Old Highway 395	Mountain Ridge Road	2-Ln	9,800	7,720	D	4,030	C	2,690	No
Circle R Drive	Mountain Ridge Road	W. Lilac Road	2-Ln	9,800	3,040	B	1,770	B	770	No
Old Castle Road	Old Highway 395	Lilac Road	2-Ln	9,800	9,780	D	6,840	D	3,540	No
E. Vista Way	SR-76	Gopher Canyon Road	2-Ln w/ TWLTL	13,500	20,520	F	15,120	E	5,400	*Yes > 100ADT*
E. Vista Way	Gopher Canyon Road	Osborne Street	2-Ln w/ TWLTL	13,500	26,990	F	21,020	F	5,970	*Yes > 100ADT*
Old River Road	SR-76	Camino Del Rey	2-Ln	9,800	4,790	C	4,070	C	720	No
Champagne Boulevard	Old Castle Road	Lawrence Welk Drive	2-Ln	10,700	8,270	D	4,170	C	3,600	No
Pankey Road	Pala Mesa Drive	SR-76	2-Ln	4,500	16,520	F	70	A	16,450	*Yes > 100ADT*
Lilac Road	Couser Canyon Road	W. Lilac Road	2-Ln	7,800	1,970	A	1,150	A	820	No
Lilac Road	W. Lilac Road	Old Castle Road	2-Ln	7,800	3,830	A	2,640	A	1,190	No
Lilac Road	Old Castle Road	Anthony Road	2-Ln	10,900	11,590	E	9,010	D	2,580	*Yes > 200ADT*
Lilac Road	Anthony Road	Betsworth Road	2-Ln	10,900	10,760	D	8,740	D	2,020	No
Lilac Road	Betsworth Road	Valley Center Road	2-Ln	13,500	11,920	D	9,620	D	2,300	No
Valley Center Road	Woods Valley Road	Lilac Road	4/Ln w/ TWLTL/RM	27,000	24,280	D	21,290	C	2,990	No

TABLE 6.2
ROADWAY SEGMENT LEVEL OF SERVICE RESULTS
EXISTING PLUS CUMULATIVE PROJECTS PLUS PROJECT CONDITIONS

Roadway	From	To	With Cumulative Projects + Project				Existing		Cumulative Projects + Project ADT	Cumulative Impact?
			Cross-Section	LOS Threshold (LOS D)	ADT	LOS	ADT	LOS		
Valley Center Road	Lilac Road	Miller Road	4-Ln w/ RM	33,400	27,000	C	24,280	B	2,720	No
Valley Center Road	Miller Road	Cole Grade Road	4-Ln w/ RM	27,000	24,950	D	22,440	C	2,510	No
Valley Center Road	Cole Grade Road	Vesper Road	2-Ln	13,500	12,760	D	11,490	D	1,270	No
Miller Road	Misty Oak Road	Valley Center Road	2-Ln	7,000	2,280	A	1,460	A	820	No
Cole Grade Road	Fruitvale Road	Valley Center Road	2-Ln w/ TWLTL	13,500	16,650	E	10,660	D	5,990	*Yes > 200ADT*

Source: Chen Ryan Associates; May 2014

Notes:
Bold letter indicates unacceptable LOS E or F.
RM = Raised Median.
SM = Striped Median.
TWLTL = Two-Way Left-Turn Lane.
Changes in this table are associated with "Change 1" as described in the "Summary of Major Changes to the TIS" section of the "Executive Summary".
Changes in this table are also associated with "Change 3" as described in the "Summary of Major Changes to the TIS" section of the "Executive Summary".
Changes in this table are also associated with "Change 4" as described in the "Summary of Major Changes to the TIS" section of the "Executive Summary".

Intersection Analysis

Table 6.3 displays intersection level of service and average vehicle delay results under Existing Plus Cumulative Projects Plus Project conditions. Level of service calculation worksheets are provided in **Appendix AO**. As shown in the table, the following twelve (12) study intersections would operate at substandard LOS E or F under Existing Plus Cumulative Projects Plus Project conditions:

- E. Vista Way / Gopher Canyon Road (County) – LOS F during both the AM and PM peak hour, and the cumulative projects plus project traffic would add more than 1 second of additional delay to this signalized intersection.
- Old River Road / Camino Del Rey (County) – LOS F during the AM peak hour, and the cumulative projects plus project traffic would not add more than 5 peak hour trips to the critical movement of this unsignalized intersection.
- SR-76 / Old Highway 395 (Caltrans) – LOS F during both the AM and PM peak hours, and the cumulative projects plus project traffic would add two seconds or more of additional delay to this signalized intersection.
- SR-76 / Pankey Road (Caltrans) – LOS F during both the AM and PM peak hours, and the cumulative projects plus project traffic would add two seconds or more additional delay to this unsignalized intersection.
- Old Highway 395 / E. Dulin Road (County) – LOS F during both the AM and PM peak hours, and the cumulative projects plus project traffic would add more than 5 peak hour trips to the critical movement of this unsignalized intersection.
- Old Highway 395 / W. Lilac Road (County) – LOS F during both the AM and PM peak hours, and the cumulative projects plus project traffic would add more than 5 peak hour trips to the critical movement of this unsignalized intersection.
- I-15 SB Ramps / Old Highway 395 (Caltrans) – LOS F during both the AM and PM peak hours, and the cumulative projects plus project traffic would add two seconds or more additional delay to this unsignalized intersection.
- I-15 SB Ramps / Old Highway 395 (Caltrans) – LOS F during the PM peak hour, and the cumulative projects plus project traffic would add two seconds or more additional delay to this unsignalized intersection.
- Old Highway 395 / Circle R Drive (County) – LOS F during both the AM and PM peak hours, and the cumulative projects plus project traffic would add more than 5 peak hour trips to the critical movement of this unsignalized intersection.
- I-15 SB Ramps / Gopher Canyon Road (Caltrans) – LOS F during both the AM and PM peak hours, and the cumulative projects plus project traffic would add more than two seconds of additional delay to this unsignalized intersection.
- I-15 NB Ramps / Gopher Canyon Road (Caltrans) – LOS F during both the AM and PM peak hour, and the cumulative projects plus project traffic would add more than two seconds of additional delay to this unsignalized intersection.

TABLE 6.3
PEAK HOUR INTERSECTION LEVEL OF SERVICE RESULTS
EXISTING PLUS CUMULATIVE PROJECTS PLUS PROJECT CONDITIONS

Intersection	Traffic Control	With Cumulative Projects + Project				Existing		Change in Delay (sec.) AM / PM	Cumulative Projects + Project Traffic to Critical Movements AM / PM	Cumulative Impact?
		AM Peak Hour		PM Peak Hour		Delay (sec.) AM / PM	LOS AM / PM			
		Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS					
1. E. Vista Way / Gopher Canyon Road	Signal	250.0	F	275.5	F	172.8 / 212.0	F / F	77.2 / 63.5	-	*Yes County Int. LOS Degrade & > 1 sec.*
2. SR-76 / Old River Road/E. Vista Way	Signal	40.4	D	51.4	D	23.7 / 32	C / C	16.7 / 19.4	-	No
3. SR-76 / Olive Hill Road/Camino Del Rey	Signal	40.8	D	51.2	D	21.6 / 34.5	C / C	19.2 / 16.7	-	No
4. Old River Road / Camino Del Rey	OWSC	109.1	F	27.3	C	23.2 / 12.2	D / B	85.9 / 15.1	AM: NBL +3	No County Int. < 5 trips
5. W. Lilac Road / Camino Del Rey	OWSC	21.9	C	15.4	B	15.7 / 11.0	C / B	6.2 / 4.4	-	No
6. Old Highway 395 / SR-76	Signal	190.3	F	190.7	F	29.0 / 39.8	C / D	161.3 / 150.9	-	*Yes Caltrans Int. > 2 sec.*
7. Pankey Road / SR-76	TWSC	OVFL	F	OVFL	F	12.5 / 15.2	B / C	OVFL / OVFL	-	*Yes Caltrans Int. > 2 sec.*
8. Old Highway 395 / E. Dulin Road	OWSC	364.5	F	179.1	F	12.8 / 11.2	B / B	351.7 / 167.9	AM : WBL +89 PM : WBL +180	*Yes County Int. > 5 trips*

TABLE 6.3
PEAK HOUR INTERSECTION LEVEL OF SERVICE RESULTS
EXISTING PLUS CUMULATIVE PROJECTS PLUS PROJECT CONDITIONS

Intersection	Traffic Control	With Cumulative Projects + Project				Existing		Change in Delay (sec.) AM / PM	Cumulative Projects + Project Traffic to Critical Movements AM / PM	Cumulative Impact?
		AM Peak Hour		PM Peak Hour		Delay (sec.) AM / PM	LOS AM / PM			
		Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS					
9. Old Highway 395 / W. Lilac Road	TWSC	OVFL	F	OVFL	F	14.7 / 13.3	C / B	OVFL / OVFL	AM : WBL +352 PM : WBL +266	*Yes* *County Int.* *> 5 trips*
10. I-15 SB Ramps / Old Highway 395	OWSC	71.0	F	344.3	F	10.6 / 12.1	B / B	60.4 / 332.2	-	*Yes* *Caltrans Int.* *> 2 sec.*
11. I-15 NB Ramps / Old Highway 395	OWSC	20.6	C	129.9	F	9.8 / 11.2	A / B	10.8 / 118.7	-	*Yes* *Caltrans Int.* *> 2 sec.*
12. Old Highway 395 / Camino Del Rey	OWSC	14.4	B	20.4	C	10.1 / 11.0	B / B	4.3 / 9.4	-	No
13. Old Highway 395 / Circle R Drive	OWSC	354.5	F	742.3	F	20.4 / 22.5	C / C	334.1 / 719.8	AM : WBL +110 PM : WBL +74	*Yes* *County Int.* *> 5 trips*
14. I-15 SB Ramps / Gopher Canyon Road	OWSC	OVFL	F	OVFL	F	468.2 / 173.0	F / F	OVFL / OVFL	-	*Yes* *Caltrans Int.* *> 2 sec.*
15. I-15 NB Ramps / Gopher Canyon Road	OWSC	549.7	F	OVFL	F	30.5 / 1945.4	D / F	519.2 / OVFL	-	*Yes* *Caltrans Int.* *> 2 sec.*
16. Old Highway 395 / Gopher Canyon Road	Signal	23.1	C	30.4	C	11.0 / 14.7	B / B	12.1 / 15.7	-	No
17. Old Highway 395 / Old Castle Road	Signal	14.9	B	18.3	B	13.9 / 15.7	B / B	1.0 / 2.6	-	No

TABLE 6.3
PEAK HOUR INTERSECTION LEVEL OF SERVICE RESULTS
EXISTING PLUS CUMULATIVE PROJECTS PLUS PROJECT CONDITIONS

Intersection	Traffic Control	With Cumulative Projects + Project				Existing		Change in Delay (sec.) AM / PM	Cumulative Projects + Project Traffic to Critical Movements AM / PM	Cumulative Impact?
		AM Peak Hour		PM Peak Hour		Delay (sec.) AM / PM	LOS AM / PM			
		Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS					
18. W. Lilac Road / Covey Lane	TWSC	11.3	B	13.4	B	8.8 / 9.3	B / A	2.5 / 4.1	-	No
19. Mountain Ridge Road / Circle R Drive	TWSC	12.2	B	13.1	B	9.3 / 9.6	A / A	2.9 / 3.5	-	No
20. W. Lilac Road / Circle R Drive	OWSC	14.6	B	12.4	B	9.3 / 9.3	A / A	5.3 / 3.1	-	No
21. Lilac Road / W. Lilac Road	OWSC	11.1	B	12.0	B	9.6 / 9.9	A / A	1.5 / 2.1	-	No
22. Lilac Road / Old Castle Road	OWSC	17.0	B	32.6	D	11.8 / 17.8	B / C	5.2 / 14.8	-	No
23. Valley Center Rd / Lilac Road	Signal	38.9	D	52.7	D	10.5 / 22.6	B / C	28.4 / 30.1	-	No
24. Miller Road / Valley Center Road	OWSC	23.3	C	103.0	F	16.9 / 25.0	C / D	6.4 / 77.8	PM : SB +29	*Yes County Int. > 5 trips*
25. Cole Grade Road / Valley Center Road	Signal	36.6	D	48.8	D	31.1 / 34.9	C / C	5.5 / 13.9	-	No
26. Street "O" / W. Lilac Road/Main Street	RA	12.3	B	16.9	C	DNE	DNE	12.3 / 16.9	-	No
27. Main Street / Street "C"	RA	7.9	A	9.1	A	DNE	DNE	7.7 / 9.1	-	No
28. Lilac Hills Ranch Road / Main Street North	AWSC	8.9	A	8.8	A	DNE	DNE	8.9 / 8.8	-	No
29. Lilac Hills Ranch Road / Main Street South	AWSC	8.9	A	11.1	B	DNE	DNE	8.9 / 11.1	-	No
30. Street "Z" / Main Street	OWSC	8.7	A	9.0	A	DNE	DNE	8.7 / 9.0	-	No

TABLE 6.3
PEAK HOUR INTERSECTION LEVEL OF SERVICE RESULTS
EXISTING PLUS CUMULATIVE PROJECTS PLUS PROJECT CONDITIONS

Intersection	Traffic Control	With Cumulative Projects + Project				Existing		Change in Delay (sec.) AM / PM	Cumulative Projects + Project Traffic to Critical Movements AM / PM	Cumulative Impact?
		AM Peak Hour		PM Peak Hour		Delay (sec.) AM / PM	LOS AM / PM			
		Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS					
31. W. Lilac Road/Street "F" / Main Street	RA	4.4	A	4.6	A	DNE	DNE	4.4 / 4.6	-	No

Source: Chen Ryan Associates; May 2014

Notes:
Bold letter indicates unacceptable LOS E of F.
AWSC = All-Way Stop Controlled.
TWSC = Two-Way Stop Controlled.
OWSC = One-Way Stop Controlled.
RA = Roundabout.
DNE = Does Not Exist.
For OWSC and TWSC intersections, the delay shown is the worst delay experienced by any of the approaches.
Changes in this table are associated with "Change 1" as described in the "Summary of Major Changes to the TIS" section of the "Executive Summary".
Changes in this table are also associated with "Change 4" as described in the "Summary of Major Changes to the TIS" section of the "Executive Summary".

- Miller Road / Valley Center Road (County) – LOS F during the PM peak hour, and the cumulative projects plus project would add more than 5 peak hour trips to the critical movement of this unsignalized intersection.

Based upon the significance criteria discussed in Section 2.8, the additional traffic generated by the proposed Lilac Hills Ranch project and the other anticipated cumulative projects would result in cumulative impacts at all above mentioned intersections except for the intersection of Old River Road and Camino Del Rey.

Two-Lane Highway Analysis

Table 6.4 displays two-lane highway level of service analysis results for Old Highway 395 under Existing Plus Cumulative Projects Plus Project conditions. The two-lane highway level of service analysis was performed utilizing the methodology presented in Chapter 2.0.

As shown in the table, all segments along Old Highway 395 would operate at acceptable LOS D or better under Existing Plus Cumulative Projects Plus Project conditions and the additional traffic generated by the proposed Lilac Hills Ranch project and the other anticipated cumulative projects would not cause any direct impacts to Old Highway 395.

TABLE 6.4
TWO-LANE HIGHWAY LEVEL OF SERVICE RESULTS
EXISTING PLUS CUMULATIVE PROJECTS PLUS PROJECT CONDITIONS

2-Ln Highway	From	To	With Cumulative Projects + Project			Existing		Cumulative Projects + Project ADT	Cumulative Impact?
			LOS Threshold (LOS D)	ADT	LOS	ADT	LOS		
Old Highway 395	Pala Mesa Drive	SR-76	16,200	11,230	D or better	4,770	D or better	6,460	No
Old Highway 395	SR-76	E. Dulin Road	16,200	9,890	D or better	4,720	D or better	5,170	No
Old Highway 395	E. Dulin Road	W. Lilac Road	16,200	13,280	D or better	4,340	D or better	8,440	No
Old Highway 395	W. Lilac Road	I-15 SB Ramps	16,200	15,060	D or better	4,450	D or better	9,610	No
Old Highway 395	I-15 SB Ramps	I-15 NB Ramps	16,200	11,600	D or better	3,600	D or better	7,500	No
Old Highway 395	I-15 NB Ramps	Camino Del Rey	16,200	7,070	D or better	2,430	D or better	4,390	No
Old Highway 395	Camino Del Rey	Circle R Drive	16,200	9,770	D or better	5,820	D or better	3,700	No
Old Highway 395	Circle R Drive	Gopher Canyon Road	16,200	15,590	D or better	10,710	D or better	4,680	No
Old Highway 395	Gopher Canyon Road	Old Castle Road	16,200	10,310	D or better	8,660	D or better	1,380	No

Source: Chen Ryan Associates; May 2014

Notes:
Changes in this table are associated with “Change 1” as described in the “Summary of Major Changes to the TIS” section of the “Executive Summary”.
Changes in this table are also associated with “Change 4” 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 6.5** displays the resulting level of service for I-15 under Existing Plus Cumulative Projects Plus Project conditions.

As shown in the table, eight (8) of the I-15 freeway segments would operate at substandard LOS E or F under Existing Plus Cumulative Projects Plus Project conditions:

- I-15, between the Riverside County Boundary and Old Highway 395 – LOS F, and the cumulative projects plus 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 cumulative projects plus 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 cumulative projects plus 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 cumulative projects plus 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 cumulative projects plus 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 cumulative projects plus 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 cumulative projects plus project traffic would increase the V/C ratio by more than 0.01; and
- I-15, between El Norte Parkway and SR-78 – LOS F, and the cumulative projects plus project traffic would increase the V/C ratio by more than 0.01.

Based upon the significance criteria discussed in Section 2.8, the additional traffic generated by the proposed Lilac Hills Ranch project and the other anticipated cumulative projects would result in cumulative impacts at all eight (8) I-15 freeway segments identified above.

TABLE 6.5
FREEWAY SEGMENT LEVEL OF SERVICE RESULTS
EXISTING PLUS CUMULATIVE PROJECTS PLUS PROJECT CONDITIONS

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 Existing)	Cumulative Impact?
I-15	Riverside County Boundary to Old Highway 395	203,380	8.4%	17,182	0.64	4	0.95	6.75%	2,970	1.264	F	0.431	*Yes > 0.01*
I-15	Old Highway 395 to SR-76	239,120	7.4%	17,789	0.73	4	0.95	6.75%	3,540	1.506	F	0.6620	*Yes > 0.01*
I-15	SR-76 to Old Highway 395	169,920	7.8%	13,291	0.69	4	0.95	8.40%	2,498	1.063	F	0.3560	*Yes > 0.01*
I-15	Old Highway 395 to Gopher Canyon Road	167,800	8.1%	13,551	0.67	4	0.95	8.40%	2,481	1.056	F	0.3640	*Yes > 0.01*
I-15	Gopher Canyon Road to Deer Springs Road	167,120	8.1%	13,496	0.67	4	0.95	13.20%	2,528	1.076	F	0.323	*Yes > 0.01*
I-15	Deer Springs Road to Centre City Parkway	166,530	8.0%	13,379	0.66	4	0.95	13.20%	2,494	1.061	F	0.316	*Yes > 0.01*
I-15	Centre City Parkway to El Norte Parkway	157,730	8.0%	12,672	0.66	4	0.95	13.20%	2,362	1.005	F	0.298	*Yes > 0.01*
I-15	171,7202	171,220	7.9%	13,516	0.66	4	0.95	10.00%	2,483	1.057	F	0.275	*Yes > 0.01*
I-15	SR-78 to W Valley Parkway	217,370	8.1%	17,691	0.60	5+2ML	0.95	10.00%	1,676	0.713	C	0.083	No
I-15	W Valley Parkway to Auto Parkway	199,990	8.1%	16,276	0.60	5+2ML	0.95	10.00%	1,542	0.656	C	0.069	No
I-15	Auto Parkway to W Citracado Parkway	191,830	7.8%	14,878	0.60	5+2ML	0.95	10.00%	1,401	0.596	B	0.062	No
I-15	W Citracado Parkway to Via Rancho Parkway	208,840	7.8%	16,197	0.60	5+2ML	0.95	7.00%	1,503	0.640	C	0.039	No

TABLE 6.5
FREEWAY SEGMENT LEVEL OF SERVICE RESULTS
EXISTING PLUS CUMULATIVE PROJECTS PLUS PROJECT CONDITIONS

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 Existing)	Cumulative Impact?
I-15	Via Rancho Parkway to Bernardo Drive	238,980	7.4%	17,588	0.58	5+2ML	0.95	7.00%	1,583	0.674	C	0.116	No
I-15	Bernardo Drive to Rancho Bernardo Road	214,110	7.4%	15,758	0.58	5+2ML	0.95	7.00%	1,419	0.604	B	0.037	No
I-15	Rancho Bernardo Road to Bernardo Center Drive	215,640	7.3%	15,832	0.54	5+2ML	0.95	7.00%	1,321	0.562	B	0.017	No
I-15	Bernardo Center Drive to Camino Del Norte	216,670	7.3%	15,908	0.54	5+2ML	0.95	7.00%	1,327	0.565	B	0.0070	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 “Change 1” as described in the “Summary of Major Changes to the TIS” section of the “Executive Summary”.
Changes in this table are also associated with “Change 4” as described in the “Summary of Major Changes to the TIS” section of the “Executive Summary”.

Ramp Intersection Capacity Analysis

Consistent with Caltrans' requirements, the signalized intersections along SR-76 within the study area were analyzed under Existing Plus Cumulative Projects Plus Project conditions using the ILV procedures as described in Chapter 2.0. ILV analysis results are displayed in **Table 6.6** and analysis worksheets are provided in **Appendix AP**.

TABLE 6.6
RAMP INTERSECTION CAPACITY ANALYSIS
EXISTING PLUS CUMULATIVE PROJECTS PLUS PROJECT CONDITIONS

Ramp Intersection	Peak Hour	ILV / Hour	Description
SR-76 / Old River Road/E. Vista Way	AM	1,884	*>1500: (Over Capacity)*
	PM	1,996	*>1500: (Over Capacity)*
SR-76 / Olive Hill Road/Camino Del Rey	AM	2,163	*>1500: (Over Capacity)*
	PM	2,558	*>1500: (Over Capacity)*
SR-76 / Old Highway 395	AM	2,262	*>1500: (Over Capacity)*
	PM	2,044	*>1500: (Over Capacity)*

Source: Chen Ryan Associates; May 2014

As shown in the table, all three (3) signalized intersections along SR-76 would operate at "Over Capacity" during both the AM and PM peak hours under the Existing Plus Cumulative Projects Plus Project conditions.

6.4 Existing Plus Cumulative Projects Plus Project Impact Significance and Mitigation

This section identifies required mitigation measures for roadway, intersection, two-lane highway, and freeway facilities that would be significantly impacted by project-related traffic under Existing Plus Cumulative Projects Plus Project conditions.

Roadway Segments

The total traffic generated by anticipated cumulative projects and the proposed project would result in cumulative impacts at nine (9) of the study area roadway segments. Mitigation measures would be required to mitigate significant cumulative traffic impacts. Generally, impacts to roadway segments that are included in the list of facilities included in the County's TIF would be mitigated through payment of TIF fees. For facilities not included in the County's TIF program, specific mitigation measures are proposed. The following improvements would be required to mitigate the identified cumulative impacts:

- *Camino Del Rey, between Old River Road and W. Lilac Road* - this roadway segment is included in the list of facilities included in the County's TIF.[1] The project applicant would be responsible for making TIF payments. This cumulatively impacted roadway segment would be mitigated through payment of the TIF fee.

- *Gopher Canyon Road, between Little Gopher Canyon Road and I-15 SB Ramps* – this roadway segment is included in the list of facilities included in the County's TIF. (see footnote 1 below) The project applicant would be responsible for making TIF payments. This cumulatively impacted roadway segment would be mitigated through payment of the TIF fee.

- *E. Vista Way, between SR-76 and Gopher Canyon Road* – this roadway segment is included in the list of facilities included in the County's TIF. (see footnote 1 below) The project applicant would be responsible for making TIF payments. This cumulatively impacted roadway segment would be mitigated through payment of the TIF fee.

- *E. Vista Way, between Gopher Canyon Road and Osborne Street* – this roadway segment is included in the list of facilities included in the County's TIF. (see footnote 1 below) The project applicant would be responsible for making TIF payments. This cumulatively impacted roadway segment would be mitigated through payment of the TIF fee.

- *Cole Grade Road, between Fruitvale Road and Valley Center Road* – this roadway segment is included in the list of facilities included in the County's TIF. (see footnote 1 below) The project applicant would be responsible for making TIF payments. This cumulatively impacted roadway segment would be mitigated through payment of the TIF fee.

- *W. Lilac Road, between Old Highway 395 and Main Street* – improve to the General Plan Mobility Element classification of 2.2C. The project was also identified as causing a direct impact at this segment under Existing Plus Project (Phase C) scenario and hence the project applicant would be responsible for the construction of this improvement. This cumulatively impacted roadway segment would operate at LOS E with the roadway widening to a 2.2C consistent with General Plan. The recommended mitigation measure for this impact would be to improve the road to 2.2C, install a traffic signal at the intersection of intersection of Old Highway 395 / W. Lilac Road, as well as constructing a left-turn lane at the westbound W. Lilac Road approach. The arterial analysis shown in **Appendix AQ** and summarized in **Table 6.7** below shows that the average travel speed along this segment would be LOS B.

[1]Although the improvement is included in the list of facilities to be improved from the currently approved TIF Program; it is anticipated that the currently approved TIF Program will be updated by the County to accommodate the land use changes that would result from the project's approval. This update would revise fee rates associated with ~~adding~~incorporating the project's land uses to the program. The TIF program enables County new development to pay its "fair share" by providing a mechanism to mitigate their cumulative impacts in accordance with CEQA~~.~~ requirements. TIF program revenue in combination with reasonably projected revenues based off historic receipts and future expected revenues will fund the completion of the Mobility Element in balance with the land uses guided by the County General Plan.

TABLE 6.7
ARTERIAL LEVEL OF SERVICE RESULTS AFTER MITIGATION
EXISTING PLUS CUMULATIVE PROJECTS PLUS PROJECT CONDITIONS

Arterial	AM Peak Hour		PM Peak Hour	
	Speed (mph)	LOS	Speed (mph)	LOS
W. Lilac Road, between Old Highway 395 and Main Street	21.6	B	23.8	B

Source: Chen Ryan Associates; May 2014

In addition, traffic control along W. Lilac Road includes a number of roundabouts, with implementation of the proposed 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 14,560 ADT 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. Therefore, the cumulative impact with the mitigation measure described above at the segment of W. Lilac Road, between Old Highway 395 and Main Street would be reduced to less than significant.

- *Gopher Canyon Road, between E. Vista Way and Little Gopher Canyon Road* – construct of this portion of the Gopher Canyon Road, to its Mobility Element 4.1B classification. The proposed project contributes approximately 3.5 percent of the total trips to this road segment in the cumulative traffic condition. The cost of improving this 1.2 mile segment would be equivalent to approximately $7,097,000 per mile pursuant to the County of San Diego TIF Update Facilities Cost Analysis (2012). This resulting construction costs would total approximately $8.5M. The project's small contribution to the cumulative condition would not be proportional to the cost of mitigation of improving this segment of Gopher Canyon Road. Pursuant to CEQA, mitigation measures must be roughly proportional to the environmental impacts caused by the project. Therefore the legal feasibility of improving this segment as a mitigation measure is uncertain in that the cost of the improvements would not be reasonably related to the project's contribution of trips of 3.3 percent of the total trips and is not roughly proportional to the environmental impact caused by the project. There are no other feasible mitigation measures that would be comparable to mitigate the identified cumulative impact since the projected daily traffic volume along this segment would far exceed the threshold for a 2-lane roadway, thus the impact would remain significant and unavoidable.

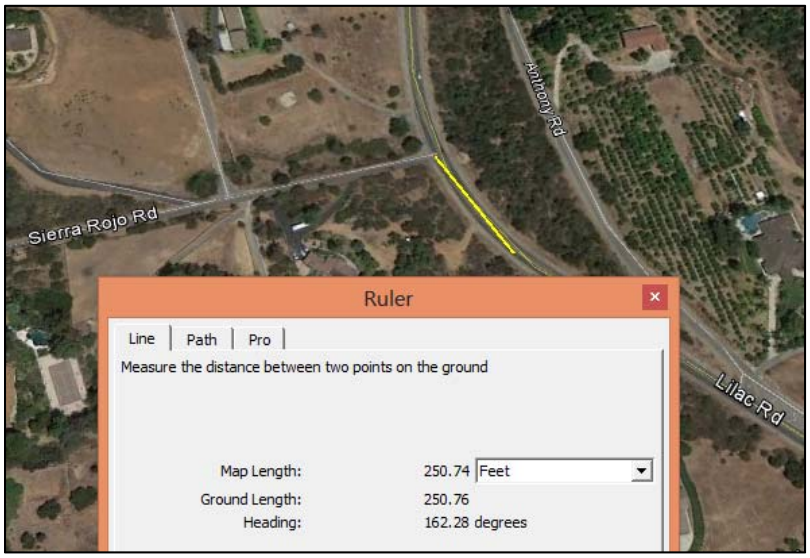
- *Pankey Road, between Pala Mesa Drive and SR-76* - construct of this portion of the Pankey Road from Pala Mesa Drive to SR-76 to Mobility Element 4.2B classification. The improvement exceeds the General Plan Mobility Element classification designation of 2.1A for this road. This segment of Pankey Road is currently required to be improved as conditions of the previously approved Campus Park and Meadowood projects. Specifically, these projects have been conditioned to construct the roadway to its current

Mobility Element Road Classification of 2.1A. The environmental impacts associated with the improvement of Pankey Road are described in the Campus Park EIR. The additional improvement to Mobility Element 4.2B classification is attributable to the project's cumulative contribution to cumulative impacts. The project contributes approximately 5.2 percent of the total trips to this road segment in the cumulative traffic condition. The cost of improving this 0.7 mile segment would be equivalent to $3,082,000 per mile pursuant to the County of San Diego TIF Update Facilities Cost Analysis (2012). The resulting construction costs would total $2.2M. The project's small contribution to the cumulative condition would not be proportional to the cost of mitigation of improving this segment of Panky Road. Pursuant to CEQA, mitigation measures must be roughly proportional to the environmental impacts caused by the project. Therefore the legal feasibility of improving this segment as a mitigation measure is uncertain in that the cost of the improvements would not be reasonably related to the project's contribution of trips of 5.2 percent of the total trips and is not roughly proportional to the environmental impact caused by the project. There are no other feasible mitigation measures that would be comparable to mitigate the identified cumulative impact since the projected daily traffic volume along this segment would far exceed the threshold for a 2-lane roadway, thus the impact would remain significant and unavoidable.

- *Lilac Road, between Old Castle Road and Anthony Road* - construct intermittent turn lanes at major access locations along Lilac Road, identified as 1) the segment between Robles Lane and Cumbres Road; and 2) the intersection at Sierra Rojo Road and Lilac Road.

  With the addition of left-turn lanes at these locations, left-turning vehicles would not impede through traffic moving in the same direction, resulting in the increase of roadway capacity and an improvement of traffic operations along Lilac Road. These improvements would allow the roadway to operate at LOS D or better.

  Should these improvements require additional grading outside the currently disturbed areas, potential impacts could result to surrounding biological and cultural resources. Pursuant to the County's vegetation mapping, the additional widening of Lilac Road necessary to add the turn lanes at the Robles Lane and Cumbres Road intersection could impact approximately 0.17 acre of chaparral. Impacts at Sierra Rojo and Lilac Road would affect approximately 0.14 acre of woodlands. Impacts to sensitive resources would be mitigated in accordance with the County's Biology Guidelines or relevant regulations. An additional mitigation measure would include a grading monitor to be present to assure the identification and proper handling of potential archeological resources that may be disturbed during grading of the limits of the road.



Intersections

The total traffic generated by anticipated cumulative projects and the proposed project would result in cumulative impacts at eleven (11) of the study area intersections. Mitigation measure would be required to mitigate significant cumulative traffic impacts. Impacts to intersections within or connecting to roadway segments that are included in the list of facilities included in the County's TIF, and would be mitigated through payment of TIF fees. For facilities not included in the County's TIF program, specific mitigation measures are proposed. The following improvements would be required to mitigate the identified cumulative impacts:

- *E. Vista Way / Gopher Canyon Road* (County) – this intersection is a TIF facility, and the project applicant would be responsible for making TIF payments[2]. This cumulatively impacted intersection would be mitigated through payment of the TIF fee.

- *Old Highway 395 / W. Lilac Road* (County) – this intersection is a TIF facility, and the project applicant would be responsible for making TIF payments. (see footnote 2 below) This cumulatively impacted intersection would be mitigated through payment of the TIF fee.

- *I-15 SB Ramps / Old Highway 395* (Caltrans) – this intersection is a TIF facility, and the project applicant would be responsible for making TIF payments. (see footnote 2 below) This cumulatively impacted intersection would be mitigated through payment of the TIF fee.

- *I-15 NB Ramps / Old Highway 395* (Caltrans) – this intersection is a TIF facility, and the project applicant would be responsible for making TIF payments. (see footnote 2 below) This cumulatively impacted intersection would be mitigated through payment of the TIF fee.

- *I-15 SB Ramps / Gopher Canyon Road* (Caltrans) – this intersection is a TIF facility, and the project applicant would be responsible for making TIF payments. (see footnote 2 below) This cumulatively impacted intersection would be mitigated through payment of the TIF fee.

- *I-15 NB Ramps / Gopher Canyon Road* (Caltrans) – this intersection is a TIF facility, and the project applicant would be responsible for making TIF payments. (see footnote 2 below) This cumulatively impacted intersection would be mitigated through payment of the TIF fee.

- *SR-76 / Old Highway 395* (Caltrans) –convert the current northbound left-through-right shared lane to a northbound through lane, add one dedicated northbound left-turn lane and one dedicated northbound right-turn lane at the Old Highway 395 northbound approach, convert the current southbound left-through-right shared lane to a southbound through-right shared lane and add two dedicated southbound left-turn lanes at the Old Highway 395 southbound approach, convert the current eastbound through-right shared lane to an eastbound through lane, add one eastbound right-turn lane at the SR-76 approach and convert the current traffic signal phasing from northbound and southbound split phasing to a protected phase. This intersection is a Caltrans facility in which the County does not have jurisdiction. In addition, Caltrans does not have a plan

[2]Although the improvement is included in the list of facilities to be improved from the currently approved TIF Program; it is anticipated that the currently approved TIF Program will be updated by the County to accommodate the land use changes that would result from the project's approval. This update would revise fee rates associated with incorporating the project's land uses to the program. The TIF program enables County new development to pay its "fair share" by providing a mechanism to mitigate their cumulative impacts in accordance with CEQA~~.~~ requirements. TIF program revenue in combination with reasonably projected revenues based off historic receipts and future expected revenues will fund the completion of the Mobility Element in balance with the land uses guided by the County General Plan.

or program in place where the project applicant could pay its fair-share towards the cost of such improvements. Therefore, mitigation is infeasible and the impacts would remain significant and unavoidable.

- *SR-76 / Pankey Road* (Caltrans) – signalization would be required at this intersection to mitigate cumulative traffic impacts. A traffic signal warrant was conducted. Based upon *California Manual of Uniformed Traffic Control Devices (MUTCD) 2012 Edition Figure 4C-103 (CA),* this intersection would meet both the "Minimum Vehicular Volume" and the "Interruption of Continuous Traffic" warrants. The signal warrant worksheet for this intersection is provided in **Appendix AR.** The following improvements would also be required to mitigate the impact: convert the current northbound left-through-right shared lane to a northbound through lane, add two dedicated northbound left-turn lanes, and one dedicated northbound right-turn lane at the Pankey Road approach, convert the current southbound left-through-right shared lane to a southbound through lane, add one dedicated southbound left-turn lane, and two dedicated southbound right-turn lanes with an overlap signal phasing at the Pankey Road approach, convert the current eastbound through-right shared lane to a through lane, add one dedicated eastbound left-turn lane and right-turn lane at the SR-76 EB approach, convert the current westbound through-right shared lane to a westbound through lane and add one westbound right-turn lane at the SR-76 WB approach. This intersection is a Caltrans facility in which the County does not have jurisdiction. In addition, Caltrans does not have a plan or program in place where the project applicant could pay its fair-share towards the cost of such improvements. Therefore, mitigation is infeasible and the impacts would remain significant and unavoidable.

- *Old Highway 395 / E. Dulin Road* (County) – signalization would be required at this intersection to mitigate the cumulative impacts. A traffic signal warrant was conducted. Based upon *California Manual of Uniformed Traffic Control Devices (MUTCD) 2012 Edition Figure 4C-103 (CA),* this intersection would meet both the "Minimum Vehicular Volume" and the "Interruption of Continuous Traffic" warrants. The signal warrant worksheet for this intersection is provided in Appendix AR. The project applicant would be responsible for constructing this improvement.

- *Old Highway 395 / Circle R Drive* (County) – signalization would be required at this intersection to mitigate the impacts. A traffic signal warrant was conducted. Based upon *California Manual of Uniformed Traffic Control Devices (MUTCD) 2012 Edition Figure 4C-103 (CA),* this intersection would meet both the "Minimum Vehicular Volume" and the "Interruption of Continuous Traffic" warrants. The signal warrant worksheet for this intersection is provided in Appendix AR. The project was also identified as causing a direct impact at this intersection under Existing Plus Project (Phase D) scenario and hence the project applicant would be responsible for the construction of this improvement.

- *Miller Road / Valley Center Road (County)* – signalization would be required at this intersection to mitigate the impacts. A traffic signal warrant was conducted. Based upon *California Manual of Uniformed Traffic Control Devices (MUTCD) 2012 Edition Figure 4C-103 (CA),* this intersection would meet the "Interruption of Continuous Traffic" warrant.

The signal warrant worksheet for this intersection is provided in Appendix AR. The project applicant would be responsible for constructing this improvement.

Table 6.8 displays level of service analysis results for the mitigated intersection under the Existing Plus Cumulative Project Plus Project conditions. Calculation worksheets for the intersection analysis are provided in **Appendix AS.**

TABLE 6.8
MITIGATED INTERSECTION LEVEL OF SERVICE
EXISTING PLUS CUMULATIVE PROJECTS PLUS PROJECT CONDITIONS

Intersection	After Mitigation				Existing	
	AM Peak Hour		PM Peak Hour		Delay (sec.) AM / PM	LOS AM / PM
	Delay (Sec.)	LOS	Delay (sec.)	LOS		
Non-TIF Intersection						
6. Old Highway 395 / SR-76	-	-	-	-	43.0 / 42.2	D / D
7. Pankey Road / SR-76	-	-	-	-	12.5 / 15.2	B / C
8. Old Highway 395 / E. Dulin Road	12.1	B	10.1	B	12.8 / 11.2	B / B
13. Old Highway 395 / Circle R Drive	4.0	A	4.1	A	20.4 / 22.5	C / C
24.Miller Road / Valley Center Road	5.6	A	7.3	A	16.9 / 25.0	C / D

Source: Chen Ryan Associates; May 2014

Notes:
Bold letter indicates unacceptable LOS E or F.
Changes in this table are associated with "Change 1" as described in the "Summary of Major Changes to the TIS" section of the "Executive Summary".
Changes in this table are associated with "Change 4" as described in the "Summary of Major Changes to the TIS" section of the "Executive Summary".

As shown in Table 6.8, Old Highway 395 / SR-76 and Pankey Road / SR-76 are Caltrans facilities in which the County does not have jurisdiction. In addition, Caltrans does not have a plan or program in place where the project applicant could pay its fair-share towards the cost of such improvements. Therefore, mitigation is infeasible and the impacts would remain significant and unavoidable at these two intersections.

After implementation of the proposed mitigations, the other three impacted intersections would operate at acceptable LOS B or better during both the AM and PM peak hours under the cumulative traffic conditions.

Freeways

The total traffic generated by anticipated cumulative projects and the proposed project would have cumulative impacts at the following eight (8) freeway segments:

- I-15, between the 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.

According to the Regional Transportation Plan (RTP) 2050, I-15 between 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. In addition, I-15 (north of SR-78) mainline widening is not currently anticipated. As the necessary improvements are outside of jurisdiction and control of the County, and the agency with jurisdiction, Caltrans, has no funding program in place into which the project could pay its fair-share, the cumulative impacts would remain significant and unmitigable.

Table 6.9 summarizes potential cumulative impacts and recommended mitigation measures associated with anticipated cumulative projects and the proposed Lilac Hills Ranch project.

TABLE 6.9
IMPACT AND MITIGATION SUMMARY
EXISTING PLUS CUMULATIVE PROJECTS PLUS PROJECT CONDITIONS

Impacted Facility	Mitigation Measures	
	Recommendation	Note
Roadway Segment		
Camino Del Rey, between Old River Road and W. Lilac Road	TIF Payments	-
Gopher Canyon Road, between Little Gopher Canyon Road and I-15 SB Ramps	TIF Payments	-
E. Vista Way, between SR-76 and Gopher Canyon Road	TIF Payments	-
E. Vista Way, between Gopher Canyon Road and Osborne Street	TIF Payments	-
Cole Grade Road, between Fruitvale Road and Valley Center Road	TIF Payments	-
W. Lilac Road, between Old Highway 395 and Main Street	• Improve to 2.2C • Install traffic signal at Old Highway 395 / W. Lilac Road and construct one left-turn lane at the westbound approach	Also identified as a direct impact under Existing Plus Project (Phase C) scenario - project applicant would be responsible for the construction of these improvements.
Gopher Canyon Road, between E. Vista Way and Little Gopher Canyon Road	Improve to 4.1B	Disproportionality – not feasible under CEQA, and the impact would remain significant and unavoidable.
Pankey Road, between Pala Mesa Drive and SR-76	Improve to 4.2B	Disproportionality – not feasible under CEQA, and the impact would remain significant and unavoidable.
Lilac Road, between Old Castle Road and Anthony Road	• provide intermittent turn lanes at major access locations along Lilac Road, identified as: 1) the segment between Robles Lane and Cumbres Road; and 2) the intersection at Sierra Rojo Road and Lilac Road	-
Intersection		
1. E. Vista Way / Gopher Canyon Road	TIF Payments	-
9. Old Highway 395 / W. Lilac Road	TIF Payments	Project to install traffic signal and +1WBL under Existing plus Project to mitigate direct impact.
10. I-15 SB Ramps / Old Highway 395	TIF Payments	-

TABLE 6.9
IMPACT AND MITIGATION SUMMARY
EXISTING PLUS CUMULATIVE PROJECTS PLUS PROJECT CONDITIONS

Impacted Facility	Mitigation Measures	
	Recommendation	Note
11. I-15 NB Ramps / Old Highway 395	TIF Payments	-
14. I-15 SB Ramps / Gopher Canyon Road	TIF Payments	-
15. I-15 NB Ramps / Gopher Canyon Road	TIF Payments	-
6. Old Highway 395 / SR-76	• Conversion of NB L-T-R shared lane to NBT & +1NBL & +1NBR • Conversion of SB L-T-R shared lane to SB T-R shared lane & +2SBL • Conversion of EB T-R lane to EB T lane & +1EBR • Split to protected phase	Caltrans Facility - Significant and Unavoidable Impact
7. Pankey Road / SR-76	• Signalization • Conversion of NB L-T-R shared lane to NBT & +2NBL & +1NBR • Conversion of SB L-T-R shared lane to SBT & +1SBL & +2SBR (RTOL) • +1EBL; conversion of EB T-R shared lane to EBT & +1EBR • Conversion of WB T-R shared lane to WBT & +1WBR	Caltrans Facility - Significant and Unavoidable Impact
8. Old Highway 395 / E. Dulin Road	• Signalization	-
13. Old Highway 395 / Circle R Drive	• Signalization	Direct Impact – Project Improvement
24. Miller Road / Valley Center Road	• Signalization	-
Two-Lane Highway		
None	-	-
Freeway		
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

TABLE 6.9
IMPACT AND MITIGATION SUMMARY
EXISTING PLUS CUMULATIVE PROJECTS PLUS PROJECT CONDITIONS

Impacted Facility	Mitigation Measures	
	Recommendation	Note
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

7.0 Site Access and On-Site Circulation

This chapter presents an assessment of transportation facilities providing access to the proposed project. It also recommends functional classifications for all roadways internal to the project.

7.1 Site Access

As previously shown in Figure 3-1A, six (6) access points (study intersections #26 through #31) to the north are provided along Main Street to W. Lilac Road. Traffic controls consist of single-lane roundabouts at study intersections #26, 27, and 31, all-way stop controls in the one-way couplet at study intersections #28 and 29, and a one-way stop controlled T-intersection at study intersection #30. Main Street is anticipated to serve as the primary access for project trips.

Project access to the east is provided via Covey Lane to W. Lilac Road (study intersection #18, stop controlled). Covey Lane provides unrestricted access to community north of Covey Lane and a restricted access to the senior community to the southern portion of the project.

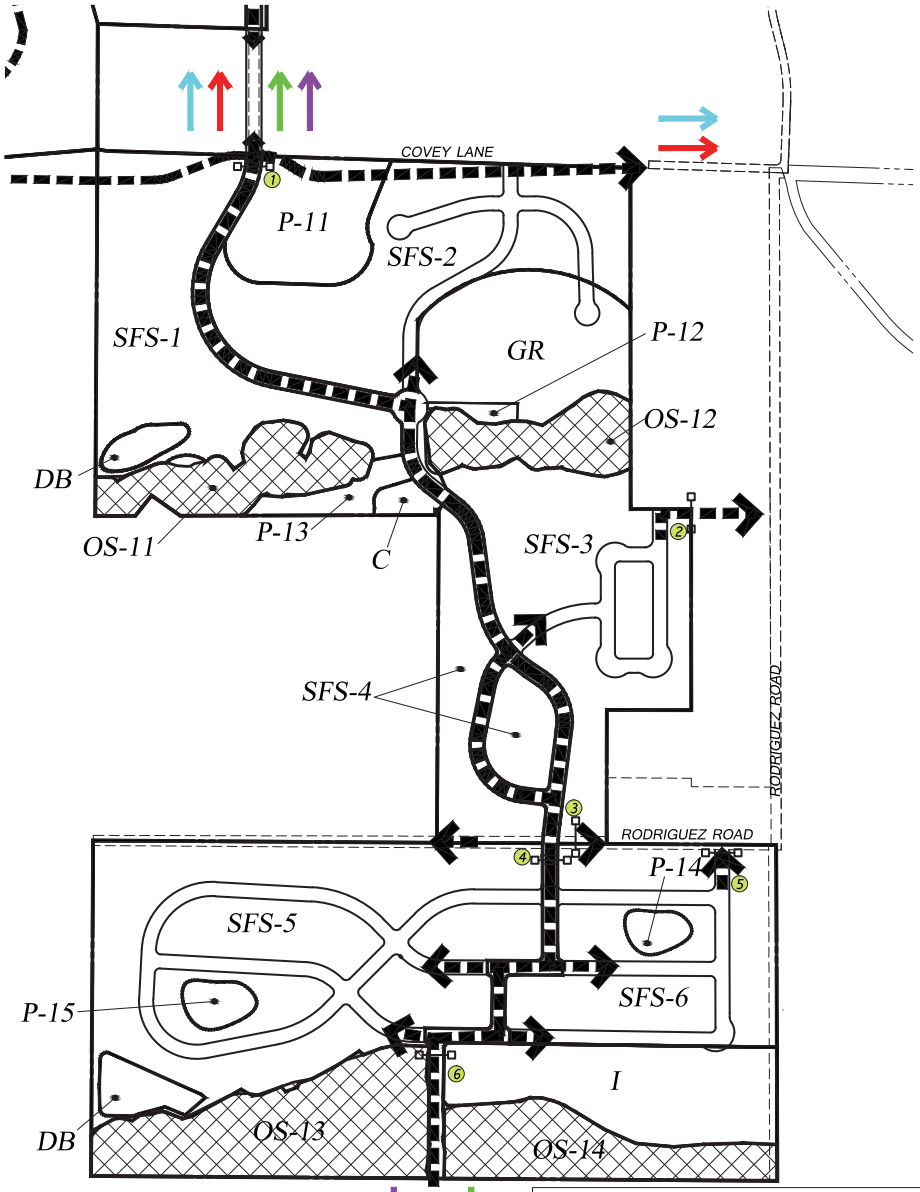
Project access to the south is provided via Mountain Ridge Road to Circle R Drive (study intersection #19, stop controlled). The southern third of the project (south of Covey Lane) is a gated senior community with a gate just south of Covey Lane on Lilac Hills Ranch Road and another gate at the southern terminus of Lilac Hills Ranch Road just north of the proposed church site. Mountain Ridge Road will provide access only for the Senior Residential located in SFS-5 and SFS-6, as well as the neighborhood park and the institutional (church) site. Visitors to the Church during days of worship will also have access thru the northern gate of the senior community.

An additional gated emergency access is provided by Rodriguez Road. **Figure 7-1** illustrates location of the project gated access.

Birdsong Drive, between Street "Z" and W. Lilac Road will serve as an interim secondary access route for the initial phase of Phase A (SFD-1 and SFD-2 as shown in Figure 1-3). After the construction of Main Street, between Street "Z" and W. Lilac Road, Birdsong Drive will be resumed as a private driveway for use by the owner of APN 128-280-56.

Based upon a review of the project site utilization plan and conditions in the field, the following comments on site access are offered:

- Sight distance analyses were conducted at the intersections of Mountain Ridge Road / Circle R Drive (southern project access) and Covey Lane / W. Lilac Road (eastern project access) by the project Civil Engineer, Landmark Consulting. Technical memorandums with findings and recommendations will be submitted under a separated cover, as attached in **Appendix AT**.



LEGEND	
SINGLE FAMILY SENIOR	SFS
COMMERCIAL/MIXED USE	C
DETENTION BASINS	DB
PARK	P
GROUP CARE/RESIDENTIAL	GR
INSTITUTIONAL/RELIGIOUS USE	I
CIRCULATION ROADS	
PRIMARY & SECONDARY ACCESS FOR SFS-1 & SFS-2	
PRIMARY & SECONDARY ACCESS FOR SFS-3 & SFS-4	
PRIMARY & SECONDARY ACCESS FOR SFS-5 & SFS-6	
PRIMARY & SECONDARY ACCESS FOR INSTITUTIONAL USE	
GATED ACCESS POINT NO. (SEE ATTACHED MEMO FOR DESCRIPTION)	1
FIRE APPARATUS ACCESS GATE	

LILAC HILLS RANCH RESTRICTED ACCESS DESCRIPTION		
GATED ACCESS #	DESCRIPTION	PLANNING AREAS WITH GATE ACCESS RIGHTS
1	FIRE APPARATUS ACCESS GATE: MANNED GATE HOUSE, ALLOWING PERMANENT RESIDENTS AND GUESTS TO TRAVEL THROUGH	SFS-1, SFS-2, SFS-3, SFS-4, SFS-5, SFS-6, & INSTITUTIONAL
2	FIRE APPARATUS ACCESS GATE: RESTRICTED ACCESS GATES THAT OPEN DURING EMERGENCIES AND CAN BE ACTIVATED BY CODE, KNOX KEYS, OR COUNTY EMERGENCY RESPONSE CENTER	SFS-3 and SFS-4
3	FIRE APPARATUS ACCESS GATE: RESTRICTED ACCESS GATES THAT OPEN DURING EMERGENCIES AND CAN BE ACTIVATED BY CODE, KNOX KEYS, OR COUNTY EMERGENCY RESPONSE CENTER, AND AUTOMATIC ACCESS GATE FOR RESIDENTS ALONG RODRIGUEZ ROAD WITH A KEY FOB OR ACCESS CODE.	SFS-3, SFS-4, SFS-5, & SFS-6
4	FIRE APPARATUS ACCESS GATE AND AUTOMATIC ACCESS GATE FOR RESIDENTS WITH A KEY FOB OR ACCESS CODE	SFS-5 and SFS-6
5	FIRE APPARATUS ACCESS GATE: RESTRICTED ACCESS GATES THAT OPEN DURING EMERGENCIES AND CAN BE ACTIVATED BY CODE, KNOX KEYS, OR COUNTY EMERGENCY RESPONSE CENTER	SFS-5 and SFS-6
6	FIRE APPARATUS ACCESS GATE AND AUTOMATIC ACCESS GATE FOR RESIDENTS WITH A KEY FOB OR ACCESS CODE	SFS-5, SFS-6, & INSTITUTIONAL

RECON

Not to Scale

Lilac Hills Ranch Traffic Impact Study

Figure 7-1
Project Gated Access

CHEN RYAN

- The Project Civil Engineer, Landmark Consulting, will ensure that all proposed roundabouts are designed to meet applicable safety and design standards. Roundabout experts, Reid Middleton, provided a peer review (included as Appendix A) on the design and analysis of the proposed roundabouts.

- Based on the analyses in the previous sections, all project access intersections/roundabouts (#18, 19, and 26-31) would operate at acceptable Levels of Service under the various study scenarios.

7.2 On-Site Circulation

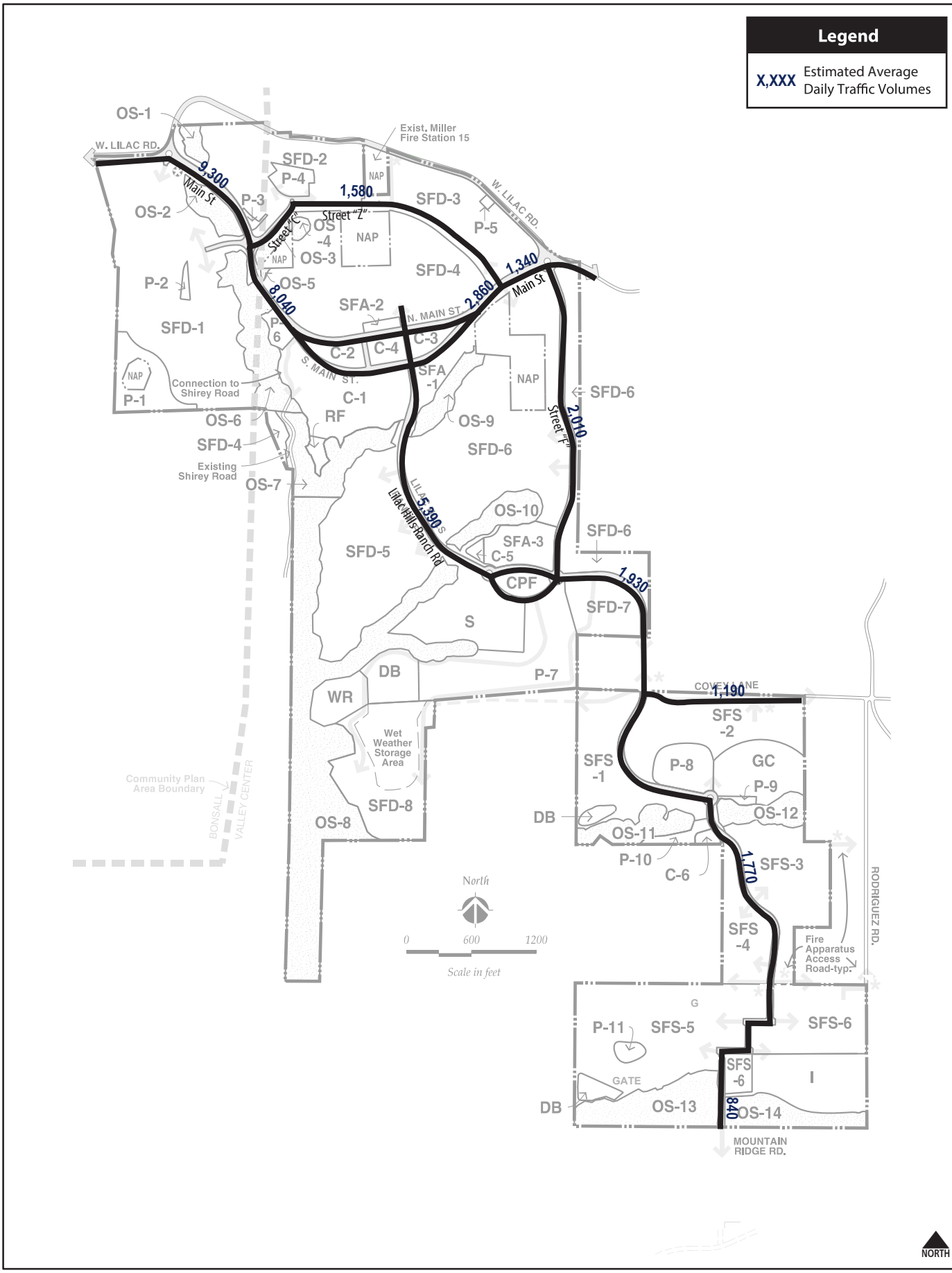
A system of private roads, including Main Street, Lilac Hills Ranch Road, Street "F", Mountain Ridge Road, and Covey Lane, is proposed to provide site access and on-site circulation for Lilac Hills Ranch.

Main Street would serve as the primary access carrying approximately 6% to 60% (east to west) of the project trip. A small percent (9%) of the total project traffic would utilize Covey Lane. Approximately 5.5% of the total project traffic would access Mountain Ridge Road as this access is gated and restricted to southern half of Phase 5 (SRS-5, SFS-6, and the institutional (church) site) uses only. The southern third of the project is a senior community with a gate between the main project and the senior community (at Lilac Hills Ranch Road/Covey Lane), another gate in the middle of Phase 5 development along Lilac Hills Ranch Road (just north of SRS-5/SFS-6), as well as a gate at Lilac Hills Ranch Road/Mountain Ridge Road just north of the proposed church site. During days of worship, the northern gate at the senior community entrance will be opened to provide internal circulation and access for residents live on the north side of Covey Lane.

Based upon buildout of the proposed project land uses and trip generation, ADT volumes were estimated for the internal roadway segments within the Lilac Hills Ranch project site. Project trips were distributed and assigned to the internal roadway system based on the location and characteristics of the proposed land uses.

Figure 7-2 displays the resulting internal roadway ADTs. As shown, Mountain Ridge Road, Covey Lane, Street "F", as well as portions of Lilac Hills Ranch Road and Main Street would carry less than 2,500 estimated daily trips. The County's Private Road Design Standards Section 3.1 (D) states that *where it is determined that the number of trips per day on a particular road will exceed 2,500, the Director of Public Works may require that the road be dedicated and improved in conformance with the "County of San Diego Public Road Standards*".

In addition, the Director of Public Works has the discretion to approve private roads with higher design standards as noted in Section 1.2 of the County's Private Road Design Standards indicates that *the requirements set forth in these standards are considered minimum design standards. They may be exceeded at the option of the developer, subject to the approval of the Director of Public Works*.



Lilac Hills Ranch Traffic Impact Study

Figure 7-2
Estimated Internal ADTs

CHEN RYAN

The following roads are projected to carry more than the threshold of 2,500 ADT and are designed to exceed all minimum private road design standards in terms of road surfacing width, ROW, paved shoulders width, minimum curve radius, and maximum desirable grade:

- Main Street, between W. Lilac Road and Street "C" – 9,300 ADT;
- Main Street, between Street "C" and Lilac Hills Ranch Road – 8,040 ADT;
- Main Street, between Lilac Hills Ranch Road and Street "Z" – 2,860 ADT; and
- Lilac Hills Ranch Road, between Main Street and Street "F" – 5,390 ADT.

Arterial speed analysis was conducted for Main Street and Lilac Hills Ranch Road and **Table 7.1** summarizes the results. Highway Capacity Software (HCS) 2000 developed by McTrans was employed for this 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 and characteristics. The respective analysis worksheets are included in **Appendix AU**.

TABLE 7.1
INTERNAL ROADWAY ARTERIAL LEVEL OF SERVICE RESULTS

Arterial	ADT	Free-Flow Speed (mph)	AM Peak Hour		PM Peak Hour	
			Travel Speed (mph)	LOS	Travel Speed (mph)	LOS
Main Street, between W. Lilac Road and Street "F"	9,300*	30	21.3	B	16.5	C
Lilac Hills Ranch Road, between Main Street and Street "F"	5,390	30	24.1	B	18.7	C

Source: Chen Ryan Associates; May 2014

Note:
*The estimated daily traffic volumes along this facility range from 1,340 to 9,300, and the 9,300 ADT used in this analysis represents the highest volume and the worst case scenario.

As shown in the table, both Main Street and Lilac Hills Ranch Road would operate at LOS C or better at project buildout.

In addition to the operational arterial analysis, **Table 7.2** was created to compare the design features of all on-site circulation/spine roads (private) to the County's private and public road standards.

TABLE 7.2
ON-SITE CIRCULATION / SPINE ROADS DESIGN FEATURES

Road	Classification / ADT	# Lanes / Lane Width	Road Surfacing Width	ROW/ Esmt. Width	Paved Shoulders (# / Width)	Min. Curve Radius	Max. Desirable Grade	Design Speed (mph)
Standard	Private / 2,500	2 / 12'	24'	28'	-	200'	20%	30
Standard	LPR, Residential Collector / 4,500	2 / 12'	40'	60'	2 / 8'	300'	12%	30
Standard	2.3C / 7,000	2 / 12'	40'	68'	2 / 8'	350'	12%	35
Standard	2.2F / 8,700	2 / 12'	28'	52'	2 / 2'	500'	9%	40
Standard	2.2E / 10,900	2 / 12'	40'	64'	2 / 8'	500'	9%	40
Main Street (excluding couplet)	Private / 1,340-9,300	2 / 12'	40'–45'	51'-72'	5'*	500'	9%	30
Lilac Hills Ranch Road (north of the couplet)	Private / 5,390	2 / 12'	26'–40'	40'-60'	0'-8'	500'	9%	30
Lilac Hills Ranch Road (St "F" to Covey Ln)	Private / 1,930	2 /12'	26'–40'	40'-60'	0'-8'	300'	10%	30
Lilac Hills Ranch Road (Covey Ln to Mountain Ridge Rd)	Private / 1,390	2 /12'	26'–40'	40'-60'	0'-8'	300'	10%	30
Street "F"	Private / 2,010	2 / 12'	25'-37'	26.5'-38.5'	0'-8'	300'	15%	25-30
Street "Z"	Private / 1,580	2 / 12'	25'-37'	26.5'-38.5'	0'-8'	300'	15%	25-30
Covey Lane (within project boundary)	Private / 1,390	2 / 12'	24'	26'-40'	0'-8'	200'	15%	25-30
Covey Lane (project boundary to WLR)	IOD / 1,390	2 / 12'	29'	60'-74'	2 / 2'	1,000'	6.2%	30
Mountain Ridge Road	Private / 1,190	2 / 12'	24'	40'	-	200'	20%	15

Source: Landmark Consulting, Chen Ryan Associates; May 2014

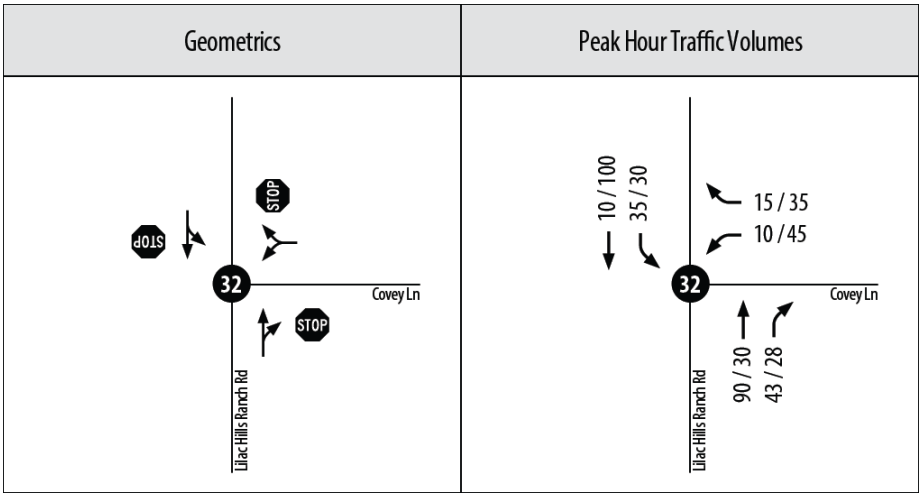
Note:
*5' bike lane which is also counts as shoulder.

As shown, Lilac Hills Ranch Road south of Street "F", Street "F", Covey Lane, and Mountain Ridge Road meet and exceed all private road design requirements with estimated ADTs of 2,500 or less, with the exception of the design speed on Mountain Ridge Road. This design exception is discussed in detail previously in Chapter 1, under design exception #7 (pages 10-12).

Main Street and Lilac Hills Ranch Road north of Street "F" generally (with lower design speed) meet the design standards of 2.2E facilities, which have a capacity of 16,200 ADT (LOS D

thresholds of 10,900 ADT). It is the project vision and desire to slow down traffic both through traffic calming measures (i.e. roundabouts) and design features (i.e. design speed) in the proposed town center and within the vicinity of the school and parks where high pedestrian activity is anticipated and encouraged.

Additionally, the intersection of Lilac Hills Ranch Road/Covey Lane was analyzed as an All-Way Stop Controlled (AWSC) intersection to ensure an acceptable LOS within the project site. The figure below displays the Lilac Hills Ranch Road/Covey Lane intersection geometrics as well as peak hour traffic volumes.



Source: Chen Ryan Associates; May 2014

Table 7.3 displays the intersection delay and LOS under the project buildout conditions. Level of service calculation worksheets are provided in **Appendix AV**.

TABLE 7.3
PEAK HOUR INTERSECTION LEVEL OF SERVICE RESULTS
LILAC HILLS RANCH ROAD/COVEY LANE

Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
		Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS
Lilac Hills Ranch Road / Covey Lane	AWSC	7.5	A	7.8	A

Source: Chen Ryan Associates; May 2014

As shown in Table 7.3, the intersection of Lilac Hills Ranch Road / Covey Lane would operate at acceptable LOS A during both the AM and PM peak hours.
Table 7.4 displays the projected daily volumes for two private roads, Covey Lane and Mountain Ridge Road, both of which provides access to the proposed Lilac Hills Ranch Project.

TABLE 7.4
COVEY LANE AND MOUNTAIN RIDGE ROAD

Facility	Estimated ADT	Capacity*
Covey Lane	1,390	2,500
Mountain Ridge Road	1,190	2,500

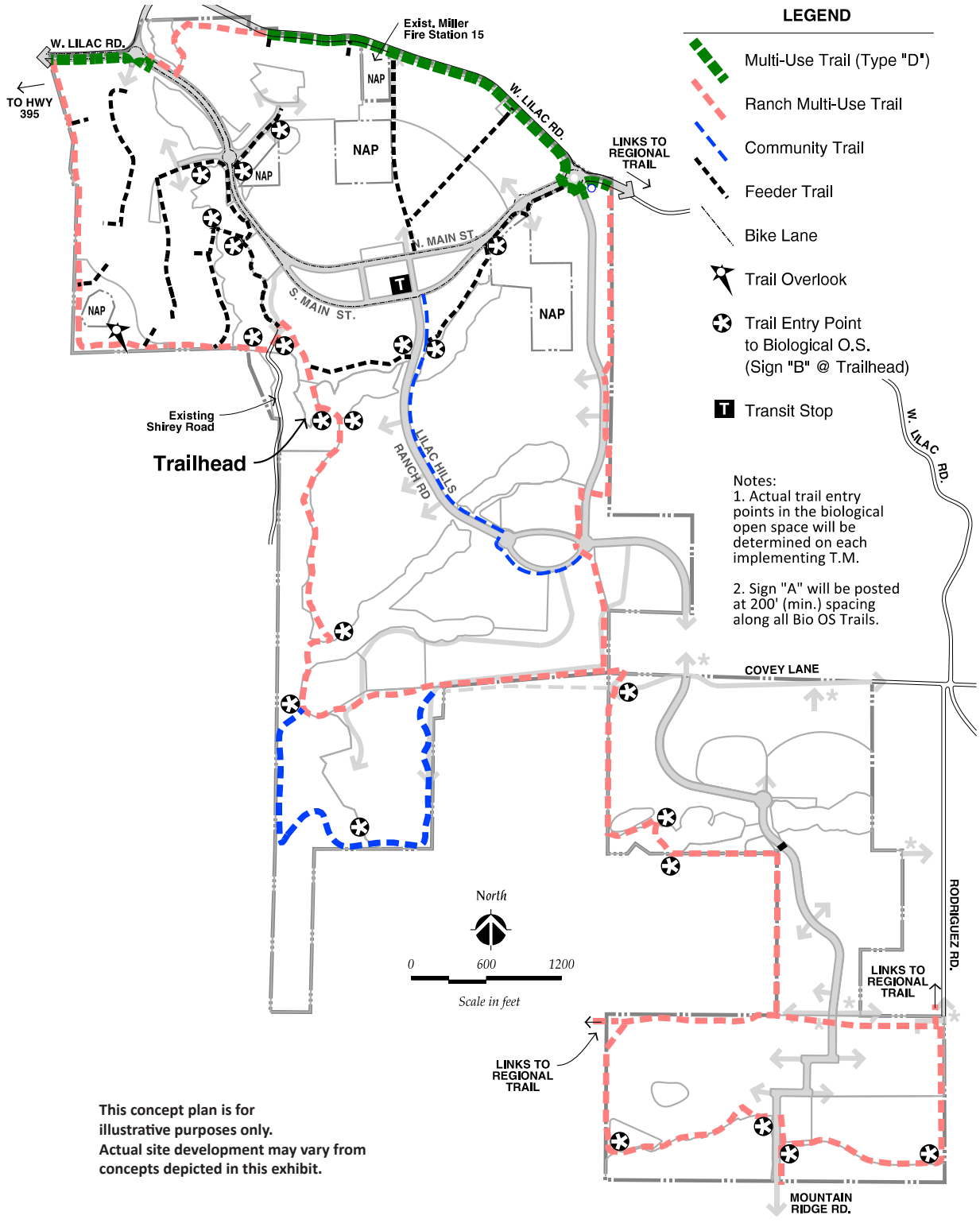
Source: Chen Ryan Associates; May 2014

Notes:
*The capacity is based on the County Private Road Standards with observed travel speed. Observed speed is based on speed survey conducted by NDS included in Appendix D.

8.0 Hazards to Pedestrians and Bicyclists

Lilac Hills Ranch currently has two east-west public trail segments, one along the northern boundary of the project site (W. Lilac Road) and the other along the most southern portion of the project. In addition to the two public trails, the Lilac Hills Ranch project proposes developing a system of multi-purpose trails that traverse the project site, linking the northern and southern public trails. The Lilac Hills Ranch's multi-purpose trails network will provide connectivity to parks, private recreation, schools, and commercial areas within the project site. The multi-purpose trail network is proposed as a combination of smaller feeder and natural trails in the open space area of Lilac Hills Ranch, and an 8-foot community pathway that traverses the project site providing connectivity to the existing County Regional Trail System. All trails should be designed to County standards approved by the County as set forth in the Specific Plan for the Project to ensure the safety of pedestrians and bicyclists. A map of the proposed trail network is displayed in **Figure 8-1**.

In addition to the trails system, a number of roundabouts are proposed along W. Lilac Road and Main Street. Roundabouts have been proven to calm traffic, improve safety, and increase roadway capacity when designed correctly, thereby enhancing the comfort and safety of both cyclists and pedestrians. The Project Civil Engineer, Landmark Consulting, will ensure that all proposed roundabouts are designed to meet applicable safety and design standards.



Trails Plan & Biological Open Space Signage

LILAC HILLS RANCH SPECIFIC PLAN

FIGURE 20

9.0 General Plan Consistency Analyses

This chapter discusses the correlation between the General Plan Land Use Element and Mobility Element at build-out of the Land Use Element as amended by the proposed project. Although a build-out analysis is not needed to evaluate project impacts under CEQA, projects that involve a general plan amendment must provide such an analysis as required by the County's Guidelines for Determining Significance, as modified on August 24, 2011. The purpose of the Buildout Analysis provided in Chapter 9 is to determine whether the proposed land use changes are consistent with the County's Circulation Element.

Mobility Element Policy 2.1 acknowledges that the preservation of valuable resources may outweigh the benefits of road improvements. Therefore, a lower LOS along specified roadways may be acceptable. Table M-4 of the Mobility Element identifies the deficient roadways and describes the rationale for accepting deficient roadway segments. Policy 2.1 requires development projects to provide associated road improvements necessary to achieve a level of service of "D" or higher on all Mobility Element roads except for those where a failing level of service has been accepted by the County pursuant to the specified criteria. The applicable situations for accepting a road classification where a LOS E or F is forecast includes those instances when the adverse impacts of adding travel lanes do not justify the resulting benefit of increased traffic capacity. This would include the following relevant situations:

- When marginal deficiencies are characterized along a short segment of a road and classifying the road with a designation that would add travel lanes for the entire road would be excessive; or

- When adding travel lanes to a road that would adversely impact environmental and cultural resources or in areas with steep slopes where widening roads would require massive grading, which would result in adverse environmental impacts and other degradation of the physical environment.

This chapter provides two plan-to-plan analyses assessing potential traffic impacts to the County's General Plan Mobility Element roadways due to changes in the proposed project's land use, density, intensity, and/or network proposals. In addition to the proposed project land uses described in Chapter 4, *the Lilac Hills Ranch project also proposes to downgrade W. Lilac Road, between Main Street (the most western project roundabout) and the planned Road 3 from 2.2C to 2.2F*. The two plan-to-plan analyses include comparisons of, first, the proposed project and the currently adopted GP Mobility Element (with Road 3); and second, the proposed project and the "Without Road 3" network. The purpose of these analyses is to determine whether the land use and network changes proposed by this project can be supported by the County's Mobility Element.

9.1 Horizon Year Roadway Network and Traffic Volumes

The Horizon Year roadway network is based on the County's General Plan Mobility Element, with the alternatives of Road 3 in or out, to reflect the currently adopted General Plan (with Road 3) and the "Without Road 3" network **Figure 9-1** displays the Horizon Year roadway geometrics.

SANDAG traffic model forecasts are required for the Horizon Year analysis. The current Series 12 Regional Transportation Model, yet to be calibrated or validated at the community plan level for the unincorporated County of San Diego, has been found to generate forecast roadway average daily traffic (ADT) volumes that are significantly different from those illustrated in the recently adopted General Plan Update Mobility Element (Series 10). Unfortunately, the Series 10 County GPU Model is no longer available for our use. In order to utilize the best available and most defensible data for the CEQA-level traffic analysis, the following approach was utilized and approved by both the County of San Diego and Caltrans for developing the Horizon Year volumes:

County Facilities

- Utilize the Series 10 GPU 2030 model forecast ADT as a starting point – horizon year 2030 base volumes.
- Conduct "Select Zone" assignments for the proposed Lilac Hills Ranch project using the Series 12 Regional Transportation Model. Project trip distribution and assignment, as well as the potential study area, were derived from these "Select Zone" assignments.
- Compare the trip generation between the adopted and proposed land uses for the subject TAZs.
- The difference in trip generation between the adopted and proposed land uses, along with the proposed project distribution from the Select Zone assignments mentioned above, were used to derive 2030 ADTs for the proposed project.

Caltrans Facilities

- Utilize forecast ADTs from Year 2050 of the Series 12 Regional Transportation Model as adopted in the 2050 RTP. While this regional model is not calibrated at the arterial and local street level, it is calibrated and approved for use at the state facility level.
- The difference in trip generation (between the adopted and proposed land uses for the subject TAZs), along with the proposed project distribution (from the Series 12 "Select Zone" assignments) was used to derive the Horizon Year with proposed project freeway/state highway segment ADTs.