

4.12 TRANSPORTATION

4.12.1 Executive Summary

This section is based on the *Multimodal Transportation Impact Study* (TIS; 2016) prepared by Omni-Means, Ltd. to evaluate projected transportation impact conditions associated with development of the San Luis Ranch Project. The TIS is included as Appendix K to this EIR. Table 4.12-1 provides a summary of the mitigation measures described throughout this section, and the transportation and circulation impacts addressed by each mitigation measure.

Setting

a. Roadway Network. Regional access to the project site is provided via interchanges on U.S. Highway 101 (U.S. 101) at Madonna Road and at Los Osos Valley Road. Local access is provided via Madonna and Los Osos Valley Roads, which intersect west of the project site. Direct access to the site is provided via Dalidio Drive. Figure 4.12-1 shows the roadways in the vicinity of the project site. Roadways which provide access to the project site and vicinity are described below. Due to the varying orientation of the City street network the directionality defined in this study may or may not be consistent with other studies or documents.

U.S. Highway 101. U.S. 101 is functionally classified as an Urban Principal Arterial and is part of the National Truck Network. U.S. 101 is a north-south, four lane mixed flow freeway through the City of San Luis Obispo. Outside of the City, U.S. 101 provides access to the City of Paso Robles to the north and the Five Cities area to the south. It is a primary route for all truck traffic leaving from and coming to the City.

Froom Ranch Way. Froom Ranch Way is an east-west roadway that connects Los Osos Valley Road to the Prefumo Creek Shopping Center on the east side and the Irish Hills Plaza on the west side. Froom Ranch Way is four lanes west of Los Osos Valley Road and two lanes east of Los Osos Valley Road with sidewalks on both sides and Class II bicycle lanes on the east side. Planned changes to Froom Ranch Way as part of the project include extension as a two-lane collector street east to Dalidio Drive.

South Higuera Street. South Higuera Street is a north-south arterial within the vicinity of the project site. Higuera Street connects to downtown San Luis Obispo to the north and terminates to the south at its interchange with U.S. 101. South of Marsh Street, it provides a four-lane roadway with Class II bike lanes and continuous sidewalks.

Los Osos Valley Road. Los Osos Valley Road is a north-south arterial that extends from the community of Los Osos to Higuera Street. This roadway connects with U.S. 101 ramp termini approximately 0.5 mile west of South Higuera Street and is functionally classified in the City as an Arterial or a Parkway Arterial. Los Osos Valley Road provides four lanes with Class II bike lanes and sidewalks on both sides for the majority of the study area. Since 2014, improvements associated with the Los Osos Valley Road/U.S. 101 interchange Traffic Relief Project have been constructed. Completed improvements include widening Los Osos Valley Road to four lanes from west of Calle Joaquin Road to approximately 500 feet west of South Higuera Street as well as constructing sidewalks and Class II bike lanes along both sides of Los Osos Valley Road.





Roadways in the Vicinity of
the Project Site

Figure 4.12-1

Source: Omni-Means, Ltd., 2016

City of San Luis Obispo

**Table 4.12-1
Mitigation Summary Table**

Required Transportation Improvement Measures	Required Timing	Impacts Mitigated/EIR Mitigation Measures
<p>1. <u>Construct Prado Road Overpass & Northbound U.S. 101 Ramps</u></p>	<p>Phase 2</p>	<p>T-1: Existing & Near-Term Multimodal Intersection Level of Service Impacts T-1(c) Intersection #5: Madonna Road & U.S. 101 Southbound Ramps T-1(f) Intersection #10: Los Osos Valley Road & Auto Park Way T-1(g) Intersection #16: S. Higuera Street & Tank Farm Road T-2: Existing & Near-Term Intersection Lane Capacity Impacts T-2(a) Intersection #1: Madonna Road & Los Osos Valley Road T-2(b) Intersection #2: Madonna Road & Oceanaire Drive T-2(d) Intersection #6: Madonna Road & U.S. 101 Northbound Ramps T-2(e) Intersection #7: Madonna Road & Higuera Street T-2(h) Intersection #13: Los Osos Valley Road & U.S. 101 Northbound Ramps T-3: Existing & Near-Term Multimodal Segment Level of Service Impacts T-3(a) Segments #1 - #6: Madonna Road (Los Osos Valley Road to Higuera Street) T-3(b) Segments #7 - #8: Higuera Street (Madonna Road to Prado Road) T-3(c) Segments #13 - #17: Los Osos Valley Road (Madonna Road to Higuera Street)</p>
<p>2. <u>Widen Madonna Road & Dalidio Drive/Prado Road Intersection</u></p> <ol style="list-style-type: none"> 1. Extend existing westbound left turn lane on Madonna Road to Dalidio Drive/Prado Road to 310' 2. Install 2nd westbound 310' left turn lane on Madonna Road to Dalidio Drive/Prado Road 3. Install eastbound 250' right turn pocket on Madonna Road to Dalidio Drive/Prado Road 4. Install 2nd northbound left shared with through-lane on Prado Road/Dalidio Drive to Madonna Road 5. Prohibit westbound U-turns on Madonna Road 6. Provide split phase operations & optimize signal timing 	<p>Phase 1</p>	<p>T-1: Existing & Near-Term Multimodal Intersection Level of Service Impacts T-1(b) Intersection #3: Madonna Road & Dalidio Drive/Prado Road T-8: Cumulative Multimodal Intersection Level of Service Impacts T-8(a) Intersection #3: Madonna Road & Dalidio Drive/Prado Road T-9: Cumulative Intersection Lane Capacity Impacts T-9(b) Intersection #2: Madonna Road & Oceanaire Drive T-9(c) Intersection #3: Madonna Road & Dalidio Drive/Prado Road T-9(d) Intersection #4: Madonna Road & El Mercado</p>



**Table 4.12-1
Mitigation Summary Table**

Required Transportation Improvement Measures	Required Timing	Impacts Mitigated/EIR Mitigation Measures
<p>3. <u>Widen Los Osos Valley Road & Froom Ranch Way Intersection</u></p> <ol style="list-style-type: none"> 1. Install dedicated 230' right turn lane on Los Osos Valley Road approach to northbound Froom Ranch Way 2. Extend right turn lane on Los Osos Valley Road approach to southbound Froom Ranch Way to 110' 3. Install 2nd southbound left turn lane on Froom Ranch Way approach to eastbound Los Osos Valley Road 	<p>With Froom Bridge Construction</p>	<p>T-1: Existing & Near-Term Multimodal Intersection Level of Service Impacts T-1(e) Intersection #9: Los Osos Valley Road & Froom Ranch Way</p> <p>T-2: Intersection Lane Capacity Impacts T-2(f) Intersection #9: Los Osos Valley Road & Froom Ranch Way</p> <p>T-8: Cumulative Multimodal Intersection Level of Service Impacts T-8(b) Intersection #9: Los Osos Valley Road & Froom Ranch Way</p> <p>T-9: Cumulative Intersection Lane Capacity Impacts T-9(h) Intersection #9: Los Osos Valley Road & Froom Ranch Way</p>
<p>4. <u>Signalize Los Osos Valley Road & Auto Park Way Intersection</u></p>	<p>Phase 1</p>	<p>T-1: Existing & Near-Term Multimodal Intersection Level of Service Impacts T-1(f) Intersection #10: Los Osos Valley Road & Auto Park Way</p> <p>T-8: Cumulative Multimodal Intersection Level of Service Impacts T-8(c) Intersection #10: Los Osos Valley Road & Auto Park Way</p>
<p>5. <u>Los Osos Valley Road & U.S. 101 Southbound Off Ramp</u></p> <ol style="list-style-type: none"> 1. Extend off ramp left turn lane to 320 	<p>Phase 1</p>	<p>T-2: Existing & Near-Term Intersection Lane Capacity Impacts T-2(g) Intersection #12: Los Osos Valley Road & U.S. 101 Southbound Ramps</p>
<p>6. <u>Madonna & U.S. 101 Southbound Off Ramp</u></p> <ol style="list-style-type: none"> 1. Extend northbound Madonna Road left turn lane to 150' 	<p>Phase 1</p>	<p>T-2: Existing & Near-Term Intersection Lane Capacity Impacts T-2(c) Intersection #5: Madonna Road & U.S. 101 Southbound Ramps</p>
<p>7. <u>Higuera Street & Tank Farm Road</u></p> <ol style="list-style-type: none"> 1. Extend northbound right turn pocket to 230' and channelize movement 	<p>Phase 1</p>	<p>T-1: Existing & Near-Term Multimodal Intersection Level of Service Impacts T-1(g) Intersection #16: S. Higuera Street & Tank Farm Road</p> <p>T-8: Cumulative Multimodal Intersection Level of Service Impacts T-8(g) Intersection #16: S. Higuera Street & Tank Farm</p>



**Table 4.12-1
Mitigation Summary Table**

Required Transportation Improvement Measures	Required Timing	Impacts Mitigated/EIR Mitigation Measures
		Road T-9: Cumulative Intersection Lane Capacity Impacts T-9(l) Intersection #16: S. Higuera Street & Tank Farm Road
8. <u>Widen Prado Road & Higuera Street Intersection</u> 1. Install 2nd U.S. 101 northbound left turn lane 2. Extend westbound right turn pocket to 400'	Phase 1	T-2: Intersection Lane Capacity Impacts T-2 (j) Intersection #18: Prado Road & Higuera Street T-9: Cumulative Intersection Lane Capacity Impacts T-9(m) Intersection #18: Prado Road & Higuera Street
9. <u>Los Osos Valley Road & Higuera Street</u> 1. Extend eastbound right turn lane to 180'	Phase 1	T-2: Intersection Lane Capacity Impacts T-2(i) Intersection #14: Los Osos Valley Road & Higuera Street
10. <u>Install Multilane Roundabout at Prado/Dalidio & Froom Intersection</u>	With Prado/Dalidio Construction	T-1: Existing & Near-Term Multimodal Intersection Level of Service Impacts T-1(h) Intersection #21: Prado Road/Dalidio Drive & Froom Ranch Way
11. <u>Install Multilane Roundabout Control or Restricted Access at Prado Road/Dalidio Drive & Project Driveways</u>	With Prado/Dalidio Construction	T-1: Existing & Near-Term Multimodal Intersection Level of Service Impacts T-1(i) Intersection #25: Prado Road/Dalidio Drive & SC Project Driveway
12. <u>Construct Parallel Class I Multiuse Paths or Bike Boulevard</u> 1. Madonna Road (Los Osos Valley Road to Higuera Street) 2. Higuera Street (Madonna Road to Prado Road) 3. Los Osos Valley Road (Madonna Road to Higuera Street) 4. Prado Road/Dalidio Drive (Froom Ranch Way to Higuera Street)	Phase 1 -Madonna -Higuera Phase 3 -LOVR With Prado -Prado	T-3: Existing & Near-Term Multimodal Segment Level of Service Impacts T-3(a) Segments #1 - #6: Madonna Road (Los Osos Valley Road to Higuera Street) T-3(b) Segments #7 - #8: Higuera Street (Madonna Road to Prado Road) T-3(c) Segments #13 - #17: Los Osos Valley Road (Madonna Road to Higuera Street) T-3(d) Segments #18 - #20: Prado/Dalidio (Froom Ranch Way to Higuera Street)



**Table 4.12-1
Mitigation Summary Table**

Required Transportation Improvement Measures	Required Timing	Impacts Mitigated/EIR Mitigation Measures
13. <u>City Transit Headway Optimization</u> 1. Fund assessment of decreasing traffic headways to 25 min <i>T-3(a)</i>	Ongoing By City	T-3: Existing & Near-Term Multimodal Segment Level of Service Impacts T-3(a) Segments #1 - #6: Madonna Road (Los Osos Valley Road to Higuera Street)
14. <u>City Signal Timing Optimization</u>	Ongoing By City	T-1: Existing & Near-Term Multimodal Intersection Level of Service Impacts T-1(a) Intersection #1: Madonna Road & Los Osos Valley Road T-1(d) Intersection #8: Higuera Street & South Street.
15. <u>Traffic Calming and/or Reconfiguration of New Neighborhood Streets</u>	Final Design Plans prior to issuance of grading permits	T-6: Safety & Access Management Impacts T-7: Circulation Element Policy Inconsistency
16. <u>Revise Phase of Froom Ranch Way Bridge Construction</u>	Phase 1	T-5: Froom Ranch Bridge Phasing Impact
17. <u>Construction Traffic Management Plan</u>	Final Design Plans prior to issuance of grading permits	T-4: Construction Traffic Impacts
18. <u>Pay Fair Share of Madonna & Los Osos Valley Road</u> 1. Extend northbound right turn pocket on Los Osos Valley Road to 295' 2. Extend southbound left turn pocket on Madonna Road to 395'	Post Project	T-9: Cumulative Intersection Lane Capacity Impacts T-9(a) Intersection #1: Madonna Road & Los Osos Valley Road
19. <u>Pay Fair Share of Madonna Road & Oceanaire Drive</u> 1. Extend westbound right turn land on Madonna Road to 200'	Post Project	T-9: Cumulative Intersection Lane Capacity Impacts T-9(b) Intersection #2: Madonna Road & Oceanaire Drive
20. <u>Pay Fair Share of Higuera & South</u> 1. Extend northbound Higuera Street left turn pocket to 120' 2. Extend eastbound South Street right turn pocket to 100'	Post Project	T-9: Cumulative Intersection Lane Capacity Impacts T-9(g) Intersection #8: Higuera Street & South Street
21. <u>Pay Fair Share of Constructing Prado Road Overpass & U.S. 101 Southbound Ramps</u>	Post Project	T-8: Cumulative Multimodal Intersection Level of Service Impacts T-8(d) Intersection #12: Los Osos Valley Road & U.S. 101 Southbound Ramps T-8(e) Intersection #13: Los Osos Valley Road & U.S. 101 Northbound Ramps T-8(f) Intersection #14: Los Osos Valley Road & S. Higuera Street T-8(g) Intersection #16: S. Higuera Street & Tank Farm Road



**Table 4.12-1
Mitigation Summary Table**

Required Transportation Improvement Measures	Required Timing	Impacts Mitigated/EIR Mitigation Measures
		<p>T-9: Cumulative Intersection Lane Capacity Impacts</p> <ul style="list-style-type: none"> T-9(e) Intersection #5: Madonna Road & 101 Southbound Ramps T-9(f) Intersection #6: Madonna Road & U.S. 101 Northbound Ramps T-9(i) Intersection #11: Los Osos Valley Road & Calle Joaquin T-9(j) Intersection #12: Los Osos Valley Road & U.S. 101 Southbound Ramps T-9(k) Intersection #14: Los Osos Valley Road & S. Higuera Street <p>T-10: Cumulative Multimodal Segment Level of Service Impacts</p> <ul style="list-style-type: none"> T-10(a) Segments #1 - #6: Madonna Road (Los Osos Valley Road to Higuera Street) T-10(b) Segments #15 - #16: Los Osos Valley Road (Calle Joaquin to U.S. 101 Northbound Ramps) T-10(c) Segment #24: Prado Road/Dalidio Drive (Project Driveway to Froom Ranch Way)

Note: The project's fair share proportionality for each of the identified impacts is shown in Table 4.12-19.



Madonna Road. Madonna Road is an east-west roadway that extends from Devaul Ranch Road west of Los Osos Valley Road to Higuera Street. Madonna Road is functionally classified as a Local roadway west of Los Osos Valley Road and an Arterial east of Los Osos Valley Road. Throughout its span Madonna Road provides two, four or six travel lanes, and Class II bike lanes with sidewalks on one or both sides. This roadway also connects with U.S. 101 ramp termini approximately 0.5 mile west of Higuera Street.

Prado Road. Prado Road is an east-west two-lane corridor that extends eastward from the U.S. 101 northbound ramps to South Higuera Street. Prado Road is functionally classified as a Highway/Regional Route. Planned changes to Prado Road include extension west from U.S. 101 to Madonna Road and east to Broad Street. Prado Road is a two-lane roadway with sidewalks on both sides and on-street parking at various locations.

Tank Farm Road. Tank Farm Road is an east-west Parkway Arterial which connects South Higuera Street to Broad Street to the east, and continues as Orcutt Road east of the Orcutt Area. In the vicinity of the project site, Tank Farm Road is a four-lane roadway with Class II bike lanes and sidewalks on both sides.

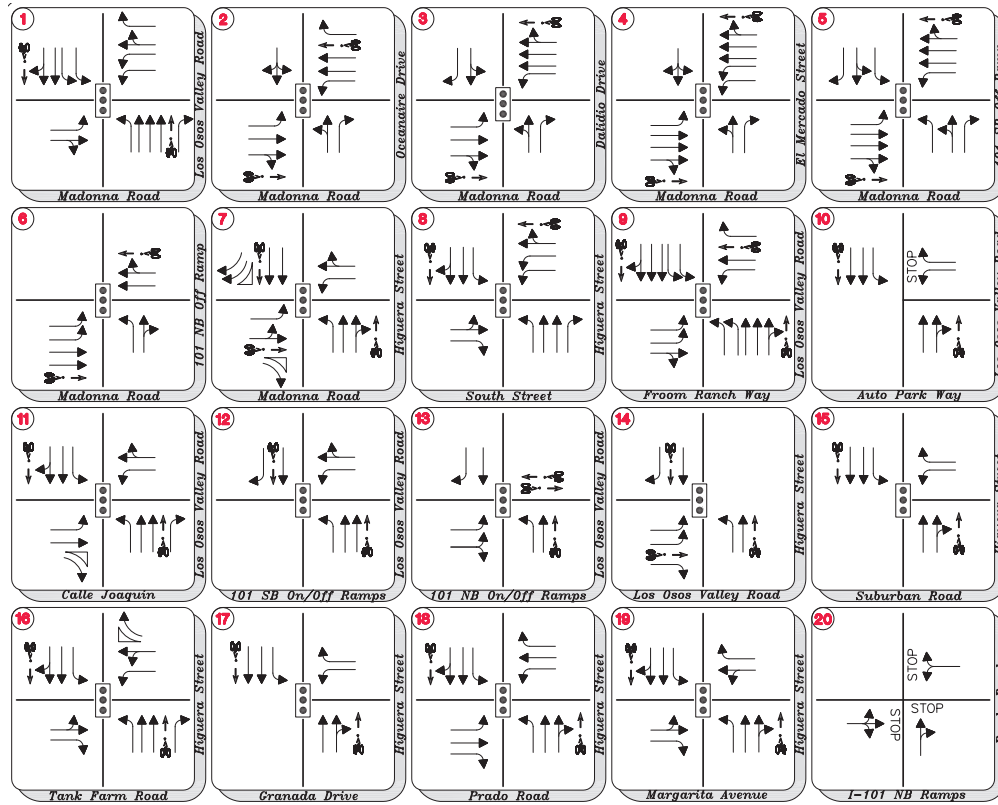
b. Existing Multimodal Transportation Operations at Intersections. Existing conditions establish baseline traffic conditions that currently exist in the study area. The study area is bound by Higuera Street Los Osos Valley Road, and Madonna Road. Twenty-eight study intersections and twenty-six roadway segments within the project vicinity were evaluated in the TIS for potential project specific and cumulative impacts associated with increased traffic generated by the project (see Figure 4.12-2). In order to determine existing operational characteristics and levels of congestion, traffic counts were collected at each of these intersections during February and March of 2014 (see Appendix K).

The operation of intersections and segments is measured based on methodologies established in the Transportation Research Board's *2010 Highway Capacity Manual* (2010 HCM; Fifth Edition) Multimodal Level of Service (MMLOS) criteria. MMLOS is a qualitative measure of traffic operating conditions ranging from Level of Service (LOS) A to LOS F, LOS A being the highest functioning and LOS F being the lowest functioning. Detailed traffic flow analyses focus on operating conditions of critical intersections and segments during peak travel periods, which are typically the AM and PM peak hours. The AM peak hour is defined as the highest one hour of traffic flow counted between 7:00 AM and 9:00 AM on a typical weekday, the p.m. peak hour is defined as the highest one hour of traffic flow counted between 4:00 PM and 6:00 PM on a typical weekday. Figure 4.12-3 shows the existing peak hour traffic volumes at the study intersections. Figure 4.12-4 shows the average daily traffic (ADT) volumes along the roadway segments within the project vicinity.

In addition to MMLOS analysis, this analysis also addresses queue capacity as a measure of intersection performance. For intersections where the overall average intersection LOS is within acceptable thresholds, the capacities of turn pockets may still be exceeded, causing turning traffic to spill into through-lanes, which can occlude flow and increase the potential for left turn collisions. Queue capacity is analyzed by comparing the projected queue lengths to the available capacity of intersections to accommodate the projected queues.

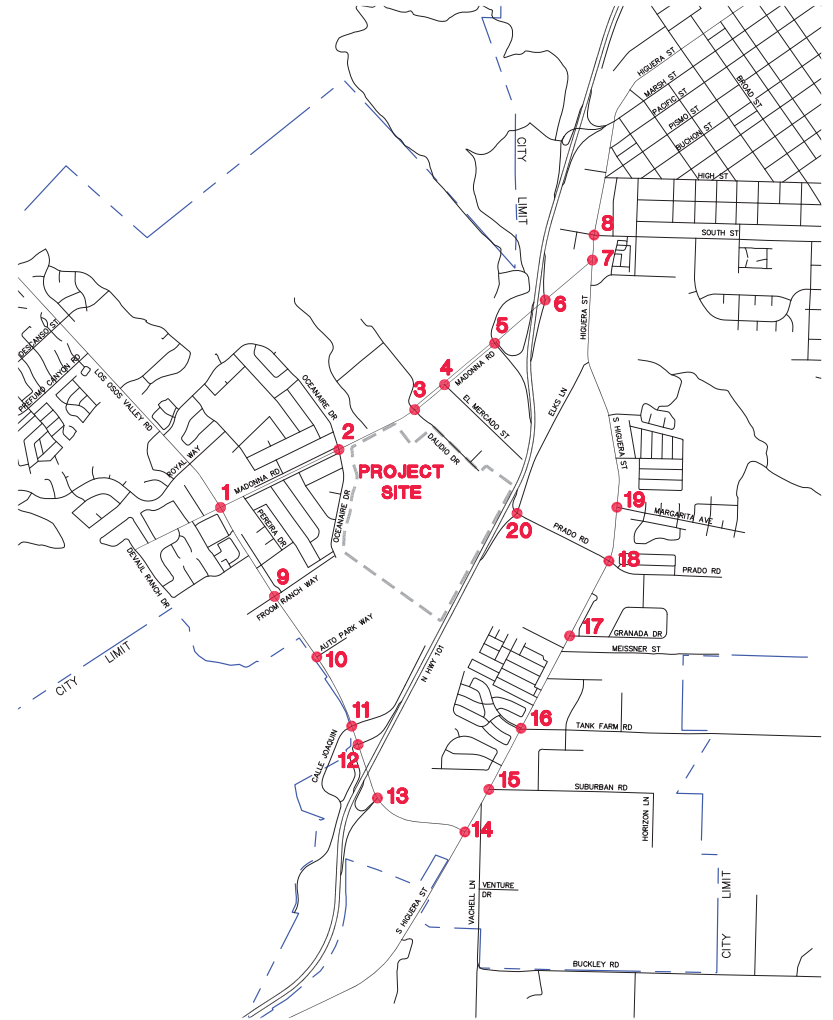
The City's General Plan Circulation Element identifies LOS objectives and minimum standards for the various travel modes, as well as modal priorities for those levels of service. The Caltrans policy on LOS for State highways establishes LOS D as the standard for acceptable service.



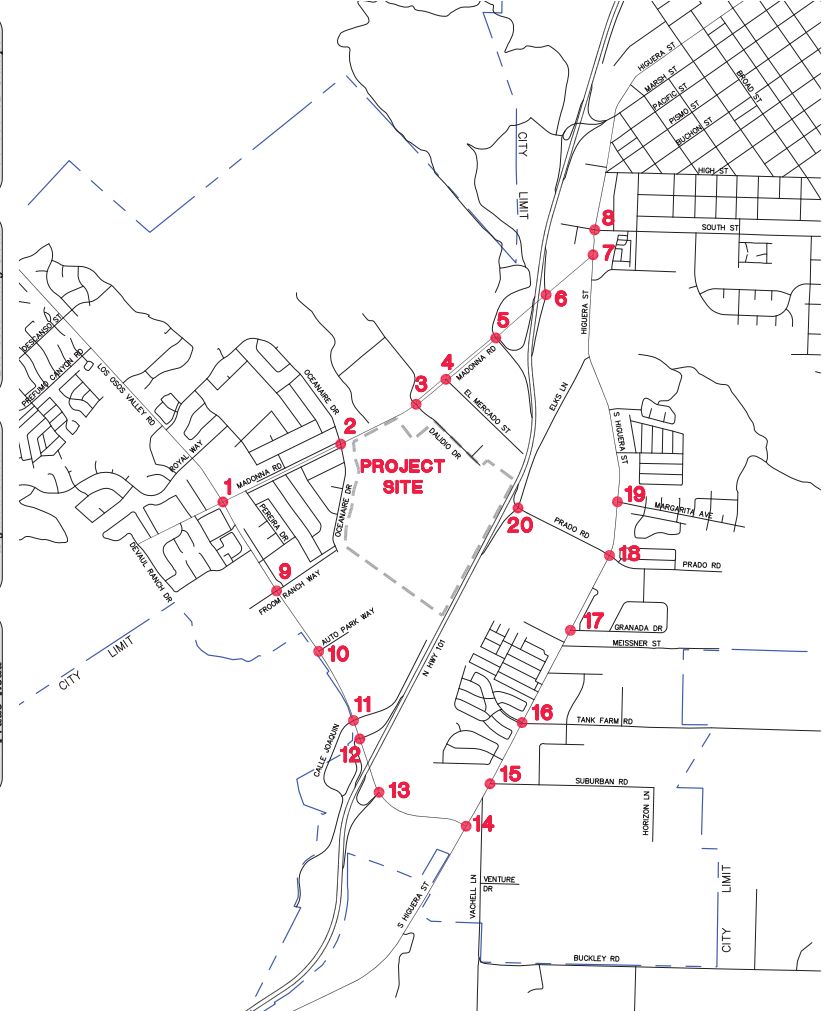
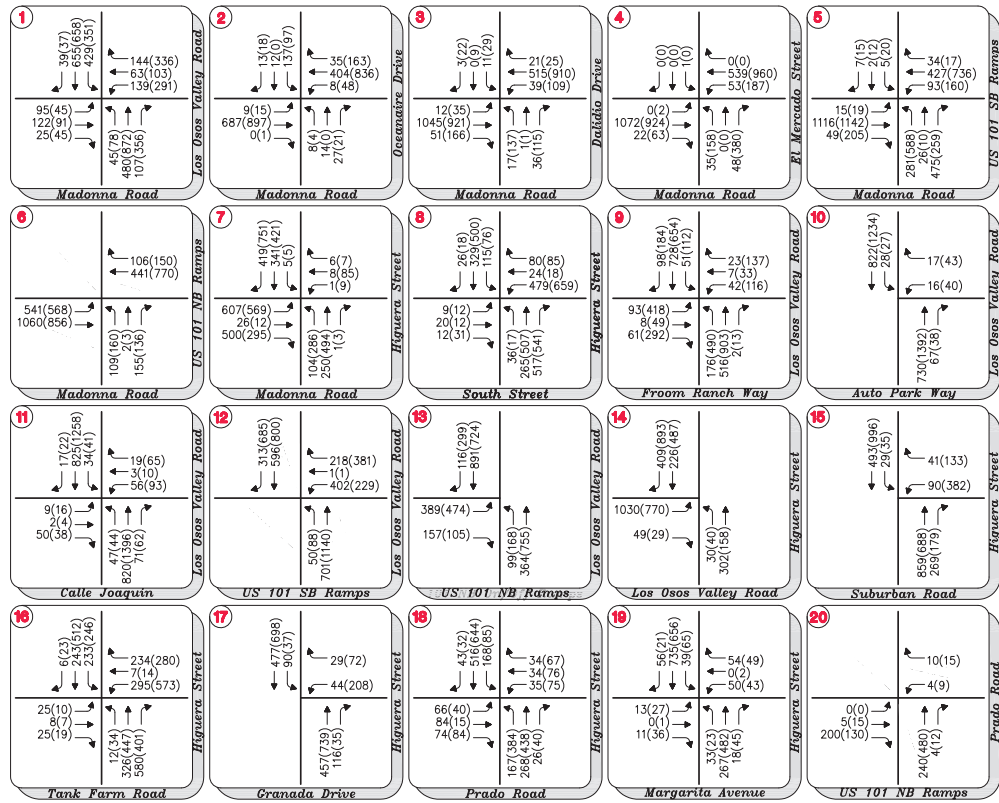


LEGEND:

- BICYCLE LANE (CLASS II)
- BICYCLE LANE (CLASS I)
- VEHICLE LANE



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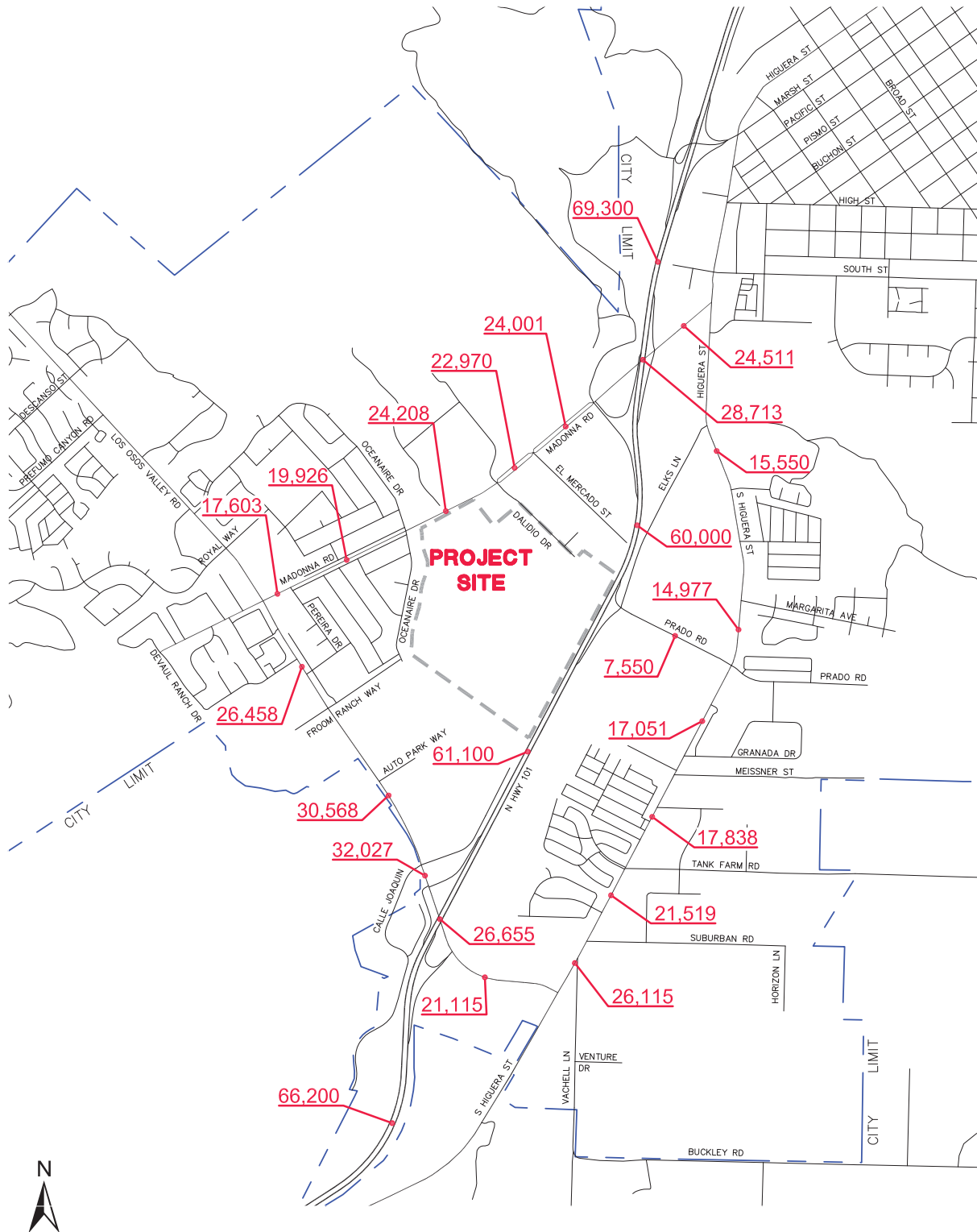


LEGEND:

- xx - AM PEAK HOUR TRAFFIC VOLUMES
- (xx) - PM PEAK HOUR TRAFFIC VOLUMES



Existing Intersection Peak Hour
Traffic Volumes



Existing Segment Average Daily
 Traffic Volumes

Figure 4.12-4

Source: Omni-Means, Ltd., 2016

These objectives, standards, and modal priorities are depicted in Table 4.12-2 through Table 4.12-7.

**Table 4.12-2
 City of San Luis Obispo Level of Service Standards and Modal Priorities**

Travel Mode	Objective LOS	Minimum LOS Standard
Bicycle	B	D
Pedestrian	B	C
Transit	C	Baseline LOS or LOS D, whichever is lower
Vehicle	C	E (Downtown), D (All Other Routes)

Parameter	Assumption
1. Peak Hour Factor	1. Peak Hour Factor - from counts for Existing conditions and Existing Plus Project conditions
2. Heavy Vehicle Percentage	2. Heavy Vehicle Percentage - 2 %
3. Cycle Length - Pretimed settings not changed from "Master Network"	3. Cycle Length - Pretimed settings not changed from "Master Network"
4. Total lost time per signal phase - 4 seconds (24 seconds max for 8-phase signal)	4. Total lost time per signal phase - 4 seconds (24 seconds max for 8-phase signal)
5. Grades - 2 percent or less for all intersections	5. Grades - 2 percent or less for all intersections

Table 4.12-3 through Table 4.12-7 below presents the MMLOS criteria used for intersections & segments as set forth in the 2010 HCM.

**Table 4.12-3
 Modal Priority Ranking**

Complete Street Areas	Priority Mode Ranking	
Downtown & Upper Monterey Street	1. Pedestrians 2. Bicycles	3. Transit 4. Vehicles
Residential Corridors & Neighborhoods	1. Pedestrians 2. Bicycles	3. Vehicles 4. Transit
Commercial Corridors & Areas	1. Vehicles 2. Bicycles	3. Transit 4. Pedestrians
Regional Arterial and Highway Corridors	1. Vehicles 2. Transit	3. Bicycles 4. Pedestrians



**Table 4.12-4
 HCM 2010 Segment Automobile LOS**

Travel Speed as a Percentage of Base Free Flow Speed (%)	LOS by Volume-to-Capacity Ratio ^a	
	≤	≤
>85	A	F
>67-85	B	F
>50-67	C	F
>40-50	D	F
>30-40	F	F
≤30	E	F

a. Volume-to-Capacity Ratio of through movement at downstream boundary intersection.

**Table 4.12-5
 HCM 2010 Pedestrian LOS**

Level Of Service (LOS) Criteria for Pedestrians on Segments						
Ped LOS Score	LOS by Average Pedestrian Space (ft ² /p)					
	>60	>40-60	>24-40	>15-24	>8.0-15 ^a	<8.0 ^a
≤2.00	A	B	C	D	E	F
>2.00-2.75	B	B	C	D	E	F
>2.75-3.5	C	C	C	D	E	F
>3.5-4.25	D	D	D	D	E	F
>4.25-5.00	E	E	E	E	E	F
>5.00	F	F	F	F	F	F

Notes:

1. Based on *Highway Capacity Manual, Fifth Edition*, Transportation Research Board, 2010.
 2. All volume thresholds are approximate and assume ideal roadway characteristics. Actual thresholds for each LOS listed above may vary depending on a variety of factors including (but not limited to) roadway curvature and grade, intersection or interchange
- ^a In Cross-Flow situations, the LOS E/F threshold is 13 ft²/p

**Table 4.12-6
 HCM 2010 Bicycle & Transit LOS**

LOS Criteria for Bicycle and Transit Modes	
LOS	LOS SCORE
A	≤2.00
B	>2.00-2.75
C	>2.75-3.5
D	>3.50-4.25
E	>4.25-5.00
F	>5.00

Notes:

1. Based on *Highway Capacity Manual, Fifth Edition*, Transportation Research Board, 2010.
2. Also used for Ped and Bike LOS for intersections analysis



**Table 4.12-7
HCM 2010 Freeway Segments LOS**

Segment Type	Density (pc/mi/ln)				
	A	B	C	D	E
Freeway	11	18	26	35	45
Merge	10	20	28	35	45
Diverge	10	20	28	35	45
Weave	10	20	28	35	45

Note:

1. Based on *Highway Capacity Manual, Fifth Edition*, Transportation Research Board, 2010.

MMLOS was calculated for the area intersections based on the 2010 HCM methodology. Table 4.12-8 through Table 4.12-11 provide a summary of the multimodal AM and PM peak hour intersection LOS and queueing under existing conditions. Intersections where the AM or PM LOS exceed the minimum LOS standard or where vehicle queues would exceed lane capacity during peak hours are bolded.



**Table 4.12-8
Existing Conditions Intersection Level of Service: Automobile Analysis**

#	Intersection	Control Type ^{1,2}	Target LOS	AM Peak Hour			PM Peak Hour		
				v/c ³	Delay	LOS	v/c ³	Delay	LOS
1	Madonna Road/Los Osos Valley Road	Signal	D		26.1	C		45.0	D
2	Madonna Road/Oceanaire Drive	Signal	D		19.6	B		14.2	B
3	Madonna Road/Dalidio Drive	Signal	D		9.7	A	2.11	56.2	E
4	Madonna Road/El Mercado	Signal	D		7.3	A		19.6	B
5	Madonna Road/US 101 SB Ramps/Madonna Inn	Signal	C	1.31	48.7	D		23.4	C
6	Madonna Road/US 101 NB Ramps	Signal	C		17.4	B		21.1	C
7	Madonna Road/Higuera Street	Signal	D		18.6	B		21.7	C
8	Higuera Street/South Street	Signal	D		21.4	C	1.31	63.1	E
9	Los Osos Valley Road/Froom Ranch Way	Signal	D		19.4	B		34.6	C
10	Los Osos Valley Road/Auto Park Way	TWSC	D		15.0	B		34.1	D
11	Los Osos Valley Road/Calle Joaquin	Signal	D		4.6	A		5.6	A
12	Los Osos Valley Road/US 101 SB Ramps	Signal	C		13.0	B		19.0	B
13	Los Osos Valley Road/US 101 NB Ramps	Signal	C		27.6	C		21.8	C
14	S. Higuera Street/Los Osos Valley Road	Signal	D		16.0	B		19.1	B
15	S. Higuera Street/Suburban Drive	Signal	D		6.3	A		11.1	B
16	S. Higuera Street/Tank Farm Road	Signal	D		36.2	D		21.0	C
17	S. Higuera Street/Granada Drive	Signal	D		8.4	A		10.5	B
18	S. Higuera Street/Prado Road	Signal	D		16.7	B		20.9	C
19	S. Higuera Street/Margarita Avenue	Signal	D		7.4	A		10.8	B
20	Prado Road/US 101 NB Ramps	AWSC	C		9.0	A		13.5	B

Notes:

1. AWSC = All Way Stop Control; TWSC = Two Way Stop Control; RNDDBT = Roundabout
2. LOS = Delay based on worst minor street approach for TWSC intersections, average of all approaches for AWSC, Signal, RNDDBT
3. Volume to Capacity Ratio (v/c) is for worst movement delay, for unacceptable LOS only
4. Warrant is based on California MUTCD Warrant 3



**Table 4.12-9
Existing Conditions 95th Percentile Queuing Analysis**

ID	Location	Movement	No. Lanes	Total Storage (ft)¹	AM Peak Hour	PM Peak Hour
1	Madonna Road/ Los Osos Valley Road	Northbound Right	1	175	96	240
7	Madonna Road/ Higuera Street	Eastbound Right	1	150	232	146
		Northbound Left	1	160	107	251
8	Higuera Street/ South Street	Westbound Left	2	240	219	310
		Northbound Left	1	60	87	74
		Northbound Right	1	60	142	136
		Southbound Left	1	70	109	97
9	Los Osos Valley Road/ Froom Ranch Way	Westbound Right	1	50	41	82
11	Los Osos Valley Road/Calle Joaquin	Southbound Left	1	180	108	170
12	Los Osos Valley Road/ US 101 SB Ramps	Westbound Left	1	150	241	224
		Northbound Left	1	80	114	122
		Southbound Through	1	240	297	289
13	Los Osos Valley Road/ US 101 NB Ramps	Eastbound Left/Right	1	200	221	177
		Northbound Left	1	140	117	181
		Southbound Through	1	865	1042	822
		Southbound Right	1	60	186	219
14	S. Higuera Street/ Los Osos Valley Road	Eastbound Right	1	90	164	122
16	S. Higuera Street/ Tank Farm Road	Northbound Right	1	100	137	134
		Southbound Left	1	165	187	218
18	S. Higuera Street/ Prado Road	Northbound Left	1	100	131	176
		Southbound Left	1	60	116	109
19	S. Higuera Street/ Margarita Avenue	Southbound Left	1	60	58	67

Notes:

1. **Bolded** entries indicate queues exceed available storage
2. Storage Length of " - " represents a lane which exceeds 1,000 feet, usually a through lane.
3. For Movements with more than one lane, the maximum of the 95th percentile queue is reported.
4. * Represents storage lengths for one lane; second lane is a left or right trap lane.



**Table 4.12-10
Existing Conditions Intersection Level of Service: Pedestrian Analysis**

#	Intersection	Approach	Target LOS	AM Peak Hour		PM Peak Hour	
				Ped. Crosswalk Score	LOS	Ped. Crosswalk Score	LOS
1	Madonna Road/Los Osos Valley Road	EB	C	2.10	B	2.11	B
		WB	C	2.90	C	3.16	C
		NB	C	2.94	C	3.41	C
		SB	C	3.28	C	3.18	C
2	Madonna Road/Oceanaire Drive	EB	C	2.69	B	2.87	C
		WB	C	3.05	C	3.28	C
		NB	C	1.99	A	2.07	B
		SB	C	1.86	A	1.85	A
3	Madonna Road/Dalidio Drive	EB	C	2.96	C	3.24	C
		WB	C	2.99	C	3.07	C
		NB	C	2.06	B	2.25	B
		SB	C	1.98	A	2.03	B
4	Madonna Road/El Mercado	EB	C	n/a	-	n/a	-
		WB	C	3.07	C	3.16	C
		NB	C	2.26	B	2.75	B
		SB	C	1.74	A	1.74	A
5	Madonna Road/US 101 SB Ramps/Madonna Inn	EB	C	3.00	C	3.16	C
		WB	C	n/a	-	n/a	-
		NB	C	2.75	B	2.67	B
		SB	C	2.17	B	2.18	B
6	Madonna Road/US 101 NB Ramps	EB	C	n/a	-	n/a	-
		WB	C	2.84	C	2.80	C
		NB	C	1.99	A	2.04	B
		SB	C	n/a	-	n/a	-
7	Madonna Road/Higuera Street	EB	C	3.01	C	2.91	C
		WB	C	1.98	A	2.00	A
		NB	C	2.70	B	2.78	C
		SB	C	n/a	-	n/a	-
8	Higuera Street/South Street	EB	C	2.01	B	2.01	B
		WB	C	2.73	B	2.77	C
		NB	C	n/a	-	n/a	-
		SB	C	2.48	B	2.54	B
9	Los Osos Valley Road/Froom Ranch Way	EB	C	2.49	B	2.84	C
		WB	C	2.38	B	2.59	B
		NB	C	n/a	-	n/a	-
		SB	C	3.06	C	3.26	C
10	Los Osos Valley Road/Auto Park Way	EB	C	n/a	-	n/a	-
		WB	C		-		-
		NB	C		-		-
		SB	C		-		-
11	Los Osos Valley Road/Calle Joaquin	EB	C	2.48	B	2.27	B
		WB	C	2.08	B	2.16	B
		NB	C	2.98	C	3.19	C
		SB	C	2.88	C	3.17	C



#	Intersection	Approach	Target LOS	AM Peak Hour		PM Peak Hour	
				Ped. Crosswalk Score	LOS	Ped. Crosswalk Score	LOS
12	Los Osos Valley Road/US 101 SB Ramps	EB	C	1.90	A	2.32	B
		WB	C	2.23	B	2.12	B
		NB	C	n/a	-	n/a	-
		SB	C	n/a	-	n/a	-
13	Los Osos Valley Road/US 101 NB Ramps	EB	C	2.44	B	2.58	B
		NB	C	n/a	-	n/a	-
		SB	C	n/a	-	n/a	-
14	S. Higuera Street/Los Osos Valley Road	EB	C	2.65	B	2.73	B
		NB	C	2.25	B	2.30	B
		SB	C	n/a	-	n/a	-
15	S. Higuera Street/Suburban Drive	WB	C	2.15	B	2.29	B
		NB	C	2.98	C	3.60	D
		SB	C	2.73	B	2.85	C
16	S. Higuera Street/Tank Farm Road	EB	C	2.01	B	2.01	B
		WB	C	2.91	C	3.04	C
		NB	C	3.33	C	3.27	C
		SB	C	2.65	B	2.78	C
17	S. Higuera Street/Granada Drive	WB	C	2.05	B	2.13	B
		NB	C	n/a	-	n/a	-
		SB	C	2.60	B	2.76	C
18	S. Higuera Street/Prado Road	EB	C	2.35	B	2.41	B
		WB	C	2.28	B	2.31	B
		NB	C	2.71	B	2.95	C
		SB	C	2.76	C	2.78	C
19	S. Higuera Street/Margarita Avenue	EB	C	2.22	B	2.06	B
		WB	C	2.12	B	2.17	B
		NB	C	2.74	B	2.79	C
		SB	C	2.70	B	2.77	C
20	Prado Road/US 101 NB Ramps	EB	C	n/a	-	n/a	-
		WB	C		-		-
		NB	C		-		-
		SB	C		-		-

Notes:

1. HCM 2010 Methodologies do not model segments bounded by all-way stop control. Procedures have not been developed yet to address the effect of all-way stop control or yield control on intersection performance from a pedestrian or bicycle perspective.
2. HCM 2010 Methodologies for the pedestrian mode at two-way stop-controlled intersections is limited to the uncontrolled crossing. No methodology exists for evaluating pedestrian performance for the stop controlled approach (cross-street). However, it is reasoned that this type of control has negligible influence on pedestrian service along the segment.



**Table 4.12-11
Existing Conditions Intersection Level of Service: Bicycle Analysis**

#	Intersection	Approach	Target LOS	AM Peak Hour		PM Peak Hour	
				Ped. Crosswalk Score	LOS	Ped. Crosswalk Score	LOS
1	Madonna Road/Los Osos Valley Road	EB	D	3.26	C	3.14	C
		WB	D	3.37	C	3.99	D
		NB	D	1.64	A	2.01	B
		SB	D	2.60	B	2.49	B
2	Madonna Road/Oceanaire Drive	EB	D	2.72	B	2.91	C
		WB	D	1.05	A	1.59	A
		NB	D	2.74	B	2.70	B
		SB	D	2.22	B	2.13	B
3	Madonna Road/Dalidio Drive	EB	D	2.17	B	2.08	B
		WB	D	1.47	A	1.71	A
		NB	D	2.99	C	3.32	C
		SB	D	2.84	C	2.92	C
4	Madonna Road/El Mercado	EB	D	1.80	A	1.67	A
		WB	D	1.67	A	1.94	A
		NB	D	3.19	C	3.93	D
		SB	D	3.03	C	3.03	C
5	Madonna Road/US 101 SB Ramps/Madonna Inn	EB	D	2.00	A	2.05	B
		WB	D	1.61	A	1.79	A
		NB	D	n/a	-	n/a	-
		SB	D	2.90	C	2.96	C
6	Madonna Road/US 101 NB Ramps	EB	D	2.69	B	2.33	B
		WB	D	1.58	A	1.82	A
		NB	D	n/a	-	n/a	-
7	Madonna Road/Higuera Street	EB	D	3.27	C	2.75	B
		WB	D	2.43	B	2.58	B
		NB	D	1.69	A	2.05	B
		SB	D	2.14	B	2.48	B
8	Higuera Street/South Street	EB	D	2.70	B	2.73	B
		WB	D	2.59	B	2.94	C
		NB	D	2.94	C	3.18	C
		SB	D	1.53	A	1.66	A
9	Los Osos Valley Road/Froom Ranch Way	EB	D	3.38	C	4.39	E
		WB	D	1.81	A	2.49	B
		NB	D	1.73	A	2.12	B
		SB	D	1.72	A	1.74	A
10	Los Osos Valley Road/Auto Park Way	EB	D	n/a	-	n/a	-
		WB	D		-		-
		NB	D		-		-
		SB	D		-		-
11	Los Osos Valley Road/Calle Joaquin	EB	D	2.99	C	2.97	C
		WB	D	3.08	C	3.22	C
		NB	D	1.45	A	1.87	A
		SB	D	0.37	A	0.69	A



#	Intersection	Approach	Target LOS	AM Peak Hour		PM Peak Hour	
				Ped. Crosswalk Score	LOS	Ped. Crosswalk Score	LOS
1 2	Los Osos Valley Road/US 101 SB Ramps	EB	D	n/a	-	n/a	-
		WB	D	2.69	B	3.04	C
		SB	D	2.33	B	3.18	C
1 3	Los Osos Valley Road/US 101 NB Ramps	EB	D	n/a	-	n/a	-
		NB	D	1.82	A	2.58	B
		SB	D	3.45	C	3.43	C
1 4	S. Higuera Street/Los Osos Valley Road	EB	D	1.99	A	1.73	A
		NB	D	1.87	A	1.63	A
		SB	D	2.38	B	3.67	D
1 5	S. Higuera Street/Suburban Drive	WB	D	0.89	A	1.55	A
		NB	D	2.20	B	1.94	A
		SB	D	1.71	A	2.13	B
1 6	S. Higuera Street/Tank Farm Road	EB	D	2.70	B	2.66	B
		WB	D	2.45	B	2.99	C
		NB	D	2.07	B	2.01	B
		SB	D	1.66	A	1.91	A
1 7	S. Higuera Street/Granada Drive	WB	D	2.63	B	2.99	C
		NB	D	1.70	A	1.88	A
		SB	D	1.83	A	1.98	A
1 8	S. Higuera Street/Prado Road	EB	D	2.37	B	2.22	B
		WB	D	2.69	B	2.90	C
		NB	D	1.64	A	1.99	A
		SB	D	1.87	A	1.90	A
1 9	S. Higuera Street/Margarita Avenue	EB	D	2.46	B	2.53	B
		WB	D	2.69	B	2.68	B
		NB	D	1.57	A	1.78	A
		SB	D	2.11	B	2.04	B
2 0	Prado Road/US 101 NB Ramps	EB	D	n/a	-	n/a	-
		WB	D		-		-
		NB	D		-		-
		SB	D		-		-

Notes:

1. HCM 2010 Methodologies do not model segments bounded by all-way stop control. Procedures have not been developed yet to address the effect of all-way stop control or yield control on intersection.
2. No methodology exists for evaluating bicycle performance at two-way stop-controlled intersections. However, it is reasoned that this type of control has negligible influence on bicycle service along the segment.

As shown in Table 4.12-8 through Table 4.12-11, under the baseline existing conditions evaluated in the traffic study, three intersections (Madonna Road & Dalidio Drive, Madonna Road & U.S. 101 southbound ramps, and Higuera Street & South Street) are currently exceeding the City’s minimum automobile LOS threshold. One intersection (Los Osos Valley Road & Froom Ranch Way) currently exceeds the City minimum bicycle LOS thresholds. Ten intersections have vehicle queues that exceed lane capacity during peak hours (Madonna Road & Los Osos Valley Road, Madonna Road & Higuera Street, Higuera Street & South Street, Los Osos Valley Road & Froom Ranch Way, Los Osos Valley Road & Calle Joaquin, Los Osos Valley Road & both U.S.101 Ramps, Higuera Street & Los Osos Valley Road, Higuera Street & Tank Farm, & Higuera Street & Prado Road); however queuing issues along Los Osos Valley Road have been resolved as a result of the recent Los Osos Valley Road/U.S. 101 Interchange improvements.



Table 4.12-12 through Table 4.12-16 provide a summary of the multimodal AM and PM peak hour segment LOS under existing conditions. Segments where the AM or PM LOS exceed the minimum LOS standard are bolded.

As shown in Table 4.12-12 through Table 4.12-16, under baseline existing conditions evaluated in the traffic study, two segments (Madonna Road from U.S. 101 Ramps to Dalidio Drive/Prado Road, Los Osos Valley Road from Calle Joaquin to U.S. 101 Ramps) are currently exceeding the City's minimum automobile LOS threshold. Three segments (Madonna Road from Los Osos Valley Road to U.S. 101 Ramps, Higuera Street from Madonna Road to Tank Farm, and Los Osos Valley Road) currently exceed pedestrian, bicycle, or transit LOS thresholds. In addition, U.S. 101 southbound south of Los Osos Valley Road currently exceeds Caltrans' minimum LOS thresholds. However MMLOS issues along Los Osos Valley Road have been resolved as a result of the recent Los Osos Valley Road/U.S. 101 Interchange improvements.

Transit Services. San Luis Obispo Regional Transit Authority (SLORTA) operates bus service within the City and throughout the County of San Luis Obispo. SLORTA Route 10 operates from the City of San Luis Obispo south to the City of Santa Maria, in Santa Barbara County, with a bus stop approximately 0.3 mile east of the project site along South Higuera Street north of Prado Road and South of Margarita Avenue. SLORTA also operates Runabout Paratransit, the county-wide Americans with Disabilities Act (ADA) transportation service, and Dial-A-Ride, an affordable curb-to-curb transportation service.

In addition, the City of San Luis Obispo Transit Division (SLO Transit) bus service in the vicinity of the proposed project. SLO Transit routes 4 and 5 have stops at the SLO Promenade retail center, just north of the project site and at the intersection of Madonna Road and Oceanaire Drive just west of the site. Route 2 operates in the U.S. 101 corridor traversing Prado Road immediately east of the freeway. However, this route does not serve the site directly. Route 4 provides one-way service via a loop route beginning at City Hall using the following major streets: Osos Street, Santa Barbara Street, South Street, Madonna Road, Los Osos Valley Road, Foothill Boulevard, California Boulevard, Grand Avenue, and Mill Street. Route 5 provides service to the same locations as Route 4 but in the opposite direction.

Bicycle Facilities. Bicycle facilities include bicycle paths, lanes, and routes. Class I bicycle paths are paved pathways separated from roadways. Class II bicycle lanes are lanes for bicyclists adjacent to the outside vehicle travel lanes. These lanes have special lane markings, pavement legends, and signage. Class III bicycle routes are generally located on low traffic volume streets that provide alternative routes for recreational, and in some cases, commuter and school children cyclists. These facilities are designed for bicycle use, but have no separated bicycle right-of-way or lane striping.

No Class I bicycle paths are located in the vicinity of the project site. Class II bicycle lanes are striped in both directions on portions of South Higuera Street and Los Osos Valley Road, as well as the entire length of Madonna Road east of Los Osos Valley Road. The South Higuera Street bicycle lanes are striped between Los Osos Valley Road and Nipomo Street in the downtown area. The Los Osos Valley Road bicycle lanes are striped from the western City limit to South Higuera Street. The Los Osos Valley Road overpass at U.S. 101 does not have bicycle lanes, but does have narrow striped shoulders that could serve bicyclists. Class III bicycle routes are provided along frontage roads that are parallel to U.S. 101 and in areas north of Madonna Road. A bicycle route is located on Elks Lane on the east side of U.S. 101 between Prado Road and South Higuera Street. Bicycle routes are also provided along the entire length of Oceanaire Drive and throughout Laguna Lake Park.



**Table 4.12-12
Existing Conditions Segment Level of Service: Automobile Analysis**

Roadway	From	To	Direction	LOS Threshold	AM Peak				PM Peak			
					Travel Speed (mph)	Base Free-Flow Speed BFFS (mph)	Travel Speed/ BFFS (%)	LOS	Travel Speed (mph)	Base Free-Flow Speed BFFS (mph)	Travel Speed/ BFFS (%)	LOS
Madonna Rd	Oceanaire Dr	LOVR	WB	D	20.8	40.1	52%	C	12.7	40.1	32%	E
Madonna Rd	LOVR	Oceanaire Dr	EB	D	28.3	40.0	71%	B	24.9	40.0	62%	C
Madonna Rd	Dalidio	Oceanaire Dr	WB	D	22.7	40.8	56%	C	19.2	40.7	47%	D
Madonna Rd	Oceanaire Dr	Dalidio	EB	D	27.1	40.7	66%	C	18.9	40.8	46%	D
Madonna Rd	El Mercado	Dalidio Dr	WB	D	21.2	34.8	61%	C	14.1	34.8	41%	D
Madonna Rd	Dalidio Dr	El Mercado	EB	D	21.2	34.7	61%	C	13.3	34.6	39%	E
Madonna Rd	US 101 SB Ramps	El Mercado	WB	D	32.2	37.9	85%	A	21.2	37.3	57%	C
Madonna Rd	El Mercado	US 101 SB Ramps	EB	D	22.5	37.8	59%	C	18.6	37.7	49%	D
Madonna Rd	US 101 NB Ramps	US 101 SB Ramps	WB	D	34.5	37.8	91%	A	34.0	37.8	90%	A
Madonna Rd	US 101 SB Ramps	US 101 NB Ramps	EB	D	32.7	37.8	86%	A	33.5	37.8	88%	A
Madonna Rd	Higuera St	US 101 NB Ramps	WB	D	9.2	37.2	25%	F	10.6	37.2	29%	F
Madonna Rd	US 101 NB Ramps	Higuera St	EB	D	17.4	37.2	47%	D	13.3	37.2	36%	E
S. Higuera St	Madonna Rd	Margarita Ave	SB	D	37.5	44.5	84%	B	36.0	44.5	81%	B
S. Higuera St	Margarita Ave	Madonna Rd	NB	D	35.7	44.8	80%	B	36.8	44.8	82%	B
S. Higuera St	Margarita Ave	Prado Rd	SB	D	18.6	38.9	48%	D	16.5	38.9	42%	D
S. Higuera St	Prado Rd	Margarita Ave	NB	D	26.3	38.9	68%	B	22.0	38.9	57%	C
S. Higuera St	Prado Rd	Granada Dr	SB	D	33.8	41.8	81%	B	30.6	41.8	73%	B
S. Higuera St	Granada Dr	Prado Rd	NB	D	25.6	41.9	61%	C	28.1	41.9	67%	B
S. Higuera St	Granada Dr	Tank Farm Road	SB	D	42.6	41.6	102%	A	27.4	42.6	64%	C
S. Higuera St	Tank Farm Road	Granada Dr	NB	D	30.5	41.6	73%	B	28.7	42.6	67%	B
S. Higuera St	Tank Farm Road	Suburban Drive	SB	D	27.3	42.4	65%	C	24.9	41.2	60%	C
S. Higuera St	Suburban Drive	Tank Farm Road	NB	D	20.2	42.5	47%	D	18.9	41.3	46%	D
S. Higuera St	Suburban Drive	Los Osos Valley Road	SB	D	20.6	42.1	49%	D	15.9	39.1	41%	D
S. Higuera St	Los Osos Valley Road	Suburban Drive	NB	D	24.8	42.0	59%	C	21.6	39.0	55%	C
Los Osos Valley	Madonna Rd	Froom Ranch Way	SB	D	24.5	41.9	58%	C	18.2	41.8	43%	D
Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	D	20.1	41.8	48%	D	16.9	41.8	40%	D
Los Osos Valley	Froom Ranch Way	Calle Joaquin	SB	D	35.5	43.0	83%	B	31.1	43.0	72%	B
Los Osos Valley	Calle Joaquin	Froom Ranch Way	NB	D	31.0	43.2	72%	B	23.4	43.2	54%	C
Los Osos Valley	Calle Joaquin	US 101 SB Ramps	SB	D	13.5	32.1	42%	D	9.1	32.1	28%	F
Los Osos Valley	US 101 SB Ramps	Calle Joaquin	NB	D	17.0	31.1	55%	C	15.3	31.1	49%	D
Los Osos Valley	US 101 SB Ramps	US 101 NB Ramps	SB	D	10.2	37.7	27%	F	13.2	37.7	35%	E
Los Osos Valley	US 101 NB Ramps	US 101 SB Ramps	NB	D	11.7	37.4	31%	E	32.0	37.4	85%	A

San Luis Ranch Project EIR
Section 4.12 Transportation

Roadway	From	To	Direction	LOS Threshold	AM Peak				PM Peak			
					Travel Speed (mph)	Base Free-Flow Speed BFFS (mph)	Travel Speed/BFFS (%)	LOS	Travel Speed (mph)	Base Free-Flow Speed BFFS (mph)	Travel Speed/BFFS (%)	LOS
Los Osos Valley	S. Higuera St	US 101 NB Ramps	WB	D	29.5	39.2	75%	B	25.8	39.2	66%	C
Los Osos Valley	US 101 NB Ramps	S. Higuera St	EB	D	21.6	39.4	55%	C	18.3	39.4	46%	D
Prado Rd	S. Higuera St	US 101 NB Ramps	WB	D	28.0	38.3	73%	B	22.2	38.3	58%	C
Prado Rd	US 101 NB Ramps	S. Higuera St	EB	D	23.8	38.3	62%	C	21.2	38.3	55%	C
Froom Ranch Way	Dick's Sporting Goods Drwy	Los Osos Valley	WB	D	17.9	37.7	47%	D	12.7	37.9	33%	E
Froom Ranch Way	Los Osos Valley	Dick's Sporting Goods Drwy	EB	D	35.5	38.1	93%	A	34.6	37.4	93%	A
Dalidio Dr	Madonna Rd	Froom Ranch Rd	SB	D	21.5	31.2	69%	B	21.5	31.2	69%	B
Dalidio Dr	Froom Ranch Rd	Madonna Rd	NB	D	5.5	31.1	18%	F	0.4	31.1	1%	F

Note:

1. The Los Osos Valley Road Interchange Project was completed after existing baseline conditions were established. The results shown above reflect the LOS prior the Interchange expansion. LOS reflecting the completed Los Osos Valley Road Interchange are represented in the existing + project scenario analysis.



**Table 4.12-13
Existing Conditions Segment Level of Service: Pedestrian Analysis**

Roadway	From	To	Direction	LOS Threshold	Average Ped. Space (ft ² /p)	AM Peak		PM Peak	
						Segment Score	Los	Segment Score	LOS
Madonna Rd	Oceanaire Dr	LOVR	WB	C	6090	3.52	D	3.79	D
Madonna Rd	LOVR	Oceanaire Dr	EB	C	17482	3.73	D	3.85	D
Madonna Rd	Dalidio	Oceanaire Dr	WB	C	84000	3.62	D	3.92	D
Madonna Rd	Oceanaire Dr	Dalidio	EB	C	26250	3.80	D	3.89	D
Madonna Rd	El Mercado	Dalidio Dr	WB	C	37450	3.52	D	3.78	D
Madonna Rd	Dalidio Dr	El Mercado	EB	C	52920	3.63	D	3.73	D
Madonna Rd	US 101 SB Ramps	El Mercado	WB	C	26250	3.59	D	3.75	D
Madonna Rd	El Mercado	US 101 SB Ramps	EB	C	27915	3.84	D	4.04	D
Madonna Rd	US 101 NB Ramps	US 101 SB Ramps	WB	C	No Peds	3.66	D	3.81	F
Madonna Rd	US 101 SB Ramps	US 101 NB Ramps	EB	C	No Peds	4.06	D	3.98	D
Madonna Rd	Higuera St	US 101 NB Ramps	WB	C	25200	3.58	D	3.72	D
Madonna Rd	US 101 NB Ramps	Higuera St	EB	C	19838	3.84	D	3.72	D
S. Higuera St	Madonna Rd	Margarita Ave	SB	C	23247	3.80	D	3.78	D
S. Higuera St	Margarita Ave	Madonna Rd	NB	C	5398	3.60	D	3.78	D
S. Higuera St	Margarita Ave	Prado Rd	SB	C	40979	3.61	D	3.63	D
S. Higuera St	Prado Rd	Margarita Ave	NB	C	21700	3.47	C	3.57	D
S. Higuera St	Prado Rd	Granada Dr	SB	C	9292	3.55	D	3.65	D
S. Higuera St	Granada Dr	Prado Rd	NB	C	8400	3.16	C	3.38	C
S. Higuera St	Granada Dr	Tank Farm Road	SB	C	46305	3.54	D	3.69	D
S. Higuera St	Tank Farm Road	Granada Dr	NB	C	49140	3.11	C	3.26	C
S. Higuera St	Tank Farm Road	Suburban Drive	SB	C	12600	3.57	D	3.80	D
S. Higuera St	Suburban Drive	Tank Farm Road	NB	C	31500	3.48	C	3.44	C
S. Higuera St	Suburban Drive	Los Osos Valley Road	SB	C	39312	3.56	D	3.85	D
S. Higuera St	Los Osos Valley Road	Suburban Drive	NB	C	43533	3.84	D	3.89	D
Los Osos Valley	Madonna Rd	Froom Ranch Way	SB	C	21833	3.81	D	3.88	D
Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	C	0	3.72	F	4.04	F
Los Osos Valley	Froom Ranch Way	Calle Joaquin	SB	C	27300	3.76	D	3.97	D
Los Osos Valley	Calle Joaquin	Froom Ranch Way	NB	C	22050	3.67	D	3.94	D
Los Osos Valley	Calle Joaquin	US 101 SB Ramps	SB	C	No Peds	3.59	D	3.92	D
Los Osos Valley	US 101 SB Ramps	Calle Joaquin	NB	C	63000	3.62	D	3.91	D
Los Osos Valley	US 101 SB Ramps	US 101 NB Ramps	SB	C	No Peds	4.15	D	4.19	D
Los Osos Valley	US 101 NB Ramps	US 101 SB Ramps	NB	C	53928	3.62	D	3.85	D
Los Osos Valley	S. Higuera St	US 101 NB Ramps	WB	C	1680	3.67	D	4.10	D
Los Osos Valley	US 101 NB Ramps	S. Higuera St	EB	C	39393	3.77	D	3.66	D
Prado Rd	S. Higuera St	US 101 NB Ramps	WB	C	56133	2.90	C	3.10	C
Prado Rd	US 101 NB Ramps	S. Higuera St	EB	C	3019	3.42	C	3.32	C



Roadway	From	To	Direction	LOS Threshold	Average Ped. Space (ft ² /p)	AM Peak		PM Peak	
						Segment Score	Los	Segment Score	LOS
Froom Ranch Way	Dick's Sporting Goods Drwy	Los Osos Valley	WB	C	No Peds	3.29	C	3.52	D
Froom Ranch Way	Los Osos Valley	Dick's Sporting Goods Drwy	EB	C	75600	1.67	A	1.79	A
Dalidio Dr	Madonna Rd	Froom Ranch Rd	SB	C	56700	1.46	A	1.56	A
Dalidio Dr	Froom Ranch Rd	Madonna Rd	NB	C	73710	3.04	C	3.35	C

Notes:

1. Sidewalk is present along frontage roads for segments #1 - Madonna Road and #13 - Los Osos Valley Road, and is not accounted for in this analysis.
2. HCM 2010 Methodologies do not model segments bounded by all-way stop control. Procedures have not been developed yet to address the effect of all-way stop control or yield control on intersection performance from a pedestrian or bicycle perspective. No methodology exists for evaluating two-way stop-controlled intersection performance (with the cross-street stop controlled) for pedestrians and bicycles. However, it is reasoned that it has negligible influence on pedestrian service along the segment.
3. The Los Osos Valley Road Interchange Project was completed after existing baseline conditions were established. The results shown above reflect the LOS prior the Interchange expansion. LOS reflecting the completed Los Osos Valley Road Interchange are represented in the existing + project scenario analysis.



**Table 4.12-14
Existing Conditions Segment Level of Service: Bicycle Analysis**

Roadway	From	To	Direction	LOS Threshold	AM Peak		PM Peak	
					Segment Score	LOS	Segment Score	LOS
Madonna Rd	Oceanaire Dr	LOVR	WB	D	3.60	D	3.93	D
Madonna Rd	LOVR	Oceanaire Dr	EB	D	3.73	D	3.78	D
Madonna Rd	Dalidio	Oceanaire Dr	WB	D	3.15	C	3.23	C
Madonna Rd	Oceanaire Dr	Dalidio	EB	D	3.57	D	3.43	C
Madonna Rd	El Mercado	Dalidio Dr	WB	D	3.27	C	3.19	C
Madonna Rd	Dalidio Dr	El Mercado	EB	D	3.49	C	3.39	C
Madonna Rd	US 101 SB Ramps	El Mercado	WB	D	3.94	D	4.34	E
Madonna Rd	El Mercado	US 101 SB Ramps	EB	D	3.62	D	3.64	D
Madonna Rd	US 101 NB Ramps	US 101 SB Ramps	WB	D	3.30	C	3.35	C
Madonna Rd	US 101 SB Ramps	US 101 NB Ramps	EB	D	3.38	C	3.33	C
Madonna Rd	Higuera St	US 101 NB Ramps	WB	D	3.48	C	3.54	D
Madonna Rd	US 101 NB Ramps	Higuera St	EB	D	3.66	D	3.53	D
S. Higuera St	Madonna Rd	Margarita Ave	SB	D	3.88	D	3.87	D
S. Higuera St	Margarita Ave	Madonna Rd	NB	D	4.05	D	4.14	D
S. Higuera St	Margarita Ave	Prado Rd	SB	D	3.64	D	3.64	D
S. Higuera St	Prado Rd	Margarita Ave	NB	D	3.87	D	3.92	D
S. Higuera St	Prado Rd	Granada Dr	SB	D	3.84	D	3.87	D
S. Higuera St	Granada Dr	Prado Rd	NB	D	3.42	C	3.49	C
S. Higuera St	Granada Dr	Tank Farm Road	SB	D	4.10	D	4.16	D
S. Higuera St	Tank Farm Road	Granada Dr	NB	D	3.48	C	3.52	D
S. Higuera St	Tank Farm Road	Suburban Drive	SB	D	3.33	C	3.41	C
S. Higuera St	Suburban Drive	Tank Farm Road	NB	D	3.40	C	3.39	C
S. Higuera St	Suburban Drive	Los Osos Valley Road	SB	D	3.24	C	3.59	D
S. Higuera St	Los Osos Valley Road	Suburban Drive	NB	D	3.90	D	3.87	D
Los Osos Valley	Madonna Rd	Froom Ranch Way	SB	D	3.71	D	3.71	D
Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	D	3.39	C	3.46	C
Los Osos Valley	Froom Ranch Way	Calle Joaquin	SB	D	3.56	D	3.58	D
Los Osos Valley	Calle Joaquin	Froom Ranch Way	NB	D	3.80	D	3.88	D
Los Osos Valley	Calle Joaquin	US 101 SB Ramps	SB	D	3.33	C	3.52	D
Los Osos Valley	US 101 SB Ramps	Calle Joaquin	NB	D	3.54	D	3.60	D
Los Osos Valley	US 101 SB Ramps	US 101 NB Ramps	SB	D	3.75	D	3.77	D
Los Osos Valley	US 101 NB Ramps	US 101 SB Ramps	NB	D	3.61	D	3.50	C
Los Osos Valley	S. Higuera St	US 101 NB Ramps	WB	D	3.30	C	3.53	D
Los Osos Valley	US 101 NB Ramps	S. Higuera St	EB	D	3.35	C	3.27	C
Prado Rd	S. Higuera St	US 101 NB Ramps	WB	D	3.44	C	3.50	C
Prado Rd	US 101 NB Ramps	S. Higuera St	EB	D	3.94	D	3.68	D



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Roadway	From	To	Direction	LOS Threshold	AM Peak		PM Peak	
					Segment Score	LOS	Segment Score	LOS
Froom Ranch Way	Dick's Sporting Goods Drwy	Los Osos Valley	WB	D	3.29	C	3.47	C
Froom Ranch Way	Los Osos Valley	Dick's Sporting Goods Drwy	EB	D	2.87	C	3.48	C
Dalidio Dr	Madonna Rd	Froom Ranch Rd	SB	D	4.30	E	4.37	E
Dalidio Dr	Froom Ranch Rd	Madonna Rd	NB	D	3.77	D	4.21	D

Notes:

1. HCM 2010 Methodologies do not model segments bounded by all-way stop control. Procedures have not been developed yet to address the effect of all-way stop control or yield control on intersection performance from a pedestrian or bicyce perspective. No methodology exists for evaluating two-way stop-controlled intersection performance (with the cross-street stop controlled) for pedestrians and bicycles. However, it is incorporated into the methodology for evaluating bicycle segment performance.
2. The Los Osos Valley Road Interchange Project was completed after existing baseline conditions were established. The results shown above reflect the LOS prior the Interchange expansion. LOS reflecting the completed Los Osos Valley Road Interchange are represented in the existing + project scenario analysis.



**Table 4.12-15
Existing Conditions Segment Level of Service: Transit Analysis**

Transit Segment LOS							AM Peak		PM Peak	
ID	Roadway	From	To	Direction	LOS Threshold	Route Name	Segment Score	LOS	Segment Score	LOS
1	Madonna Rd	Oceanaire Dr	LOVR	WB	D	Route 4	4.17	D	4.28	E
	Madonna Rd	LOVR	Oceanaire Dr	EB	D	Route 5	4.30	E	4.12	D
2	Madonna Rd	Dalidio	Oceanaire Dr	WB	D	Route 4	4.47	E	4.58	E
	Madonna Rd	Oceanaire Dr	Dalidio	EB	D	Route 5	4.70	E	4.51	E
3	Madonna Rd	El Mercado	Dalidio Dr	WB	D	Route 4	4.24	D	4.42	E
	Madonna Rd	Dalidio Dr	El Mercado	EB	D	Route 5	Not Analyzed	N/A	Not Analyzed	N/A
4	Madonna Rd	US 101 SB Ramps	El Mercado	WB	D	Route 4	4.31	E	4.53	E
	Madonna Rd	El Mercado	US 101 SB Ramps	EB	D	Route 5	4.64	E	4.40	E
5	Madonna Rd	US 101 NB Ramps	US 101 SB Ramps	WB	D	Route 4	3.89	D	3.99	D
	Madonna Rd	US 101 SB Ramps	US 101 NB Ramps	EB	D	Route 5	4.29	E	3.89	D
6	Madonna Rd	Higuera St	US 101 NB Ramps	WB	D	Route 4	4.27	E	4.37	E
	Madonna Rd	US 101 NB Ramps	Higuera St	EB	D	Route 5	4.50	E	4.18	D
7	S. Higuera St	Madonna Rd	Margarita Ave	SB	D	Route 2	Not Analyzed	N/A	3.49	C
	S. Higuera St	Margarita Ave	Madonna Rd	NB	D	Route 2	3.65	D	3.67	D
8	S. Higuera St	Margarita Ave	Prado Rd	SB	D	Route 2	Not Analyzed	N/A	4.19	D
	S. Higuera St	Prado Rd	Margarita Ave	NB	D	Route 2	4.15	D	4.24	D
9	S. Higuera St	Prado Rd	Granada Dr	SB	D	Route 2	4.35	E	4.28	E
	S. Higuera St	Granada Dr	Prado Rd	NB	D	Route 2	3.76	D	3.82	D
10	S. Higuera St	Granada Dr	Tank Farm Road	SB	D	Route 2	3.75	D	3.83	D
	S. Higuera St	Tank Farm Road	Granada Dr	NB	D	Route 2	3.51	D	3.58	D
11	S. Higuera St	Tank Farm Road	Suburban Drive	SB	D	-	Not Analyzed	N/A	Not Analyzed	N/A
	S. Higuera St	Suburban Drive	Tank Farm Road	NB	D	Route 2	3.97	D	3.96	D
12	S. Higuera St	Suburban Drive	Los Osos Valley Road	SB	D	-	Not Analyzed	N/A	Not Analyzed	N/A
	S. Higuera St	Los Osos Valley Road	Suburban Drive	NB	D	-	Not Analyzed	N/A	Not Analyzed	N/A
13	Los Osos Valley	Madonna Rd	Froom Ranch Way	SB	D	Route 4	4.49	E	4.53	E
	Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	D	Route 4	4.23	D	4.38	E
13	Los Osos Valley	Madonna Rd	Froom Ranch Way	SB	D	Route 5	4.59	E	4.38	E
	Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	D	Route 5	4.37	E	4.21	D
14	Los Osos Valley	Froom Ranch Way	Calle Joaquin	SB	D	Route 4	4.21	D	4.33	E
	Los Osos Valley	Calle Joaquin	Froom Ranch Way	NB	D	Route 4	4.21	D	4.44	E
14	Los Osos Valley	Madonna Rd	Froom Ranch Way	SB	D	Route 5	4.37	E	4.15	D
	Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	D	Route 5	4.35	E	4.28	E
15	Los Osos Valley	Calle Joaquin	US 101 SB Ramps	SB	D		Not Analyzed	N/A	Not Analyzed	N/A
	Los Osos Valley	US 101 SB Ramps	Calle Joaquin	NB	D		Not Analyzed	N/A	Not Analyzed	N/A
16	Los Osos Valley	US 101 SB Ramps	US 101 NB Ramps	SB	D		Not Analyzed	N/A	Not Analyzed	N/A
	Los Osos Valley	US 101 NB Ramps	US 101 SB Ramps	NB	D		Not Analyzed	N/A	Not Analyzed	N/A
17	Los Osos Valley	S. Higuera St	US 101 NB Ramps	WB	D		Not Analyzed	N/A	Not Analyzed	N/A
	Los Osos Valley	US 101 NB Ramps	S. Higuera St	EB	D		Not Analyzed	N/A	Not Analyzed	N/A



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Transit Segment LOS							AM Peak		PM Peak	
ID	Roadway	From	To	Direction	LOS Threshold	Route Name	Segment Score	LOS	Segment Score	LOS
18	Prado Rd	S. Higuera St	US 101 NB Ramps	WB	D		Not Analyzed	N/A	Not Analyzed	N/A
	Prado Rd	US 101 NB Ramps	S. Higuera St	EB	D	Route 2	3.83	D	Not Analyzed	N/A
19	Froom Ranch Way	Dick's Sporting Goods Drwy	Los Osos Valley	WB	D		Not Analyzed	N/A	Not Analyzed	N/A
	Froom Ranch Way	Los Osos Valley	Dick's Sporting Goods Drwy	EB	D		Not Analyzed	N/A	Not Analyzed	N/A
20	Dalidio Dr	Madonna Rd	Froom Ranch Rd	SB	D	Route 4	4.01	D	4.10	D
	Dalidio Dr	Madonna Rd	Froom Ranch Rd	SB	D	Route 5	4.26	E	4.09	D

Notes:

1. Route 2 Serves the Prado Day Center stop during the AM peak hour, and the DMV/Margarita stop during the PM Peak Hour.
2. Segment 20 transit is southbound for routes 4 and 5.
3. The Los Osos Valley Road Interchange Project was completed after existing baseline conditions were established. The results shown above reflect the LOS prior the Interchange expansion. LOS reflecting the completed Los Osos Valley Road Interchange are represented in the existing + project scenario analysis.



**Table 4.12-16
Existing Conditions Segment Level of Service: Freeway Analysis**

Interchange Location	Target LOS	Segment Type	No. of Lanes	AM Peak Hour			PM Peak Hour		
				Volume	Density (pc/mi/ln)	LOS	Volume	Density (pc/mi/ln)	LOS
US 101 at Los Osos Valley Road									
US 101 NB South of Los Osos Valley Road	C	Freeway	2	2,774	24.5	C	2,249	19.7	C
US 101 SB South of Los Osos Valley Road	C	Freeway	2	1,406	12.3	B	3,044	27.4	D
US 101 at Prado Road									
US 101 NB South of Prado Road	C	Freeway	2	2,443	21.4	C	2,137	18.8	C
US 101 at Madonna Road									
US 101 NB South of Madonna Road	C	Freeway	2	2,468	21.7	C	2,497	21.9	C
US 101 SB South of Madonna Road	C	Freeway	2	1,663	14.6	B	2,881	25.6	C



Pedestrian Facilities. Pedestrian facilities include sidewalks, crosswalks, and pedestrian signals at signalized intersections. In the vicinity of the project site, sidewalks are located on both sides of Madonna Road except for several small segments including the south side of the street adjacent to the western portion of the project site; along the north side of the road extending from the northbound on-ramp across the bridge to the Madonna Inn's entrance driveway; and along the south side of Madonna Road from the northbound off-ramp to the entrance driveway of the Caltrans parking area.

c. Regulatory Setting.

Americans with Disabilities Act (ADA; 1990). Title III of the ADA (codified in Title 42 of the U.S. Code [USC]), prohibits discrimination on the basis of disability in places of public accommodation (i.e., businesses and non-profit agencies that serve the public) and commercial facilities (i.e., other businesses). This regulation includes Appendix A to Part 36, Standards for Accessible Design, which establishes minimum standards for ensuring accessibility when designing and constructing a new facility or altering an existing facility. Examples of key guidelines include detectable warning for pedestrians entering traffic where there is no curb, a clear zone of 48 inches for the pedestrian travel way, and a vibration-free zone for pedestrians.

California Department of Transportation. Caltrans manages the operation of State Highways, including the U.S. 101, which passes through the San Luis Obispo area.

Senate Bill (SB) 743. To further the State's commitment to the goals of SB 375, Assembly Bill (AB) 32, and AB 1358, SB 743 adds Chapter 2.7, Modernization of Transportation Analysis for Transit-Oriented Infill Projects, to Division 13 (Section 21099) of the Public Resources Code. Key provisions of SB 743 include reforming aesthetics and parking California Environmental Quality Act (CEQA) analysis for urban infill projects and replacing the measurement of automobile delay with vehicle miles traveled as a metric that can be used for measuring environmental impacts. Under SB 743, the focus of the environmental impacts of transportation shift from driver delay to reduction of greenhouse gas (GHG) emissions, creation of multimodal networks, and promotion of a mix of land uses, and LOS standards become local policy thresholds as adopted among individual agencies.

Currently official measures and significance thresholds are still being developed and have not yet been adopted under CEQA. Therefore automobile LOS is still used as a significance threshold for CEQA review. The traffic study prepared for the San Luis Ranch Specific Plan analyses both multimodal LOS and VMT; however in the absence of official significance thresholds, no findings in regarding to vehicle miles traveled are made at this time.

City of San Luis Obispo General Plan. The City General Plan sets objectives and policies for all City resources. Those associated with the standards of streets and highways incorporated within the City are managed through the Circulation Element of the General Plan. The following Circulation Element policies and programs are relevant to the project:

Policy 2.1.1. Multi-level Programs. *The City shall support County-wide and community-based efforts aimed at substantially reducing the number of vehicle trips and parking demand.*

Policy 2.1.2. Flexible Work Schedules. *The City shall support flex time programs and alternative work schedules to reduce peak hour traffic demand.*



Policy 2.1.3. Work-based Trip Reduction. *The City shall encourage employers within the City limits and work with the county to work with employers outside of the City limits to participate in trip reduction programs.*

Policy 2.1.5. Long-term Measure. *The City shall support programs that reduce traffic congestion and maintain air quality. If air quality degrades below legal standards or LOS standards are exceeded, the City will pursue more stringent measures to achieve its transportation goals.*

Policy 4.1.4. New Development. *The City shall require that new development provide bikeways, secure bicycle storage, parking facilities and showers consistent with City plans and development standards. When evaluating transportation impacts, the City shall use a Multi-modal Level of Service (MMLOS) analysis.*

Policy 6.1.1. Complete Streets. *The City shall design and operate City streets to enable safe, comfortable, and convenient access and travel for users of all abilities including pedestrians, bicyclists, transit users, and motorists.*

Policy 6.1.2. Multimodal LOS Objectives, Service Standards, and Significance Criteria. *The City shall strive to achieve LOS objectives and shall maintain LOS minimums for all four modes of travel; Pedestrians, Bicyclists, Transit, & Vehicles.*

Policy 6.1.3. Multimodal Priorities. *In addition to maintaining minimum LOSs, MMLOSs should be prioritized in accordance with the established modal priorities, such that construction, expansion, or alteration for one mode should not degrade the service level of a higher priority mode.*

Policy 6.1.4. Defining Significant Circulation Impact. *Any degradation of the LOS shall be minimized to the extent feasible in accordance with the modal priorities established. If the LOS degrades below thresholds established in Policy 6.1.2, it shall be determined a significant impact for purposes of environmental review under CEQA. For roadways already operating below the established MMLOS standards, any further degradation to the MMLOS score will be considered a significant impact under CEQA.*

Where a potential impact is identified, the City in accordance with the modal priorities established, can determine if the modal impact in question is adequately served through other means e.g., another parallel facility or like service. Based on this determination, a finding of no significant impact may be determined by the City.

Policy 6.1.5. Mitigation. *For significant impacts, developments shall be responsible for their fair share of any improvements required. Potential improvements for alternative mode may include, but are not limited to:*

- *Pedestrian: Provision of sidewalk, providing or increasing a buffer from vehicular travel lanes, increased sidewalk clear width, providing a continuous barrier between pedestrians and vehicle traffic, improved crossings, reduced signal delay, traffic calming, no right turn on red, reducing intersection crossing distance.*
- *Bicycle: Addition of a bicycle lane, traffic calming, provision of a buffer between bicycle and vehicle traffic, pavement resurfacing, reduced number of access points, or provision of an exclusive bicycle path, reducing intersection crossing distance.*
- *Transit: For transit-related impacts, developments shall be responsible for their fair share of any infrastructural improvements required. This may involve provision of street furniture at transit stops, transit shelters, and/or transit shelter amenities, pullouts for transit vehicles,*



transit signal prioritization, provision of additional transit vehicles, or exclusive transit lanes.

Policy 6.1.6. City Review. *When new projects impact the existing circulation system, the City shall review the effectiveness and desirability of "direct fix" mitigation improvements to address MMLOS impacts. Where a significant impact is found, alternative system-wide project mitigations may be submitted for consideration to the City in accordance with the modal priorities established in Policy 6.1.2. Exceptions shall be based on the physical conditions of the right-of-way to support additional improvements. If the right-of-way in question cannot address on-site mitigation, appropriate off-site improvements that have direct nexus to and effectively address the specific impacts created by the project may be considered.*

Policy 7.1.1. Peak Hour and Daily Traffic. *The City shall cooperate with County and State government to institute programs that reduce the levels of peak-hour and daily vehicle traffic.*

Policy 7.1.2. Street Network. *The City shall manage to the extent feasible the street network so that the standards are not exceeded. This will require new development to mitigate the traffic impacts it causes or the City to limit development that affects streets where congestion levels may be exceeded. The standards may be met by strengthening alternative modes over the single occupant motor vehicle. Where feasible, roundabouts shall be the City's preferred intersection control alternative due to the vehicle speed reduction, safety, and operational benefits of roundabouts.*

Policy 7.1.3. Growth Management & Roadway Expansion. *The City shall manage the expansion of roadways to keep pace with only the level of increased vehicular traffic associated with development planned for in the Land Use Element and under the City's growth management policies and regional transportation plans.*

Policy 7.1.4. Transportation Funding. *In order to increase support for non-automobile travel, the City shall strive to allocate transportation funding across various modes approximately proportional to the modal split objectives for 2035 as shown in Table 1 [of the Circulation Element].*

Policy 7.1.5. Vehicle Speeds. *To the extent permitted under the California Vehicle Code (CVC), the City shall endeavor to maintain and reduce speeds where possible in residential neighborhoods.*

Policy 7.2.7. Traffic Access Management. *The City shall adopt an access management policy to control location, spacing, design and operation of driveways, median openings, crosswalks, interchanges and street connections to a particular roadway including navigation routes to direct traffic in a manner that preserves the safety and efficiency of the transportation system. Navigation routing and other smart access technologies should be considered as part of the update to the Access and Parking Management plan.*

Policy 8.1.1. Through Traffic. *The City shall design its circulation network to encourage through traffic to use Regional Routes, Highways, Arterials, Parkway Arterials, and Residential Arterial streets and to discourage through traffic use of Collectors and Local streets.*

Policy 8.1.2. Residential Streets. *The City should not approve commercial development that encourages customers, employees or deliveries to use Residential Local or Residential Collector streets.*

Policy 8.1.3. Neighborhood Traffic Speeds. *To the extent permitted under the CVC, the City shall endeavor to reduce and maintain vehicular speeds in residential neighborhoods.*



Policy 8.1.4. Neighborhood Traffic Management. *The City shall ensure that neighborhood traffic management projects:*

- *Provide for the mitigation of adverse impacts on all residential neighborhoods.*
- *Provide for adequate response conditions for emergency vehicles.*
- *Provide for convenient and safe through bicycle and pedestrian traffic.*

Policy 8.1.5. Neighborhood Traffic Management Guidelines. *The City shall update its Neighborhood Traffic Management Guidelines to address voting, funding, and implementation procedures and develop an outreach program on the availability of the program.*

Policy 8.1.6. Non-Infill Development. *In new, non-infill developments, dwellings shall be set back from Regional Routes and Highways, Parkway Arterials, Arterials, Residential Arterials, and Collector streets so that interior and exterior noise standards can be met without the use of noise walls.*

Program 9.2.2. Prado Road Improvements. *The City shall ensure that changes to Prado Road (Projects 1, 2, and 19 on Table 5) and other related system improvements are implemented in a sequence that satisfies circulation demands caused by area development.*

The sponsors of development projects that contribute to the need for the Prado Road interchange or overpass (Project 19 on Table 5) will be required to prepare or fund the preparation of a Project Study Report for the interchange project. The Project Study Report shall meet the requirements of the California Department of Transportation.

Program 9.2.5. San Luis Ranch/Dalidio Development. *As part of any proposal to further develop the Dalidio-Madonna Area, the alignment and design of extensions of Froom Ranch Way connecting with Prado Road (west of Route 101) shall be evaluated and established if consistent with the Agricultural Master Plan for Calle Joaquin Reserve.*

Policy 11.1.1. Interstate Air Service. *The City shall support and encourage expansion of air transportation services, as forecasted in the Airport Master Plan and approved by the Federal Aviation Administration (FAA).*

Policy 11.1.2. County Aircraft Operations. *The City shall work with the County to continue to address aircraft operations so that noise and safety problems are not created in developed areas or areas targeted for future development by the City's Land Use Element.*

Policy 11.1.3. Public Transit Service. *The City shall encourage improved public transit service to the County airport soon as practical.*

City of San Luis Obispo Bicycle Transportation Plan (BTP; 2013). The BTP was prepared and adopted by the City in 1985 and it was updated in 2013 to improve and encourage bicycle and pedestrian transportation within the City. This plan works to establish a comprehensive design and development of bikeway facilities in compliance with State, County, and City regulations and policies.

4.12.2 Previous Program-Level Environmental Review

The 2014 Land Use and Circulation Elements Update EIR (LUCE Update EIR) previously analyzed impacts to transportation and circulation in the City related to the adoption and implementation of the General Plan Land Use and Circulation Elements, including planned



future land use development and proposed goals, policies, and programs. The LUCE Update EIR identified significant impacts to transportation and traffic as a result of the increase in vehicle trips from development of planned Citywide land uses allowed under the LUCE as well as potential proposed development of the project site with up to 500 housing units and 470,000 square feet of non-residential uses. The LUCE Update EIR found that additional traffic congestion from development proposed under the updated Land Use and Circulation Elements would result in unacceptable levels of service at several roadways and intersections and may result in potential increases to traffic speed and/or traffic volumes.

The LUCE Update EIR concluded that impacts could be reduced to the extent feasible with the implementation of City policies and additional mitigation measures including, but not limited to roadway widening and installation of new traffic signals (City of San Luis Obispo 2014b). However, several of the mitigation measures required in the LUCE Update EIR were found to be potentially infeasible due to the uncertainty of necessary right-of-way acquisition. Therefore, the LUCE Update EIR found transportation and circulation impacts associated with buildout of the City under the General Plan to be significant and unavoidable.

4.12.3 Prado Road & U.S. 101: Overpass Only vs. Full Access Interchange

The City's previously-adopted Circulation Element (1999) identified the future Prado Road & U.S. 101 interchange as a full access interchange: an overpass with ramps serving both northbound and southbound U.S. 101. During the Land Use and Circulation Element Update there was interest in reassessing the interchange to determine if an overpass only, without ramps, would provide adequate circulation while reducing the level of impact on agricultural lands and potential conflicts with Caltrans interchange spacing requirements. The LUCE Update EIR found that without ramps at the Prado Road & U.S. 101 interchange there would be significant impacts at other surrounding interchanges and City streets. However, because the LUCE Update EIR analysis was programmatic, it has not been used to completely reject the overpass-only option. As a result, the General Plan retained the full access interchange plan as well as an option to have an overpass only, depending on the outcome of the more detailed traffic analysis conducted for the San Luis Ranch Specific Plan, and required through a Project Study Report for the future interchange.

The transportation and circulation impact analysis for the project below (Section 4.12.5) identifies three general designs of the Prado Road & U.S. 101 interchange, where identified transportation impacts that would result from the project trigger the need for this improvement. These three general designs include:

1. Impacts that trigger the Prado Overpass-Only
2. Impacts that trigger the Prado Overpass Plus U.S. 101 northbound ramps, and
3. Impacts that trigger the Prado Overpass Plus U.S. 101 northbound ramps and U.S. 101 southbound ramps

Ultimately, these three general designs represent a tiered approach to constructing a full access interchange at Prado Road and U.S. 101. While a complete interchange could be constructed at one time, this analysis assumes that it may be necessary to build an overpass-only connection for the Prado Road extension, followed by rebuilding the northbound ramps on the east side of U.S. 101, and eventually followed by constructing new southbound ramps on the west side of U.S. 101.



Existing & Near-Term Conditions. As described in detail in the impact analysis below (Section 4.12.5), the traffic study prepared for the San Luis Ranch Specific Plan (refer to Appendix K) identified that by completion of Phase 2 of the project an overpass with northbound ramps would be needed to maintain acceptable transportation operations. The alternative to the recommended northbound ramps to maintain acceptable transportation operations under existing and near-term conditions would include:

- Widening of Higuera Street at Madonna Road into the Pacific Coast Center, which would include demolition of the buildings fronting the street; and
- Widening of the recently constructed Los Osos Valley Road/U.S. 101 bridge to extend the right turn pocket from Los Osos Valley Road to northbound U.S. 101.

Cumulative Conditions. The traffic study identified that, in addition to the overpass and northbound ramps constructed during Phase 2 of the project, southbound ramps would eventually need to be added to maintain acceptable transportation operations. The alternative to the recommended southbound ramps to maintain acceptable transportation operations under existing and near-term conditions would include:

- Expand the Higuera Street/Marsh Street & U.S. 101 Interchange;
- Expand the Madonna Road & U.S. 101 Interchange; and
- Expand the Los Osos Valley Road & U.S. 101 Interchange.

Potential residual impacts that may result from project mitigation that would require construction of the Prado Road & U.S. 101 overpass are discussed in Section 4.12.5(d).

4.12.4 Impact Analysis

a. Methodology and Significance Thresholds.

Thresholds of Significance. The following criteria are based on Appendix G of the *State CEQA Guidelines*. Impacts related to transportation and circulation from the proposed project would be significant if the project would:

1. *Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;*
2. *Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;*
3. *Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;*
4. *Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment);*
5. *Result in inadequate emergency access; and/or*
6. *Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.*

The Initial Study determined that the project would not result in changes to air traffic patterns and would not result in inadequate emergency access to the site. Therefore, Thresholds 3 and 5



are not discussed further in this section. See Section 4.14, *Issues Addressed in the Initial Study*, for a discussion of these issues.

City of San Luis Obispo Thresholds. The City of San Luis Obispo does not have a formally adopted Congestion Management Program (CMP). However, the City's General Plan Circulation Element contains LOS policies for all modes of transportation. The City's has established minimum LOS standards for all transportation modes with a goal to maintain established LOS objectives. Table 4.12-2 through Table 4.12-7 show the City's established LOS objectives and minimum LOS standards by mode of transportation.

Based on the City's thresholds, the project would have a significant impact if any of the following conditions are met:

Automobiles: Intersections

- A. **Signalized Intersections:** Project traffic causes minimum LOS standards to be exceeded or further degrades already exceeded LOS standards and the V/C ratio is increased by 0.01 or more.
- B. **Unsignalized Intersections:** Project traffic causes minimum LOS standards to be exceeded or further degrades already exceeded LOS standards, the V/C ratio is increased by 0.01 or more, and a traffic signal warrant analysis is satisfied.
- C. Project traffic causes or exacerbates 95th percentile turning movement queues exceeding available turn pocket capacity.
- D. The project proposes roadway geometry changes that cause minimum LOS standards to be exceeded or further degrades already exceeded LOS standards for the overall intersection or individual lane groups.

Automobiles: Segments

- A. Project traffic causes minimum LOS standards for either direction to be exceeded or further degrades already exceeded LOS standards and the average segment speed decreases by one mph or more.
- B. The project proposes roadway geometry changes that cause minimum LOS standards to be exceeded or further degrades already exceeded LOS standards.

Pedestrian, Bicycle, and Transit: Intersections and Segments

- A. Project traffic causes minimum LOS standards to be exceeded or further degrades already exceeded LOS standards and there is contextual significance to the impact.
- B. **Pedestrians and Bicycles:** The project proposes roadway geometry changes that cause minimum LOS standards to be exceeded or further degrades already exceeded LOS standards.

Modal Priorities. In addition to maintaining minimum LOS, the City's Circulation Element has established priorities for various modes such that construction, expansion, or alteration of one mode should not degrade the LOS of a higher priority mode. Project impacts are considered significant if the project proposes to improve a lower priority mode resulting in the degradation of a higher priority mode. Also, if a project's mitigation would result in the degradation of higher priority mode that shall be considered a residual impact and addressed as well.



Traffic Safety. A safety assessment is conducted for the study intersections and segments based on the project's potential operational and geometric affects, including turn pocket queue spillbacks and a functional area analysis of project driveways in close proximity to other intersections on collector and arterial roadways.

- A. Project traffic affects the operational characteristics of an existing intersection or segment such that the collision rater, per million entering vehicles for intersections and per million vehicle miles for segments, would be likely to increase.
- B. Project proposed significant new or modified infrastructure is predicted to have a collision rate as indicated above higher that the median collision rate as reported in the City's most current annual traffic survey report for the same facility classification type.

Neighborhood Traffic. Project impacts are considered significant if the maximum neighborhood ADT or speed thresholds established from the Circulation Element are exceeded or the project adds traffic to a neighborhood already exceeds the ADT threshold.

California Department of Transportation (Caltrans) Facilities. In addition to the City's policies, Caltrans has also established the measure of effectiveness (MOE) for the evaluation of impacts in CEQA projects on State facilities. Caltrans' Guide for the Preparation of Traffic Impact Studies (December 2002) includes the following policy pertaining to the LOS standards within Caltrans jurisdiction:

The Level of Service (LOS) for operating State highway facilities is based upon measures of effectiveness (MOEs). These MOEs describe the measures best suited for analyzing State highway facilities (i.e., freeway segments, signalized intersections, on- or off-ramps, etc.) Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities, however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing State highway facility is operating at less than the appropriate target LOS, the existing MOE should be maintained.

Impact Assessment Methodology. The amount of traffic added to the surrounding roadway system by the project was estimated by applying the applicable trip generation rates to the development proposal. Vehicular trips were estimated using the Institute of Transportation Engineers (ITE) Trip Generation Manual (9th Edition). The Shopping Center land use was used to determine the trip generation for the commercial element during the AM and PM peak hour. The ITE Trip Generation Manual does not contain adequate information for the Parks/Recreational land use. As such, San Diego Association of Government's (SANDAG) Brief Guide to Vehicular Traffic Generation Rates for the San Diego Region (2002) was used to determine the trip generation for the Parks/Recreational land use using the City Park land use generation rate as the best available rate which is expected to have similar trip generation characteristics. Table 4.12-17 presents the ITE trip generation rates and estimates for the proposed land uses.

As shown in Table 4.12-17, the project would generate approximately 914 AM peak hour vehicular trips and 1,584 PM peak hour vehicular trips, before any vehicular occupancy, modal, internal capture, or pass-by adjustments.



**Table 4.12-17
 Project Trip Generation**

Land Use Category (ITE Code)	Unit ¹	Daily Trip Rate/Unit ²	AM Peak Hour Trip Rate/Unit			PM Peak Hour Trip Rate/Unit		
			Total	In %	Out %	Total	In %	Out %
Single Family Detached (210)	DU	9.62	0.73	25%	75%	0.93	63%	37%
Apartment (220)	DU	6.50	0.50	20%	80%	0.61	65%	35%
Shopping Center (820)	KSF	58.93	1.33	62%	38%	5.24	48%	52%
Hotel (310)	Rooms	8.17	0.53	59%	41%	0.60	51%	49%
General Office Building (710)	KSF	13.13	1.91	88%	12%	1.90	17%	83%
City Park ³	AC	50.00	6.55	50%	50%	4.48	50%	50%
City Park ³	AC	50.00	6.67	50%	50%	4.44	50%	50%

Project Name	Quantity (Units)	Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
			Total	In	Out	Total	In	Out
Single Family Residential (Small 30' lots) ⁴	100	962	73	18	55	93	59	34
Single Family Residential (Traditional 40' lots) ⁴	200	1,924	146	37	110	185	117	68
Multi-Family Residential	280	1,820	141	28	113	172	112	60
Commercial	150	8,839	200	124	76	786	377	409
Hotel	200	1,634	106	63	43	120	61	59
Office	100	1,313	191	168	23	190	32	158
Parks/Recreational	5.80	290	38	19	19	26	13	13
Agriculture Heritage and Learning Center	2.70	135	18	9	9	12	6	6
Net Project Trips		16,917	913	466	448	1,584	777	807



A volume growth increment for all travel modes was developed for 2035 conditions using the San Luis Obispo City Travel Demand Model (TDM) projections. Vehicular trips were determined using the City’s TDM and assumed buildout of the City’s General Plan without the development of the project site.

Vehicle Miles Traveled. As reported by the City of San Luis Obispo’s Travel Demand Model, the forecasted 2035 Daily VMT is approximately 12 million miles for the region and approximately 3.6 million miles for the sphere of influence. The average VMT per household is 80 for the region and 54 for the sphere of influence.

Project-generated VMT has been forecasted by adding the proposed land uses to the City’s travel demand model. The City’s travel demand model forecast for the project is 60,000 daily VMT, an increase of approximately 1.7% within the City sphere of influence and 0.5% within the County region. The VMT generated per household for the project is forecasted at 32 daily miles traveled per household. The proposed project VMT per household is lower than the City’s average per household VMT due to the varied characteristics of the proposed land uses. Additionally, the VMT per household for the project was estimated by converting the non-residential trips into equivalent dwelling units and adding them to the residential dwelling units. Table 4.12-18 presents these calculations.

**Table 4.12-18
 Project Trip Generation**

Description	Daily VMT	VMT per HH ¹
San Luis Obispo County (Region)	12,000,000	80
San Luis Obispo City (Sphere of Influence)	3,600,000	54
San Luis Ranch Project	60,000	32

1. Reported vehicle miles traveled per household.

Fair-Share of Improvement Cost Calculations. Fair-share calculations were identified in the traffic study for all intersections projected to operate at unacceptable LOS under no project conditions, and experience an increase in delay with the addition of project traffic. Table 18 lists each of the study intersections warranting improvements, the corresponding improvements that the proposed project would be required to pay a fair-share of improvement cost towards, and the proposed project’s equitable share of these improvements. The proposed project’s equitable share is calculated using the method for calculating equitable mitigation measures outlined in the Caltrans *Guide for the Preparation of Traffic Impact Studies* (State of California, DOT, December 2002), which is shown below:

$$P = T / (T_B - T_E) \text{ where}$$

P = The equitable share for the project’s traffic impact

T = The vehicle trips generated by the project during the peak hour of adjacent roadway facility in vehicles per hour (vph)

T_B = The forecasted traffic volume on an impacted roadway facility at the time of general plan build-out (e.g. 20 year model or the furthest model date feasible), vph

T_E = The traffic volume existing on the impacted roadway facility plus other approved projects that will generate traffic that has yet to be constructed/opened, vph.



The fair-share calculations were calculated using Cumulative (Year 2035) Full Build project volumes. (Note that the percent fair-share calculated using the above formula is reported to the nearest whole number and the calculations are based on the highest fair share percentage from the two peak hour scenarios.)

b. Project Impacts and Mitigation Measures – Existing & Near-Term.

Existing & Near Term Scenario Background. The project traffic study (refer to Appendix K) evaluated the project under existing and near-term conditions. Existing + project conditions reflect the potential impacts and required mitigation measures if the project were fully constructed all at once. However, the project proposes phased construction of the site’s land use and associated infrastructure. Therefore, the project has also been evaluated under near-term conditions which represent conditions that also include other planned development and new infrastructure in the City. The combination of existing and near-term analysis provides the basis for establishing phasing triggers for proposed infrastructure improvements and mitigation measures. Mitigation measures identified for existing and near-term impacts are typically required to be physically constructed prior to their trigger rather than solely based on payment of fees. The project’s proposed development and infrastructure phasing are described in Section 2.0, *Project Description*.

Near Term Scenario Improvements. Under the near-term conditions scenario, the City’s approved, pending and potential land development projects are assumed to be in place. In addition, the following General Plan Circulation Element roadway improvements are assumed to be in place:

- Los Osos Valley Road/U.S. 101 interchange improvements and widening to four lanes between Calle Joaquin and S. Higuera Street, with Class II bicycle lanes
- Prado Road widening to four lanes between U.S. 101 and S. Higuera Street, with Class II bicycle lanes and an additional westbound left turn lane at S. Higuera Street
- Horizon Lane extension between Avila Ranch and Suburban Drive
- Southbound left turn pocket at Prado Road/S. Higuera Street extended 250 feet, with the addition of pedestrian countdown heads with audible/tactile pushbuttons
- Buckley Road extension to S. Higuera Street

<i>Threshold 1:</i>	<i>Would the project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?</i>
<i>Threshold 2:</i>	<i>Would the project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?</i>
<i>Threshold 6:</i>	<i>Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?</i>



Impact T-1 Under Existing and Near-Term Plus Project conditions nine study area intersections would operate at unacceptable automobile, bicycle, or pedestrian LOS based on adopted multimodal level of service standards during AM and PM peak hours. Mitigation would reduce impacts at seven of these intersections to an acceptable level. However, impacts at the Madonna Road & Dalidio Drive and Los Osos Valley Road & Froom Ranch Way intersections would be Class I, *significant and unavoidable*.

MMLOS was calculated for the area intersections based on the 2010 HCM methodology. Table 4.12-20 through Table 4.12-25 provide a summary of the multimodal AM and PM peak hour intersection LOS under existing and near-term plus project conditions. Intersections where the AM or PM LOS exceed the minimum LOS standard are bolded. Figure 4.12-5 shows Project-Only peak hour traffic volumes, which is the project trip assignment for the Existing Plus Project and the Near Term Plus Project conditions. Figure 4.12-6 shows the Year 2025 Near-Term peak hour traffic volumes assuming the roadway improvements under the Near Term conditions are in place, and with buildout of the Near-Term approved and pending projects. Figure 4.12-7 shows the Near-Term Plus Project peak hour traffic volumes.



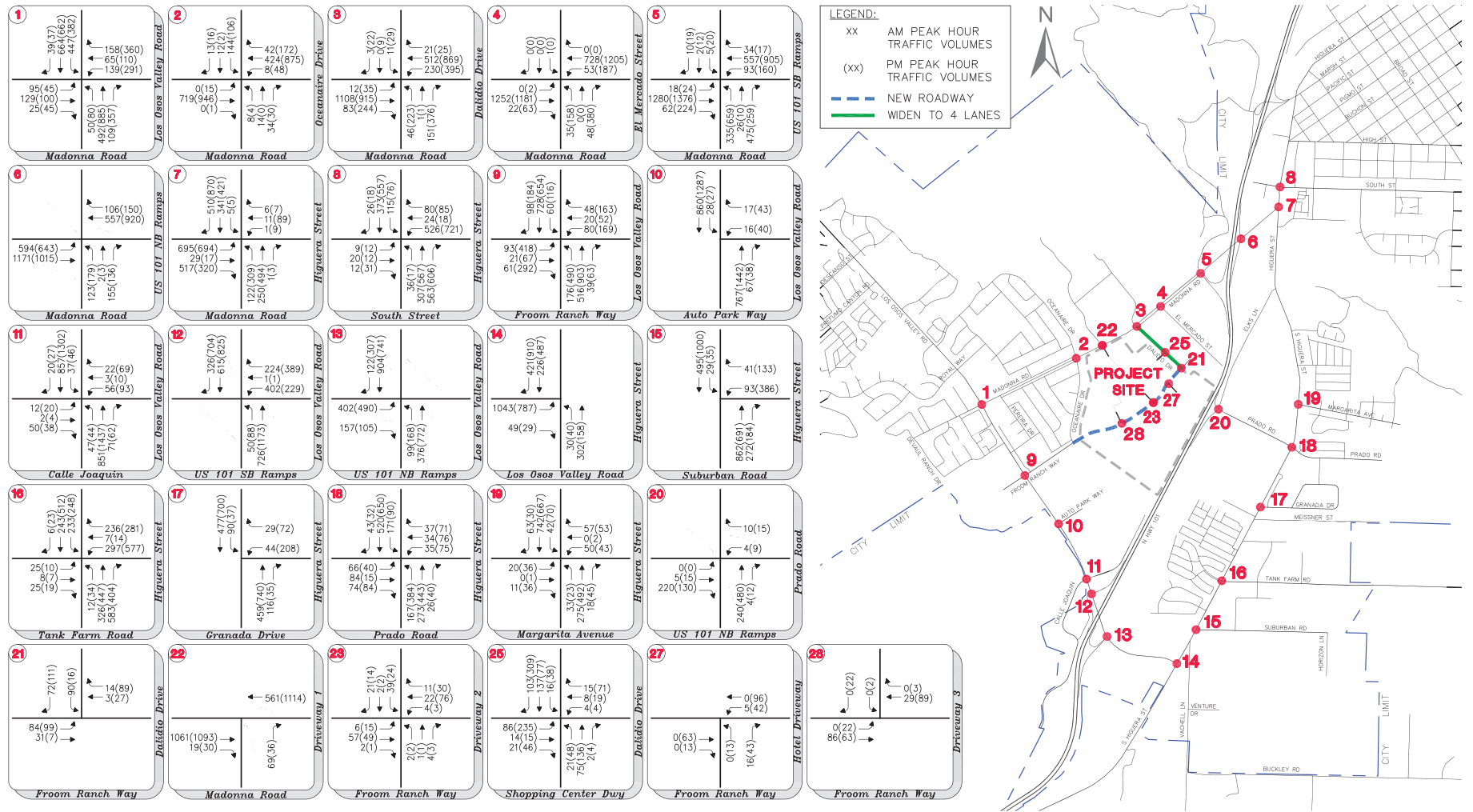
**Table 4.12-19
 Cumulative (Year 2035) Full Build Fair Share Calculations**

Inter-section / Segment		Mode	Peak Hour	Fair Share Percentage	Project Added Traffic	Existing Volume	2035 Full Build + Project Volume
INT 1	Madonna Road/Los Osos Valley Road	Auto (Queue only)	PM	10%	62	3263	3875
INT 2	Madonna Road/Oceanaire Drive	Auto (Queue only)	PM	56%	74	2100	2233
INT 3	Madonna Road/Dalidio Drive	Auto	PM	30%	209	2479	3178
INT 4	Madonna Road/El Mercado	Auto (Queue only)	PM	n/a	188	2674	2519
INT 5	Madonna Road/US 101 SB Ramps/Madonna Inn	Auto (Queue only)	PM	n/a	187	3183	2747
INT 6	Madonna Road/US 101 NB Ramps	Auto (Queue only)	PM	n/a	166	2643	2392
INT 7	Madonna Road/Higuera Street	Auto (Queue only)	PM	22%	154	2937	3629
INT 8	Higuera Street/South Street	Auto (Queue only)	PM	18%	141	2476	3277
INT 9	Los Osos Valley Road/Froom Ranch Way	Auto	PM	12%	127	3401	4458
INT 10	Los Osos Valley Road/Auto Park Way	Auto (Queue only)	PM	11%	69	2774	3407
INT 12	Los Osos Valley Road/US 101 SB Ramps	Auto (Queue only)	PM	8%	50	3324	3918
INT 14	S. Higuera Street/Los Osos Valley Road	Auto (Queue only)	PM	4%	33	2377	3258
INT 15	S. Higuera Street/Suburban Drive	Auto (Queue only)	PM	2%	10	2413	2976
INT 16	S. Higuera Street/Tank Farm Road	Auto	AM	5%	32	1994	2701
INT 18	S. Higuera Street/Prado Road	Auto (Queue only)	PM	10%	258	1980	4640
INT 19	S. Higuera Street/Margarita Avenue	Auto (Queue only)	PM	6%	38	1450	2130
INT 20	Prado Road/US 101 NB Ramps	Auto (Queue only)	PM	15%	337	661	2864
SEG 2 EB	Madonna Road - Oceanaire Drive to Dalidio Drive	Auto	AM	18%	42	1108	1341
SEG 19 WB	Froom Ranch Way - Dicks Sporting Goods to Los Osos Valley Road	Ped	AM	23%	56	72	319
SEG 23 NB*	Prado Road - US 101 SB Ramps to Froom Ranch Way	Auto	AM	20%	154	15	797
SEG 24 SB*	Dalidio Drive - SC Project Driveway to Froom Ranch Way	Auto	AM	19%	163	16	880
SEG 23 NB*	Prado Road - US 101 SB Ramps to Froom Ranch Way	Auto	PM	15%	204	71	1454
SEG 24 SB*	Dalidio Drive - SC Project Driveway to Froom Ranch Way	Auto	PM	24%	183	36	799
SEG 24 NB*	Dalidio Drive - Froom Ranch Way to SC Project Driveway	Auto	PM	20%	237	71	1234

*Existing directional volumes based on Intersection #26 (Dalidio Dr/Promenade) volumes



San Luis Ranch Project EIR
Section 4.12 Transportation

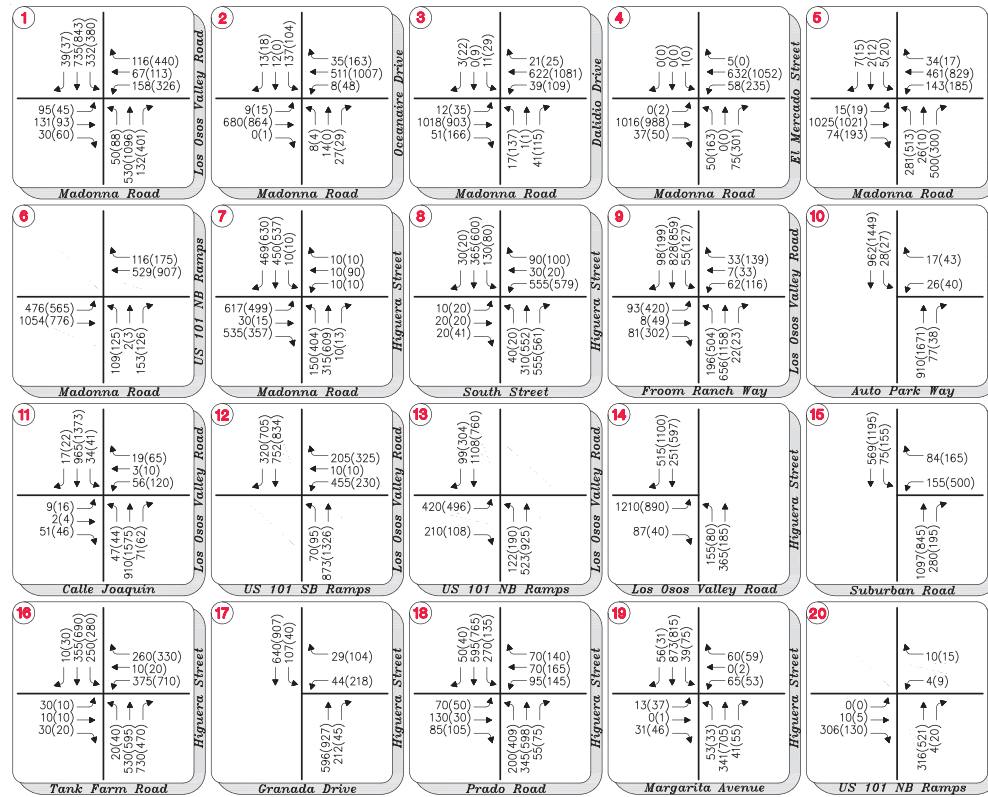


Existing Plus Project Peak Hour
Traffic Volumes

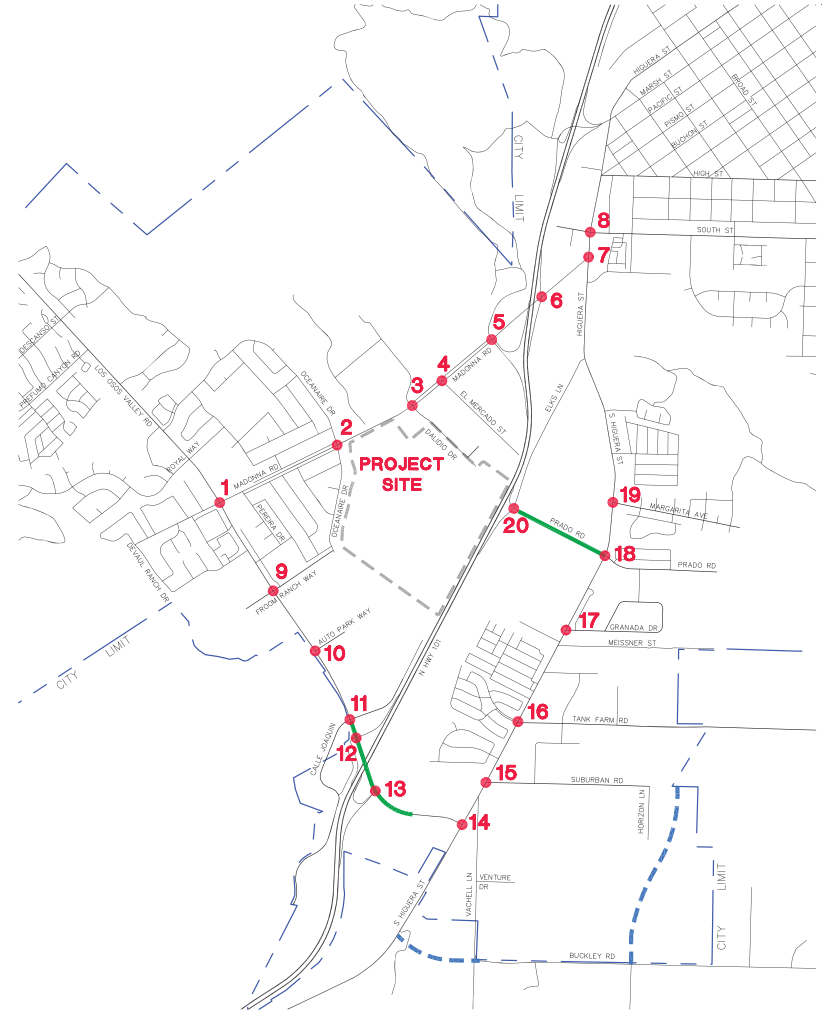
Figure 4.12-5

Source: Omni-Means, Ltd., 2016

San Luis Ranch Project EIR
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LEGEND:
 xx AM PEAK HOUR TRAFFIC VOLUMES
 (xx) PM PEAK HOUR TRAFFIC VOLUMES
 --- NEW ROADWAY
 --- WIDEN TO 4 LANES

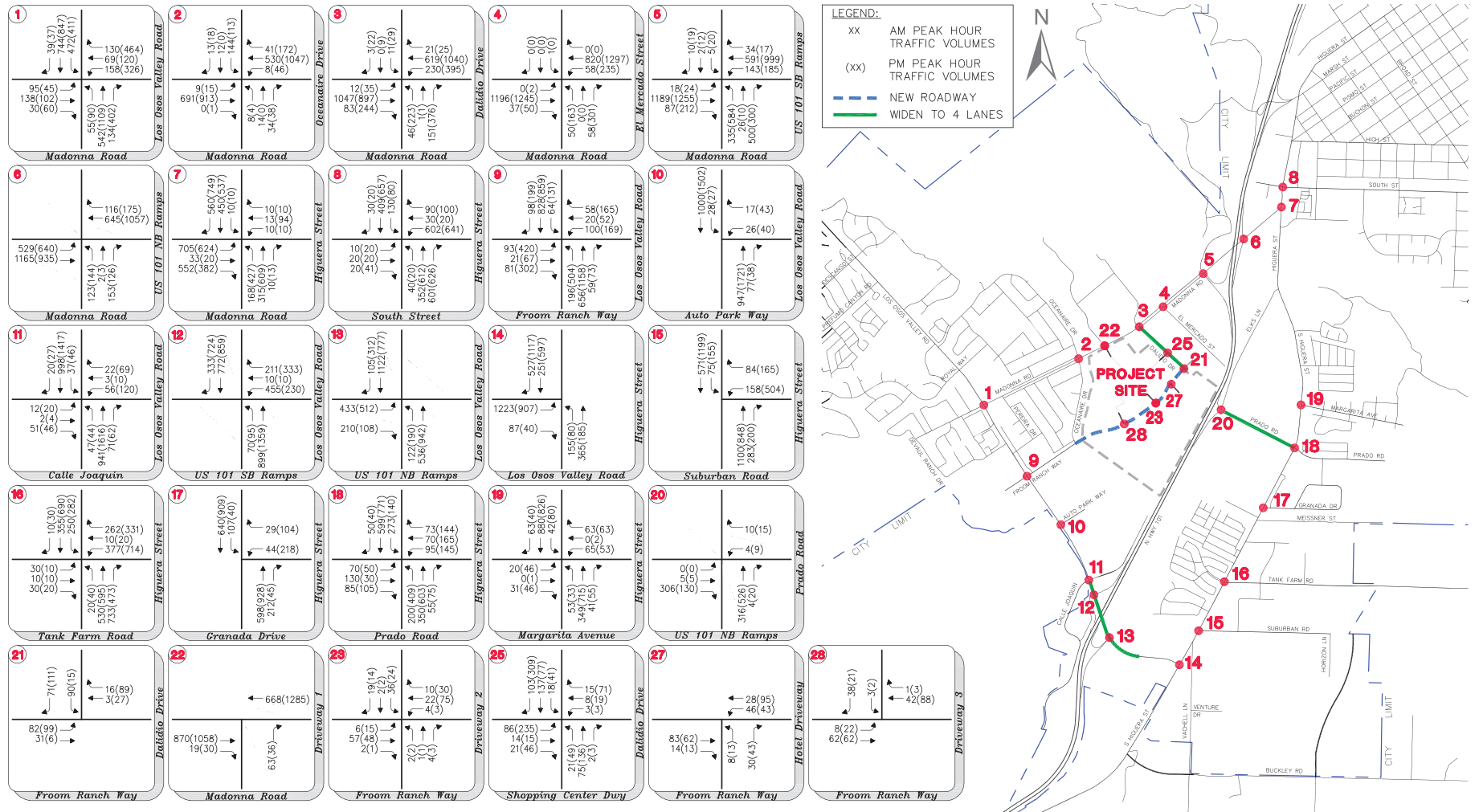


Year 2025 Near Term Peak Hour
Traffic Volumes

Source: Omni-Means, Ltd., 2016

Figure 4.12-6
City of San Luis Obispo

San Luis Ranch Project EIR
Section 4.12 Transportation



Year 2025 Near Term Plus Project Peak
Hour Traffic Volumes

Source: Omni-Means, Ltd., 2016

Figure 4.12-7

City of San Luis Obispo

**Table 4.12-20
Existing Plus Project Conditions Intersection
Level of Service: Automobile Analysis**

#	Intersection	Control Type ^{1,2}	Target LOS	AM Peak Hour			PM Peak Hour		
				v/c ³	Delay	LOS	v/c ³	Delay	LOS
1	Madonna Road/Los Osos Valley Road	Signal	D		27.3	C		49.4	D
2	Madonna Road/Oceanaire Drive	Signal	D		19.7	B		15.5	B
3	Madonna Road/Dalidio Drive	Signal	D		34.7	C	4.65	172.9	F
4	Madonna Road/El Mercado	Signal	D		7.3	A		21.8	C
5	Madonna Road/US 101 SB Ramps/Madonna Inn	Signal	C	1.36	48.8	D		23.7	C
6	Madonna Road/US 101 NB Ramps	Signal	C		18.1	B		21.1	C
7	Madonna Road/Higuera Street	Signal	D		19.7	B		24.3	C
8	Higuera Street/South Street	Signal	D		21.8	C	1.47	82.8	F
9	Los Osos Valley Road/Froom Ranch Way	Signal	D		22.3	C		40.7	D
10	Los Osos Valley Road/Auto Park Way	TWSC	D		15.5	C	0.39	36.6	E
11	Los Osos Valley Road/Calle Joaquin	Signal	D		4.7	A		5.8	A
12	Los Osos Valley Road/US 101 SB Ramps	Signal	C		13.2	B		22.7	C
13	Los Osos Valley Road/US 101 NB Ramps	Signal	C		29.1	C		22.5	C
14	S. Higuera Street/Los Osos Valley Road	Signal	D		16.3	B		20.0	B
15	S. Higuera Street/Suburban Drive	Signal	D		6.4	A		11.2	B
16	S. Higuera Street/Tank Farm Road	Signal	D		36.7	D		21.2	C
17	S. Higuera Street/Granada Drive	Signal	D		8.4	A		10.5	B
18	S. Higuera Street/Prado Road	Signal	D		16.7	B		21.1	C
19	S. Higuera Street/Margarita Avenue	Signal	D		8.3	A		12.3	B
20	Prado Road/US 101 NB Ramps	AWSC	C		9.0	A		13.9	B
21	Froom Ranch Road/Dalidio Drive	AWSC	D		8.5	A		8.4	A
22	Madonna Road/Project Driveway	TWSC	D		14.4	B		13.9	B
23	Froom Ranch Road/Project Driveway #2	TWSC	D		9.3	A		9.7	A
25	Dalidio Drive/SC Project Driveway	TWSC	D		12.8	B	0.85	49.3	E
27	Froom Ranch Road/Hotel Project Driveway	TWSC	D		9.2	A		9.3	A
28	Froom Ranch Road/Project Driveway #3	TWSC	D		8.8	A		9.0	A

Notes:

1. AWSC = All Way Stop Control; TWSC = Two Way Stop Control; RNDDBT = Roundabout
2. LOS = Delay based on worst minor street approach for TWSC intersections, average of all approaches for AWSC, Signal, RNDDBT
3. Volume to Capacity Ratio (v/c) is for worst movement delay, for unacceptable LOS only
4. Warrant is based on California MUTCD Warrant 3



**Table 4.12-21
Near-Term Plus Project Conditions Intersection Level of Service: Automobile Analysis**

#	Intersection	Control Type ^{1,2}	Target LOS	AM Peak Hour			PM Peak Hour		
				v/c ³	Delay	LOS	v/c ³	Delay	LOS
1	Madonna Road/Los Osos Valley Road	Signal	D		28.0	C	1.05	56.3	E
2	Madonna Road/Oceanaire Drive	Signal	D		21.3	C		19.0	B
3	Madonna Road/Dalidio Drive	Signal	D		47.0	D	2.82	156.5	F
4	Madonna Road/El Mercado	Signal	D		7.9	A		20.0	B
5	Madonna Road/US 101 SB Ramps/Madonna Inn	Signal	C	1.26	44.0	D		24.9	C
6	Madonna Road/US 101 NB Ramps	Signal	C		19.4	B		22.2	C
7	Madonna Road/Higuera Street	Signal	D		33.3	C		43.6	D
8	Higuera Street/South Street	Signal	D		27.7	C	1.43	81.0	F
9	Los Osos Valley Road/Froom Ranch Way	Signal	D		22.7	C		42.8	D
10	Los Osos Valley Road/Auto Park Way	TWSC	D		20.2	C	0.57	59.7	F
11	Los Osos Valley Road/Calle Joaquin	Signal	D		9.2	A		6.6	A
12	Los Osos Valley Road/US 101 SB Ramps	Signal	C		21.0	C		20.0	B
13	Los Osos Valley Road/US 101 NB Ramps	Signal	C		16.4	B		21.5	C
14	S. Higuera Street/Los Osos Valley Road	Signal	D		23.1	C		32.2	C
15	S. Higuera Street/Suburban Drive	Signal	D		8.6	A		20.2	C
16	S. Higuera Street/Tank Farm Road	Signal	D	1.32	73.2	E		25.3	C
17	S. Higuera Street/Granada Drive	Signal	D		8.3	A		11.5	B
18	S. Higuera Street/Prado Road	Signal	D		20.7	C		28.0	C
19	S. Higuera Street/Margarita Avenue	Signal	D		15.1	B		14.8	B
20	Prado Road/US 101 NB Ramps	AWSC	C		10.8	B		15.6	C
21	Froom Ranch Road/Dalidio Drive	AWSC	D		8.4	A		8.4	A
22	Madonna Road/Project Driveway	TWSC	D		12.7	B		13.6	B
23	Froom Ranch Road/Project Driveway #2	TWSC	D		9.3	A		9.7	A
25	Dalidio Drive/SC Project Driveway	TWSC	D		12.9	B	0.86	52.3	F
26	Dalidio Drive/Promenade	TWSC	D			A			A
27	Froom Ranch Road/Hotel Project Driveway	TWSC	D		9.2	A		9.3	A
28	Froom Ranch Road/Project Driveway #3	TWSC	D		8.7	A		9.0	A

Notes:

1. AWSC = All Way Stop Control; TWSC = Two Way Stop Control; RNDDBT = Roundabout
2. LOS = Delay based on worst minor street approach for TWSC intersections, average of all approaches for AWSC, Signal, RNDDBT
3. Volume to Capacity Ratio (v/c) is for worst movement delay, for unacceptable LOS only
4. Warrant is based on California MUTCD Warrant 3



**Table 4.12-22
Existing Plus Project Conditions Intersection
Level of Service: Pedestrian Analysis**

#	Intersection	Approach	Target LOS	AM Peak Hour		PM Peak Hour	
				Ped. Crosswalk Score	LOS	Ped. Crosswalk Score	LOS
1	Madonna Road/Los Osos Valley Road	EB	C	2.11	B	2.11	B
		WB	C	2.93	C	3.20	C
		NB	C	3.06	C	3.39	C
		SB	C	3.19	C	3.20	C
2	Madonna Road/Oceanaire Drive	EB	C	2.70	B	2.90	C
		WB	C	3.11	C	3.34	C
		NB	C	2.03	B	2.08	B
		SB	C	1.83	A	1.88	A
3	Madonna Road/Dalidio Drive	EB	C	3.04	C	3.41	C
		WB	C	3.07	C	3.17	C
		NB	C	2.49	B	2.85	C
		SB	C	1.98	A	2.03	B
4	Madonna Road/EI Mercado	EB	C	n/a	-	n/a	-
		WB	C	3.14	C	3.24	C
		NB	C	2.27	B	2.78	C
		SB	C	1.74	A	1.74	A
5	Madonna Road/US 101 SB Ramps/Madonna Inn	EB	C	3.08	C	3.25	C
		WB	C	n/a	-	n/a	-
		NB	C	2.75	B	2.67	B
		SB	C	2.18	B	2.19	B
6	Madonna Road/US 101 NB Ramps	EB	C	n/a	-	n/a	-
		WB	C	2.92	C	2.90	C
		NB	C	1.97	A	2.05	B
		SB	C	n/a	-	n/a	-
7	Madonna Road/Higuera Street	EB	C	3.04	C	2.96	C
		WB	C	1.99	A	2.01	B
		NB	C	2.71	B	2.80	C
		SB	C	n/a	-	n/a	-
8	Higuera Street/South Street	EB	C	2.01	B	2.01	B
		WB	C	2.75	B	2.81	C
		NB	C	n/a	-	n/a	-
		SB	C	2.50	B	2.57	B
9	Los Osos Valley Road/Froom Ranch Way	EB	C	2.49	B	2.76	C
		WB	C	2.44	B	2.65	B
		NB	C	n/a	-	n/a	-
		SB	C	3.07	C	3.26	C
10	Los Osos Valley Road/Auto Park Way	EB	C	n/a	-	n/a	-
		WB	C		-		-
		NB	C		-		-
		SB	C		-		-
11	Los Osos Valley Road/Calle Joaquin	EB	C	2.48	B	2.28	B
		WB	C	2.10	B	2.19	B
		NB	C	2.99	C	3.21	C
		SB	C	2.91	C	3.21	C
12	Los Osos Valley Road/US 101 SB Ramps	EB	C	1.91	A	2.34	B
		WB	C	2.22	B	2.11	B
		NB	C	n/a	-	n/a	-
		SB	C	n/a	-	n/a	-
13	Los Osos Valley Road/US 101 NB Ramps	EB	C	2.45	B	2.58	B
		NB	C	n/a	-	n/a	-
		SB	C	n/a	-	n/a	-
14	S. Higuera Street/Los Osos Valley Road	EB	C	2.66	B	2.74	B
		NB	C	2.25	B	2.30	B
		SB	C	n/a	-	n/a	-



#	Intersection	Approach	Target LOS	AM Peak Hour		PM Peak Hour	
				Ped. Crosswalk Score	LOS	Ped. Crosswalk Score	LOS
15	S. Higuera Street/Suburban Drive	WB	C	2.15	B	2.29	B
		NB	C	2.99	C	3.61	D
		SB	C	2.73	B	2.85	C
16	S. Higuera Street/Tank Farm Road	EB	C	2.01	B	2.01	B
		WB	C	2.92	C	3.04	C
		NB	C	3.34	C	3.28	C
		SB	C	2.65	B	2.78	C
17	S. Higuera Street/Granada Drive	WB	C	2.05	B	2.13	B
		NB	C	n/a	-	n/a	-
		SB	C	2.60	B	2.76	C
18	S. Higuera Street/Prado Road	EB	C	2.35	B	2.41	B
		WB	C	2.28	B	2.32	B
		NB	C	2.71	B	2.95	C
		SB	C	2.76	C	2.78	C
19	S. Higuera Street/Margarita Avenue	EB	C	2.23	B	2.07	B
		WB	C	2.13	B	2.19	B
		NB	C	2.75	B	2.80	C
		SB	C	2.73	B	2.80	C
20	Prado Road/US 101 NB Ramps	EB	C	n/a	-	n/a	-
		WB	C		-		-
		NB	C		-		-
		SB	C		-		-

Notes:

1. HCM 2010 Methodologies do not model segments bounded by all-way stop control. Procedures have not been developed yet to address the effect of all-way stop control or yield control on intersection performance from a pedestrian or bicycle perspective.
2. HCM 2010 Methodologies for the pedestrian mode at two-way stop-controlled intersections is limited to the uncontrolled crossing. No methodology exists for evaluating pedestrian performance for the stop controlled approach (cross-street). However, it is reasoned that this type of control has negligible influence on pedestrian service along the segment.



**Table 4.12-23
Near-Term Plus Project Conditions Intersection
Level of Service: Pedestrian Analysis**

#	Intersection	Approach	Target LOS	AM Peak Hour		PM Peak Hour	
				Ped. Crosswalk Score	LOS	Ped. Crosswalk Score	LOS
1	Madonna Road/Los Osos Valley Road	EB	C	2.11	B	2.13	B
		WB	C	2.90	C	3.32	C
		NB	C	3.12	C	3.52	D
		SB	C	3.21	C	3.31	C
2	Madonna Road/Oceanaire Drive	EB	C	2.71	B	2.99	C
		WB	C	3.11	C	3.39	C
		NB	C	2.01	B	2.01	B
		SB	C	1.82	A	1.85	A
3	Madonna Road/Dalidio Drive	EB	C	3.03	C	3.44	C
		WB	C	3.05	C	3.17	C
		NB	C	2.46	B	2.60	B
		SB	C	2.96	C	2.00	A
4	Madonna Road/El Mercado	EB	C	n/a	-	n/a	-
		WB	C	3.11	C	3.19	C
		NB	C	2.25	B	2.51	B
		SB	C	1.71	A	1.72	A
5	Madonna Road/US 101 SB Ramps/Madonna Inn	EB	C	3.08	C	3.23	C
		WB	C	n/a	-	n/a	-
		NB	C	2.80	C	2.74	B
		SB	C	2.18	B	2.19	B
6	Madonna Road/US 101 NB Ramps	EB	C	n/a	-	n/a	-
		WB	C	2.96	C	2.92	C
		NB	C	2.02	B	2.02	B
		SB	C	n/a	-	n/a	-
7	Madonna Road/Higuera Street	EB	C	2.96	C	3.22	C
		WB	C	2.01	B	2.02	B
		NB	C	2.80	C	2.93	C
		SB	C	n/a	-	n/a	-
8	Higuera Street/South Street	EB	C	2.03	B	2.06	B
		WB	C	2.80	C	2.83	C
		NB	C	n/a	-	n/a	-
		SB	C	2.52	B	2.62	B
9	Los Osos Valley Road/Froom Ranch Way	EB	C	2.51	B	2.80	C
		WB	C	2.45	B	2.65	B
		NB	C	n/a	-	n/a	-
		SB	C	3.11	C	3.34	C
10	Los Osos Valley Road/Auto Park Way	EB	C	n/a	-	n/a	-
		WB	C		-		-
		NB	C		-		-
		SB	C		-		-
11	Los Osos Valley Road/Calle Joaquin	EB	C	2.47	B	2.28	B
		WB	C	2.08	B	2.18	B
		NB	C	3.03	C	3.31	C
		SB	C	3.03	C	3.29	C



#	Intersection	Approach	Target LOS	AM Peak Hour		PM Peak Hour	
				Ped. Crosswalk Score	LOS	Ped. Crosswalk Score	LOS
12	Los Osos Valley Road/US 101 SB Ramps	EB	C	1.86	A	2.24	B
		WB	C	2.15	B	2.08	B
		NB	C	n/a	-	n/a	-
		SB	C	n/a	-	n/a	-
13	Los Osos Valley Road/US 101 NB Ramps	EB	C	2.35	B	2.37	B
		NB	C	2.78	C	2.79	C
		SB	C	n/a	-	n/a	-
14	S. Higuera Street/Los Osos Valley Road	EB	C	3.00	C	2.92	C
		NB	C	2.38	B	2.41	B
		SB	C	n/a	-	n/a	-
15	S. Higuera Street/Suburban Drive	WB	C	2.33	B	2.57	B
		NB	C	3.25	C	3.98	D
		SB	C	2.88	C	3.02	C
16	S. Higuera Street/Tank Farm Road	EB	C	2.03	B	2.02	B
		WB	C	3.01	C	3.20	C
		NB	C	3.46	C	3.39	C
		SB	C	2.77	C	2.91	C
17	S. Higuera Street/Granada Drive	WB	C	2.11	B	2.18	B
		NB	C	n/a	-	n/a	-
		SB	C	2.71	B	2.89	C
18	S. Higuera Street/Prado Road	EB	C	2.66	B	2.72	B
		WB	C	2.40	B	2.49	B
		NB	C	2.90	C	3.19	C
		SB	C	2.86	C	2.93	C
19	S. Higuera Street/Margarita Avenue	EB	C	2.28	B	2.09	B
		WB	C	2.14	B	2.22	B
		NB	C	2.85	C	2.94	C
		SB	C	2.78	C	2.93	C
20	Prado Road/US 101 NB Ramps	EB	C	n/a	-	n/a	-
		WB	C		-		-
		NB	C		-		-
		SB	C		-		-

Notes:

1. HCM 2010 Methodologies do not model segments bounded by all-way stop control. Procedures have not been developed yet to address the effect of all-way stop control or yield control on intersection performance from a pedestrian or bicycle perspective.
2. HCM 2010 Methodologies for the pedestrian mode at two-way stop-controlled intersections is limited to the uncontrolled crossing. No methodology exists for evaluating pedestrian performance for the stop controlled approach (cross-street). However, it is reasoned that this type of control has negligible influence on pedestrian service along the segment.



**Table 4.12-24
Existing Plus Project Conditions Intersection Level of Service: Bicycle Analysis**

#	Intersection	Approach	Target LOS	AM Peak Hour		PM Peak Hour	
				Bicycle LOS Score	LOS	Bicycle LOS Score	LOS
1	Madonna Road/Los Osos Valley Road	EB	D	3.27	C	3.15	C
		WB	D	3.39	C	4.05	D
		NB	D	1.65	A	2.02	B
		SB	D	2.63	B	2.52	B
2	Madonna Road/Oceanaire Drive	EB	D	2.75	B	2.96	C
		WB	D	1.08	A	1.64	A
		NB	D	2.76	C	2.73	B
		SB	D	2.23	B	2.15	B
3	Madonna Road/Dalidio Drive	EB	D	2.26	B	2.15	B
		WB	D	1.59	A	1.85	A
		NB	D	1.76	A	2.41	B
		SB	D	1.34	A	1.42	A
4	Madonna Road/El Mercado	EB	D	1.91	A	1.81	A
		WB	D	1.79	A	2.08	B
		NB	D	3.19	C	3.93	D
		SB	D	3.03	C	3.03	C
5	Madonna Road/US 101 SB Ramps/Madonna Inn	EB	D	2.11	B	2.20	B
		WB	D	1.69	A	1.89	A
		NB	D	n/a	-	n/a	-
		SB	D	2.91	C	2.96	C
6	Madonna Road/US 101 NB Ramps	EB	D	2.85	C	2.52	B
		WB	D	1.69	A	1.95	A
		NB	D	n/a	-	n/a	-
7	Madonna Road/Higuera Street	EB	D	3.46	C	3.02	C
		WB	D	2.43	B	2.59	B
		NB	D	1.70	A	2.07	B
		SB	D	2.22	B	2.59	B
8	Higuera Street/South Street	EB	D	2.70	B	2.73	B
		WB	D	2.67	B	3.05	C
		NB	D	3.01	C	3.29	C
		SB	D	1.57	A	1.71	A
9	Los Osos Valley Road/Froom Ranch Way	EB	D	3.40	C	4.42	E
		WB	D	1.95	A	2.66	B
		NB	D	1.75	A	2.15	B
		SB	D	1.72	A	1.74	A
10	Los Osos Valley Road/Auto Park Way	EB	D	n/a	-	n/a	-
		WB	D		-		-
		NB	D		-		-
		SB	D		-		-
11	Los Osos Valley Road/Calle Joaquin	EB	D	2.99	C	2.98	C
		WB	D	3.08	C	3.23	C
		NB	D	1.48	A	1.91	A
		SB	D	0.41	A	0.74	A



#	Intersection	Approach	Target LOS	AM Peak Hour		PM Peak Hour	
				Bicycle LOS Score	LOS	Bicycle LOS Score	LOS
12	Los Osos Valley Road/US 101 SB Ramps	WB	D	n/a	-	n/a	-
		NB	D	2.71	B	3.07	C
		SB	D	2.39	B	3.25	C
13	Los Osos Valley Road/US 101 NB Ramps	EB	D	n/a	-	n/a	-
		NB	D	1.84	A	2.61	B
		SB	D	3.49	C	3.47	C
14	S. Higuera Street/Los Osos Valley Road	EB	D	2.00	A	1.75	A
		NB	D	1.87	A	1.63	A
		SB	D	2.40	B	3.69	D
15	S. Higuera Street/Suburban Drive	WB	D	0.89	A	1.56	A
		NB	D	2.21	B	1.95	A
		SB	D	1.71	A	2.14	B
16	S. Higuera Street/Tank Farm Road	EB	D	2.70	B	2.66	B
		WB	D	2.46	B	3.00	C
		NB	D	2.07	B	2.01	B
		SB	D	1.66	A	1.91	A
17	S. Higuera Street/Granada Drive	WB	D	2.63	B	2.99	C
		NB	D	1.70	A	1.88	A
		SB	D	1.83	A	1.98	A
18	S. Higuera Street/Prado Road	EB	D	2.37	B	2.22	B
		WB	D	2.70	B	2.90	C
		NB	D	1.64	A	1.99	A
		SB	D	1.88	A	1.91	A
19	S. Higuera Street/Margarita Avenue	EB	D	2.47	B	2.55	B
		WB	D	2.70	B	2.68	B
		NB	D	1.58	A	1.79	A
		SB	D	2.13	B	2.06	B
20	Prado Road/US 101 NB Ramps	EB	D	n/a	-	n/a	-
		WB	D		-		-
		NB	D		-		-
		SB	D		-		-

Notes:

1. HCM 2010 Methodologies do not model segments bounded by all-way stop control. Procedures have not been developed yet to address the effect of all-way stop control or yield control on intersection performance from a pedestrian or bicycle perspective.
2. No methodology exists for evaluating bicycle performance at two-way stop-controlled intersections. However, it is reasoned that this type of control has negligible influence on bicycle service along the segment for stop control on the cross-street.



**Table 4.12-25
Near-Term Plus Project Conditions Intersection Level of Service: Bicycle Analysis**

#	Intersection	Approach	Target LOS	AM Peak Hour		PM Peak Hour	
				Bicycle LOS Score	LOS	Bicycle LOS Score	LOS
1	Madonna Road/Los Osos Valley Road	EB	D	3.29	C	3.18	C
		WB	D	3.39	C	4.30	E
		NB	D	1.70	A	2.18	B
		SB	D	2.72	B	2.71	B
2	Madonna Road/Oceanaire Drive	EB	D	2.74	B	2.96	C
		WB	D	1.17	A	1.79	A
		NB	D	2.76	C	2.74	B
		SB	D	2.23	B	2.23	B
3	Madonna Road/Dalidio Drive	EB	D	2.23	B	2.13	B
		WB	D	1.66	A	1.94	A
		NB	D	2.19	B	2.84	C
		SB	D	1.77	A	1.84	A
4	Madonna Road/El Mercado	EB	D	1.89	A	1.84	A
		WB	D	1.85	A	2.16	B
		NB	D	3.23	C	3.81	D
		SB	D	3.03	C	3.03	C
5	Madonna Road/US 101 SB Ramps/Madonna Inn	EB	D	2.07	B	2.12	B
		WB	D	1.74	A	1.96	A
		NB	D	n/a	-	n/a	-
		SB	D	2.91	C	2.96	C
6	Madonna Road/US 101 NB Ramps	EB	D	2.78	C	2.45	B
		WB	D	1.79	A	2.09	B
		NB	D	n/a	-	n/a	-
7	Madonna Road/Higuera Street	EB	D	3.56	D	3.01	C
		WB	D	2.46	B	2.60	B
		NB	D	1.81	A	2.29	B
		SB	D	2.37	B	2.59	B
8	Higuera Street/South Street	EB	D	2.72	B	2.78	C
		WB	D	2.83	C	2.94	C
		NB	D	3.09	C	3.35	C
		SB	D	1.62	A	1.80	A
9	Los Osos Valley Road/Froom Ranch Way	EB	D	3.44	C	4.45	E
		WB	D	2.00	A	2.67	B
		NB	D	1.86	A	2.31	B
		SB	D	1.78	A	1.87	A
10	Los Osos Valley Road/Auto Park Way	EB	D	n/a	-	n/a	-
		WB	D		-		-
		NB	D		-		-
		SB	D		-		-
11	Los Osos Valley Road/Calle Joaquin	EB	D	2.99	C	2.99	C
		WB	D	3.08	C	3.27	C
		NB	D	1.57	A	2.06	B
		SB	D	0.53	A	0.84	A



#	Intersection	Approach	Target LOS	AM Peak Hour		PM Peak Hour	
				Bicycle LOS Score	LOS	Bicycle LOS Score	LOS
12	Los Osos Valley Road/US 101 SB Ramps	WB	D	n/a	-	n/a	-
		NB	D	2.89	C	3.23	C
		SB	D	1.69	A	2.02	B
13	Los Osos Valley Road/US 101 NB Ramps	EB	D	n/a	-	n/a	-
		NB	D	1.95	A	2.37	B
		SB	D	2.88	C	2.76	C
14	S. Higuera Street/Los Osos Valley Road	EB	D	2.19	B	1.86	A
		NB	D	2.20	B	1.74	A
		SB	D	2.63	B	4.24	D
15	S. Higuera Street/Suburban Drive	WB	D	1.09	A	1.82	A
		NB	D	2.43	B	2.10	B
		SB	D	1.82	A	2.41	B
16	S. Higuera Street/Tank Farm Road	EB	D	2.72	B	2.67	B
		WB	D	2.65	B	3.33	C
		NB	D	2.39	B	2.21	B
		SB	D	1.78	A	2.10	B
17	S. Higuera Street/Granada Drive	WB	D	2.63	B	3.07	C
		NB	D	1.90	A	2.05	B
		SB	D	1.99	A	2.17	B
18	S. Higuera Street/Prado Road	EB	D	2.48	B	2.30	B
		WB	D	2.93	C	3.31	C
		NB	D	1.76	A	2.19	B
		SB	D	2.05	B	2.07	B
19	S. Higuera Street/Margarita Avenue	EB	D	2.51	B	2.58	B
		WB	D	2.74	B	2.72	B
		NB	D	1.68	A	2.00	A
		SB	D	2.25	B	2.22	B
20	Prado Road/US 101 NB Ramps	EB	D	n/a	-	n/a	-
		WB	D		-		-
		NB	D		-		-
		SB	D		-		-

Notes:

1. HCM 2010 Methodologies do not model segments bounded by all-way stop control. Procedures have not been developed yet to address the effect of all-way stop control or yield control on intersection performance from a pedestrian or bicycle perspective.
2. No methodology exists for evaluating bicycle performance at two-way stop-controlled intersections. However, it is reasoned that this type of control has negligible influence on bicycle service along the segment for stop control on the cross-street.

As shown in Table 4.12-20 through Table 4.12-25, five intersections (Madonna Road & Dalidio Drive/Prado Road, Madonna Road & U.S. 101 southbound ramps, Higuera Street & South Street, Los Osos Valley Road & Auto Park Way, and Dalidio Drive/SC Project Driveway) would exceed the City’s minimum automobile LOS threshold under the Existing Plus Project Scenario, and seven intersections (Madonna Road & Los Osos Valley Road, Madonna Road & Dalidio Drive/Prado Road, Madonna Road & U.S. 101 southbound ramps, Higuera Street & South Street, Los Osos Valley Road & Auto Park Way, S. Higuera Street & Tank Farm Road, and Dalidio Drive/SC Project Driveway) would exceed the City’s minimum automobile LOS threshold under the Near-Term Plus Project Scenario. Two intersections (S. Higuera Street & Suburban Drive and Los Osos Valley Road & From Ranch Way) would exceed the City’s



minimum pedestrian or bicycle LOS threshold under the Existing Plus Project Scenario, and three intersections (Madonna Road & Los Osos Valley Road, S. Higuera Street & Suburban Drive, and Los Osos Valley Road & Froom Ranch Way) would exceed the City's minimum pedestrian or bicycle LOS threshold under the Near-Term Plus Project Scenario.

Mitigative Components of the Specific Plan and Impact Conclusion. The San Luis Ranch Specific Plan includes a mix of commercial and residential uses, a new transit connection, and workforce housing to balance jobs and housing. The Specific Plan also emphasizes bikeways and pedestrian connections, all of which contribute to reduced trips and VMT. However, under Existing Plus Project and Near-Term Plus Project conditions, the following nine study area intersections would operate at unacceptable automobile, bicycle, and pedestrian LOS based on adopted MMLOS standards during AM and PM peak hours.

- Madonna Road & Los Osos Valley Road
- Madonna Road & Dalidio Drive/Prado Road
- Madonna Road & U.S. 101 Southbound Ramps
- Los Osos Valley Road & Froom Ranch Way
- Los Osos Valley Road & Auto Park Way
- Higuera Street & South Street
- S. Higuera Street & Tank Farm Road
- S. Higuera Street & Suburban Drive
- Dalidio Drive/SC Project Driveway

Therefore, the project would conflict with the City's established measures of effectiveness for the performance of the circulation system and LOS standards, and transportation impacts would be potentially significant at these intersections.

Mitigation Measures. The following mitigation measures identify improvements at study area facilities that are required to reduce potentially significant project-specific impacts to study area intersections under Existing and Near-Term Plus Project conditions. Each mitigation measure refers to one of the required Transportation Improvement Measures identified in Table 4.12-1 at the beginning of this section. The required timing of each required Transportation Improvement Measure is also described in Table 4.12-1. The project's equitable share of these improvements will be calculated using the method for calculating equitable mitigation measures outlined in the Caltrans Guide for the Preparation of Traffic Impact Studies (Caltrans, December 2002). Costs above and beyond the project's equitable share can be addressed through such options as fee credits, reimbursement agreements, or development agreements, based on City requirements.

T-1(a) Intersection #1: Madonna Road & Los Osos Valley Road.

- City optimize signal timing to accommodate increased project volumes (ongoing)

T-1(b) Intersection #3: Madonna Road & Dalidio Drive/Prado Road.

- Extend existing westbound left turn lane on Madonna Road to Dalidio Drive/Prado Road to 310' (Phase 1)
- Install 2nd westbound 310' left turn lane on Madonna Road to Dalidio Drive/Prado Road (Phase 1)



- Install eastbound 250' right turn pocket on Madonna Road to Dalidio Drive/Prado Road (Phase 1)
- Install 2nd northbound left shared with through-lane on Prado Road/Dalidio Drive to Madonna Road (Phase 1)
- Prohibit westbound U-turns on Madonna Road (Phase 1)
- Provide split phase operations & optimize signal timing (Phase 1)

T-1(c) Intersection #5: Madonna Road & U.S. 101 Southbound Ramps.

- Construct Prado Road Overpass (Overpass-Only, Phase 2)

T-1(d) Intersection #8: Higuera Street & South Street.

- Optimize Signal Timing

T-1(e) Intersection #9: Los Osos Valley Road & Froom Ranch Way.

- Install dedicated 230' right turn lane on Los Osos Valley Road approach to northbound Froom Ranch Way (with Froom Ranch Way bridge construction)
- Extend right turn lane on Los Osos Valley Road approach to southbound Froom Ranch Way to 110' (with Froom Ranch Way bridge construction)
- Install 2nd southbound left turn lane on Froom Ranch Way approach to eastbound Los Osos Valley Road (with Froom Ranch Way bridge construction)

T-1(f) Intersection #10: Los Osos Valley Road & Auto Park Way.

- Signalization (Phase 1)
- Construct Prado Road Overpass (Overpass Only, Phase 2)

T-1(g) Intersection #16: S. Higuera Street & Tank Farm Road.

- Construct Prado Road Overpass (Overpass Only Phase 2)
- Extend northbound right turn pocket to 230' and channelize movement (Phase 1)

T-1(h) Intersection #21: Prado Road/Dalidio Drive & Froom Ranch Way.

- Install multilane roundabout control (when connection is constructed)

T-1(i) Intersection #25: Prado Road/Dalidio Drive & SC Project Driveway.

- Install multilane roundabout control or restricted access (when connection is constructed)



Plan Requirements and Timing. Fair share traffic impact fees shall be paid upon acceptance by the City of final design plans and in accordance with the timing of improvements. Implementation of improvements shall occur by time of occupancy of the specified phase of the project. Implementation of the Prado Road/U.S. 101 overpass and associated improvements shall occur prior to occupancy of Phase 2 development.

Monitoring. City Public Works staff shall confirm payment of applicable fees. City Public Works staff shall also ensure implementation of these improvements following approval of the final design plans for the Specific Plan Area.

Significance After Mitigation. Implementation of the identified mitigation measures would improve LOS at most impacted intersections to acceptable levels, and impacts on these facilities would be less than significant after mitigation. However, potential right-of-way constraints at Madonna Road & Dalidio Drive (Intersection #3) and Los Osos Valley Road & Froom Ranch Way (Intersection #9) may reduce the feasibility of mitigation at these intersections. Accordingly, some of the potential impacts associated with multimodal level of service standards identified for Existing and Near-Term Plus Project conditions may not be feasibly mitigated to a less than significant level. As a result, impacts associated with multimodal level of service standards at these intersections under Existing and Near-Term Plus Project conditions would remain significant and unavoidable. Potential residual impacts that may result from project mitigation that would require construction of the Prado Road & U.S. 101 overpass (Mitigation Measures T-1[c], T-1[e], and T-1[f]) are discussed in Section 4.12.5(d).

<p><i>Threshold 1: Would the project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?</i></p>

Impact T-2 Under Existing and Near-Term Plus Project conditions the volume of traffic at 19 study area intersections would exceed lane capacities. Mitigation would reduce impacts at 18 of these intersections to an acceptable level. However, impacts at the Los Osos Valley Road & Froom Ranch Way intersection would be Class I, significant and unavoidable.

Table 4.12-26 and Table 4.12-27 provide a summary of the queueing under existing and near-term plus project conditions. Intersections where vehicle queues would exceed lane capacity during peak hours are bolded.

