

# Appendix L

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Multimodal Transportation Impact Analysis Report





# San Luis Ranch Specific Plan

## Multimodal Transportation Impact Analysis Report

Prepared for:

City of San Luis Obispo

Prepared by:



**SAN LUIS RANCH SPECIFIC PLAN  
MULTIMODAL TRANSPORTATION IMPACT ANALYSIS REPORT**

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- B. Multimodal Synchro Outputs
- C. SimTraffic Queueing Outputs
- D. Multimodal Segment Worksheets
- E. Highway Capacity Software (HCS) 2010 Outputs
- F. Signal Warrants
- G. Sidra Outputs
- H. Phasing Assessment

# Executive Summary

This study has been prepared by Omni-Means to evaluate the potential multimodal transportation impacts associated with development of the San Luis Ranch Specific Plan (Project) located in San Luis Obispo County. The Project is located on a 131.3-acre site (previously known as Dalidio Ranch) in the City of San Luis Obispo's Sphere of Influence. The Project site would be annexed by the City upon approval of the Specific Plan. The site is located between US 101 and Madonna Road, located roughly midway between the existing US 101 interchanges at Los Osos Valley Road and Madonna Road. The mixed-use Project proposes to develop 580 single-family and multifamily residential units, a 200-room hotel, and 250,000 square feet of commercial (retail and office) space.

In keeping with City policies and requirements for transportation impact analysis, this study quantifies impacts to all modes of travel (auto, bike, pedestrian, and transit), and estimates project generation of new person trips using all modes of travel available. Due to the large size of the Project and the mix of proposed on-site land uses, the Project's trip generation estimates also consider internally capture trips between different uses, such as residential to commercial, and commercial to commercial. Table ES-1 presents a summary of the Project's trip generation, by mode.

**TABLE ES-1:  
CUMULATIVE PROJECT TRIP GENERATION SUMMARY**

<b>Category</b>	<b>AM Peak Hour Trips</b>	<b>Share</b>	<b>PM Peak Hour Trips</b>	<b>Share</b>
Internal Person Trips	68	6.4%	382	19.8%
External Person Trips	1,009	93.6%	1,544	80.2%
<b>Total Person Trips</b>	<b>1,077</b>	<b>100%</b>	<b>1,926</b>	<b>100%</b>
<b>External Trips by Mode</b>	<b>AM Peak Hour Trips</b>	<b>Share</b>	<b>PM Peak Hour Trips</b>	<b>Share</b>
Automobile (Total Persons)	914	90.5%	1,435	93%
<i>Automobile (Total Cars)</i>	<i>648</i>	<i>N/A</i>	<i>882</i>	<i>N/A</i>
Bicycle	34	3.4%	32	2.1%
Pedestrian	50	4.9%	56	3.6%
Transit	12	1.2%	20	1.3%
<b>Total External Trips</b>	<b>1,009</b>	<b>100%</b>	<b>1,544</b>	<b>100%</b>

## Multimodal Analysis and Performance Metrics

For automobile travel mode, intersection capacity analysis was performed using HCM 2010 methodologies in Synchro. Performance is measured in delay-based level-of-service (LOS), and impact significance is measured by either the creation of a new deficiency, or the worsening of a pre-project deficient condition by a threshold change in approach or movement volume-to-capacity. This means that an intersection that has been determined to operate unacceptably without the project will only be considered a project-specific impact if the project adds a certain level of traffic to that location. Bicycle and pedestrian intersection LOS is based on a "score" determined through HCM 2010 methods, implemented through Synchro. As with auto mode, a threshold change in score was utilized to determine impact significance at intersections where pedestrian or bicycle LOS is identified as deficient in the pre-project condition.

Queuing analysis was performed using SimTraffic, and impact significance was measured by either the creation of a new queuing deficiency, or the exacerbation of an existing queuing deficiency. Absent a threshold metric to determine project impact at locations where queues exceed storage capacity in the pre-project condition, any queuing issue that is identified in the pre-project condition is considered a significant project impact regardless of how much the queue capacity impact is increased with the addition of project traffic.

Roadway segment analysis was performed using HCM 2010 methodologies in a Multimodal LOS (MMLoS) spreadsheet developed by Omni-Means. For auto mode, the performance metric is LOS based on segment travel speed. Impact significance was measured by either the creation of a new roadway segment deficiency or the worsening of a pre-project deficient segment by a threshold decrease in travel speed. This means that a roadway segment that has been determined to operate unacceptably without the project will only be considered a project-specific impact if the project reduces travel speed by a certain level along that location. For pedestrian, bicycle, and transit modes, LOS is based on a "score" determined through HCM 2010 methods. As with roadway segment, impact significance was measured by either the creation of a new deficiency or by a threshold degradation of segment score where a pre-project deficiency is identified.

## **Bicycle, Pedestrian, and Transit "Impact" Findings**

Based on current California Environmental Quality Act (CEQA) guidelines, automotive LOS is currently the travel mode being used as the basis for CEQA impact and significance findings. CEQA is also currently undergoing changes with the adoption of Senate Bill 743, which replaces automotive level of service with Vehicle Miles Traveled as the environmental impact metric. Unlike the automotive mode, the bicycle, pedestrian, and transit impact analysis is performed at the discretion of the City of San Luis Obispo on an informational basis to ensure broad disclosure of possible existing and future pre-project conditions and project impacts. The current HCM 2010 methodology for non-motorized impacts has limited contextual application on higher-volume roadway segments, for example HCM does not consider various potential mitigation measures such as class IV bike lanes or parallel class I facilities. High automotive traffic volumes make it difficult to mitigate pedestrian and bicycle impacts without significant changes to the built environment that go well beyond the provision of appropriate crosswalks and sidewalks. Until HCM methodologies are modified to account for these shortfalls, the City's transportation impact study guidelines provide for consideration of mitigation measures not yet fully incorporated into the HCM methodology to address mitigating pedestrian and bicycle LOS impacts.

## **Prado Road Overcrossing Only Vs. Full Access Interchange Findings**

As part of this traffic impact study a complete and thorough assessment of the Prado Rd. Interchange and its timing was completed. The study concluded that an Overcrossing with only NB ramps would provide for adequate operations under existing and near term conditions; however a full access interchange with both NB and SB Ramps could be deferred until buildout conditions. The Overcrossing with only NB ramps would be needed as part of Phase 2 of the San Luis Ranch development.

# Impacts & Mitigation Summary

The San Luis Ranch Project was evaluated under three scenarios; existing + project conditions, near term + project conditions, and cumulative + project conditions. Existing + project conditions reflect the impacts if the entire project were constructed today. Because the project is proposed to be built out over a 5-10 year period the project was also evaluated under near term + project conditions to also reflect other growth and infrastructure improvements anticipated to occur during that time. The combination of analysis of existing and near term conditions provides the basis for establishing phase triggers for project mitigation requirements and project proposed infrastructure. Cumulative + project conditions reflect the impacts of the project under the planned buildout of the City.

**TABLE ES-2 EXISTING & NEAR-TERM IMPACTS & MITIGATIONS**

EXISTING & NEAR TERM + PROJECT IMPACTS & MITIGATION MEASURES				
	Location	Impact	Mitigation	Trigger
Int. #1	Madonna & LOVR	Volume Exceeds Lane Capacity Unacceptable Level of Service	Construct Prado Overpass	Phase 2
Int. #2	Madonna & Oceanaire	Volume Exceeds Lane Capacity	Construct Prado Overpass	Phase 2
Int. #3	Madonna & Dalidio/Prado	Unacceptable Level of Service Volume Exceeds Lane Capacity	a. Extend Madonna WB Left to 310' b. Install 2nd 310' Madonna WB Left c. Install Dedicated EB Madonna Right d. Prohibit WB Madonna U-Turns e. Reconfigure and Optimize Signal Timing with Split Phasing f. Install 2nd Prado/Dalidio NB Left	Phase 1 Phase 1 Phase 1 Phase 1 Phase 1 With Prado Construction
Int. #4	Madonna & El Mercado	Volume Exceeds Lane Capacity	Int. #3 Mitigation	Phase 1
Int. #5	Madonna & US 101 SB Ramp	Unacceptable Level of Service Volume Exceeds Lane Capacity	Construct Prado Overpass Extend EB Madonna Left to Madonna Inn to 150'	Phase 2 Phase 1
Int. #6	Madonna & US 101 NB Ramp	Volume Exceeds Lane Capacity	Construct Prado Overpass	Phase 2
Int. #7	Madonna & Higuera	Volume Exceeds Lane Capacity	Construct Prado Overpass & NB Ramps	Phase 2
Int. #9	LOVR & Froom	Volume Exceeds Lane Capacity	Install Dedicated EB Froom Right Turn 230' Extend WB Froom Right Turn to 110' Construct 2nd WB Froom Left turn Lane	With Froom Bridge Construction With Froom Bridge Construction With Froom Bridge Construction
Int. #10	LOVR & Autopark	Unacceptable Level of Service	Signalize Intersection Construct Prado Overpass	Phase 1 Phase 2
Int. #11	LOVR & Calle Joaquin	Volume Exceeds Lane Capacity	Construct Prado Overpass	Phase 2
Int. #12	LOVR & SB 101 Ramps	Volume Exceeds Lane Capacity	Extend Off-Ramp Left Turn Pocket to 320'	Phase 1
Int. #13	LOVR & NB 101 Ramps	Volume Exceeds Lane Capacity	Construct Prado Overpass	Phase 2
Int. #14	LOVR & Higuera	Volume Exceeds Lane Capacity	Extend EB LOVR Right Turn Pocket to 180'	Phase 1
Int. #15	Higuera & Suburban	Volume Exceeds Lane Capacity	Construct Prado Overpass	Phase 2
Int. #16	Higuera & Tank Farm	Unacceptable Level of Service Volume Exceeds Lane Capacity	Construct Prado Overpass Extend NB Right and Install Channelized / Yield Control	Phase 2 Phase 1
Int. #18	Prado & Higuera	Volume Exceeds Lane Capacity	Construct 2nd Higuera NB Left Extend WB Prado Right to 410'	Phase 1 Phase 1
Int. #21	Prado/Dalidio & Driveway	Unacceptable Level of Service	Construct Multilane Roundabout	With Intersection Construction
Int. #25	Prado/Dalidio & Froom	Unacceptable Level of Service	Construct Multilane Roundabout	With Intersection Construction
Seg. #1	Madonna (LOVR to Higuera)	Unacceptable Level of Service	Construct Prado Overpass	Phase 2
Seg. #7	Higuera (Madonna to Prado)	Unacceptable Level of Service	Construct Parallel Class I Path	With Prado Construction
Seg. #13	LOVR (Madonna to Froom)	Unacceptable Level of Service	Construct Prado Overpass	Phase 2
Seg. #17	LOVR (NB Ramps to Higuera)	Unacceptable Level of Service	Construct Prado Overpass & NB Ramps	Phase 2
Seg. #18	Prado/Dalidio (Froom to Higuera)	Unacceptable Level of Service	Construct Parallel Class I Path	With Prado Construction
Seg. #20	Prado/Dalidio (Froom to Madonna)	Unacceptable Level of Service	Construct Parallel Class I Path	With Prado Construction

**TABLE ES-3 CUMULATIVE IMPACTS & MITIGATIONS**

<b>CUMULATIVE + PROJECT IMPACTS &amp; MITIGATION MEASURES</b>		
<b>Location</b>	<b>Impact</b>	<b>Mitigation</b>
Int. #1 Madonna & LOVR	Volume Exceeds Lane Capacity	Existing & Near Term Mitigation Extend NB LOVR Right to 295' Extend SB Madonna Left to 395'
Int. #2 Madonna & Oceanaire	Volume Exceeds Lane Capacity	Existing & Near Term Mitigation Extend WB Madonna Right to 200'
Int. #3 Madonna & Prado/Dalidio	Unacceptable Level of Service Volume Exceeds Lane Capacity	Existing & Near Term Mitigation Extend EB Madonna Left to 145'
Int. #4 Madonna & El Mercado	Volume Exceeds Lane Capacity	Existing & Near Term Mitigation
Int. #5 Madonna & 101 SB	Volume Exceeds Lane Capacity	Existing & Near Term Mitigation Construct NB & SB Ramps
Int. #6 Madonna & 101 NB	Volume Exceeds Lane Capacity	Existing & Near Term Mitigation Construct NB & SB Ramps
Int. #8 Higuera & South	Volume Exceeds Lane Capacity	Extend NB Higuera Left Turn Pocket to 120' Extend EB South St Right Turn Pocket to 100'
Int. #9 LOVR & Froom	Volume Exceeds Lane Capacity	Existing & Near Term Mitigation
Int. #10 LOVR & Auto Park	Unacceptable Level of Service	Existing & Near Term Mitigation
Int. #11 LOVR & Calle Joaquin	Volume Exceeds Lane Capacity	Construct Prado NB & SB Ramps
Int. #12 LOVR & 101 SB	Unacceptable Level of Service Volume Exceeds Lane Capacity	Existing & Near Term Mitigation Construct Prado Overpass with NB & SB Ramps
Int. #13 LOVR & 101 NB	Unacceptable Level of Service Volume Exceeds Lane Capacity	Existing & Near Term Mitigation Construct NB & SB Ramps
Int. #14 LOVR & Higuera	Unacceptable Level of Service Volume Exceeds Lane Capacity	Existing & Near Term Mitigation Construct Prado Overpass with NB & SB Ramps
Int. #16 Higuera & Tank Farm	Volume Exceeds Lane Capacity	Existing & Near Term Mitigation Construct NB & SB Ramps
Int. #18 Higuera & Tank Farm	Volume Exceeds Lane Capacity	Existing & Near Term Mitigation
Seg. #1 Madonna (Higuera - LOVR)	Unacceptable Level of Service	Existing & Near Term Mitigation Construct NB & SB Ramps
Seg. #5-#6 Madonna (SB Ramps - Higuera)	Unacceptable Level of Service	Construct Prado Overpass with NB & SB Ramps
Seg. #7 Higuera (Madonna to Prado)	Unacceptable Level of Service	Existing & Near Term Mitigation
Seg. #15-#16 LOVR (Calle Joaquin - 101 NB)	Unacceptable Level of Service	Construct Prado Overpass with NB & SB Ramps
Seg. #24 Prado/Dalidio (Driveway - Froom)	Unacceptable Level of Service	Construct Prado Overpass with NB & SB Ramps

# Introduction

The City of San Luis Obispo has retained Omni-Means to perform a Multimodal Transportation Impact Study (TIS) for the proposed San Luis Ranch Specific Plan. The proposed mixed-use development is located on a 131.3-acre site in unincorporated San Luis Obispo County, adjacent to the City of San Luis Obispo, and within the City's Sphere of Influence (SOI). The site is generally bounded by Madonna Road, Dalidio Drive, and US Highway 101. The site is part of an agricultural reserve that has historically been used as farmland. Consistent with the requirements of the General Plan, the San Luis Ranch Specific Plan must be adopted by the City Council prior to annexation of the Plan Area. The City would annex the Plan Area with project approval. The San Luis Ranch Specific Plan is proposing a mix of residential, commercial, hotel, and office uses while preserving substantial areas of open and agricultural space. This multimodal transportation impact study would evaluate the proposed 580-Unit Alternative of the San Luis Ranch Specific Plan to determine any operational or safety impacts to the surrounding infrastructure. This Multimodal TIS presents the projected transportation operations and impacts associated with development of the project under *Existing*, *Near Term*, and *Cumulative Conditions* for vehicular, pedestrian, bicycle, and transit related impacts, and the mitigation measures required to mitigate impacts to less than significant.

## Intersections

The City of San Luis Obispo has identified and pre-selected twenty (20) existing intersections for analysis. In addition, intersections 21-28 are project-only intersections that would be constructed in conjunction with the proposed project and which would be evaluated either as part of the plus project conditions only.

1. Madonna Road / Los Osos Valley Road
2. Madonna Road / Oceanaire Drive
3. Madonna Road / Dalidio Drive
4. Madonna Road / El Mercado
5. Madonna Road / US 101 Southbound Ramps
6. Madonna Road / US 101 Northbound Ramps
7. Madonna Road / Higuera Street
8. Higuera Street / South Street
9. Los Osos Valley Road / Froom Ranch Way
10. Los Osos Valley Road / Auto Park Way
11. Los Osos Valley Road / Calle Joaquin
12. Los Osos Valley Road / US 101 Southbound Ramps
13. Los Osos Valley Road / US 101 Northbound Ramps
14. Los Osos Valley Road / S. Higuera Street
15. S. Higuera Street / Suburban Drive
16. S. Higuera Street / Tank Farm Road
17. S. Higuera Street / Granada Drive
18. S. Higuera Street / Prado Road
19. S. Higuera Street / Margarita Avenue
20. Prado Road / US 101 Northbound Ramps/Elks Lane

### *Future Intersections*

21. Froom Ranch Way / Dalidio Drive (*Future*)
22. Madonna Road / Project Driveway #1 (*Project Internal*)

23. Froom Ranch Way / Project Driveway #2 (*Project Internal*)
24. Dalidio Drive / US 101 SB Ramps (*Future*)
25. Dalidio Drive / Project Shopping Center Driveway (*Project Internal*)
26. Dalidio Drive / Post Office Driveway / Promenade (*Access Management*)
27. Froom Ranch Way / Hotel Project Driveway (*Project Internal*)
28. Froom Ranch Way / Project Driveway #3 (*Project Internal*)

## Roadway Segments

Ten (10) arterial roadways have been identified and pre-selected by the City of San Luis Obispo for analysis. For the purpose of this analysis, the segments have been broken up into 24 separate segments in between major intersections, as follows:

### Madonna Road:

1. Los Osos Valley Road to Oceanaire Drive
2. Oceanaire Drive to Dalidio Drive
3. Dalidio Drive to El Mercado
4. El Mercado to US 101 Southbound Ramps
5. US 101 Southbound Ramps to US 101 Northbound Ramps
6. US 101 Northbound Ramps to Higuera Street

### S. Higuera Street:

7. Madonna Road to Margarita Avenue
8. Margarita Avenue to Prado Road
9. Prado Road to Granada Drive
10. Granada Drive to Tank Farm Road
11. Tank Farm Road to Suburban Road
12. Suburban Road to Los Osos Valley Road

### Los Osos Valley Road:

13. Madonna Road to Froom Ranch Way
14. Froom Ranch Way to Calle Joaquin
15. Calle Joaquin to US 101 Southbound Ramps
16. US 101 Southbound Ramps to US 101 Northbound Ramps
17. US 101 Northbound Ramps to S. Higuera Street

### Prado Road

18. US 101 Northbound Ramps to Higuera Street

### Froom Ranch Way

19. Los Osos Valley Road to Dick's Sporting Goods Driveway
21. Dick's Sporting Goods Driveway to Dalidio Drive (*Future*)

### Dalidio Drive

20. Madonna Road to Froom Ranch Way (*Future*)
22. US 101 Northbound Ramps to US 101 Southbound Ramps (*Future*)

23. US 101 Southbound Ramps to Froom Ranch Way (*Future*)
24. Froom Ranch Way to Shopping Center Driveway (*Future*)

The *Future* roadway segments, which are either internal to the project or new roadways depending on the analysis scenario, are evaluated in between traffic signals or major cross-section changes.

## Highway Segments

Two highway mainline segments have been identified and pre-selected by the City of San Luis Obispo and Caltrans for analysis. Average Daily Traffic (ADT) counts were obtained from Caltrans for the two following segments:

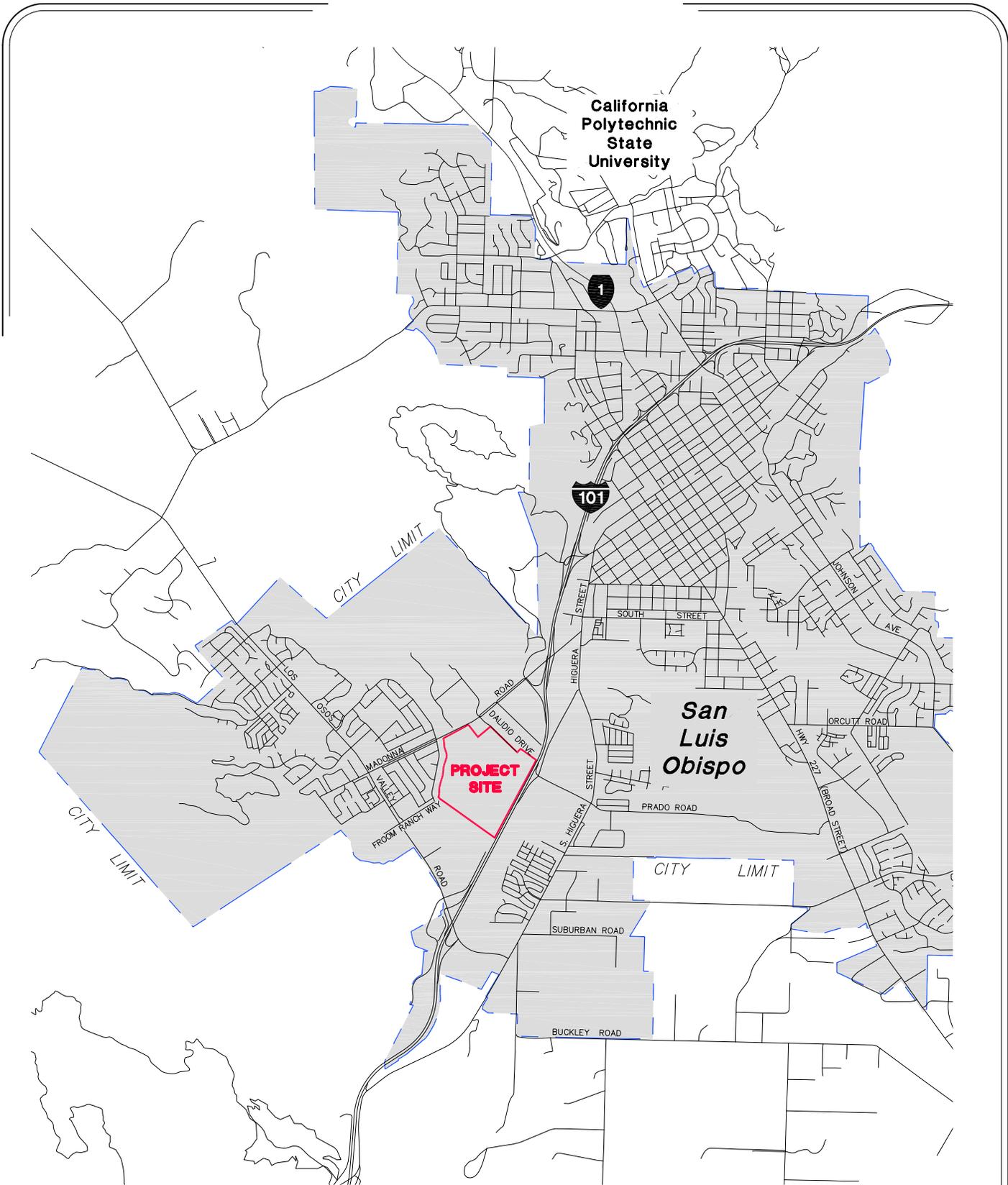
1. US 101 between Los Osos Valley Road and Prado Road
2. US 101 between Prado Road and Madonna Road

The study locations above were analyzed for weekday AM and PM peak hours for both intersections and roadway segments using vehicular, bicycle, and pedestrian counts collected either from the City's on-line traffic counts database or by Omni-Means. The following traffic scenarios were analyzed as part of this study:

- Existing Conditions
- Existing Plus Project Conditions
- Near Term (Year 2025) Conditions
- Near Term Plus Project Conditions
- Cumulative (Year 2035) Full Build Prado Road Interchange Conditions
- Cumulative Full Build Prado Road Interchange Plus Project Conditions
- Cumulative (Year 2035) Prado Road Overcrossing Conditions
- Cumulative Prado Road Overcrossing Plus Project Conditions

Existing conditions establishes the baseline conditions for the year 2014 traffic operations, when the traffic counts were collected, at the study locations. Existing Plus Project conditions is an analysis scenario in which project-related traffic impacts are examined in comparison to the Existing conditions. The Near Term conditions is an analysis scenario in which the City's approved, pending and potential land development projects are assumed to be in place, in roughly 10 years (Year 2025). The Near Term Plus Project conditions is an analysis scenario in which project-related traffic impacts are examined in comparison to the Near Term conditions.

Cumulative conditions establish the conditions that would exist at build-out of the City's General Plan, representing approximately twenty years out (Year 2035). Cumulative Plus Project conditions is an analysis scenario in which project-related traffic impacts are examined in comparison to Cumulative conditions. Two cumulative scenarios have been included in this study. The Cumulative Full Build Prado Road Interchange analysis scenarios consider a full access diamond interchange to be constructed at Prado Road, in addition to all other City roadway improvements. The Cumulative Year 2035 Prado Road Overcrossing scenarios consider an overcrossing to be constructed over US 101 connecting Prado Road to Dalidio Drive and the existing US 101 Northbound ramps to be removed, in addition to all other City roadway improvements in place. In both cumulative scenarios, improvements to the City's transportation infrastructure system are assumed to be constructed, consistent with the General Plan Circulation Element. Figure 1 presents the study area and vicinity map.



San Luis Ranch Specific Plan Multimodal TIS

Figure 1

**Study Area Map**



# Multimodal Analysis Methodology and Technical Parameters

The following section outlines the analysis methodology and technical parameters used to quantify operations for all transportation modes in the TIS.

## Applicable Multimodal Level of Service Policies

### City of San Luis Obispo Policy

The City of San Luis Obispo *Circulation Element* contains Level of Service (LOS) policies for all modes of transportation. The City's goal is to maintain the LOS objective. However if the project causes the LOS to exceed the minimum LOS standard, the project is considered to have caused an impact.

Table 1 shows the standard acceptable LOS threshold by mode.

**TABLE 1:  
LOS OBJECTIVE AND MINIMUM STANDARD FOR ALL MODES OF TRANSPORTATION**

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)

Consistent with City policies, the LOS threshold for bicyclist has been LOS "D", pedestrian LOS threshold has been LOS "C", transit LOS threshold has been the lower of baseline LOS or LOS "D", and vehicle LOS threshold has been "D". The objective LOS for bicycle and pedestrian modes is LOS "B", and for transit and vehicle modes is LOS "C".

### Caltrans Policy

In addition to the City's policies, Caltrans has also established the measure of effectiveness (MOE) for the evaluation of impacts in CEQA level projects on State facilities. Caltrans' Guide for the Preparation of Traffic Impact Studies (December 2002) contains 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.*

Consistent with Caltrans policy, the study considers LOS D as the standard acceptable threshold for State highway facilities, such as US 101 and ramp terminals.

## Significance Thresholds by Mode

### Caltrans Significance Threshold

Based on standard industry practice, the project is considered to have a significant impact if it would:

- Result in a facility that will operate at an acceptable LOS in the *No Project* condition to deteriorate to an unacceptable LOS in the *Plus Project* condition; or,
- Increase the density by more than 5% at a facility that will operate at an unacceptable LOS in the

Consistent with the City's adopted Multimodal Transportation Impact Study Guidelines, the project impacts are considered significant if:

### 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 1 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, Bike, & Transit: Intersections & 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 & 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. The City's established different Modal LOS Priorities by area are presented in Table 2.

**TABLE 2:  
MODAL PRIORITY RANKING**

Complete Street Areas	Priority Mode Ranking	
Downtown & Upper Monterey Street	1. Pedestrians 2. Bicycles	3. Transit 4. Vehicle
Residential Corridors & Neighborhoods	1. Pedestrians 2. Bicycles	3. Vehicle 4. Transit
<b>Commercial Corridors &amp; Areas</b>	<b>1. Vehicles 2. Bicycles</b>	<b>3. Transit 4. Pedestrians</b>
Regional Arterial and Highway Corridors	1. Vehicles 2. Transit	3. Bicycles 4. Pedestrians

Based on Table 2, the proposed project would fall under the Regional Arterial and Highway Corridors Priority Mode Ranking for multi-modal level of service (MMLOS), meaning vehicular impacts will carry the most significance. This ranking prioritizes the modes of transportation in the following order: vehicles, transit, bicycles, and pedestrians.

## 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 rate, 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 than the median collision rate as reported in the City's most current annual traffic survey report for the same facility classification type.

## Neighborhood Traffic Analysis

Since this project includes new local residential streets, an evaluation of neighborhood traffic conditions is included. 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. The ADT and speed thresholds established in the Circulation Element are as follows:

- Local Residential – maximum ADT is 1,500 vpd and maximum speed is 25 mph;
- Residential Collector – maximum ADT is 3,000 vpd and maximum speed is 25 mph.

### **SB 743: Vehicle Miles Traveled Analysis**

CEQA is currently undergoing significant changes with respect to how transportation impacts are considered as an environmental issue. Under SB 743 the California Office of Planning and Research is developing VMT or vehicle miles travelled as the new criteria to replace auto level of service as an environmental impact metric under CEQA. Official thresholds have not yet been adopted; therefore this analysis reports VMT for the project but does not identify impacts or mitigations associated with VMT in the absence of adopted measures.

### **Mitigation Measures**

When significant impacts are identified as part of the traffic impact analysis mitigation measures shall be included to address those impacts. The impact study should establish the legal nexus between the project and the mitigation measures. The traffic study's description of each mitigation measure should include the following:

1. Comparison Table of impacted locations listing conditions (i.e. LOS) with and without mitigation.
2. Figure schematically depicting location and nature of each mitigation measure and description of implementation feasibility (i.e. ROW requirements, constructability, etc.)
3. If specifically scoped planning level cost estimation of each mitigation measure, timing/phasing of measures, and equitable share calculation.

### **Intersection Control Type Selection**

The City's General Plan Circulation Element policies for traffic management on the *Street Network* (Policy 7.1.2) and *Streetscapes and Major Roadways* (Policy 9.2.6) establish that where feasible, roundabouts shall be the City's preferred intersection control alternative due to the vehicle speed reduction, safety, improved aesthetics, reduction in impervious surface areas, additional landscaping areas, and operational benefits of roundabouts. Per these policies, roundabout control should be the first and preferred mitigation measure considered when there are not unworkable right-of-way issues, environmental factors, or other design constraints. When roundabout control is infeasible, consideration and evaluation of multi-way stop control or signalized control should utilize the California MUTCD's appropriate warrants.

### **Multimodal Level of Service Methodologies**

Traffic operations were be quantified through the determination of "Level of Service" (LOS). Level of Service is a qualitative measure of traffic operating conditions, whereby a letter grade "A" through "F" is assigned to an intersection, or roadway segment, representing progressively worsening traffic conditions. Levels of Service were calculated for all intersection control types, urban street segments, and freeway segments using the methods documented in the Transportation Research Board Publication *Highway Capacity Manual, Fifth Edition, 2010* (HCM 2010). The HCM methodologies for intersections were implemented using Synchro (version 9). The Synchro Outputs can be found in the Appendix . SimTraffic software was used to report the 95<sup>th</sup> percentile queues and are included in the Appendix. Roundabout analysis is conducted using SIDRA 6 software, if applicable. The urban street segment analysis is conducted manually using a spreadsheet which Omni-means has created to formulate the equations set forth in

Chapter 17: *Urban Street Segments* of the HCM 2010, and the inputs and outputs of the spreadsheet can be found in the Appendix. The HCM methodologies for basic freeway segments and ramp junctions were implemented using Highway Capacity Software (*HCS 2010, McTrans*), and is included in the Appendix. The vehicular delay-based LOS criteria for different types of intersection control are outlined in Table 3.

**TABLE 3:  
INTERSECTION LOS CRITERIA FOR VEHICLES**

Level of Type of Service		Delay	Maneuverability	Stopped Delay/Vehicle (sec)	
Flow				Signalized/ Roundabouts	Unsignalized/ All-Way Stop
A	Stable Flow	Very slight delay. Progression is very favorable, with most vehicles arriving during the green phase not stopping at all.	Turning movements are easily made, and nearly all drivers find freedom of operation.	< 10.0	< 10.0
B	Stable Flow	Good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.	Vehicle platoons are formed. Many drivers begin to feel somewhat restricted within groups of vehicles.	>10.0 and < 20.0	>10.0 and < 15.0
C	Stable Flow	Higher delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant, although many still pass through the intersection without stopping.	Back-ups may develop behind turning vehicles. Most drivers feel somewhat restricted.	>20.0 and < 35.0	>15.0 and < 25.0
D	Approaching Unstable Flow	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	Maneuverability is severely limited during short periods due to temporary back-ups.	>35.0 and < 55.0	>25.0 and < 35.0
E	Unstable Flow	Generally considered to be the limit of acceptable delay. Indicative of poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures are frequent occurrences.	There are typically long queues of vehicles waiting upstream of the intersection.	>55.0 and < 80.0	>35.0 and < 50.0
F	Forced Flow	Generally considered to be unacceptable to most drivers. Often occurs with over saturation. May also occur at high volume-to-capacity ratios. There are many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors.	Jammed conditions. Back-ups from other locations restrict or prevent movement. Volumes may vary widely, depending principally on the downstream back-up conditions.	> 80.0	> 50.0

References: 2010 Highway Capacity Manual

Peak hour traffic signal warrant analysis is completed for deficient intersections which are currently two-way or all-way stop controlled. The term “signal warrants” refers to the list of established criteria used by Caltrans and other public agencies to quantitatively justify or ascertain the need for installation of a traffic signal at an otherwise unsignalized intersection. This study has employed the signal warrant criteria presented in the latest edition of the Federal Highway Administration’s (FHWA) *Manual on Uniform Traffic Control Devices (MUTCD)*, as amended by the *MUTCD 2014 California Supplement*, for all study intersections. The signal warrant criteria are based upon several factors including volume of vehicular and pedestrian traffic, frequency of accidents, location of school areas etc. Both the FHWA’s MUTCD and the *MUTCD 2014 California Supplement* indicate that the installation of a traffic signal should be considered if one or more of the signal warrants are met. The ultimate decision to signalize an intersection should be determined after careful analysis of all intersection and area characteristics. This traffic study specifically utilizes the Peak-Hour-Volume based Warrant 3 as one representative type of traffic signal warrant analysis. Warrant 3 criteria are essentially identical for both the FHWA’s MUTCD and the *MUTCD 2014 California Supplement*. Since Warrant 3 provides specialized warrant criteria for intersections with rural characteristics (e.g. located in communities with populations of less than 10,000 persons or with adjacent major streets operating at above 40 mph), study intersections which use this specialized criteria are clearly identified. For the purposes of this study, the warrant criteria for intersections with urban characteristics are used and are included in the Appendix as necessary.

Table 4 presents the LOS thresholds for the automobile mode on urban street segments.

**TABLE 4:  
AUTOMOBILE SEGMENT LOS CRITERIA**

Travel Speed as a Percentage of Base Free Flow Speed (%)	LOS by Volume-to-Capacity Ratio <sub>a</sub>	
	≤1	≥1
>85	A	F
>67-85	B	F
>50-67	C	F
>40-50	D	F
>30-40	E	F
≤30	F	F

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

Table 5 presents the pedestrian LOS thresholds, and Table 6 presents the LOS thresholds for bicycles and transit.

**TABLE 5:  
PEDESTRIAN LOS CRITERIA**

Ped LOS Score	LOS by Average Pedestrian Space (ft <sup>2</sup> /p)					
	>60	>40-60	>24-40	>15-24	>8.0-15 <sup>a</sup>	<8.0 <sup>a</sup>
≤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

<sup>a</sup> In Cross-Flow situations, the LOS E/F threshold is 13 ft<sup>2</sup>/p

**TABLE 6:  
BICYCLE AND TRANSIT LOS CRITERIA**

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 7 presents the LOS thresholds for the basic freeway segments.

**TABLE 7:  
BASIC FREEWAY SEGMENTS LOS CRITERIA**

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

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

## Technical Analysis Parameters

The following section details the multimodal technical analysis parameters. All parameters not listed should be assumed as default values or calculated based on parameters listed. The City maintains "Master" Synchro networks for the AM, Midday (MID), and PM peak hours which have been used to develop the project Synchro files for the AM and PM peak hour study periods. Modifications to reflect existing condition have been made as necessary and documented.

## Vehicular Parameters

Synchro 9 (*Trafficware*) has been used to implement HCM 2010 analysis methodologies for vehicular delay at the study intersections. For signalized and all-way stop-controlled intersections, LOS determination is based on the calculated average delay for all approaches and movements. For a two-way stop-controlled intersection, an LOS determination is based upon the calculated average delay for all movements of the worst performing approach. SimTraffic software has been used to conduct the 95<sup>th</sup> percentile queuing analysis based on 5 runs of 60 simulation minutes with a seeding time of 15 minutes. The queues have been evaluated for impacts to turning pocket storage capacity and closely spaced intersections. Table 8 presents the main technical parameter assumptions that have been used in Synchro 9. Any parameters not included in Table 8 use the values included in the City's "Master" network or software default values.

**TABLE 8:  
VEHICULAR TECHNICAL LOS PARAMETERS**

Parameter	Assumption
1. Peak Hour Factor	Intersection Overall, based on existing counts
2. Heavy Vehicle Percentage	2%, except to/from US 101 Ramps will us 10%
3. Signal Timings	City 'Master' Synchro Networks (Unless otherwise noted)
4. Grades	2 percent of less for all intersections

The cycle lengths and signal timings for the study intersections were not changed from the City's "Master" Synchro networks except at the following intersections: Higuera Street/Prado Road and Higuera Street/Tank Farm Road. The Synchro "Master Network" for these intersections has signal phasing that does not reflect the existing conditions, based on aerial imagery. The intersection of Higuera Street/Prado Road is changed to have a 91-second cycle length with concurrent (dual-entry) phasing eastbound/westbound Prado Road with permitted left turns, instead of a split phase. The intersection of Higuera Street/Tank Farm Road is changed to have a 115-second cycle length with split phasing eastbound/westbound instead of a concurrent phase (permitted lefts) due to the dual left turns with shared through movement westbound, and a northbound right turn overlap phase is added.

In addition, the intersection of Higuera Street/Madonna Street phasing is changed to have the southbound right turn be protected plus an overlap phase, with no right turn allowed on red, and the eastbound right turn is permitted plus overlap phasing. At the intersection of Higuera Street/South Street, PM peak hour phasing is changed to be consistent with the AM peak hour with the addition of a northbound right turn overlap phase. At the intersections of Los Osos Valley Road and Calle Joaquin, and at both US 101 Northbound and Southbound Ramp terminals, the main street northbound/southbound left turn phasing is changed to be permitted plus protected, and at Los Osos Valley Road/US 101 Northbound Ramps the southbound right turn is changed to include an overlap phase. These changes were made to the City's Synchro networks in order to reflect existing conditions.

Vehicular segment analysis has been conducted manually using the equations within HCM 2010. Omni-Means has created a spreadsheet which formulates the HCM 2010 equations within Chapter 17: *Urban Street Segments*. Table 9 presents critical technical parameters required and our assumptions. Any parameters not included in Table 9 use default values.

**TABLE 9:  
VEHICULAR TECHNICAL LOS PARAMETERS FOR SEGMENT ANALYSIS**

Parameter	Assumption
1. Lane Width	Measured from Aerials
2. Median Type	Identified from Aerials
3. Total Access Points	Identified from Aerials
4. Number of Travel Lanes	Identified from Aerials

*Pedestrian Parameters*

Intersection pedestrian LOS has also been determined using Synchro 9. Synchro 9 uses HCM 2010 methodologies for determining pedestrian LOS, and requires technical inputs beyond those included for vehicular LOS. Table 10 presents critical technical parameters required and our assumptions. Any parameters not included in Table 10 use software default values.

**TABLE 10:  
PEDESTRIAN TECHNICAL LEVEL OF SERVICE PARAMETERS FOR INTERSECTION ANALYSIS**

Parameter	Assumption
1. Right Corner Size A, Size B, and Curb Radius	Measured from Aerials
2. Number of Right-Turn Islands	Identified from Aerials
3. Crosswalk Widths	Default Value of 10 feet
4. Ped Left-Right Flow Rate	Half of Two-Way Flow Rate
5. Ped Right-Left Flow Rate	Half of Two-Way Flow Rate
6. Ped R Sidewalk Flow Rate	Same as Crossing Volume
7. Vehicle Perm Left Flow in Ped Phase	Based on SimTraffic Observation
8. Vehicle Perm Right Flow in Ped Phase	Based on SimTraffic Observation
9. Vehicle Right Turn on Red	Based on SimTraffic Observation

For segment analysis, pedestrian LOS has been determined using HCM 2010. Table 11 presents critical technical parameters required and our assumptions. Any parameters not included in Table 11 use software default values.

**TABLE 11:  
PEDESTRIAN TECHNICAL LEVEL OF SERVICE PARAMETERS FOR SEGMENT ANALYSIS**

Parameter	Assumption
1. Two-Way Ped Volume	From Counts
2. Ped Waiting Delay	Default
3. Pedestrian Free-Flow Speed	3.5 ft/sec
4. Width and Number of Vehicle and Bike Lanes	Measured from Aerials
5. Sidewalk Presence	Identified from Aerials
6. Inside Fixed-Object Effective Width	Measured in Field
7. Outside Fixed-Object Effective Width	Measured in Field
8. Buffer Width	Measured in Field
9. Nearest Signal Distance	Measured from Aerials
10. Sidewalk Length Adjacent to Window, Building, Fence	Measured from Aerials
11. Proportion of Parking Occupied	Measured from Aerials
12. Length of Segment	Measured from Aerials
13. Intersection Width	Measured from Aerials

### *Bicycle Parameters*

Intersection bicycle LOS has also been determined using Synchro 9. Synchro 9 uses HCM 2010 methodologies for determining bicycle LOS, and requires technical inputs beyond those included for vehicular and pedestrian LOS. Table 12 presents critical technical parameters required and our assumptions. Any parameters not included in Table 12 use software default values.

**TABLE 12:  
BICYCLE TECHNICAL LEVEL OF SERVICE PARAMETERS FOR INTERSECTION ANALYSIS**

Parameter	Assumption
1. Bike Flow Rate	From Counts
2. Bike Lane Width	Measured from Aerials
3. Paved Shoulder Width	Measured from Aerials
4. Curb is Present	Identified from Aerials
5. On Street Parking	Identified from Aerials

For segment analysis, bicycle LOS has been determined using HCM 2010. Table 13 presents critical technical parameters required and our assumptions. Any parameters not included in Table 13 use software default values.

**TABLE 13:  
BICYCLE TECHNICAL LEVEL OF SERVICE PARAMETERS FOR SEGMENT ANALYSIS**

Parameter	Assumption
1. Bicycle Running Speed	Default, 15 mph
2. Percent Heavy Vehicle	2%
3. Pavement Condition Rating	3.0

### *Transit Parameters*

Transit LOS is determined for segments using the equations within the Urban Street Segments chapter of HCM 2010; Synchro software does not analyze transit routes or stops. The transit LOS is determined for the stop for Route 2 at the intersection of Tank Farm Road and S. Higuera Street. Route 2 stops on the far side of the intersection, headed eastbound on Tank Farm Road, and a bus turnout is present (off-line stop). Table 14 presents critical technical parameters required and our assumptions. Any parameters not included in Table 14 use default values.

**TABLE 14:  
TRANSIT TECHNICAL LEVEL OF SERVICE PARAMETERS FOR SEGMENT ANALYSIS**

Parameter	Assumption
1. Average Passenger Load Factor	Identified from Short Range Transit Plan Weekday Riderships
2. Average Dwell Time	Default, 20 sec
3. Reentry Delay	Default, 5 sec
4. Bus Frequency/Headways	Identified from Bus Schedules
5. Acceleration/Deceleration Rate	Default, 4.0 ft/s <sup>2</sup>
6. Transit Performance	Identified from Short Range Transit Plan
7. Stops with shelters or benches	Identified from Aerials
8. Average Passenger Trip Length	3.7 mi

## Highway Segments Parameters

Vehicular LOS along the freeway segments (US 101) is determined using the Highway Capacity Software (HCS 2010, version 6.7), which uses HCM 2010 methodologies. Table 15 presents critical technical parameters required and our assumptions. Any parameters not included in Table 15 use default values.

**TABLE 15:  
HCS PARAMETERS FOR HIGHWAY SEGMENT ANALYSIS**

Parameter	Assumption
Volume	Caltrans 2014 Data
Heavy Vehicle Percentage	From Caltrans Data, 10%
Free-Flow Speed	Speed Limit identified from Aerials
Terrain	Level
Peak Hour Factor	0.92

## Data Collection

Twenty (20) intersections have been identified by the City of San Luis Obispo for analysis. City-provided counts were conducted in February and March of 2014.

- |  |  |
|--|--|
| 1. Madonna Road and Los Osos Valley Road             | <i>City-provided traffic counts</i>                  |
| 2. Madonna Road and Oceanaire Drive                  | <i>City-provided &amp; Omni-Means traffic counts</i> |
| 3. Madonna Road and Dalidio Drive                    | <i>City-provided traffic counts</i>                  |
| 4. Madonna Road and El Mercado                       | <i>City-provided traffic counts</i>                  |
| 5. Madonna Road and US 101 Southbound Ramps          | <i>City-provided traffic counts</i>                  |
| 6. Madonna Road and US 101 Northbound Ramps          | <i>City-provided traffic counts</i>                  |
| 7. Madonna Road and Higuera Street                   | <i>City-provided traffic counts</i>                  |
| 8. Higuera Street and South Street                   | <i>City-provided traffic counts</i>                  |
| 9. Los Osos Valley Road and Froom Ranch Way          | <i>City-provided traffic counts</i>                  |
| 10. Los Osos Valley Road and Auto Park Way           | <i>City-provided traffic counts</i>                  |
| 11. Los Osos Valley Road and Calle Joaquin           | <i>City-provided traffic counts</i>                  |
| 12. Los Osos Valley Road and US 101 Southbound Ramps | <i>City-provided traffic counts</i>                  |
| 13. Los Osos Valley Road and US 101 Northbound Ramps | <i>City-provided traffic counts</i>                  |
| 14. Los Osos Valley Road and S. Higuera Street       | <i>City-provided traffic counts</i>                  |
| 15. S. Higuera Street and Suburban Drive             | <i>City-provided traffic counts</i>                  |
| 16. S. Higuera Street and Tank Farm Road             | <i>City-provided traffic counts</i>                  |
| 17. S. Higuera Street and Granada Drive              | <i>City-provided traffic counts</i>                  |
| 18. S. Higuera Street and Prado Road                 | <i>City-provided traffic counts</i>                  |
| 19. S. Higuera Street and Margarita Avenue           | <i>City-provided traffic counts</i>                  |
| 20. Prado Road and US 101 Northbound Ramps/Elks Lane | <i>Omni-Means traffic counts</i>                     |

Omni-Means has also collected counts for the entrance driveway for the US Post Office driveway/Promenade on Dalidio Drive, which is approximately 270 feet south of the intersection of Madonna Road and Dalidio Drive. This intersection has been analyzed as part of the access management for the proposed project.

Ten (10) arterial roadway segments have been identified and pre-selected by the City of San Luis Obispo for analysis. However, some of these segments are required to be broken up into separate segments in between traffic signals for analysis. Average Daily Traffic (ADT) counts were provided by the City for the segments.

Madonna Road:

19. Los Osos Valley Road to Oceanaire Drive
20. Oceanaire Drive to Dalidio Drive
21. Dalidio Drive to El Mercado
22. El Mercado to US 101 Southbound Ramps
23. US 101 Southbound Ramps to US 101 Northbound Ramps
24. US 101 Northbound Ramps to Higuera Street

Higuera Street:

25. Madonna Road to Margarita Avenue
26. Margarita Avenue to Prado Road
27. Prado Road to Granada Drive
28. Granada Drive to Tank Farm Road
29. Tank Farm Road to Suburban Road
30. Suburban Road to Los Osos Valley Road

Los Osos Valley Road:

31. Madonna Road to Froom Ranch Way
32. Froom Ranch Way to Calle Joaquin
33. Calle Joaquin to US 101 Southbound Ramps
34. US 101 Southbound Ramps to US 101 Northbound Ramps
35. US 101 Northbound Ramps to S. Higuera Street

Prado Road

1. US 101 Northbound Ramps to Higuera Street

Dalidio Drive

2. Madonna Road to Froom Ranch Way (Future)

Froom Ranch Way

3. Los Osos Valley Road to Dalidio Drive (Future)

Two highway segments have been identified and pre-selected by the City of San Luis Obispo and Caltrans for analysis. Average Daily Traffic (ADT) counts were provided by Caltrans for the segments.

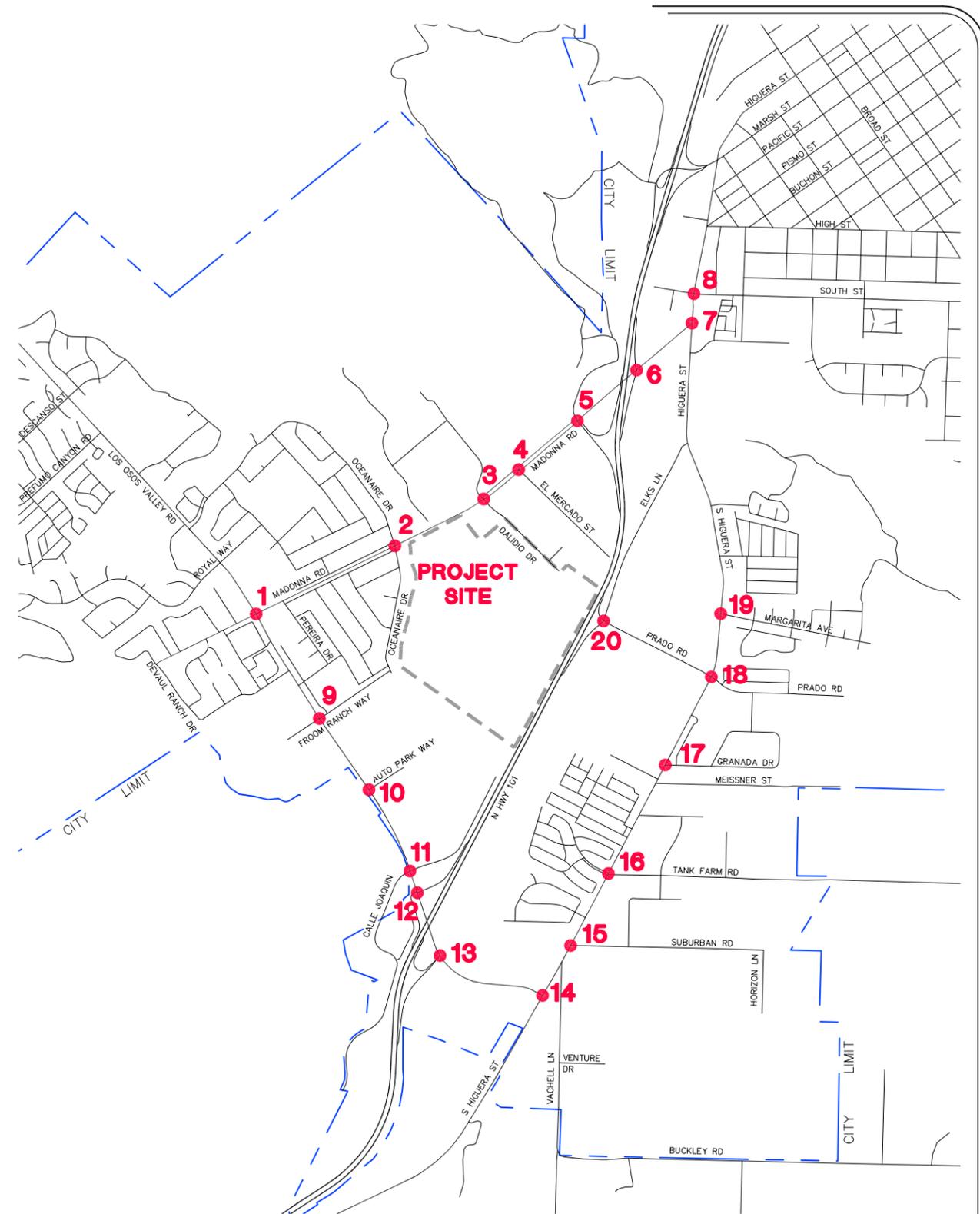
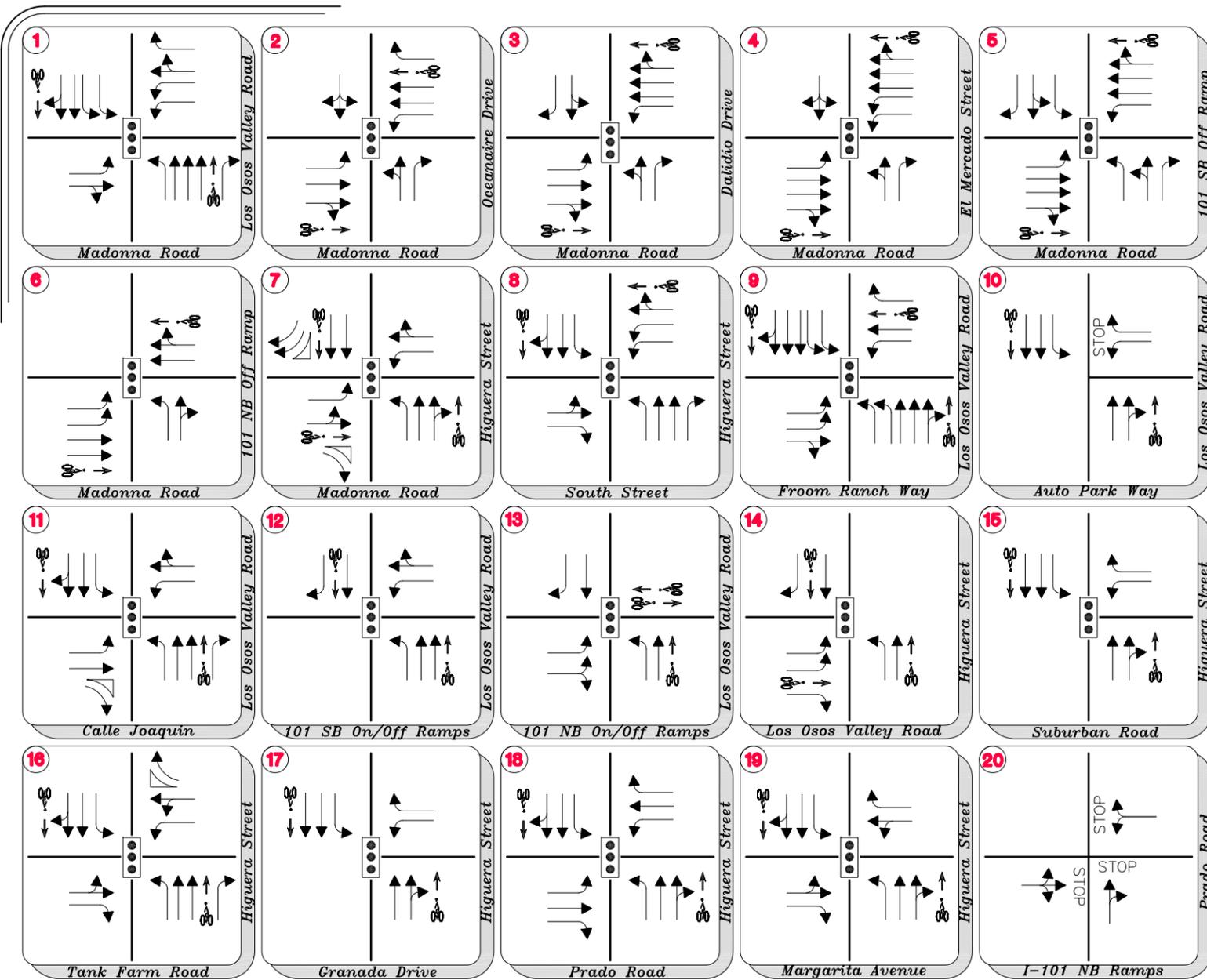
The two segments are as follows:

3. US 101 between Los Osos Valley Road and Prado Road
4. US 101 between Prado Road and Madonna Road

For the above locations, available AM and PM peak hour vehicular, bicycle, and pedestrian counts were obtained from either the City or collected by Omni-Means.

## Existing Conditions

Existing conditions establish baseline traffic conditions that currently exist in the study area. Currently, the study area is located along the S. Higuera Street corridor between Prado Road and Los Osos Valley Road, which is developed with housing in the southwest area, commercial and offices fronting Prado Road and S. Higuera Street on the east, and service and manufacturing land use along Tank Farm Road and south of Suburban Road. Existing turning movement count data was provided by the City of San Luis Obispo, or collected by Omni-Means, for weekday AM and PM peak hours, along with the City-maintained "Master" Synchro networks which are used to develop the project Synchro files. The counts were taken from the City's Traffic Counts and Speed Surveys database (online). Figure 2 presents the study locations and intersection lane geometries. Figure 3 presents the existing peak hour volumes at the study intersections. Figure 4 presents the Average Daily Traffic (ADT) along the street segments.



LEGEND:

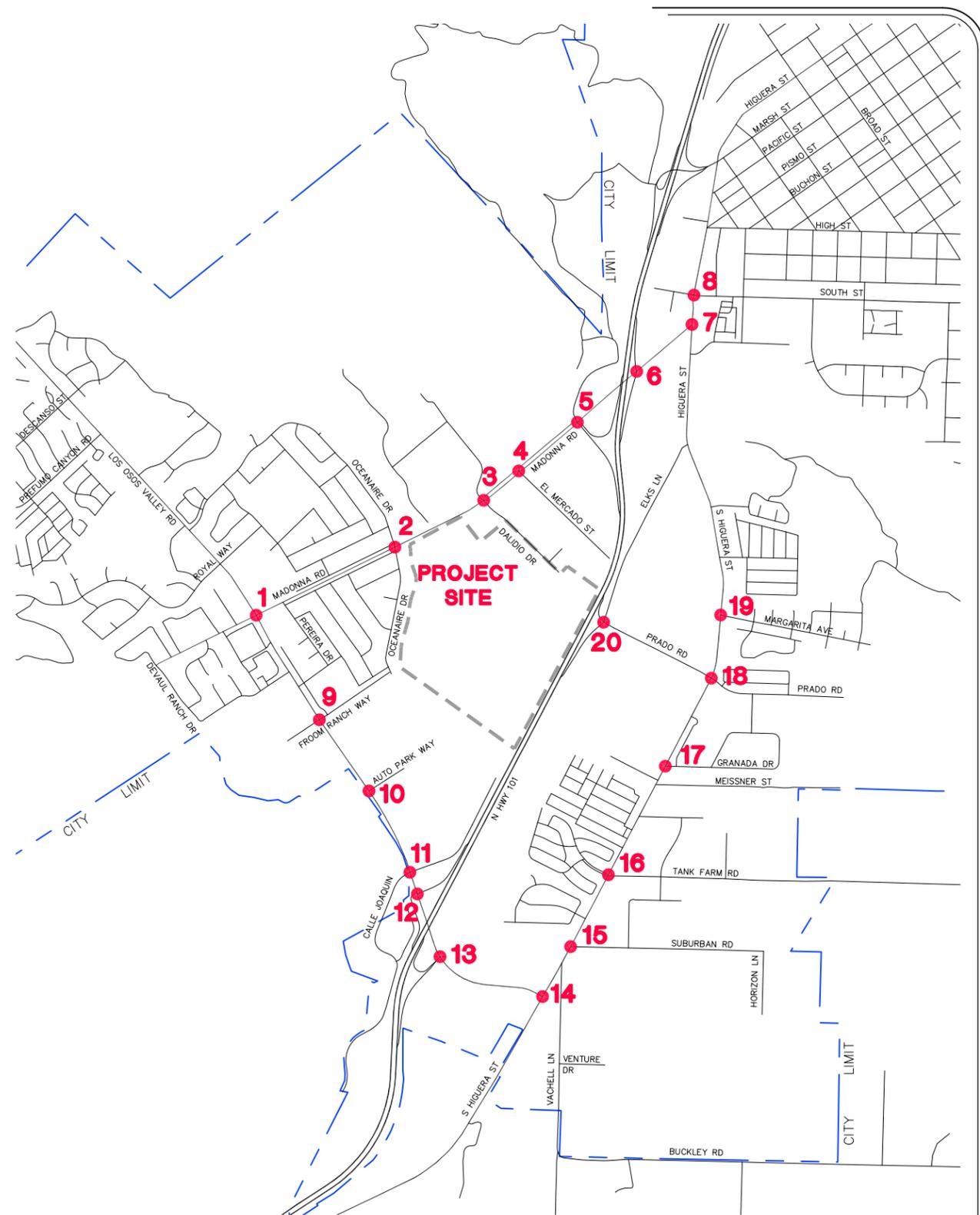
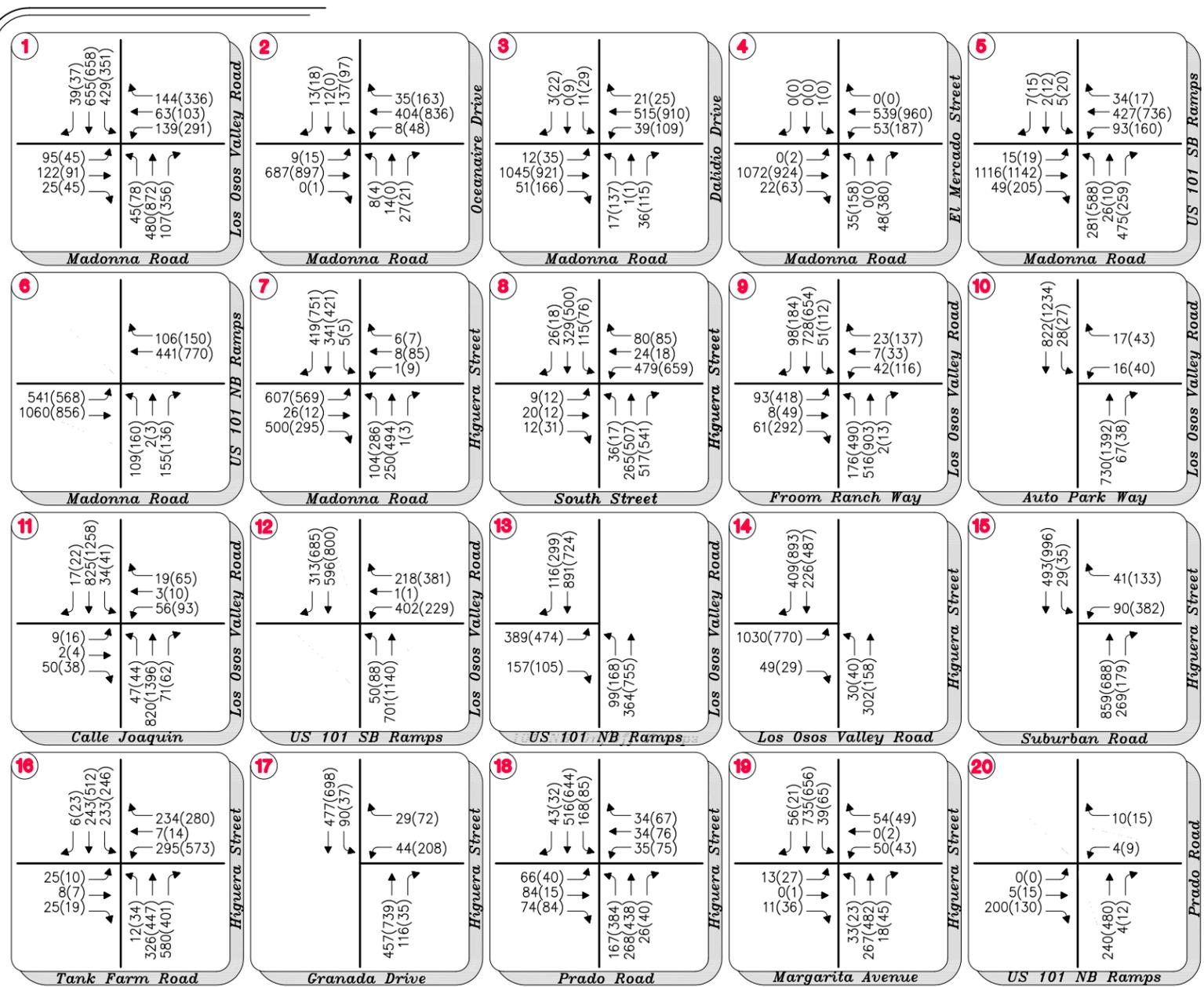
- ↑ BICYCLE LANE (CLASS II)
- ↑ BICYCLE LANE (CLASS I)
- ← VEHICLE LANE

San Luis Ranch Specific Plan Multimodal TIS

Existing Lane Geometrics and Control

Figure 2



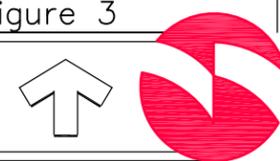


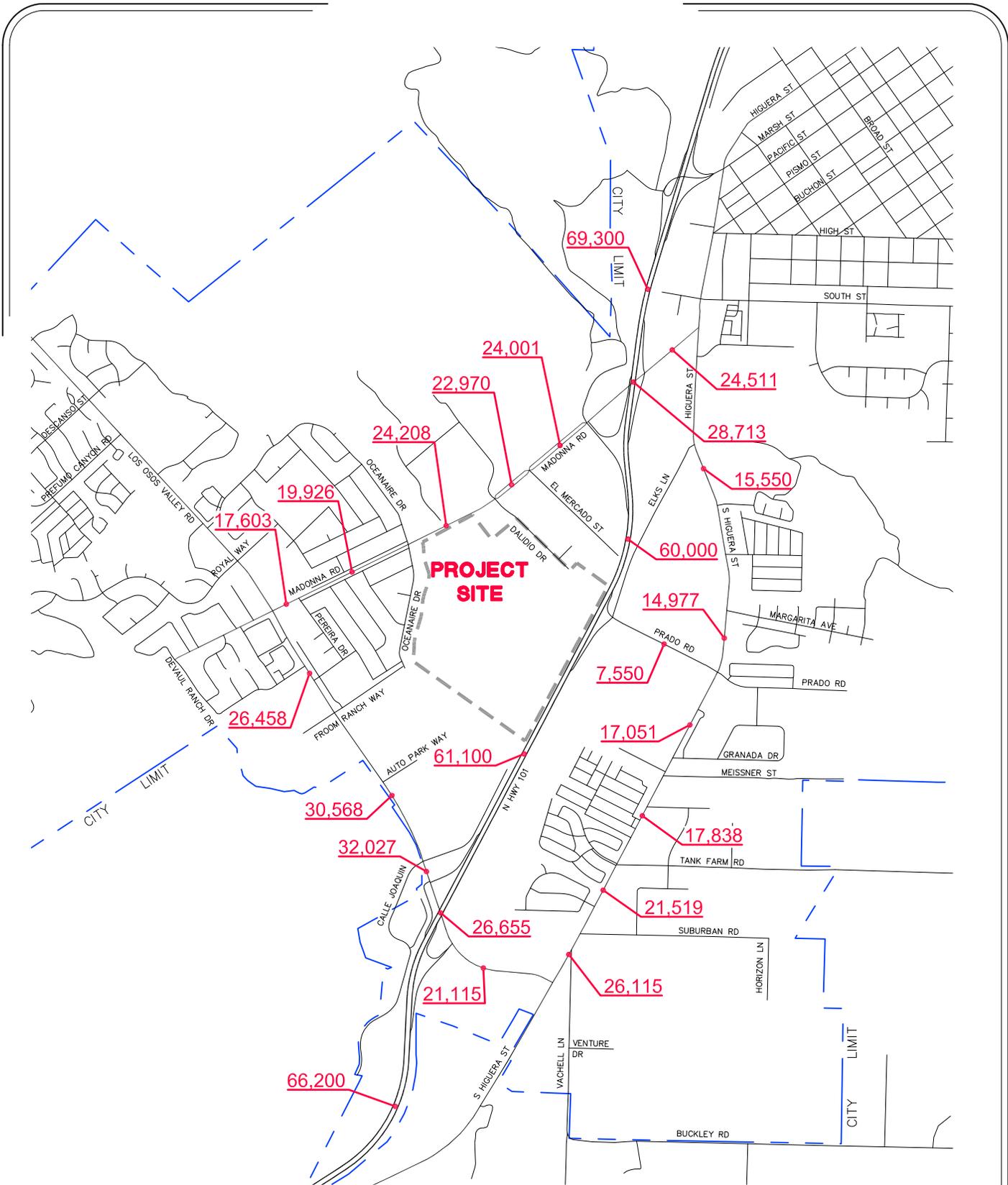
LEGEND:  
 XX - AM PEAK HOUR TRAFFIC VOLUMES  
 (XX) - PM PEAK HOUR TRAFFIC VOLUMES

San Luis Ranch Specific Plan Multimodal TIS

Existing Peak Hour Traffic Volumes

Figure 3





San Luis Ranch Specific Plan Multimodal TIS

Figure 4

**Existing Average Daily Traffic Volumes**



## Roadway Network

The study roadways for this project are described below. Due to the varying nature of the City street network the directionality defined below may or may not be consistent with how directionality has been presented in other traffic studies or documentation, this however does not affect the results of the analysis and findings.

US Highway 101 (US 101) is functionally classified as Urban Principal Arterial and is part of the National Truck Network. Land uses along US 101 are comprised of urban commercial and residential, open space, national forest and grazing land. US 101 is a north-south, four lane mixed flow freeway through the City of San Luis Obispo. Between several closely spaced interchanges north of Los Osos Valley Road, auxiliary lanes are provided to facilitate the flow of entering and exiting traffic. Outside the City, US 101 provides access to Paso Robles to the north and the Five Cities area to the south. It is a primary route for all truck traffic originated from/destined to the City of San Luis Obispo (SLO LUCE, 2014).

Froom Ranch Way is a east-west roadway that connects Los Osos Valley Road to the Perfumo Creek Shopping Center on the east side and the Irish Hills Plaza on the west side. These large shopping centers contain stores such as Costco Wholesale, Home Depot, Whole Foods, BevMo!, Target, etc. that attract a large number of trips and is located in between the US 101 interchange and large residential neighborhoods. 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 a Class II bike lane on the east side. The speed limit is 25 mph. Planned changes to Froom Ranch Way include extension as a two-lane collector east to Dalidio Drive

Higuera Street (S. Higuera Street) is a north-south arterial within the study area. Higuera Street connects to downtown San Luis Obispo to the north and terminates to the south at its interchange with US 101. South of Marsh Street, it provides a four-lane roadway with Class II bike lanes and continuous sidewalks. The posted speed limit within the study area is 45 mph.

Los Osos Valley Road is a north-south arterial that extends from Los Osos to Higuera Street. It connects with US 101 ramp termini approximately 1/2 mi west of S. Higuera Street and is functionally classified in the City as an Arterial or a Parkway Arterial. It provides four lanes with Class II bike lanes and sidewalks on both sides for the majority of the study area. The posted speed limit within the study area is 35 – 45 mph.

Since data was collected in 2014, improvements due to the Los Osos Valley Road (LOVR)/US 101 Interchange Traffic Relief Project have been constructed. Improvements included widening Los Osos Valley Road to four lanes from the existing four-lane section west of Calle Joaquin Road to approximately 500 feet west of South Higuera Street; and constructing sidewalks and Class II bicycle lanes along both sides of Los Osos Valley Road.

Madonna Road is an east-west roadway that extends from Devaul Ranch Road just west of Los Osos Valley Road and ends at Higuera Street to the east. It is functionally classified as a local street west of Los Osos Valley Road and an arterial east of Los Osos Valley Road. Madonna Road provides a total of two, four or six travel lanes, and Class II bike lanes with sidewalks on one or both sides. It also connects with US 101 ramp termini approximately 1/2 mile west of Higuera Street. The posted speed limit within the study area is 40 mph.

Prado Road is an east-west two-lane roadway that extends eastward from the US 101 Northbound Ramps and ends east of Higuera Street. It is functionally classified as a regional

route/highway in the City's General Plan. Planned changes to Prado Road include extension west from US 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. The posted speed limit within the study area is 35 mph.

Tank Farm Road is an east-west parkway arterial which connects S. Higuera Street to Broad Street to the east, and continues as Orcutt Road east of the Orcutt Area. In the study area, it is a four-lane roadway with Class II bike lanes and sidewalks on both sides. The posted speed limit within the study area is 45 mph.

## Existing Conditions Analysis

The Existing conditions multimodal analysis for the study intersections and segments are presented below.

### Existing Conditions Intersection Analysis

Table 16 provides a summary of the Existing conditions vehicular AM and PM peak hour intersection delay and LOS. Table 17 provides a summary of the Existing pedestrian AM and PM peak hour conditions at the study intersections. Table 18 provides a summary of the Existing bicycle AM and PM peak hour conditions at the study intersections. Table 19 provides a summary of the Existing conditions queuing analysis.

**TABLE 16:  
EXISTING CONDITIONS INTERSECTION LEVEL OF SERVICE: AUTOMOBILE ANALYSIS**

#	Intersection	Control Type <sup>1,2</sup>	Target LOS	AM Peak Hour			PM Peak Hour		
				v/c <sup>3</sup>	Delay	LOS	v/c <sup>3</sup>	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
<b>3</b>	<b>Madonna Road/Dalidio Drive</b>	<b>Signal</b>	<b>D</b>		9.7	A	<b>2.11</b>	<b>56.2</b>	<b>E</b>
4	Madonna Road/El Mercado	Signal	D		7.3	A		19.6	B
<b>5</b>	<b>Madonna Road/US 101 SB Ramps/Madonna</b>	<b>Signal</b>	<b>C</b>	<b>1.31</b>	<b>48.7</b>	<b>D</b>		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
<b>8</b>	<b>Higuera Street/South Street</b>	<b>Signal</b>	<b>D</b>		21.4	C	<b>1.31</b>	<b>63.1</b>	<b>E</b>
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; RNDTB = Roundabout
2. LOS = Delay based on worst minor street approach for TWSC intersections, average of all approaches for AWSC, Signal, RNDTB
3. Volume to Capacity Ratio (v/c) is for worst movement delay, for unacceptable LOS only

**TABLE 17:  
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	-	-	-	-
		WB	C	-	-	-	-
		NB	C	n/a	-	n/a	-
		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
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	-
		EB	C	2.65	B	2.73	B
14	S. Higuera Street/Los Osos Valley Road	NB	C	2.25	B	2.30	B
		SB	C	n/a	-	n/a	-
		WB	C	2.15	B	2.29	B
		NB	C	2.98	C	<b>3.60</b>	<b>D</b>
15	S. Higuera Street/Suburban Drive	SB	C	2.73	B	2.85	C
		EB	C	2.01	B	2.01	B
		WB	C	2.91	C	3.04	C
		NB	C	3.33	C	3.27	C
16	S. Higuera Street/Tank Farm Road	SB	C	2.65	B	2.78	C
		WB	C	2.05	B	2.13	B
		NB	C	n/a	-	n/a	-
		SB	C	2.60	B	2.76	C
17	S. Higuera Street/Granada Drive	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
18	S. Higuera Street/Prado Road	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
19	S. Higuera Street/Margarita Avenue	EB	C	-	-	-	-
		WB	C	-	-	-	-
		NB	C	n/a	-	n/a	-
		SB	C	-	-	-	-
20	Prado Road/US 101 NB Ramps	EB	C	-	-	-	-
		WB	C	-	-	-	-
		NB	C	n/a	-	n/a	-
		SB	C	-	-	-	-

Notes:

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.

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 18:  
EXISTING 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	3.26	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/EI 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	-
		SB	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	-	-	-	-
		WB	D	-	-	-	-
		NB	D	n/a	-	n/a	-
		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
12	Los Osos Valley Road/US 101 SB Ramps	WB	D	n/a	-	n/a	-
		NB	D	2.69	B	3.04	C
		SB	D	2.33	B	3.18	C
13	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
14	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
15	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
16	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
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	2.69	B	2.90	C
		NB	D	1.64	A	1.99	A
		SB	D	1.87	A	1.90	A
19	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
20	Prado Road/US 101 NB Ramps	EB	D	-	-	-	-
		WB	D	-	-	-	-
		NB	D	n/a	-	n/a	-
		SB	D	-	-	-	-

*Notes:*

*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 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 19:  
EXISTING CONDITIONS 95<sup>TH</sup> PERCENTILE QUEUING ANALYSIS**

<i>Intersection</i>		<i>Movement</i>	<i>No. Lanes</i>	<i>Total Storage (ft)<sup>1</sup></i>	<i>95<sup>th</sup> Percentile Queue/Lane (ft)</i>	
<i>ID</i>	<i>Location</i>				<i>AM Peak Hour</i>	<i>PM Peak Hour</i>
1	Madonna Road/Los	Northbound Right	1	175	96	<b>240</b>
7	Madonna Road/Higuera Street	Eastbound Right	1	150	<b>232</b>	146
		Northbound Left	1	160	107	<b>251</b>
8	Higuera Street/South Street	Westbound Left	2	240	<b>219</b>	<b>310</b>
		Northbound Left	1	60	<b>87</b>	<b>74</b>
		Northbound Right	1	60	<b>142</b>	<b>136</b>
		Southbound Left	1	70	<b>109</b>	<b>97</b>
9	Los Osos Valley Road/Froom Ranch	Westbound Right	1	50	41	<b>82</b>
11	Los Osos Valley Road/Calle Joaquin	Southbound Left	1	180	108	<b>170</b>
12	Los Osos Valley Road/US 101 SB Ramps	Westbound Left	1	150	<b>241</b>	<b>224</b>
		Northbound Left	1	80	<b>114</b>	<b>122</b>
		Southbound Through	1	240	<b>297</b>	<b>289</b>
13	Los Osos Valley Road/US 101 NB Ramps	Eastbound Left/Right	1	200	<b>221</b>	177
		Northbound Left	1	140	117	<b>181</b>
		Southbound Through	1	865	<b>1042</b>	822
		Southbound Right	1	60	<b>186</b>	<b>219</b>
14	S. Higuera Street/Los Osos Valley Road	Eastbound Right	1	90	<b>164</b>	<b>122</b>
16	S. Higuera Street/Tank Farm	Northbound Right	1	100	<b>137</b>	<b>134</b>
		Southbound Left	1	165	<b>187</b>	<b>218</b>
18	S. Higuera Street/Prado Road	Northbound Left	1	100	<b>131</b>	<b>176</b>
		Southbound Left	1	60	<b>116</b>	<b>109</b>
19	S. Higuera	Southbound Left	1	60	58	<b>67</b>

- 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.

As shown in Table 16 above, the intersection of Madonna Road/Dalidio Drive, Madonna Road/US 101 SB Ramps/Madonna Inn, Higuera Street/South Street, and Los Osos Valley Road/Auto Park Way are currently operating at unacceptable conditions during AM and PM peak hours. The minor street northbound and southbound approaches experience long delays. Pedestrian and bicycle analysis shows acceptable conditions at study intersections, except for the intersections of Los Osos Valley Road/US 101 SB Ramps and Los Osos Valley Road/Froom Ranch Way.

## **Existing Conditions Segment Analysis**

Table 20 provides a summary of the Existing vehicular AM and PM peak hour conditions for the study segments. Table 21 provides a summary of the Existing pedestrian AM and PM peak hour conditions for the study segments. Table 22 provides a summary of the Existing bicycle AM and PM peak hour conditions for the study segments. Table 23 provides a summary of the Existing transit AM and PM peak hour conditions for the study segments. Table 24 provides a summary of the Existing freeway segments analysis for AM and PM peak hour conditions for the study segments along US 101.

**TABLE 20:  
EXISTING CONDITIONS SEGMENT LEVEL OF SERVICE: AUTOMOBILE ANALYSIS**

AUTO SEGMENT LOS						AM PEAK				PM PEAK			
ID	Roadway	From	To	Direction	LOS Threshold	Travel Speed	Base Free-	Travel Speed/	LOS	Travel	Base Free-	Travel	LOS
						(mph)	Flow Speed	BFFS (%)		Speed (mph)	Flow Speed	Speed/	
						(mph)	BFFS (mph)	BFFS (%)					
1	<b>Madonna Rd</b>	<b>Oceanaire Dr</b>	<b>LOVR</b>	<b>WB</b>	<b>D</b>	<b>21.4</b>	<b>42.1</b>	<b>51%</b>	<b>C</b>	<b>12.9</b>	<b>42.1</b>	<b>31%</b>	<b>E</b>
	Madonna Rd	LOVR	Oceanaire Dr	EB	D	29.3	42.1	70%	B	25.7	42.1	61%	C
2	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
3	Madonna Rd	El Mercado	Dalidio Dr	WB	D	21.2	34.8	61%	C	14.1	34.8	41%	D
	<b>Madonna Rd</b>	<b>Dalidio Dr</b>	<b>El Mercado</b>	<b>EB</b>	<b>D</b>	<b>21.2</b>	<b>34.7</b>	<b>61%</b>	<b>C</b>	<b>13.3</b>	<b>34.6</b>	<b>39%</b>	<b>E</b>
4	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
5	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
6	<b>Madonna Rd</b>	<b>Higuera St</b>	<b>US 101 NB Ramps</b>	<b>WB</b>	<b>D</b>	<b>9.2</b>	<b>37.2</b>	<b>25%</b>	<b>F</b>	<b>10.6</b>	<b>37.2</b>	<b>29%</b>	<b>F</b>
	<b>Madonna Rd</b>	<b>US 101 NB Ramps</b>	<b>Higuera St</b>	<b>EB</b>	<b>D</b>	<b>17.4</b>	<b>37.2</b>	<b>47%</b>	<b>D</b>	<b>13.3</b>	<b>37.2</b>	<b>36%</b>	<b>E</b>
7	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
8	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
9	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
10	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
11	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
12	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
13	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
14	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
15	<b>Los Osos Valley</b>	<b>Calle Joaquin</b>	<b>US 101 SB Ramps</b>	<b>SB</b>	<b>D</b>	<b>13.5</b>	<b>32.1</b>	<b>42%</b>	<b>D</b>	<b>9.1</b>	<b>32.1</b>	<b>28%</b>	<b>F</b>
	Los Osos Valley	US 101 SB Ramps	Calle Joaquin	NB	D	17.0	31.1	55%	C	15.3	31.1	49%	D
16	<b>Los Osos Valley</b>	<b>US 101 SB Ramps</b>	<b>US 101 NB Ramps</b>	<b>SB</b>	<b>D</b>	<b>10.2</b>	<b>37.7</b>	<b>27%</b>	<b>F</b>	<b>13.2</b>	<b>37.7</b>	<b>35%</b>	<b>E</b>
	<b>Los Osos Valley</b>	<b>US 101 NB Ramps</b>	<b>US 101 SB Ramps</b>	<b>NB</b>	<b>D</b>	<b>11.7</b>	<b>37.4</b>	<b>31%</b>	<b>E</b>	<b>32.0</b>	<b>37.4</b>	<b>85%</b>	<b>A</b>
17	Los Osos Valley	US 101 NB Ramps	S. Higuera St	EB	D	20.9	39.2	53%	C	17.9	39.2	46%	D
	Los Osos Valley	S. Higuera St	US 101 NB Ramps	WB	D	29.5	39.2	75%	B	25.8	39.2	66%	C
18	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
19	<b>Froom Ranch Way</b>	<b>Dick's Sporting Goods Drwy</b>	<b>Los Osos Valley</b>	<b>WB</b>	<b>D</b>	<b>17.9</b>	<b>37.7</b>	<b>47%</b>	<b>D</b>	<b>12.7</b>	<b>37.9</b>	<b>33%</b>	<b>E</b>
	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
20	Dalidio Dr	Madonna Rd	Froom Ranch Rd	SB	D	21.5	31.2	69%	B	21.5	31.2	69%	B
	<b>Dalidio Dr</b>	<b>Froom Ranch Rd</b>	<b>Madonna Rd</b>	<b>NB</b>	<b>D</b>	<b>5.5</b>	<b>31.1</b>	<b>18%</b>	<b>F</b>	<b>0.4</b>	<b>31.1</b>	<b>1%</b>	<b>F</b>

**TABLE 21:  
EXISTING CONDITIONS SEGMENT LEVEL OF SERVICE: PEDESTRIAN ANALYSIS**

PEDESTRIAN SEGMENT LOS						AM PEAK		PM PEAK		
ID	Roadway	From	To	Direction	LOS Threshold	Average Ped. Space (ft <sup>2</sup> /p)	SEGMENT SCORE	LOS	SEGMENT SCORE	LOS
1	Madonna Rd	Oceanaire Dr	LOVR	WB	C	6090	3.54	D	3.80	D
	Madonna Rd	LOVR	Oceanaire Dr	EB	C	17482	3.75	D	3.87	D
2	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
3	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
4	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
5	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
6	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
7	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
8	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
9	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
10	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
11	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
12	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
13	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
14	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
15	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
16	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
17	Los Osos Valley	US 101 NB Ramps	S. Higuera St	EB	C	46575	4.22	D	4.01	D
	Los Osos Valley	S. Higuera St	US 101 NB Ramps	WB	C	1680	3.67	D	4.09	D
18	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
19	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
20	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:

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.

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.

**TABLE 22:  
EXISTING CONDITIONS SEGMENT LEVEL OF SERVICE: BICYCLE ANALYSIS**

BICYCLE SEGMENT LOS						AM PEAK		PM PEAK	
ID	Roadway	From	To	Direction	LOS Threshold	SEGMENT SCORE	LOS	SEGMENT SCORE	LOS
1	Madonna Rd	Oceanaire Dr	LOVR	WB	D	3.60	D	3.94	D
	Madonna Rd	LOVR	Oceanaire Dr	EB	D	3.73	D	3.79	D
2	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
3	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
4	<b>Madonna Rd</b>	<b>US 101 SB Ramps</b>	<b>El Mercado</b>	<b>WB</b>	<b>D</b>	3.94	D	<b>4.34</b>	<b>E</b>
	Madonna Rd	El Mercado	US 101 SB Ramps	EB	D	3.62	D	3.64	D
5	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
6	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
7	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
8	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
9	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
10	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
11	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
12	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
13	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
14	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
15	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
16	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
17	Los Osos Valley	US 101 NB Ramps	S. Higuera St	EB	D	3.40	C	3.40	C
	Los Osos Valley	S. Higuera St	US 101 NB Ramps	WB	D	3.30	C	3.45	C
18	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
19	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 I	EB	D	2.87	C	3.48	C
20	<b>Dalidio Dr</b>	<b>Madonna Rd</b>	<b>Froom Ranch Rd</b>	<b>SB</b>	<b>D</b>	<b>4.30</b>	<b>E</b>	<b>4.37</b>	<b>E</b>
	Dalidio Dr	Froom Ranch Rd	Madonna Rd	NB	D	3.77	D	4.21	D

Notes:

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 incorporated into the methodology for evaluating bicycle segment performance.

**TABLE 23:  
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	4.16	D	4.27	E
	Madonna Rd	LOVR	Oceanaire Dr	EB	D	Route 5	4.28	E	4.10	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	US 101 NB Ramps	S. Higuera St	EB	D		Not Analyzed	N/A	Not Analyzed	N/A
	Los Osos Valley	S. Higuera St	US 101 NB Ramps	WB	D		Not Analyzed	N/A	Not Analyzed	N/A
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

Note: Route 2 Serves the Prado Day Center stop during the AM peak hour, and the DMV/Margarita stop during the PM Peak Hour  
Segment 20 transit is southbound for routes 4 and 5

**TABLE 24:  
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
<b><i>US 101 at Los Osos Valley Road</i></b>									
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	<b>3,044</b>	<b>27.4</b>	<b>D</b>
<b><i>US 101 at Prado Road</i></b>									
US 101 NB South of Prado Road	C	Freeway	2	2,443	21.4	C	2,137	18.8	C
<b><i>US 101 at Madonna Road</i></b>									
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

As shown in the Existing Conditions segment analysis tables, most of the segments are currently operating at deficient LOS for pedestrian and transit modes, as well as several segments for automobile mode and only a couple segments for the bicycle mode. It is important to note that segment pedestrian and transit LOS, which are strongly interrelated, are heavily influenced by vehicular volumes, such that in some cases, LOS may not be reasonably improved by improved pedestrian facilities. Rather, a reduction in traffic volumes is often the only way to theoretically achieve exceptional LOS scores for these modes. The segment of US 101 south of Los Osos Valley Road is operating at deficient LOS D during the PM peak hour for Existing conditions.

# Proposed Project Description

The proposed project is a mixed-use development located in between Madonna Road and Highway 101 on a 131-acre infill site, known as the San Luis Ranch Specific Plan and previously known also as Dalidio Ranch. The site is currently in the City's Sphere of Influence but would be annexed with Specific Plan adoption. The project would incorporate a mix of residential and commercial uses, as described in the 580-Unit Alternative of the San Luis Ranch Specific Plan. The proposed Specific Plan would maintain and promote San Luis Obispo's agricultural heritage, provide open space and recreation areas, provide diverse housing, and create a multimodal community that is integrated into the existing circulation system.

The project would contain the following:

- Single Family Residential (large-lot): 200 Dwelling Units
- Single Family Residential (small-lot, medium density): 100 Dwelling Units
- Multi-Family Residential (high-density, including Affordable Units): 280 Dwelling Units
- Commercial: 150,000 Sq Ft
- Hotel: 200 Rooms
- Office: 100,000 Sq Ft
- Parks & Recreational: 5.8 Acres (3.39 acres parks and 2.41 acres recreation for the Bob Jones Trail)
- Agricultural Heritage and Learning Center: 2.70 acres

## Project Access

The proposed project would have various access points and roadway improvements upon project build-out. Froom Ranch Way would be extended as a two-lane collector with a Class I bike path to Dalidio Drive with a bridge over Perfumo Creek connecting to the current alignment. The proposed project would have full access to Froom Ranch Way at two locations. Dalidio Drive improvements include widening to four-lane arterial standards with Class II bike lanes with project build-out. The proposed project access on Dalidio Drive would be full-access and located across from the existing shopping center driveway approximately 900 feet south of Madonna Road. Madonna Road improvements with the build-out of the project include a right-in right-out project access point with acceleration and deceleration lanes to match the segments east and west of the Specific Plan. Project access for the proposed office uses to the east of Dalidio Drive is projected to be via the intersection of Froom Ranch Way and Dalidio Drive.

The project site plan is presented in Figure 5.

## Access Management

The proposed project driveways and street connections to the existing network are evaluated using the recommendations and guidelines established in the Transportation Research Board Access Management Manual, 2<sup>nd</sup> Ed., 2014. In particular, intersection spacing, residential neighborhood traffic calming aspects and internal site circulation are evaluated. The evaluation is included in the Appendix of this report as a Memorandum. The following recommendations are included in the memorandum:

- Intersection #26: Dalidio Drive/Post Office Access/Promenade
  - Remove existing ingress only driveway to Post Office

- Consolidate the Post Office access to one limited access driveway
- The modified post office driveway is proposed to be limited to right turn ingress and egress and left turn ingress only
- The shopping center driveway would be limited to right turn ingress and egress only
  
- Include a raised crosswalk where the proposed bike/pedestrian crossing south of curve number 9 (Bike Path connection between Multi-Family and Single-Family areas)
- Install three neighborhood traffic circles (as shown on Figure 4 of Memorandum) to reduce speeds in curve numbers 1 and 8 and in the long tangent section between From Ranch Way and curve number 9.

## **Neighborhood Traffic Management**

San Luis Ranch Road would provide a bypass to the Madonna and Dalidio/Prado Rd. intersection thru the residential neighborhood resulting in a high propensity for cut through traffic and volumes that exceed general plan thresholds. The addition of diverters or changes in street connections would reduce this to a less than significant impact.

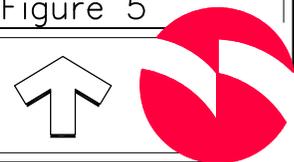
Design of San Luis Ranch Road, XXXXX Road, XXXXX Road, & XXXXX Road would result in a high propensity of neighborhood traffic speeds exceeding general plan thresholds. The additional of neighborhood traffic circles at key intersections and other traffic calming features along longer uninterrupted segments would reduce this to a less than significant impact.



San Luis Ranch Specific Plan Multimodal TIS

Figure 5

# Project Site Plan



# Multimodal Trip Generation

Since this study analyzes and quantifies impacts for all travel modes rather than just automobile impacts, a more defined "person trip" generation was developed in lieu of the more common "vehicle trip" generation. The following section describes how the "person trips" estimates were developed for the proposed land uses, with respect to the following categories:

- Vehicular Trips
- Person Trips
- Internal Capture
- Modal Split
- Vehicle Occupancy
- Pass By Trips

## Vehicular Trips

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. Omni-Means used San Diego's Regional Planning Agency's (SANDAG) '*Brief Guide to Vehicular Traffic Generation Rates for the San Diego Region*', 2002 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 25 presents the ITE trip generation rates and estimates for the proposed land uses.

**TABLE 25:  
VEHICULAR TRIP GENERATION RATES AND ESTIMATES**

Land Use Category (ITE Code)	Unit <sup>1</sup>	Daily Trip Rate/Unit <sup>2</sup>	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 <sup>3</sup>	AC	50.00	6.50	50%	50%	4.50	50%	50%
City Park <sup>3</sup>	AC	50.00	6.50	50%	50%	4.50	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) <sup>4</sup>	100	962	73	18	55	93	59	34
Single Family Residential (Traditional 40' lots) <sup>4</sup>	200	1,924	147	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
<b>Net Project Trips</b>		<b>16,917</b>	<b>914</b>	<b>466</b>	<b>448</b>	<b>1,584</b>	<b>777</b>	<b>807</b>

Notes:

1. 1 ksf = 1,000 square feet DU = dwelling unit

2. Trip rates based on ITE Trip Generation Manual 9th edition fitted-curve equations or average rates

3. Trip rates based on SANDAG's 'Brief Guide to Vehicular Traffic Generation Rates for the San Diego Region', 2002

4. Single Family Residential Units Trip Generation Based on Rate for Total 350 Units

5. Errors due to rounding may occur.

As presented in Table 25, the proposed project would be projected to generate 914 AM peak hour vehicular trips, and 1,559 PM peak hour vehicular trips, before any vehicular occupancy, modal, internal capture, or pass-by adjustments. Once person trips were estimated, internal capture rates were developed between the proposed uses.

## Person Trips

Person trips were also estimated using the ITE *Trip Generation Manual*, by utilizing average vehicle occupancy rates of each Land Use (Tables C.1-C.2). Because ITE *Trip General Manual* vehicle trip generation rates (Table 25) are based on driveway counts, an additional factor called the "Mode Share Percent" is also utilized to account for trips that were made by other modes. After applying vehicle occupancy rates to the vehicle trip rates, and then accounting for demand from non-auto modes in the ITE data, an ITE-based person trip demand can be estimated, as shown in Table 26.

The ITE *Trip Generation Handbook (3rd Edition)* provides the Land Use Mix for determining whether the internal capture methodology is appropriate, stating that the mixed-use development should consist of a combination of at least two of the following categories: retail, restaurant, office, residential, hotel, and cinema/entertainment. The proposed project contains retail, residential, office and hotel land uses, which are generated separately for each category, and therefore accounts for the internal trips between each land use.

## Internal Capture

Internal person trip capture rates for the proposed development were determined using the NCHRP Report 864 and NCHRP 8-51 Internal Capture Estimation Tool, which is consistent with the internal capture percentages from the ITE *Trip Generation Handbook (3rd Edition)*. The NCHRP Internal Capture Estimation Tool also includes a proximity adjustment factor to the internal capture percentages for the PM peak hour. For the purposes of this study, the internal capture reduction for residential uses included only the multi-family units and the single family small-lot (30' lot) units due to their proximity to other proposed uses. The single-family large-lot (40' lot) units were not assumed to generate internal trips. Table 26 presents the person trip generation and the internal capture reduction between each use.

As presented in Table 26, after applying internal capture assumption to the estimated person trips, the proposed project is anticipated to generate 1,009 AM peak hour person trips and 1,538 PM peak hour person trips. The internal capture reduction is approximately 8% in the AM peak hour and 20% in the PM peak hour.

**TABLE 26:  
PERSON TRIP GENERATION RATES AND ESTIMATES**

Assumptions to Convert Baseline Vehicular Trips to Person Trips:							
Land Use	Unit <sup>1</sup>	AM Peak			PM Peak		
		Baseline Vehicle Occupancy <sup>2</sup>	Baseline Mode Share Percent <sup>2</sup>		Baseline Vehicle Occupancy <sup>2</sup>	Baseline Mode Share Percent <sup>2</sup>	
			Inbound	Outbound		Inbound	Outbound
Single Family Detached (210)	DU	1.11	95.0%	95.0%	1.18	95.0%	95.0%
Single Family Detached (210)	DU	1.11	95.0%	95.0%	1.18	95.0%	95.0%
Apartment (220)	DU	1.11	89.2%	96.8%	1.18	96.3%	94.7%
Shopping Center (820)	KSF	1.17	100.0%	100.0%	1.20	100%	99.8%
Hotel (310)	Rooms	1.26	92.3%	96.7%	1.31	95.7%	95.0%
General Office Building (710)	KSF	1.06	97.0%	90.0%	1.09	96.0%	98.0%
City Park <sup>4</sup>	AC	1.17	95.0%	95.0%	1.20	95.0%	95.0%
City Park <sup>4</sup>	AC	1.17	95.0%	95.0%	1.20	95.0%	95.0%

Land Use	Quantity (Units)	AM Peak Hour Person Trips			PM Peak Hour Person Trips		
		Total	In	Out	Total	In	Out
Single Family Residential (Small 30' lots)	100	85	21	64	116	73	43
Single Family Residential (Traditional 40' lots)	200	172	43	129	229	145	84
Multi-Family Residential	280	165	35	130	212	137	75
<i>Internal Capture Reduction with Retail<sup>5</sup></i>		-3	-1	-2	-126	-97	-29
<i>Internal Capture Reduction with Hotel<sup>5</sup></i>		0	0	0	-4	0	-4
<i>Internal Capture Reduction with Office<sup>5</sup></i>		-4	0	-4	-7	-2	-5
<b>TOTAL RESIDENTIAL EXTERNAL TRIPS</b>		<b>415</b>	<b>98</b>	<b>317</b>	<b>420</b>	<b>256</b>	<b>164</b>
Commercial	150	234	145	89	944	452	492
<i>Internal Capture Reduction with Residential<sup>5</sup></i>		-3	-2	-1	-126	-29	-97
<i>Internal Capture Reduction with Hotel<sup>5</sup></i>		-6	-6	0	-23	-9	-14
<i>Internal Capture Reduction with Office<sup>5</sup></i>		-15	-8	-7	-31	-21	-10
<b>TOTAL COMMERCIAL EXTERNAL TRIPS</b>		<b>210</b>	<b>129</b>	<b>81</b>	<b>764</b>	<b>393</b>	<b>371</b>
Hotel	200	142	86	56	165	84	81
<i>Internal Capture Reduction with Residential<sup>5</sup></i>		0	0	0	-4	-4	0
<i>Internal Capture Reduction with Retail<sup>5</sup></i>		-6	0	-6	-23	-14	-9
<i>Internal Capture Reduction with Office<sup>5</sup></i>		-6	0	-6	0	0	0
<b>TOTAL HOTEL EXTERNAL TRIPS</b>		<b>130</b>	<b>86</b>	<b>44</b>	<b>138</b>	<b>66</b>	<b>72</b>
Office	100	211	184	27	212	36	176
<i>Internal Capture Reduction with Residential<sup>5</sup></i>		-4	-4	0	-7	-5	-2
<i>Internal Capture Reduction with Retail<sup>5</sup></i>		-15	-7	-8	-31	-10	-21
<i>Internal Capture Reduction with Hotel<sup>5</sup></i>		-6	-6	0	0	0	0
<b>TOTAL OFFICE EXTERNAL TRIPS</b>		<b>186</b>	<b>167</b>	<b>19</b>	<b>174</b>	<b>21</b>	<b>153</b>
Parks/Recreational	5.80	46	23	23	32	16	16
Agriculture Heritage and Learning Center	2.70	22	11	11	16	8	8
<b>TOTAL PARKS/REC/AG EXTERNAL TRIPS</b>		<b>68</b>	<b>34</b>	<b>34</b>	<b>48</b>	<b>24</b>	<b>24</b>
<b>Total Person Trips</b>		<b>1,077</b>	<b>548</b>	<b>529</b>	<b>1,926</b>	<b>951</b>	<b>975</b>
<b>Total Internal Capture Reduction</b>		<b>-68</b>	<b>-34</b>	<b>-34</b>	<b>-382</b>	<b>-191</b>	<b>-191</b>
<b>TOTAL EXTERNAL PERSON TRIPS</b>		<b>1,009</b>	<b>514</b>	<b>495</b>	<b>1,544</b>	<b>760</b>	<b>784</b>

1. 1 ksf = 1,000 square feet DU = dwelling unit

2. ITE Trip Generation Handbook (3rd Ed.) Tables C.1 and C.2

3. Vehicle Occupancy is determined to be the same as Apartment, mode share is 95% vehicular as baseline default, due to unavailable data within the ITE Trip Generation Handbook

4. Vehicle Occupancy is determined to be the same as Shopping Center, mode share is 95% vehicular as baseline default, due to unavailable data within the ITE Trip Generation Handbook

5. Internal Capture Trips Determined using NCHRP Report 864 and NCHRP 8-51 Internal Capture Estimation Tool, which includes a proximity adjustment for the PM peak hour; Residential Reduction based only on Small Lots and Multi-Family Units due to proximity to other uses

6. Rounding errors may occur.

# Modal Split

The transportation network adjacent to the project site consists of auto, transit, bicycles, and pedestrian modes. It is anticipated that new external person trips to the proposed project would use a variety of transportation modes to get to and from the site. To estimate the travel mode splits for the external person trips, data from the City of San Luis Obispo Travel Demand Model (TDM) and the US Census were used. The City's TDM contains transit data for each route, including transit route volumes, which were used to determine the percent of person-trips using walk-accessible transit. The vehicular, pedestrian, and bicycle volumes were collected from the City's most recent roadway counts. The parks and recreational uses were determined to be split between bicycles and pedestrians. The mode split among the project-generated person trips is projected to be consistent for Existing and Near Term conditions. The mode split for the Cumulative Year 2035 conditions is based on forecasted modal shifts within the City's TDM at buildout of the City General Plan. Table 27A shows the mode split percentage summary for the external person trips for the Existing and Near Term assignments.

**TABLE 27A: PERSON TRIPS MODE SPLIT FOR EXISTING AND NEAR TERM ASSIGNMENTS**

Land Use		AM Peak Hour Person Trips			PM Peak Hour Person Trips		
		Total	In	Out	Total	In	Out
TOTAL RESIDENTIAL EXTERNAL TRIPS		415	98	317	420	256	164
TOTAL COMMERCIAL EXTERNAL TRIPS		210	129	81	764	393	371
TOTAL HOTEL EXTERNAL TRIPS		130	86	44	138	66	72
TOTAL OFFICE EXTERNAL TRIPS		186	167	19	174	21	153
TOTAL PARKS/REC EXTERNAL TRIPS		46	23	23	32	16	16
TOTAL AGRICULTURAL EXTERNAL TRIPS		22	11	11	16	8	8
<b>TOTAL EXTERNAL PERSON TRIPS</b>		<b>1,009</b>	<b>514</b>	<b>495</b>	<b>1,544</b>	<b>760</b>	<b>784</b>
Total External Person Trips for Residential,		963	491	472	1,512	744	768
<b>MODE SPLIT - PERSON TRIPS (for Non-Parks/Recreational Uses)</b>							
Mode	Modal Split % <sup>1</sup>	AM Peak Hour Person Trips			PM Peak Hour Person Trips		
		Total	In	Out	Total	In	Out
Vehicle	97.0%	934	476	458	1,467	722	745
Bicycle	1.1%	10	5	5	16	8	8
Pedestrian	0.5%	4	2	2	8	4	4
Transit	1.4%	14	7	7	21	10	11
<b>Total:</b>	<b>100%</b>	<b>962</b>	<b>490</b>	<b>472</b>	<b>1,512</b>	<b>744</b>	<b>768</b>
Total External Person Trips for		46	23	23	32	16	16
<b>MODE SPLIT - PERSON TRIPS (for Parks/Recreational Uses)</b>							
Mode	Modal Split %	AM Peak Hour Person Trips			PM Peak Hour Person Trips		
		Total	In	Out	Total	In	Out
Vehicle	0%	0	0	0	0	0	0
Bicycle	50%	24	12	12	16	8	8
Pedestrian	50%	24	12	12	16	8	8
Transit	0%	0	0	0	0	0	0
<b>Total:</b>	<b>100%</b>	<b>48</b>	<b>24</b>	<b>24</b>	<b>32</b>	<b>16</b>	<b>16</b>

1. Mode Split Determined using existing counts for Non-Parks/Recreational Uses, and assumed for Parks/Recreational Uses due to connectivity to existing multimodal transportation system

2. Person Trip estimates for each mode are rounded to the nearest integer.

The net new person trips (auto, pedestrian, bicycle, and transit) are trips that are added to the transportation network. In the AM peak hour, it is projected that 14 transit trips, 28 pedestrian and 34 bicycle trips would be added to the network. In the PM peak hour, it is projected that 20

transit, 24 pedestrian, and 32 bicycle trips would be added to the network with the proposed project. It is also projected that 934 vehicle "person trips" in the AM peak hour and 1,461 vehicle "person trips" in the PM peak hour are added to and from the external roadway network.

Table 27B shows the mode split percentage summary for the external person trips for the 2035 Cumulative conditions.

**TABLE 27B: PERSON TRIPS MODE SPLIT FOR CUMULATIVE ASSIGNMENTS**

Land Use		AM Peak Hour Person Trips			PM Peak Hour Person Trips		
		Total	In	Out	Total	In	Out
<b>TOTAL RESIDENTIAL EXTERNAL TRIPS</b>		<b>415</b>	<b>98</b>	<b>317</b>	<b>420</b>	<b>256</b>	<b>164</b>
<b>TOTAL COMMERCIAL EXTERNAL TRIPS</b>		<b>210</b>	<b>129</b>	<b>81</b>	<b>764</b>	<b>393</b>	<b>371</b>
<b>TOTAL HOTEL EXTERNAL TRIPS</b>		<b>130</b>	<b>86</b>	<b>44</b>	<b>138</b>	<b>66</b>	<b>72</b>
<b>TOTAL OFFICE EXTERNAL TRIPS</b>		<b>186</b>	<b>167</b>	<b>19</b>	<b>174</b>	<b>21</b>	<b>153</b>
<b>TOTAL PARKS/REC EXTERNAL TRIPS</b>		<b>46</b>	<b>23</b>	<b>23</b>	<b>32</b>	<b>16</b>	<b>16</b>
<b>TOTAL AGRICULTURAL EXTERNAL TRIPS</b>		<b>22</b>	<b>11</b>	<b>11</b>	<b>16</b>	<b>8</b>	<b>8</b>
<b>TOTAL EXTERNAL PERSON TRIPS</b>		<b>1,009</b>	<b>514</b>	<b>495</b>	<b>1,544</b>	<b>760</b>	<b>784</b>
Total External Person Trips for Residential,		963	491	472	1,512	744	768
<b>MODE SPLIT - PERSON TRIPS (for Non-Parks/Recreational Uses)</b>							
Mode	Modal Split % <sup>1</sup>	AM Peak Hour Person Trips			PM Peak Hour Person Trips		
		Total	In	Out	Total	In	Out
Vehicle	94.9%	914	466	448	1,435	706	729
Bicycle	1.1%	10	5	5	16	8	8
Pedestrian	2.7%	26	13	13	40	20	20
Transit	1.3%	12	6	6	20	10	10
<b>Total:</b>	<b>100%</b>	<b>962</b>	<b>490</b>	<b>472</b>	<b>1,511</b>	<b>744</b>	<b>767</b>
Total External Person Trips for		46	23	23	32	16	16
<b>MODE SPLIT - PERSON TRIPS (for Parks/Recreational Uses)</b>							
Mode	Modal Split %	AM Peak Hour Person Trips			PM Peak Hour Person Trips		
		Total	In	Out	Total	In	Out
Vehicle	0%	0	0	0	0	0	0
Bicycle	50%	24	12	12	16	8	8
Pedestrian	50%	24	12	12	16	8	8
Transit	0%	0	0	0	0	0	0
<b>Total:</b>	<b>100%</b>	<b>48</b>	<b>24</b>	<b>24</b>	<b>32</b>	<b>16</b>	<b>16</b>

1. Mode Split Determined using existing counts for Non-Parks/Recreational Uses, and assumed for Parks/Recreational Uses due to connectivity to existing multimodal transportation system

2. Person Trip estimates for each mode are rounded to the nearest integer.

The net person trips (auto, pedestrian, bicycle, and transit) are trips that are added to the transportation network. In the AM peak hour, it is projected that 14 transit trips, 48 pedestrian and 34 bicycle trips are added to the network. In the PM peak hour, it is projected that 21 transit, 24 pedestrian, and 32 bicycle trips are added to the network with the proposed project. It is also projected that 934 vehicle "person trips" in the AM peak hour and 1,461 vehicle "person trips" in the PM peak hour are added to and from the external roadway network.

## Vehicle Occupancy

Vehicular occupancy was determined using the data from the City's TDM Documentation. Table 28 shows the home-, work-, and other-based-other data from the *Number of Trip Observations by Mode and Purpose from 2000-2001 Statewide Travel Survey for City of San Luis Obispo* (Table 5.1 SLO City Travel Model Documentation).

**TABLE 28: VEHICLE OCCUPANCY DETERMINATION**

Mode	Total of all purpose	Home-Based Work	Home-Based Shop	Home-Based Universi	Home-Based Other	Work-Based Other	Other-Based Other	Total	% of Total	Persons
Drove Alone	2,704	724	410	39	662	457	412	2,704	49%	2,704
Shared Ride 2	750	28	132	7	308	41	234	750	14%	1,500
Shared Ride 3	182	4	25	-	101	5	47	182	3%	546
Shared Ride 4	55	-	4	-	33	5	13	55	1%	220
Shared Ride 5	29	-	-	-	13	-	16	29	1%	145
Shared Ride 6	4	-	-	-	3	-	1	4	0%	24
Shared Ride 7	-	-	-	-	-	-	-	-	0%	-
Shared Ride 8	-	-	-	-	-	-	-	-	0%	-
Shared Ride 9	-	-	-	-	-	2	-	2	0%	18
<b>Total Vehicle Trips</b>	<b>3,724</b>	<b>756</b>	<b>571</b>	<b>46</b>	<b>1,120</b>	<b>510</b>	<b>723</b>	<b>3,726</b>	<b>68%</b>	<b>5,157</b>
Auto Passenger	1,312	59	178	8	675	36	356	1,312	24%	
Bus	17	-	2	4	5	-	6	17	0.3%	
Bicycle	77	13	13	9	25	7	10	77	1%	
School Bus	109	-	-	2	82	-	25	109	2%	
Walk	236	23	10	2	104	33	64	236	4%	
<b>Total</b>	<b>5,475</b>	<b>851</b>	<b>774</b>	<b>71</b>	<b>2,011</b>	<b>586</b>	<b>1,184</b>	<b>5,477</b>		<b>Veh. Occ 1.38</b>

As shown in Table 28, the vehicle occupancy rate was calculated as the sum of the product of persons per vehicle (1 - 9) and the number of total number of trips made by each mode type, divided by the total number of vehicle trips, which is 1.38; The Total Persons per Total Vehicle Trips for the City of San Luis Obispo was reported to be 1.38.

## Pass By Trips

A pass-by percentage of 10% in the AM peak and 30% in the PM peak hour are used for the shopping center and applied to the net vehicular trips. Table 29A presents the vehicular trips for the generated vehicular external person trips and the net new vehicular trips for Existing and Near Term conditions. Table 29B presents the vehicular trips for the generated vehicular external person trips and the net new vehicular trips for Cumulative Year 2035 conditions.

As shown in Table 29A for Existing and Near Term conditions, a total of 662 vehicles in the AM peak hour and 899 vehicles in the PM peak hour are projected to be added to the roadway network due to the proposed project. As shown in Table 29B for Cumulative Year 2035 conditions, a total of 648 vehicles in the AM peak hour and 879 vehicles in the PM peak hour are projected to be added to the roadway network due to the proposed project.

**TABLE 29A: EXTERNAL VEHICULAR TRIPS & PASS-BY TRIPS (EXISTING AND NEAR TERM CONDITIONS)**

TOTAL EXTERNAL VEHICULAR PERSON TRIPS BY LAND USE	AM Peak Hour Person Trips			PM Peak Hour Person Trips		
	Total	In	Out	Total	In	Out
RESIDENTIAL	403	95	308	408	248	159
COMMERCIAL	204	125	79	741	381	360
HOTEL	126	83	43	134	64	70
OFFICE	180	162	18	169	20	148
PARKS/RECREATIONAL	0	0	0	0	0	0
AGRICULTURAL CENTER	21	11	11	16	8	8
<b>TOTAL EXTERNAL VEHICULAR-PERSON TRIPS</b>	<b>934</b>	<b>476</b>	<b>458</b>	<b>1,467</b>	<b>722</b>	<b>745</b>
<b>VEHICULAR OCCUPANCY<sup>1</sup></b>			<b>1.38</b>			
<b>Vehicular Trips Conversion by Land Use</b>						
Land Use	AM Peak Hour			PM Peak Hour		
	Total	In	Out	Total	In	Out
Residential	292	69	223	295	180	115
Hotel	91	60	31	97	46	51
Office	130	117	13	123	15	108
Parks/Recreational	0	0	0	0	0	0
Agricultural	16	8	8	12	6	6
Commercial	148	91	57	537	276	261
<i>Pass-by Trips for Shopping Center<sup>2</sup></i>	<i>-15</i>	<i>-9</i>	<i>-6</i>	<i>-161</i>	<i>-83</i>	<i>-78</i>
<b>Net New Commercial Vehicular Trips:</b>	<b>133</b>	<b>82</b>	<b>51</b>	<b>376</b>	<b>193</b>	<b>183</b>
<b>Net New Vehicular Trips:</b>	<b>662</b>	<b>336</b>	<b>326</b>	<b>903</b>	<b>440</b>	<b>463</b>

1. Vehicle Occupancy determined using Citywide Travel Demand Model Documentation, Table 5.1  
 2. Pass-By Trips based on ITE Trip Generation Handbook, 3rd Ed. For Non-Residential Uses; determined to be 10% for AM peak 30% for PM peak, for the Shopping Center

**TABLE 29B: EXTERNAL VEHICULAR TRIPS & PASS-BY TRIPS (CUMULATIVE CONDITIONS)**

TOTAL EXTERNAL VEHICULAR PERSON TRIPS BY LAND USE	AM Peak Hour Person Trips			PM Peak Hour Person Trips		
	Total	In	Out	Total	In	Out
RESIDENTIAL	394	93	301	399	243	156
COMMERCIAL	199	122	77	725	373	352
HOTEL	123	82	42	131	63	68
OFFICE	177	158	18	165	20	145
PARKS/RECREATIONAL	0	0	0	0	0	0
AGRICULTURAL CENTER	21	10	10	15	8	8
<b>TOTAL EXTERNAL VEHICULAR-PERSON TRIPS</b>	<b>914</b>	<b>466</b>	<b>448</b>	<b>1,435</b>	<b>706</b>	<b>729</b>
<b>VEHICULAR OCCUPANCY<sup>1</sup></b>			<b>1.38</b>			
<b>Vehicular Trips Conversion by Land Use</b>						
Land Use	AM Peak Hour			PM Peak Hour		
	Total	In	Out	Total	In	Out
Residential	285	67	218	289	176	113
Hotel	89	59	30	95	45	50
Office	128	115	13	119	14	105
Parks/Recreational	0	0	0	0	0	0
Agricultural	16	8	8	12	6	6
Commercial	145	89	56	525	270	255
<i>Pass-by Trips for Shopping Center<sup>2</sup></i>	<i>-15</i>	<i>-9</i>	<i>-6</i>	<i>-158</i>	<i>-81</i>	<i>-77</i>
<b>Net New Commercial Vehicular Trips:</b>	<b>130</b>	<b>80</b>	<b>50</b>	<b>367</b>	<b>189</b>	<b>178</b>
<b>Net New Vehicular Trips:</b>	<b>648</b>	<b>329</b>	<b>319</b>	<b>882</b>	<b>430</b>	<b>452</b>

1. Vehicle Occupancy determined using Citywide Travel Demand Model Documentation, Table 5.1  
 2. Pass-By Trips based on ITE Trip Generation Handbook, 3rd Ed. For Non-Residential Uses; determined to be 10% for AM peak 30% for PM peak, for the Shopping Center

# Existing Plus Project Conditions

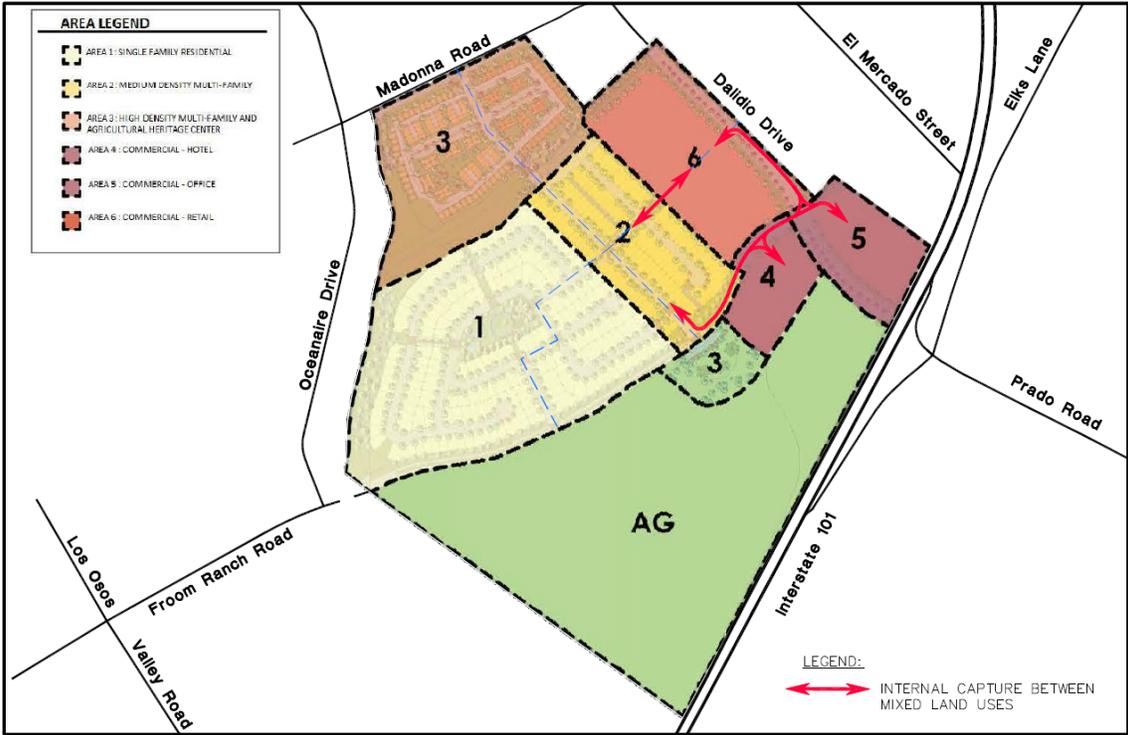
The project generated peak hour trip volumes were added to the Existing volumes to obtain the Existing Plus Project conditions. The LOS has been quantified and compared to all study intersections and roadways analyzed in Existing (Base) conditions. All proposed driveway intersections have been evaluated for LOS operations, potential vehicle queuing and pedestrian and bicycle level of service. Impacts caused by the generation of new vehicle, pedestrian, bike, and auto trips were identified. Improvements to mitigate any impacts have also been identified.

## Trip Distribution

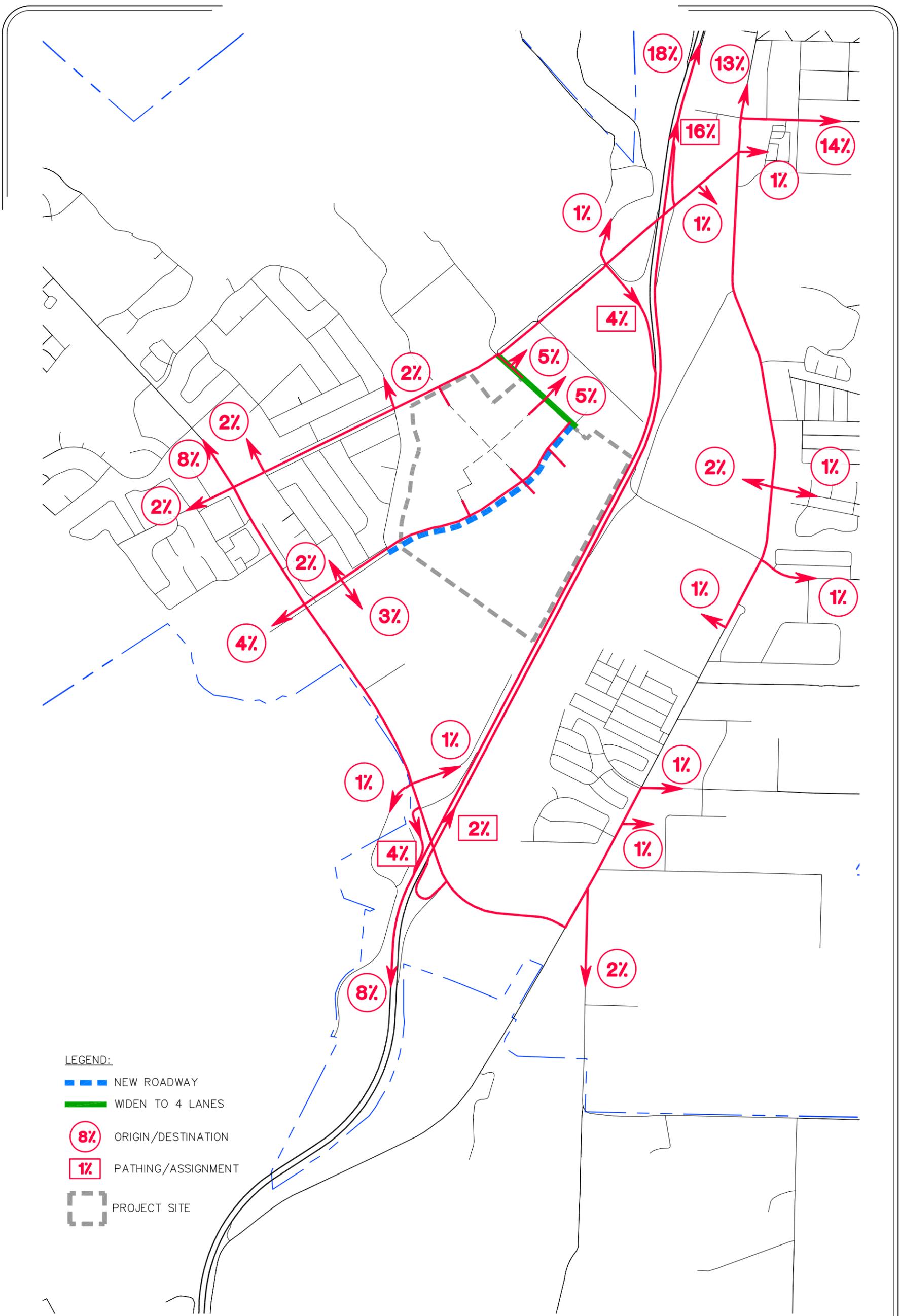
The Existing Plus Project distribution of project-generated pedestrian, bicycle, and vehicle trips has been estimated based on conducting a select zone analysis of the TAZ that represents the proposed project using the City's Travel Demand Model (TDM), and by comparing the existing traffic counts and associated travel patterns with the surrounding land uses. New transit users are assumed to all use the proposed new transit hub on Dalidio Drive. Bicyclists are assumed to use new and existing bike trails, Froom Ranch Way, Dalidio Drive, Prado Road, and Madonna Road. Pedestrians are assumed to use adjacent sidewalks, crosswalks, and shared-use paths enroute to/from the project based on a 1/2 – 3/4 mile walking radius between trip origins and destinations.

Since two of the study intersections are internal to the project site, the internally captured trips between proposed uses have been accounted for along the internal street system. The internal trip mode split is assumed to be 50% vehicular, 25% pedestrian, and 25% bicycle due to the large site plan, network layout and proximity of the uses. Inset A presents the internal capture distribution for the site's internal study intersections.

**Inset A: Internal Capture Distribution**



The inbound and outbound trip distribution for the existing plus project conditions network is shown in Figure 6A and Figure 6B. Figure 7 presents the Existing Plus Project lane geometrics and control. Figure 8 presents the Project Only Peak Hour Traffic Volumes, which is the project trip assignment for the Existing Plus Project and the 2025 Near Term Plus Project conditions.

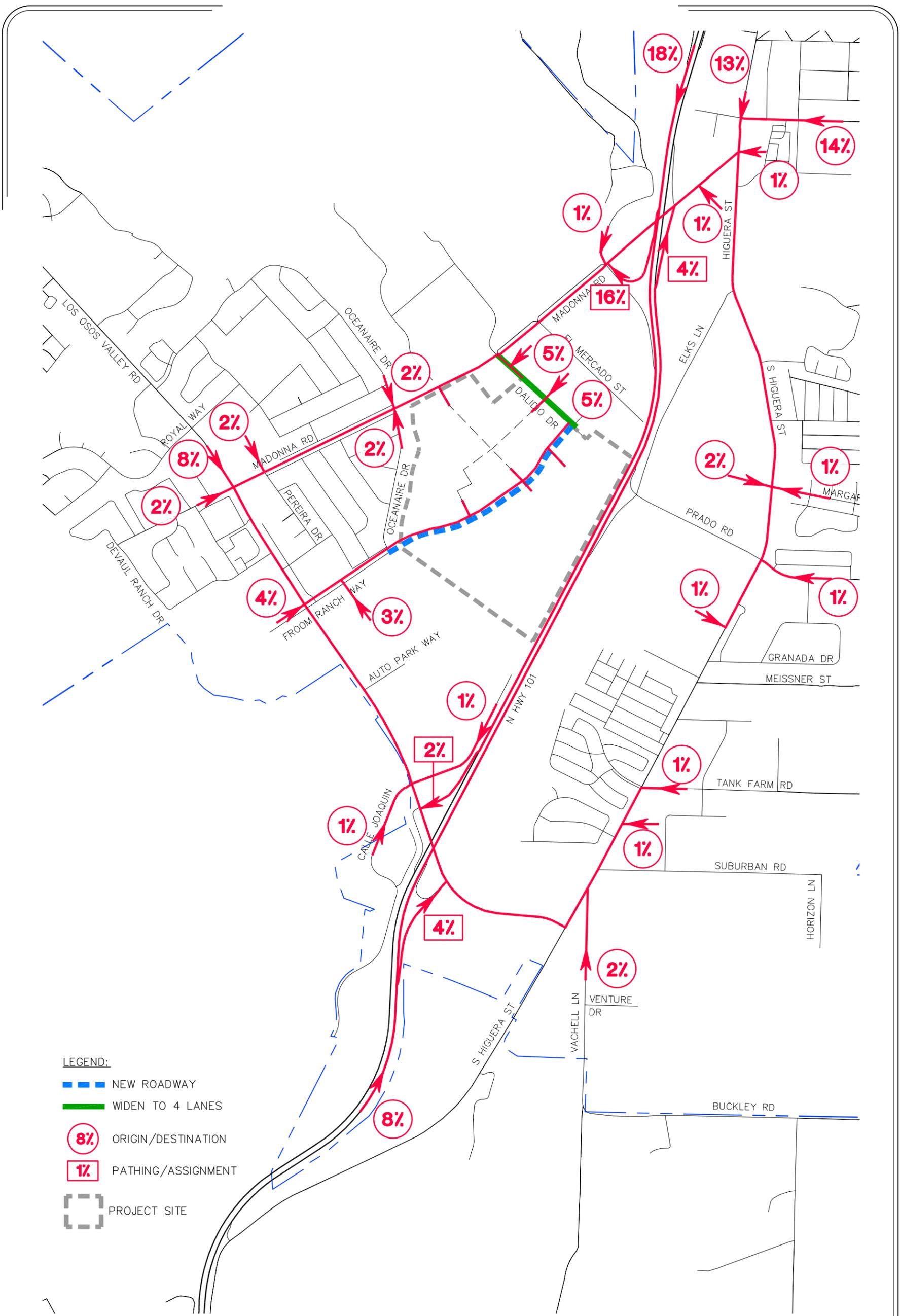


San Luis Ranch Specific Plan Multimodal TIS

Figure 6A

**Existing Plus Project Trip Distribution - Outbound**



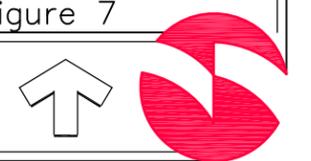
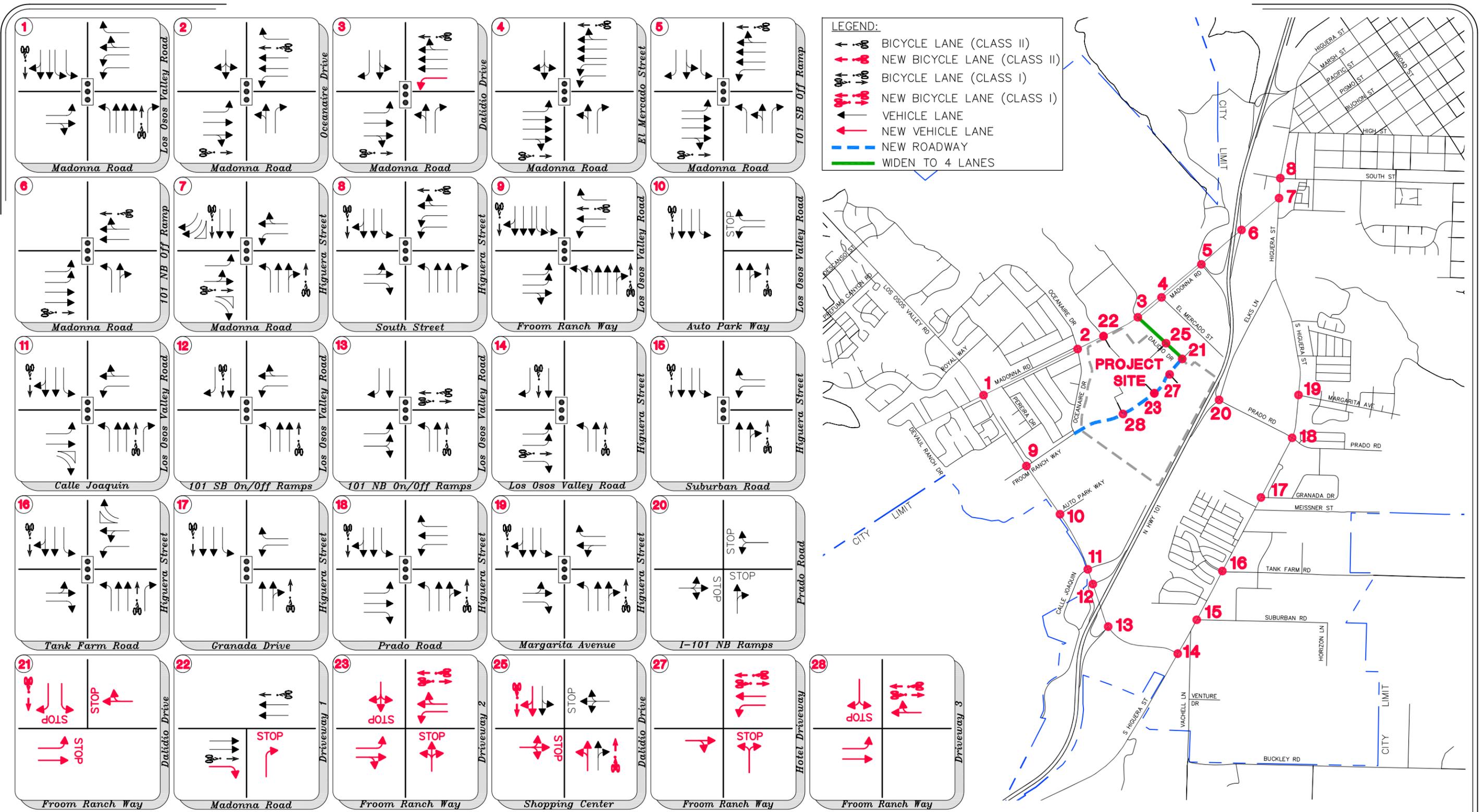


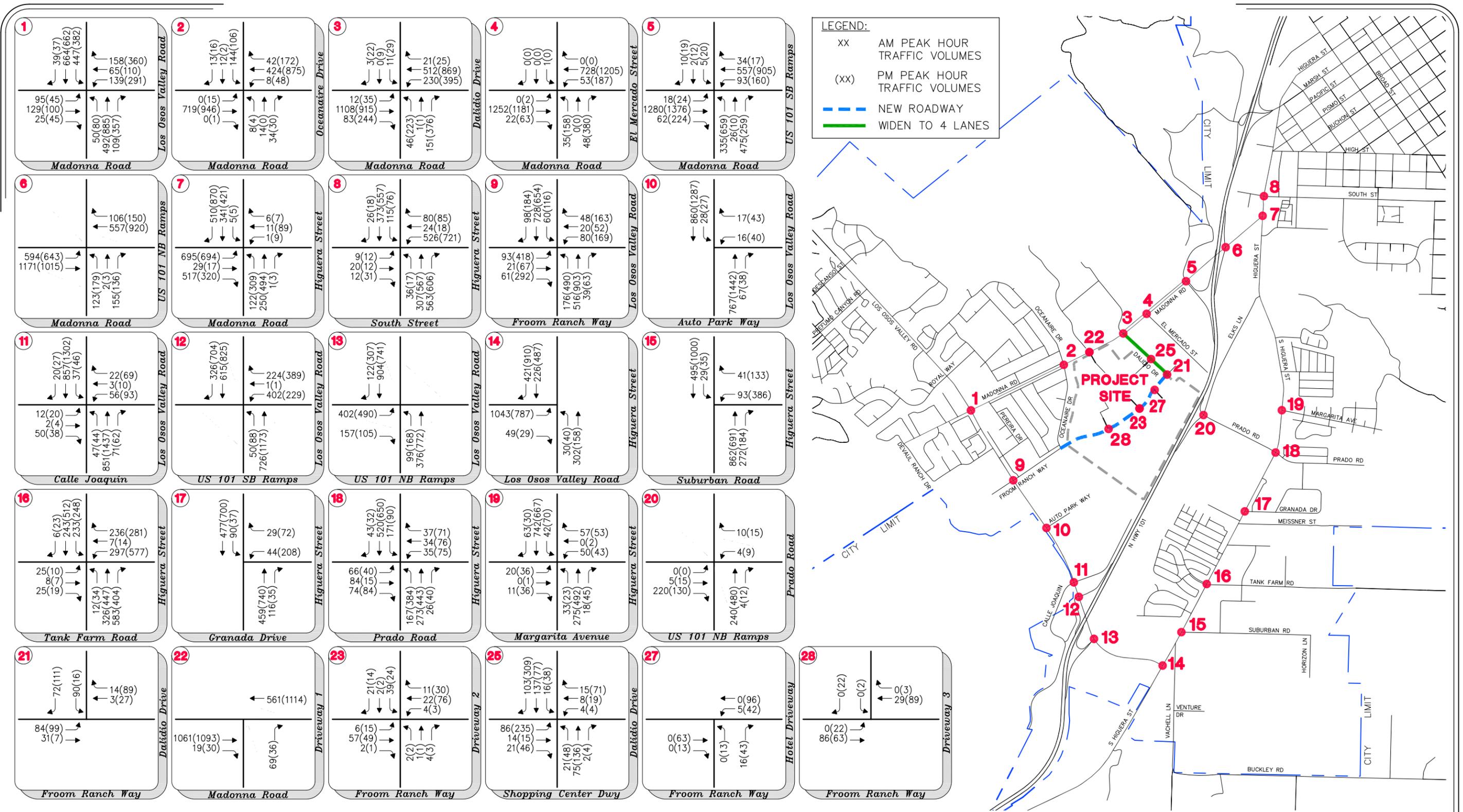
San Luis Ranch Specific Plan Multimodal TIS

Figure 6B

Existing Plus Project Trip Distribution - Inbound







San Luis Ranch Specific Plan Multimodal TIS

Figure 8

# Existing Plus Project Peak Hour Traffic Volumes



## Existing Plus Project Conditions Analysis

The Existing Plus Project conditions multimodal analysis for the study intersections and segments are presented below.

### Existing Plus Project Conditions Intersection Analysis

Table 30 provides a summary of the Existing Plus Project conditions vehicular AM and PM peak hour intersection delay and LOS. Table 31 provides a summary of the Existing Plus Project pedestrian AM and PM peak hour conditions at the study intersections. Table 32 provides a summary of the Existing Plus Project bicycle AM and PM peak hour conditions at the study intersections. Table 33 provides a summary of the Existing conditions queuing analysis.

**TABLE 30:  
EXISTING PLUS PROJECT CONDITIONS INTERSECTION LOS: AUTOMOBILE ANALYSIS**

#	Intersection	Control Type <sup>1,2</sup>	Target LOS	AM Peak Hour			PM Peak Hour		
				v/c <sup>3</sup>	Delay	LOS	v/c <sup>3</sup>	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
<b>3</b>	<b>Madonna Road/Dalidio Drive</b>	<b>Signal</b>	<b>D</b>		34.7	C	<b>4.65</b>	<b>172.9</b>	<b>F</b>
4	Madonna Road/El Mercado	Signal	D		7.3	A		21.8	C
<b>5</b>	<b>Madonna Road/US 101 SB Ramps/Madonna</b>	<b>Signal</b>	<b>C</b>	<b>1.36</b>	<b>48.8</b>	<b>D</b>		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
<b>8</b>	<b>Higuera Street/South Street</b>	<b>Signal</b>	<b>D</b>		21.8	C	<b>1.47</b>	<b>82.8</b>	<b>F</b>
9	Los Osos Valley Road/Froom Ranch Way	Signal	D		22.3	C		40.7	D
<b>10</b>	<b>Los Osos Valley Road/Auto Park Way</b>	<b>TWSC</b>	<b>D</b>		15.5	C	<b>0.39</b>	<b>36.6</b>	<b>E</b>
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
<b>25</b>	<b>Dalidio Drive/SC Project Driveway</b>	<b>TWSC</b>	<b>D</b>		12.8	B	<b>0.85</b>	<b>49.3</b>	<b>E</b>
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; RNDBT = Roundabout
2. LOS = Delay based on worst minor street approach for TWSC intersections, average of all approaches for AWSC, Signal, RNDBT
3. Volume to Capacity Ratio (v/c) is for worst movement delay, for unacceptable LOS only

**TABLE 31:  
EXISTING PLUS PROJECT CONDITIONS INTERSECTION LOS: 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/El 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	-	-	-	-
		WB	C	-	-	-	-
		NB	C	n/a	-	n/a	-
		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	-
		WB	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
		WB	C	n/a	-	n/a	-
		SB	C	n/a	-	n/a	-
15	<b>S. Higuera Street/Suburban Drive</b>	WB	C	2.15	B	2.29	B
		<b>NB</b>	<b>C</b>	2.99	<b>C</b>	<b>3.61</b>	<b>D</b>
		SB	C	2.73	B	2.85	C
		EB	C	2.01	B	2.01	B
16	S. Higuera Street/Tank Farm Road	WB	C	2.92	C	3.04	C
		NB	C	3.34	C	3.28	C
		WB	C	2.65	B	2.78	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	-
		WB	C	2.60	B	2.76	C
		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	-	-	-	-
		WB	C	-	-	-	-
		NB	C	n/a	-	n/a	-
		SB	C	-	-	-	-

*Notes:*

*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.*

*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 32:  
EXISTING PLUS PROJECT CONDITIONS INTERSECTION LOS: 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	-
		SB	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	-	-	-	-
		WB	D	n/a	-	n/a	-
		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
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
		EB	D	n/a	-	n/a	-
13	Los Osos Valley Road/US 101 NB Ramps	NB	D	1.84	A	2.61	B
		SB	D	3.49	C	3.47	C
		EB	D	n/a	-	n/a	-
		WB	D	2.00	A	1.75	A
14	S. Higuera Street/Los Osos Valley Road	NB	D	1.87	A	1.63	A
		SB	D	2.40	B	3.69	D
		WB	D	0.89	A	1.56	A
		NB	D	2.21	B	1.95	A
15	S. Higuera Street/Suburban Drive	SB	D	1.71	A	2.14	B
		EB	D	2.70	B	2.66	B
		WB	D	2.46	B	3.00	C
		NB	D	2.07	B	2.01	B
16	S. Higuera Street/Tank Farm Road	SB	D	1.66	A	1.91	A
		WB	D	2.63	B	2.99	C
		NB	D	1.70	A	1.88	A
		SB	D	1.83	A	1.98	A
17	S. Higuera Street/Granada Drive	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
18	S. Higuera Street/Prado Road	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
19	S. Higuera Street/Margarita Avenue	EB	D	-	-	-	-
		WB	D	n/a	-	n/a	-
		NB	D	-	-	-	-
		SB	D	-	-	-	-
20	Prado Road/US 101 NB Ramps	EB	D	-	-	-	-
		WB	D	n/a	-	n/a	-
		NB	D	-	-	-	-
		SB	D	-	-	-	-

Notes:  
 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 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 33:  
EXISTING PLUS PROJECT CONDITIONS 95<sup>TH</sup> PERCENTILE QUEUING ANALYSIS**

Intersection		Movement	No. Lanes	Total Storage (ft) <sup>1</sup>	95 <sup>th</sup> Percentile Queue/Lane (ft)	
ID	Location				AM Peak Hour	PM Peak Hour
1	Madonna Road/Los	Northbound Right	1	175	92	<b>250</b>
2	Madonna	Westbound Right	1	100	46	<b>165</b>
3	Madonna Road/Dalidio Drive	Eastbound Left	1	115	65	<b>125</b>
		Westbound Left	1	275	224	<b>376</b>
5	Madonna Road/US 101	Eastbound Left	1	100	72	<b>117</b>
6	Madonna Road/US 101	Northbound Left	1	185	141	<b>192</b>
7	Madonna Road/Higuera Street	Eastbound Right	1	150	<b>325</b>	<b>265</b>
		Northbound Left	1	160	121	<b>252</b>
8	Higuera Street/South Street	Westbound Left	2	240	<b>214</b>	<b>389</b>
		Northbound Left	1	60	<b>88</b>	<b>72</b>
		Northbound Right	1	60	<b>149</b>	<b>150</b>
		Southbound Left	1	70	<b>130</b>	<b>107</b>
9	Los Osos Valley	Westbound Right	1	50	<b>56</b>	<b>87</b>
11	Los Osos Valley Road/Calle Joaquin	Northbound Through	2	235	<b>139</b>	135
		Southbound Left	1	180	<b>217</b>	<b>209</b>
		Southbound Through/Right	2	-	<b>945</b>	722
12	Los Osos Valley Road/US 101 SB Ramps	Westbound Left	1	150	<b>242</b>	<b>227</b>
		Northbound Left	1	80	<b>101</b>	<b>117</b>
		Southbound Through	1	240	<b>308</b>	<b>279</b>
		Southbound Right	1	240	220	<b>262</b>
13	Los Osos Valley Road/US 101 NB Ramps	Eastbound Left/Right	1	200	<b>228</b>	<b>246</b>
		Northbound Left	1	140	109	<b>200</b>
		Southbound Through	1	865	<b>1119</b>	811
		Southbound Right	1	60	<b>204</b>	<b>221</b>
14	S. Higuera Street/Los	Eastbound Right	1	90	<b>165</b>	<b>136</b>
16	S. Higuera Street/Tank Farm Road	Northbound Right	1	100	<b>194</b>	<b>123</b>
		Southbound Left	1	165	89	<b>215</b>
18	S. Higuera Street/Prado Road	Northbound Left	1	100	<b>132</b>	<b>170</b>
		Northbound Through/Right	2	-	134	379
		Southbound Left	1	60	<b>117</b>	<b>108</b>
		Southbound Through/Right	2	-	230	237
19	S. Higuera Street/Margarita Avenue	Southbound Left	1	60	51	<b>75</b>

*Not 1. Bolded entries indicate queues exceed available storage*

2. Storage Length of " - " represents a lane which exceeds 900 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.

As shown in Table 30, the intersection of Madonna Road/Dalidio Drive, Madonna Road/US 101 SB Ramps/Madonna Inn, Higuera Street/South Street, and Los Osos Valley Road/Auto Park Way continue to operate at unacceptable conditions during AM and PM peak hours under Existing Plus Project Conditions. The northbound and southbound approaches experience long delays. Queuing analysis results show numerous locations in which the 95<sup>th</sup> percentile queue exceeds the available storage capacity during existing conditions.

Pedestrian and bicycle analysis shows acceptable conditions at the study intersections, except for the intersections of Los Osos Valley Road/US 101 SB Ramps and Los Osos Valley

Road/Froom Ranch Way, respectively, which continue to operate at unacceptable conditions under Existing Plus Project Conditions. Transportation improvements required to maintain acceptable multi-modal conditions are detailed in a subsequent section of this report.

## **Existing Plus Project Conditions Segment Analysis**

Table 34 provides a summary of the Existing Plus Project vehicular AM and PM peak hour conditions for the study segments. Table 35 provides a summary of the Existing Plus Project pedestrian AM and PM peak hour conditions for the study segments. Table 36 provides a summary of the Existing Plus Project bicycle AM and PM peak hour conditions for the study segments. Table 37 provides a summary of the Existing Plus Project transit AM and PM peak hour conditions for the study segments. Table 38 provides a summary of the Existing Plus Project freeway segments analysis for AM and PM peak hour conditions for the study segments along US 101. Transportation improvements required to mitigate project-related impacts are detailed in a subsequent section of this report.

**TABLE 34:  
EXISTING PLUS PROJECT CONDITIONS SEGMENT LEVEL OF SERVICE: AUTOMOBILE ANALYSIS**

AUTO SEGMENT LOS					AM PEAK				PM PEAK				
ID	Roadway	From	To	Direction	LOS Threshold	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
1	<b>Madonna Rd</b>	<b>Oceanaire Dr</b>	<b>LOVR</b>	<b>WB</b>	<b>D</b>	21.0	42.1	50%	D	<b>10.8</b>	<b>42.1</b>	<b>26%</b>	<b>F</b>
	Madonna Rd	LOVR	Oceanaire Dr	EB	D	29.1	42.1	69%	B	31.0	42.1	74%	B
2	Madonna Rd	Dalidio	Oceanaire Dr	WB	D	22.7	40.8	56%	C	24.6	40.7	60%	C
	<b>Madonna Rd</b>	<b>Oceanaire Dr</b>	<b>Dalidio</b>	<b>EB</b>	<b>D</b>	<b>15.5</b>	<b>40.7</b>	<b>38%</b>	<b>E</b>	<b>13.4</b>	<b>40.8</b>	<b>33%</b>	<b>E</b>
3	Madonna Rd	El Mercado	Dalidio Dr	WB	D	17.1	34.8	49%	D	16.0	34.8	46%	D
	<b>Madonna Rd</b>	<b>Dalidio Dr</b>	<b>El Mercado</b>	<b>EB</b>	<b>D</b>	<b>20.9</b>	<b>34.7</b>	<b>60%</b>	<b>C</b>	<b>12.7</b>	<b>34.6</b>	<b>37%</b>	<b>E</b>
4	Madonna Rd	US 101 SB Ramps	El Mercado	WB	D	31.9	37.9	84%	B	20.7	37.3	55%	C
	Madonna Rd	El Mercado	US 101 SB Ramps	EB	D	22.3	37.8	59%	C	17.5	37.7	46%	D
5	Madonna Rd	US 101 NB Ramps	US 101 SB Ramps	WB	D	34.2	37.8	90%	A	33.8	37.8	89%	A
	Madonna Rd	US 101 SB Ramps	US 101 NB Ramps	EB	D	32.5	37.8	86%	A	33.3	37.8	88%	A
6	<b>Madonna Rd</b>	<b>Higuera St</b>	<b>US 101 NB Ramps</b>	<b>WB</b>	<b>D</b>	<b>9.4</b>	<b>37.2</b>	<b>25%</b>	<b>F</b>	<b>11.0</b>	<b>37.2</b>	<b>30%</b>	<b>F</b>
	<b>Madonna Rd</b>	<b>US 101 NB Ramps</b>	<b>Higuera St</b>	<b>EB</b>	<b>D</b>	<b>16.5</b>	<b>37.2</b>	<b>44%</b>	<b>D</b>	<b>12.9</b>	<b>37.2</b>	<b>35%</b>	<b>E</b>
7	S. Higuera St	Madonna Rd	Margarita Ave	SB	D	37.1	44.5	83%	B	35.3	44.5	79%	B
	S. Higuera St	Margarita Ave	Madonna Rd	NB	D	35.6	44.8	79%	B	35.7	44.8	80%	B
8	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	25.4	38.9	65%	C	21.0	38.9	54%	C
9	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	25.5	41.9	61%	C	28.1	41.9	67%	B
10	S. Higuera St	Granada Dr	Tank Farm Road	SB	D	42.6	41.6	102%	A	27.3	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
11	S. Higuera St	Tank Farm Road	Suburban Drive	SB	D	27.3	42.4	65%	C	24.8	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
12	S. Higuera St	Suburban Drive	Los Osos Valley Road	SB	D	20.6	42.1	49%	D	15.8	39.1	40%	D
	S. Higuera St	Los Osos Valley Road	Suburban Drive	NB	D	24.7	42.0	59%	C	21.5	39.0	55%	C
13	Los Osos Valley	Madonna Rd	Froom Ranch Way	SB	D	23.3	41.9	56%	C	17.2	41.8	41%	D
	<b>Los Osos Valley</b>	<b>Froom Ranch Way</b>	<b>Madonna Rd</b>	<b>NB</b>	<b>D</b>	<b>20.3</b>	<b>41.8</b>	<b>49%</b>	<b>D</b>	<b>16.7</b>	<b>41.8</b>	<b>40%</b>	<b>E</b>
14	Los Osos Valley	Froom Ranch Way	Calle Joaquin	SB	D	34.6	43.0	81%	B	30.9	43.0	72%	B
	Los Osos Valley	Calle Joaquin	Froom Ranch Way	NB	D	29.2	43.2	68%	B	22.4	43.2	52%	C
15	<b>Los Osos Valley</b>	<b>Calle Joaquin</b>	<b>US 101 SB Ramps</b>	<b>SB</b>	<b>D</b>	<b>13.2</b>	<b>32.1</b>	<b>41%</b>	<b>D</b>	<b>8.3</b>	<b>32.1</b>	<b>26%</b>	<b>F</b>
	Los Osos Valley	US 101 SB Ramps	Calle Joaquin	NB	D	16.9	31.1	54%	C	15.2	31.1	49%	D
16	<b>Los Osos Valley</b>	<b>US 101 SB Ramps</b>	<b>US 101 NB Ramps</b>	<b>SB</b>	<b>D</b>	<b>11.0</b>	<b>37.7</b>	<b>29%</b>	<b>F</b>	<b>12.9</b>	<b>37.7</b>	<b>34%</b>	<b>E</b>
	Los Osos Valley	US 101 NB Ramps	US 101 SB Ramps	NB	D	32.6	37.4	87%	A	31.8	37.4	85%	B
17	Los Osos Valley	US 101 NB Ramps	S. Higuera St	EB	D	20.6	39.2	53%	C	17.7	39.2	45%	D
	Los Osos Valley	S. Higuera St	US 101 NB Ramps	WB	D	29.1	39.2	74%	B	25.5	39.2	65%	C
18	Prado Rd	S. Higuera St	US 101 NB Ramps	WB	D	28.0	38.3	73%	B	24.7	38.3	64%	C
	Prado Rd	US 101 NB Ramps	S. Higuera St	EB	D	23.7	38.3	62%	C	21.2	38.3	55%	C
19	<b>Froom Ranch Way</b>	<b>Dick's Sporting Goods Dwy</b>	<b>Los Osos Valley</b>	<b>WB</b>	<b>D</b>	<b>17.7</b>	<b>38.0</b>	<b>46%</b>	<b>D</b>	<b>12.8</b>	<b>38.0</b>	<b>34%</b>	<b>E</b>
	Froom Ranch Way	Los Osos Valley	Dick's Sporting Goods Dwy	EB	D	34.7	37.4	93%	A	34.5	37.4	92%	A
20	Dalidio Dr	Madonna Rd	Froom Ranch Way	SB	D	29.3	39.3	74%	B	29.5	39.3	75%	B
	<b>Dalidio Dr</b>	<b>Froom Ranch Way</b>	<b>Madonna Rd</b>	<b>NB</b>	<b>D</b>	<b>6.3</b>	<b>39.4</b>	<b>16%</b>	<b>F</b>	<b>1.6</b>	<b>39.4</b>	<b>4%</b>	<b>F</b>
21	Froom Ranch Way	Dalidio	Dick's Sporting Goods Dwy	WB	D	40.0	40.6	98%	A	39.9	40.6	98%	A
	Froom Ranch Way	Dick's Sporting Goods Dwy	Dalidio	EB	D	34.1	40.8	84%	B	33.9	40.8	83%	B

**TABLE 35:  
EXISTING PLUS PROJECT CONDITIONS SEGMENT LEVEL OF SERVICE: PEDESTRIAN ANALYSIS**

PEDESTRIAN SEGMENT LOS						AM PEAK		PM PEAK		
ID	Roadway	From	To	Direction	LOS Threshold	Average Ped. Space (ft <sup>2</sup> /p)	SEGMENT SCORE	LOS	SEGMENT SCORE	LOS
1	Madonna Rd	Oceanaire Dr	LOVR	WB	C	2648	3.56	D	3.84	D
	Madonna Rd	LOVR	Oceanaire Dr	EB	C	17482	3.76	D	3.90	D
2	Madonna Rd	Dalidio	Oceanaire Dr	WB	C	12000	3.60	D	3.92	D
	Madonna Rd	Oceanaire Dr	Dalidio	EB	C	5833	3.87	D	3.97	D
3	Madonna Rd	El Mercado	Dalidio Dr	WB	C	37450	3.59	D	3.92	D
	Madonna Rd	Dalidio Dr	El Mercado	EB	C	52920	3.70	D	3.86	D
4	Madonna Rd	US 101 SB Ramps	El Mercado	WB	C	26250	3.66	D	3.84	D
	Madonna Rd	El Mercado	US 101 SB Ramps	EB	C	27915	3.93	D	4.17	D
5	Madonna Rd	US 101 NB Ramps	US 101 SB Ramps	WB	C	No Peds	3.73	D	3.90	F
	Madonna Rd	US 101 SB Ramps	US 101 NB Ramps	EB	C	No Peds	4.15	D	4.10	D
6	Madonna Rd	Higuera St	US 101 NB Ramps	WB	C	25200	3.65	D	3.81	D
	Madonna Rd	US 101 NB Ramps	Higuera St	EB	C	19838	3.90	D	3.79	D
7	S. Higuera St	Madonna Rd	Margarita Ave	SB	C	23247	3.82	D	3.80	D
	S. Higuera St	Margarita Ave	Madonna Rd	NB	C	5398	3.61	D	3.80	D
8	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	3.45	C	3.58	D
9	S. Higuera St	Prado Rd	Granada Dr	SB	C	9292	3.55	D	3.66	D
	S. Higuera St	Granada Dr	Prado Rd	NB	C	8400	3.16	C	3.38	C
10	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
11	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
12	S. Higuera St	Suburban Drive	Los Osos Valley Road	SB	C	39312	3.57	D	3.85	D
	S. Higuera St	Los Osos Valley Road	Suburban Drive	NB	C	43533	3.85	D	3.89	D
13	Los Osos Valley	Madonna Rd	Froom Ranch Way	SB	C	3853	3.81	D	3.88	D
	Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	C	0	3.70	F	4.05	F
14	Los Osos Valley	Froom Ranch Way	Calle Joaquin	SB	C	27300	3.77	D	4.01	D
	Los Osos Valley	Calle Joaquin	Froom Ranch Way	NB	C	22050	3.68	D	4.00	D
15	Los Osos Valley	Calle Joaquin	US 101 SB Ramps	SB	C	No Peds	3.61	D	3.70	D
	Los Osos Valley	US 101 SB Ramps	Calle Joaquin	NB	C	63000	3.63	D	3.93	D
16	Los Osos Valley	US 101 SB Ramps	US 101 NB Ramps	SB	C	No Peds	4.17	D	4.22	D
	Los Osos Valley	US 101 NB Ramps	US 101 SB Ramps	NB	C	53928	3.63	D	3.13	C
17	Los Osos Valley	US 101 NB Ramps	S. Higuera St	EB	C	46575	4.23	D	4.02	D
	Los Osos Valley	S. Higuera St	US 101 NB Ramps	WB	C	1680	3.68	D	4.09	D
18	Prado Rd	S. Higuera St	US 101 NB Ramps	WB	C	25200	2.90	C	2.90	C
	Prado Rd	US 101 NB Ramps	S. Higuera St	EB	C	3019	3.42	C	3.32	C
19	Froom Ranch Way	Dick's Sporting Goods Dwy	Los Osos Valley	WB	C	4500	3.03	C	3.28	C
	Froom Ranch Way	Los Osos Valley	Dick's Sporting Goods Dwy	EB	C	7350	1.76	A	1.79	A
20	Dalidio Dr	Madonna Rd	Froom Ranch Way	SB	C	3500	1.64	A	1.61	A
	Dalidio Dr	Froom Ranch Way	Madonna Rd	NB	C	21000	3.14	C	3.40	C
21	Froom Ranch Way	Dalidio	Dick's Sporting Goods Dwy	WB	C	2520	1.55	A	1.57	A
	Froom Ranch Way	Dick's Sporting Goods Dwy	Dalidio	EB	C	No Peds	1.64	A	1.64	A

Notes:

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.

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.

**TABLE 36:  
EXISTING PLUS PROJECT CONDITIONS SEGMENT LEVEL OF SERVICE: BICYCLE ANALYSIS**

BICYCLE SEGMENT LOS					AM PEAK		PM PEAK		
ID	Roadway	From	To	Direction	LOS Threshold	SEGMENT SCORE	LOS	SEGMENT SCORE	LOS
1	Madonna Rd	Oceanaire Dr	LOVR	WB	D	3.61	D	3.98	D
	Madonna Rd	LOVR	Oceanaire Dr	EB	D	3.74	D	3.80	D
2	Madonna Rd	Dalidio	Oceanaire Dr	WB	D	3.13	C	3.22	C
	Madonna Rd	Oceanaire Dr	Dalidio	EB	D	3.58	D	3.44	C
3	Madonna Rd	El Mercado	Dalidio Dr	WB	D	3.30	C	3.22	C
	Madonna Rd	Dalidio Dr	El Mercado	EB	D	3.51	D	3.41	C
4	<b>Madonna Rd</b>	<b>US 101 SB Ramps</b>	<b>El Mercado</b>	<b>WB</b>	<b>D</b>	3.97	D	<b>4.36</b>	<b>E</b>
	Madonna Rd	El Mercado	US 101 SB Ramps	EB	D	3.64	D	3.66	D
5	Madonna Rd	US 101 NB Ramps	US 101 SB Ramps	WB	D	3.32	C	3.37	C
	Madonna Rd	US 101 SB Ramps	US 101 NB Ramps	EB	D	3.42	C	3.36	C
6	Madonna Rd	Higuera St	US 101 NB Ramps	WB	D	3.50	D	3.56	D
	Madonna Rd	US 101 NB Ramps	Higuera St	EB	D	3.73	D	3.59	D
7	S. Higuera St	Madonna Rd	Margarita Ave	SB	D	3.89	D	3.80	D
	S. Higuera St	Margarita Ave	Madonna Rd	NB	D	4.06	D	4.15	D
8	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	3.87	D
9	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	3.50	C
10	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
11	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
12	S. Higuera St	Suburban Drive	Los Osos Valley Road	SB	D	3.24	C	3.60	D
	S. Higuera St	Los Osos Valley Road	Suburban Drive	NB	D	3.90	D	3.86	D
13	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	3.38	C	3.46	C
14	Los Osos Valley	Froom Ranch Way	Calle Joaquin	SB	D	3.56	D	3.59	D
	Los Osos Valley	Calle Joaquin	Froom Ranch Way	NB	D	3.81	D	3.89	D
15	Los Osos Valley	Calle Joaquin	US 101 SB Ramps	SB	D	3.34	C	3.54	D
	Los Osos Valley	US 101 SB Ramps	Calle Joaquin	NB	D	3.54	D	3.60	D
16	Los Osos Valley	US 101 SB Ramps	US 101 NB Ramps	SB	D	3.73	D	3.73	D
	Los Osos Valley	US 101 NB Ramps	US 101 SB Ramps	NB	D	3.40	C	3.51	D
17	Los Osos Valley	US 101 NB Ramps	S. Higuera St	EB	D	3.45	C	3.41	C
	Los Osos Valley	S. Higuera St	US 101 NB Ramps	WB	D	3.29	C	3.43	C
18	Prado Rd	S. Higuera St	US 101 NB Ramps	WB	D	3.44	C	3.44	C
	Prado Rd	US 101 NB Ramps	S. Higuera St	EB	D	3.94	D	3.68	D
19	Froom Ranch Way	Dick's Sporting Goods Dwy	Los Osos Valley	WB	D	3.08	C	3.55	D
	Froom Ranch Way	Los Osos Valley	Dick's Sporting Goods Dw	EB	D	3.24	C	2.49	B
20	Dalidio Dr	Madonna Rd	Froom Ranch Way	SB	D	3.35	C	3.05	C
	Dalidio Dr	Froom Ranch Way	Madonna Rd	NB	D	3.32	C	3.43	C
21	Froom Ranch Way	Dalidio	Dick's Sporting Goods Dw	WB	D	2.50	B	2.92	C
	Froom Ranch Way	Dick's Sporting Goods Dwy	Dalidio	EB	D	3.42	C	3.41	C

Notes:

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 incorporated into the methodology for evaluating bicycle segment performance.

**TABLE 37:  
EXISTING PLUS PROJECT CONDITIONS SEGMENT LEVEL OF SERVICE: TRANSIT ANALYSIS**

TRANSIT 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	4.30	E
	Madonna Rd	LOVR	Oceanaire Dr	EB	D	Route 5	4.30	E	3.98	D
2	Madonna Rd	Dalidio	Oceanaire Dr	WB	D	Route 4	4.46	E	4.57	E
	Madonna Rd	Oceanaire Dr	Dalidio	EB	D	Route 5	4.74	E	4.54	E
3	Madonna Rd	El Mercado	Dalidio Dr	WB	D	Route 4	4.35	E	4.51	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	4.36	E	4.59	E
	Madonna Rd	El Mercado	US 101 SB Ramps	EB	D	Route 5	4.67	E	4.48	E
5	Madonna Rd	US 101 NB Ramps	US 101 SB Ramps	WB	D	Route 4	3.97	D	4.09	D
	Madonna Rd	US 101 SB Ramps	US 101 NB Ramps	EB	D	Route 5	4.35	E	4.04	D
6	Madonna Rd	Higuera St	US 101 NB Ramps	WB	D	Route 4	4.33	E	4.44	E
	Madonna Rd	US 101 NB Ramps	Higuera St	EB	D	Route 5	4.55	E	4.29	E
7	S. Higuera St	Madonna Rd	Margarita Ave	SB	D	Route 2	Not Analyzed	N/A	3.51	D
	S. Higuera St	Margarita Ave	Madonna Rd	NB	D	Route 2	3.65	D	3.69	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	4.23	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	3.83	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	4.50	E	4.53	E
	Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	D	Route 4	4.22	D	4.38	E
13	Los Osos Valley	Madonna Rd	Froom Ranch Way	SB	D	Route 5	4.61	E	4.38	E
	Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	D	Route 5	4.36	E	4.21	D
14	Los Osos Valley	Froom Ranch Way	Calle Joaquin	SB	D	Route 4	4.22	D	4.35	E
	Los Osos Valley	Calle Joaquin	Froom Ranch Way	NB	D	Route 4	4.24	D	4.49	E
14	Los Osos Valley	Froom Ranch Way	Calle Joaquin	SB	D	Route 5	4.37	E	4.16	D
	Los Osos Valley	Calle Joaquin	Froom Ranch Way	NB	D	Route 5	4.37	E	4.33	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	US 101 NB Ramps	S. Higuera St	EB	D		Not Analyzed	N/A	Not Analyzed	N/A
	Los Osos Valley	S. Higuera St	US 101 NB Ramps	WB	D		Not Analyzed	N/A	Not Analyzed	N/A
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 Dwy	Los Osos Valley	WB	D		Not Analyzed	N/A	Not Analyzed	N/A
	Froom Ranch Way	Los Osos Valley	Dick's Sporting Goods Dwy	EB	D		Not Analyzed	N/A	Not Analyzed	N/A
20	Dalidio Dr	Madonna Rd	Froom Ranch Way	SB	D	Route 4	4.05	D	4.08	D
	Dalidio Dr	Froom Ranch Way	Madonna Rd	NB	D	Route 5	4.20	D	4.03	D
21	Froom Ranch Way	Dalidio	Dick's Sporting Goods Dwy	WB	D		Not Analyzed	N/A	Not Analyzed	N/A
	Froom Ranch Way	Dick's Sporting Goods Dwy	Dalidio	EB	D		Not Analyzed	N/A	Not Analyzed	N/A

Notes:

Segment 20 transit is southbound for routes 4 and 5

Route 2 Serves the Prado Day Center stop during the AM peak hour, and the DMV/Margarita stop during the PM Peak Hour

**TABLE 38:  
EXISTING PLUS PROJECT 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
<b><i>US 101 at Los Osos Valley Road</i></b>									
US 101 NB South of Los Osos Valley Road	C	Freeway	2	2,801	24.8	C	2,284	20.0	C
US 101 SB South of Los Osos Valley Road	C	Freeway	2	1,432	12.6	B	<b>3,082</b>	<b>27.8</b>	<b>D</b>
<b><i>US 101 at Prado Road</i></b>									
US 101 NB South of Prado Road	C	Freeway	2	2,463	21.6	C	2,164	19.0	C
<b><i>US 101 at Madonna Road</i></b>									
US 101 NB South of Madonna Road	C	Freeway	2	2,488	21.8	C	2,524	22.2	C
US 101 SB South of Madonna Road	C	Freeway	2	1,682	14.8	B	2,908	25.9	C

As shown in the Existing Plus Project Conditions segment analysis tables, most of the pedestrian and transit facilities are projected to operate at unacceptable levels of service as well as several segments for automobile mode and only one segment for the bicycle mode.

## Existing Plus Project Impacts & Mitigation Measures

This section presents the project-related impacts and mitigation measures at the study intersections and segments, developed based on the findings from the analyses presented in the prior sections of this report. Improvements are identified only where this is a significant project impact, based on the significance thresholds identified previously.

Table 39 presents the intersections projected to operate at unacceptable levels of service for vehicle, pedestrian, bicycle, and transit travel modes under *Existing Plus Project* conditions, and whether the project has a significant impact based on the City's thresholds. Tables 40A and 40B present the roadway segments projected to operate at unacceptable levels of service for vehicle, pedestrian, bicycle, and transit travel modes under Existing Plus Project AM and PM peak hour conditions, respectively, and whether the project has a significant impact based on the City's thresholds. Table 40C presents the project impacts for the queuing analysis at the study intersections.

**TABLE 39:  
EXISTING PLUS PROJECT SIGNIFICANT INTERSECTION IMPACTS**

<b>Intersection #</b>	<b>3</b>		<b>5</b>		<b>8</b>		<b>9</b>		<b>10</b>		<b>15</b>		<b>25</b>	
<b>Name</b>	Madonna Road/ Dalidio Drive		Madonna Road/ US 101 SB Ramps		Higuera Street/ South Street		Los Osos Valley Road/ Froom Ranch Way		Los Osos Valley Road/ Auto Park Way		S. Higuera Street/ Suburban Drive		Dalidio Drive/ SC Project Driveway	
<b>Mode</b>	<b>AUTO</b>		<b>AUTO</b>		<b>AUTO</b>		<b>BIKE</b>		<b>AUTO</b>		<b>PED</b>		<b>AUTO</b>	
<b>SCENARIO</b>	<b>v/c</b>	<b>LOS</b>	<b>v/c</b>	<b>LOS</b>	<b>v/c</b>	<b>LOS</b>	<b>Score</b>	<b>LOS</b>	<b>v/c</b>	<b>LOS</b>	<b>v/c</b>	<b>LOS</b>	<b>v/c</b>	<b>LOS</b>
<i>AM PEAK HOUR</i>														
Existing	-	A	1.31	D	-	C	3.38	C	-	B	2.98	C	-	A
Existing Plus Project	-	C	1.36	D	-	C	3.40	C	-	C	2.99	C	-	B
Significant Impact?	No		<b>Yes</b>		No		No		No		No		No	
<i>PM PEAK HOUR</i>														
Existing	2.11	E	-	C	1.31	E	4.39	E	-	D	3.60	D	-	A
Existing Plus Project	4.65	F	-	C	1.47	F	4.42	E	0.39	E	3.61	D	0.85	E
Significant Impact?	<b>Yes</b>		No		<b>Yes</b>		No		<b>Yes</b>		No		<b>Yes</b>	

Note: V/C Ratio is based on worst movement

**TABLE 40A: EXISTING PLUS PROJECT SIGNIFICANT ROADWAY IMPACTS**

Existing Plus Project Multimodal Segment LOS				Auto Mode					Pedestrian Mode					Bicycle Mode					Transit Mode									
AM PEAK HOUR				Existing		Existing Plus Project			Existing		Existing Plus Project			Existing		Existing Plus Project			Existing		Existing Plus Project							
ID	Roadway	From	To	Direction	Auto LOS Threshold	Travel Speed (mph)	LOS	Travel Speed (mph)	LOS	Significant Impact?	Ped LOS Threshold	Segment Score	LOS	Segment Score	LOS	Significant Impact?	Bike LOS Threshold	Segment Score	LOS	Segment Score	LOS	Significant Impact?	Transit LOS Threshold	Segment Score	LOS	Segment Score	LOS	Significant Impact?
2	Madonna Rd	Oceanaire Dr	Dalidio	EB	D	27.1	C	15.5	E	Yes	C	3.80	D	3.87	D	No	D	3.57	D	3.58	D	No	D	4.70	E	4.74	E	No
3	Madonna Rd	El Mercado	Dalidio Dr	WB	D	21.2	C	17.1	D	No	C	3.52	D	3.59	D	No	D	3.27	C	3.30	C	No	D	4.24	D	4.35	E	Yes

Note: Segment 20 transit is southbound for routes 4 and 5; Segment 21 pedestrian and bicycle service will be further evaluated using off-street facilities methodologies.

Existing Plus Project Multimodal Segment LOS				Auto Mode					Pedestrian Mode					Bicycle Mode					Transit Mode									
PM PEAK HOUR				Existing		Existing Plus Project			Existing		Existing Plus Project			Existing		Existing Plus Project			Existing		Existing Plus Project							
ID	Roadway	From	To	Direction	Auto LOS Threshold	Travel Speed (mph)	LOS	Travel Speed (mph)	LOS	Significant Impact?	Ped LOS Threshold	Segment Score	LOS	Segment Score	LOS	Significant Impact?	Bike LOS Threshold	Segment Score	LOS	Segment Score	LOS	Significant Impact?	Transit LOS Threshold	Segment Score	LOS	Segment Score	LOS	Significant Impact?
1	Madonna Rd	Oceanaire Dr	LOVR	WB	D	12.7	E	10.7	F	Yes	C	3.79	D	3.82	D	No	D	3.93	D	3.97	D	No	D	4.28	E	4.32	E	No
2	Madonna Rd	Oceanaire Dr	Dalidio	EB	D	18.9	D	13.4	E	Yes	C	3.89	D	3.97	D	No	D	3.43	C	3.44	C	No	D	4.51	E	4.54	E	No
6	Madonna Rd	US 101 NB Ramps	Higuera St	EB	D	13.3	E	12.9	E	No	C	3.72	D	3.79	D	No	D	3.53	D	3.59	D	No	D	4.18	D	4.29	E	Yes
13	Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	D	16.9	D	16.7	E	Yes	C	4.04	F	4.05	F	No	D	3.46	C	3.46	C	No	D	4.38	E	4.38	E	No

Note: Segment 20 transit is southbound for routes 4 and 5; Segment 21 pedestrian and bicycle service will be further evaluated using off-street facilities methodologies.

**TABLE 40C: EXISTING PLUS PROJECT SIGNIFICANT QUEUING IMPACTS**

					Existing		EXPP Conditions	
Intersection		Movement	No. Lanes	Total Storage (ft) <sup>1</sup>	95 <sup>th</sup> Percentile Queue/Lane (ft)		95 <sup>th</sup> Percentile Queue/Lane (ft)	
ID	Location				AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
1	Madonna Road/Los Osos Valley Road	Northbound Right	1	175	96	<b>240</b>	92	<b>250</b>
2	Madonna Road/Oceanaire Drive	Westbound Right	1	100	39	95	46	<b>165</b>
3	Madonna Road/Dalidio Drive	Westbound Left	1	275	42	134	224	<b>376</b>
5	Madonna Road/US 101 SB Ramps/Madonna Inn	Eastbound Left	1	100	92	94	72	<b>117</b>
6	Madonna Road/US 101 NB Ramps	Northbound Left	1	185	144	178	141	<b>192</b>
7	Madonna Road/Higuera Street	Eastbound Right	1	150	<b>232</b>	146	<b>325</b>	<b>265</b>
		Northbound Left	1	160	107	<b>251</b>	121	<b>252</b>
8	Higuera Street/South Street	Westbound Left	2	240	219	<b>310</b>	214	<b>389</b>
		Northbound Left	1	60	<b>87</b>	<b>74</b>	<b>88</b>	<b>72</b>
		Northbound Right	1	60	<b>142</b>	<b>136</b>	<b>149</b>	<b>150</b>
		Southbound Left	1	70	<b>109</b>	<b>97</b>	<b>130</b>	<b>107</b>
9	Los Osos Valley Road/Froom Ranch Way	Eastbound Left	2*	250	108	<b>309</b>	103	<b>336</b>
		Westbound Right	1	50	41	<b>82</b>	<b>56</b>	<b>87</b>
11	Los Osos Valley Road/Calle Joaquin	Southbound Left	1	180	108	170	<b>217</b>	<b>209</b>
12	Los Osos Valley Road/US 101 SB Ramps	Westbound Left	1	150	<b>241</b>	<b>224</b>	<b>242</b>	<b>227</b>
		Southbound Through	2	240	<b>297</b>	<b>289</b>	<b>308</b>	<b>279</b>
		Southbound Right	1	240	177	238	220	<b>262</b>
13	Los Osos Valley Road/US 101 NB Ramps	Southbound Through	1	940	<b>1042</b>	822	<b>1119</b>	811
		Southbound Right	1	135	<b>186</b>	<b>219</b>	<b>204</b>	<b>221</b>
14	S. Higuera Street/Los Osos Valley Road	Eastbound Right	1	90	<b>164</b>	<b>122</b>	<b>165</b>	<b>136</b>
16	S. Higuera Street/Tank Farm Road	Northbound Right	1	100	<b>137</b>	<b>134</b>	<b>146</b>	<b>123</b>
18	S. Higuera Street/Prado Road	Northbound Left	1	100	<b>131</b>	<b>176</b>	<b>132</b>	<b>170</b>
		Southbound Left	1	60	<b>116</b>	<b>109</b>	<b>117</b>	<b>108</b>
19	S. Higuera Street/Margarita Avenue	Southbound Left	1	60	58	<b>67</b>	51	<b>75</b>

Notes: 1. Bolded entries indicate queues exceed available storage

2. Storage Length of " - " represents a lane which exceeds 900 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.

**Red Cells represent New Impacts from Project-added traffic**

**Yellow Cells represent Existing queues exceeding storage that are increased by project-added traffic.**

## Existing Plus Project Mitigation Measures

This section presents project impacts and potential mitigation measures at the study locations. The feasibility of these improvements is not known beyond a preliminary planning level. Where significant impacts to intersections and for roadway segments have been identified, mitigation measures have been proposed to reduce the project impact to less than significant. The mitigation measures have been summarized in Table 41, identifying which mitigation measures are projected to reduce the project's impact to less than significant for the corresponding intersection or segment, for each mode. Additionally, it is important to note that the optimization of throughput to mitigate segment impacts may create queuing impacts for opposing movements.

**TABLE 41: EXISTING PLUS PROJECT MITIGATION MEASURES SUMMARY**

Existing Plus Project Significant Impact Location	Mode	Impact	Mitigation Measure
Intersection #1 Madonna Rd/Los Osos Valley Rd	Auto (Queue)	Addition of project traffic would exacerbate the existing northbound right queue in the PM peak hour.	Construction of the Prado Overcrossing would improve this condition to an acceptable level.
Intersection #2 Madonna Rd/Oceanaire Dr	Auto (Queue)	Addition of project traffic would result in a new impact to the westbound right queue in the PM peak hour.	Construction of the Prado Overcrossing would improve this condition to an acceptable level.
Intersection #3 Madonna Rd/Dalidio Dr	Auto	This intersection currently operates at unacceptable LOS E in the PM peak hour. The addition of Project traffic exacerbates this unacceptable condition by increasing delay and v/c ratio.	<ul style="list-style-type: none"> <li>• Install a second westbound left turn pocket with 310' storage on Madonna Road and extend current pocket to 310'; this may require additional right-of-way, potentially impacting private or public land.</li> <li>• Install dedicated eastbound right turn pocket on Madonna Road.</li> <li>• Provide northbound right turn overlap phase, and prohibit westbound U-turns.</li> <li>• Provide a split phase for northbound and southbound.</li> <li>• Optimize traffic signal cycle lengths.</li> </ul>

**TABLE 41: EXISTING PLUS PROJECT MITIGATION MEASURES SUMMARY**

Existing Plus Project Significant Impact Location	Mode	Impact	Mitigation Measure
Intersection #5 Madonna Rd/US 101 SB Ramps/Madonna Inn	Auto	This intersection currently operates at unacceptable LOS D in the AM peak hour. The addition of Project traffic exacerbates this unacceptable condition by increasing delay and v/c ratio.	Construction of the Prado Overcrossing would improve this condition to an acceptable level.
Intersection #5 Madonna Rd/US 101 SB Ramps/Madonna Inn	Auto (Queue)	Addition of project traffic would result in a new impact to the eastbound left queue in the PM peak hour.	Extension of the eastbound left turn pocket to 150' would improve this condition to an acceptable level. This pocket is back-to-back with another turn pocket that would be shortened to accommodate the extension with no residual impact.
Intersection #6 Madonna Rd/US 101 NB Ramps	Auto (Queue)	Addition of project traffic would result in a new impact to the northbound left queue in the PM peak hour.	Construction of the Prado Overcrossing would improve this condition to an acceptable level.
Intersection #7 Madonna Rd/S. Higuera St	Auto (Queue)	Addition of project traffic would: •Exacerbate the existing eastbound right queues in the AM and result in a new impact in the PM peak hour. •Exacerbate the northbound left queue in the PM peak hour.	Construction of the Prado Overcrossing with Northbound Ramps would improve this condition to an acceptable level.
Intersection #8 Higuera St/South St	Auto	This intersection currently operates at unacceptable LOS E in the PM peak hour. The addition of Project traffic exacerbates this unacceptable condition by increasing delay and v/c ratio, resulting in LOS F.	Optimize signal timing to accommodate increased volume will improve the operations at this intersection.

**TABLE 41: EXISTING PLUS PROJECT MITIGATION MEASURES SUMMARY**

Existing Plus Project Significant Impact Location	Mode	Impact	Mitigation Measure
<p>Intersection #9 Los Osos Valley Road/Froom Ranch Way</p>	<p>Auto (Queue)</p>	<p>Addition of project traffic would:</p> <ul style="list-style-type: none"> <li>•Exacerbate the eastbound left queue in the PM peak hour.</li> <li>•Result in a new impact in the AM peak hour and exacerbate the westbound right queue in the PM peak hour.</li> </ul>	<ul style="list-style-type: none"> <li>•Widening EB Froom Ranch Way to add a dedicated right turn pocket would improve this condition to an acceptable level.</li> <li>•Extension of the westbound right turn pocket to 110' would improve this condition to an acceptable level. Approximately 12' of additional right-of-way from the adjacent vacant parcel may be required along with reconstruction of the frontage road.</li> </ul>
<p>Intersection #10 Los Osos Valley Road/Auto Park Way</p>	<p>Auto</p>	<p>The Project added traffic increases the delay at this intersection to be unacceptable LOS E during the PM peak hour.</p>	<p>Construction of the Prado Overcrossing would improve this condition to an acceptable level. Signalization will also provide acceptable operations.</p>
<p>Intersection #11 Los Osos Valley Road/Calle Joaquin</p>	<p>Auto (Queue)</p>	<p>Addition of project traffic would result in a new impact to the southbound left queue in the AM and PM peak hours.</p>	<p>Recently constructed LOVR improvements improve this condition to an acceptable level.</p>
<p>Intersection #12 Los Osos Valley Road/U.S. 101 SB Ramps</p>	<p>Auto (Queue)</p>	<p>Addition of project traffic would:</p> <ul style="list-style-type: none"> <li>•Exacerbate the westbound left queue in the AM and PM peak hours.</li> <li>•Exacerbate the southbound through queue in the AM peak hour.</li> <li>•Exacerbate the southbound right queue in the AM and PM peak hours.</li> </ul>	<ul style="list-style-type: none"> <li>•Extension of the off ramp left turn pocket to 320' would improve this condition to an acceptable level.</li> <li>•Extension of the southbound through storage and southbound right turn pocket is not feasible due to intersection spacing. However, traffic queues between the two intersections are managed through the signal coordination of the Calle Joaquin and 101 SB intersections.</li> </ul>

**TABLE 41: EXISTING PLUS PROJECT MITIGATION MEASURES SUMMARY**

Existing Plus Project Significant Impact Location	Mode	Impact	Mitigation Measure
Intersection #13 Los Osos Valley Road/U.S. 101 NB Ramps	Auto (Queue)	Addition of project traffic would: •Exacerbate the southbound through queue in the AM peak hour. •Exacerbate the southbound right queue in the AM and PM peak hours.	Recently constructed LOVR improvements improve the southbound through queue impact to an acceptable level, and construction of the Prado Overcrossing would improve this condition to an acceptable level.
Intersection #14 Los Osos Valley Road/S. Higuera Street	Auto (Queue)	Addition of project traffic would exacerbate the eastbound right queue in the AM and PM peak hours.	Extension of the eastbound right turn pocket to 180' would improve this condition to an acceptable level, but may require additional right-of-way.
Intersection #16 S. Higuera St/Tank Farm Rd	Auto (Queue)	Addition of project traffic would exacerbate the northbound right queue in the AM peak hour.	Extension of the northbound right turn pocket to 160' would improve this condition to an acceptable level, but may require additional right-of-way.
Intersection #18 S. Higuera St/Prado Rd	Auto (Queue)	Addition of project traffic would: •Exacerbate the northbound left queue in the AM peak hour.	Widening Prado Road to add a second NB left would improve this condition to acceptable levels.
Intersection #25 Dalidio Dr/SC Project Dwy	Auto	The Project added traffic increases the delay at this intersection to be unacceptable LOS E during the PM peak hour.	• Install a Multi-lane modern roundabout
Segment #1: Madonna Rd WB - Oceanaire Dr to Los Osos Valley Rd	Auto	The Project added traffic increases the delay on this segment to be unacceptable LOS E during the PM peak hour.	Construction of the Prado Overcrossing would improve this condition to an acceptable level.
Segment #2: Madonna Rd EB - Oceanaire Dr to Dalidio Dr	Auto	The Project added traffic increases the delay on this segment to be unacceptable LOS E during the AM and	Improvements to Intersection #3 (Madonna Rd/Dalidio Dr) mitigates the impact to this segment.

**TABLE 41: EXISTING PLUS PROJECT MITIGATION MEASURES SUMMARY**

Existing Plus Project Significant Impact Location	Mode	Impact	Mitigation Measure
		PM peak hours.	
Segment #3: Madonna Rd WB - El Mercado to Dalildio Dr	Transit	The Project added traffic increases the delay on this segment to be unacceptable LOS E during the AM peak hour.	<ul style="list-style-type: none"> <li>• Decrease Transit Route 5 headway from 30 minutes to 25 minutes.</li> </ul>
Segment #6: Madonna Rd EB - US 101 NB Ramps to Higuera St	Transit	The Project added traffic increases the delay on this segment to be unacceptable LOS E during the PM peak hour.	<ul style="list-style-type: none"> <li>• Decrease Transit Route 5 headway from 30 minutes to 25 minutes.</li> </ul>
Segment #13: Los Osos Valley Rd NB - Froom Ranch Way to Madonna Rd	Auto	The Project added traffic increases the delay on this segment to be unacceptable LOS E during the PM peak hour.	Construction of the Prado Overcrossing would improve this condition to an acceptable level.

Table 42 presents the mitigated intersection LOS operations assuming the above mitigation measures to be in place. Table 43 presents the mitigated roadway segment LOS operations assuming the above mitigation measures to be in place.

**TABLE 42:  
EXISTING PLUS PROJECT – MITIGATED INTERSECTION LOS**

<b>Intersection #</b>	<b>3</b>		<b>5</b>		<b>8</b>		<b>9</b>		<b>10</b>		<b>15</b>		<b>25</b>	
<b>Name</b>	Madonna Road/ Dalidio Drive		Madonna Road/ US 101 SB Ramps		Higuera Street/ South Street		Los Osos Valley Road/ Froom Ranch Way		Los Osos Valley Road/ Auto Park Way		S. Higuera Street/ Suburban Drive		Dalidio Drive/ SC Project Driveway	
<b>Mode</b>	<b>AUTO</b>		<b>AUTO</b>		<b>AUTO</b>		<b>BIKE</b>		<b>AUTO</b>		<b>PED</b>		<b>AUTO</b>	
<b>Scenario</b>	<b>v/c</b>	<b>LOS</b>	<b>v/c</b>	<b>LOS</b>	<b>v/c</b>	<b>LOS</b>	<b>Score</b>	<b>LOS</b>	<b>v/c</b>	<b>LOS</b>	<b>v/c</b>	<b>LOS</b>	<b>v/c</b>	<b>LOS</b>
<i>AM PEAK HOUR</i>														
Existing	-	A	1.31	D	-	C	3.38	C	-	B	2.98	C	-	-
Existing Plus Project	-	B	0	C	-	C	3.40	C	-	B	2.99	C	-	A
Significant Impact?	No		No		No		No		No		No		No	
<i>PM PEAK HOUR</i>														
Existing	2.11	E	-	C	1.31	E	4.39	E	-	D	3.60	D	-	-
Existing Plus Project	-	C	-	C	-	C	4.42	E	0.39	E	3.61	D	-	B
Significant Impact?	No		No		No		No		Yes		No		No	

Note: V/C is based on worst movement

**TABLE 43:  
EXISTING PLUS PROJECT – MITIGATED SEGMENT LOS**

Existing Plus Project Multimodal Segment LOS				Auto Mode					Pedestrian Mode					Bicycle Mode					Transit Mode									
AM PEAK HOUR				Existing		Existing Plus Project			Existing		Existing Plus Project			Existing		Existing Plus Project			Existing		Existing Plus Project							
ID	Roadway	From	To	Direction	Auto LOS Threshold	Travel Speed (mph)	LOS	Travel Speed (mph)	LOS	Significant Impact?	Ped LOS Threshold	Segment Score	LOS	Segment Score	LOS	Significant Impact?	Bike LOS Threshold	Segment Score	LOS	Segment Score	LOS	Significant Impact?	Transit LOS Threshold	Segment Score	LOS	Segment Score	LOS	Significant Impact?
2	Madonna Rd	Oceanaire Dr	Dalidio	EB	D	27.1	C	21.3	C	No	C	3.80	D	3.88	D	No	D	3.57	D	3.58	D	No	D	4.70	E	4.74	E	No
3	Madonna Rd	El Mercado	Dalidio Dr	WB	D	21.2	C	18.7	C	No	C	3.52	D	3.61	D	No	D	3.27	C	3.30	C	No	D	4.24	D	4.20	D	No
20	Dalidio Dr	Froom Ranch Way	Madonna Rd	NB	D	5.5	F	28.6	B	No	C	3.04	C	3.13	C	No	D	3.77	D	3.32	C	No	D	4.26	E	4.20	D	No

Note: Segment 20 transit is southbound for routes 4 and 5; Segment 21 pedestrian and bicycle service will be further evaluated using off-street facilities methodologies.

Existing Plus Project Multimodal Segment LOS				Auto Mode					Pedestrian Mode					Bicycle Mode					Transit Mode									
PM PEAK HOUR				Existing		Existing Plus Project			Existing		Existing Plus Project			Existing		Existing Plus Project			Existing		Existing Plus Project							
ID	Roadway	From	To	Direction	Auto LOS Threshold	Travel Speed (mph)	LOS	Travel Speed (mph)	LOS	Significant Impact?	Ped LOS Threshold	Segment Score	LOS	Segment Score	LOS	Significant Impact?	Bike LOS Threshold	Segment Score	LOS	Segment Score	LOS	Significant Impact?	Transit LOS Threshold	Segment Score	LOS	Segment Score	LOS	Significant Impact?
1	Madonna Rd	Oceanaire Dr	LOVR	WB	D	12.7	E	15.9	E	No	C	3.79	D	3.82	D	No	D	3.93	D	3.97	D	No	D	4.28	E	4.32	E	No
2	Madonna Rd	Oceanaire Dr	Dalidio	EB	D	18.9	D	20.8	C	No	C	3.89	D	3.95	D	No	D	3.43	C	3.45	C	No	D	4.51	E	4.53	E	No
6	Madonna Rd	US 101 NB Ramps	Higuera St	EB	D	13.3	E	12.4	E	No	C	3.72	D	3.77	D	No	D	3.53	D	3.59	D	No	D	4.18	D	4.24	D	No
13	Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	D	16.9	D	16.8	D	No	C	4.04	F	4.04	F	No	D	3.46	C	3.46	C	No	D	4.38	E	4.38	E	No
20	Dalidio Dr	Froom Ranch Way	Madonna Rd	NB	D	0.4	F	18.0	D	No	C	3.35	C	3.46	C	No	D	4.21	D	3.42	C	No	D	4.09	D	4.03	D	No

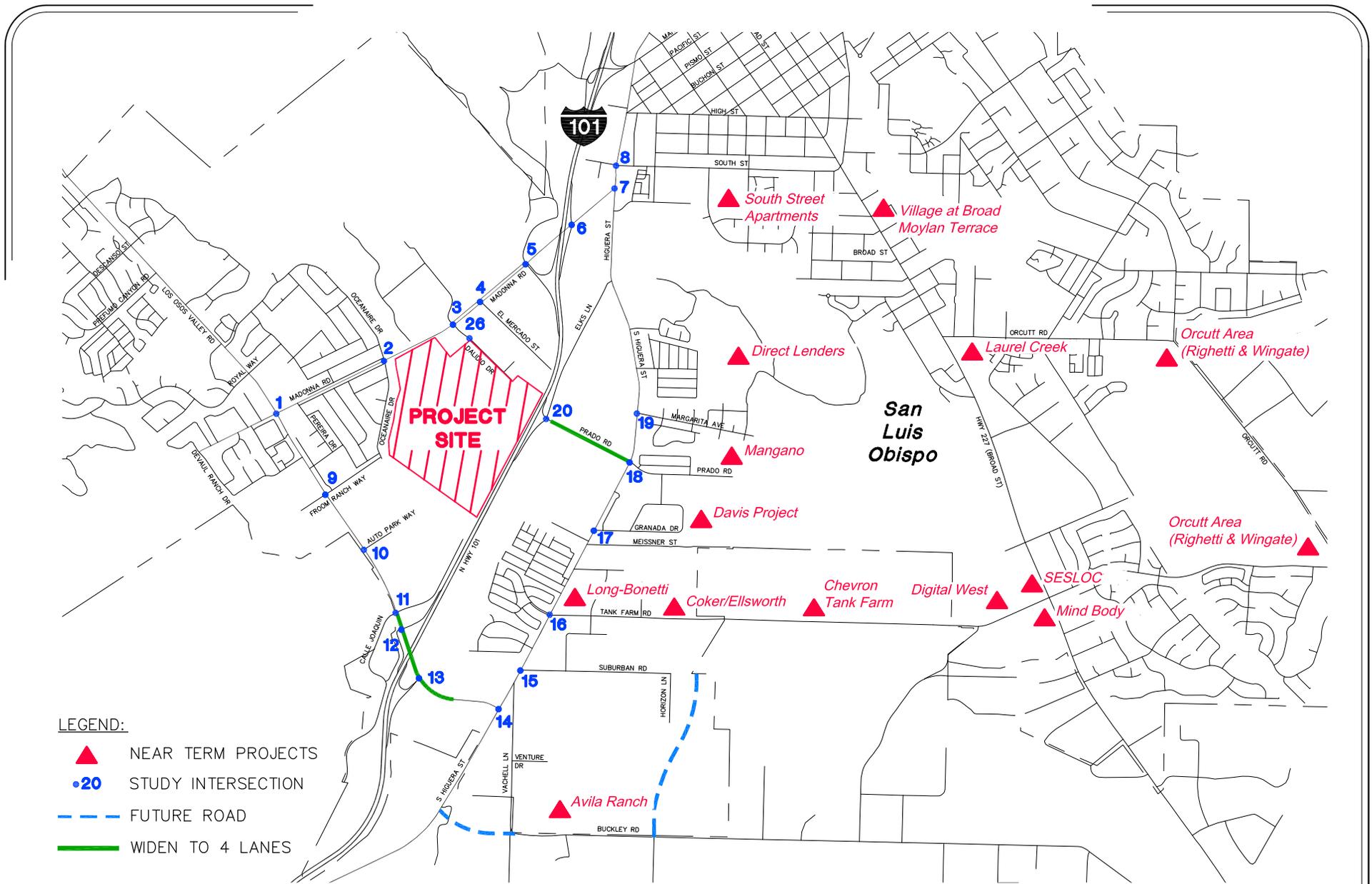
Note: Segment 20 transit is southbound for routes 4 and 5; Segment 21 pedestrian and bicycle service will be further evaluated using off-street facilities methodologies.

## Near Term (Year 2025) Conditions

The Near Term conditions is a scenario in which the City's approved, pending and potential land development projects are assumed to be in place. Based on direction from the City, a volume growth increment for all travel modes have been developed for the 2025 conditions. Vehicular trips are determined utilizing the *Avila Ranch* study completed by Central Coast Transportation Consulting. The volume growth between the Avila Ranch's *Existing* volumes and the *Near Term Plus Project No Business Park* volumes were utilized as a baseline to estimate a growth increment which was added to the Existing volumes shown in Figure 3. Roadway improvements assumed to be in place for the Near Term conditions are as follows:

- Los Osos Valley Road interchange improvements and widening to 4 Lanes between Calle Joaquin and S. Higuera Street with Class II Bike Lanes
- Prado Road widening to 4 lanes between US 101 and S. Higuera Street with Class II Bike 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 is extended 250' with addition of pedestrian countdown heads with audible/tactile pushbuttons.
- Buckley Road extension to S. Higuera Street

Figure 9 presents the Year 2025 Near Term Approved and Pending Projects that are assumed to be in place for the Near Term conditions analysis scenarios. Figure 10 presents the Near Term lane geometrics and control assuming the above roadway improvements are in place. Figure 11 presents the Year 2025 Near Term peak hour traffic volumes assuming the above roadway improvements are in place, and with buildout of the Near Term Approved and Pending Projects.



**LEGEND:**

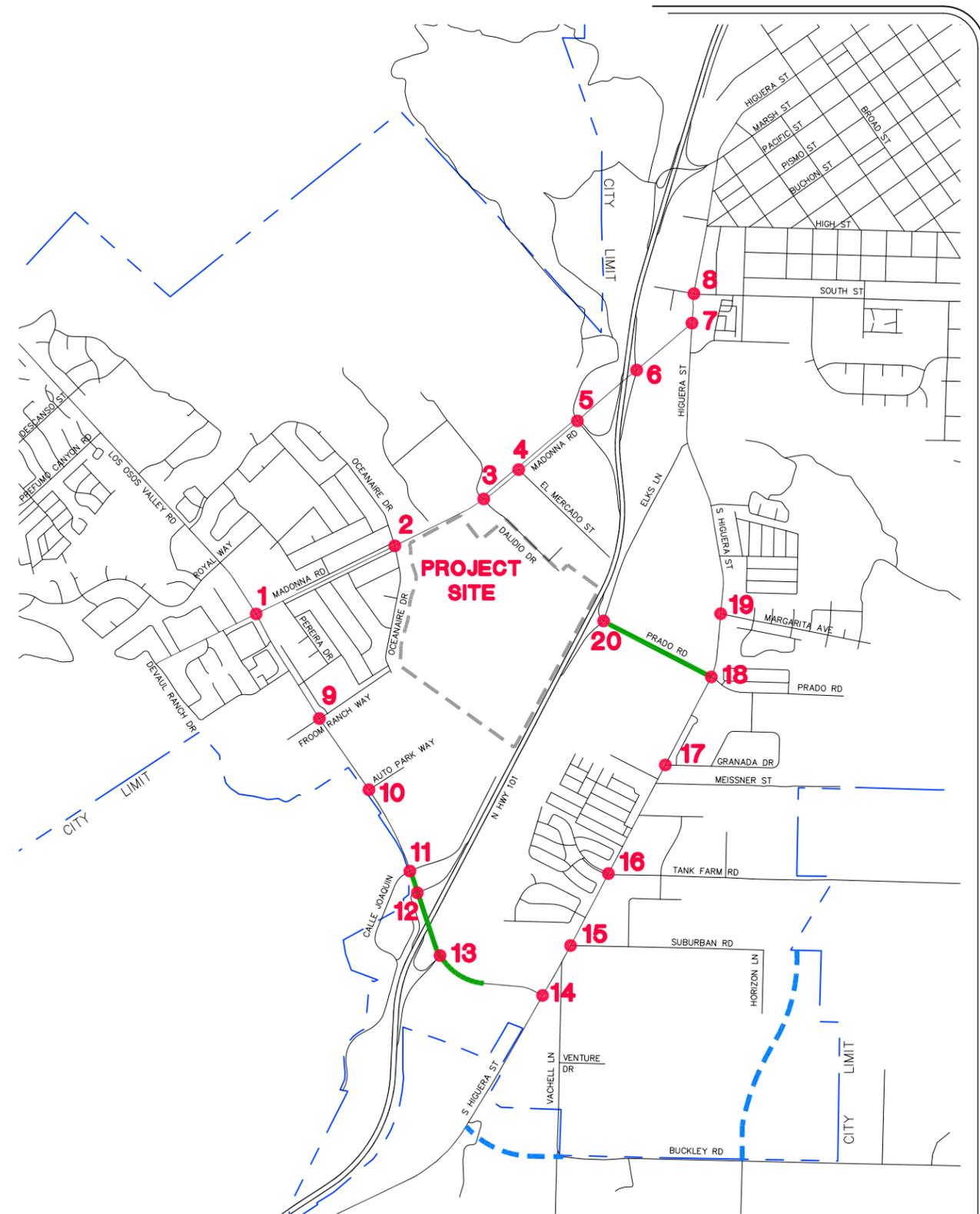
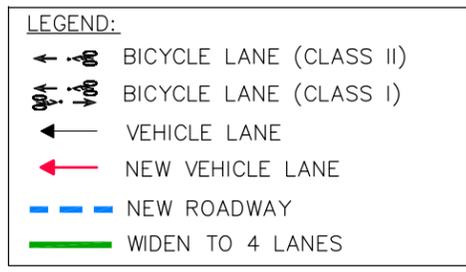
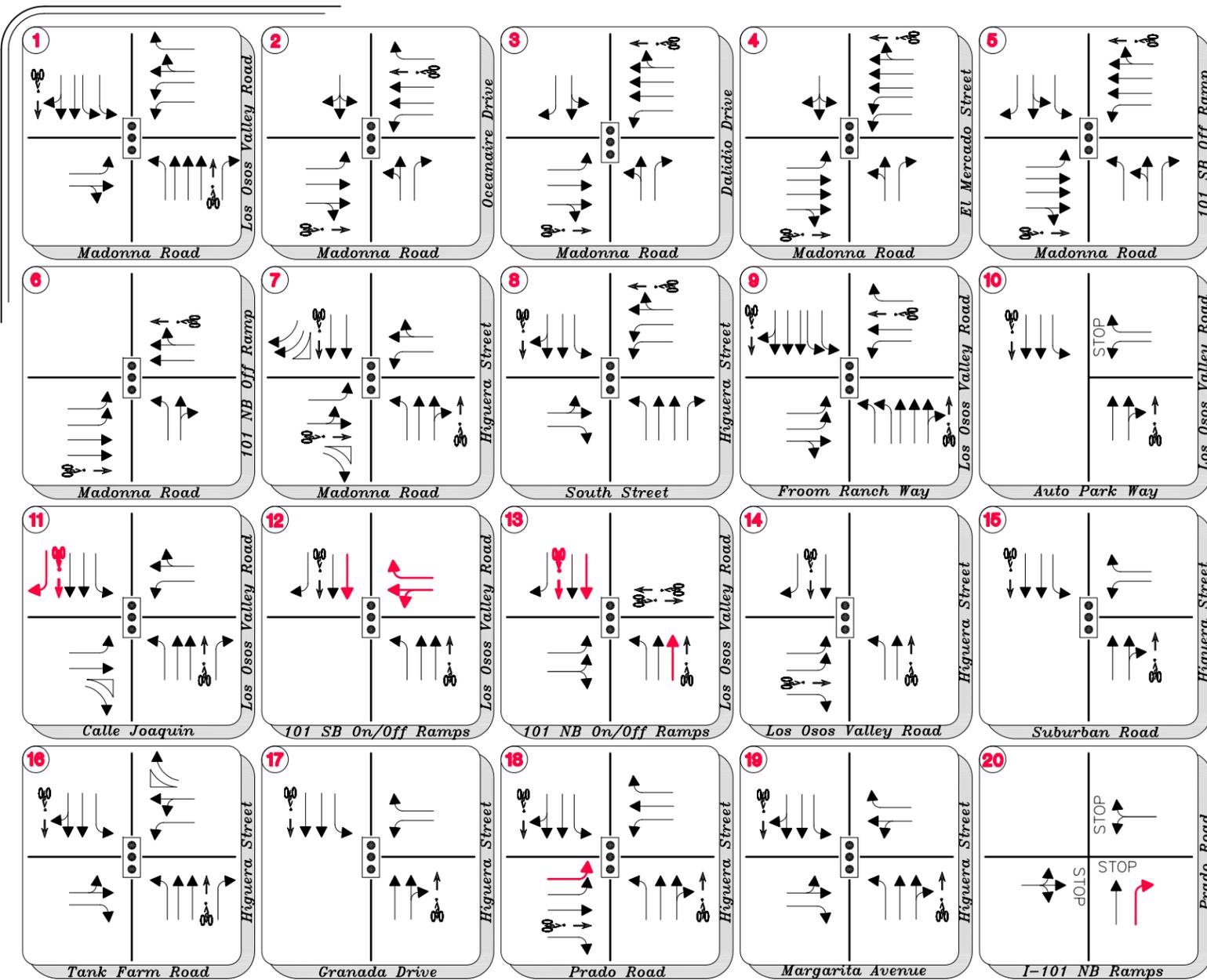
- ▲ NEAR TERM PROJECTS
- 20 STUDY INTERSECTION
- - - FUTURE ROAD
- WIDEN TO 4 LANES

San Luis Ranch Specific Plan Multimodal TIS

Figure 9

# Year 2025 Near Term Projects



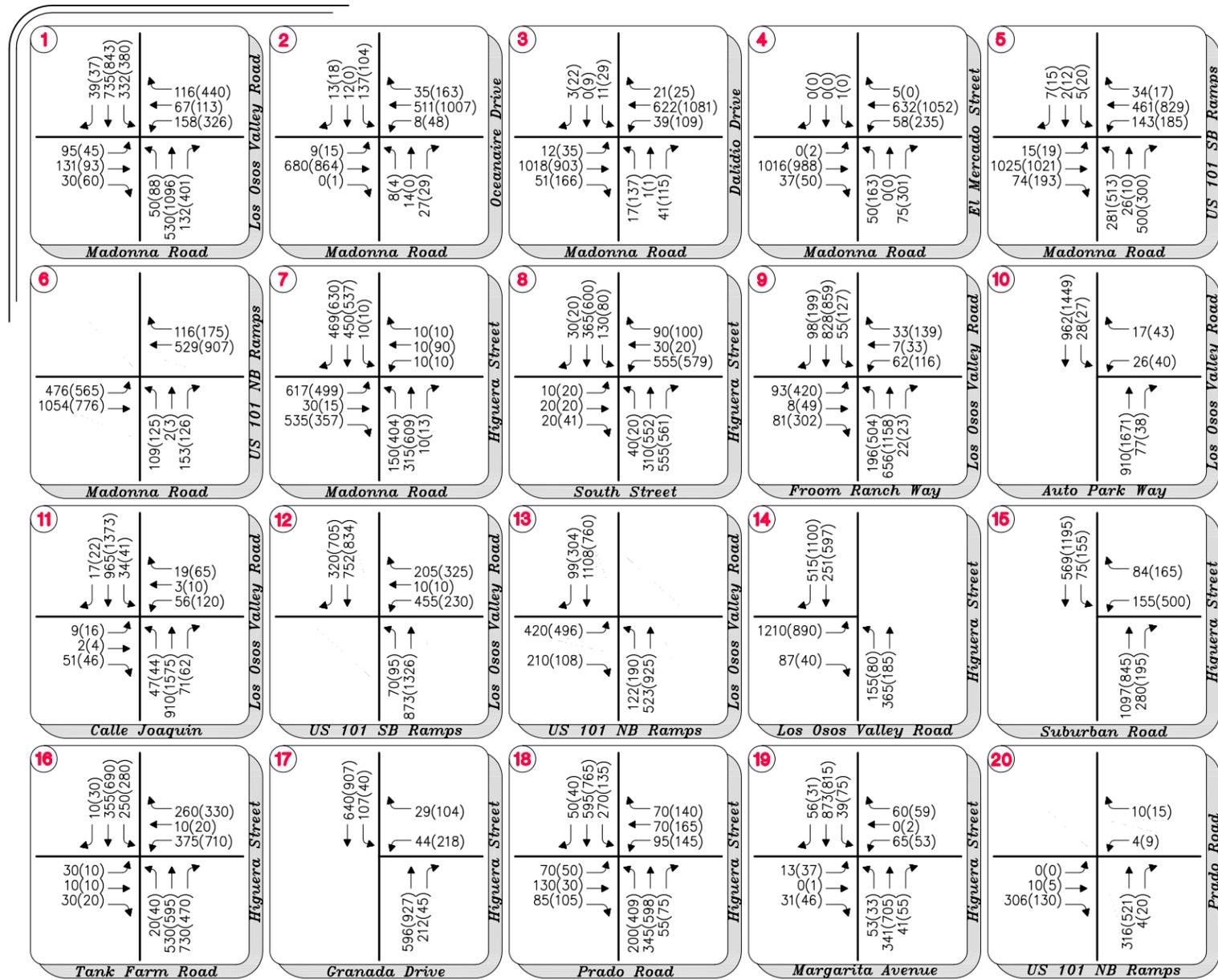


San Luis Ranch Specific Plan Multimodal TIS

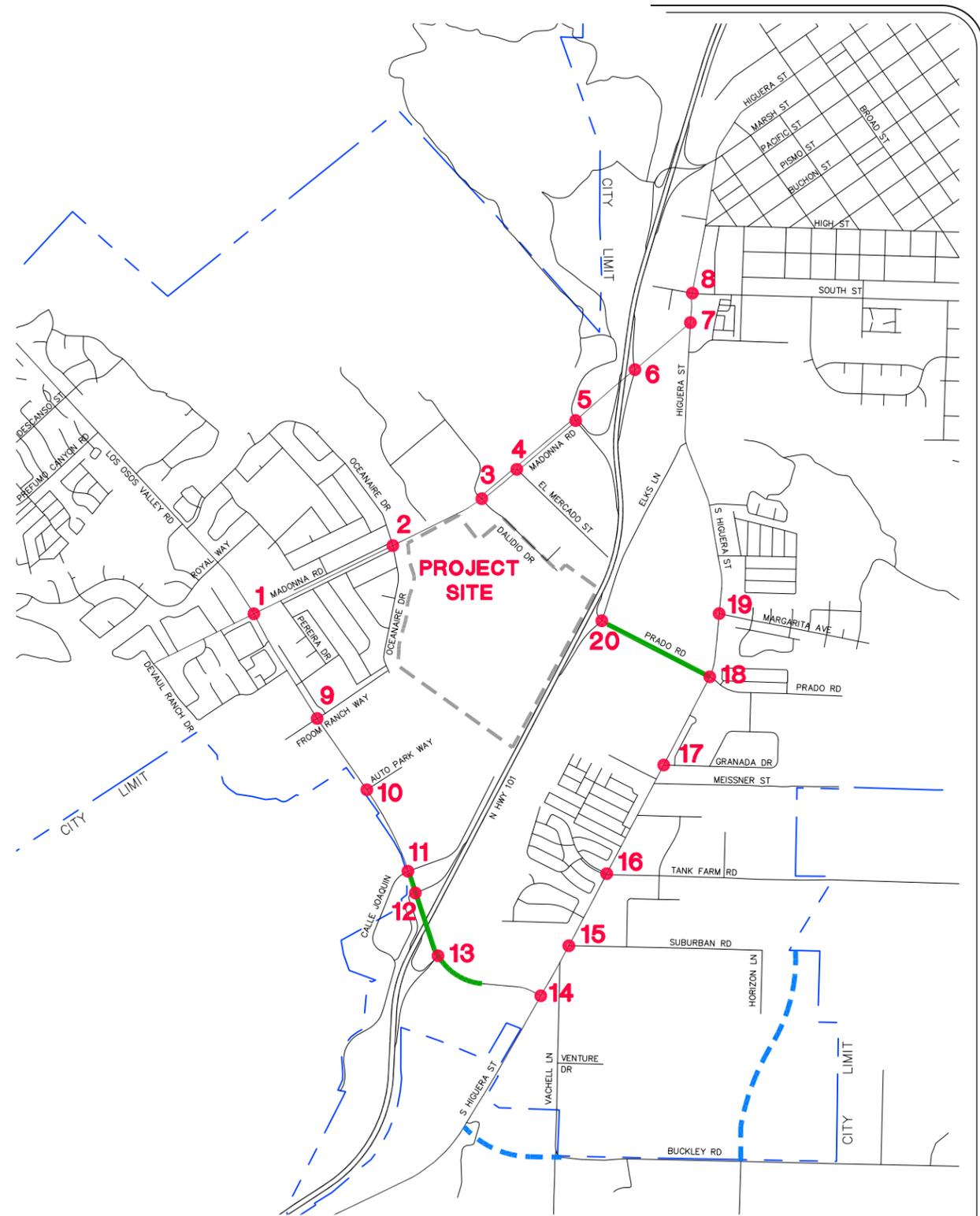
Figure 10

# Year 2025 Near Term Lane Geometrics and Control





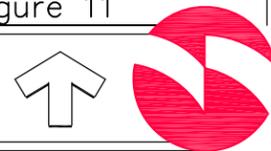
**LEGEND:**  
 xx AM PEAK HOUR TRAFFIC VOLUMES  
 (xx) PM PEAK HOUR TRAFFIC VOLUMES  
 --- NEW ROADWAY  
 --- WIDEN TO 4 LANES



San Luis Ranch Specific Plan Multimodal TIS

Figure 11

Year 2025 Near Term Peak Hour Traffic Volumes



## Near Term No Project Conditions Analysis

The Near Term conditions multimodal analysis for the study intersections and segments are presented below.

### Near Term No Project Conditions Intersection Analysis

Table 44 provides a summary of the Near Term conditions vehicular AM and PM peak hour intersection delay and LOS. Table 45 provides a summary of the Near Term pedestrian AM and PM peak hour conditions at the study intersections. Table 46 provides a summary of the Near Term bicycle AM and PM peak hour conditions at the study intersections. Table 47 provides a summary of the Near Term conditions queuing analysis.

**TABLE 44:  
NEAR TERM NO PROJECT CONDITIONS INTERSECTION LEVEL OF SERVICE: AUTOMOBILE ANALYSIS**

#	Intersection	Control Type <sup>1,2</sup>	Target LOS	AM Peak Hour			PM Peak Hour		
				v/c <sup>3</sup>	Delay	LOS	v/c <sup>3</sup>	Delay	LOS
1	Madonna Road/Los Osos Valley Road	Signal	D		24.8	C		51.8	D
2	Madonna Road/Oceanaire Drive	Signal	D		21.1	C		17.7	B
3	Madonna Road/Dalidio Drive	Signal	D		9.8	A		43.1	D
4	Madonna Road/El Mercado	Signal	D		7.9	A		17.5	B
<b>5</b>	<b>Madonna Road/US 101 SB Ramps/Madonna</b>	<b>Signal</b>	<b>C</b>	<b>1.22</b>	<b>44.0</b>	<b>D</b>		25.0	C
6	Madonna Road/US 101 NB Ramps	Signal	C		18.3	B		21.1	C
7	Madonna Road/Higuera Street	Signal	D		32.7	C		38.5	D
<b>8</b>	<b>Higuera Street/South Street</b>	<b>Signal</b>	<b>D</b>		27.3	C	<b>1.28</b>	<b>65.8</b>	<b>E</b>
9	Los Osos Valley Road/Froom Ranch Way	Signal	D		19.8	B		36.4	D
<b>10</b>	<b>Los Osos Valley Road/Auto Park Way</b>	<b>TWSC</b>	<b>D</b>		19.4	C	<b>0.52</b>	<b>53.6</b>	<b>F</b>
11	Los Osos Valley Road/Calle Joaquin	Signal	D		9.0	A		6.3	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		16.3	B		21.0	C
14	S. Higuera Street/Los Osos Valley Road	Signal	D		22.2	C		29.3	C
15	S. Higuera Street/Suburban Drive	Signal	D		8.5	A		19.9	B
<b>16</b>	<b>S. Higuera Street/Tank Farm Road</b>	<b>Signal</b>	<b>D</b>	<b>1.31</b>	<b>72.2</b>	<b>E</b>		25.1	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		27.8	C
19	S. Higuera Street/Margarita Avenue	Signal	D		12.1	B		14.6	B
20	Prado Road/US 101 NB Ramps	AWSC	C		10.8	B		12.1	B

Notes:

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

**TABLE 45:  
NEAR TERM 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	2.88	C	3.29	C
		NB	C	3.11	C	3.51	D
		SB	C	3.20	C	3.29	C
2	Madonna Road/Oceanaire Drive	EB	C	2.70	B	2.91	C
		WB	C	3.08	C	3.34	C
		NB	C	1.99	A	2.00	A
		SB	C	1.81	A	1.85	A
3	Madonna Road/Dalidio Drive	EB	C	2.96	C	3.26	C
		WB	C	2.98	C	3.07	C
		NB	C	2.05	B	2.37	B
		SB	C	1.96	A	2.00	A
4	Madonna Road/El Mercado	EB	C	n/a	-	n/a	-
		WB	C	3.05	C	3.16	C
		NB	C	2.28	B	2.64	B
		SB	C	1.71	A	1.72	A
5	Madonna Road/US 101 SB Ramps/Madonna Inn	EB	C	3.00	C	3.14	C
		WB	C	n/a	-	n/a	-
		NB	C	2.78	C	2.72	B
		SB	C	2.17	B	2.18	B
6	Madonna Road/US 101 NB Ramps	EB	C	n/a	-	n/a	-
		WB	C	2.88	C	2.82	C
		NB	C	2.01	B	2.01	B
		SB	C	n/a	-	n/a	-
7	Madonna Road/Higuera Street	EB	C	2.93	C	3.10	C
		WB	C	2.01	B	2.02	B
		NB	C	2.79	C	2.91	C
		SB	C	n/a	-	n/a	-
8	Higuera Street/South Street	EB	C	2.03	B	2.06	B
		WB	C	2.78	C	2.80	C
		NB	C	n/a	-	n/a	-
		SB	C	2.51	B	2.60	B
9	Los Osos Valley Road/Froom Ranch Way	EB	C	2.51	B	2.88	C
		WB	C	2.39	B	2.59	B
		NB	C	n/a	-	n/a	-
		SB	C	3.10	C	3.33	C
10	Los Osos Valley Road/Auto Park Way	EB	C	-	-	-	-
		WB	C	-	-	-	-
		NB	C	n/a	-	n/a	-
		SB	C	-	-	-	-
11	Los Osos Valley Road/Calle Joaquin	EB	C	2.47	B	2.28	B
		WB	C	2.07	B	2.16	B
		NB	C	3.02	C	3.29	C
		SB	C	3.00	C	3.26	C
12	Los Osos Valley Road/US 101 SB Ramps	EB	C	1.85	A	2.23	B
		WB	C	2.14	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	2.36	B	2.36	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	2.99	C	2.91	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	3.23	C	3.96	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	3.19	C
		NB	C	3.46	C	3.38	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	2.48	B
		NB	C	2.90	C	3.19	C
		SB	C	2.86	C	2.92	C
19	S. Higuera Street/Margarita Avenue	EB	C	2.28	B	2.09	B
		WB	C	2.13	B	2.20	B
		NB	C	2.85	C	2.93	C
		SB	C	2.76	C	2.90	C
20	Prado Road/US 101 NB Ramps	EB	C	-	-	-	-
		WB	C	-	-	-	-
		NB	C	n/a	-	n/a	-
		SB	C	-	-	-	-

Notes:

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. 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 46:  
NEAR TERM 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	3.28	C	3.17	C
		WB	D	3.36	C	4.25	D
		NB	D	1.69	A	2.17	B
		SB	D	2.69	B	2.68	B
2	Madonna Road/Oceanaire Drive	EB	D	2.71	B	2.89	C
		WB	D	1.15	A	1.75	A
		NB	D	2.74	B	2.72	B
		SB	D	2.22	B	2.15	B
3	Madonna Road/Dalidio Drive	EB	D	2.14	B	2.07	B
		WB	D	1.54	A	1.80	A
		NB	D	3.00	C	3.32	C
		SB	D	2.84	C	2.92	C
4	Madonna Road/El Mercado	EB	D	1.77	A	1.70	A
		WB	D	1.73	A	2.02	B
		NB	D	3.26	C	3.81	D
		SB	D	3.03	C	3.03	C
5	Madonna Road/US 101 SB Ramps/Madonna Inn	EB	D	1.96	A	1.97	A
		WB	D	1.66	A	1.86	A
		NB	D	n/a	-	n/a	-
		SB	D	2.90	C	2.96	C
6	Madonna Road/US 101 NB Ramps	EB	D	2.62	B	2.25	B
		WB	D	1.67	A	1.96	A
		NB	D	n/a	-	n/a	-
		SB	D	3.36	C	2.74	B
7	Madonna Road/Higuera Street	WB	D	2.46	B	2.60	B
		NB	D	1.80	A	2.27	B
		SB	D	2.29	B	2.48	B
		EB	D	2.72	B	2.78	C
8	Higuera Street/South Street	WB	D	2.75	B	2.83	C
		NB	D	3.01	C	3.24	C
		SB	D	1.58	A	1.75	A
		EB	D	3.42	C	4.42	E
9	Los Osos Valley Road/Froom Ranch Way	WB	D	1.86	A	2.50	B
		NB	D	1.84	A	2.28	B
		SB	D	1.78	A	1.87	A
		EB	D	-	-	-	-
10	Los Osos Valley Road/Auto Park Way	WB	D	n/a	-	n/a	-
		NB	D	-	-	-	-
		SB	D	-	-	-	-
		EB	D	2.99	C	2.99	C
11	Los Osos Valley Road/Calle Joaquin	WB	D	3.08	C	3.27	C
		NB	D	1.54	A	2.02	B
		SB	D	0.50	A	0.79	A
		WB	D	n/a	-	n/a	-
12	Los Osos Valley Road/US 101 SB Ramps	NB	D	2.86	C	3.20	C
		SB	D	1.66	A	1.98	A
		EB	D	n/a	-	n/a	-
13	Los Osos Valley Road/US 101 NB Ramps	NB	D	1.99	A	2.35	B
		SB	D	2.90	C	2.74	B
		EB	D	2.18	B	1.85	A
14	S. Higuera Street/Los Osos Valley Road	NB	D	2.20	B	1.74	A
		SB	D	2.61	B	4.21	D
		WB	D	1.08	A	1.81	A
15	S. Higuera Street/Suburban Drive	NB	D	2.43	B	2.09	B
		SB	D	1.81	A	2.41	B
		EB	D	2.72	B	2.67	B
16	S. Higuera Street/Tank Farm Road	WB	D	2.64	B	3.32	C
		NB	D	2.39	B	2.20	B
		SB	D	1.78	A	2.10	B
		WB	D	2.63	B	3.07	C
17	S. Higuera Street/Granada Drive	NB	D	1.90	A	2.05	B
		SB	D	1.99	A	2.17	B
		EB	D	2.48	B	2.30	B
18	S. Higuera Street/Prado Road	WB	D	2.93	C	3.31	C
		NB	D	1.76	A	2.18	B
		SB	D	2.04	B	2.06	B
		EB	D	2.49	B	2.57	B
19	S. Higuera Street/Margarita Avenue	WB	D	2.73	B	2.71	B
		NB	D	1.68	A	1.99	A
		SB	D	2.23	B	2.20	B
		EB	D	-	-	-	-
20	Prado Road/US 101 NB Ramps	WB	D	n/a	-	n/a	-
		NB	D	-	-	-	-
		SB	D	-	-	-	-
		EB	D	-	-	-	-

**Notes:**

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 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 47:  
NEAR TERM CONDITIONS 95<sup>TH</sup> PERCENTILE QUEUING ANALYSIS**

Intersection		Movement	No. Lanes	Total Storage (ft) <sup>1</sup>	95 <sup>th</sup> Percentile Queue/Lane (ft)	
ID	Location				AM Peak Hour	PM Peak Hour
1	Madonna Road/Los Osos Valley Road	Westbound Through/Right	1	340	99	<b>3822</b>
		Westbound Right	1	300	60	<b>350</b>
		Northbound Left	1	200	70	<b>253</b>
		Northbound Right	1	175	119	<b>248</b>
2	Madonna	Westbound Right	1	100	36	<b>139</b>
5	Madonna Road/US 101	Westbound Left	1	260	160	<b>322</b>
7	Madonna Road/Higuera Street	Eastbound Right	1	150	<b>221</b>	<b>192</b>
		Northbound Left	1	160	153	<b>361</b>
8	Higuera Street/South Street	Westbound Left	2	240	<b>303</b>	<b>287</b>
		Northbound Left	1	60	<b>103</b>	<b>77</b>
		Northbound Right	1	60	<b>135</b>	<b>143</b>
		Southbound Left	1	70	<b>115</b>	<b>118</b>
9	Los Osos Valley	Westbound Right	1	50	50	<b>81</b>
12	Los Osos Valley Road/US 101 SB Ramps	Westbound Left/Through	1	180	<b>256</b>	<b>187</b>
		Southbound Through	1	240	<b>275</b>	<b>284</b>
		Southbound Right	1	125	<b>188</b>	<b>221</b>
13	Los Osos Valley Road/US 101 NB Ramps	Eastbound Left/Right	1	625	325	288
		Northbound Left	1	395	134	181
		Northbound Through	1	-	119	164
		Southbound Through	1	865	542	257
		Southbound Right	1	130	<b>215</b>	<b>187</b>
14	S. Higuera Street/Los	Eastbound Right	1	90	<b>202</b>	<b>154</b>
15	S. Higuera Street/Suburban Drive	Westbound Right	1	170	69	<b>249</b>
		Southbound Left	1	200	158	<b>272</b>
16	S. Higuera Street/Tank Farm Road	Northbound Right	1	100	<b>197</b>	<b>182</b>
		Southbound Left	1	165	<b>210</b>	<b>231</b>
17	S. Higuera	Southbound Left	1	80	<b>94</b>	<b>77</b>
18	S. Higuera Street/Prado Road	Westbound Left	1	105	<b>110</b>	<b>140</b>
		Northbound Left	1	100	<b>158</b>	<b>173</b>
19	S. Higuera Street/Margarita Avenue	Northbound Left	1	60	<b>75</b>	57
		Southbound Left	1	60	<b>68</b>	<b>91</b>

Notes: 1. **Bolded entries indicate queues exceed available storage**

2. Storage Length of " - " represents a lane which exceeds 900 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.

As shown in Table 44 above, the intersections of Madonna Road/US 101 SB Ramps/Madonna Inn, Higuera Street/South Street, Los Osos Valley Road/Auto Park Way, and S. Higuera Street/Tank Farm Road are projected to operate at unacceptable conditions during Near Term conditions. The northbound and southbound approaches experience long delays. Pedestrian and bicycle analysis shows acceptable conditions at the study intersections, except for the intersections of Los Osos Valley Road/Madonna Road and Los Osos Valley Road/Froom Ranch Way, respectively. Queuing analysis results show numerous locations in which the 95<sup>th</sup> percentile queue exceeds the available storage capacity during Near Term conditions.

## **Near Term No Project Conditions Segment Analysis**

Table 48 provides a summary of the Near Term vehicular AM and PM peak hour conditions for the study segments. Table 49 provides a summary of the Near Term pedestrian AM and PM peak hour conditions for the study segments. Table 50 provides a summary of the Near Term bicycle AM and PM peak hour conditions for the study segments. Table 51 provides a summary of the Near Term transit AM and PM peak hour conditions for the study segments. Table 52 provides a summary of the Near Term freeway segments analysis for AM and PM peak hour conditions for the study segments along US 101.

**TABLE 48:  
NEAR TERM CONDITIONS SEGMENT LEVEL OF SERVICE: AUTOMOBILE ANALYSIS**

AUTO SEGMENT LOS					AM PEAK					PM PEAK			
ID	Roadway	From	To	Direction	LOS Threshold	Base Free-			LOS	Travel	Base Free-	Travel	LOS
						Travel Speed (mph)	Flow Speed BFFS (mph)	Travel Speed/ BFFS (%)		Speed (mph)	Flow Speed BFFS (mph)	Speed/ BFFS (%)	
1	Madonna Rd	Oceanaire Dr	LOVR	WB	C	22.1	42.1	52%	C	11.8	42.1	28%	F
	Madonna Rd	LOVR	Oceanaire Dr	EB	C	27.5	42.1	65%	C	29.3	42.1	70%	B
2	Madonna Rd	Dalidio	Oceanaire Dr	WB	C	23.0	40.8	56%	C	24.4	40.7	60%	C
	Madonna Rd	Oceanaire Dr	Dalidio	EB	C	27.1	40.7	67%	C	18.7	40.8	46%	D
3	Madonna Rd	El Mercado	Dalidio Dr	WB	C	19.8	34.1	58%	C	13.9	34.8	40%	E
	Madonna Rd	Dalidio Dr	El Mercado	EB	C	26.5	38.2	69%	B	12.5	34.6	36%	E
4	Madonna Rd	US 101 SB Ramps	El Mercado	WB	C	31.1	37.9	82%	B	22.3	37.3	60%	C
	Madonna Rd	El Mercado	US 101 SB Ramps	EB	C	21.3	37.8	56%	C	18.4	37.7	49%	D
5	Madonna Rd	US 101 NB Ramps	US 101 SB Ramps	WB	C	28.6	37.8	76%	B	22.7	37.8	60%	C
	Madonna Rd	US 101 SB Ramps	US 101 NB Ramps	EB	C	33.0	37.8	87%	A	33.6	37.8	89%	A
6	Madonna Rd	Higuera St	US 101 NB Ramps	WB	C	11.2	37.2	30%	E	12.9	37.2	35%	E
	Madonna Rd	US 101 NB Ramps	Higuera St	EB	C	13.1	37.2	35%	E	10.4	37.2	28%	F
7	S. Higuera St	Madonna Rd	Margarita Ave	SB	C	34.0	44.5	76%	B	33.2	44.5	75%	B
	S. Higuera St	Margarita Ave	Madonna Rd	NB	C	33.0	44.8	74%	B	33.3	44.8	74%	B
8	S. Higuera St	Margarita Ave	Prado Rd	SB	C	16.2	38.9	42%	D	11.6	38.9	30%	F
	S. Higuera St	Prado Rd	Margarita Ave	NB	C	22.7	38.9	58%	C	19.1	38.9	49%	D
9	S. Higuera St	Prado Rd	Granada Dr	SB	C	33.5	41.8	80%	B	29.3	41.8	70%	B
	S. Higuera St	Granada Dr	Prado Rd	NB	C	21.6	41.9	52%	C	24.1	41.9	57%	C
10	S. Higuera St	Granada Dr	Tank Farm Road	SB	C	42.3	41.6	102%	A	24.7	42.6	58%	C
	S. Higuera St	Tank Farm Road	Granada Dr	NB	C	29.7	41.6	71%	B	26.8	42.6	63%	C
11	S. Higuera St	Tank Farm Road	Suburban Drive	SB	C	27.1	42.4	64%	C	21.6	41.2	52%	C
	S. Higuera St	Suburban Drive	Tank Farm Road	NB	C	17.8	42.5	42%	D	16.3	41.3	39%	E
12	S. Higuera St	Suburban Drive	Los Osos Valley Road	SB	C	20.4	42.1	49%	D	13.5	39.1	34%	E
	S. Higuera St	Los Osos Valley Road	Suburban Drive	NB	C	23.8	42.0	57%	C	19.1	39.0	49%	D
13	Los Osos Valley	Madonna Rd	Froom Ranch Way	SB	C	24.0	41.9	57%	C	16.9	41.8	41%	D
	Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	C	20.9	41.8	50%	C	15.1	41.8	36%	E
14	Los Osos Valley	Froom Ranch Way	Calle Joaquin	SB	C	29.1	43.0	68%	B	30.5	43.0	71%	B
	Los Osos Valley	Calle Joaquin	Froom Ranch Way	NB	C	30.0	43.2	69%	B	22.9	43.2	53%	C
15	Los Osos Valley	Calle Joaquin	US 101 SB Ramps	SB	C	6.1	32.1	19%	F	13.2	32.1	41%	D
	Los Osos Valley	US 101 SB Ramps	Calle Joaquin	NB	C	16.2	31.1	52%	C	14.1	31.1	45%	D
16	Los Osos Valley	US 101 SB Ramps	US 101 NB Ramps	SB	C	23.5	37.7	62%	C	17.5	37.7	46%	D
	Los Osos Valley	US 101 NB Ramps	US 101 SB Ramps	NB	C	20.3	37.4	54%	C	32.2	37.4	86%	A
17	Los Osos Valley	US 101 NB Ramps	S. Higuera St	EB	C	17.5	39.4	45%	D	15.8	39.4	40%	D
	Los Osos Valley	S. Higuera St	US 101 NB Ramps	WB	C	24.5	39.2	63%	C	27.0	39.2	69%	B
18	Prado Rd	S. Higuera St	US 101 NB Ramps	WB	C	19.7	39.1	50%	C	23.1	39.1	59%	C
	Prado Rd	US 101 NB Ramps	S. Higuera St	EB	C	23.4	39.0	60%	C	21.7	39.0	56%	C
19	Froom Ranch Way	End	Los Osos Valley	WB	C	18.0	37.7	48%	D	13.0	37.9	34%	E
	Froom Ranch Way	Los Osos Valley	End	EB	C	35.5	38.1	93%	A	34.6	37.4	92%	A
20	Dalidio Dr	Madonna Rd	Froom Ranch Way	SB	C	21.7	31.2	70%	B	21.6	31.2	69%	B
	Dalidio Dr	Froom Ranch Way	Madonna Rd	NB	C	6.1	31.1	20%	F	0.6	31.1	2%	F

**TABLE 49:  
NEAR TERM CONDITIONS SEGMENT LEVEL OF SERVICE: PEDESTRIAN ANALYSIS**

PEDESTRIAN SEGMENT LOS						AM PEAK		PM PEAK		
ID	Roadway	From	To	Direction	LOS Threshold	Average Ped. Space (ft <sup>2</sup> /p)	SEGMENT SCORE	LOS	SEGMENT SCORE	LOS
1	Madonna Rd	Oceanaire Dr	LOVR	WB	C	6090	3.52	D	3.86	D
	Madonna Rd	LOVR	Oceanaire Dr	EB	C	17482	3.93	D	4.06	D
2	Madonna Rd	Dalidio	Oceanaire Dr	WB	C	84000	3.62	D	3.97	D
	Madonna Rd	Oceanaire Dr	Dalidio	EB	C	26250	3.80	D	3.88	D
3	Madonna Rd	El Mercado	Dalidio Dr	WB	C	37450	3.53	D	3.86	D
	Madonna Rd	Dalidio Dr	El Mercado	EB	C	52920	3.68	D	3.75	D
4	Madonna Rd	US 101 SB Ramps	El Mercado	WB	C	26250	3.62	D	3.79	D
	Madonna Rd	El Mercado	US 101 SB Ramps	EB	C	27915	3.70	D	3.77	D
5	Madonna Rd	US 101 NB Ramps	US 101 SB Ramps	WB	C	No Peds	3.69	D	3.86	F
	Madonna Rd	US 101 SB Ramps	US 101 NB Ramps	EB	C	No Peds	4.04	D	3.95	D
6	Madonna Rd	Higuera St	US 101 NB Ramps	WB	C	25200	3.63	D	3.80	D
	Madonna Rd	US 101 NB Ramps	Higuera St	EB	C	19838	3.84	D	3.76	D
7	S. Higuera St	Madonna Rd	Margarita Ave	SB	C	23247	3.86	D	3.88	D
	S. Higuera St	Margarita Ave	Madonna Rd	NB	C	5398	3.67	D	3.90	D
8	S. Higuera St	Margarita Ave	Prado Rd	SB	C	40979	3.71	D	3.73	D
	S. Higuera St	Prado Rd	Margarita Ave	NB	C	21700	3.55	D	3.71	D
9	S. Higuera St	Prado Rd	Granada Dr	SB	C	9292	3.65	D	3.77	D
	S. Higuera St	Granada Dr	Prado Rd	NB	C	8400	3.26	C	3.52	D
10	S. Higuera St	Granada Dr	Tank Farm Road	SB	C	46305	3.62	D	3.80	D
	S. Higuera St	Tank Farm Road	Granada Dr	NB	C	49140	3.26	C	3.36	C
11	S. Higuera St	Tank Farm Road	Suburban Drive	SB	C	12600	3.66	D	3.96	D
	S. Higuera St	Suburban Drive	Tank Farm Road	NB	C	31500	3.66	D	3.56	D
12	S. Higuera St	Suburban Drive	Los Osos Valley Road	SB	C	39312	3.64	D	4.01	D
	S. Higuera St	Los Osos Valley Road	Suburban Drive	NB	C	43533	4.00	D	4.05	D
13	Los Osos Valley	Madonna Rd	Froom Ranch Way	SB	C	21833	3.86	D	3.99	D
	Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	C	0	3.74	F	4.19	F
14	Los Osos Valley	Froom Ranch Way	Calle Joaquin	SB	C	27300	3.84	D	4.05	D
	Los Osos Valley	Calle Joaquin	Froom Ranch Way	NB	C	22050	3.75	D	4.09	D
15	Los Osos Valley	Calle Joaquin	US 101 SB Ramps	SB	C	44100	3.69	D	3.70	D
	Los Osos Valley	US 101 SB Ramps	Calle Joaquin	NB	C	63000	3.66	D	4.01	D
16	Los Osos Valley	US 101 SB Ramps	US 101 NB Ramps	SB	C	No Peds	3.93	D	3.91	D
	Los Osos Valley	US 101 NB Ramps	US 101 SB Ramps	NB	C	53928	3.82	D	3.27	C
17	Los Osos Valley	US 101 NB Ramps	S. Higuera St	EB	C	46575	3.94	D	3.78	D
	Los Osos Valley	S. Higuera St	US 101 NB Ramps	WB	C	1680	3.88	D	4.27	E
18	Prado Rd	S. Higuera St	US 101 NB Ramps	WB	C	56133	2.76	C	2.84	C
	Prado Rd	US 101 NB Ramps	S. Higuera St	EB	C	3019	3.44	C	3.42	C
19	Froom Ranch Way	End	Los Osos Valley	WB	C	No Peds	3.32	C	3.53	D
	Froom Ranch Way	Los Osos Valley	End	EB	C	75600	1.67	A	1.81	A
20	Dalidio Dr	Madonna Rd	Froom Ranch Way	SB	C	56700	1.46	A	1.49	A
	Dalidio Dr	Froom Ranch Way	Madonna Rd	NB	C	73710	3.04	C	3.38	C

**TABLE 50:  
NEAR TERM CONDITIONS SEGMENT LEVEL OF SERVICE: BICYCLE ANALYSIS**

BICYCLE SEGMENT LOS					AM PEAK		PM PEAK		
ID	Roadway	From	To	Direction	LOS Threshold	SEGMENT SCORE	LOS	SEGMENT SCORE	LOS
1	Madonna Rd	Oceanaire Dr	LOVR	WB	D	3.60	D	4.13	D
	Madonna Rd	LOVR	Oceanaire Dr	EB	D	3.73	D	3.78	D
2	Madonna Rd	Dalidio	Oceanaire Dr	WB	D	3.14	C	3.23	C
	Madonna Rd	Oceanaire Dr	Dalidio	EB	D	3.56	D	3.43	C
3	Madonna Rd	El Mercado	Dalidio Dr	WB	D	3.29	C	3.21	C
	Madonna Rd	Dalidio Dr	El Mercado	EB	D	3.38	C	3.39	C
4	<b>Madonna Rd</b>	<b>US 101 SB Ramps</b>	<b>El Mercado</b>	<b>WB</b>	<b>D</b>	3.96	D	<b>4.35</b>	<b>E</b>
	Madonna Rd	El Mercado	US 101 SB Ramps	EB	D	3.61	D	3.62	D
5	Madonna Rd	US 101 NB Ramps	US 101 SB Ramps	WB	D	3.31	C	3.36	C
	Madonna Rd	US 101 SB Ramps	US 101 NB Ramps	EB	D	3.37	C	3.31	C
6	Madonna Rd	Higuera St	US 101 NB Ramps	WB	D	3.50	D	3.56	D
	Madonna Rd	US 101 NB Ramps	Higuera St	EB	D	3.69	D	3.52	D
7	S. Higuera St	Madonna Rd	Margarita Ave	SB	D	3.90	D	3.90	D
	S. Higuera St	Margarita Ave	Madonna Rd	NB	D	4.09	D	4.18	D
8	S. Higuera St	Margarita Ave	Prado Rd	SB	D	3.67	D	3.67	D
	S. Higuera St	Prado Rd	Margarita Ave	NB	D	3.90	D	3.96	D
9	S. Higuera St	Prado Rd	Granada Dr	SB	D	3.88	D	3.91	D
	S. Higuera St	Granada Dr	Prado Rd	NB	D	3.45	C	3.53	D
10	S. Higuera St	Granada Dr	Tank Farm Road	SB	D	4.13	D	4.19	D
	S. Higuera St	Tank Farm Road	Granada Dr	NB	D	3.52	D	3.55	D
11	S. Higuera St	Tank Farm Road	Suburban Drive	SB	D	3.35	C	3.46	C
	S. Higuera St	Suburban Drive	Tank Farm Road	NB	D	3.46	C	3.43	C
12	S. Higuera St	Suburban Drive	Los Osos Valley Road	SB	D	3.28	C	3.92	D
	S. Higuera St	Los Osos Valley Road	Suburban Drive	NB	D	3.94	D	3.88	D
13	Los Osos Valley	Madonna Rd	Froom Ranch Way	SB	D	3.72	D	3.74	D
	Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	D	3.39	C	3.49	C
14	Los Osos Valley	Froom Ranch Way	Calle Joaquin	SB	D	3.57	D	3.59	D
	Los Osos Valley	Calle Joaquin	Froom Ranch Way	NB	D	3.83	D	3.91	D
15	Los Osos Valley	Calle Joaquin	US 101 SB Ramps	SB	D	3.29	C	3.34	C
	Los Osos Valley	US 101 SB Ramps	Calle Joaquin	NB	D	3.55	D	3.62	D
16	Los Osos Valley	US 101 SB Ramps	US 101 NB Ramps	SB	D	3.72	D	3.69	D
	Los Osos Valley	US 101 NB Ramps	US 101 SB Ramps	NB	D	3.70	D	3.81	D
17	Los Osos Valley	US 101 NB Ramps	S. Higuera St	EB	D	3.42	C	3.37	C
	Los Osos Valley	S. Higuera St	US 101 NB Ramps	WB	D	3.33	C	3.40	C
18	Prado Rd	S. Higuera St	US 101 NB Ramps	WB	D	3.14	C	3.18	C
	Prado Rd	US 101 NB Ramps	S. Higuera St	EB	D	3.91	D	3.86	D
19	Froom Ranch Way	End	Los Osos Valley	WB	D	3.32	C	3.47	C
	Froom Ranch Way	Los Osos Valley	End	EB	D	2.87	C	3.49	C
20	<b>Dalidio Dr</b>	<b>Madonna Rd</b>	<b>Froom Ranch Way</b>	<b>SB</b>	<b>D</b>	<b>4.30</b>	<b>E</b>	<b>4.33</b>	<b>E</b>
	Dalidio Dr	Froom Ranch Way	Madonna Rd	NB	D	3.79	D	4.21	D

Notes:

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 incorporated into the methodology for evaluating bicycle segment performance.

**TABLE 51:  
NEAR TERM CONDITIONS SEGMENT LEVEL OF SERVICE: TRANSIT ANALYSIS**

TRANSIT 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	4.15	D	4.28	E
	Madonna Rd	LOVR	Oceanaire Dr	EB	D	Route 5	4.35	E	3.98	D
2	Madonna Rd	Dalidio	Oceanaire Dr	WB	D	Route 4	4.47	E	4.62	E
	Madonna Rd	Oceanaire Dr	Dalidio	EB	D	Route 5	4.71	E	4.44	E
3	Madonna Rd	El Mercado	Dalidio Dr	WB	D	Route 4	4.29	E	4.45	E
	Madonna Rd	Dalidio Dr	El Mercado	EB	D	0.00	Not Analyzed	N/A	Not Analyzed	N/A
4	Madonna Rd	US 101 SB Ramps	El Mercado	WB	D	Route 4	4.33	E	4.52	E
	Madonna Rd	El Mercado	US 101 SB Ramps	EB	D	Route 5	4.58	E	4.32	E
5	Madonna Rd	US 101 NB Ramps	US 101 SB Ramps	WB	D	Route 4	4.07	D	4.34	E
	Madonna Rd	US 101 SB Ramps	US 101 NB Ramps	EB	D	Route 5	4.22	D	3.78	D
6	Madonna Rd	Higuera St	US 101 NB Ramps	WB	D	Route 4	4.29	E	4.39	E
	Madonna Rd	US 101 NB Ramps	Higuera St	EB	D	Route 5	4.49	E	4.13	D
7	S. Higuera St	Madonna Rd	Margarita Ave	SB	D	Route 2	Not Analyzed	N/A	3.57	D
	S. Higuera St	Margarita Ave	Madonna Rd	NB	D	Route 2	3.72	D	3.75	D
8	S. Higuera St	Margarita Ave	Prado Rd	SB	D	Route 2	Not Analyzed	N/A	4.21	D
	S. Higuera St	Prado Rd	Margarita Ave	NB	D	Route 2	4.19	D	4.35	E
9	S. Higuera St	Prado Rd	Granada Dr	SB	D	Route 2	4.41	E	4.33	E
	S. Higuera St	Granada Dr	Prado Rd	NB	D	Route 2	3.77	D	3.96	D
10	S. Higuera St	Granada Dr	Tank Farm Road	SB	D	Route 2	3.82	D	3.91	D
	S. Higuera St	Tank Farm Road	Granada Dr	NB	D	Route 2	3.54	D	3.64	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	4.03	D	4.00	D
12	S. Higuera St	Suburban Drive	Los Osos Valley	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	4.51	E	4.56	E
	Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	D	Route 4	4.25	D	4.43	E
13	Los Osos Valley	Madonna Rd	Froom Ranch Way	SB	D	Route 5	4.60	E	4.38	E
	Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	D	Route 5	4.40	E	4.21	D
14	Los Osos Valley	Froom Ranch Way	Calle Joaquin	SB	D	Route 4	4.33	E	4.36	E
	Los Osos Valley	Calle Joaquin	Froom Ranch Way	NB	D	Route 4	4.24	D	4.50	E
14	Los Osos Valley	Madonna Rd	Froom Ranch Way	SB	D	Route 5	4.44	E	4.12	D
	Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	D	Route 5	4.35	E	4.30	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	US 101 NB Ramps	S. Higuera St	EB	D		Not Analyzed	N/A	Not Analyzed	N/A
	Los Osos Valley	S. Higuera St	US 101 NB Ramps	WB	D		Not Analyzed	N/A	Not Analyzed	N/A
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	End	Los Osos Valley	WB	D		Not Analyzed	N/A	Not Analyzed	N/A
	Froom Ranch	Los Osos Valley	End	EB	D		Not Analyzed	N/A	Not Analyzed	N/A
20	Dalidio Dr	Madonna Rd	Froom Ranch Way	SB	D	Route 4	4.01	D	4.05	D
	Dalidio Dr	Madonna Rd	Froom Ranch Way	SB	D	Route 5	4.47	E	4.35	E

Notes:

Segment 20 transit is southbound for routes 4 and 5

Route 2 Serves the Prado Day Center stop during the AM peak hour, and the DMV/Margarita stop during the PM Peak Hour

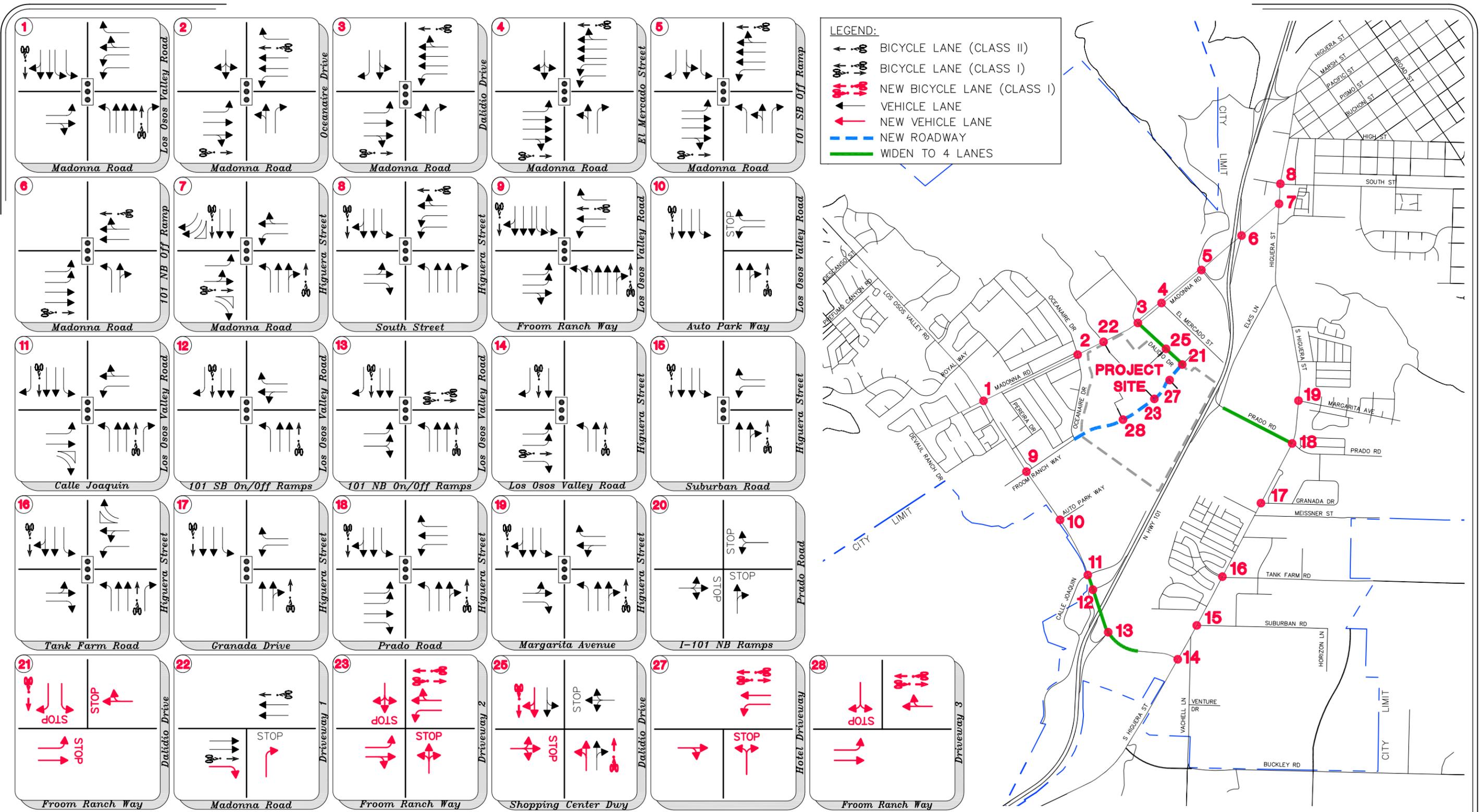
**TABLE 52:  
NEAR TERM CONDITIONS SEGMENT LEVEL OF SERVICE: FREEWAY ANALYSIS**

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
<b><i>US 101 at Los Osos Valley Road</i></b>									
US 101 NB South of Los Osos Valley Road	C	Freeway	2	<b>3,159</b>	<b>28.8</b>	<b>D</b>	2,503	22.0	C
US 101 SB South of Los Osos Valley Road	C	Freeway	2	1,590	14.0	B	<b>3,478</b>	<b>33.0</b>	<b>D</b>
<b><i>US 101 at Prado Road</i></b>									
US 101 NB South of Prado Road	C	Freeway	2	2,750	24.3	C	2,393	21.0	C
<b><i>US 101 at Madonna Road</i></b>									
US 101 NB South of Madonna Road	C	Freeway	2	2,760	24.4	C	2,779	24.6	C
US 101 SB South of Madonna Road	C	Freeway	2	1,860	16.3	B	<b>3,233</b>	<b>29.7</b>	<b>D</b>

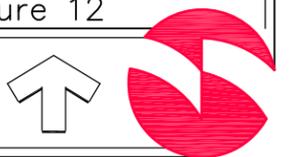
As shown in the Near Term Conditions segment analysis tables, most of the segments are currently operating at deficient LOS for pedestrian and transit modes, as well as several segments for automobile mode and only a couple segments for the bicycle mode. The segment of US 101 Northbound and Southbound south of Los Osos Valley Road and Southbound US 101 south of Madonna Road are operating at deficient LOS D during the Near Term conditions.

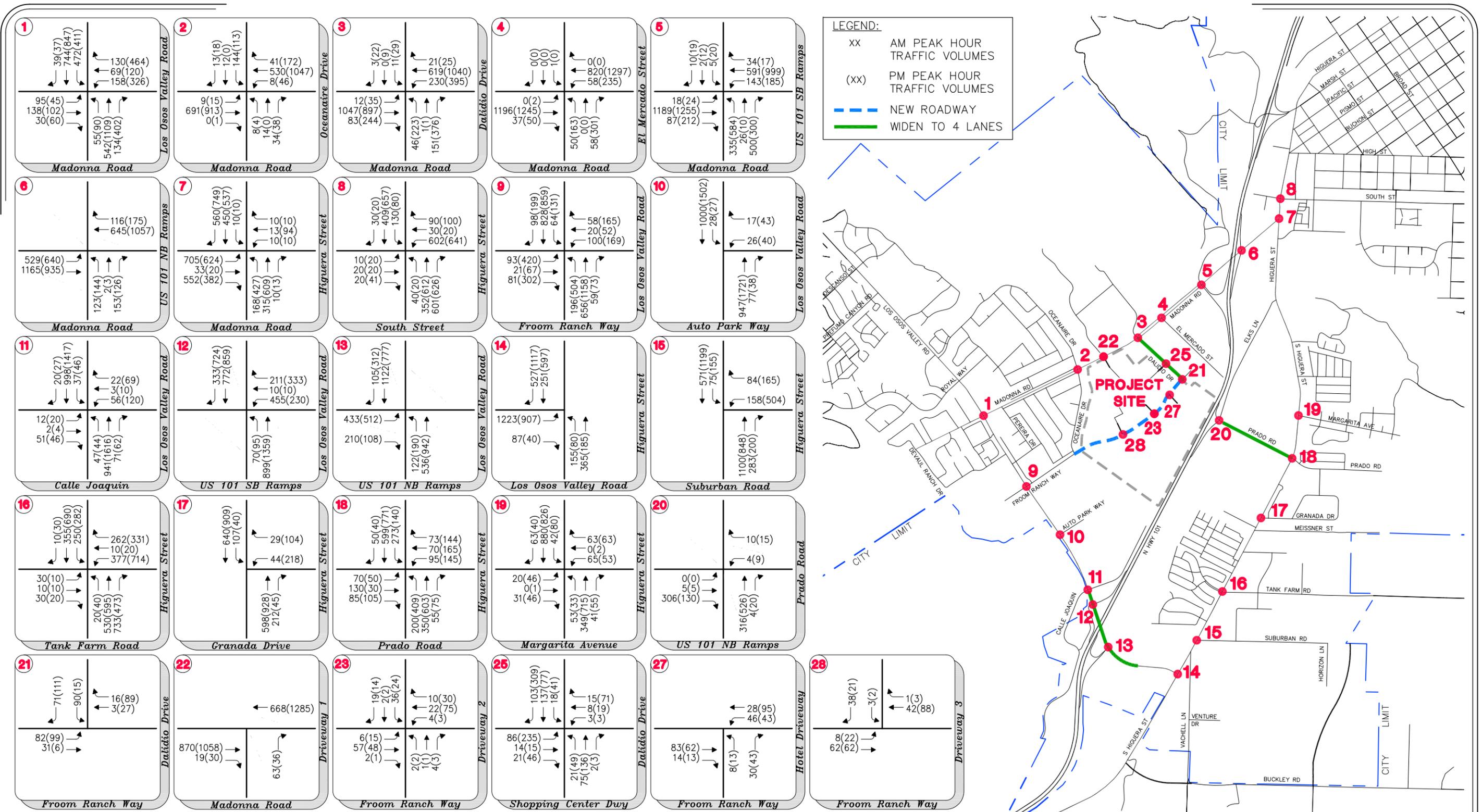
## Near Term Plus Project Conditions

The project generated peak hour volumes have been added to the derived Near Term No Project volumes to obtain the Near Term Plus Project conditions. The mode split for the project added traffic remains the same as existing conditions. The LOS has been quantified and compared to all study intersections and roadways analyzed in Near Term No Project conditions. All proposed driveway intersections have been evaluated for LOS operations, potential vehicle queuing and pedestrian and bicycle level of service. Figure 12 presents the Near Term Plus Project lane geometrics and control assuming the proposed project is in place. Figure 13 presents the Near Term Plus Project peak hour traffic volumes with the proposed project in place.



Year 2025 Near Term Plus Project Lane Geometrics and Control





San Luis Ranch Specific Plan Multimodal TIS

Figure 13

# Year 2025 Near Term Plus Project Peak Hour Traffic Volumes

# Near Term Plus Project Conditions Analysis

The Near Term Plus Project conditions multimodal analysis for the study intersections and segments are presented below.

## Near Term Plus Project Conditions Intersection Analysis

Table 53 provides a summary of the Near Term Plus Project conditions vehicular AM and PM peak hour intersection delay and LOS. Table 54 provides a summary of the Near Term Plus Project pedestrian AM and PM peak hour conditions at the study intersections. Table 55 provides a summary of the Near Term Plus Project bicycle AM and PM peak hour conditions at the study intersections. Table 56 provides a summary of the Near Term conditions queuing analysis.

**TABLE 53:  
NEAR TERM PLUS PROJECT CONDITIONS INTERSECTION LOS: AUTOMOBILE ANALYSIS**

#	Intersection	Control Type <sup>1,2</sup>	Target LOS	AM Peak Hour			PM Peak Hour		
				v/c <sup>3</sup>	Delay	LOS	v/c <sup>3</sup>	Delay	LOS
<b>1</b>	<b>Madonna Road/Los Osos Valley Road</b>	<b>Signal</b>	<b>D</b>		28.0	C	<b>1.05</b>	<b>56.3</b>	<b>E</b>
2	Madonna Road/Oceanaire Drive	Signal	D		21.3	C		19.0	B
<b>3</b>	<b>Madonna Road/Dalidio Drive</b>	<b>Signal</b>	<b>D</b>		47.0	D	<b>2.82</b>	<b>156.1</b>	<b>F</b>
4	Madonna Road/El Mercado	Signal	D		7.9	A		18.7	B
<b>5</b>	<b>Madonna Road/US 101 SB Ramps/Madonna</b>	<b>Signal</b>	<b>C</b>	<b>1.26</b>	<b>44.0</b>	<b>D</b>		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
<b>8</b>	<b>Higuera Street/South Street</b>	<b>Signal</b>	<b>D</b>		27.7	C	<b>1.43</b>	<b>81.0</b>	<b>F</b>
9	Los Osos Valley Road/Froom Ranch Way	Signal	D		22.7	C		42.8	D
<b>10</b>	<b>Los Osos Valley Road/Auto Park Way</b>	<b>TWSC</b>	<b>D</b>		20.2	C	<b>0.57</b>	<b>59.7</b>	<b>F</b>
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
<b>16</b>	<b>S. Higuera Street/Tank Farm Road</b>	<b>Signal</b>	<b>D</b>	<b>1.32</b>	<b>73.2</b>	<b>E</b>		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
<b>25</b>	<b>Dalidio Drive/SC Project Driveway</b>	<b>TWSC</b>	<b>D</b>		12.9	B	<b>0.86</b>	<b>52.3</b>	<b>F</b>
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; RNDBT = Roundabout

2. LOS = Delay based on worst minor street approach for TWSC intersections, average of all approaches for AWSC, Signal, RNDBT

3. Volume to Capacity Ratio (v/c) is for worst movement delay, for unacceptable LOS only

**TABLE 54:  
NEAR TERM PLUS PROJECT CONDITIONS INTERSECTION LOS: 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	<b>3.52</b>	<b>D</b>
		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	3.24	C
		NB	C	2.25	B	2.65	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	-	-	-	-
		WB	C	-	-	-	-
		NB	C	n/a	-	n/a	-
		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
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	-
		EB	C	3.00	C	2.92	C
14	S. Higuera Street/Los Osos Valley Road	NB	C	2.38	B	2.41	B
		SB	C	n/a	-	n/a	-
		WB	C	2.33	B	2.57	B
		NB	C	3.25	C	<b>3.98</b>	<b>D</b>
15	S. Higuera Street/Suburban Drive	SB	C	2.88	C	3.02	C
		EB	C	2.03	B	2.02	B
		WB	C	3.01	C	3.20	C
		NB	C	3.46	C	3.39	C
16	S. Higuera Street/Tank Farm Road	SB	C	2.77	C	2.91	C
		WB	C	2.11	B	2.18	B
		NB	C	n/a	-	n/a	-
		SB	C	2.71	B	2.89	C
17	S. Higuera Street/Granada Drive	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
18	S. Higuera Street/Prado Road	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
19	S. Higuera Street/Margarita Avenue	EB	C	-	-	-	-
		WB	C	-	-	-	-
		NB	C	n/a	-	n/a	-
		SB	C	-	-	-	-
20	Prado Road/US 101 NB Ramps	EB	C	-	-	-	-
		WB	C	-	-	-	-
		NB	C	n/a	-	n/a	-
		SB	C	-	-	-	-

*Notes:*

*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.*

*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 55:  
NEAR TERM PLUS PROJECT CONDITIONS INTERSECTION LOS: 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	<b>4.30</b>	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	<b>4.45</b>	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	-	-	-	-
		WB	D	n/a	-	n/a	-
		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
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	-	-	-	-
		WB	D	n/a	-	n/a	-
		NB	D	-	-	-	-
		SB	D	-	-	-	-

*Notes:*

*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 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 56:  
NEAR TERM PLUS PROJECT CONDITIONS 95<sup>TH</sup> PERCENTILE QUEUING ANALYSIS**

<i>Intersection</i>		Movement	No. Lanes	Total Storage (ft) <sup>1</sup>	95 <sup>th</sup> Percentile Queue/Lane (ft)	
ID	Location				AM Peak Hour	PM Peak Hour
1	Madonna Road/Los Osos Valley Road	Northbound Right	1	175	100	<b>271</b>
2	Madonna Road/Oceanaire Drive	Westbound Right	1	100	58	<b>130</b>
3	Madonna Road/Dalidio Drive	Westbound Left	1	275	194	<b>335</b>
		Westbound Through/Right	3	570	108	<b>601</b>
4	Madonna Road/El Mercado	Westbound Left	2	260	50	<b>530</b>
5	Madonna Road/US 101 SB Ramps/Madonna Inn	Eastbound Left	1	100	83	<b>115</b>
		Westbound Left	1	260	170	<b>514</b>
6	Madonna Road/US 101 NB Ramps	Northbound Left	1	185	156	<b>288</b>
7	Madonna Road/Higuera Street	Eastbound Right	1	150	<b>248</b>	<b>318</b>
		Northbound Left	1	160	<b>185</b>	<b>376</b>
		Southbound Left/Through	2	250	159	<b>444</b>
		Southbound Right	2	340	164	<b>607</b>
8	Higuera Street/South Street	Eastbound Right	1	60	41	<b>95</b>
		Westbound Left	2	240	<b>342</b>	<b>1086</b>
		Northbound Left	1	60	<b>102</b>	50
		Northbound Right	1	60	<b>104</b>	<b>137</b>
		Southbound Left	1	70	<b>116</b>	<b>120</b>
9	Los Osos Valley Road/Froom Ranch Way	Westbound Right	1	50	<b>60</b>	<b>108</b>
12	Los Osos Valley Road/US 101 SB Ramps	Westbound Left/Through	1	180	<b>259</b>	<b>214</b>
		Southbound Through	1	240	<b>293</b>	<b>279</b>
		Southbound Right	1	125	<b>188</b>	<b>176</b>
13	Los Osos Valley Road/US 101 NB	Southbound Right	1	130	<b>244</b>	<b>241</b>
14	S. Higuera Street/Los Osos Valley Road	Eastbound Right	1	90	<b>189</b>	<b>150</b>
15	S. Higuera Street/Suburban Drive	Southbound Left	1	200	149	<b>270</b>
16	S. Higuera Street/Tank Farm Road	Northbound Right	1	100	<b>186</b>	<b>159</b>
		Southbound Left	1	165	<b>211</b>	<b>204</b>
17	S. Higuera Street/Granada Drive	Southbound Left	1	80	<b>85</b>	58
18	S. Higuera Street/Prado Road	Westbound Left	1	105	<b>110</b>	<b>133</b>
		Westbound Right	1	100	49	<b>145</b>
		Northbound Left	1	100	<b>158</b>	<b>186</b>
19	S. Higuera Street/Margarita Avenue	Northbound Left	1	60	<b>78</b>	55
		Southbound Left	1	60	<b>83</b>	<b>97</b>

Notes: 1. **Bolded entries indicate queues exceed available storage**

2. Storage Length of " - " represents a lane which exceeds 900 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.

As shown in Table 53, the intersections of Los Osos Valley Road/Madonna Road, Madonna Road/Dalidio Drive, Madonna Road/US 101 SB Ramps/Madonna Inn, Higuera Street/South Street, Los Osos Valley Road/Auto Park Way, and S. Higuera Street/Tank Farm Road are projected to operate at unacceptable conditions during Near Term Plus Project Conditions. .

Queuing analysis results show numerous locations in which the 95<sup>th</sup> percentile queue are expected to exceed the available storage capacity during Near Term Plus Project conditions.

Pedestrian analysis shows acceptable conditions at the study intersections. Bicycle analysis shows deficiencies at of Los Osos Valley Road/Madonna Road and at Los Osos Valley Road/Froom Ranch Way. Transportation improvements required to mitigate project-related impacts are detailed in a subsequent section of this report.

## **Near Term Plus Project Conditions Segment Analysis**

Table 57 provides a summary of the Near Term Plus Project vehicular AM and PM peak hour conditions for the study segments. Table 58 provides a summary of the Near Term Existing Plus Project pedestrian AM and PM peak hour conditions for the study segments. Table 59 provides a summary of the Near Term Plus Project bicycle AM and PM peak hour conditions for the study segments. Table 60 provides a summary of the Near Term Plus Project transit AM and PM peak hour conditions for the study segments. Table 61 provides a summary of the Near Term Plus Project freeway segments analysis for AM and PM peak hour conditions for the study segments along US 101. Transportation improvements required to mitigate project-related impacts are detailed in a subsequent section of this report.

**TABLE 57:  
NEAR TERM PLUS PROJECT CONDITIONS SEGMENT LEVEL OF SERVICE: AUTOMOBILE ANALYSIS**

AUTO SEGMENT LOS					AM PEAK				PM PEAK				
ID	Roadway	From	To	Direction	LOS Threshold	Travel Speed (mph)	Base Free-Flow Speed BFFS (mph)	Travel Speed/ BFFS (%)	LOS	Travel Speed (mph)	Base Free-Flow Speed BFFS	Travel Speed/ BFFS (%)	LOS
1	<b>Madonna Rd</b>	<b>Oceanaire Dr</b>	<b>LOVR</b>	<b>WB</b>	<b>D</b>	21.1	40.1	53%	C	<b>10.1</b>	<b>40.1</b>	<b>25%</b>	<b>F</b>
	Madonna Rd	LOVR	Oceanaire Dr	EB	D	27.0	40.0	68%	B	27.5	40.0	69%	B
2	Madonna Rd	Dalidio	Oceanaire Dr	WB	D	23.6	40.8	58%	C	23.8	40.7	59%	C
	<b>Madonna Rd</b>	<b>Oceanaire Dr</b>	<b>Dalidio</b>	<b>EB</b>	<b>D</b>	<b>11.5</b>	<b>40.7</b>	<b>28%</b>	<b>F</b>	<b>16.3</b>	<b>40.8</b>	<b>40%</b>	<b>E</b>
3	Madonna Rd	El Mercado	Dalidio Dr	WB	D	14.9	34.1	44%	D	14.2	34.8	41%	D
	<b>Madonna Rd</b>	<b>Dalidio Dr</b>	<b>El Mercado</b>	<b>EB</b>	<b>D</b>	<b>26.0</b>	<b>38.2</b>	<b>68%</b>	<b>B</b>	<b>11.9</b>	<b>34.6</b>	<b>34%</b>	<b>E</b>
4	Madonna Rd	US 101 SB Ramps	El Mercado	WB	D	30.8	37.9	81%	B	21.9	37.3	59%	C
	Madonna Rd	El Mercado	US 101 SB Ramps	EB	D	20.7	37.8	55%	C	17.5	37.7	46%	D
5	Madonna Rd	US 101 NB Ramps	US 101 SB Ramps	WB	D	28.4	37.8	75%	B	22.3	37.8	59%	C
	Madonna Rd	US 101 SB Ramps	US 101 NB Ramps	EB	D	32.8	37.8	87%	A	33.3	37.8	88%	A
6	<b>Madonna Rd</b>	<b>Higuera St</b>	<b>US 101 NB Ramps</b>	<b>WB</b>	<b>D</b>	<b>10.6</b>	<b>37.2</b>	<b>29%</b>	<b>F</b>	<b>14.1</b>	<b>37.2</b>	<b>38%</b>	<b>E</b>
	<b>Madonna Rd</b>	<b>US 101 NB Ramps</b>	<b>Higuera St</b>	<b>EB</b>	<b>D</b>	<b>12.6</b>	<b>37.2</b>	<b>34%</b>	<b>E</b>	<b>8.0</b>	<b>37.2</b>	<b>21%</b>	<b>F</b>
7	S. Higuera St	Madonna Rd	Margarita Ave	SB	D	32.6	44.5	73%	B	33.1	44.5	74%	B
	S. Higuera St	Margarita Ave	Madonna Rd	NB	D	33.0	44.8	74%	B	33.5	44.8	75%	B
8	<b>S. Higuera St</b>	<b>Margarita Ave</b>	<b>Prado Rd</b>	<b>SB</b>	<b>D</b>	<b>16.2</b>	<b>38.9</b>	<b>42%</b>	<b>D</b>	<b>11.5</b>	<b>38.9</b>	<b>30%</b>	<b>F</b>
	S. Higuera St	Prado Rd	Margarita Ave	NB	D	21.2	38.9	55%	C	19.1	38.9	49%	D
9	S. Higuera St	Prado Rd	Granada Dr	SB	D	33.5	41.8	80%	B	29.3	41.8	70%	B
	S. Higuera St	Granada Dr	Prado Rd	NB	D	21.6	41.9	52%	C	23.9	41.9	57%	C
10	S. Higuera St	Granada Dr	Tank Farm Road	SB	D	42.3	41.6	102%	A	24.7	42.6	58%	C
	S. Higuera St	Tank Farm Road	Granada Dr	NB	D	29.7	41.6	71%	B	26.8	42.6	63%	C
11	S. Higuera St	Tank Farm Road	Suburban Drive	SB	D	27.1	42.4	64%	C	21.5	41.2	52%	C
	<b>S. Higuera St</b>	<b>Suburban Drive</b>	<b>Tank Farm Road</b>	<b>NB</b>	<b>D</b>	<b>17.8</b>	<b>42.5</b>	<b>42%</b>	<b>D</b>	<b>16.2</b>	<b>41.3</b>	<b>39%</b>	<b>E</b>
12	<b>S. Higuera St</b>	<b>Suburban Drive</b>	<b>Los Osos Valley Roa</b>	<b>SB</b>	<b>D</b>	<b>20.4</b>	<b>42.1</b>	<b>49%</b>	<b>D</b>	<b>13.4</b>	<b>39.1</b>	<b>34%</b>	<b>E</b>
	S. Higuera St	Los Osos Valley Roa	Suburban Drive	NB	D	23.7	42.0	56%	C	18.9	39.0	49%	D
13	<b>Los Osos Valley</b>	<b>Madonna Rd</b>	<b>Froom Ranch Way</b>	<b>SB</b>	<b>D</b>	<b>22.7</b>	<b>41.9</b>	<b>54%</b>	<b>C</b>	<b>15.2</b>	<b>41.8</b>	<b>36%</b>	<b>E</b>
	<b>Los Osos Valley</b>	<b>Froom Ranch Way</b>	<b>Madonna Rd</b>	<b>NB</b>	<b>D</b>	<b>20.5</b>	<b>41.8</b>	<b>49%</b>	<b>D</b>	<b>14.8</b>	<b>41.8</b>	<b>36%</b>	<b>E</b>
14	Los Osos Valley	Froom Ranch Way	Calle Joaquin	SB	D	29.0	43.0	67%	B	30.3	43.0	71%	B
	Los Osos Valley	Calle Joaquin	Froom Ranch Way	NB	D	28.1	43.2	65%	C	21.4	43.2	50%	D
15	<b>Los Osos Valley</b>	<b>Calle Joaquin</b>	<b>US 101 SB Ramps</b>	<b>SB</b>	<b>D</b>	<b>6.2</b>	<b>32.1</b>	<b>19%</b>	<b>F</b>	<b>13.1</b>	<b>32.1</b>	<b>41%</b>	<b>D</b>
	Los Osos Valley	US 101 SB Ramps	Calle Joaquin	NB	D	16.2	31.1	52%	C	13.9	31.1	45%	D
16	Los Osos Valley	US 101 SB Ramps	US 101 NB Ramps	SB	D	24.7	37.7	66%	C	21.0	37.7	56%	C
	Los Osos Valley	US 101 NB Ramps	US 101 SB Ramps	NB	D	20.2	37.4	54%	C	32.2	37.4	86%	A
17	Los Osos Valley	S. Higuera St	US 101 NB Ramps	WB	D	25.0	39.4	63%	C	<b>27.8</b>	<b>39.4</b>	<b>70%</b>	<b>B</b>
	<b>Los Osos Valley</b>	<b>US 101 NB Ramps</b>	<b>S. Higuera St</b>	<b>EB</b>	<b>D</b>	<b>16.9</b>	<b>39.4</b>	<b>43%</b>	<b>D</b>	<b>15.6</b>	<b>39.4</b>	<b>39%</b>	<b>E</b>
18	Prado Rd	S. Higuera St	US 101 NB Ramps	WB	D	27.4	39.1	70%	B	23.9	39.1	61%	C
	Prado Rd	US 101 NB Ramps	S. Higuera St	EB	D	23.4	39.0	60%	C	21.7	39.0	56%	C
19	<b>Froom Ranch Way</b>	<b>Dick's Sporting Goo</b>	<b>Los Osos Valley</b>	<b>WB</b>	<b>D</b>	<b>17.8</b>	<b>38.0</b>	<b>47%</b>	<b>D</b>	<b>13.0</b>	<b>37.4</b>	<b>35%</b>	<b>E</b>
	Froom Ranch Way	Los Osos Valley	Dick's Sporting Goods	EB	D	34.7	37.4	93%	A	34.9	37.9	92%	A
20	Dalidio Dr	Madonna Rd	Froom Ranch Way	SB	D	29.3	39.3	74%	B	29.5	39.3	75%	B
	<b>Dalidio Dr</b>	<b>Froom Ranch Way</b>	<b>Madonna Rd</b>	<b>NB</b>	<b>D</b>	<b>11.2</b>	<b>37.8</b>	<b>30%</b>	<b>F</b>	<b>1.1</b>	<b>37.8</b>	<b>3%</b>	<b>F</b>
21	Froom Ranch Way	Dalidio	Dick's Sporting Goods	WB	D	40.0	40.6	98%	A	39.9	40.6	98%	A
	Froom Ranch Way	Dick's Sporting Good	Dalidio	EB	D	34.1	40.8	84%	B	33.9	40.8	83%	B

**TABLE 58:  
NEAR TERM PLUS PROJECT CONDITIONS SEGMENT LEVEL OF SERVICE: PEDESTRIAN ANALYSIS**

PEDESTRIAN SEGMENT LOS						AM PEAK		PM PEAK		
ID	Roadway	From	To	Direction	LOS Threshold	Average Ped. Space (ft <sup>2</sup> /p)	SEGMENT SCORE	LOS	SEGMENT SCORE	LOS
1	Madonna Rd	Oceanaire Dr	LOVR	WB	C	2648	3.52	D	3.86	D
	Madonna Rd	LOVR	Oceanaire Dr	EB	C	17482	3.91	D	4.08	D
2	Madonna Rd	Dalidio	Oceanaire Dr	WB	C	12000	3.64	D	4.00	D
	Madonna Rd	Oceanaire Dr	Dalidio	EB	C	5833	3.84	D	3.97	D
3	Madonna Rd	El Mercado	Dalidio Dr	WB	C	37450	3.61	D	3.99	D
	Madonna Rd	Dalidio Dr	El Mercado	EB	C	52920	3.74	D	3.89	D
4	Madonna Rd	US 101 SB Ramps	El Mercado	WB	C	26250	3.68	D	3.88	D
	Madonna Rd	El Mercado	US 101 SB Ramps	EB	C	27915	3.77	D	3.87	D
5	Madonna Rd	US 101 NB Ramps	US 101 SB Ramps	WB	C	No Peds	3.76	D	3.95	F
	Madonna Rd	US 101 SB Ramps	US 101 NB Ramps	EB	C	No Peds	4.12	D	4.07	D
6	Madonna Rd	Higuera St	US 101 NB Ramps	WB	C	25200	3.70	D	3.88	D
	Madonna Rd	US 101 NB Ramps	Higuera St	EB	C	19838	3.90	D	3.86	D
7	S. Higuera St	Madonna Rd	Margarita Ave	SB	C	23247	3.87	D	3.90	D
	S. Higuera St	Margarita Ave	Madonna Rd	NB	C	5398	3.68	D	3.92	D
8	S. Higuera St	Margarita Ave	Prado Rd	SB	C	40979	3.71	D	3.74	D
	S. Higuera St	Prado Rd	Margarita Ave	NB	C	21700	3.55	D	3.71	D
9	S. Higuera St	Prado Rd	Granada Dr	SB	C	9292	3.65	D	3.77	D
	S. Higuera St	Granada Dr	Prado Rd	NB	C	8400	3.26	C	3.53	D
10	S. Higuera St	Granada Dr	Tank Farm Road	SB	C	46305	3.62	D	3.80	D
	S. Higuera St	Tank Farm Road	Granada Dr	NB	C	49140	3.24	C	3.36	C
11	S. Higuera St	Tank Farm Road	Suburban Drive	SB	C	12600	3.66	D	3.96	D
	S. Higuera St	Suburban Drive	Tank Farm Road	NB	C	31500	3.66	D	3.56	D
12	S. Higuera St	Suburban Drive	Los Osos Valley Roa	SB	C	39312	3.64	D	4.02	D
	S. Higuera St	Los Osos Valley Roa	Suburban Drive	NB	C	43533	4.00	D	4.06	D
13	Los Osos Valley	Madonna Rd	Froom Ranch Way	SB	C	3853	3.86	D	3.99	D
	Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	C	0	3.75	F	4.19	F
14	Los Osos Valley	Froom Ranch Way	Calle Joaquin	SB	C	27300	3.87	D	4.08	D
	Los Osos Valley	Calle Joaquin	Froom Ranch Way	NB	C	22050	3.75	D	4.11	D
15	Los Osos Valley	Calle Joaquin	US 101 SB Ramps	SB	C	44100	3.71	D	3.72	D
	Los Osos Valley	US 101 SB Ramps	Calle Joaquin	NB	C	63000	3.68	D	4.03	D
16	Los Osos Valley	US 101 SB Ramps	US 101 NB Ramps	SB	C	No Peds	3.94	D	3.92	D
	Los Osos Valley	US 101 NB Ramps	US 101 SB Ramps	NB	C	53928	3.83	D	3.29	C
17	Los Osos Valley	S. Higuera St	US 101 NB Ramps	WB	C	1680	3.62	D	3.81	D
	Los Osos Valley	US 101 NB Ramps	S. Higuera St	EB	C	39393	3.94	D	3.79	D
18	Prado Rd	S. Higuera St	US 101 NB Ramps	WB	C	25200	2.76	C	2.85	C
	Prado Rd	US 101 NB Ramps	S. Higuera St	EB	C	3019	3.44	C	3.42	C
19	Froom Ranch Way	Dick's Sporting Good	Los Osos Valley	WB	C	4846	3.06	C	3.26	C
	Froom Ranch Way	Los Osos Valley	Dick's Sporting Goods	EB	C	No Peds	1.79	A	1.75	A
20	Dalidio Dr	Madonna Rd	Froom Ranch Way	SB	C	3500	1.64	A	1.60	A
	Dalidio Dr	Froom Ranch Way	Madonna Rd	NB	C	21000	3.10	C	3.30	C
21	Froom Ranch Way	Dalidio	Dick's Sporting Goods	WB	C	8400	1.55	A	1.57	A
	Froom Ranch Way	Dick's Sporting Good	Dalidio	EB	C	No Peds	1.64	A	1.64	A

Notes:

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.

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.

**TABLE 59:  
NEAR TERM PLUS PROJECT CONDITIONS SEGMENT LEVEL OF SERVICE: BICYCLE ANALYSIS**

BICYCLE SEGMENT LOS					AM PEAK		PM PEAK		
ID	Roadway	From	To	Direction	LOS Threshold	SEGMENT SCORE	LOS	SEGMENT SCORE	LOS
1	Madonna Rd	Oceanaire Dr	LOVR	WB	D	3.61	D	4.17	D
	Madonna Rd	LOVR	Oceanaire Dr	EB	D	3.73	D	3.79	D
2	Madonna Rd	Dalidio	Oceanaire Dr	WB	D	3.15	C	3.24	C
	Madonna Rd	Oceanaire Dr	Dalidio	EB	D	3.57	D	3.44	C
3	Madonna Rd	El Mercado	Dalidio Dr	WB	D	3.31	C	3.24	C
	Madonna Rd	Dalidio Dr	El Mercado	EB	D	3.40	C	3.42	C
4	<b>Madonna Rd</b>	<b>US 101 SB Ramps</b>	<b>El Mercado</b>	<b>WB</b>	<b>D</b>	3.98	D	<b>4.38</b>	<b>E</b>
	Madonna Rd	El Mercado	US 101 SB Ramps	EB	D	3.64	D	3.65	D
5	Madonna Rd	US 101 NB Ramps	US 101 SB Ramps	WB	D	3.33	C	3.38	C
	Madonna Rd	US 101 SB Ramps	US 101 NB Ramps	EB	D	3.40	C	3.35	C
6	Madonna Rd	Higuera St	US 101 NB Ramps	WB	D	3.52	D	3.58	D
	Madonna Rd	US 101 NB Ramps	Higuera St	EB	D	3.77	D	3.59	D
7	S. Higuera St	Madonna Rd	Margarita Ave	SB	D	3.91	D	3.90	D
	S. Higuera St	Margarita Ave	Madonna Rd	NB	D	4.09	D	4.19	D
8	S. Higuera St	Margarita Ave	Prado Rd	SB	D	3.67	D	3.67	D
	S. Higuera St	Prado Rd	Margarita Ave	NB	D	3.87	D	3.97	D
9	S. Higuera St	Prado Rd	Granada Dr	SB	D	3.88	D	3.91	D
	S. Higuera St	Granada Dr	Prado Rd	NB	D	3.45	C	3.53	D
10	S. Higuera St	Granada Dr	Tank Farm Road	SB	D	4.13	D	4.19	D
	S. Higuera St	Tank Farm Road	Granada Dr	NB	D	3.52	D	3.55	D
11	S. Higuera St	Tank Farm Road	Suburban Drive	SB	D	3.35	C	3.46	C
	S. Higuera St	Suburban Drive	Tank Farm Road	NB	D	3.46	C	3.43	C
12	S. Higuera St	Suburban Drive	Los Osos Valley Road	SB	D	3.28	C	3.94	D
	S. Higuera St	Los Osos Valley Road	Suburban Drive	NB	D	3.94	D	3.88	D
13	Los Osos Valley	Madonna Rd	Froom Ranch Way	SB	D	3.72	D	3.74	D
	Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	D	3.39	C	3.49	C
14	Los Osos Valley	Froom Ranch Way	Calle Joaquin	SB	D	3.57	D	3.60	D
	Los Osos Valley	Calle Joaquin	Froom Ranch Way	NB	D	3.83	D	3.91	D
15	Los Osos Valley	Calle Joaquin	US 101 SB Ramps	SB	D	3.29	C	3.35	C
	Los Osos Valley	US 101 SB Ramps	Calle Joaquin	NB	D	3.55	D	3.62	D
16	Los Osos Valley	US 101 SB Ramps	US 101 NB Ramps	SB	D	3.72	D	3.69	D
	Los Osos Valley	US 101 NB Ramps	US 101 SB Ramps	NB	D	3.71	D	3.82	D
17	Los Osos Valley	S. Higuera St	US 101 NB Ramps	WB	D	3.27	C	3.36	C
	Los Osos Valley	US 101 NB Ramps	S. Higuera St	EB	D	3.35	C	3.37	C
18	Prado Rd	S. Higuera St	US 101 NB Ramps	WB	D	3.14	C	3.18	C
	Prado Rd	US 101 NB Ramps	S. Higuera St	EB	D	3.91	D	3.86	D
19	Froom Ranch Way	Dick's Sporting Goods	Los Osos Valley	WB	D	3.42	C	3.52	D
	Froom Ranch Way	Los Osos Valley	Dick's Sporting Goods	EB	D	3.33	C	3.52	D
20	Dalidio Dr	Madonna Rd	Froom Ranch Way	SB	D	3.35	C	2.93	C
	Dalidio Dr	Froom Ranch Way	Madonna Rd	NB	D	3.35	C	3.42	C
21	Froom Ranch Way	Dalidio	Dick's Sporting Goods	WB	D	2.49	B	2.92	C
	Froom Ranch Way	Dick's Sporting Goods	Dalidio	EB	D	3.42	C	3.40	C

Notes:

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 incorporated into the methodology for evaluating bicycle segment performance.

**TABLE 60:  
NEAR TERM PLUS PROJECT CONDITIONS SEGMENT LEVEL OF SERVICE: TRANSIT ANALYSIS**

TRANSIT 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	4.30	E
	<b>Madonna Rd</b>	<b>LOVR</b>	<b>Oceanaire Dr</b>	<b>EB</b>	<b>D</b>	<b>Route 5</b>	<b>4.36</b>	<b>E</b>	<b>4.04</b>	<b>D</b>
2	Madonna Rd	Dalidio	Oceanaire Dr	WB	D	Route 4	4.47	E	4.63	E
	<b>Madonna Rd</b>	<b>Oceanaire Dr</b>	<b>Dalidio</b>	<b>EB</b>	<b>D</b>	<b>Route 5</b>	<b>4.70</b>	<b>E</b>	<b>4.44</b>	<b>E</b>
3	Madonna Rd	El Mercado	Dalidio Dr	WB	D	Route 4	4.34	E	4.49	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	4.35	E	4.55	E
	<b>Madonna Rd</b>	<b>El Mercado</b>	<b>US 101 SB Ramps</b>	<b>EB</b>	<b>D</b>	<b>Route 5</b>	<b>4.60</b>	<b>E</b>	<b>4.35</b>	<b>E</b>
5	Madonna Rd	US 101 NB Ramps	US 101 SB Ramps	WB	D	Route 4	4.09	D	4.38	E
	Madonna Rd	US 101 SB Ramps	US 101 NB Ramps	EB	D	Route 5	4.25	D	3.83	D
6	Madonna Rd	Higuera St	US 101 NB Ramps	WB	D	Route 4	4.31	E	4.43	E
	<b>Madonna Rd</b>	<b>US 101 NB Ramps</b>	<b>Higuera St</b>	<b>EB</b>	<b>D</b>	<b>Route 5</b>	<b>4.51</b>	<b>E</b>	<b>4.16</b>	<b>D</b>
7	S. Higuera St	Madonna Rd	Margarita Ave	SB	D	Route 2	Not Analyzed	N/A	3.58	D
	S. Higuera St	Margarita Ave	Madonna Rd	NB	D	Route 2	3.72	D	3.75	D
8	S. Higuera St	Margarita Ave	Prado Rd	SB	D	Route 2	Not Analyzed	N/A	4.21	D
	<b>S. Higuera St</b>	<b>Prado Rd</b>	<b>Margarita Ave</b>	<b>NB</b>	<b>D</b>	<b>Route 2</b>	<b>4.22</b>	<b>D</b>	<b>4.34</b>	<b>E</b>
9	<b>S. Higuera St</b>	<b>Prado Rd</b>	<b>Granada Dr</b>	<b>SB</b>	<b>D</b>	<b>Route 2</b>	<b>4.41</b>	<b>E</b>	<b>4.33</b>	<b>E</b>
	S. Higuera St	Granada Dr	Prado Rd	NB	D	Route 2	3.77	D	3.95	D
10	S. Higuera St	Granada Dr	Tank Farm Road	SB	D	Route 2	3.82	D	3.91	D
	S. Higuera St	Tank Farm Road	Granada Dr	NB	D	Route 2	3.54	D	3.64	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	4.03	D	4.00	D
12	S. Higuera St	Suburban Drive	Los Osos Valley	SB	D	-	Not Analyzed	N/A	Not Analyzed	N/A
	S. Higuera St	Los Osos Valley	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	4.53	E	4.56	E
	<b>Los Osos Valley</b>	<b>Froom Ranch Way</b>	<b>Madonna Rd</b>	<b>NB</b>	<b>D</b>	<b>Route 4</b>	<b>4.25</b>	<b>E</b>	<b>4.43</b>	<b>E</b>
13	Los Osos Valley	Madonna Rd	Froom Ranch Way	SB	D	Route 5	4.61	E	4.38	E
	<b>Los Osos Valley</b>	<b>Froom Ranch Way</b>	<b>Madonna Rd</b>	<b>NB</b>	<b>D</b>	<b>Route 5</b>	<b>4.36</b>	<b>E</b>	<b>4.21</b>	<b>D</b>
14	Los Osos Valley	Froom Ranch Way	Calle Joaquin	SB	D	Route 4	4.34	E	4.37	E
	<b>Los Osos Valley</b>	<b>Calle Joaquin</b>	<b>Froom Ranch Way</b>	<b>NB</b>	<b>D</b>	<b>Route 4</b>	<b>4.27</b>	<b>E</b>	<b>4.54</b>	<b>E</b>
14	Los Osos Valley	Madonna Rd	Froom Ranch Way	SB	D	Route 5	4.45	E	4.14	D
	<b>Los Osos Valley</b>	<b>Froom Ranch Way</b>	<b>Madonna Rd</b>	<b>NB</b>	<b>D</b>	<b>Route 5</b>	<b>4.38</b>	<b>E</b>	<b>4.35</b>	<b>E</b>
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
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	Los Osos Valley	WB	D		Not Analyzed	N/A	Not Analyzed	N/A
	Froom Ranch Way	Los Osos Valley	Dick's Sporting	EB	D		Not Analyzed	N/A	Not Analyzed	N/A
20	Dalidio Dr	Madonna Rd	Froom Ranch Way	SB	D	Route 4	3.64	D	3.65	D
	Dalidio Dr	Madonna Rd	Froom Ranch Way	SB	D	Route 5	4.20	D	3.96	D
21	Dalidio Dr	Froom Ranch Way	Madonna Rd	NB	D	0.00	Not Analyzed	N/A	Not Analyzed	N/A
	Froom Ranch Way	Dalidio	Dick's Sporting	WB	D	0.00	Not Analyzed	N/A	Not Analyzed	N/A

Notes:

Segment 20 transit is southbound for routes 4 and 5

Route 2 Serves the Prado Day Center stop during the AM peak hour, and the DMV/Margarita stop during the PM Peak Hour

**TABLE 61:  
NEAR TERM PLUS PROJECT 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
<b>US 101 at Los Osos Valley Road</b>									
US 101 NB South of Los Osos Valley Road	C	Freeway	2	3,186	29.1	D	2,538	22.3	C
US 101 SB South of Los Osos Valley Road	C	Freeway	2	1,616	14.2	B	3,516	33.5	D
<b>US 101 at Prado Road</b>									
US 101 NB South of Prado Road	C	Freeway	2	2,770	24.5	C	2,420	21.2	C
<b>US 101 at Madonna Road</b>									
US 101 NB South of Madonna Road	C	Freeway	2	2,780	24.6	C	2,806	24.8	C
US 101 SB South of Madonna Road	C	Freeway	2	1,879	16.5	B	3,260	30.0	D

As shown in the Near Term Plus Project Conditions segment analysis tables, most of the pedestrian and transit facilities are projected to operate at unacceptable levels of service as well as several segments for automobile mode and only one segment for the bicycle mode.

## Project Proposed Infrastructure Phasing

This section evaluates the proposed phasing of infrastructure included within the project description. Table 7-9 below of the San Luis Ranch Specific Plan is the applicant’s proposed infrastructure phasing plan.

**Table 7-9 San Luis Ranch Build-Out Phasing Plan**

Phase/Trigger	Improvement
Phases 1 and 2 - Residential	Froom Ranch Way Extension
Phases 1 and 2 - Residential	Madonna Road Improvements
Phase 3 - Commercial	Dalidio Drive Improvements
Phase 3 - Commercial	Traffic Signal Improvements
Phase 3 - Commercial	Froom Ranch Way Bridge
After Specific Plan Build-Out	Prado Road Connection - US 101

### **Froom Ranch Way Extension: Phases 1 & 2**

The specific plan describes this infrastructure as the extension of Froom Ranch Way (2-lane collector road with class I path) from the existing Dalidio Drive to the south up to but not including the Froom Ranch Way Bridge. There are no anticipated impacts associated with the proposed timing of these improvements.

### **Madonna Road Improvements: Phases 1 & 2**

The specific plan describes this infrastructure as a right-in and right-out connection with acceleration and deceleration lanes, sidewalk, curb, and gutter, as well as widening to match

the segments east and west of the Specific Plan. There are no anticipated impacts associated with the proposed timing of these improvements.

### **Dalidio/Prado Improvements: Phase 3**

The specific plan describes this infrastructure as widening to two lanes in both directions. Due to level of service and queuing impacts the Prado Road Overcrossing is triggered at part of Phase 2, the projected volumes on Prado Road with that connection occurring under Phase 2 would exceed the 2 lane capacity of Dalidio/Prado Road prior to the improvements proposed to occur at Phase 3 causing a significant impact. Changing timing the Dalidio/Prado Improvement to occur simultaneously with the Prado Road Overcrossing at Phase 2 would mitigate this impact.

### **Traffic Signal Improvements: Phase 3**

The specific plan describes this infrastructure as driveway access controls along Dalidio/Prado for the proposed commercial lots. There are no anticipated impacts associated with the proposed timing of these improvements. However due to level of service and queuing impacts, mitigation for this access point is roundabout control, significant reconfiguration of Dalidio/Prado would be required if construction of the roundabout were to occur at Phase 3.

### **Froom Ranch Way Bridge: Phase 3**

The specific plan describes this infrastructure as completing the Froom Ranch connection to the south providing access to LOVR. If this connection does not occur until Phase 3 all traffic from Phases 1 & 2 as well as left turning traffic from Prado Road to Froom Ranch Way would be forced to use the Dalidio & Madonna Intersection. This volume in combination with the volume already projected at the Dalidio & Madonna Intersection would cause a significant impact to the intersection reducing it to an unacceptable level of service. Changing timing of the Froom Ranch Way Bridge to occur as part of Phases 1&2 would mitigate this impact.

### **Prado Road Bridge: After Specific Plan Buildout**

The specific plan describes this infrastructure as the Prado Road/ Hwy 101 Overcrossing (with or without full ramp access to Hwy 101). Operational assessment under both the existing and near term scenarios identified significant impacts at multiple segments, intersections, and interchanges without the overcrossing and NB ramps in place. Operational assessment under the cumulative scenario identified significant impacts at multiple interchanges without the SB ramps in place. Changing the timing of the Prado Road Overcrossing & NB Ramp to Phase 2 and the SB ramps to Cumulative would mitigate this impact.

## Near Term Plus Project Impacts & Mitigation Measures

This section presents the project-related impacts and mitigation measures at the study intersections and segments, developed based on the findings from the analyses presented in the prior sections of this report. Improvements are identified only where this is a significant project impact, based on the significance thresholds identified previously.

Table 62 presents the intersections projected to operate at unacceptable levels of service for vehicle, pedestrian, bicycle, and transit travel modes under Near Term Plus Project conditions, and whether the project has a significant impact based on the thresholds listed above. Tables 63A and 63B present the roadway segments projected to operate at unacceptable levels of service for vehicle, pedestrian, bicycle, and transit travel modes under Near Term Plus Project AM and PM peak hour conditions, respectively, and whether the project has a significant impact based on the thresholds listed above. Table 64 presents the project impacts for the queuing analysis at the study intersections.

**TABLE 62:  
NEAR TERM PLUS PROJECT SIGNIFICANT INTERSECTION IMPACTS**

Intersection #	1						3		5		8		9	
Name	Madonna Road/Los Osos Valley Road						Madonna Road/ Dalidio Drive		Madonna Road/ US 101 SB Ramps		Higuera Street/ South Street		Los Osos Valley Road/ Froom Ranch Way	
Mode	AUTO		PED		BIKE		AUTO		AUTO		AUTO		BIKE	
SCENARIO	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS	Score	LOS	v/c	LOS	Score	LOS
<i>AM PEAK HOUR</i>			NB		WB				EB				EB	
Year 2025	-	C	3.11	C	3.36	C	-	A	1.22	D	-	C	3.42	C
Year 2025 Plus Project	-	C	3.12	C	3.39	C	-	D	1.26	D	-	C	3.44	C
Significant Impact?	No		No		No		No		Yes		No		No	
<i>PM PEAK HOUR</i>			NB		WB				EB				EB	
Year 2025	-	D	3.51	D	4.25	D	-	D	-	C	1.28	E	4.42	E
Year 2025 Plus Project	1.05	E	3.52	D	4.30	E	2.82	F	-	C	1.43	F	4.45	E
Significant Impact?	Yes		No		Yes		Yes		No		Yes		No	

Note: V/C Ratio is based on worst movement

**TABLE 62 (CONT'D.):  
NEAR TERM PLUS PROJECT SIGNIFICANT INTERSECTION IMPACTS**

Intersection #	10				15		16		25	
Name	Los Osos Valley Road/ Auto Park Way				S. Higuera Street/ Suburban Drive		S. Higuera Street/Tank Farm Road		Dalidio Drive/ SC Project Driveway	
Mode	AUTO				PED		AUTO		AUTO	
SCENARIO	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS
<i>AM PEAK HOUR</i>					NB					
Year 2025	-	C			3.23	C	1.31	E	-	-
Year 2025 Plus Project	-	C			3.25	C	1.32	E	-	B
Significant Impact?	No				No		Yes		No	
<i>PM PEAK HOUR</i>					NB					
Year 2025	0.52	F			3.96	D	-	C	-	-
Year 2025 Plus Project	0.57	F			3.98	D	-	C	0.86	F
Significant Impact?	Yes				No		No		Yes	

Note: V/C Ratio is based on worst movement

TABLE 63A: NEAR TERM PLUS PROJECT SIGNIFICANT ROADWAY IMPACTS

2025 Multimodal Segment LOS					Auto Mode					Pedestrian Mode					Bicycle Mode					Transit Mode								
AM PEAK HOUR																												
ID	Roadway	From	To	Direction	Auto LOS Threshold	2025		2025 Plus Project		Significant Impact?	Ped LOS Threshold	2025		2025 Plus Project		Significant Impact?	Bike LOS Threshold	2025		2025 Plus Project		Significant Impact?	Transit LOS Threshold	2025		2025 Plus Project		Significant Impact?
						Travel Speed (mph)	LOS	Travel Speed (mph)	LOS			Segment Score	LOS	Segment Score	LOS			Segment Score	LOS	Segment Score	LOS			Segment Score	LOS	Segment Score	LOS	
2	Madonna Rd	Oceanaire Dr	Dalidio	EB	D	27.1	C	11.5	F	Yes	C	3.80	D	3.84	D	No	D	3.56	D	3.57	D	No	D	4.71	E	4.70	E	No
6	Madonna Rd	Higuera St	US 101 NB Ramps	WB	D	11.2	E	10.6	F	Yes	C	3.63	D	3.70	D	No	D	3.50	D	3.52	D	No	D	4.29	E	4.31	E	No
13	Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	D	20.9	C	20.5	D	No	C	3.74	F	3.75	F	No	D	3.39	C	3.39	C	No	D	4.25	D	4.25	E	Yes
13	Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	D						C						D						D	4.25	D	4.25	E	Yes

Note: Segment 20 transit is southbound for routes 4 and 5; Segment 21 pedestrian and bicycle service will be further evaluated using off-street facilities methodologies.

2025 Multimodal Segment LOS					Auto Mode					Pedestrian Mode					Bicycle Mode					Transit Mode								
PM PEAK HOUR																												
ID	Roadway	From	To	Direction	Auto LOS Threshold	2025		2025 Plus Project		Significant Impact?	Ped LOS Threshold	2025		2025 Plus Project		Significant Impact?	Bike LOS Threshold	2025		2025 Plus Project		Significant Impact?	Transit LOS Threshold	2025		2025 Plus Project		Significant Impact?
						Travel Speed (mph)	LOS	Travel Speed (mph)	LOS			Segment Score	LOS	Segment Score	LOS			Segment Score	LOS	Segment Score	LOS			Segment Score	LOS	Segment Score	LOS	
1	Madonna Rd	Oceanaire Dr	LOVR	WB	D	11.6	F	10.1	F	Yes	C	3.84	D	3.86	D	No	D	4.13	D	4.17	D	No	D	4.29	E	4.30	E	No
2	Madonna Rd	Oceanaire Dr	Dalidio	EB	D	18.7	D	16.3	E	Yes	C	3.88	D	3.97	D	No	D	3.43	C	3.44	C	No	D	4.44	E	4.44	E	No
6	Madonna Rd	US 101 NB Ramps	Higuera St	EB	D	10.4	F	8.0	F	Yes	C	3.76	D	3.86	D	No	D	3.52	D	3.59	D	No	D	4.13	D	4.16	D	No
13	Los Osos Valley	Madonna Rd	Froom Ranch Way	SB	D	16.9	D	15.2	E	Yes	C	3.99	D	3.99	D	No	D	3.74	D	3.74	D	No	D	4.56	E	4.56	E	No
17	Los Osos Valley	US 101 NB Ramps	S. Higuera St	EB	D	15.8	D	15.6	E	Yes	C	3.78	D	3.79	D	No	D	3.37	C	3.37	C	No	D	Not Analyzed	N/A	Not Analyzed	N/A	

Note: Segment 20 transit is southbound for routes 4 and 5; Segment 21 pedestrian and bicycle service will be further evaluated using off-street facilities methodologies.

**TABLE 64:  
NEAR TERM PLUS PROJECT CONDITIONS 95<sup>TH</sup> PERCENTILE QUEUING ANALYSIS**

					2025		2025 PP Conditions	
<i>Intersection</i>		Movement	No. Lanes	Total Storage (ft) <sup>1</sup>	95 <sup>th</sup> Percentile Queue/Lane (ft)		95 <sup>th</sup> Percentile Queue/Lane (ft)	
ID	Location				AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
1	Madonna Road/Los Osos Valley Road	Northbound Right	1	175	119	<b>248</b>	100	<b>271</b>
3	Madonna Road/Dalidio Drive	Westbound Left	1	275	46	108	194	<b>335</b>
		Westbound Through/Right	1	570	10	22	108	<b>601</b>
4	Madonna Road/El Mercado	Westbound Left	2	260	56	115	50	<b>530</b>
5	Madonna Road/US 101 SB Ramps/Madonna Inn	Eastbound Left	1	100	89	96	83	<b>115</b>
		Westbound Left	1	260	160	<b>322</b>	170	<b>514</b>
6	Madonna Road/US 101 NB Ramps	Northbound Left	1	185	156	151	156	<b>288</b>
7	Madonna Road/Higuera Street	Eastbound Right	1	150	<b>221</b>	<b>192</b>	<b>248</b>	<b>318</b>
		Northbound Left	1	160	153	<b>361</b>	<b>185</b>	<b>376</b>
		Southbound Right	2	340	19	55	23	<b>607</b>
8	Higuera Street/South Street	Eastbound Right	1	60	42	54	41	<b>95</b>
		Westbound Left	2	240	<b>303</b>	<b>287</b>	<b>342</b>	<b>1086</b>
		Southbound Left	1	70	<b>115</b>	<b>118</b>	<b>116</b>	<b>120</b>
9	Los Osos Valley Road/Froom Ranch Way	Westbound Right	1	50	50	<b>81</b>	<b>60</b>	<b>108</b>
12	Los Osos Valley Road/US 101 SB Ramps	Westbound Left/Through	1	180	<b>256</b>	<b>187</b>	<b>259</b>	<b>214</b>
		Southbound Through	1	240	<b>275</b>	<b>284</b>	<b>293</b>	<b>279</b>
13	Los Osos Valley Road/US 101 NB Ramps	Southbound Right	1	130	<b>215</b>	<b>187</b>	<b>244</b>	<b>241</b>
15	S. Higuera Street/Suburban Drive	Southbound Left	1	170	69	<b>249</b>	72	<b>270</b>
16	S. Higuera Street/Tank Farm Road	Southbound Left	1	165	<b>210</b>	<b>231</b>	<b>211</b>	<b>204</b>
18	S. Higuera Street/Prado Road	Westbound Right	1	100	51	78	49	<b>145</b>
		Northbound Left	1	100	<b>158</b>	<b>173</b>	<b>158</b>	<b>186</b>
19	S. Higuera Street/Margarita Avenue	Northbound Left	1	60	<b>75</b>	57	<b>78</b>	55
		Southbound Left	1	60	<b>68</b>	<b>91</b>	<b>83</b>	<b>97</b>

- Notes
1. Bolded entries indicate queues exceed available storage
  2. Storage Length of " - " represents a lane which exceeds 900 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.

**Red Cells represent New Impacts from Project-added traffic**  
**Yellow Cells represent Existing queues exceeding storage that are increased by project-added traffic.**

## Near Term Plus Project Mitigation Measures

Based on the findings, the Prado Road Overcrossing is required under the Existing Plus Project scenario, and the *Near Term* mitigation scenario assumes the Prado Overcrossing to be constructed. Additional mitigation measures have been summarized in Table 65, identifying which mitigation measures are projected to reduce the project's impact to less than significant for the corresponding intersection or segment, for each mode. Additionally, it is important to note that the optimization of throughput to mitigate segment impacts may create queuing impacts for opposing movements.

**TABLE 65: NEAR TERM PLUS PROJECT MITIGATION MEASURES SUMMARY**

<b>2025 Plus Project Significant Impact Location</b>	<b>Mode</b>	<b>Impact</b>	<b>Mitigation Measure</b>
Intersection #1 Madonna Rd/Los Osos Valley Rd	Auto	The Project added traffic increases the delay at this intersection to be unacceptable LOS E during the PM peak hour.	<ul style="list-style-type: none"> <li>Optimizing traffic signal timing to accommodate increased traffic volumes will mitigate this impact.</li> </ul>
Intersection #1 Madonna Rd/Los Osos Valley Rd	Auto (Queue)	Addition of project traffic would exacerbate the existing northbound right queue in the PM peak hour.	Existing Plus Project Mitigations are projected to mitigate the impact to less than significant. See Table 41.
Intersection #1 Los Osos Valley Road/Madonna Road	Bike	The Project added traffic increases the delay at this intersection to be unacceptable LOS E during the PM peak hour.	<ul style="list-style-type: none"> <li>Optimizing traffic signal timing to accommodate increased traffic volumes will mitigate this impact.</li> </ul>
Intersection #3 Madonna Rd/Dalidio Dr*	Auto	With construction of the Prado Overcrossing, background and project traffic volumes throughout the network are redistributed and the delay increases at this intersection to be an unacceptable LOS during the PM peak hour.	In addition to the Existing Plus Project Mitigations in Table 41, Construct a second northbound left turn pocket on Dalidio/Prado to mitigate the impacts. Widening the approach and additional right-of-way may be required.
Intersection #3 Madonna Rd/Dalidio Dr	Auto (Queue)	Addition of project traffic would: <ul style="list-style-type: none"> <li>Result in a new impact to the westbound left queue in the PM peak hour.</li> <li>Result in a new impact to the westbound through/right queue in the PM peak hour.</li> </ul>	Existing Plus Project Mitigations are projected to mitigate the impact to less than significant. See Table 41.

**TABLE 65: NEAR TERM PLUS PROJECT MITIGATION MEASURES SUMMARY**

2025 Plus Project Significant Impact Location	Mode	Impact	Mitigation Measure
Intersection #4 Madonna Rd/EI Mercado	Auto (Queue)	Addition of project traffic would result in a new impact to the westbound left queue in the PM peak hour.	Existing Plus Project Mitigations in Table 41 are projected to mitigate this impact. Addition of a second westbound left turn pocket at Intersection #3 Madonna Rd/Dalidio Dr would improve this condition to an acceptable level due to the spillback into this intersection.
Intersection #5 Madonna Rd/US 101 SB Ramps/Madonna Inn	Auto	This intersection currently operates at unacceptable LOS D in the AM peak hour, and is projected to worsen in Year 2025. The addition of Project traffic exacerbates this unacceptable condition by increasing delay and v/c ratio.	Existing Plus Project Mitigations are projected to mitigate the impact to less than significant. See Table 41.
Intersection #5 Madonna Rd/US 101 SB Ramps/Madonna Inn	Auto (Queue)	Addition of project traffic would: •Result in a new impact to the eastbound left queue in the PM peak hour. •Exacerbate the westbound left queue in the PM peak hour.	•See Table 41. •Construction of the Prado Overcrossing is projected to mitigate this impact, along with optimizing the signal timings.
Intersection #6 Madonna Rd/US 101 NB Ramps	Auto (Queue)	Addition of project traffic would result in a new impact to the northbound left in the PM peak hour.	Construction of the Prado overcrossing is projected to mitigate this impact, along with optimizing the signal timings. See Table 41.
Intersection #7 Madonna Rd/S. Higuera St	Auto (Queue)	Addition of project traffic would: •Exacerbate the eastbound right queues in the AM and PM peak hours. •Result in a new impact to the northbound left in the AM peak hour and exacerbate the queue in the PM peak hour. •Result in a new impact to the southbound right in the PM peak hour.	See Table 41.

**TABLE 65: NEAR TERM PLUS PROJECT MITIGATION MEASURES SUMMARY**

2025 Plus Project Significant Impact Location	Mode	Impact	Mitigation Measure
Intersection #8 Higuera St/South St	Auto	This intersection currently operates at unacceptable LOS E in the PM peak hour, and is projected to worsen in Year 2025. The addition of Project traffic exacerbates this unacceptable condition by increasing delay and v/c ratio.	Existing Plus Project Mitigations are projected to mitigate the impact to less than significant. See Table 41.
Intersection #9 Los Osos Valley Road/Froom Ranch Way*	Auto	With construction of the Prado Overcrossing, background and project traffic volumes throughout the network are redistributed, and increase the delay at this intersection to be an unacceptable LOS during the PM peak hour.	<ul style="list-style-type: none"> <li>• Reconfigure the eastbound approach geometry and lane usage to include dual left turns, a thru lane, and a dedicated right turn pocket.</li> <li>• Reconfigure the westbound approach geometry and lane usage to include a dual left turns, a thru lane, and a dedicated right turn pocket.</li> </ul>
Intersection #9 Los Osos Valley Road/Froom Ranch Way	Auto (Queue)	Addition of project traffic would result in a new impact to the westbound right queue in the AM peak hour and exacerbate the queue in the PM peak hour. Also, construction of the Prado Overcrossing results in background and project traffic volumes throughout the network being redistributed and further exacerbates the queue length.	Extension of the westbound right turn pocket to 230' would improve this condition to an acceptable level. Additional right-of-way from the adjacent vacant parcel may be required along with reconstruction of the frontage road.
Intersection #10 Los Osos Valley Road/Auto Park Way	Auto	This intersection is projected to operate at unacceptable LOS F in the PM peak hour. The addition of Project traffic exacerbates this unacceptable condition by increasing delay and v/c ratio.	Construction of the Prado Overcrossing would mitigate the project impact by redistributing the volumes through this intersection and surrounding network.
Intersection #11 Los Osos Valley Road/Calle Joaquin	Auto (Queue)	Addition of project traffic would result in a new impact to the southbound right queue in the AM and PM peak hour.	Construction of the Prado Overcrossing would mitigate the project impact by redistributing the volumes through this intersection and surrounding network.

**TABLE 65: NEAR TERM PLUS PROJECT MITIGATION MEASURES SUMMARY**

2025 Plus Project Significant Impact Location	Mode	Impact	Mitigation Measure
Intersection #12 Los Osos Valley Road/US 101 SB Ramps	Auto (Queue)	Addition of project traffic would: •Exacerbate the westbound left/through queue in the AM and PM peak hour •Exacerbate the southbound through queue in the AM peak hour	Existing Plus Project Mitigations are projected to mitigate the impact to less than significant. See Table 41.
Intersection #13 Los Osos Valley Road/US 101 NB Ramps	Auto (Queue)	Addition of project traffic would exacerbate the southbound right queue in the AM and PM peak hours.	Construction of the Prado Overcrossing would mitigate the project impact by redistributing the volumes through this intersection and surrounding network.
Intersection #15 S. Higuera St/Suburban Drive	Auto (Queue)	Addition of project traffic would exacerbate the westbound right queue in the PM peak hour.	Construction of the Prado Overcrossing will mitigate the impact by redistributing the volumes through this intersection and surrounding network.
Intersection #16 S. Higuera St/Tank Farm Rd	Auto	This intersection is projected to operate at unacceptable LOS E in the AM peak hour. The addition of Project traffic exacerbates this unacceptable condition by increasing delay and v/c ratio.	Construction of the Prado Overcrossing will mitigate the impact by redistributing the volumes through this intersection and surrounding network.
Intersection #16 S. Higuera St/Tank Farm Rd	Auto (Queue)	Addition of project traffic would exacerbate the southbound left queue in the AM and PM peak hours.	Extension of the southbound left turn pocket to 260' would improve this condition to an acceptable level. Left turn queues can be accommodated within the center turn lane without driveway access implications. Pocket striping could be extended but may affect driveway access.

**TABLE 65: NEAR TERM PLUS PROJECT MITIGATION MEASURES SUMMARY**

2025 Plus Project Significant Impact Location	Mode	Impact	Mitigation Measure
Intersection #18 S. Higuera St/Prado Rd	Auto (Queue)	Addition of project traffic would: •Result in a new impact to westbound right queue in the PM peak hour •Exacerbate the northbound left queue in the PM peak hour •Exacerbate the southbound left queue in the AM peak hour	<ul style="list-style-type: none"> <li>•Geometric improvements are recommended to be constructed in coordination with planned improvements to this intersection.</li> <li>•Extension of the westbound right turn pocket to 410' would improve this condition to an acceptable level.</li> <li>•Extension of the northbound left turn pocket to 250' and the southbound left turn pocket to 280' would improve these conditions to an acceptable level. Left turn queues can be accommodated within the center turn lane without driveway access implications. Pocket striping could be extended but may affect driveway access.</li> </ul>
Intersection #21 Dalidio Dr/Prado Rd/Froom Ranch Way*	Auto	With construction of the Prado Overcrossing, background and project traffic volumes throughout the network are redistributed, and increase the delay at this intersection to be an unacceptable LOS during the PM peak hour.	<ul style="list-style-type: none"> <li>• Install a Multi-lane modern roundabout</li> </ul>
Intersection #25 Dalidio Dr/SC Project Dwy	Auto	The Project added traffic increases the delay at this intersection to be unacceptable LOS F during the PM peak hour. Construction of the Prado Overcrossing exacerbates the deficiencies at this intersection as well.	Existing Plus Project Mitigations are projected to mitigate the impact to acceptable conditions. See Table 41.
Segment #1: Madonna Rd WB - Oceanaire Dr to Los Osos Valley Rd	Auto	This segment is projected to operate at unacceptable LOS F in the PM peak hour. The addition of Project traffic exacerbates this unacceptable condition by decreasing the travel speed by 1 mph or more.	Improvements to Intersection #1 mitigate the impact to this segment.

**TABLE 65: NEAR TERM PLUS PROJECT MITIGATION MEASURES SUMMARY**

2025 Plus Project Significant Impact Location	Mode	Impact	Mitigation Measure
Segment #2: Madonna Rd EB - Oceanaire Dr to Dalidio Dr	Auto	The Project added traffic increases the delay on this segment to be unacceptable LOS F in the AM peak hour and LOS E in the PM peak hour.	Improvements to Intersection #3 mitigate the impact to this segment.
Segment #3: Madonna Rd WB - El Mercado to Dalidio Dr*	Ped	With construction of the Prado Overcrossing, background and project traffic volumes throughout the network are redistributed, and increase the Ped Score on this segment to be an unacceptable LOS.	In order to achieve acceptable LOS, a 6-foot buffer between the sidewalk and traveled way would be required, which may not be feasible due to right-of-way constraints in certain sections of this segment. This segment provides a Class I path adjacent to the sidewalk with sufficient buffer width, which is not included in this analysis, but could serve as the preferred pathway for pedestrians and provide acceptable LOS.
Segment #6: Madonna Rd WB - Higuera St to US 101 NB Ramps	Auto	This segment is projected to operate at unacceptable LOS E in the AM peak hour. The addition of Project traffic exacerbates this unacceptable condition by decreasing the LOS and travel speed by 1 mph or more.	<ul style="list-style-type: none"> <li>• Optimize Timings at the intersection of Madonna Road/US 101 NB Ramps to improve the operations of the NB throughput. However, optimization of throughput may create queuing impacts for opposing movements.</li> </ul>
Segment #6: Madonna Rd EB - US 101 NB Ramps to Higuera St	Auto	This segment is projected to operate at unacceptable LOS F in the PM peak hour. The addition of Project traffic exacerbates this unacceptable condition by decreasing the travel speed by 1 mph or more.	<ul style="list-style-type: none"> <li>• Optimize Timings at the intersection of Madonna Road/S. Higuera Street to improve the operations of the EB throughput. However, optimization of throughput may create queuing impacts for opposing movements.</li> </ul>

**TABLE 65: NEAR TERM PLUS PROJECT MITIGATION MEASURES SUMMARY**

2025 Plus Project Significant Impact Location	Mode	Impact	Mitigation Measure
Segment #7: Higuera St SB - Madonna Road to Margarita Ave*	Ped	With construction of the Prado Overcrossing, background and project traffic volumes throughout the network are redistributed, and increase the Ped Score on this segment to be an unacceptable LOS.	In order to achieve acceptable LOS, a 13-foot buffer between the sidewalk and traveled way would be required, which may not be feasible due to right-of-way constraints in certain sections of this segment. Continuous sidewalk is provided throughout the length (0.75mi.) of this segment and the low service level is attributable to the high vehicle volumes on S. Higuera Street. The west side of S. Higuera Street for this long stretch is currently fenced by the Cemetery and office uses with negligible pedestrian demand.
Segment #8: Higuera St SB - Margarita Ave to Prado Rd*	Auto	With construction of the Prado Overcrossing, background and project traffic volumes throughout the network are redistributed, resulting in a decrease in the travel speed and an unacceptable LOS.	Modify EB Geometry at Intersection #18: Prado Road/S. Higuera Street to provide dual thru lanes and a single left turn lane; this will require dual receiving lanes on the east leg of Prado.
Segment #13: Los Osos Valley Road SB - Madonna Rd to Froom Ranch Way	Auto	The Project added traffic results in a decrease in the travel speed and results in unacceptable LOS E in the PM peak hour.	Improvements to Intersection #9 (LOVR/Froom Ranch Way) mitigates the impact to this segment.
Segment #13: Los Osos Valley Road SB - Madonna Rd to Froom Ranch Way	Transit	The Project added traffic results in a decrease in the travel speed and results in unacceptable LOS E in the AM peak hour for both Transit Routes 4 and 5.	Construction of the Prado Overcrossing will mitigate the impact by redistributing the volumes through this intersection and surrounding network.
Segment #17: Los Osos Valley Road EB - US 101 NB Ramps to S. Higuera St	Auto	The Project added traffic results in a decrease in the travel speed and results in unacceptable LOS E in the PM peak hour.	Construction of the Prado Overcrossing with Northbound Ramps would improve this condition to an acceptable level.
Segment #18: Prado Road EB - Froom Ranch Way to Higuera Street*	Ped	With construction of the Prado Overcrossing, background and project traffic volumes throughout the network are redistributed, resulting in an increase in the Ped Score on this segment to be an unacceptable LOS.	Installing an alternate parallel Class I path would mitigate this impact.

**TABLE 65: NEAR TERM PLUS PROJECT MITIGATION MEASURES SUMMARY**

2025 Plus Project Significant Impact Location	Mode	Impact	Mitigation Measure
Segment #18: Prado Road WB - Higuera Street to Froom Ranch Way*	Ped	With construction of the Prado Overcrossing, background and project traffic volumes throughout the network are redistributed, resulting in an increase in the Ped Score on this segment to be an unacceptable LOS.	Installing an alternate parallel Class I path would mitigate this impact.
Segment #19: Froom Ranch Rd WB - Dick's Sporting Goods to Los Osos Valley Rd*	Auto	With construction of the Prado Overcrossing, background and project traffic volumes throughout the network are redistributed, resulting in a decrease in the travel speed and an unacceptable LOS.	Improvements to Intersection #9 mitigate the impact to this segment.
Segment #20: Dalidio Dr NB - Froom Ranch Way to Madonna Rd*	Ped	With construction of the Prado Overcrossing, background and project traffic volumes throughout the network are redistributed, resulting in an increase in the Ped Score on this segment to be an unacceptable LOS.	Installing an alternate parallel Class I path would mitigate this impact.

\*Mitigation applies to Overcrossing scenario only.

As shown in Table 65 above, some of the mitigations required for Near Term Plus Project conditions are the same for Existing Plus Project mitigations. Table 66 presents the mitigated intersection LOS operations assuming the above mitigation measures to be in place. Table 67 presents the mitigated roadway segment LOS operations assuming the proposed mitigation measures to be in place.

**TABLE 66: NEAR TERM PLUS PROJECT – MITIGATED INTERSECTION LOS**

Intersection #	1						3		5		8		9					
Name	Madonna Road/Los Osos Valley Road						Madonna Road/ Dalidio Drive		Madonna Road/ US 101 SB Ramps		Higuera Street/ South Street		Los Osos Valley Road/ Froom Ranch Way					
Mode	AUTO		PED		BIKE		AUTO		AUTO		AUTO		AUTO*		PED		BIKE	
SCENARIO	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS	Score	LOS	v/c	LOS	v/c	LOS	Score	LOS	Score	LOS
<i>AM PEAK HOUR</i>			NB		WB				EB				NB		EB			
Year 2025	-	C	3.11	C	3.36	C	-	A	1.22	D	-	C	-	B	3.10	C	3.42	C
Year 2025 Plus Project	-	D	3.05	C	3.39	C	-	D	-	C	-	C	-	D	3.17	C	3.60	D
Significant Impact?	No		No		No		No		No		No		No		No		No	
<i>PM PEAK HOUR</i>			NB						EB				NB		EB			
Year 2025	-	D	3.51	D	4.25	D	-	D	-	C	1.28	E	-	D	3.33	C	4.42	E
Year 2025 Plus Project	-	D	3.26	C	4.08	D	-	C	-	C	-	C	-	D	3.51	D	3.65	D
Significant Impact?	No		No		No		No		No		No		No		No		No	

Note: V/C Ratio is based on worst movement

\*Mitigation applies to Overcrossing scenario only.

**TABLE 66 (CONT'D.): NEAR TERM PLUS PROJECT – MITIGATED INTERSECTION LOS**

Intersection #	15				16		21				25			
Name	S. Higuera Street/ Suburban Drive				Madonna Road/ Dalidio Drive		Dalidio Drive/ Froom Ranch Way				Dalidio Drive/ SC Project Driveway			
Mode	PED		AUTO		AUTO		AUTO*		AUTO*		AUTO*		AUTO*	
SCENARIO	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS
<i>AM PEAK HOUR</i>	NB						Signal		Roundabout		Signal		Roundabout	
Year 2035 Full Build	3.29	C	1.75	F	-	-	-	-	-	-	-	-	-	-
Year 2035 FB Plus Project	3.31	C	-	C	-	C	-	A	-	D	-	A	-	A
Significant Impact?	No		No		No		No		No		No		No	
<i>PM PEAK HOUR</i>	NB						Signal		Roundabout		Signal		Roundabout	
Year 2035 Full Build	3.93	D	-	C	-	-	-	-	-	-	-	-	-	-
Year 2035 FB Plus Project	3.94	D	-	C	-	C	-	B	-	C	-	B	-	B
Significant Impact?	No		No		No		No		No		No		No	

Note: V/C Ratio is based on worst movement

**TABLE 67:  
NEAR TERM PLUS PROJECT – MITIGATED SEGMENT LOS**

2025 Multimodal Segment LOS					Auto Mode					Pedestrian Mode					Bicycle Mode					Transit Mode								
AM PEAK HOUR					2025					2025 Plus Project					2025					2025 Plus Project								
ID	Roadway	From	To	Direction	Auto LOS Threshold	Travel Speed (mph)	LOS	Travel Speed (mph)	LOS	Significant Impact?	Ped LOS Threshold	Segment Score	LOS	Segment Score	LOS	Significant Impact?	Bike LOS Threshold	Segment Score	LOS	Segment Score	LOS	Significant Impact?	Transit LOS Threshold	Segment Score	LOS	Segment Score	LOS	Significant Impact?
2	Madonna Rd	Oceanaire Dr	Dalidio	EB	D	26.9	C	20.2	D	No	C	3.79	D	4.01	D	No	D	3.56	D	3.60	D	No	D	4.71	E	4.70	E	No
6	Madonna Rd	Higuera St	US 101 NB Ramps	WB	D	11.2	E	11.7	E	No	C	3.63	D	3.70	D	No	D	3.50	D	3.51	D	No	D	4.29	E	4.29	E	No
13	Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	D	21.2	C	18.8	D	No	C	3.74	F	3.71	F	No	D	3.39	C	3.39	C	No	D	4.25	D	4.24	D	No
13	Los Osos Valley	Froom Ranch Way	Madonna Rd	NB																			D	4.25	D	4.24	D	No

Note: Segment 20 transit is southbound for routes 4 and 5; Segment 21 pedestrian and bicycle service will be further evaluated using off-street facilities methodologies.

2025 Multimodal Segment LOS					Auto Mode					Pedestrian Mode					Bicycle Mode					Transit Mode								
PM PEAK HOUR					2025					2025 Plus Project					2025					2025 Plus Project								
ID	Roadway	From	To	Direction	Auto LOS Threshold	Travel Speed (mph)	LOS	Travel Speed (mph)	LOS	Significant Impact?	Ped LOS Threshold	Segment Score	LOS	Segment Score	LOS	Significant Impact?	Bike LOS Threshold	Segment Score	LOS	Segment Score	LOS	Significant Impact?	Transit LOS Threshold	Segment Score	LOS	Segment Score	LOS	Significant Impact?
1	Madonna Rd	Oceanaire Dr	LOVR	WB	D	11.8	F	18.4	D	No	C	3.86	D	3.78	D	No	D	4.13	D	4.00	D	No	D	4.28	E	4.27	E	No
2	Madonna Rd	Oceanaire Dr	Dalidio	EB	D	18.5	D	16.6	D	No	C	3.83	D	3.95	D	No	D	3.43	C	3.43	C	No	D	4.44	E	4.38	E	No
6	Madonna Rd	US 101 NB Ramps	Higuera St	EB	D	10.4	F	9.8	F	No	C	3.76	D	3.73	D	No	D	3.52	D	3.52	D	No	D	4.13	D	4.13	D	No
13	Los Osos Valley	Madonna Rd	Froom Ranch Way	SB	D	16.9	D	17.0	D	No	C	3.99	D	3.94	D	No	D	3.74	D	3.72	D	No	D	4.56	E	4.52	E	No
17	Los Osos Valley	US 101 NB Ramps	S. Higuera St	EB	D	27.0	B	16.2	D	No	C	4.27	E	3.75	D	No	D	3.40	C	3.37	C	No	D	Not Analyzed	N/A	Not Analyzed	N/A	No

Note: Segment 20 transit is southbound for routes 4 and 5; Segment 21 pedestrian and bicycle service will be further evaluated using off-street facilities methodologies.

## Cumulative Conditions (Year 2035)

Cumulative conditions establish the conditions that would exist due to the build-out of the City's General Plan, which is approximately twenty years out (Year 2035). A volume growth increment for all travel modes was developed for the Cumulative conditions using the San Luis Obispo City Travel Demand Model projections. Vehicular trips are determined using the City's TDM and assuming build-out of the City's General Plan without the development of the proposed project's site; i.e. the land use totals in the project's Traffic Analysis Zone were zeroed out as to not double count site trip generation.

The City's buildout circulation system is assumed to be constructed for Cumulative conditions, including the improvements listed in the Near Term conditions and the following improvements:

- A new North/South Collector between Prado Road and Tank Farm Road
- Prado Road extension to Broad Street
- Prado Road widening to four lanes with bike lanes between S. Higuera Street, and remove parking
- Madonna Road at S. Higuera Street realignment to Bridge Street
- New North/South Collector between Tank Farm Road and Prado Road
- Restrict intersection of S. Higuera Street/Vachell Lane to be right-in right-out only
- Froom Ranch Way extension to Dalidio Road
- Dalidio Road widening to 4 lanes with Class II Bike Lanes
- Prado Road Interchange configuration to be determined based on PSR work

### Prado Interchange and Overcrossing Scenarios

For the purposes of this study, Cumulative conditions were analyzed for two different configurations for the Prado Road improvements: Full Build Prado Road Interchange and Prado Road Overcrossing scenarios. The peak hour traffic volumes for both scenarios were developed utilizing the City's TDM to establish the networks for the different alternatives, and used the same land use inputs for all alternatives.

Cumulative traffic volume forecasts were derived for each alternative by applying the model's volume growth increment to the existing counts. The model's growth increment is based on the peak hour intersection turning outputs between the base year (2008) model and each of the 2035 buildout models, and factored to account for growth to existing conditions (2014). Based on existing travel patterns and counts, and to balance the volumes to account for midblock driveways, manual adjustments were made where necessary. This establishes the base forecasts for each alternative, without the San Luis Ranch development. These base volumes are consistent with the projections for the PSR for the Prado Road interchange.

### Cumulative Plus Project Conditions

The project generated peak hour trip volumes have been added to the derived Cumulative volumes to obtain the Cumulative Plus Project conditions. The LOS has been quantified and compared to all study intersections and roadways analyzed in Cumulative (No Project) conditions. All proposed driveway intersections have been evaluated for LOS operations, potential vehicle queuing, and pedestrian, transit, and bicycle level of service.

With the roadway improvements for Cumulative conditions in place, the trip distribution between the two interchanges will shift slightly. The trip distribution for the Cumulative condition have

been estimated using the model's select zone capabilities for the proposed project's zone, with the added roadways in place per the City's TDM. For Cumulative conditions,

The mode split for the 2035 Cumulative Plus Project conditions is determined utilizing the City's TDM outputs and existing counts. The delta between the City's TDM modes was added to the existing mode split to determine the modal split for the project's conditions under 2035 conditions. Table 69 presents the mode split summary for project-added traffic for non-recreational uses; recreational uses mode split remains that same as Existing Plus Project conditions.

**TABLE 69: 2035 TRANSPORTATION MODE SPLIT**

Mode/ Mode Share <sup>1</sup>	2035 Mode Split
Auto	94.9%
Transit	1.3%
Bike	1.1%
Pedestrian	2.7%

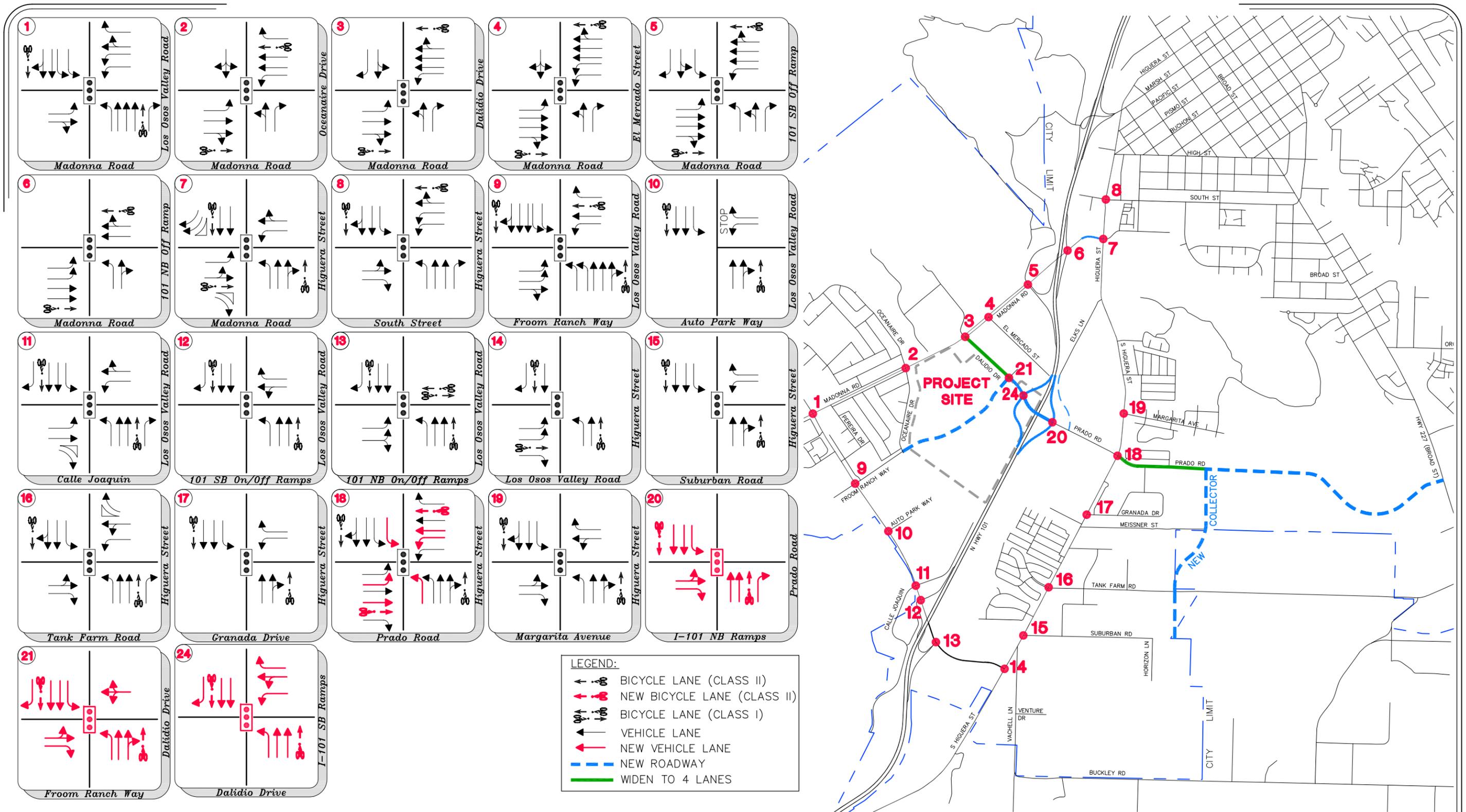
*1. Mode Split for Non Parks/Recreational Uses*

The San Luis Ranch development trips for the Overcrossing and Full Build Alternatives assume appropriate trip distribution and assignments based on the City Model's select zone analysis of the development for each alternative.

## **Year 2035 Full Build Prado Interchange Conditions**

Although the Project Study Report (PSR) for the Prado Road interchange will determine the interchange configuration, the base volumes under the "Full Build" conditions analysis assume a full access diamond interchange for the purposes of this traffic impact study, along with all other roadway improvements previously listed under the "Cumulative Conditions" section of this report.

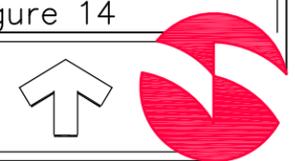
Figure 14 presents the Year 2035 Full Build Prado Road Interchange conditions lane geometrics and control, and Figure 15 presents the Year 2035 Full Build Prado Road Interchange (no project) peak hour intersection traffic volumes.

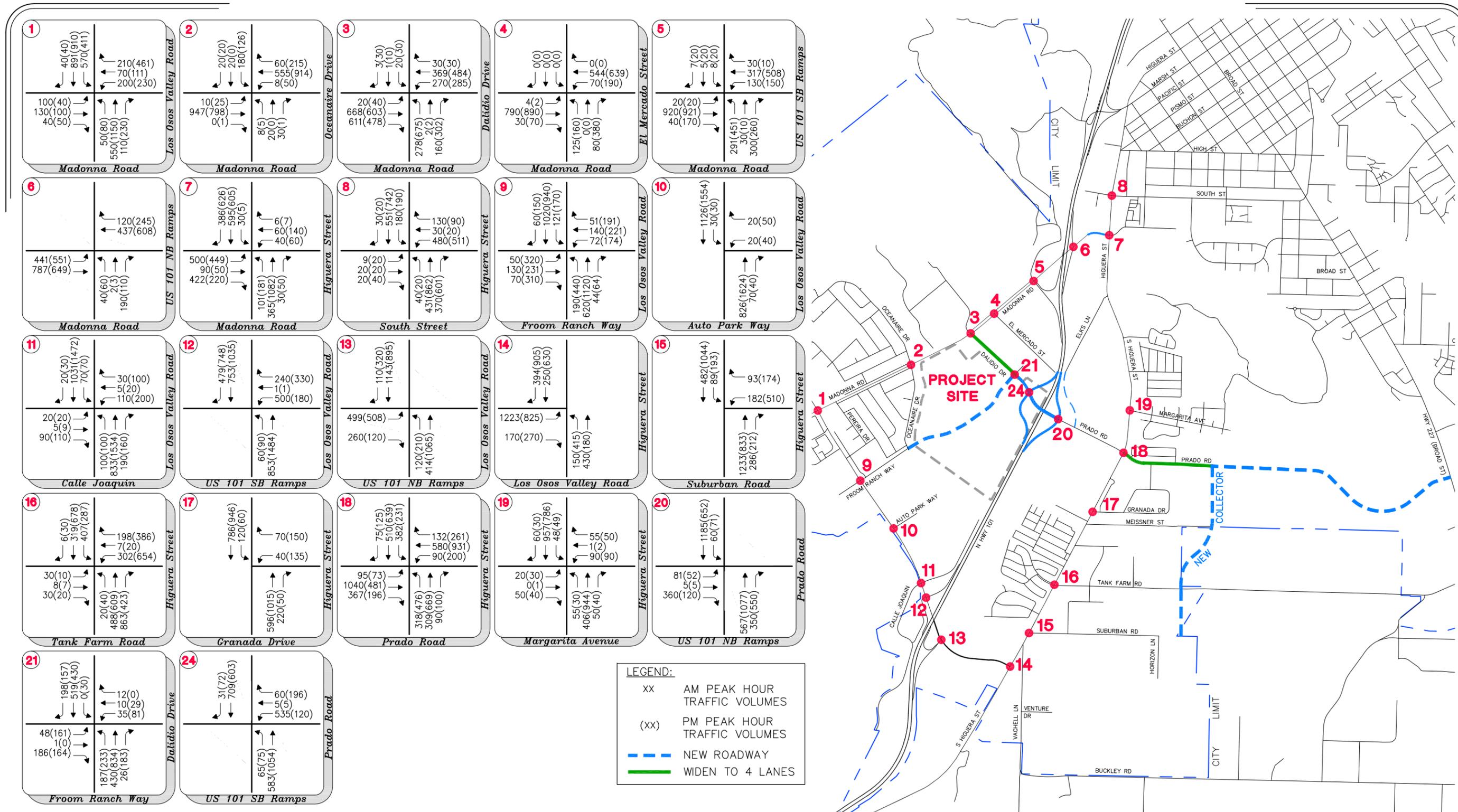


San Luis Ranch Specific Plan Multimodal TIS

Figure 14

Year 2035 Full Build Prado Road Interchange Lane Geometrics and Control

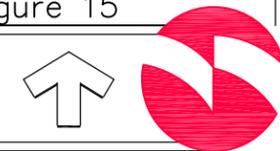




San Luis Ranch Specific Plan Multimodal TIS

Figure 15

Year 2035 Full Build Prado Road Interchange Peak Hour Traffic Volumes



# Year 2035 Full Build Prado Interchange Conditions Analysis

The Year 2035 Full Build Prado Interchange conditions multimodal analysis for the study intersections and segments are presented below.

## Year 2035 Full Build Prado Interchange Conditions Intersection Analysis

Table 70 provides a summary of the Year 2035 Full Build Prado Interchange conditions vehicular AM and PM peak hour intersection delay and LOS. Table 71 provides a summary of the Year 2035 Full Build Prado Interchange pedestrian AM and PM peak hour conditions at the study intersections. Table 72 provides a summary of the Year 2035 Full Build Prado Interchange bicycle AM and PM peak hour conditions at the study intersections. Table 73 provides a summary of the Year 2035 Full Build Prado Interchange conditions queuing analysis.

**TABLE 70: YEAR 2035 FULL BUILD PRADO INTERCHANGE CONDITIONS INTERSECTION LEVEL OF SERVICE: AUTOMOBILE ANALYSIS**

#	Intersection	Control Type <sup>1,2</sup>	Target LOS	AM Peak Hour			PM Peak Hour		
				v/c <sup>3</sup>	Delay	LOS	v/c <sup>3</sup>	Delay	LOS
1	Madonna Road/Los Osos Valley Road	Signal	D	32.1		C	41.3		D
2	Madonna Road/Oceanaire Drive	Signal	D	24.9		C	18.1		B
<b>3</b>	<b>Madonna Road/Dalidio Drive</b>	<b>Signal</b>	<b>D</b>	<b>5.81</b>	<b>304.2</b>	<b>F</b>	<b>8.74</b>	<b>897.8</b>	<b>F</b>
4	Madonna Road/El Mercado	Signal	D	13.6		B	19.1		B
5	Madonna Road/US 101 SB Ramps/Madonna	Signal	C	22.3		C	23.0		C
6	Madonna Road/US 101 NB Ramps	Signal	C	18.3		B	17.7		B
7	Madonna Road/Higuera Street	Signal	D	29.4		C	27.9		C
8	Higuera Street/South Street	Signal	D	29.9		C	40.5		D
<b>9</b>	<b>Los Osos Valley Road/Froom Ranch Way</b>	<b>Signal</b>	<b>D</b>				<b>1.05</b>	<b>55.9</b>	<b>E</b>
<b>10</b>	<b>Los Osos Valley Road/Auto Park Way</b>	<b>TWSC</b>	<b>D</b>				<b>0.51</b>	<b>49.4</b>	<b>E</b>
11	Los Osos Valley Road/Calle Joaquin	Signal	D	6.6		A	8.8		A
12	Los Osos Valley Road/US 101 SB Ramps	Signal	C	26.9		C	23.2		C
13	Los Osos Valley Road/US 101 NB Ramps	Signal	C	17.3		B	14.0		B
14	S. Higuera Street/Los Osos Valley Road	Signal	D	29.3		C	52.6		D
15	S. Higuera Street/Suburban Drive	Signal	D	13.1		B	21.4		C
<b>16</b>	<b>S. Higuera Street/Tank Farm Road</b>	<b>Signal</b>	<b>D</b>	<b>1.75</b>	<b>151.7</b>	<b>F</b>		<b>23.9</b>	<b>C</b>
17	S. Higuera Street/Granada Drive	Signal	D	9.8		A	11.6		B
18	S. Higuera Street/Prado Road	Signal	D	35.2		D	41.0		D
19	S. Higuera Street/Margarita Avenue	Signal	D	15.5		B	16.9		B
20	Prado Road/US 101 NB Ramps	Signal	D	12.1		B	8.6		A
21	Froom Ranch Road/Dalidio Drive/Prado Road	Signal	D	13.9		B	19.5		B
24	Prado Road/US 101 SB Ramps	Signal	D	14.6		B	9.4		A

Notes:

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

**TABLE 71: YEAR 2035 FULL BUILD PRADO INTERCHANGE 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	2.12	B	2.12	B
		WB	C	3.06	C	3.24	C
		NB	C	3.14	C	3.35	C
		SB	C	3.30	C	3.32	C
2	Madonna Road/Oceanaire Drive	EB	C	2.82	C	2.93	C
		WB	C	3.02	C	3.39	C
		NB	C	2.02	B	1.96	A
		SB	C	1.87	A	1.89	A
3	Madonna Road/Dalidio Drive	EB	C	<b>3.61</b>	<b>D</b>	<b>4.24</b>	<b>D</b>
		WB	C	2.98	C	2.98	C
		NB	C	2.66	B	2.71	B
		SB	C	1.99	A	2.00	A
4	Madonna Road/El Mercado	EB	C	n/a	-	n/a	-
		WB	C	3.02	C	3.10	C
		NB	C	2.34	B	2.75	B
		SB	C	1.74	A	1.74	A
5	Madonna Road/US 101 SB Ramps/Madonna Inn	EB	C	2.94	C	3.04	C
		WB	C	n/a	-	n/a	-
		NB	C	2.68	B	2.65	B
		SB	C	2.18	B	2.19	B
6	Madonna Road/US 101 NB Ramps	EB	C	n/a	-	n/a	-
		WB	C	2.76	C	2.72	B
		NB	C	2.08	B	1.95	A
		SB	C	n/a	-	n/a	-
7	Madonna Road/Higuera Street	EB	C	2.83	C	2.93	C
		WB	C	2.09	B	2.07	B
		NB	C	2.82	C	3.00	C
		SB	C	n/a	-	n/a	-
8	Higuera Street/South Street	EB	C	2.03	B	2.05	B
		WB	C	2.75	B	2.81	C
		NB	C	n/a	-	n/a	-
		SB	C	2.58	B	2.71	B
9	Los Osos Valley Road/Froom Ranch Way	EB	C	2.46	B	2.65	B
		WB	C	2.49	B	2.68	B
		NB	C	n/a	-	n/a	-
		SB	C	3.14	C	3.32	C
10	Los Osos Valley Road/Auto Park Way	EB	C	-	-	-	-
		WB	C	-	-	-	-
		NB	C	n/a	-	n/a	-
		SB	C	-	-	-	-
11	Los Osos Valley Road/Calle Joaquin	EB	C	2.61	B	2.46	B
		WB	C	2.21	B	2.32	B
		NB	C	3.07	C	<b>3.51</b>	<b>D</b>
		SB	C	3.00	C	3.31	C
12	Los Osos Valley Road/US 101 SB Ramps	EB	C	2.00	A	2.32	B
		WB	C	2.18	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	2.42	B	2.37	B
		NB	C	2.77	C	2.85	C
		SB	C	n/a	-	n/a	-
		EB	C	3.01	C	<b>3.67</b>	<b>D</b>
14	S. Higuera Street/Los Osos Valley Road	NB	C	2.45	B	2.71	B
		SB	C	n/a	-	n/a	-
		WB	C	2.26	B	2.65	B
		NB	C	3.29	C	<b>3.93</b>	<b>D</b>
15	S. Higuera Street/Suburban Drive	SB	C	2.88	C	2.98	C
		EB	C	2.03	B	2.02	B
		WB	C	2.96	C	3.25	C
		NB	C	3.44	C	3.33	C
16	S. Higuera Street/Tank Farm Road	SB	C	2.77	C	2.93	C
		WB	C	2.17	B	2.24	B
		NB	C	n/a	-	n/a	-
		SB	C	2.76	C	2.95	C
17	S. Higuera Street/Granada Drive	EB	C	3.18	C	3.16	C
		WB	C	3.08	C	3.19	C
		NB	C	3.08	C	3.37	C
		SB	C	3.02	C	3.11	C
18	S. Higuera Street/Prado Road	EB	C	2.33	B	2.07	B
		WB	C	2.16	B	2.14	B
		NB	C	2.96	C	3.05	C
		SB	C	2.83	C	2.95	C
19	S. Higuera Street/Margarita Avenue	EB	C	2.02	B	1.97	A
		WB	C	1.86	A	2.08	A
		NB	C	3.10	C	3.11	A
		SB	C	2.71	B	2.70	A
20	Prado Road/US 101 NB Ramps	EB	C	2.40	B	2.41	A
		WB	C	1.77	A	1.89	A
		NB	C	2.59	B	2.73	A
		SB	C	2.80	C	2.87	A
21	Froom Ranch Road/Dalidio Drive/Prado Road	EB	C	n/a	-	n/a	-
		WB	C	2.22	B	2.15	A
		NB	C	2.71	B	2.70	A
		SB	C	2.61	B	2.74	A
24	Prado Road/US 101 SB Ramps	EB	C	n/a	-	n/a	-
		WB	C	2.22	B	2.15	A
		NB	C	2.71	B	2.70	A
		SB	C	2.61	B	2.74	A

Notes:

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. 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 72: YEAR 2035 FULL BUILD PRADO INTERCHANGE 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	3.31	C	3.15	C
		WB	D	3.60	D	4.12	D
		NB	D	1.69	A	2.10	B
		SB	D	2.94	C	2.76	C
2	Madonna Road/Oceanaire Drive	EB	D	2.92	C	2.82	C
		WB	D	1.21	A	1.71	A
		NB	D	2.83	C	2.73	B
		SB	D	2.32	B	2.25	B
3	Madonna Road/Dalidio Drive	EB	D	2.35	B	2.08	B
		WB	D	1.53	A	1.57	A
		NB	D	2.64	B	3.48	C
		SB	D	1.79	A	1.86	A
4	Madonna Road/El Mercado	EB	D	1.63	A	1.65	A
		WB	D	1.68	A	1.76	A
		NB	D	3.41	C	3.94	D
		SB	D	3.03	C	3.03	C
5	Madonna Road/US 101 SB Ramps/Madonna Inn	EB	D	1.87	A	1.90	A
		WB	D	1.56	A	1.65	A
		NB	D	n/a	-	n/a	-
		SB	D	2.91	C	2.98	C
6	Madonna Road/US 101 NB Ramps	EB	D	2.32	B	2.14	B
		WB	D	1.59	A	1.76	A
		NB	D	n/a	-	n/a	-
		SB	D	3.05	C	2.47	B
7	Madonna Road/Higuera Street	WB	D	2.60	B	2.77	C
		NB	D	1.81	A	2.52	B
		SB	D	2.36	B	2.53	B
		EB	D	2.71	B	2.77	C
8	Higuera Street/South Street	WB	D	2.69	B	2.69	B
		NB	D	2.96	C	3.55	D
		SB	D	1.78	A	1.98	A
		EB	D	3.54	D	4.57	E
9	Los Osos Valley Road/Froom Ranch Way	WB	D	2.15	B	3.01	C
		NB	D	1.82	A	2.24	B
		SB	D	1.91	A	1.91	A
		EB	D	-	-	-	-
10	Los Osos Valley Road/Auto Park Way	WB	D	n/a	-	n/a	-
		NB	D	-	-	-	-
		SB	D	-	-	-	-
		EB	D	3.09	C	3.11	C
11	Los Osos Valley Road/Calle Joaquin	WB	D	3.20	C	3.48	C
		NB	D	1.62	A	2.12	B
		SB	D	0.60	A	0.91	A
		WB	D	n/a	-	n/a	-
12	Los Osos Valley Road/US 101 SB Ramps	NB	D	2.84	C	3.43	C
		SB	D	1.81	A	2.30	B
		EB	D	n/a	-	n/a	-
13	Los Osos Valley Road/US 101 NB Ramps	NB	D	1.66	A	2.28	B
		SB	D	2.91	C	2.86	C
		EB	D	2.26	B	1.99	A
14	S. Higuera Street/Los Osos Valley Road	NB	D	2.30	B	2.32	B
		SB	D	2.40	B	3.93	D
		WB	D	1.15	A	1.84	A
15	S. Higuera Street/Suburban Drive	NB	D	2.55	B	2.10	B
		SB	D	1.75	A	2.31	B
		EB	D	2.72	B	2.66	B
16	S. Higuera Street/Tank Farm Road	WB	D	2.40	B	3.32	C
		NB	D	2.47	B	2.17	B
		SB	D	1.89	A	2.09	B
		WB	D	2.70	B	3.00	C
17	S. Higuera Street/Granada Drive	NB	D	1.91	A	2.13	B
		SB	D	2.12	B	2.22	B
		EB	D	2.03	B	2.64	B
18	S. Higuera Street/Prado Road	WB	D	1.94	A	3.74	D
		NB	D	1.87	A	2.33	B
		SB	D	2.09	B	2.10	B
		EB	D	2.54	B	2.54	B
19	S. Higuera Street/Margarita Avenue	WB	D	2.77	C	2.76	C
		NB	D	1.75	A	2.19	B
		SB	D	2.32	B	2.15	B
		EB	D	n/a	-	n/a	-
20	Prado Road/US 101 NB Ramps	WB	D	n/a	-	n/a	-
		NB	D	1.49	A	2.13	A
		SB	D	2.00	A	1.54	A
		EB	D	1.84	A	2.00	A
21	Froom Ranch Road/Dalidio Drive/Prado Road	WB	D	2.76	C	2.87	A
		NB	D	1.43	A	1.98	A
		SB	D	1.69	A	1.61	A
		EB	D	n/a	-	n/a	-
24	Prado Road/US 101 SB Ramps	WB	D	n/a	-	n/a	-
		NB	D	1.62	A	2.05	A
		SB	D	1.34	A	1.29	A
		EB	D	n/a	-	n/a	-

Notes:  
 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 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 73: YEAR 2035 FULL BUILD PRADO INTERCHANGE CONDITIONS 95<sup>TH</sup> PERCENTILE QUEUING ANALYSIS**

Intersection		Movement	No. Lanes	Total Storage (ft) <sup>1</sup>	95 <sup>th</sup> Percentile Queue/Lane (ft)	
ID	Location				AM Peak Hour	PM Peak Hour
1	Madonna Road/Los Osos Valley Road	Northbound Left	1	200	74	<b>220</b>
		Northbound Right	1	175	98	<b>187</b>
2	Madonna	Westbound Right	1	100	70	<b>123</b>
3	Madonna Road/Dalidio Drive	Eastbound Left	1	115	<b>119</b>	<b>121</b>
		Westbound Left	1	275	<b>317</b>	<b>353</b>
		Westbound Through/Right	3	570	186	<b>661</b>
		Northbound Right	1	150	100	<b>153</b>
4	Madonna Road/EI	Westbound Left	2	260	73	<b>522</b>
5	Madonna Road/US 101	Westbound Left	1	260	168	<b>428</b>
7	Madonna Road/Higuera Street	Eastbound Right	1	150	<b>173</b>	<b>156</b>
		Northbound Left	1	160	125	<b>277</b>
		Southbound Left/Through	2	250	<b>259</b>	<b>470</b>
8	Higuera Street/South Street	Westbound Left	2	240	<b>257</b>	<b>556</b>
		Northbound Left	1	60	<b>74</b>	<b>89</b>
		Northbound Through	2	380	215	<b>841</b>
		Northbound Right	1	60	<b>156</b>	<b>170</b>
		Southbound Left	1	70	<b>114</b>	<b>114</b>
9	Los Osos Valley Road/Froom Ranch	Westbound Right	1	50	<b>82</b>	<b>98</b>
		Southbound Left	2	200	<b>210</b>	<b>291</b>
11	Los Osos Valley Road/Calle Joaquin	Eastbound Right	1	260	<b>401</b>	171
		Northbound Left	1	115	92	<b>120</b>
		Southbound Left	1	80	<b>148</b>	<b>104</b>
		Southbound Through	2		<b>1574</b>	<b>705</b>
		Southbound Right	1	80	<b>95</b>	<b>90</b>
12	Los Osos Valley Road/US 101 SB Ramps	Westbound Left	1	180	<b>274</b>	<b>204</b>
		Southbound Through	1	240	<b>351</b>	<b>351</b>
		Southbound Right	1	125	<b>286</b>	<b>182</b>
13	Los Osos Valley Road/US 101 NB	Southbound Through	1	865	<b>1295</b>	270
		Southbound Right	1	130	<b>280</b>	<b>165</b>
14	S. Higuera Street/Los Osos Valley Road	Eastbound Right	1	90	<b>211</b>	<b>183</b>
		Northbound Left	1	160	144	<b>242</b>
15	S. Higuera Street/Suburban Drive	Westbound Right	1	170	66	<b>308</b>
		Southbound Left	1	200	<b>316</b>	<b>312</b>
16	S. Higuera Street/Tank Farm Road	Westbound Right	1	250	23	<b>329</b>
		Northbound Right	1	100	<b>185</b>	<b>180</b>
		Southbound Left	1	165	<b>258</b>	<b>259</b>
17	S. Higuera	Southbound Left	1	80	<b>104</b>	77
18	S. Higuera Street/Prado Road	Eastbound Left	1	150	<b>167</b>	66
		Eastbound Right	1	140	<b>229</b>	115
		Westbound Left	1	105	<b>107</b>	<b>211</b>
		Westbound Right	1	100	98	<b>247</b>
		Northbound Left	1	100	<b>172</b>	<b>192</b>
		Southbound Left	2	60	<b>184</b>	<b>192</b>
19	S. Higuera Street/Margarita Avenue	Northbound Left	1	60	<b>80</b>	<b>83</b>
		Southbound Left	1	60	<b>84</b>	<b>87</b>
20	Prado Road/US 101 NB Ramps	Northbound Right	1	150	117	<b>156</b>

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

As shown in Table 70 above, the intersection of Madonna Road/Dalidio Drive, Los Osos Valley Road/Froom Ranch Way, Los Osos Valley Road/Auto Park Way, S. Higuera Street/Tank Farm Road are projected to operate at unacceptable conditions during 2035 Full Build Prado Interchange conditions. Pedestrian analysis shows acceptable conditions at the study intersections. Bicycle analysis shows deficiencies at Los Osos Valley Road/Froom Ranch Way. Queuing analysis results to be completed.

### **Year 2035 Full Build Prado Interchange Conditions Segment Analysis**

Table 74 provides a summary of the Year 2035 Full Build Prado Interchange vehicular AM and PM peak hour conditions for the study segments. Table 75 provides a summary of the Year 2035 Full Build Prado Interchange pedestrian AM and PM peak hour conditions for the study segments. Table 76 provides a summary of the Year 2035 Full Build Prado Interchange bicycle AM and PM peak hour conditions for the study segments. Table 77 provides a summary of the Year 2035 Full Build Prado Interchange transit AM and PM peak hour conditions for the study segments. Table 78 provides a summary of the Year 2035 Full Build Prado Interchange freeway segments analysis for AM and PM peak hour conditions for the study segments along US 101.

**TABLE 74: YEAR 2035 FULL BUILD PRADO INTERCHANGE CONDITIONS SEGMENT LEVEL OF SERVICE: AUTOMOBILE ANALYSIS**

AUTO SEGMENT LOS					AM PEAK				PM PEAK			
ID	Roadway	From	To	Direction	LOS Threshold	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 (%)
1	Madonna Rd	Oceanaire Dr	LOVR	WB	C	20.7	42.1	49%	D	15.7	42.1	37%
	Madonna Rd	LOVR	Oceanaire Dr	EB	C	25.6	42.1	61%	C	28.2	42.1	67%
2	Madonna Rd	Dalidio	Oceanaire Dr	WB	C	22.5	40.8	55%	C	23.9	40.7	59%
	Madonna Rd	Oceanaire Dr	Dalidio	EB	C	12.3	40.7	30%	E	6.5	40.8	16%
3	Madonna Rd	El Mercado	Dalidio Dr	WB	C	17.0	34.1	50%	D	12.4	34.8	36%
	Madonna Rd	Dalidio Dr	El Mercado	EB	C	26.5	38.2	69%	B	13.3	34.6	38%
4	Madonna Rd	US 101 SB Ramps	El Mercado	WB	C	27.9	37.9	74%	B	22.0	37.3	59%
	Madonna Rd	El Mercado	US 101 SB Ramps	EB	C	21.1	37.8	56%	C	20.3	37.7	54%
5	Madonna Rd	US 101 NB Ramps	US 101 SB Ramps	WB	C	25.9	37.8	68%	B	25.3	37.8	67%
	Madonna Rd	US 101 SB Ramps	US 101 NB Ramps	EB	C	33.4	37.8	88%	A	33.6	37.8	89%
6	Madonna Rd	Higuera St	US 101 NB Ramps	WB	C	18.4	37.2	49%	D	19.4	37.2	52%
	Madonna Rd	US 101 NB Ramps	Higuera St	EB	C	12.8	37.2	35%	E	10.9	37.2	29%
7	S. Higuera St	Madonna Rd	Margarita Ave	SB	C	34.0	44.5	76%	B	34.4	44.5	77%
	S. Higuera St	Margarita Ave	Madonna Rd	NB	C	31.9	44.8	71%	B	29.8	44.8	66%
8	S. Higuera St	Margarita Ave	Prado Rd	SB	C	10.7	38.9	28%	F	9.7	38.9	25%
	S. Higuera St	Prado Rd	Margarita Ave	NB	C	22.2	38.9	57%	C	17.0	38.9	44%
9	S. Higuera St	Prado Rd	Granada Dr	SB	C	31.9	41.8	76%	B	30.0	41.8	72%
	S. Higuera St	Granada Dr	Prado Rd	NB	C	16.7	41.9	40%	E	15.7	41.9	38%
10	S. Higuera St	Granada Dr	Tank Farm Road	SB	C	40.3	41.6	97%	A	25.3	42.6	59%
	S. Higuera St	Tank Farm Road	Granada Dr	NB	C	29.0	41.6	70%	B	26.5	42.6	62%
11	S. Higuera St	Tank Farm Road	Suburban Drive	SB	C	25.9	42.4	61%	C	22.7	41.2	55%
	S. Higuera St	Suburban Drive	Tank Farm Road	NB	C	16.2	42.5	38%	E	16.6	41.3	40%
12	S. Higuera St	Suburban Drive	Los Osos Valley Road	SB	C	19.5	42.1	46%	D	6.3	39.1	16%
	S. Higuera St	Los Osos Valley Road	Suburban Drive	NB	C	18.2	42.0	43%	D	18.9	39.0	49%
13	Los Osos Valley	Madonna Rd	Froom Ranch Way	SB	C	23.0	41.9	55%	C	13.7	41.8	33%
	Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	C	19.5	41.8	47%	D	16.5	41.8	40%
14	Los Osos Valley	Froom Ranch Way	Calle Joaquin	SB	C	31.7	43.0	74%	B	28.3	43.0	66%
	Los Osos Valley	Calle Joaquin	Froom Ranch Way	NB	C	29.2	43.2	68%	B	19.4	43.2	45%
15	Los Osos Valley	Calle Joaquin	US 101 SB Ramps	SB	C	8.1	32.1	25%	F	17.6	32.1	55%
	Los Osos Valley	US 101 SB Ramps	Calle Joaquin	NB	C	16.5	31.1	53%	C	14.7	31.1	47%
16	Los Osos Valley	US 101 SB Ramps	US 101 NB Ramps	SB	C	21.0	37.7	56%	C	22.2	37.7	59%
	Los Osos Valley	US 101 NB Ramps	US 101 SB Ramps	NB	C	32.9	37.4	88%	A	32.4	37.4	87%
17	Los Osos Valley	S. Higuera St	US 101 NB Ramps	WB	C	29.1	39.2	74%	B	26.5	39.2	68%
	Los Osos Valley	US 101 NB Ramps	S. Higuera St	EB	C	13.5	39.4	34%	E	14.6	39.4	37%
18	Prado Rd	S. Higuera St	US 101 NB Ramps	WB	C	26.1	39.1	67%	C	26.7	39.1	68%
	Prado Rd	US 101 NB Ramps	S. Higuera St	EB	C	15.9	38.9	41%	D	19.5	38.9	50%
19	Froom Ranch Way	Dick's Sporting Goods Dwy	Los Osos Valley	WB	C	14.9	37.7	39%	E	10.4	37.7	28%
	Froom Ranch Way	Los Osos Valley	Dick's Sporting Goods Dwy	EB	C	35.4	38.0	93%	A	34.9	38.0	92%
20	Dalidio Dr	Madonna Rd	Froom Ranch Way			-	-	-	-	-	-	-
	Dalidio Dr	Froom Ranch Way	Madonna Rd	NB	C	0.3	37.7	1%	F	0.2	37.7	1%
21	Froom Ranch Way	Dalidio	Dick's Sporting Goods Dwy	WB	C	39.4	40.8	97%	A	39.1	40.6	96%
	Froom Ranch Way	Dick's Sporting Goods Dwy	Dalidio	EB	C	28.0	40.7	69%	B	25.8	40.8	63%
22	Prado Road	US 101 SB Ramps	US 101 NB Ramps	SB	C	20.3	31.6	64%	C	21.8	31.6	69%
	Prado Road	US 101 NB Ramps	US 101 SB Ramps	NB	C	21.7	31.6	69%	B	21.1	31.6	67%
23	Prado Road	Froom Ranch Way	US 101 SB Ramps	SB	C	16.0	33.7	48%	D	17.4	33.7	52%
	Prado Road	US 101 SB Ramps	Froom Ranch Way	NB	C	18.4	33.7	55%	C	12.6	33.7	37%
24	Dalido Dr	Madonna Rd	Froom Ranch Way	SB	C	11.6	32.6	36%	E	10.9	31.9	34%
	Dalido Dr	Froom Ranch Way	Madonna Rd			-	-	-	-	-	-	-

Note: Segment 20 SB will be compared to Segment 24 SB

**TABLE 75: YEAR 2035 FULL BUILD PRADO INTERCHANGE CONDITIONS SEGMENT LEVEL OF SERVICE: PEDESTRIAN ANALYSIS**

PEDESTRIAN SEGMENT LOS						AM PEAK		PM PEAK		
ID	Roadway	From	To	Direction	LOS Threshold	Average Ped. Space (ft <sup>2</sup> /p)	SEGMENT SCORE	LOS	SEGMENT SCORE	LOS
1	Madonna Rd	Oceanaire Dr	LOVR	WB	C	6090	3.63	D	3.82	D
	Madonna Rd	LOVR	Oceanaire Dr	EB	C	17482	4.07	D	4.04	D
2	Madonna Rd	Dalidio	Oceanaire Dr	WB	C	84000	3.64	D	3.96	D
	Madonna Rd	Oceanaire Dr	Dalidio	EB	C	26250	4.06	D	4.15	D
3	Madonna Rd	El Mercado	Dalidio Dr	WB	C	37450	3.45	C	3.66	D
	Madonna Rd	Dalidio Dr	El Mercado	EB	C	52920	3.61	D	3.70	D
4	Madonna Rd	US 101 SB Ramps	El Mercado	WB	C	26250	3.59	D	3.65	D
	Madonna Rd	El Mercado	US 101 SB Ramps	EB	C	27915	3.65	D	3.71	D
5	Madonna Rd	US 101 NB Ramps	US 101 SB Ramps	WB	C	No Peds	3.60	D	3.68	F
	Madonna Rd	US 101 SB Ramps	US 101 NB Ramps	EB	C	No Peds	3.88	D	3.86	D
6	Madonna Rd	Higuera St	US 101 NB Ramps	WB	C	25200	3.57	D	3.68	D
	Madonna Rd	US 101 NB Ramps	Higuera St	EB	C	19838	3.75	D	3.66	D
7	S. Higuera St	Madonna Rd	Margarita Ave	SB	C	23247	3.17	C	3.88	D
	S. Higuera St	Margarita Ave	Madonna Rd	NB	C	5398	3.69	D	3.99	D
8	S. Higuera St	Margarita Ave	Prado Rd	SB	C	40979	3.77	D	3.81	D
	S. Higuera St	Prado Rd	Margarita Ave	NB	C	21700	3.60	D	3.82	D
9	S. Higuera St	Prado Rd	Granada Dr	SB	C	9292	3.72	D	3.81	D
	S. Higuera St	Granada Dr	Prado Rd	NB	C	8400	3.35	C	3.63	D
10	S. Higuera St	Granada Dr	Tank Farm Road	SB	C	46305	3.66	D	3.81	D
	S. Higuera St	Tank Farm Road	Granada Dr	NB	C	49140	3.26	C	3.41	C
11	S. Higuera St	Tank Farm Road	Suburban Drive	SB	C	12600	3.63	D	3.91	D
	S. Higuera St	Suburban Drive	Tank Farm Road	NB	C	31500	3.69	D	3.53	D
12	S. Higuera St	Suburban Drive	Los Osos Valley Road	SB	C	39312	3.59	D	3.93	D
	S. Higuera St	Los Osos Valley Road	Suburban Drive	NB	C	43533	4.07	D	4.04	D
13	Los Osos Valley	Madonna Rd	Froom Ranch Way	SB	C	21833	3.95	D	4.02	D
	Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	C	0	3.75	F	4.09	F
14	Los Osos Valley	Froom Ranch Way	Calle Joaquin	SB	C	27300	3.87	D	4.12	D
	Los Osos Valley	Calle Joaquin	Froom Ranch Way	NB	C	22050	3.76	D	4.07	D
15	Los Osos Valley	Calle Joaquin	US 101 SB Ramps	SB	C	No Peds	3.77	D	3.80	F
	Los Osos Valley	US 101 SB Ramps	Calle Joaquin	NB	C	63000	3.72	D	4.12	D
16	Los Osos Valley	US 101 SB Ramps	US 101 NB Ramps	SB	C	No Peds	3.93	D	3.98	D
	Los Osos Valley	US 101 NB Ramps	US 101 SB Ramps	NB	C	53928	3.81	D	3.34	C
17	Los Osos Valley	S. Higuera St	US 101 NB Ramps	WB	C	1680	3.86	D	4.50	E
	Los Osos Valley	US 101 NB Ramps	S. Higuera St	EB	C	39393	3.91	D	3.89	D
18	Prado Rd	S. Higuera St	US 101 NB Ramps	WB	C	7255	3.81	D	4.08	D
	Prado Rd	US 101 NB Ramps	S. Higuera St	EB	C	4774	4.08	D	3.76	F
19	Froom Ranch Way	Dick's Sporting Goods Dwy	Los Osos Valley	WB	C	No Peds	3.47	C	3.80	D
	Froom Ranch Way	Los Osos Valley	Dick's Sporting Goods Dwy	EB	C	75600	1.87	A	1.97	A
20	Dalidio Dr	Madonna Rd	Froom Ranch Way				-	-	-	-
	Dalidio Dr	Froom Ranch Way	Madonna Rd	NB	C	63000	3.20	C	3.49	C
21	Froom Ranch Way	Dalidio	Dick's Sporting Goods Dwy	WB	C	No Peds	1.73	A	1.74	A
	Froom Ranch Way	Dick's Sporting Goods Dwy	Dalidio	EB	C	No Peds	3.22	C	3.30	C
22	Prado Road	US 101 SB Ramps	US 101 NB Ramps	SB	C	7350	3.73	D	3.51	D
	Prado Road	US 101 NB Ramps	US 101 SB Ramps	NB	C	4900	3.48	C	3.68	D
23	Prado Road	Froom Ranch Way	US 101 SB Ramps	SB	C	10500	3.29	C	3.30	C
	Prado Road	US 101 SB Ramps	Froom Ranch Way	NB	C	7000	3.24	C	3.54	D
24	Dalido Dr	Madonna Rd	Froom Ranch Way	SB	C	63000	3.32	C	3.29	C
	Dalido Dr	Froom Ranch Way	Madonna Rd				-	-	-	-

Notes:

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.

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.

**TABLE 76: YEAR 2035 FULL BUILD PRADO INTERCHANGE CONDITIONS SEGMENT LEVEL OF SERVICE: BICYCLE ANALYSIS**

BICYCLE SEGMENT LOS						AM PEAK		PM PEAK	
ID	Roadway	From	To	Direction	LOS Threshold	SEGMENT SCORE	LOS	SEGMENT SCORE	LOS
1	Madonna Rd	Oceanaire Dr	LOVR	WB	D	3.71	D	4.03	D
	Madonna Rd	LOVR	Oceanaire Dr	EB	D	3.79	D	3.76	D
2	Madonna Rd	Dalidio	Oceanaire Dr	WB	D	3.16	C	3.23	C
	Madonna Rd	Oceanaire Dr	Dalidio	EB	D	3.60	D	3.43	C
3	Madonna Rd	El Mercado	Dalidio Dr	WB	D	3.29	C	3.17	C
	Madonna Rd	Dalidio Dr	El Mercado	EB	D	3.36	C	3.39	C
4	<b>Madonna Rd</b>	<b>US 101 SB Ramps</b>	<b>El Mercado</b>	<b>WB</b>	<b>D</b>	3.94	D	<b>4.30</b>	<b>E</b>
	Madonna Rd	El Mercado	US 101 SB Ramps	EB	D	3.60	D	3.61	D
5	Madonna Rd	US 101 NB Ramps	US 101 SB Ramps	WB	D	3.28	C	3.32	C
	Madonna Rd	US 101 SB Ramps	US 101 NB Ramps	EB	D	3.31	C	3.29	C
6	Madonna Rd	Higuera St	US 101 NB Ramps	WB	D	3.48	C	3.53	D
	Madonna Rd	US 101 NB Ramps	Higuera St	EB	D	3.60	D	3.47	C
7	S. Higuera St	Madonna Rd	Margarita Ave	SB	D	3.92	D	3.89	D
	S. Higuera St	Margarita Ave	Madonna Rd	NB	D	4.09	D	4.22	D
8	S. Higuera St	Margarita Ave	Prado Rd	SB	D	3.67	D	3.68	D
	S. Higuera St	Prado Rd	Margarita Ave	NB	D	3.93	D	4.00	D
9	S. Higuera St	Prado Rd	Granada Dr	SB	D	3.90	D	3.92	D
	S. Higuera St	Granada Dr	Prado Rd	NB	D	3.47	C	3.55	D
10	S. Higuera St	Granada Dr	Tank Farm Road	SB	D	4.15	D	4.19	D
	S. Higuera St	Tank Farm Road	Granada Dr	NB	D	3.52	D	3.56	D
11	S. Higuera St	Tank Farm Road	Suburban Drive	SB	D	3.34	C	3.44	C
	S. Higuera St	Suburban Drive	Tank Farm Road	NB	D	3.48	C	3.42	C
12	S. Higuera St	Suburban Drive	Los Osos Valley Road	SB	D	3.24	C	3.73	D
	S. Higuera St	Los Osos Valley Road	Suburban Drive	NB	D	3.96	D	3.88	D
13	Los Osos Valley	Madonna Rd	Froom Ranch Way	SB	D	3.74	D	3.74	D
	Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	D	3.39	C	3.47	C
14	Los Osos Valley	Froom Ranch Way	Calle Joaquin	SB	D	3.57	D	3.60	D
	Los Osos Valley	Calle Joaquin	Froom Ranch Way	NB	D	3.83	D	3.90	D
15	Los Osos Valley	Calle Joaquin	US 101 SB Ramps	SB	D	3.31	C	3.38	C
	Los Osos Valley	US 101 SB Ramps	Calle Joaquin	NB	D	3.56	D	3.63	D
16	Los Osos Valley	US 101 SB Ramps	US 101 NB Ramps	SB	D	3.73	D	3.72	D
	Los Osos Valley	US 101 NB Ramps	US 101 SB Ramps	NB	D	3.69	D	3.88	D
17	Los Osos Valley	S. Higuera St	US 101 NB Ramps	WB	D	3.42	C	3.45	C
	Los Osos Valley	US 101 NB Ramps	S. Higuera St	EB	D	3.31	C	3.35	C
18	Prado Rd	S. Higuera St	US 101 NB Ramps	WB	D	4.01	D	4.09	D
	Prado Rd	US 101 NB Ramps	S. Higuera St	EB	D	3.99	D	4.01	D
19	Froom Ranch Way	Dick's Sporting Goods Dw	Los Osos Valley	WB	D	3.44	C	3.66	D
	Froom Ranch Way	Los Osos Valley	Dick's Sporting Goods Dw	EB	D	3.49	C	3.56	D
20	<b>Dalidio Dr</b>	<b>Madonna Rd</b>	<b>Froom Ranch Way</b>			-	-	-	-
	Dalidio Dr	Froom Ranch Way	Madonna Rd	NB	D	3.51	D	3.80	D
21	Froom Ranch Way	Dalidio	Dick's Sporting Goods Dw	WB	D	2.62	B	3.02	C
	Froom Ranch Way	Dick's Sporting Goods Dw	Dalidio	EB	D	3.73	D	3.77	D
22	Prado Road	US 101 SB Ramps	US 101 NB Ramps	SB	D	3.25	C	3.18	C
	Prado Road	US 101 NB Ramps	US 101 SB Ramps	NB	D	3.18	C	3.25	C
23	Prado Road	Froom Ranch Way	US 101 SB Ramps	SB	D	3.21	C	3.20	C
	<b>Prado Road</b>	<b>US 101 SB Ramps</b>	<b>Froom Ranch Way</b>	<b>NB</b>	<b>D</b>	3.21	C	<b>5.24</b>	<b>F</b>
24	Dalido Dr	Madonna Rd	Froom Ranch Way	SB	D	3.98	D	3.97	D
	<b>Dalido Dr</b>	<b>Froom Ranch Way</b>	<b>Madonna Rd</b>			-	-	-	-

Notes:

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 incorporated into the methodology for evaluating bicycle segment performance.

Segment 20 SB will be compared to Segment 24 SB

**TABLE 77:  
YEAR 2035 FULL BUILD PRADO INTERCHANGE CONDITIONS SEGMENT LEVEL OF SERVICE: TRANSIT ANALYSIS**

TRANSIT LOS						AM PEAK		PM PEAK		
ID	Roadway	From	To	Direction	LOS Threshold	Route Name	SEGMENT SCORE	LOS	SEGMENT SCORE	LOS
1	<b>Madonna Rd</b>	<b>Oceanaire Dr</b>	<b>LOVR</b>	<b>WB</b>	<b>D</b>	<b>Route 4</b>	4.18	D	<b>4.26</b>	E
	<b>Madonna Rd</b>	<b>LOVR</b>	<b>Oceanaire Dr</b>	<b>EB</b>	<b>D</b>	<b>Route 5</b>	<b>4.45</b>	E	4.00	D
2	<b>Madonna Rd</b>	<b>Dalidio</b>	<b>Oceanaire Dr</b>	<b>WB</b>	<b>D</b>	<b>Route 4</b>	<b>4.48</b>	E	<b>4.56</b>	E
	<b>Madonna Rd</b>	<b>Oceanaire Dr</b>	<b>Dalidio</b>	<b>EB</b>	<b>D</b>	<b>Route 5</b>	<b>4.73</b>	E	<b>4.39</b>	E
3	<b>Madonna Rd</b>	<b>El Mercado</b>	<b>Dalidio Dr</b>	<b>WB</b>	<b>D</b>	<b>Route 4</b>	<b>4.31</b>	E	<b>4.37</b>	E
	<b>Madonna Rd</b>	<b>Dalidio Dr</b>	<b>El Mercado</b>	<b>EB</b>	<b>D</b>	<b>Route 5</b>	4.23	D	4.21	D
4	<b>Madonna Rd</b>	<b>US 101 SB Ramps</b>	<b>El Mercado</b>	<b>WB</b>	<b>D</b>	<b>Route 4</b>	<b>4.37</b>	E	<b>4.48</b>	E
	<b>Madonna Rd</b>	<b>El Mercado</b>	<b>US 101 SB Ramps</b>	<b>EB</b>	<b>D</b>	<b>Route 5</b>	<b>4.61</b>	E	<b>4.36</b>	E
5	<b>Madonna Rd</b>	<b>US 101 NB Ramps</b>	<b>US 101 SB Ramps</b>	<b>WB</b>	<b>D</b>	<b>Route 4</b>	4.12	D	4.20	D
	<b>Madonna Rd</b>	<b>US 101 SB Ramps</b>	<b>US 101 NB Ramps</b>	<b>EB</b>	<b>D</b>	<b>Route 5</b>	4.16	D	3.76	D
6	<b>Madonna Rd</b>	<b>Higuera St</b>	<b>US 101 NB Ramps</b>	<b>WB</b>	<b>D</b>	<b>Route 4</b>	<b>4.27</b>	E	<b>4.35</b>	E
	<b>Madonna Rd</b>	<b>US 101 NB Ramps</b>	<b>Higuera St</b>	<b>EB</b>	<b>D</b>	<b>Route 5</b>	<b>4.45</b>	E	<b>4.10</b>	D
7	<b>S. Higuera St</b>	<b>Madonna Rd</b>	<b>Margarita Ave</b>	<b>SB</b>	<b>D</b>	<b>Route 2</b>	Not Analyzed	N/A	3.54	D
	<b>S. Higuera St</b>	<b>Margarita Ave</b>	<b>Madonna Rd</b>	<b>NB</b>	<b>D</b>	<b>Route 2</b>	3.75	D	3.80	D
8	<b>S. Higuera St</b>	<b>Margarita Ave</b>	<b>Prado Rd</b>	<b>SB</b>	<b>D</b>	<b>Route 2</b>	Not Analyzed	N/A	4.22	D
	<b>S. Higuera St</b>	<b>Prado Rd</b>	<b>Margarita Ave</b>	<b>NB</b>	<b>D</b>	<b>Route 2</b>	4.25	D	<b>4.44</b>	E
9	<b>S. Higuera St</b>	<b>Prado Rd</b>	<b>Granada Dr</b>	<b>SB</b>	<b>D</b>	<b>Route 2</b>	<b>4.41</b>	E	<b>4.36</b>	E
	<b>S. Higuera St</b>	<b>Granada Dr</b>	<b>Prado Rd</b>	<b>NB</b>	<b>D</b>	<b>Route 2</b>	3.81	D	4.07	D
10	<b>S. Higuera St</b>	<b>Granada Dr</b>	<b>Tank Farm Road</b>	<b>SB</b>	<b>D</b>	<b>Route 2</b>	3.81	D	3.91	D
	<b>S. Higuera St</b>	<b>Tank Farm Road</b>	<b>Granada Dr</b>	<b>NB</b>	<b>D</b>	<b>Route 2</b>	3.56	D	3.66	D
11	<b>S. Higuera St</b>	<b>Tank Farm Road</b>	<b>Suburban Drive</b>	<b>SB</b>	<b>D</b>	-	Not Analyzed	N/A	Not Analyzed	N/A
	<b>S. Higuera St</b>	<b>Suburban Drive</b>	<b>Tank Farm Road</b>	<b>NB</b>	<b>D</b>	<b>Route 2</b>	4.04	D	3.99	D
12	<b>S. Higuera St</b>	<b>Suburban Drive</b>	<b>Los Osos Valley Road</b>	<b>SB</b>	<b>D</b>	-	Not Analyzed	N/A	Not Analyzed	N/A
	<b>S. Higuera St</b>	<b>Los Osos Valley Road</b>	<b>Suburban Drive</b>	<b>NB</b>	<b>D</b>	-	Not Analyzed	N/A	Not Analyzed	N/A
13	<b>Los Osos Valley</b>	<b>Madonna Rd</b>	<b>Froom Ranch Way</b>	<b>SB</b>	<b>D</b>	<b>Route 4</b>	<b>4.56</b>	E	<b>4.58</b>	E
	<b>Los Osos Valley</b>	<b>Froom Ranch Way</b>	<b>Madonna Rd</b>	<b>NB</b>	<b>D</b>	<b>Route 4</b>	4.25	D	<b>4.40</b>	E
13	<b>Los Osos Valley</b>	<b>Madonna Rd</b>	<b>Froom Ranch Way</b>	<b>SB</b>	<b>D</b>	<b>Route 5</b>	<b>4.65</b>	E	<b>4.39</b>	E
	<b>Los Osos Valley</b>	<b>Froom Ranch Way</b>	<b>Madonna Rd</b>	<b>NB</b>	<b>D</b>	<b>Route 5</b>	<b>4.36</b>	E	4.18	D
14	<b>Los Osos Valley</b>	<b>Froom Ranch Way</b>	<b>Calle Joaquin</b>	<b>SB</b>	<b>D</b>	<b>Route 4</b>	<b>4.28</b>	E	<b>4.43</b>	E
	<b>Los Osos Valley</b>	<b>Calle Joaquin</b>	<b>Froom Ranch Way</b>	<b>NB</b>	<b>D</b>	0.00	Not Analyzed	N/A	Not Analyzed	N/A
14	<b>Los Osos Valley</b>	<b>Madonna Rd</b>	<b>Froom Ranch Way</b>	<b>SB</b>	<b>D</b>	<b>Route 5</b>	<b>4.40</b>	E	4.20	D
	<b>Los Osos Valley</b>	<b>Froom Ranch Way</b>	<b>Madonna Rd</b>	<b>NB</b>	<b>D</b>	0.00	Not Analyzed	N/A	Not Analyzed	N/A
15	<b>Los Osos Valley</b>	<b>Calle Joaquin</b>	<b>US 101 SB Ramps</b>	<b>SB</b>	<b>D</b>		Not Analyzed	N/A	Not Analyzed	N/A
	<b>Los Osos Valley</b>	<b>US 101 SB Ramps</b>	<b>Calle Joaquin</b>	<b>NB</b>	<b>D</b>		Not Analyzed	N/A	Not Analyzed	N/A
16	<b>Los Osos Valley</b>	<b>US 101 SB Ramps</b>	<b>US 101 NB Ramps</b>	<b>SB</b>	<b>D</b>		Not Analyzed	N/A	Not Analyzed	N/A
	<b>Los Osos Valley</b>	<b>US 101 NB Ramps</b>	<b>US 101 SB Ramps</b>	<b>NB</b>	<b>D</b>		Not Analyzed	N/A	Not Analyzed	N/A
17	<b>Los Osos Valley</b>	<b>S. Higuera St</b>	<b>US 101 NB Ramps</b>	<b>WB</b>	<b>D</b>		Not Analyzed	N/A	Not Analyzed	N/A
	<b>Los Osos Valley</b>	<b>US 101 NB Ramps</b>	<b>S. Higuera St</b>	<b>EB</b>	<b>D</b>		Not Analyzed	N/A	Not Analyzed	N/A
18	<b>Prado Rd</b>	<b>S. Higuera St</b>	<b>US 101 NB Ramps</b>	<b>WB</b>	<b>D</b>		Not Analyzed	N/A	Not Analyzed	N/A
	<b>Prado Rd</b>	<b>US 101 NB Ramps</b>	<b>S. Higuera St</b>	<b>EB</b>	<b>D</b>	<b>Route 2</b>	4.06	D	Not Analyzed	N/A
19	<b>Froom Ranch Way</b>	<b>Dick's Sporting Goods Dwy</b>	<b>Los Osos Valley</b>	<b>WB</b>	<b>D</b>		Not Analyzed	N/A	Not Analyzed	N/A
	<b>Froom Ranch Way</b>	<b>Los Osos Valley</b>	<b>Dick's Sporting Goods</b>	<b>EB</b>	<b>D</b>		Not Analyzed	N/A	Not Analyzed	N/A
20	<b>Dalidio Dr</b>	<b>Madonna Rd</b>	<b>Froom Ranch Way</b>	<b>O</b>	<b>D</b>		4.21	D	4.21	D
	<b>Dalidio Dr</b>	<b>Froom Ranch Way</b>	<b>Madonna Rd</b>	<b>NB</b>	<b>D</b>		4.25	D	4.06	D
21	<b>Froom Ranch Way</b>	<b>Dalidio</b>	<b>Dick's Sporting Goods</b>	<b>WB</b>	<b>D</b>		Not Analyzed	N/A	Not Analyzed	N/A
	<b>Froom Ranch Way</b>	<b>Dick's Sporting Goods Dwy</b>	<b>Dalidio</b>	<b>EB</b>	<b>D</b>		Not Analyzed	N/A	Not Analyzed	N/A
22	<b>Prado Road</b>	<b>US 101 SB Ramps</b>	<b>US 101 NB Ramps</b>	<b>SB</b>	<b>D</b>		Not Analyzed	N/A	Not Analyzed	N/A
	<b>Prado Road</b>	<b>US 101 NB Ramps</b>	<b>US 101 SB Ramps</b>	<b>NB</b>	<b>D</b>		Not Analyzed	N/A	Not Analyzed	N/A
23	<b>Prado Road</b>	<b>Froom Ranch Way</b>	<b>US 101 SB Ramps</b>	<b>SB</b>	<b>D</b>		Not Analyzed	N/A	Not Analyzed	N/A
	<b>Prado Road</b>	<b>US 101 SB Ramps</b>	<b>Froom Ranch Way</b>	<b>NB</b>	<b>D</b>		Not Analyzed	N/A	Not Analyzed	N/A
24	<b>Dalido Dr</b>	<b>Madonna Rd</b>	<b>Froom Ranch Way</b>	<b>SB</b>	<b>D</b>		<b>4.31</b>	E	<b>4.32</b>	E
	<b>Dalido Dr</b>	<b>Froom Ranch Way</b>	<b>Madonna Rd</b>	<b>O</b>	<b>D</b>		<b>4.35</b>	E	4.20	D

Note: Route 2 Serves the Prado Day Center stop during the AM peak hour, and the DMV/Margarita stop during the PM Peak Hour  
Segment 20 transit is southbound for routes 4 and 5

**TABLE 78: YEAR 2035 FULL BUILD PRADO INTERCHANGE CONDITIONS SEGMENT LEVEL OF SERVICE:  
FREEWAY ANALYSIS**

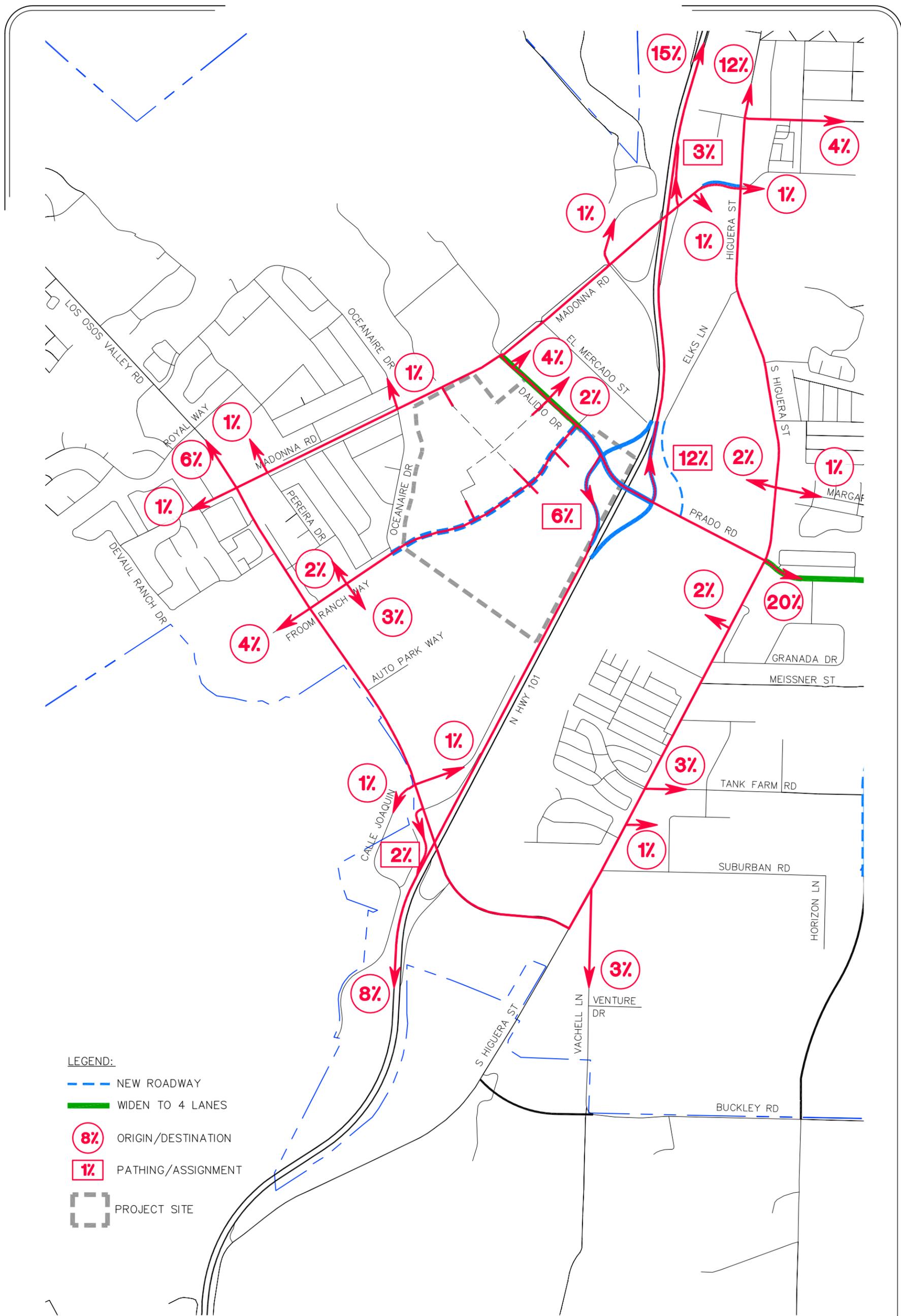
Interchange Location	Target LOS	Segment Type	No. of Lanes	AM Peak Hour			PM Peak Hour		
				Volume	Density (pc/mi/ln)	LOS	Volume	Density (pc/mi/ln)	LOS
<b>US 101 at Los Osos Valley Road</b>									
US 101 NB South of Los Osos Valley Road	C	Freeway	2	<b>3,464</b>	<b>32.8</b>	<b>D</b>	2,693	23.7	C
US 101 SB South of Los Osos Valley Road	C	Freeway	2	1,890	16.6	B	<b>3,865</b>	<b>39.5</b>	<b>E</b>
<b>US 101 at Prado Road</b>									
US 101 NB South of Prado Road	C	Freeway	2	<b>2,935</b>	<b>26.2</b>	<b>D</b>	2,595	22.8	C
US 101 SB South of Prado Road	C	Freeway	2	2,091	18.4	C	<b>3,537</b>	<b>33.9</b>	<b>D</b>
<b>US 101 at Madonna Road</b>									
US 101 NB South of Madonna Road	C	Freeway	2	2,904	25.9	C	<b>3,044</b>	<b>27.4</b>	<b>D</b>
US 101 SB South of Madonna Road	C	Freeway	2	2,590	22.8	C	<b>3,706</b>	<b>36.6</b>	<b>E</b>

As shown in the Year 2035 Full Build Prado Interchange Conditions segment analysis tables, most of the segments are currently operating at deficient LOS for pedestrian and transit modes, as well as several segments for automobile mode and only a couple segments for the bicycle mode. The segment of US 101 south of Los Osos Valley Road is operating at deficient LOS D during the PM peak hour for Year 2035 Full Build Prado Interchange conditions.

## Year 2035 Full Build Prado Interchange Plus Project Conditions

The project generated peak hour volumes have been added to the derived 2035 Full Build Prado Interchange volumes to obtain the Full Build Prado Interchange Plus Project conditions. The LOS have been quantified and compared to all study intersections and roadways analyzed in Full Build Prado Interchange (No Project) conditions. All proposed driveway intersections have been evaluated for LOS operations, potential vehicle queuing and pedestrian and bicycle level of service.

Figures 16A and 16B present the project trip distribution for the 2035 Full Build Prado Interchange scenario. Figure 17 presents the 2035 Full Build Prado Interchange Plus Project lane geometrics and control assuming the proposed project is in place. Figure 18 presents the 2035 Full Build Prado Interchange Plus Project peak hour traffic volumes with the proposed project in place.

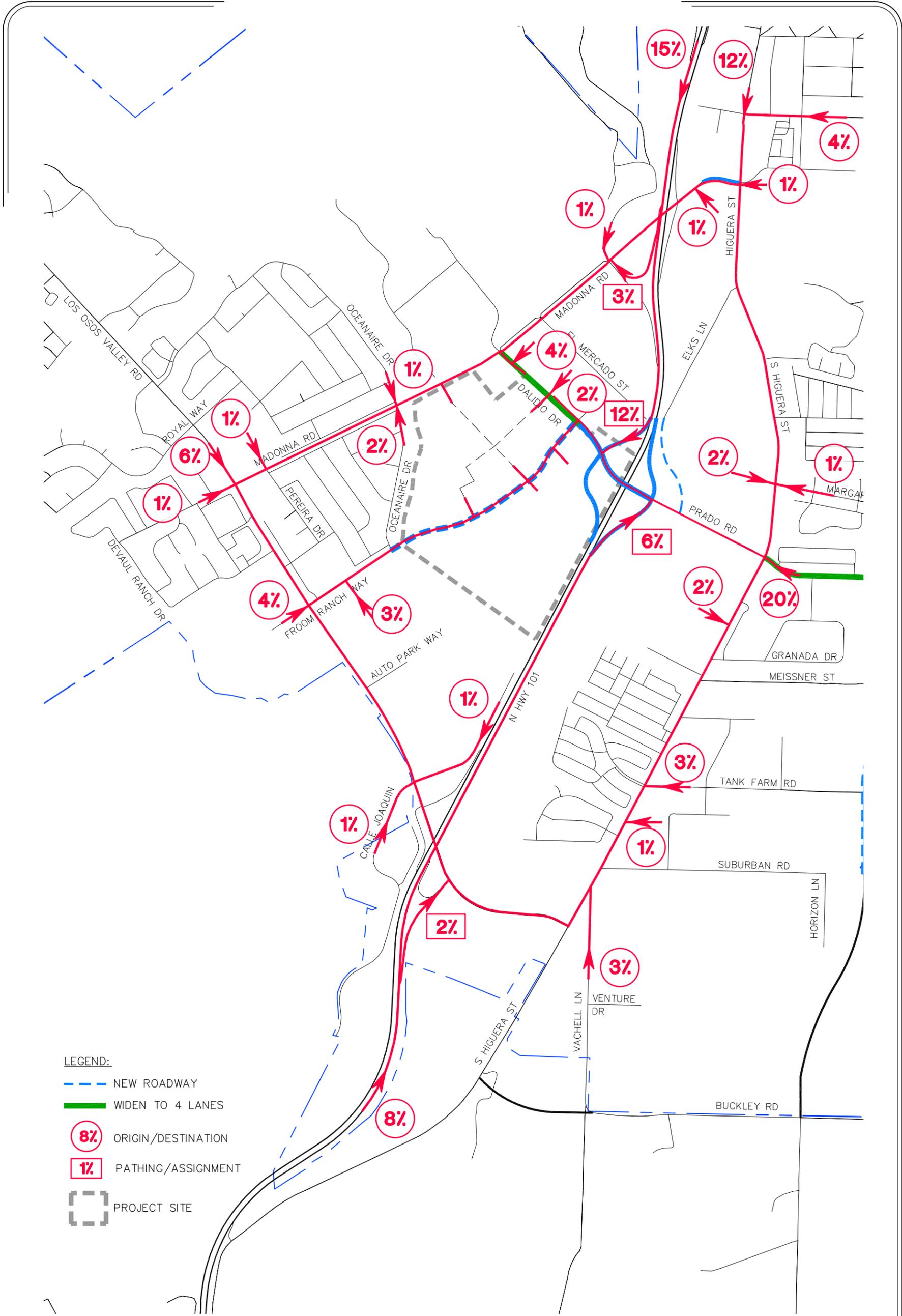


San Luis Ranch Specific Plan Multimodal TIS

Figure 16A

2035 Full Build Prado - Project Trip Distribution (Outbound)





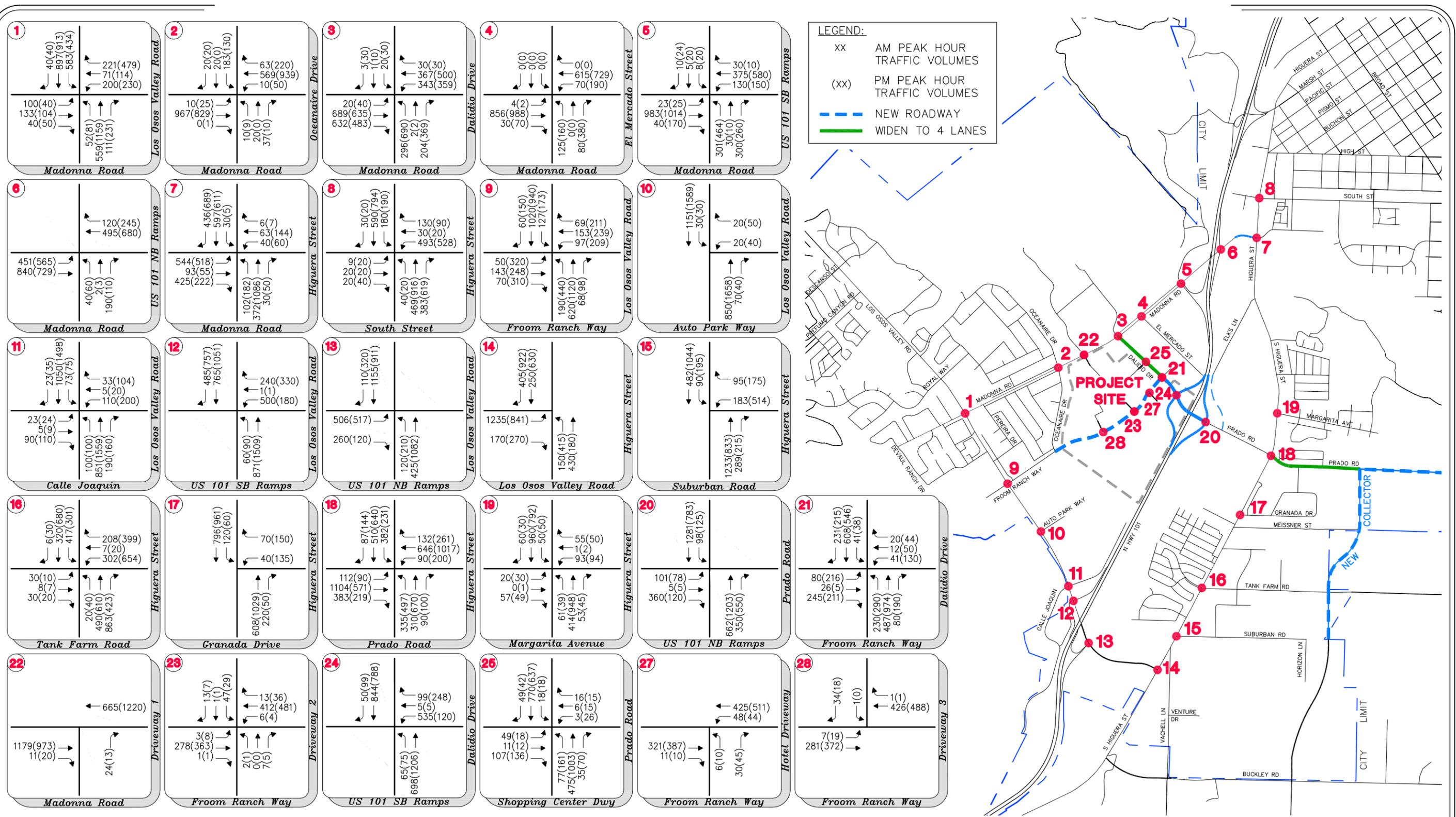
San Luis Ranch Specific Plan Multimodal TIS

Figure 16B

2035 Full Build Prado - Project Trip Distribution (Inbound)







San Luis Ranch Specific Plan Multimodal TIS

Figure 18

Year 2035 Full Build Prado Rd Interchange Plus Project Peak Hour Traffic Volumes

# Year 2035 Full Build Prado Interchange Plus Project Conditions Analysis

The Year 2035 Full Build Prado Interchange Plus Project conditions multimodal analysis for the study intersections and segments are presented below.

## Year 2035 Full Build Prado Interchange Plus Project Conditions Intersection Analysis

Table 79 provides a summary of the Year 2035 Full Build Prado Interchange Plus Project conditions vehicular AM and PM peak hour intersection delay and LOS. Table 80 provides a summary of the Year 2035 Full Build Prado Interchange Plus Project pedestrian AM and PM peak hour conditions at the study intersections. Table 81 provides a summary of the Year 2035 Full Build Prado Interchange Plus Project bicycle AM and PM peak hour conditions at the study intersections. Table 82 provides a summary of the Full Build Prado Interchange Plus Project conditions queuing analysis.

**TABLE 79: YEAR 2035 FULL BUILD PRADO INTERCHANGE PLUS PROJECT CONDITIONS INTERSECTION LOS: AUTOMOBILE ANALYSIS**

#	Intersection	Control Type <sup>1,2</sup>	Target LOS	AM Peak Hour			PM Peak Hour		
				v/c <sup>3</sup>	Delay	LOS	v/c <sup>3</sup>	Delay	LOS
1	Madonna Road/Los Osos Valley Road	Signal	D		33.9	C		44.6	D
2	Madonna Road/Oceanaire Drive	Signal	D		25.1	C		18.5	B
<b>3</b>	<b>Madonna Road/Dalidio Drive</b>	<b>Signal</b>	<b>D</b>	<b>6.50</b>	<b>357.2</b>	<b>F</b>	<b>8.93</b>	<b>910.7</b>	<b>F</b>
4	Madonna Road/EI Mercado	Signal	D		11.5	B		19.8	B
5	Madonna Road/US 101 SB Ramps/Madonna Inn	Signal	C		22.3	C		23.1	C
6	Madonna Road/US 101 NB Ramps	Signal	C		19.3	B		17.8	B
7	Madonna Road/Higuera Street	Signal	D		33.4	C		33.6	C
8	Higuera Street/South Street	Signal	D		30.1	C		39.6	D
<b>9</b>	<b>Los Osos Valley Road/Froom Ranch Way</b>	<b>Signal</b>	<b>D</b>		24.4	C	<b>1.09</b>	<b>60.3</b>	<b>E</b>
<b>10</b>	<b>Los Osos Valley Road/Auto Park Way</b>	<b>TWSC</b>	<b>D</b>		18.0	C	<b>0.54</b>	<b>52.9</b>	<b>F</b>
11	Los Osos Valley Road/Calle Joaquin	Signal	D		6.7	A		9.0	A
12	Los Osos Valley Road/US 101 SB Ramps	Signal	C		24.4	C		23.4	C
13	Los Osos Valley Road/US 101 NB Ramps	Signal	C		19.5	B		16.8	B
14	S. Higuera Street/Los Osos Valley Road	Signal	D		31.9	C		54.3	D
15	S. Higuera Street/Suburban Drive	Signal	D		13.4	B		21.8	C
<b>16</b>	<b>S. Higuera Street/Tank Farm Road</b>	<b>Signal</b>	<b>D</b>	<b>1.77</b>	<b>153.0</b>	<b>F</b>		24.5	C
17	S. Higuera Street/Granada Drive	Signal	D		9.8	A		12.3	B
18	S. Higuera Street/Prado Road	Signal	D		43.1	D		46.8	D
19	S. Higuera Street/Margarita Avenue	Signal	D		17.2	B		17.3	B
20	Prado Road/US 101 NB Ramps	Signal	D		12.6	B		9.6	A
21	Froom Ranch Road/Dalidio Drive/Prado Road	Signal	D		20.3	C		39.1	D
22	Madonna Road/Project Driveway	TWSC	D		14.3	B		12.6	B
23	Froom Ranch Road/Project Driveway #2	TWSC	D		18.0	C		21.4	C
24	Prado Road/US 101 SB Ramps	Signal	D		14.8	B		10.3	B
25	Dalidio Drive/SC Project Driveway	Signal	D		13.3	B		17.2	B
27	Froom Ranch Road/Hotel Project Driveway	TWSC	D		12.0	B		13.6	B
28	Froom Ranch Road/Project Driveway #3	TWSC	D		11.7	B		11.9	B

Notes:

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

**TABLE 80: YEAR 2035 FULL BUILD PRADO INTERCHANGE PLUS PROJECT CONDITIONS INTERSECTION  
LOS: 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	2.12	B	2.12	B
		WB	C	3.05	C	3.26	C
		NB	C	3.14	C	3.35	C
		SB	C	3.31	A	3.34	A
2	Madonna Road/Oceanaire Drive	EB	C	2.83	C	2.95	C
		WB	C	3.30	C	3.41	C
		NB	C	2.03	B	1.97	A
		SB	C	1.88	A	1.89	A
3	Madonna Road/Dalidio Drive	EB	C	3.66	D	4.27	E
		WB	C	3.01	C	3.02	C
		NB	C	2.76	C	2.73	B
		SB	C	1.99	A	2.00	A
4	Madonna Road/El Mercado	EB	C	n/a	-	n/a	-
		WB	C	3.02	C	3.13	C
		NB	C	2.30	B	2.76	C
		SB	C	1.71	A	1.74	A
5	Madonna Road/US 101 SB Ramps/Madonna Inn	EB	C	2.97	C	3.07	C
		WB	C	n/a	-	n/a	-
		NB	C	2.68	B	2.65	B
		SB	C	2.18	B	2.20	B
6	Madonna Road/US 101 NB Ramps	EB	C	n/a	-	n/a	-
		WB	C	2.80	C	2.77	C
		NB	C	2.05	B	1.95	A
		SB	C	n/a	-	n/a	-
7	Madonna Road/Higuera Street	EB	C	2.85	C	2.96	C
		WB	C	2.09	B	2.07	B
		NB	C	2.82	C	3.01	C
		SB	C	n/a	-	n/a	-
8	Higuera Street/South Street	EB	C	2.03	B	2.05	B
		WB	C	2.76	C	2.82	C
		NB	C	n/a	-	n/a	-
		SB	C	2.60	B	2.74	B
9	Los Osos Valley Road/Froom Ranch Way	EB	C	2.45	B	2.66	B
		WB	C	2.51	B	2.71	B
		NB	C	n/a	-	n/a	-
		SB	C	3.13	C	3.32	C
10	Los Osos Valley Road/Auto Park Way	EB	C	-	-	-	-
		WB	C	-	-	-	-
		NB	C	n/a	-	n/a	-
		SB	C	-	-	-	-
11	Los Osos Valley Road/Calle Joaquin	EB	C	2.61	B	2.47	B
		WB	C	2.22	B	2.33	B
		NB	C	3.25	C	3.52	D
		SB	C	3.06	C	3.34	C
12	Los Osos Valley Road/US 101 SB Ramps	EB	C	2.01	B	2.27	B
		WB	C	2.18	B	2.06	B
		NB	C	n/a	-	n/a	-
		SB	C	n/a	-	n/a	-
13	Los Osos Valley Road/US 101 NB Ramps	EB	C	2.42	B	2.38	B
		WB	C	2.78	C	2.85	C
		NB	C	n/a	-	n/a	-
		SB	C	n/a	-	n/a	-
14	S. Higuera Street/Los Osos Valley Road	EB	C	3.02	C	3.65	D
		NB	C	2.46	B	2.71	B
		WB	C	n/a	-	n/a	-
		SB	C	n/a	-	n/a	-
15	S. Higuera Street/Suburban Drive	WB	C	2.34	B	2.66	B
		NB	C	3.31	C	3.94	D
		WB	C	2.91	C	2.99	C
		SB	C	2.91	C	2.99	C
16	S. Higuera Street/Tank Farm Road	EB	C	2.03	B	2.02	B
		WB	C	2.97	C	3.27	C
		NB	C	3.43	C	3.33	C
		SB	C	2.78	C	2.94	C
17	S. Higuera Street/Granada Drive	WB	C	2.18	B	2.24	B
		NB	C	n/a	-	n/a	-
		WB	C	2.78	C	2.96	C
		SB	C	2.78	C	2.96	C
18	S. Higuera Street/Prado Road	EB	C	3.21	C	3.28	C
		WB	C	3.09	C	3.38	C
		NB	C	2.95	C	3.39	C
		SB	C	3.05	C	3.15	C
19	S. Higuera Street/Margarita Avenue	EB	C	2.34	B	2.10	B
		WB	C	2.15	B	2.15	B
		NB	C	2.97	C	3.07	C
		SB	C	2.82	C	2.95	C
20	Prado Road/US 101 NB Ramps	EB	C	2.03	B	1.98	A
		WB	C	1.90	A	2.14	B
		NB	C	3.15	C	3.27	C
		SB	C	2.76	C	2.85	C
21	Froom Ranch Road/Dalidio Drive/Prado Road	EB	C	2.54	B	2.56	B
		WB	C	1.85	A	1.97	A
		NB	C	2.67	B	2.82	C
		SB	C	2.87	C	2.95	C
24	Prado Road/US 101 SB Ramps	EB	C	n/a	-	n/a	-
		WB	C	2.27	B	2.14	B
		NB	C	2.76	C	2.85	C
		SB	C	2.69	B	2.94	C
25	Dalidio Drive/SC Project Driveway	EB	C	2.00	A	1.61	A
		WB	C	1.79	A	2.14	B
		NB	C	2.57	B	2.85	C
		SB	C	2.55	B	2.94	C

Notes:

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.

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 81: YEAR 2035 FULL BUILD PRADO INTERCHANGE TERM PLUS PROJECT CONDITIONS  
INTERSECTION LOS: 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	3.31	C	3.16	C
		WB	D	3.63	D	4.15	D
		NB	D	1.69	A	2.10	B
		SB	D	2.95	A	2.78	A
2	Madonna Road/Oceanaire Drive	EB	D	2.99	C	2.89	C
		WB	D	1.23	A	1.74	A
		NB	D	2.78	C	2.70	B
		SB	D	2.33	B	2.27	B
3	Madonna Road/Dalidio Drive	EB	D	2.39	B	2.12	B
		WB	D	1.58	A	1.62	A
		NB	D	2.76	C	3.62	D
		SB	D	1.79	A	1.86	A
4	Madonna Road/EI Mercado	EB	D	1.67	A	1.71	A
		WB	D	1.73	A	1.81	A
		NB	D	3.41	C	3.94	D
		SB	D	3.03	C	3.03	C
5	Madonna Road/US 101 SB Ramps/Madonna Inn	EB	D	1.91	A	1.96	A
		WB	D	1.60	A	1.69	A
		NB	D	n/a	-	n/a	-
		SB	D	2.92	C	2.99	C
6	Madonna Road/US 101 NB Ramps	EB	D	2.38	B	2.22	B
		WB	D	1.64	A	1.83	A
		NB	D	n/a	-	n/a	-
		SB	D	3.14	C	2.60	B
7	Madonna Road/Higuera Street	WB	D	2.60	B	2.78	C
		NB	D	1.82	A	2.53	B
		SB	D	2.41	B	2.59	B
		EB	D	2.71	B	2.77	C
8	Higuera Street/South Street	WB	D	2.71	B	2.72	B
		NB	D	3.00	C	3.61	D
		SB	D	1.82	A	2.02	B
		EB	D	3.56	D	4.60	E
9	Los Osos Valley Road/Froom Ranch Way	WB	D	2.25	B	3.14	C
		NB	D	1.84	A	2.26	B
		SB	D	1.91	A	1.91	A
		EB	D	-	-	-	-
10	Los Osos Valley Road/Auto Park Way	WB	D	n/a	-	n/a	-
		NB	D	-	-	-	-
		SB	D	-	-	-	-
		EB	D	3.09	C	3.12	C
11	Los Osos Valley Road/Calle Joaquin	WB	D	3.21	C	3.49	C
		NB	D	1.64	A	2.14	B
		SB	D	0.62	A	0.94	A
		WB	D	n/a	-	n/a	-
12	Los Osos Valley Road/US 101 SB Ramps	NB	D	2.85	C	3.35	C
		SB	D	1.82	A	2.21	B
		EB	D	n/a	-	n/a	-
		NB	D	1.85	A	2.47	B
13	Los Osos Valley Road/US 101 NB Ramps	SB	D	2.91	C	2.85	C
		EB	D	2.27	B	2.00	A
		NB	D	2.30	B	2.32	B
		SB	D	2.42	B	3.96	D
14	S. Higuera Street/Los Osos Valley Road	WB	D	1.15	A	1.85	A
		NB	D	2.56	B	2.10	B
		SB	D	1.75	A	2.31	B
		EB	D	2.72	B	2.66	B
15	S. Higuera Street/Suburban Drive	WB	D	2.42	B	3.39	C
		NB	D	2.47	B	2.17	B
		SB	D	1.90	A	2.11	B
		WB	D	2.70	B	3.00	C
16	S. Higuera Street/Tank Farm Road	NB	D	1.92	A	2.14	B
		SB	D	2.13	B	2.23	B
		EB	D	2.12	B	2.75	B
		WB	D	2.00	A	3.82	D
17	S. Higuera Street/Prado Road	NB	D	1.88	A	2.35	B
		SB	D	2.10	B	2.12	B
		EB	D	2.55	B	2.56	B
		WB	D	2.77	C	2.77	C
18	S. Higuera Street/Margarita Avenue	NB	D	1.75	A	2.21	B
		SB	D	2.32	B	2.16	B
		EB	D	n/a	-	n/a	-
		WB	D	n/a	-	n/a	-
19	Prado Road/US 101 NB Ramps	NB	D	1.60	A	2.25	B
		SB	D	2.02	B	1.69	A
		EB	D	2.10	B	2.19	B
		WB	D	2.79	C	3.07	C
20	Froom Ranch Road/Dalidio Drive/Prado Road	NB	D	1.72	A	2.32	B
		SB	D	2.02	B	1.97	A
		EB	D	n/a	-	n/a	-
		WB	D	n/a	-	n/a	-
21	Prado Road/US 101 SB Ramps	NB	D	1.73	A	2.20	B
		SB	D	1.47	A	1.47	A
		EB	D	2.78	C	2.78	C
		WB	D	2.53	B	2.58	B
22	Dalidio Drive/SC Project Driveway	NB	D	2.46	B	3.03	C
		SB	D	2.68	B	2.55	B

Notes:  
 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 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 82: YEAR 2035 FULL BUILD PRADO INTERCHANGE PLUS PROJECT CONDITIONS 95<sup>TH</sup> PERCENTILE QUEUING ANALYSIS**

Intersection		Movement	No. Lanes	Total Storage (ft) <sup>1</sup>	95 <sup>th</sup> Percentile Queue/Lane (ft)	
ID	Location				AM Peak Hour	PM Peak Hour
1	Madonna Road/Los Osos Valley Road	Northbound Right	1	175	111	<b>256</b>
		Southbound Left	2	350	<b>358</b>	297
2	Madonna Road/Oceanaire Drive	Westbound Left	1	115	31	<b>305</b>
		Westbound Right	1	100	<b>101</b>	<b>156</b>
3	Madonna Road/Dalidio Drive	Eastbound Left	1	115	98	<b>139</b>
		Westbound Left	1	275	<b>332</b>	<b>450</b>
		Southbound Right	1	50	15	71
4	Madonna Road/El Mercado	Westbound Left	2	260	64	<b>492</b>
5	Madonna Road/US 101 SB Ramps/Madonna Inn	Westbound Left	1	260	187	<b>406</b>
6	Madonna Road/US 101 NB Ramps	Northbound Left	1	185	71	<b>266</b>
7	Madonna Road/Higuera Street	Eastbound Right	1	150	<b>159</b>	42
		Northbound Left	1	160	130	<b>392</b>
		Southbound Left/Through	2	250	246	<b>1013</b>
		Southbound Right	2	340	33	<b>619</b>
8	Higuera Street/South Street	Eastbound Right	1	60	45	<b>89</b>
		Westbound Left	2	240	<b>306</b>	<b>986</b>
		Northbound Left	1	60	<b>96</b>	30
		Northbound Right	1	60	<b>99</b>	<b>159</b>
9	Los Osos Valley Road/Froom Ranch Way	Southbound Left	1	70	<b>115</b>	<b>131</b>
		Eastbound Left	2	250*	187	<b>637</b>
		Eastbound Through/Right	1	445	376	<b>566</b>
		Westbound Right	1	50	<b>87</b>	<b>121</b>
10	Los Osos Valley Road/Auto Park Way	Southbound Left	2	200	<b>304</b>	<b>248</b>
		Southbound Left	1	60	<b>95</b>	49
11	Los Osos Valley Road/Calle Joaquin	Eastbound Right	1	260	<b>410</b>	110
12	Los Osos Valley Road/US 101 SB Ramps	Westbound Left/Through	1	180	<b>277</b>	<b>199</b>
		Southbound Through	1	240	<b>346</b>	<b>345</b>
		Southbound Right	1	125	<b>197</b>	<b>183</b>
13	Los Osos Valley Road/US 101 NB Ramps	Eastbound Left/Right	1	625	<b>701</b>	327
		Southbound Through	1	865	<b>1253</b>	299
		Southbound Right	1	130	<b>283</b>	<b>182</b>
14	S. Higuera Street/Los Osos Valley Road	Eastbound Right	1	90	<b>207</b>	<b>185</b>
		Northbound Left	1	160	127	<b>248</b>
15	S. Higuera Street/Suburban Drive	Westbound Right	1	170	65	<b>313</b>
		Southbound Left	1	200	<b>217</b>	<b>332</b>
16	S. Higuera Street/Tank Farm Road	Northbound Left	1	140	<b>251</b>	72
		Northbound Right	1	100	<b>253</b>	<b>167</b>
		Southbound Left	1	165	<b>377</b>	<b>239</b>
17	S. Higuera Street/Granada Drive	Southbound Left	1	80	<b>97</b>	76
18	S. Higuera Street/Prado Road	Eastbound Left	1	150	<b>193</b>	93
		Eastbound Right	1	140	<b>228</b>	139
		Westbound Left	1	105	97	<b>278</b>
		Westbound Right	1	100	100	<b>291</b>
		Northbound Left	1	100	<b>190</b>	<b>265</b>
		Southbound Left	1	60	<b>181</b>	<b>178</b>
19	S. Higuera Street/Margarita Avenue	Northbound Left	1	60	<b>104</b>	71
		Southbound Left	1	60	<b>91</b>	<b>69</b>
20	Prado Road/US 101 NB Ramps	Northbound Right	1	150	146	<b>181</b>
24	Prado Road/US 101 SB Ramps	Westbound Left/Through	1	250	<b>263</b>	<b>370</b>

- 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.

As shown in Table 79, the intersection of Madonna Road/Dalidio Drive, Los Osos Valley Road/Froom Ranch Way, Los Osos Valley Road/Auto Park Way, and S. Higuera Street/Tank Farm Road continue to operate at unacceptable conditions during the Full Build Prado Interchange Plus Project conditions. .

Pedestrian analysis shows acceptable conditions at the study intersections. Bicycle analysis shows deficiencies at Los Osos Valley Road/Froom Ranch Way. Queuing analysis results to be completed. Transportation improvements required to mitigate project-related impacts are detailed in a subsequent section of this report.

## **Year 2035 Full Build Prado Interchange Plus Project Conditions Segment Analysis**

Table 83 provides a summary of the Year 2035 Full Build Prado Interchange Plus Project vehicular AM and PM peak hour conditions for the study segments. Table 84 provides a summary of the Year 2035 Full Build Prado Interchange Plus Project pedestrian AM and PM peak hour conditions for the study segments. Table 85 provides a summary of the Year 2035 Full Build Prado Interchange Plus Project bicycle AM and PM peak hour conditions for the study segments. Table 86 provides a summary of the Year 2035 Full Build Prado Interchange Plus Project transit AM and PM peak hour conditions for the study segments. Table 87 provides a summary of the Year 2035 Full Build Prado Interchange Plus Project freeway segments analysis for AM and PM peak hour conditions for the study segments along US 101. Transportation improvements required to mitigate project-related impacts are detailed in a subsequent section of this report.

**TABLE 83: YEAR 2035 FULL BUILD PRADO INTERCHANGE PLUS PROJECT CONDITIONS SEGMENT LEVEL OF SERVICE: AUTOMOBILE ANALYSIS**

AUTO SEGMENT LOS					AM PEAK				PM PEAK				
ID	Roadway	From	To	Direction	LOS Threshold	Travel Speed (mph)	Base Free-Flow Speed BFFS (mph)	Travel Speed/ BFFS (%)	LOS	Travel Speed (mph)	Base Free-Flow Speed BFFS	Travel Speed/ BFFS (%)	LOS
1	Madonna Rd	Oceanaire Dr	LOVR	WB	D	19.8	40.1	49%	D	14.4	40.1	36%	E
	Madonna Rd	LOVR	Oceanaire Dr	EB	D	24.5	40.0	61%	C	27.2	40.0	68%	B
2	Madonna Rd	Dalidio	Oceanaire Dr	WB	D	22.4	40.8	55%	C	23.9	40.7	59%	C
	Madonna Rd	Oceanaire Dr	Dalidio	EB	D	9.3	40.7	23%	F	5.9	40.8	14%	F
3	Madonna Rd	El Mercado	Dalidio Dr	WB	D	17.4	34.1	51%	C	12.3	34.8	36%	E
	Madonna Rd	Dalidio Dr	El Mercado	EB	D	25.7	38.2	67%	B	13.1	34.6	38%	E
4	Madonna Rd	US 101 SB Ramps	El Mercado	WB	D	27.1	37.9	72%	B	21.9	37.3	59%	C
	Madonna Rd	El Mercado	US 101 SB Ramps	EB	D	21.9	37.8	58%	C	20.3	37.7	54%	C
5	Madonna Rd	US 101 NB Ramps	US 101 SB Ramps	WB	D	26.6	37.8	70%	B	25.0	37.8	66%	C
	Madonna Rd	US 101 SB Ramps	US 101 NB Ramps	EB	D	32.9	37.8	87%	A	33.5	37.8	88%	A
6	Madonna Rd	Higuera St	US 101 NB Ramps	WB	D	17.8	37.2	48%	D	19.5	37.2	53%	C
	Madonna Rd	US 101 NB Ramps	Higuera St	EB	D	12.6	37.2	34%	E	33.0	37.2	89%	A
7	S. Higuera St	Madonna Rd	Margarita Ave	SB	D	32.0	44.5	72%	B	34.3	44.5	77%	B
	S. Higuera St	Margarita Ave	Madonna Rd	NB	D	32.0	44.8	71%	B	20.1	44.8	45%	D
8	S. Higuera St	Margarita Ave	Prado Rd	SB	D	10.5	38.9	27%	F	8.9	38.9	23%	F
	S. Higuera St	Prado Rd	Margarita Ave	NB	D	20.9	38.9	54%	C	16.9	38.9	43%	D
9	S. Higuera St	Prado Rd	Granada Dr	SB	D	32.1	41.8	77%	B	29.7	41.8	71%	B
	S. Higuera St	Granada Dr	Prado Rd	NB	D	16.6	41.9	40%	E	15.4	41.9	37%	E
10	S. Higuera St	Granada Dr	Tank Farm Road	SB	D	40.5	41.6	97%	A	25.3	42.6	59%	C
	S. Higuera St	Tank Farm Road	Granada Dr	NB	D	29.3	41.6	70%	B	25.4	42.6	60%	C
11	S. Higuera St	Tank Farm Road	Suburban Drive	SB	D	26.0	42.4	61%	C	22.7	41.2	55%	C
	S. Higuera St	Suburban Drive	Tank Farm Road	NB	D	16.0	42.5	38%	E	16.3	41.3	40%	E
12	S. Higuera St	Suburban Drive	Los Osos Valley Rct	SB	D	19.6	42.1	47%	D	6.2	39.1	16%	F
	S. Higuera St	Los Osos Valley Roat	Suburban Drive	NB	D	22.3	42.0	53%	C	18.9	39.0	49%	D
13	Los Osos Valle	Madonna Rd	Froom Ranch Way	SB	D	21.8	41.9	52%	C	13.5	41.8	32%	E
	Los Osos Valle	Froom Ranch Way	Madonna Rd	NB	D	19.1	41.8	46%	D	15.8	41.8	38%	E
14	Los Osos Valle	Froom Ranch Way	Calle Joaquin	SB	D	31.6	43.0	74%	B	28.2	43.0	66%	C
	Los Osos Valle	Calle Joaquin	Froom Ranch Way	NB	D	28.1	43.2	65%	C	19.0	43.2	44%	D
15	Los Osos Valle	Calle Joaquin	US 101 SB Ramps	SB	D	8.0	32.1	25%	F	13.4	32.1	42%	D
	Los Osos Valle	US 101 SB Ramps	Calle Joaquin	NB	D	16.4	31.1	53%	C	14.6	31.1	47%	D
16	Los Osos Valle	US 101 SB Ramps	US 101 NB Ramps	SB	D	20.3	37.7	54%	C	20.5	37.7	54%	C
	Los Osos Valle	US 101 NB Ramps	US 101 SB Ramps	NB	D	32.9	37.4	88%	A	30.9	37.4	83%	B
17	Los Osos Valle	S. Higuera St	US 101 NB Ramps	WB	D	29.2	39.2	74%	B	26.3	39.2	67%	C
	Los Osos Valle	US 101 NB Ramps	S. Higuera St	EB	D	18.2	39.4	46%	D	14.3	39.4	36%	E
18	Prado Rd	S. Higuera St	US 101 NB Ramps	WB	D	25.0	39.1	64%	C	25.7	39.1	66%	C
	Prado Rd	US 101 NB Ramps	S. Higuera St	EB	D	16.3	38.9	42%	D	18.9	38.9	49%	D
19	Froom Ranch W	Dick's Sporting Good	Los Osos Valley	WB	D	16.1	37.7	43%	D	32.5	37.7	86%	A
	Froom Ranch W	Los Osos Valley	Dick's Sporting Goo	EB	D	35.3	38.0	93%	A	34.8	38.0	92%	A
20	Dalidio Dr	Madonna Rd	SC Project Dwy	SB	D	22.0	37.7	59%	C	18.5	37.7	49%	D
	Dalidio Dr	SC Project Dwy	Madonna Rd	NB	D	0.4	37.7	1%	F	0.2	37.7	1%	F
21	Froom Ranch W	Dalidio	Dick's Sporting Goo	WB	D	38.8	40.6	96%	A	38.7	40.6	95%	A
	Froom Ranch W	Dick's Sporting Good	Dalidio	EB	D	25.3	40.8	62%	C	21.5	40.8	53%	C
22	Prado Road	US 101 SB Ramps	US 101 NB Ramps	SB	D	19.9	31.6	63%	C	21.6	31.6	68%	B
	Prado Road	US 101 NB Ramps	US 101 SB Ramps	NB	D	21.6	31.6	68%	B	20.8	31.6	66%	C
23	Prado Road	Froom Ranch Road	US 101 SB Ramps	SB	D	16.4	33.7	49%	D	16.2	33.7	48%	D
	Prado Road	US 101 SB Ramps	Froom Ranch Roac	NB	D	13.2	33.7	39%	E	6.3	33.7	19%	F
24	Dalidio Dr	SC Project Dwy	Froom Ranch Roac	SB	D	9.4	32.7	29%	F	7.9	32.6	24%	F
	Dalidio Dr	Froom Ranch Road	SC Project Dwy	NB	D	15.2	32.3	47%	D	11.6	31.5	37%	E

**TABLE 84: YEAR 2035 FULL BUILD PRADO INTERCHANGE PLUS PROJECT CONDITIONS SEGMENT LEVEL OF SERVICE: PEDESTRIAN ANALYSIS**

PEDESTRIAN SEGMENT LOS						AM PEAK		PM PEAK		
ID	Roadway	From	To	Direction	LOS Threshold	Average Ped. Space (ft <sup>2</sup> /p)	SEGMENT SCORE	LOS	SEGMENT SCORE	LOS
1	Madonna Rd	Oceanaire Dr	LOVR	WB	C	3045	3.62	D	3.81	D
	Madonna Rd	LOVR	Oceanaire Dr	EB	C	11655	4.05	D	4.04	D
2	Madonna Rd	Dalidio	Oceanaire Dr	WB	C	8400	3.72	D	3.98	D
	Madonna Rd	Oceanaire Dr	Dalidio	EB	C	3750	4.07	D	4.18	D
3	Madonna Rd	El Mercado	Dalidio Dr	WB	C	37450	3.56	D	3.63	D
	Madonna Rd	Dalidio Dr	El Mercado	EB	C	52920	3.62	D	3.75	D
4	Madonna Rd	US 101 SB Ramps	El Mercado	WB	C	26250	3.61	D	3.69	D
	Madonna Rd	El Mercado	US 101 SB Ramps	EB	C	27915	3.67	D	3.74	D
5	Madonna Rd	US 101 NB Ramps	US 101 SB Ramps	WB	C	No Peds	3.63	D	3.72	F
	Madonna Rd	US 101 SB Ramps	US 101 NB Ramps	EB	C	No Peds	3.91	D	3.91	D
6	Madonna Rd	Higuera St	US 101 NB Ramps	WB	C	25200	3.60	D	3.72	D
	Madonna Rd	US 101 NB Ramps	Higuera St	EB	C	19838	3.78	D	3.70	D
7	S. Higuera St	Madonna Rd	Margarita Ave	SB	C	23247	3.92	D	3.89	D
	S. Higuera St	Margarita Ave	Madonna Rd	NB	C	5398	3.69	D	4.00	D
8	S. Higuera St	Margarita Ave	Prado Rd	SB	C	10245	3.78	D	3.83	D
	S. Higuera St	Prado Rd	Margarita Ave	NB	C	21700	3.61	D	3.84	D
9	S. Higuera St	Prado Rd	Granada Dr	SB	C	9292	3.73	D	3.82	D
	S. Higuera St	Granada Dr	Prado Rd	NB	C	8400	3.36	C	3.63	D
10	S. Higuera St	Granada Dr	Tank Farm Road	SB	C	46305	3.66	D	3.82	D
	S. Higuera St	Tank Farm Road	Granada Dr	NB	C	49140	3.28	C	3.42	C
11	S. Higuera St	Tank Farm Road	Suburban Drive	SB	C	12600	3.64	D	3.91	D
	S. Higuera St	Suburban Drive	Tank Farm Road	NB	C	31500	3.69	D	3.53	D
12	S. Higuera St	Suburban Drive	Los Osos Valley Road	SB	C	6552	3.60	D	3.94	D
	S. Higuera St	Los Osos Valley Road	Suburban Drive	NB	C	43533	4.08	D	4.05	D
13	Los Osos Valley	Madonna Rd	Froom Ranch Way	SB	C	5458	3.95	D	4.02	D
	Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	C	0	3.75	F	4.10	F
14	Los Osos Valley	Froom Ranch Way	Calle Joaquin	SB	C	13650	3.90	D	4.14	D
	Los Osos Valley	Calle Joaquin	Froom Ranch Way	NB	C	3675	3.76	D	4.08	D
15	Los Osos Valley	Calle Joaquin	US 101 SB Ramps	SB	C	No Peds	3.78	D	4.09	D
	Los Osos Valley	US 101 SB Ramps	Calle Joaquin	NB	C	12600	3.77	D	4.13	D
16	Los Osos Valley	US 101 SB Ramps	US 101 NB Ramps	SB	C	No Peds	3.95	D	3.96	D
	Los Osos Valley	US 101 NB Ramps	US 101 SB Ramps	NB	C	10786	3.82	D	4.13	D
17	Los Osos Valley	S. Higuera St	US 101 NB Ramps	WB	C	335	3.81	D	4.45	E
	Los Osos Valley	US 101 NB Ramps	S. Higuera St	EB	C	39393	3.98	D	4.03	D
18	Prado Rd	S. Higuera St	US 101 NB Ramps	WB	C	5442	3.86	D	4.18	D
	Prado Rd	US 101 NB Ramps	S. Higuera St	EB	C	4774	4.10	D	3.84	D
19	Froom Ranch	W Dick's Sporting Goods	Los Osos Valley	WB	C	6884	3.53	D	3.87	D
	Froom Ranch	W Los Osos Valley	Dick's Sporting Goods	EB	C	9450	1.90	A	1.82	A
20	Dalidio Dr	Madonna Rd	SC Project Dwy	SB	C	4500	3.39	C	3.35	C
	Dalidio Dr	SC Project Dwy	Madonna Rd	NB	C	15750	3.29	C	3.53	D
21	Froom Ranch	W Dalidio	Dick's Sporting Goods	WB	C	0	1.76	F	1.79	A
	Froom Ranch	W Dick's Sporting Goods	Dalidio	EB	C	No Peds	2.93	C	3.16	C
22	Prado Road	US 101 SB Ramps	US 101 NB Ramps	SB	C	4900	3.81	D	3.63	D
	Prado Road	US 101 NB Ramps	US 101 SB Ramps	NB	C	5512	3.54	D	3.79	D
23	Prado Road	Froom Ranch Road	US 101 SB Ramps	SB	C	6937	3.38	C	3.44	C
	Prado Road	US 101 SB Ramps	Froom Ranch Road	NB	C	7733	3.33	C	3.65	D
24	Dalidio Dr	SC Project Dwy	Froom Ranch Road	SB	C	4500	2.96	C	3.14	C
	Dalidio Dr	Froom Ranch Road	SC Project Dwy	NB	C	15750	3.20	C	3.49	C

Notes:

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. 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.

**TABLE 85: YEAR 2035 FULL BUILD PRADO INTERCHANGE PLUS PROJECT CONDITIONS SEGMENT LEVEL OF SERVICE: BICYCLE ANALYSIS**

BICYCLE SEGMENT LOS					AM PEAK		PM PEAK		
ID	Roadway	From	To	Direction	LOS Threshold	SEGMENT SCORE	LOS	SEGMENT SCORE	LOS
1	Madonna Rd	Oceanaire Dr	LOVR	WB	D	3.72	D	4.05	D
	Madonna Rd	LOVR	Oceanaire Dr	EB	D	3.80	D	3.77	D
2	Madonna Rd	Dalidio	Oceanaire Dr	WB	D	3.16	C	3.23	C
	Madonna Rd	Oceanaire Dr	Dalidio	EB	D	3.60	D	3.44	C
3	Madonna Rd	El Mercado	Dalidio Dr	WB	D	3.30	C	3.18	C
	Madonna Rd	Dalidio Dr	El Mercado	EB	D	3.37	C	3.40	C
4	<b>Madonna Rd</b>	<b>US 101 SB Ramps</b>	<b>El Mercado</b>	<b>WB</b>	<b>D</b>	3.95	D	<b>4.31</b>	<b>E</b>
	Madonna Rd	El Mercado	US 101 SB Ramps	EB	D	3.60	D	3.62	D
5	Madonna Rd	US 101 NB Ramps	US 101 SB Ramps	WB	D	3.29	C	3.33	C
	Madonna Rd	US 101 SB Ramps	US 101 NB Ramps	EB	D	3.33	C	3.31	C
6	Madonna Rd	Higuera St	US 101 NB Ramps	WB	D	3.49	C	3.54	D
	Madonna Rd	US 101 NB Ramps	Higuera St	EB	D	3.62	D	3.50	C
7	S. Higuera St	Madonna Rd	Margarita Ave	SB	D	3.92	D	3.89	D
	S. Higuera St	Margarita Ave	Madonna Rd	NB	D	4.09	D	4.22	D
8	S. Higuera St	Margarita Ave	Prado Rd	SB	D	3.68	D	3.68	D
	S. Higuera St	Prado Rd	Margarita Ave	NB	D	3.92	D	4.00	D
9	S. Higuera St	Prado Rd	Granada Dr	SB	D	3.90	D	3.92	D
	S. Higuera St	Granada Dr	Prado Rd	NB	D	3.47	C	3.52	D
10	S. Higuera St	Granada Dr	Tank Farm Road	SB	D	4.15	D	4.19	D
	S. Higuera St	Tank Farm Road	Granada Dr	NB	D	3.53	D	3.56	D
11	S. Higuera St	Tank Farm Road	Suburban Drive	SB	D	3.34	C	3.44	C
	S. Higuera St	Suburban Drive	Tank Farm Road	NB	D	3.48	C	3.42	C
12	S. Higuera St	Suburban Drive	Los Osos Valley Road	SB	D	3.24	C	3.75	D
	S. Higuera St	Los Osos Valley Road	Suburban Drive	NB	D	3.96	D	3.88	D
13	Los Osos Valley	Madonna Rd	Froom Ranch Way	SB	D	3.74	D	3.74	D
	Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	D	3.39	C	3.47	C
14	Los Osos Valley	Froom Ranch Way	Calle Joaquin	SB	D	3.58	D	3.61	D
	Los Osos Valley	Calle Joaquin	Froom Ranch Way	NB	D	3.83	D	3.90	D
15	Los Osos Valley	Calle Joaquin	US 101 SB Ramps	SB	D	3.31	C	3.37	C
	Los Osos Valley	US 101 SB Ramps	Calle Joaquin	NB	D	3.56	D	3.64	D
16	Los Osos Valley	US 101 SB Ramps	US 101 NB Ramps	SB	D	3.73	D	3.72	D
	Los Osos Valley	US 101 NB Ramps	US 101 SB Ramps	NB	D	3.69	D	3.86	D
17	Los Osos Valley	S. Higuera St	US 101 NB Ramps	WB	D	3.38	C	3.51	D
	Los Osos Valley	US 101 NB Ramps	S. Higuera St	EB	D	3.36	C	3.32	C
18	Prado Rd	S. Higuera St	US 101 NB Ramps	WB	D	3.81	D	4.00	D
	Prado Rd	US 101 NB Ramps	S. Higuera St	EB	D	4.00	D	4.04	D
19	Froom Ranch Way	Dick's Sporting Goods	Los Osos Valley	WB	D	3.50	C	3.70	D
	Froom Ranch Way	Los Osos Valley	Dick's Sporting Goods	EB	D	3.53	D	3.90	D
20	Dalidio Dr	Madonna Rd	SC Project Dwy	SB	D	3.75	D	3.71	D
	Dalidio Dr	SC Project Dwy	Madonna Rd	NB	D	3.56	D	3.86	D
21	Froom Ranch Way	Dalidio	Dick's Sporting Goods	WB	D	2.63	B	3.04	C
	Froom Ranch Way	Dick's Sporting Goods	Dalidio	EB	D	3.72	D	3.68	D
22	<b>Prado Road</b>	<b>US 101 SB Ramps</b>	<b>US 101 NB Ramps</b>	<b>SB</b>	<b>D</b>	<b>13.90</b>	<b>F</b>	3.20	C
	<b>Prado Road</b>	<b>US 101 NB Ramps</b>	<b>US 101 SB Ramps</b>	<b>NB</b>	<b>D</b>	<b>12.41</b>	<b>F</b>	3.27	C
23	Prado Road	Froom Ranch Road	US 101 SB Ramps	SB	D	3.23	C	3.23	C
	Prado Road	US 101 SB Ramps	Froom Ranch Road	NB	D	3.24	C	3.33	C
24	Dalidio Dr	SC Project Dwy	Froom Ranch Road	SB	D	4.03	D	4.01	D
	Dalidio Dr	Froom Ranch Road	SC Project Dwy	NB	D	3.67	D	3.81	D

Notes:

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 incorporated into the methodology for evaluating bicycle segment performance.

**TABLE 86: YEAR 2035 FULL BUILD PRADO INTERCHANGE PLUS PROJECT CONDITIONS SEGMENT LEVEL OF SERVICE: TRANSIT ANALYSIS**

TRANSIT 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	4.19	D	4.28	E
	Madonna Rd	LOVR	Oceanaire Dr	EB	D	Route 5	4.47	E	4.04	D
2	Madonna Rd	Dalidio	Oceanaire Dr	WB	D	Route 4	4.48	E	4.57	E
	Madonna Rd	Oceanaire Dr	Dalidio	EB	D	Route 5	4.72	E	4.42	E
3	Madonna Rd	El Mercado	Dalidio Dr	WB	D	Route 4	4.32	E	4.39	E
	Madonna Rd	Dalidio Dr	El Mercado	EB	D	Route 5	4.26	E	4.23	D
4	Madonna Rd	US 101 SB Ramps	El Mercado	WB	D	Route 4	4.38	E	4.50	E
	Madonna Rd	El Mercado	US 101 SB Ramps	EB	D	Route 5	4.61	E	4.37	E
5	Madonna Rd	US 101 NB Ramps	US 101 SB Ramps	WB	D	Route 4	4.11	D	4.22	D
	Madonna Rd	US 101 SB Ramps	US 101 NB Ramps	EB	D	Route 5	4.18	D	3.78	D
6	Madonna Rd	Higuera St	US 101 NB Ramps	WB	D	Route 4	4.28	E	4.37	E
	Madonna Rd	US 101 NB Ramps	Higuera St	EB	D	Route 5	4.46	E	3.70	D
7	S. Higuera St	Madonna Rd	Margarita Ave	SB	D	Route 2	Not Analyzed	N/A	3.54	D
	S. Higuera St	Margarita Ave	Madonna Rd	NB	D	Route 2	3.74	D	4.03	D
8	S. Higuera St	Margarita Ave	Prado Rd	SB	D	Route 2	Not Analyzed	N/A	4.23	D
	S. Higuera St	Prado Rd	Margarita Ave	NB	D	Route 2	4.24	D	4.44	E
9	S. Higuera St	Prado Rd	Granada Dr	SB	D	Route 2	4.40	E	4.36	E
	S. Higuera St	Granada Dr	Prado Rd	NB	D	Route 2	3.83	D	4.08	D
10	S. Higuera St	Granada Dr	Tank Farm Road	SB	D	Route 2	3.81	D	3.91	D
	S. Higuera St	Tank Farm Road	Granada Dr	NB	D	Route 2	3.56	D	3.70	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	4.04	D	3.99	D
12	S. Higuera St	Suburban Drive	Los Osos Valley	SB	D	-	Not Analyzed	N/A	Not Analyzed	N/A
	S. Higuera St	Los Osos Valley	Suburban Drive	NB	D	-	Not Analyzed	N/A	Not Analyzed	N/A
13	Los Osos	Madonna Rd	Froom Ranch Way	SB	D	Route 4	4.56	E	4.58	E
	Los Osos	Froom Ranch Way	Madonna Rd	NB	D	Route 4	4.25	D	4.40	E
13	Los Osos	Madonna Rd	Froom Ranch Way	SB	D	Route 5	4.65	E	4.39	E
	Los Osos	Froom Ranch Way	Madonna Rd	NB	D	Route 5	4.36	E	4.19	D
14	Los Osos	Froom Ranch Way	Calle Joaquin	SB	D	Route 4	4.29	E	4.43	E
	Los Osos	Calle Joaquin	Froom Ranch Way	NB	D	0.00	Not Analyzed	N/A	Not Analyzed	N/A
14	Los Osos	Madonna Rd	Froom Ranch Way	SB	D	Route 5	4.41	E	4.20	D
	Los Osos	Froom Ranch Way	Madonna Rd	NB	D	0.00	Not Analyzed	N/A	Not Analyzed	N/A
15	Los Osos	Calle Joaquin	US 101 SB Ramps	SB	D		Not Analyzed	N/A	Not Analyzed	N/A
	Los Osos	US 101 SB Ramps	Calle Joaquin	NB	D		Not Analyzed	N/A	Not Analyzed	N/A
16	Los Osos	US 101 SB Ramps	US 101 NB Ramps	SB	D		Not Analyzed	N/A	Not Analyzed	N/A
	Los Osos	US 101 NB Ramps	US 101 SB Ramps	NB	D		Not Analyzed	N/A	Not Analyzed	N/A
17	Los Osos	S. Higuera St	US 101 NB Ramps	WB	D		Not Analyzed	N/A	Not Analyzed	N/A
	Los Osos	US 101 NB Ramps	S. Higuera St	EB	D		Not Analyzed	N/A	Not Analyzed	N/A
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	4.08	D	Not Analyzed	N/A
19	Froom Ranch	Dick's Sporting	Los Osos Valley	WB	D		Not Analyzed	N/A	Not Analyzed	N/A
	Froom Ranch	Los Osos Valley	Dick's Sporting	EB	D		Not Analyzed	N/A	Not Analyzed	N/A
20	Dalidio Dr	Madonna Rd	SC Project Dwy	SB	D	Route 4	4.46	E	4.42	E
	Dalidio Dr	Madonna Rd	SC Project Dwy	SB	D	Route 5	4.45	E	4.32	E
21	Froom Ranch	Dalidio	Dick's Sporting	WB	D		Not Analyzed	N/A	Not Analyzed	N/A
	Froom Ranch	Dick's Sporting	Dalidio	EB	D		Not Analyzed	N/A	Not Analyzed	N/A
22	Prado Road	US 101 SB Ramps	US 101 NB Ramps	SB	D		Not Analyzed	N/A	Not Analyzed	N/A
	Prado Road	US 101 NB Ramps	US 101 SB Ramps	NB	D		Not Analyzed	N/A	Not Analyzed	N/A
23	Prado Road	Froom Ranch Road	US 101 SB Ramps	SB	D		Not Analyzed	N/A	Not Analyzed	N/A
	Prado Road	US 101 SB Ramps	Froom Ranch Road	NB	D		Not Analyzed	N/A	Not Analyzed	N/A
24	Dalidio Dr	SC Project Dwy	Froom Ranch	SB	D		4.34	E	4.33	E
	Dalidio Dr	Froom Ranch Road	SC Project Dwy	NB	D		4.38	E	4.52	E

Note: Route 2 Serves the Prado Day Center stop during the AM peak hour, and the DMV/Margarita stop during the PM Peak Hour  
Segment 20 transit is southbound for routes 4 and 5

**TABLE 87: YEAR 2035 FULL BUILD PRADO INTERCHANGE PLUS PROJECT 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
<b>US 101 at Los Osos Valley Road</b>									
US 101 NB South of Los Osos Valley Road	C	Freeway	2	3,491	33.2	D	2,728	24.1	C
US 101 SB South of Los Osos Valley Road	C	Freeway	2	1,915	16.8	B	3,901	40.2	E
<b>US 101 at Prado Road</b>									
US 101 NB South of Prado Road	C	Freeway	2	2,955	26.4	D	2,621	23.1	C
US 101 SB South of Prado Road	C	Freeway	2	2,110	18.5	C	3,564	34.3	D
<b>US 101 at Madonna Road</b>									
US 101 NB South of Madonna Road	C	Freeway	2	2,942	26.3	D	3,098	28.0	D
US 101 SB South of Madonna Road	C	Freeway	2	2,629	23.1	C	3,758	37.5	E

As shown in the Year 2035 Full Build Prado Interchange Plus Project Conditions segment analysis tables, most of the pedestrian and transit facilities are projected to operate at unacceptable levels of service as well as several segments for automobile mode and only one segment for the bicycle mode.

## Year 2035 Full Build Prado Interchange Plus Project Impacts & Mitigation Measures

This section presents the project-related impacts and mitigation measures at the study intersections and segments, developed based on the findings from the analyses presented in the prior sections of this report. Improvements are identified only where this is a significant project impact, based on the significance thresholds identified previously.

Table 88 presents the intersections projected to operate at unacceptable levels of service for vehicle, pedestrian, bicycle, and transit travel modes under 2035 Full Build Prado Interchange Plus Project conditions, and whether the project has a significant impact based on the thresholds listed above. Table 89 presents the US 101 Mainline project impacts for 2035 Full Build Prado Interchange Plus Project conditions. Tables 90A and 90B present the roadway segments projected to operate at unacceptable levels of service for vehicle, pedestrian, bicycle, and transit travel modes under 2035 Full Build Prado Interchange Plus Project AM and PM peak hour conditions, respectively, and whether the project has a significant impact based on the thresholds listed above. Table 91 presents the project impacts for the queuing analysis at the study intersections.

**TABLE 88:  
YEAR 2035 FULL BUILD PRADO INTERCHANGE PLUS PROJECT SIGNIFICANT INTERSECTION IMPACTS**

Intersection #	3				9				10		11	
Name	S. Higuera Street/Prado Road				Los Osos Valley Road/ Froom Ranch Way				Los Osos Valley Road/ Auto Park Way		Los Osos Valley Road/ US 101 SB Ramps	
Mode	AUTO		PED		AUTO		BIKE		AUTO		PED	
SCENARIO	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS	Score	LOS	v/c	LOS
<i>AM PEAK HOUR</i>			EB									NB
Year 2035 Full Build	5.81	F	3.61	D	-	C	3.54	D	-	C	3.07	C
Year 2035 FB Plus Project	6.50	F	3.66	D	-	C	3.56	D	-	C	3.25	C
Significant Impact?	Yes		No		No		No		No		No	
<i>PM PEAK HOUR</i>			EB									NB
Year 2035 Full Build	8.74	F	4.24	D	1.05	E	4.57	E	0.51	E	3.51	D
Year 2035 FB Plus Project	8.93	F	4.27	E	1.09	E	4.60	E	0.54	F	3.52	D
Significant Impact?	Yes		No		Yes		No		Yes		No	

Note: V/C Ratio is based on worst movement

**TABLE 88 (CONT'D.):  
YEAR 2035 FULL BUILD PRADO INTERCHANGE PLUS PROJECT SIGNIFICANT INTERSECTION IMPACTS**

Intersection #	14		15		16	
Name	Los Osos Valley Road/ S. Higuera Street		S. Higuera Street/ Suburban Drive		Madonna Road/ Dalidio Drive	
Mode	PED		PED		AUTO	
SCENARIO	v/c	LOS	v/c	LOS	v/c	LOS
<i>AM PEAK HOUR</i>			NB			
Year 2035 Full Build	3.01	C	3.29	C	1.75	F
Year 2035 FB Plus Project	3.02	C	3.31	C	1.77	F
Significant Impact?	No		No		Yes	
<i>PM PEAK HOUR</i>			NB			
Year 2035 Full Build	3.67	D	3.93	D	-	C
Year 2035 FB Plus Project	3.65	D	3.94	D	-	C
Significant Impact?	No		No		No	

Note: V/C Ratio is based on worst movement

**TABLE 89:  
YEAR 2035 FULL BUILD PRADO INTERCHANGE PLUS PROJECT SIGNIFICANT US 101 MAINLINE IMPACTS**

<b>Location</b>	<b>South of Los Osos Valley Road</b>				<b>South of Prado Road</b>				<b>South of Madonna Road</b>			
<b>Direction</b>	<b>US 101 NB</b>		<b>US 101 SB</b>		<b>US 101 NB</b>		<b>US 101 SB</b>		<b>US 101 NB</b>		<b>US 101 SB</b>	
<b>SCENARIO</b>	<b>Density (pc/mi/ln)</b>	<b>LOS</b>	<b>Density (pc/mi/ln)</b>	<b>LOS</b>	<b>Density (pc/mi/ln)</b>	<b>LOS</b>	<b>Density (pc/mi/ln)</b>	<b>LOS</b>	<b>Density (pc/mi/ln)</b>	<b>LOS</b>	<b>Density (pc/mi/ln)</b>	<b>LOS</b>
<i>AM PEAK HOUR</i>												
Year 2035 Full Build	32.8	D	-	-	26.2	D	-	-	25.9	C	-	-
Year 2035 Plus Project	33.2	D	-	-	26.4	D	-	-	26.3	D	-	-
Difference	0.4				0.2				0.4			
Percent Change	1.2%				0.8%				1.5%			
Significant Impact?	No		n/a		No		n/a		No		n/a	
<i>PM PEAK HOUR</i>												
Year 2035 Full Build	-	-	39.5	E	-	-	33.9	D	27.4	C	36.6	E
Year 2035 Plus Project	-	-	40.2	E	-	-	34.3	D	28	D	37.5	E
Difference			0.7				0.4		0.6		0.9	
Percent Change			1.8%				1.2%		2.2%		2.5%	
Significant Impact?	n/a		No		n/a		No		No		No	

Note: conducted for deficient operations only

TABLE 90A: YEAR 2035 FULL BUILD PRADO INTERCHANGE PLUS PROJECT SIGNIFICANT ROADWAY IMPACTS

2035 Full Build Prado Multimodal Segment LOS					Auto Mode					Pedestrian Mode					Bicycle Mode					Transit Mode								
AM PEAK HOUR					2025		2025 Plus Project			2035 Full Build		2035 FB PP			2035 Full Build		2035 FB PP			2035 Full Build		2035 FB PP						
ID	Roadway	From	To	Direction	Auto LOS Threshold	Travel Speed (mph)	LOS	Travel Speed (mph)	LOS	Significant Impact?	Ped LOS Threshold	Segment Score	LOS	Segment Score	LOS	Significant Impact?	Bike LOS Threshold	Segment Score	LOS	Segment Score	LOS	Significant Impact?	Transit LOS Threshold	Segment Score	LOS	Segment Score	LOS	Significant Impact?
2	Madonna Rd	Oceanaire Dr	Dalidio	EB	D	12.3	E	9.3	F	Yes	C	4.06	D	4.07	D	No	D	3.60	D	3.60	D	No	D	4.73	E	4.72	E	No
3	Madonna Rd	El Mercado	Dalidio Dr	WB	D	17.0	D	17.4	C	No	C	3.45	C	3.56	D	Yes	D	3.29	C	3.30	C	No	D	4.31	E	4.32	E	No
19	Froom Ranch Way	Dick's Sporting Goods	Los Osos Valley	WB	D	14.9	E	16.1	D	No	C	3.47	C	3.53	D	Yes	D	3.44	C	3.50	C	No	D	Not Analyzed	N/A	Not Analyzed	N/A	
20	Dalidio Dr	Madonna Rd	SC Project Dwy	SB	D	-	-	22.0	C	No	C	-	-	3.39	C	Mo	D	-	-	3.75	D	No	D	4.21	D	4.46	E	Yes
20	Dalidio Dr	SC Project Dwy	Madonna Rd	NB	D	0.3	F	0.4	F	No	C	3.20	C	3.29	C	No	D	3.51	D	3.56	D	No	D	4.25	D	4.45	E	Yes
22	Prado Road	US 101 SB Ramps	US 101 NB Ramps	SB	D	20.3	C	19.9	C	No	C	3.73	D	3.81	D	No	D	3.25	C	13.90	F	Yes	D	Not Analyzed	N/A	Not Analyzed	N/A	
22	Prado Road	US 101 NB Ramps	US 101 SB Ramps	NB	D	21.7	B	21.6	B	No	C	3.48	C	3.54	D	Yes	D	3.18	C	12.41	F	Yes	D	Not Analyzed	N/A	Not Analyzed	N/A	
23	Prado Road	US 101 SB Ramps	Froom Ranch Road	NB	D	18.4	C	13.2	E	Yes	C	3.24	C	3.33	C	No	D	3.21	C	3.24	C	No	D	Not Analyzed	N/A	Not Analyzed	N/A	
24	Dalidio Dr	SC Project Dwy	Froom Ranch Road	SB	D	11.6	E	9.4	F	Yes	C	3.32	C	2.96	C	No	D	3.98	D	4.03	D	No	D	4.31	E	4.34	E	No

Note: Segment 20 transit is southbound for routes 4 and 5; Segment 21 pedestrian and bicycle service will be further evaluated using off-street facilities methodologies.

2035 Full Build Prado Multimodal Segment LOS					Auto Mode					Pedestrian Mode					Bicycle Mode					Transit Mode								
PM PEAK HOUR					2025		2025 Plus Project			2035 Full Build		2035 FB PP			2035 Full Build		2035 FB PP			2035 Full Build		2035 FB PP						
ID	Roadway	From	To	Direction	Auto LOS Threshold	Travel Speed (mph)	LOS	Travel Speed (mph)	LOS	Significant Impact?	Ped LOS Threshold	Segment Score	LOS	Segment Score	LOS	Significant Impact?	Bike LOS Threshold	Segment Score	LOS	Segment Score	LOS	Significant Impact?	Transit LOS Threshold	Segment Score	LOS	Segment Score	LOS	Significant Impact?
3	Madonna Rd	Dalidio Dr	El Mercado	EB	D	13.3	E	12.0	E	Yes	C	3.70	D	3.75	D	No	D	3.39	C	3.40	C	No	D	4.21	D	4.23	D	No
11	S. Higuera St	Suburban Drive	Tank Farm Road	NB	D	16.6	D	16.3	E	Yes	C	3.53	D	3.53	D	No	D	3.42	C	3.42	C	No	D	3.99	D	3.99	D	No
16	Los Osos Valley	US 101 NB Ramps	US 101 SB Ramps	NB	D	32.4	A	30.9	B	No	C	3.34	C	4.13	D	Yes	D	3.88	D	3.86	D	No	D	Not Analyzed	N/A	Not Analyzed	N/A	
20	Dalidio Dr	Madonna Rd	SC Project Dwy	SB	D	-	-	18.5	D	No	C	-	-	3.35	C	No	D	-	-	3.71	D	No	D	4.21	D	4.42	E	Yes
20	Dalidio Dr	SC Project Dwy	Madonna Rd	NB	D	0.2	F	0.2	F	No	C	3.49	C	3.53	D	Yes	D	3.80	D	3.86	D	No	D	4.06	D	4.32	E	Yes
23	Prado Road	US 101 SB Ramps	Froom Ranch Road	NB	D	12.6	E	6.3	F	Yes	C	3.54	D	3.65	D	No	D	5.24	F	3.33	C	No	D	Not Analyzed	N/A	Not Analyzed	N/A	
24	Dalidio Dr	SC Project Dwy	Froom Ranch Road	SB	D	10.9	E	7.9	F	Yes	C	3.29	C	3.14	C	No	D	3.97	D	4.01	D	No	D	4.32	E	4.33	E	No
24	Dalidio Dr	Froom Ranch Road	SC Project Dwy	NB	D	-	-	11.6	E	Yes	C	-	-	3.49	C	No	D	-	-	3.81	D	No	D	4.20	D	4.52	E	Yes

Note: Segments 20 and 24 transit is southbound for Routes 4 and 5

**TABLE 91:  
YEAR 2035 FULL BUILD PRADO INTERCHANGE PLUS PROJECT CONDITIONS 95<sup>TH</sup> PERCENTILE QUEUING ANALYSIS**

					2035		2035 PP Conditions	
Intersection		Movement	No. Lanes	Total Storage (ft) <sup>1</sup>	95 <sup>th</sup> Percentile Queue/Lane (ft)		95 <sup>th</sup> Percentile Queue/Lane (ft)	
ID	Location				AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
1	Madonna Road/Los Osos Valley Road	Northbound Right	1	175	98	<b>187</b>	111	<b>256</b>
		Southbound Left	2	350	275	262	<b>358</b>	297
2	Madonna Road/Oceanaire Drive	Westbound Left	1	115	34	58	31	<b>305</b>
		Westbound Right	1	100	70	<b>123</b>	<b>101</b>	<b>156</b>
3	Madonna Road/Dalidio Drive	Eastbound Left	1	115	<b>119</b>	<b>121</b>	98	<b>139</b>
		Westbound Left	1	275	<b>317</b>	<b>353</b>	<b>332</b>	<b>450</b>
		Southbound Right	1	50	19	42	15	<b>71</b>
6	Madonna Road/US 101 NB Ramps/Madonna Inn	Northbound Left	1	185	77	142	71	<b>266</b>
7	Madonna Road/Higuera Street	Northbound Left	1	160	125	<b>277</b>	130	<b>392</b>
		Southbound Left/Through	2	380	259	<b>470</b>	246	<b>1013</b>
		Southbound Right	2	340	0	258	33	<b>619</b>
8	Higuera Street/South Street	Eastbound Right	1	60	45	60	45	<b>89</b>
		Westbound Left	2	240	<b>257</b>	<b>556</b>	<b>306</b>	<b>986</b>
		Northbound Left	1	60	<b>74</b>	<b>89</b>	<b>96</b>	30
		Southbound Left	1	70	<b>114</b>	<b>114</b>	<b>115</b>	<b>131</b>
9	Los Osos Valley Road/Froom Ranch Way	Eastbound Left	2*	250	110	<b>601</b>	187	<b>637</b>
		Westbound Right	1	50	<b>82</b>	<b>98</b>	<b>87</b>	121
		Southbound Left	2	200	<b>210</b>	<b>291</b>	<b>304</b>	<b>248</b>
10	Los Osos Valley Road/Auto Park Way	Southbound Left	1	60	9	6	<b>95</b>	49
12	Los Osos Valley Road/US 101 SB Ramps	Westbound Left/Through	1	180	95	90	<b>277</b>	<b>199</b>
		Southbound Through	1	240	161	177	<b>346</b>	<b>345</b>
		Southbound Right	1	125	<b>286</b>	<b>182</b>	<b>197</b>	<b>183</b>
14	S. Higuera Street/Los Osos Valley Road	Northbound Left	1	160	<b>211</b>	<b>183</b>	127	<b>248</b>
15	S. Higuera Street/Suburban Drive	Southbound Left	1	200	<b>397</b>	<b>299</b>	<b>217</b>	<b>332</b>
16	S. Higuera Street/Tank Farm Road	Northbound Left	1	140	23	<b>329</b>	<b>251</b>	72
		Southbound Left	1	165	<b>185</b>	<b>180</b>	<b>377</b>	<b>239</b>
18	S. Higuera Street/Prado Road	Eastbound Left	2	150	114	<b>165</b>	<b>193</b>	93
		Westbound Left	2	105	<b>229</b>	<b>115</b>	97	<b>278</b>
		Northbound Left	2	100	98	<b>247</b>	<b>190</b>	<b>265</b>
19	S. Higuera Street/Margarita Avenue	Northbound Left	1	60	42	42	<b>104</b>	<b>71</b>
20	Prado Road/US 101 NB Ramps	Northbound Right	1	150	0	0	146	<b>181</b>

- Notes
1. Bolded entries indicate queues exceed available storage
  2. Storage Length of " - " represents a lane which exceeds 900 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.

**Red Cells represent New Impacts from Project-added traffic**

**Yellow Cells represent Existing queues exceeding storage that are increased by project-added traffic.**

# Year 2035 Full Build Prado Interchange Plus Project Mitigation Measures

The mitigation measures have been summarized in Table 92, identifying which mitigation measures are projected to reduce the project's impact to acceptable levels of service for the corresponding intersection or segment, for each mode. Additionally, it is important to note that the optimization of throughput to mitigate segment impacts may create queuing impacts for opposing movements. Fair share calculations are included in a subsequent section of this report for Year 2035 Full Build Prado Interchange Plus Project impacts and mitigations measures.

**TABLE 92: YEAR 2035 FULL BUILD PRADO INTERCHANGE PLUS PROJECT MITIGATION MEASURES SUMMARY**

2035 FB Plus Project Significant Impact Location	Mode	Impact	Mitigation Measure
Intersection #1 Madonna Rd/Los Osos Valley Rd	Auto (Queue)	Addition of project traffic would: <ul style="list-style-type: none"> <li>•Exacerbate the existing northbound right queue in the PM peak hour</li> <li>•Result in a new impact to the southbound left queue in the AM peak hour</li> </ul>	<ul style="list-style-type: none"> <li>•Extension of the northbound right turn pocket to 295' would improve this condition to an acceptable level, and would require the relocation of the existing frontage road.</li> <li>•Optimize timings to improve operations at this intersection. Optimization of throughput for northbound approach may create queuing impacts for this opposing movement.</li> </ul>
Intersection #2 Madonna Rd/Oceanaire Dr	Auto (Queue)	Addition of project traffic would: <ul style="list-style-type: none"> <li>•Result in a new impact to the westbound right queue in the AM peak hour and exacerbate the queue in the PM peak hour</li> <li>•Exacerbate the westbound left queue in the PM peak hour.</li> </ul>	<ul style="list-style-type: none"> <li>•Extension of the westbound right turn pocket to 200' would improve this condition to an acceptable level, but may require expansion of bridge/ culvert.</li> <li>•Optimize timings to improve operations at this intersection.</li> </ul>
Intersection #3 Madonna Rd/Dalidio Dr	Auto	This intersection is projected to operate at unacceptable LOS F in the AM and PM peak hours. The addition of Project traffic exacerbates this unacceptable condition by increasing delay and v/c ratio.	2025 Plus Project Mitigations are projected to mitigate the impact to acceptable conditions. See Table 65.

**TABLE 92: YEAR 2035 FULL BUILD PRADO INTERCHANGE PLUS PROJECT MITIGATION MEASURES SUMMARY**

2035 FB Plus Project Significant Impact Location	Mode	Impact	Mitigation Measure
Intersection #3 Madonna Rd/Dalidio Dr	Auto (Queue)	Addition of project traffic would: •Exacerbate the eastbound left queue in the PM peak hour.  •Exacerbate the westbound left queue in the AM and PM peak hours.  •Result in a new impact to the southbound right in the PM peak hour.	•Extension of the eastbound left turn pocket to 145' would improve this condition to an acceptable level. •Extension of the westbound left turn pocket to 365' would improve this condition to an acceptable level. •Existing southbound right storage can accommodate 95th percentile queue.
Intersection #6 Madonna Rd/US 101 NB Ramps	Auto (Queue)	Addition of project traffic would result in a new impact to the northbound left in the PM peak hour.	• Optimize timings to improve the operations at this intersection.
Intersection #7 Madonna Rd/S. Higuera St	Auto (Queue)	Addition of project traffic would: •Exacerbate the northbound left queue in the PM peak hour.  •Exacerbate the southbound left/through queue in the PM peak hour.  •Result in a new impact to the southbound right queue in the PM peak hour.	Relocation of this intersection is part of Circulation Element and will necessitate improvements based on engineering feasibility not included in this analysis.  •Geometric improvements are recommended to be constructed in coordination with the planned relocation of Madonna Road/S. Higuera Street to minimize potential impacts to adjacent property owners and impacts to the intersection operations.
Intersection #8 Higuera St/South St	Auto (Queue)	Addition of project traffic would: •Result in a new impact to the eastbound right queue in the PM peak hour.  •Exacerbate the westbound left queue in the AM and PM peak hours.  •Exacerbate the northbound left queue in the AM peak hour.  •Exacerbate the southbound left queue in the AM and PM peak hours	•Extension of the eastbound right turn pocket to 100' would improve this condition to an acceptable level. Removal of on-street parking would be required with potential access implications.  •Although westbound queues are projected to extend past Parker Street driveway, they can be accommodated within the lane.  •Extension of the northbound left turn pocket to 120' would improve this condition to an acceptable level. Geometric improvements to the northbound approach are recommended to be constructed in coordination with the planned relocation of Madonna Road/S.

**TABLE 92: YEAR 2035 FULL BUILD PRADO INTERCHANGE PLUS PROJECT MITIGATION MEASURES SUMMARY**

2035 FB Plus Project Significant Impact Location	Mode	Impact	Mitigation Measure
			<p>Higuera Street to minimize potential impacts to adjacent property owners and impacts to the intersection operations.</p> <ul style="list-style-type: none"> <li>•Extension of the southbound left turn pocket to 200' would improve this condition to an acceptable level. Southbound left turn queues can be accommodated within the center turn lane without driveway access implications. Pocket striping could be extended but may affect driveway access.</li> </ul>
<p>Intersection #9 Los Osos Valley Road/Froom Ranch Way</p>	<p>Auto</p>	<p>This intersection is projected to operate at unacceptable LOS E in the PM peak hour. The addition of Project traffic exacerbates this unacceptable condition by increasing delay and v/c ratio.</p>	<p>2025 Plus Project Mitigations are projected to mitigate the impact to acceptable conditions. See Table 65.</p>
<p>Intersection #9 Los Osos Valley Road/Froom Ranch Way</p>	<p>Auto (Queue)</p>	<p>Addition of project traffic would:</p> <ul style="list-style-type: none"> <li>•Exacerbate the eastbound left queue in the PM peak hour.</li> <li>•Exacerbate the westbound right queue in the AM and PM peak hours.</li> <li>•Exacerbate the southbound left queue in the AM peak hour.</li> </ul>	<ul style="list-style-type: none"> <li>•2025 Plus Project Mitigations are projected to mitigate the impacts to acceptable conditions for the EB and WB approaches. See Table 65.</li> <li>•Extension of the southbound left turn pocket to 325' would improve this condition to an acceptable level, but may be infeasible due to existing raised median and the back-to-back turn pocket.</li> </ul>
<p>Intersection #10 Los Osos Valley Road/Auto Park Way</p>	<p>Auto</p>	<p>This intersection is projected to operate at unacceptable LOS E in the PM peak hour. The addition of Project traffic exacerbates this unacceptable condition by increasing delay, LOS to F, and v/c ratio.</p>	<p>Installation of a traffic signal is not currently warranted. Ultimately, signalization will be required to allow access to future adjacent development. Signalization will provide acceptable operations.</p>

**TABLE 92: YEAR 2035 FULL BUILD PRADO INTERCHANGE PLUS PROJECT MITIGATION MEASURES SUMMARY**

2035 FB Plus Project Significant Impact Location	Mode	Impact	Mitigation Measure
Intersection #10 Los Osos Valley Road/Auto Park Way	Auto (Queue)	Addition of project traffic would result in a new impact to the southbound left queue in the AM peak hour.	Extension of the southbound left turn pocket to 100' would improve this condition to an acceptable level. Left turn queues can be accommodated within the center turn lane without driveway access implications. Pocket striping could also be extended without current access implications.
Intersection #12 Los Osos Valley Road/US 101 SB Ramps	Auto (Queue)	Addition of project traffic would: •Result in a new impact to the westbound left/through queue in the AM and PM peak hours.  •Result in a new impact to the southbound through queue in the AM and PM peak hours.	•Extension of the westbound left/through storage to 295' would improve this condition to an acceptable level.  •Extension of the southbound through storage is not feasible due to existing intersection spacing.
Intersection #14 Los Osos Valley Road/S. Higuera St	Auto (Queue)	Addition of project traffic would exacerbate the northbound left queue in the PM peak hour.	Extension of the northbound left turn lane to 275' would improve this condition to an acceptable level. Left turn queues can be accommodated within the center turn lane without driveway access implications. Pocket striping could be extended but may affect driveway access.
Intersection #15 S. Higuera St/Suburban Rd	Auto (Queue)	Addition of project traffic would exacerbate the southbound left queue in the PM peak hour.	Extension of the southbound left turn pocket to 325' may not be feasible due to back-to-back northbound left turn pocket at S. Higuera St/Las Praderas Dr.
Intersection #16 Higuera Rd/Tank Farm Rd	Auto	This intersection is projected to operate at unacceptable LOS F in the AM peak hour. The addition of Project traffic exacerbates this unacceptable condition by increasing delay and v/c ratio.	• Construct a Northbound channelized right turn with yield control.
Intersection #16 Higuera Rd/Tank Farm Rd	Auto (Queue)	Addition of project traffic would: •Result in a new impact to the northbound left queue in the AM peak hour  •Exacerbate southbound left queues in the AM and PM peak hours.	•Optimization of signal timings and the installation of a northbound channelized right turn with yield control would improve this condition to an acceptable level.  •Extension of the southbound left turn pocket to 270' would improve this condition to an acceptable level.

**TABLE 92: YEAR 2035 FULL BUILD PRADO INTERCHANGE PLUS PROJECT MITIGATION MEASURES SUMMARY**

2035 FB Plus Project Significant Impact Location	Mode	Impact	Mitigation Measure
Intersection #18 Higuera Rd/Prado Rd	Auto (Queue)	Addition of project traffic would: •Result in a new impact to the eastbound left queue in the AM peak hour.  •Exacerbate the westbound left queue in the PM peak hour.  •Result in a new impact to the northbound left queue in the AM peak hour, and exacerbate the queue in the PM peak hour.	•Geometric improvements are recommended to be constructed in coordination with planned improvements to this intersection.  •Extension of the eastbound left turn pocket to 205' would improve this condition to an acceptable level.  •Extension of the westbound left turn pocket to 300' would improve this condition to an acceptable level.  •Extension of the northbound left turn pocket to 275' would improve this condition to an acceptable level. Left turn queues can be accommodated within the center turn lane without driveway access implications. Pocket striping could be extended but may affect driveway access.
Intersection #19 Higuera Rd/Margarita Ave	Auto (Queue)	Addition of project traffic would result in a new impact to the northbound left queue in the AM and PM peak hours.	Extension of the northbound left turn pocket to 125' would improve this condition to an acceptable level. Left turn queues can be accommodated within the center turn lane without driveway access implications. Pocket striping could be extended but may affect driveway access.
Intersection #20 Prado Rd/US 101 NB Ramps	Auto (Queue)	Addition of project traffic would result in a new impact to the northbound right queue in the PM peak hour.	Extension of the northbound right turn pocket to 215' would improve this condition to an acceptable level.
Segment #2: Madonna Rd EB - Oceanaire Dr to Dalidio Dr	Auto	This segment is projected to operate at unacceptable LOS E in the AM peak hour. The addition of Project traffic exacerbates this unacceptable condition by decreasing the travel speed by 1 mph or more, as well as resulting in LOS F.	2025 Plus Project Mitigations are projected to mitigate the impact to acceptable conditions.

**TABLE 92: YEAR 2035 FULL BUILD PRADO INTERCHANGE PLUS PROJECT MITIGATION MEASURES SUMMARY**

2035 FB Plus Project Significant Impact Location	Mode	Impact	Mitigation Measure
Segment #3: Madonna Rd EB - Dalildio Dr to El Mercado	Auto	This segment is projected to operate at unacceptable LOS E in the PM peak hour. The addition of Project traffic exacerbates this unacceptable condition by decreasing the travel speed by 1 mph or more.	<ul style="list-style-type: none"> <li>• Optimize timings at the intersection of Madonna Road/El Mercado to improve the operations of the EB throughput. However, optimization of throughput may create queuing impacts for opposing movements.</li> </ul>
Segment #3: Madonna Rd WB - El Mercado to Dalidio Dr	Ped	The Project added traffic increases the Ped Score on this segment to be an unacceptable LOS D in the AM peak hour.	See Table 65.
Segment #11: Higuera St NB - Suburban Drive to Tank Farm Road	Auto	The Project added traffic results in a decrease in the travel speed and results in unacceptable LOS E in the PM peak hour.	<ul style="list-style-type: none"> <li>• Optimize Timings at the intersection of S. Higuera St/Tank Farm Road to improve the operations of the NB throughput. However, optimization of throughput may create queuing impacts for opposing movements.</li> </ul>
Segment #16: Los Osos Valley Road NB - US 101 NB Ramps to US 101 SB Ramps	Ped	The Project added traffic increases the Ped Score on this segment to be an unacceptable LOS D in the PM peak hour.	The City considers Pedestrians as the lowest modal priority for Commercial Corridors and Areas, as well as for Regional Arterial/Highway Corridors, which LOVR is classified as. With the recently constructed interchange improvements, continuous sidewalk of sufficient width is provided. The low service level is attributable to the high vehicle volumes on LOVR, as well as the crossing delay at the adjacent intersection. However, it is projected that the Project will add a negligible amount of pedestrians along this segment and crossing LOVR at the ramps.

**TABLE 92: YEAR 2035 FULL BUILD PRADO INTERCHANGE PLUS PROJECT MITIGATION MEASURES SUMMARY**

2035 FB Plus Project Significant Impact Location	Mode	Impact	Mitigation Measure
Segment #19: Froom Ranch Way WB - Dick's Sporting Good Dwy to LOVR	Ped	The Project added traffic increases the Ped Score on this segment to be an unacceptable LOS D in the AM peak hour.	The impact and low Ped Score is attributable to this segment not having continuous sidewalks on the north side of Froom Ranch Way, as well as the Project added vehicular and pedestrian traffic. Installing a continuous sidewalk with a 4-foot buffer and connection to the Project's proposed Class I path along Froom Ranch Way is recommended.
Segment #20: Dalidio Dr NB - Madonna Rd to SC Project Dwy	Ped	The Project added traffic increases the Ped Score on this segment to be an unacceptable LOS D in the PM peak hour.	See Table 65.
Segment #20: Dalidio Dr NB - Madonna Rd to SC Project Dwy	Transit	The Project added traffic results in a decrease in the travel speed and results in unacceptable LOS E in the AM and PM peak hours for both Transit Routes 4 and 5.	<ul style="list-style-type: none"> <li>• Decrease Transit Route 4 headway from 30 minutes to 25 minutes.</li> <li>• Decrease Transit Route 5 headway from 30 minutes to 25 minutes.</li> </ul>
Segment #22: Prado Rd NB - US 101 SB Ramps to US 101 NB Ramps	Ped	The Project added traffic increases the Ped Score on this segment to be an unacceptable LOS D in the AM peak hour.	In order to achieve acceptable LOS a 5-foot buffer between the sidewalk and traveled way would be required, which may not be feasible due to right-of-way and/or cost constraints for the Prado Overpass structure. However, based on the City's Bicycle Transportation Plan, this segment is projected to provide a Class I path with sufficient buffer width, which is not included in this analysis, but could serve as the preferred pathway for pedestrians and provide acceptable LOS.

**TABLE 92: YEAR 2035 FULL BUILD PRADO INTERCHANGE PLUS PROJECT MITIGATION MEASURES SUMMARY**

2035 FB Plus Project Significant Impact Location	Mode	Impact	Mitigation Measure
Segment #22: Prado Rd NB & SB - US 101 NB Ramps to US 101 SB Ramps	Bike	The Project added traffic increases the Bike Score on this segment in the NB and SB directions to be an unacceptable LOS F in the AM peak hour.	The low LOS is attributable to the high vehicular volumes projected along this segment, along with the thru delays at the intersections. Improvements to the proposed Prado Overpass structure may be infeasible due to right-of-way and/or cost constraints. However, based on the City's Bicycle Transportation Plan, this segment is projected to provide a Class I path with sufficient buffer width, which is not included in this analysis, but could serve as the preferred route for bicyclists and provide acceptable LOS.
Segment #23: Prado Rd NB - US 101 SB Ramps to Froom Ranch Rd	Auto	The Project added traffic results in a decrease in the travel speed and results in unacceptable LOS E in the AM peak hour. During the PM peak hour, this segment is projected to operate at unacceptable LOS E, and the Project added traffic exacerbates this unacceptable condition by decreasing the travel speed by 1 mph or more, as well as resulting in LOS F.	For Intersection #21 (Dalidio Drive/Froom Ranch Way): • Install a Multi-lane modern roundabout
Segment #24: Prado Rd NB - Froom Ranch Way to SC Project Dwy	Auto	The Project added traffic results in a decrease in the travel speed and results in unacceptable LOS E in the PM peak hour.	For Intersection #25 (Dalidio Drive/Froom Ranch Way): • Install a Multi-lane modern roundabout
Segment #24: Prado Rd SB - SC Project Dwy to Froom Ranch Way	Auto	During the AM and PM peak hours, this segment is projected to operate at unacceptable LOS E, and the Project added traffic exacerbates this unacceptable condition by decreasing the travel speed by 1 mph or more, as well as resulting in LOS F.	For Intersection #21 (Dalidio Drive/Froom Ranch Way): • Install a Multi-lane modern roundabout
Segment #24: Prado Rd SB - SC Project Dwy to Froom Ranch Way	Transit	The Project added traffic results in a decrease in the travel speed and results in unacceptable LOS E in the PM peak hour for Transit Route 5.	• Decrease Transit Route 5 headway from 30 minutes to 25 minutes.

As shown in Table 92 above, some of the mitigations required are the same for Existing Plus Project and Near Term mitigations. Table 93 presents the mitigated intersection LOS operations assuming the proposed mitigation measures to be in place. Table 94 presents the mitigated roadway segment LOS operations assuming the proposed mitigation measures to be in place. Fair Share of improvement cost calculations are provided in a subsequent section of this report.

**TABLE 93:  
YEAR 2035 FULL BUILD PRADO INTERCHANGE PLUS PROJECT – MITIGATED INTERSECTION LOS**

Intersection #	3				9				10		11		14	
Name	S. Higuera Street/Prado Road				Los Osos Valley Road/ Froom Ranch Way				Los Osos Valley Road/ Auto Park Way		Los Osos Valley Road/ US 101 SB Ramps		Los Osos Valley Road/ S. Higuera Street	
Mode	AUTO		PED		BIKE		AUTO		AUTO		PED		PED	
SCENARIO	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS	Score	LOS	v/c	LOS	v/c	LOS
<b>AM PEAK HOUR</b>			EB								NB		EB	
Year 2035 Full Build	5.81	F	3.61	D	3.54	D	-	C	-	C	3.07	C	3.01	C
Year 2035 FB Plus Project	-	D	3.24	C	3.56	D	-	C	-	C	3.25	C	3.02	C
Significant Impact?	No		No		No		No		No		No		No	
<b>PM PEAK HOUR</b>			EB								NB		EB	
Year 2035 Full Build	8.74	F	4.24	D	4.57	E	1.05	E	0.51	E	3.51	D	3.67	D
Year 2035 FB Plus Project	-	D	3.35	C	4.60	E	-	D	-	D	3.52	D	3.65	D
Significant Impact?	No		No		No		No		No		No		No	

Note: V/C Ratio is based on worst movement

**TABLE 93 (CONT'D.):  
YEAR 2035 FULL BUILD PRADO INTERCHANGE PLUS PROJECT – MITIGATED INTERSECTION LOS**

Intersection #	15				16				21				25			
Name	S. Higuera Street/ Suburban Drive				Madonna Road/ Dalidio Drive				Dalidio Drive/ Froom Ranch Way				Dalidio Drive/ SC Project Driveway			
Mode	PED				AUTO				AUTO*		AUTO*		AUTO*		AUTO*	
SCENARIO	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS
<b>AM PEAK HOUR</b>	NB						Signal		Roundabout		Signal		Roundabout			
Year 2035 Full Build	3.29	C	1.75	F	-	-	-	-	-	-	-	-	-	-		
Year 2035 FB Plus Project	3.31	C	-	C	-	C	-	A	-	D	-	A	-	A		
Significant Impact?	No		No		No		No		No		No		No			
<b>PM PEAK HOUR</b>	NB						Signal		Roundabout		Signal		Roundabout			
Year 2035 Full Build	3.93	D	-	C	-	-	-	-	-	-	-	-	-	-		
Year 2035 FB Plus Project	3.94	D	-	C	-	C	-	B	-	C	-	B	-	B		
Significant Impact?	No		No		No		No		No		No		No			

Note: V/C Ratio is based on worst movement

**TABLE 94:  
YEAR 2035 FULL BUILD PRADO INTERCHANGE PLUS PROJECT – MITIGATED SEGMENT LOS**

2035 Full Build Prado Multimodal Segment LOS				Auto Mode					Pedestrian Mode					Bicycle Mode					Transit Mode									
AM PEAK HOUR				2025		2025 Plus Project			2035 Full Build		2035 FB PP			2035 Full Build		2035 FB PP			2035 Full Build		2035 FB PP							
ID	Roadway	From	To	Direction	Auto LOS Threshold	Travel Speed (mph)	LOS	Travel Speed (mph)	LOS	Significant Impact?	Ped LOS Threshold	Segment Score	LOS	Segment Score	LOS	Significant Impact?	Bike LOS Threshold	Segment Score	LOS	Segment Score	LOS	Significant Impact?	Transit LOS Threshold	Segment Score	LOS	Segment Score	LOS	Significant Impact?
2	Madonna Rd	Oceanaire Dr	Dalidio	EB	D	12.3	E	19.8	D	No	C	4.06	D	3.96	D	No	D	3.60	D	3.60	D	No	D	4.73	E	4.72	E	No
3	Madonna Rd	El Mercado	Dalidio Dr	WB	D	17.0	D	16.0	D	No	C	3.45	C	3.33	C	No	D	3.29	C	3.30	C	No	D	4.31	E	4.23	D	No
19	Froom Ranch Way	Dick's Sporting Goods	Los Osos Valley	WB	D	14.9	E	14.6	E	No	C	3.47	C	3.50	C	No	D	3.44	C	3.50	C	No	D	Not Analyzed	N/A	Not Analyzed	N/A	No
20	Dalidio Dr	Madonna Rd	SC Project Dwy	SB	D	-	-	23.8	C	No	C	-	-	3.42	C	No	D	-	-	3.79	D	No	D	4.21	D	4.25	D	No
20	Dalidio Dr	SC Project Dwy	Madonna Rd	NB	D	0.3	F	12.6	E	No	C	3.20	C	3.31	C	No	D	3.51	D	3.56	D	No	D	4.25	D	4.22	D	No
22	Prado Road	US 101 SB Ramps	US 101 NB Ramps	SB	D	20.3	C	19.9	C	No	C	3.73	D	3.81	D	No	D	3.25	C	13.90	F	Yes	D	Not Analyzed	N/A	Not Analyzed	N/A	No
22	Prado Road	US 101 NB Ramps	US 101 SB Ramps	NB	D	21.7	B	21.6	B	No	C	3.48	C	3.50	C	No	D	3.18	C	12.41	F	Yes	D	Not Analyzed	N/A	Not Analyzed	N/A	No
23	Prado Road	US 101 SB Ramps	Froom Ranch Road	NB	D	18.4	C	24.2	B	No	C	3.24	C	3.38	C	No	D	3.21	C	3.25	C	No	D	Not Analyzed	N/A	Not Analyzed	N/A	No
24	Dalidio Drive	SC Project Dwy	Froom Ranch Road	SB	D	11.6	E	14.9	D	No	C	3.32	C	2.96	C	No	D	3.98	D	4.04	D	No	D	4.31	E	4.34	E	No

Note: Segment 20 transit is southbound for routes 4 and 5; Segment 21 pedestrian and bicycle service will be further evaluated using off-street facilities methodologies.

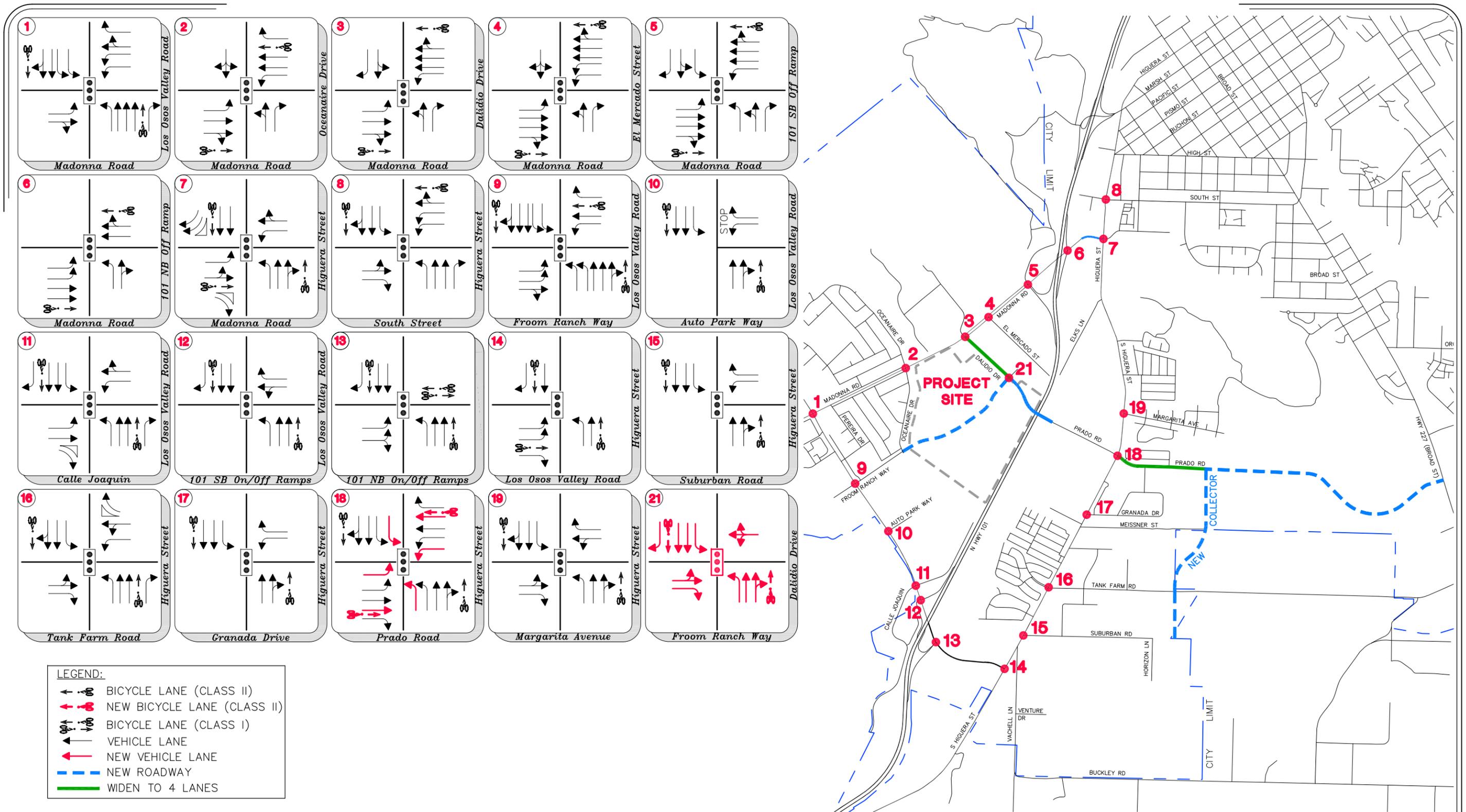
2035 Full Build Prado Multimodal Segment LOS				Auto Mode					Pedestrian Mode					Bicycle Mode					Transit Mode									
PM PEAK HOUR				2025		2025 Plus Project			2035 Full Build		2035 FB PP			2035 Full Build		2035 FB PP			2035 Full Build		2035 FB PP							
ID	Roadway	From	To	Direction	Auto LOS Threshold	Travel Speed (mph)	LOS	Travel Speed (mph)	LOS	Significant Impact?	Ped LOS Threshold	Segment Score	LOS	Segment Score	LOS	Significant Impact?	Bike LOS Threshold	Segment Score	LOS	Segment Score	LOS	Significant Impact?	Transit LOS Threshold	Segment Score	LOS	Segment Score	LOS	Significant Impact?
3	Madonna Rd	Dalidio Dr	El Mercado	EB	D	13.3	E	14.0	D	No	C	3.70	D	3.75	D	No	D	3.39	C	3.40	C	No	D	4.21	D	4.23	D	No
11	S. Higuera St	Suburban Drive	Tank Farm Road	NB	D	16.6	D	16.6	D	No	C	3.53	D	3.52	D	No	D	3.42	C	3.42	C	No	D	3.99	D	3.99	D	No
16	Los Osos Valley	US 101 NB Ramps	US 101 SB Ramps	NB	D	32.4	A	26.7	B	No	C	3.34	C	4.13	D	Yes	D	3.88	D	3.86	D	No	D	Not Analyzed	N/A	Not Analyzed	N/A	No
20	Dalidio Dr	Madonna Rd	SC Project Dwy	SB	D	-	-	19.8	C	No	C	-	-	3.38	C	No	D	-	-	3.75	D	No	D	4.21	D	4.23	D	No
20	Dalidio Dr	SC Project Dwy	Madonna Rd	NB	D	0.2	F	14.2	E	No	C	3.49	C	3.49	C	No	D	3.80	D	3.91	D	No	D	4.06	D	4.24	D	No
23	Prado Road	US 101 SB Ramps	Froom Ranch Road	NB	D	12.6	E	20.5	C	No	C	3.54	D	3.69	D	No	D	5.24	F	3.35	C	No	D	Not Analyzed	N/A	Not Analyzed	N/A	No
24	Dalidio Drive	SC Project Dwy	Froom Ranch Road	SB	D	10.9	E	13.5	D	No	C	3.29	C	3.23	C	No	D	3.97	D	4.03	D	No	D	4.32	E	4.33	E	No
24	Dalidio Drive	Froom Ranch Road	SC Project Dwy	NB	D	-	-	20.4	C	No	C	-	-	3.50	C	No	D	-	-	3.85	D	No	D	4.20	D	4.19	D	No

Note: Segments 20 and 24 transit is southbound for Routes 4 and 5

## **Year 2035 Prado Road Overcrossing Conditions**

Although the Project Study Report (PSR) for the Prado Road interchange will determine the interchange configuration, the base volumes under the “Overcrossing” conditions analysis assume a four-lane roadway between S. Higuera Street and Madonna Road for the purposes of this traffic impact study, with an overcrossing over US 101 and removal of the existing US 101 Northbound ramps at Prado Road, along with all other roadway improvements previously listed under the “Cumulative Conditions” section of this report.

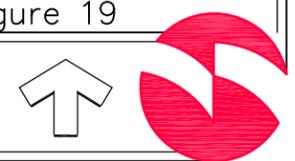
Figure 19 presents the Year 2035 Prado Road Overcrossing conditions lane geometrics and control, and Figure 20 presents the Year 2035 Prado Road Overcrossing (no project) peak hour intersection traffic volumes.

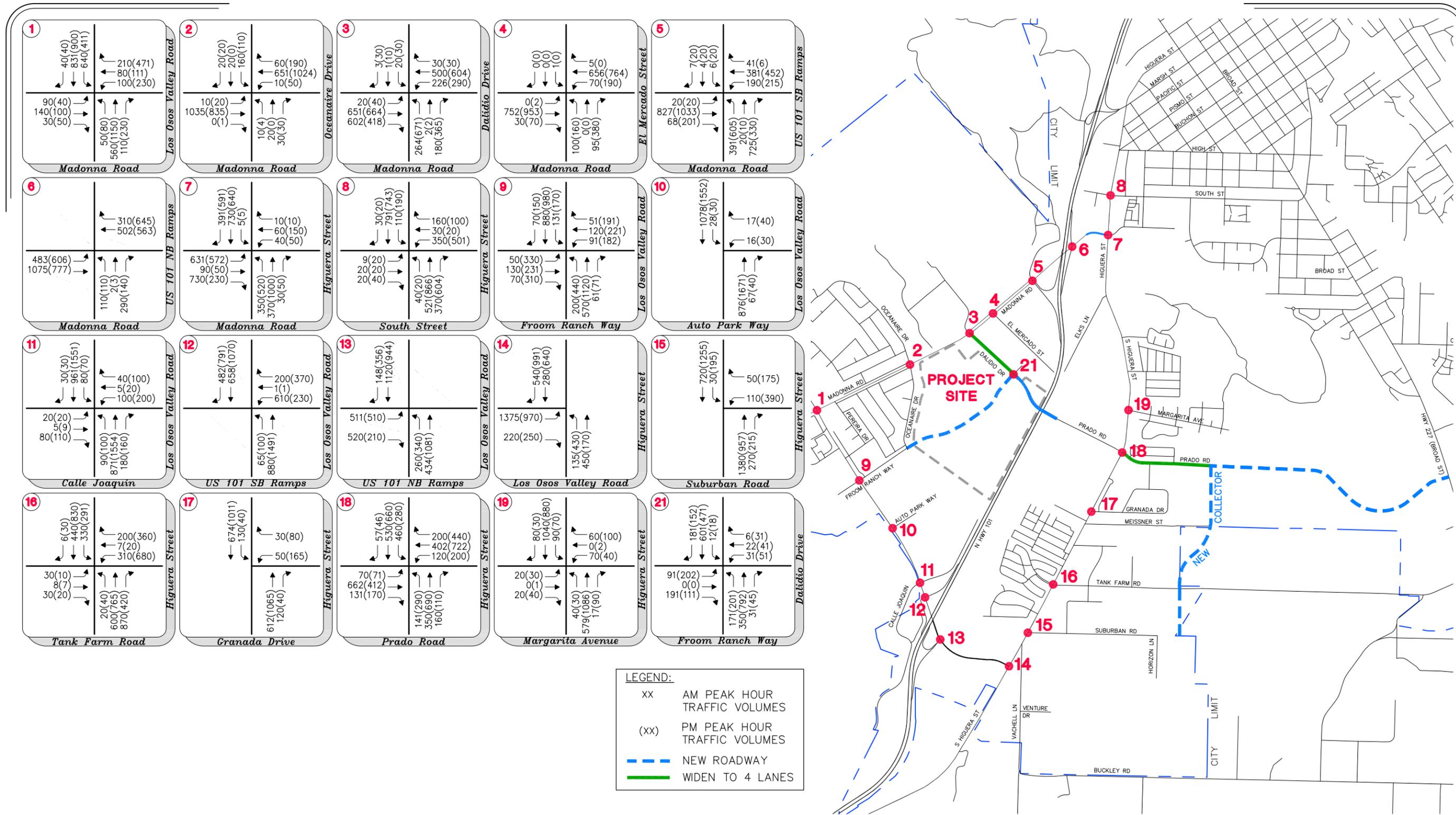


San Luis Ranch Specific Plan Multimodal TIS

Figure 19

# Year 2035 Overcrossing Lane Geometrics and Control

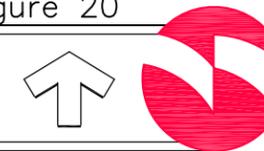




San Luis Ranch Specific Plan Multimodal TIS

Figure 20

Year 2035 Overcrossing Peak Hour Traffic Volumes



# Year 2035 Prado Road Overcrossing Conditions Analysis

The Year 2035 Prado Road Overcrossing conditions multimodal analysis for the study intersections and segments are presented below.

## Year 2035 Prado Road Overcrossing Conditions Intersection Analysis

Table 96 provides a summary of the Year 2035 Prado Road Overcrossing conditions vehicular AM and PM peak hour intersection delay and LOS. Table 97 provides a summary of the Year 2035 Prado Road Overcrossing pedestrian AM and PM peak hour conditions at the study intersections. Table 98 provides a summary of the Year 2035 Prado Road Overcrossing bicycle AM and PM peak hour conditions at the study intersections. Table 99 provides a summary of the Year 2035 Prado Road Overcrossing conditions queuing analysis.

**TABLE 96: YEAR 2035 PRADO ROAD OVERCROSSING CONDITIONS INTERSECTION LEVEL OF SERVICE: AUTOMOBILE ANALYSIS**

#	Intersection	Control Type <sup>1,2</sup>	Target LOS	AM Peak Hour			PM Peak Hour		
				v/c <sup>3</sup>	Delay	LOS	v/c <sup>3</sup>	Delay	LOS
1	Madonna Road/Los Osos Valley Road	Signal	D		34.5	C		41.7	D
2	Madonna Road/Oceanaire Drive	Signal	D		24.0	C		17.2	B
<b>3</b>	<b>Madonna Road/Dalidio Drive</b>	<b>Signal</b>	<b>D</b>	<b>2.99</b>	<b>162.2</b>	<b>F</b>	<b>8.42</b>	<b>779.2</b>	<b>F</b>
4	Madonna Road/El Mercado	Signal	D		11.4	B		19.6	B
5	Madonna Road/US 101 SB Ramps/Madonna	Signal	C		31.8	C		30.7	C
6	Madonna Road/US 101 NB Ramps	Signal	C		25.9	C		27.6	C
7	Madonna Road/Higuera Street	Signal	D		41.3	D		43.3	D
8	Higuera Street/South Street	Signal	D		20.5	C		26.2	C
<b>9</b>	<b>Los Osos Valley Road/Froom Ranch Way</b>	<b>Signal</b>	<b>D</b>		22.1	C	<b>1.05</b>	<b>58.1</b>	<b>E</b>
<b>10</b>	<b>Los Osos Valley Road/Auto Park Way</b>	<b>TWSC</b>	<b>D</b>		18.0	C	<b>0.41</b>	<b>46.3</b>	<b>E</b>
11	Los Osos Valley Road/Calle Joaquin	Signal	D		10.0	A		14.5	B
<b>12</b>	<b>Los Osos Valley Road/US 101 SB Ramps</b>	<b>Signal</b>	<b>C</b>	<b>1.22</b>	<b>38.2</b>	<b>D</b>		27.3	C
13	Los Osos Valley Road/US 101 NB Ramps	Signal	C		34.5	C		19.9	B
<b>14</b>	<b>S. Higuera Street/Los Osos Valley Road</b>	<b>Signal</b>	<b>D</b>		23.0	C	<b>1.08</b>	<b>71.3</b>	<b>E</b>
15	S. Higuera Street/Suburban Drive	Signal	D		7.3	A		16.3	B
<b>16</b>	<b>S. Higuera Street/Tank Farm Road</b>	<b>Signal</b>	<b>D</b>	<b>1.45</b>	<b>115.3</b>	<b>F</b>		24.4	C
17	S. Higuera Street/Granada Drive	Signal	D		8.6	A		11.5	B
18	S. Higuera Street/Prado Road	Signal	D		31.8	C		30.0	C
19	S. Higuera Street/Margarita Avenue	Signal	D		15.6	B		12.9	B
21	Froom Ranch Road/Dalidio Drive/Prado Road	Signal	D		15.3	B		18.5	B

Notes:

1. AWSC = All Way Stop Control; TWSC = Two Way Stop Control; RNDBT = Roundabout

2. LOS = Delay based on worst minor street approach for TWSC intersections, average of all approaches for AWSC, Signal,

3. Volume to Capacity Ratio (v/c) is for worst movement delay, for unacceptable LOS only

**TABLE 97: YEAR 2035 PRADO ROAD OVERCROSSING 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	2.12	B	2.12	B
		WB	C	3.03	C	3.25	C
		NB	C	3.11	C	3.35	C
		SB	C	3.29	C	3.32	C
2	Madonna Road/Oceanaire Drive	EB	C	2.88	C	2.97	C
		WB	C	3.39	C	3.37	C
		NB	C	2.05	B	2.01	B
		SB	C	1.86	A	1.87	A
3	Madonna Road/Dalidio Drive	EB	C	<b>3.59</b>	D	<b>4.21</b>	D
		WB	C	2.97	C	3.03	C
		NB	C	2.60	B	2.74	B
		SB	C	1.97	A	2.01	B
4	Madonna Road/El Mercado	EB	C	n/a	-	n/a	-
		WB	C	3.20	C	3.13	C
		NB	C	2.47	B	2.75	B
		SB	C	1.74	A	1.74	A
5	Madonna Road/US 101 SB Ramps/Madonna Inn	EB	C	2.97	C	3.09	C
		WB	C	n/a	-	n/a	-
		NB	C	2.83	C	2.74	B
		SB	C	2.16	B	2.19	B
6	Madonna Road/US 101 NB Ramps	EB	C	n/a	-	n/a	-
		WB	C	3.10	C	3.10	C
		NB	C	2.04	B	2.03	B
		SB	C	n/a	-	n/a	-
7	Madonna Road/Higuera Street	EB	C	2.95	C	3.05	C
		WB	C	2.05	B	2.07	B
		NB	C	3.05	C	3.09	C
		SB	C	n/a	-	n/a	-
8	Higuera Street/South Street	EB	C	2.02	B	2.05	B
		WB	C	2.58	B	2.83	C
		NB	C	n/a	-	n/a	-
		SB	C	2.63	B	2.72	B
9	Los Osos Valley Road/Froom Ranch Way	EB	C	2.45	B	2.66	B
		WB	C	2.47	B	2.68	B
		NB	C	n/a	-	n/a	-
		SB	C	3.09	C	3.33	C
10	Los Osos Valley Road/Auto Park Way	EB	C	-	-	-	-
		WB	C	-	-	-	-
		NB	C	n/a	-	n/a	-
		SB	C	-	-	-	-
11	Los Osos Valley Road/Calle Joaquin	EB	C	2.59	B	2.47	B
		WB	C	2.25	B	2.32	B
		NB	C	3.18	C	<b>3.53</b>	D
		SB	C	3.05	C	3.34	C
12	Los Osos Valley Road/US 101 SB Ramps	EB	C	2.02	B	2.31	B
		WB	C	2.15	B	2.10	B
		NB	C	n/a	-	n/a	-
		SB	C	n/a	-	n/a	-
13	Los Osos Valley Road/US 101 NB Ramps	EB	C	2.69	B	2.50	B
		NB	C	2.88	C	2.91	C
		SB	C	n/a	-	n/a	-
		EB	C	3.10	C	<b>3.68</b>	D
14	S. Higuera Street/Los Osos Valley Road	NB	C	2.51	B	2.73	B
		SB	C	n/a	-	n/a	-
		WB	C	2.17	B	2.59	B
		NB	C	3.31	C	<b>3.83</b>	D
15	S. Higuera Street/Suburban Drive	SB	C	3.00	C	3.09	C
		EB	C	2.02	B	2.02	B
		WB	C	2.95	C	3.21	C
		NB	C	<b>3.62</b>	D	3.43	C
16	S. Higuera Street/Tank Farm Road	SB	C	2.82	C	3.02	C
		WB	C	2.09	B	2.13	B
		NB	C	n/a	-	n/a	-
		SB	C	2.74	B	2.96	C
17	S. Higuera Street/Granada Drive	EB	C	2.95	C	3.00	C
		WB	C	3.12	C	3.11	C
		NB	C	3.08	C	3.02	C
		SB	C	2.91	C	3.03	C
18	S. Higuera Street/Prado Road	EB	C	2.25	B	2.08	B
		WB	C	2.22	B	2.28	B
		NB	C	2.97	C	3.06	C
		SB	C	2.93	C	3.05	C
19	S. Higuera Street/Margarita Avenue	EB	C	2.41	B	2.33	B
		WB	C	1.77	A	1.84	A
		NB	C	2.59	B	2.66	B
		SB	C	2.77	C	2.87	C
21	Froom Ranch Road/Dalidio Drive/Prado Road	EB	C	2.41	B	2.33	B
		WB	C	1.77	A	1.84	A
		NB	C	2.59	B	2.66	B
		SB	C	2.77	C	2.87	C

Notes:

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. 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 98: YEAR 2035 PRADO ROAD OVERCROSSING 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	3.15	C
		WB	D	3.45	C	4.13	D
		NB	D	1.69	A	2.10	B
		SB	D	2.95	C	2.75	B
2	Madonna Road/Oceanaire Drive	EB	D	3.00	C	2.85	C
		WB	D	1.30	A	1.79	A
		NB	D	2.74	B	2.74	B
		SB	D	2.29	B	2.22	B
3	Madonna Road/Dalidio Drive	EB	D	2.32	B	2.08	B
		WB	D	1.59	A	1.64	A
		NB	D	2.66	B	3.58	D
		SB	D	1.79	A	1.86	A
4	Madonna Road/El Mercado	EB	D	1.60	A	1.69	A
		WB	D	1.70	A	1.83	A
		NB	D	3.39	C	3.94	D
		SB	D	3.03	C	3.03	C
5	Madonna Road/US 101 SB Ramps/Madonna Inn	EB	D	1.83	A	1.99	A
		WB	D	1.65	A	1.65	A
		NB	D	n/a	-	n/a	-
		SB	D	2.91	C	2.98	C
6	Madonna Road/US 101 NB Ramps	EB	D	2.65	B	2.29	B
		WB	D	1.84	A	2.07	B
		NB	D	n/a	-	n/a	-
		SB	D	n/a	-	n/a	-
7	Madonna Road/Higuera Street	EB	D	3.85	D	2.70	B
		WB	D	2.60	B	2.77	C
		NB	D	2.05	B	2.75	B
		SB	D	2.47	B	2.53	B
8	Higuera Street/South Street	EB	D	2.71	B	2.77	C
		WB	D	2.52	B	2.69	B
		NB	D	3.03	C	3.53	D
		SB	D	1.93	A	1.98	A
9	Los Osos Valley Road/Froom Ranch Way	EB	D	3.54	D	<b>4.59</b>	<b>E</b>
		WB	D	2.15	B	3.02	C
		NB	D	1.81	A	2.25	B
		SB	D	1.84	A	1.94	A
10	Los Osos Valley Road/Auto Park Way	EB	D	-	-	-	-
		WB	D	n/a	-	n/a	-
		NB	D	-	-	-	-
		SB	D	-	-	-	-
11	Los Osos Valley Road/Calle Joaquin	EB	D	3.07	C	3.11	C
		WB	D	3.20	C	3.48	C
		NB	D	1.64	A	2.14	B
		SB	D	0.55	A	0.97	A
12	Los Osos Valley Road/US 101 SB Ramps	WB	D	n/a	-	n/a	-
		NB	D	2.87	C	3.34	C
		SB	D	1.72	A	2.25	B
13	Los Osos Valley Road/US 101 NB Ramps	EB	D	n/a	-	n/a	-
		NB	D	1.81	A	2.40	B
		SB	D	2.92	C	2.93	C
14	S. Higuera Street/Los Osos Valley Road	EB	D	2.44	B	2.10	B
		NB	D	2.31	B	2.33	B
		SB	D	2.71	B	4.10	D
15	S. Higuera Street/Suburban Drive	WB	D	0.94	A	1.64	A
		NB	D	2.67	B	2.21	B
		SB	D	1.91	A	2.50	B
16	S. Higuera Street/Tank Farm Road	EB	D	2.72	B	2.66	B
		WB	D	2.41	B	3.32	C
		NB	D	2.57	B	2.31	B
		SB	D	1.93	A	2.23	B
17	S. Higuera Street/Granada Drive	WB	D	2.65	B	2.93	C
		NB	D	1.84	A	2.17	B
		SB	D	2.03	B	2.26	B
18	S. Higuera Street/Prado Road	EB	D	2.75	B	1.26	A
		WB	D	3.15	C	2.43	B
		NB	D	1.81	A	2.19	B
		SB	D	2.16	B	2.10	B
19	S. Higuera Street/Margarita Avenue	EB	D	2.49	B	2.54	B
		WB	D	2.74	B	2.76	C
		NB	D	1.86	A	2.36	B
		SB	D	2.45	B	2.25	B
21	Froom Ranch Road/Dalidio Drive/Prado Road	EB	D	1.93	A	1.97	A
		WB	D	2.77	C	2.89	C
		NB	D	1.39	A	1.94	A
		SB	D	1.75	A	1.63	A

Notes:  
 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 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 99: YEAR 2035 PRADO ROAD OVERCROSSING CONDITIONS 95<sup>TH</sup> PERCENTILE QUEUING ANALYSIS**

Intersection		Movement	No. Lanes	Total Storage (ft) <sup>1</sup>	95 <sup>th</sup> Percentile Queue/Lane (ft)	
					AM Peak Hour	PM Peak Hour
ID	Location					
1	Madonna Road/Los Osos Valley Road	Northbound Left	1	200	75	<b>222</b>
		Northbound Right	1	175	96	<b>203</b>
2	Madonna	Westbound Right	1	100	55	<b>116</b>
3	Madonna Road/Dalidio Drive	Westbound Left	1	275	217	<b>336</b>
		Northbound Right	1	150	90	<b>227</b>
4	Madonna Road/EI	Westbound Left	2	260	74	<b>528</b>
5	Madonna Road/US	Westbound Left	1	260	185	<b>474</b>
6	Madonna Road/US	Northbound Left	1	185	151	<b>195</b>
7	Madonna Road/Higuera Street	Eastbound Right	1	150	<b>604</b>	<b>199</b>
		Northbound Left	1	160	<b>314</b>	<b>344</b>
		Southbound Left/Through	2	250	<b>298</b>	<b>405</b>
8	Higuera Street/South Street	Westbound Left	2	240	168	<b>501</b>
		Northbound Left	1	60	<b>105</b>	<b>101</b>
		Northbound Through	2	380	312	<b>755</b>
		Northbound Right	1	60	<b>139</b>	<b>163</b>
		Southbound Left	1	70	<b>120</b>	<b>118</b>
9	Los Osos Valley Road/Froom Ranch Way	Eastbound Through/Right	1	445	169	<b>599</b>
		Westbound Right	1	50	<b>73</b>	<b>98</b>
		Southbound Left	2	200	120	<b>288</b>
11	Los Osos Valley Road/Calle Joaquin	Northbound Left	1	115	93	<b>127</b>
12	Los Osos Valley Road/US 101 SB Ramps	Westbound Left/Through	1	180	<b>276</b>	<b>250</b>
		Southbound Through	1	240	<b>332</b>	<b>334</b>
		Southbound Right	1	125	<b>273</b>	<b>181</b>
13	Los Osos Valley Road/US 101 NB Ramps	Eastbound Left/Right	1	625	<b>1405</b>	458
		Southbound Through	1	865	<b>1203</b>	522
		Southbound Right	1	130	<b>273</b>	<b>232</b>
14	S. Higuera Street/Los Osos Valley Road	Eastbound Right	1	90	<b>208</b>	<b>200</b>
		Northbound Left	1	160	<b>163</b>	<b>248</b>
15	S. Higuera Street/Suburban Drive	Westbound Right	1	170	53	<b>308</b>
		Southbound Left	1	200	64	<b>321</b>
16	S. Higuera Street/Tank Farm Road	Westbound Right	1	250	28	<b>327</b>
		Northbound Right	1	100	<b>191</b>	<b>204</b>
		Southbound Left	1	165	<b>238</b>	<b>265</b>
17	S. Higuera Street/Granada Drive	Southbound Left	1	80	<b>102</b>	63
18	S. Higuera Street/Prado Road	Eastbound Right	1	140	135	103
		Westbound Left	1	105	105	<b>200</b>
		Westbound Right	1	100	73	<b>182</b>
		Northbound Left	1	100	<b>124</b>	<b>185</b>
		Southbound Left	1	60	<b>179</b>	<b>180</b>
19	S. Higuera Street/Margarita	Northbound Left	1	60	<b>82</b>	<b>81</b>
		Southbound Left	1	60	<b>119</b>	<b>102</b>

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.

As shown in Table 96 above, the intersection of Madonna Road/Dalidio Drive, Los Osos Valley Road/Froom Ranch Way, Los Osos Valley Road/Auto Park Way, S. Higuera Street/Tank Farm Road are projected to operate at unacceptable conditions during 2035 Full Build Prado Interchange conditions. Pedestrian analysis shows acceptable conditions at the study intersections. Bicycle analysis shows deficiencies at Los Osos Valley Road/Froom Ranch Way. Queuing analysis results to be completed.

### **Year 2035 Prado Road Overcrossing Conditions Segment Analysis**

Table 100 provides a summary of the Year 2035 Prado Road Overcrossing vehicular AM and PM peak hour conditions for the study segments. Table 101 provides a summary of the Year 2035 Prado Road Overcrossing pedestrian AM and PM peak hour conditions for the study segments. Table 102 provides a summary of the Year 2035 Prado Road Overcrossing bicycle AM and PM peak hour conditions for the study segments. Table 103 provides a summary of the Year 2035 Prado Road Overcrossing transit AM and PM peak hour conditions for the study segments. Table 104 provides a summary of the Year 2035 Prado Road Overcrossing freeway segments analysis for AM and PM peak hour conditions for the study segments along US 101.

**TABLE 100: YEAR 2035 PRADO ROAD OVERCROSSING CONDITIONS SEGMENT LEVEL OF SERVICE: AUTOMOBILE ANALYSIS**

AUTO SEGMENT LOS					AM PEAK				PM PEAK				
ID	Roadway	From	To	Direction	LOS Threshold	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
1	<b>Madonna Rd</b>	<b>Oceanaire Dr</b>	<b>LOVR</b>	<b>WB</b>	<b>C</b>	<b>20.3</b>	<b>42.1</b>	<b>48%</b>	<b>D</b>	<b>15.4</b>	<b>42.1</b>	<b>37%</b>	<b>E</b>
	Madonna Rd	LOVR	Oceanaire Dr	EB	C	25.8	42.1	61%	C	28.6	42.1	68%	B
2	Madonna Rd	Dalidio	Oceanaire Dr	WB	C	22.8	40.8	56%	C	23.9	40.7	59%	C
	<b>Madonna Rd</b>	<b>Oceanaire Dr</b>	<b>Dalidio</b>	<b>EB</b>	<b>C</b>	<b>7.1</b>	<b>40.7</b>	<b>18%</b>	<b>F</b>	<b>16.6</b>	<b>40.8</b>	<b>41%</b>	<b>D</b>
3	<b>Madonna Rd</b>	<b>El Mercado</b>	<b>Dalidio Dr</b>	<b>WB</b>	<b>C</b>	<b>15.0</b>	<b>34.1</b>	<b>44%</b>	<b>D</b>	<b>15.0</b>	<b>34.8</b>	<b>43%</b>	<b>D</b>
	<b>Madonna Rd</b>	<b>Dalidio Dr</b>	<b>El Mercado</b>	<b>EB</b>	<b>C</b>	<b>27.6</b>	<b>38.2</b>	<b>72%</b>	<b>B</b>	<b>13.2</b>	<b>34.6</b>	<b>38%</b>	<b>E</b>
4	Madonna Rd	US 101 SB Ramps	El Mercado	WB	C	30.9	37.9	82%	B	21.8	37.3	58%	C
	<b>Madonna Rd</b>	<b>El Mercado</b>	<b>US 101 SB Ramps</b>	<b>EB</b>	<b>C</b>	<b>11.0</b>	<b>37.8</b>	<b>29%</b>	<b>F</b>	<b>17.2</b>	<b>37.7</b>	<b>46%</b>	<b>D</b>
5	Madonna Rd	US 101 NB Ramps	US 101 SB Ramps	WB	C	26.5	37.8	70%	B	23.6	37.8	62%	C
	Madonna Rd	US 101 SB Ramps	US 101 NB Ramps	EB	C	32.6	37.8	86%	A	33.4	37.8	88%	A
6	<b>Madonna Rd</b>	<b>Higuera St</b>	<b>US 101 NB Ramps</b>	<b>WB</b>	<b>C</b>	<b>9.5</b>	<b>37.2</b>	<b>26%</b>	<b>F</b>	<b>13.0</b>	<b>37.2</b>	<b>35%</b>	<b>E</b>
	<b>Madonna Rd</b>	<b>US 101 NB Ramps</b>	<b>Higuera St</b>	<b>EB</b>	<b>C</b>	<b>12.2</b>	<b>37.2</b>	<b>33%</b>	<b>E</b>	<b>10.2</b>	<b>37.2</b>	<b>27%</b>	<b>F</b>
7	S. Higuera St	Madonna Rd	Margarita Ave	SB	C	30.6	44.5	69%	B	34.9	44.5	78%	B
	S. Higuera St	Margarita Ave	Madonna Rd	NB	C	35.5	44.8	79%	B	29.6	44.8	66%	C
8	<b>S. Higuera St</b>	<b>Margarita Ave</b>	<b>Prado Rd</b>	<b>SB</b>	<b>C</b>	<b>13.9</b>	<b>38.9</b>	<b>36%</b>	<b>E</b>	<b>12.6</b>	<b>38.9</b>	<b>32%</b>	<b>E</b>
	<b>S. Higuera St</b>	<b>Prado Rd</b>	<b>Margarita Ave</b>	<b>NB</b>	<b>C</b>	<b>21.2</b>	<b>38.9</b>	<b>55%</b>	<b>C</b>	<b>18.8</b>	<b>38.9</b>	<b>48%</b>	<b>D</b>
9	S. Higuera St	Prado Rd	Granada Dr	SB	C	33.4	41.8	80%	B	29.8	41.8	71%	B
	<b>S. Higuera St</b>	<b>Granada Dr</b>	<b>Prado Rd</b>	<b>NB</b>	<b>C</b>	<b>16.1</b>	<b>41.9</b>	<b>38%</b>	<b>E</b>	<b>15.7</b>	<b>41.9</b>	<b>38%</b>	<b>E</b>
10	S. Higuera St	Granada Dr	Tank Farm Road	SB	C	42.1	41.6	101%	A	23.5	42.6	55%	C
	S. Higuera St	Tank Farm Road	Granada Dr	NB	C	29.5	41.6	71%	B	26.7	42.6	63%	C
11	S. Higuera St	Tank Farm Road	Suburban Drive	SB	C	27.0	42.4	64%	C	23.1	41.2	56%	C
	<b>S. Higuera St</b>	<b>Suburban Drive</b>	<b>Tank Farm Road</b>	<b>NB</b>	<b>C</b>	<b>18.9</b>	<b>42.5</b>	<b>44%</b>	<b>D</b>	<b>15.0</b>	<b>41.3</b>	<b>36%</b>	<b>E</b>
12	<b>S. Higuera St</b>	<b>Suburban Drive</b>	<b>Los Osos Valley Road</b>	<b>SB</b>	<b>C</b>	<b>20.3</b>	<b>42.1</b>	<b>48%</b>	<b>D</b>	<b>4.6</b>	<b>39.1</b>	<b>12%</b>	<b>F</b>
	S. Higuera St	Los Osos Valley Road	Suburban Drive	NB	C	22.9	42.0	54%	C	19.8	39.0	51%	C
13	<b>Los Osos Valley</b>	<b>Madonna Rd</b>	<b>Froom Ranch Way</b>	<b>SB</b>	<b>C</b>	<b>23.3</b>	<b>41.9</b>	<b>56%</b>	<b>C</b>	<b>12.8</b>	<b>41.8</b>	<b>31%</b>	<b>E</b>
	<b>Los Osos Valley</b>	<b>Froom Ranch Way</b>	<b>Madonna Rd</b>	<b>NB</b>	<b>C</b>	<b>19.3</b>	<b>41.8</b>	<b>46%</b>	<b>D</b>	<b>16.4</b>	<b>41.8</b>	<b>39%</b>	<b>E</b>
14	Los Osos Valley	Froom Ranch Way	Calle Joaquin	SB	C	29.2	43.0	68%	B	23.5	43.0	55%	C
	<b>Los Osos Valley</b>	<b>Calle Joaquin</b>	<b>Froom Ranch Way</b>	<b>NB</b>	<b>C</b>	<b>29.1</b>	<b>43.2</b>	<b>67%</b>	<b>B</b>	<b>19.3</b>	<b>43.2</b>	<b>45%</b>	<b>D</b>
15	<b>Los Osos Valley</b>	<b>Calle Joaquin</b>	<b>US 101 SB Ramps</b>	<b>SB</b>	<b>C</b>	<b>5.3</b>	<b>32.1</b>	<b>16%</b>	<b>F</b>	<b>15.4</b>	<b>32.1</b>	<b>48%</b>	<b>D</b>
	Los Osos Valley	US 101 SB Ramps	Calle Joaquin	NB	C	16.1	31.1	52%	C	16.7	31.1	54%	C
16	<b>Los Osos Valley</b>	<b>US 101 SB Ramps</b>	<b>US 101 NB Ramps</b>	<b>SB</b>	<b>C</b>	<b>16.3</b>	<b>37.7</b>	<b>43%</b>	<b>D</b>	<b>17.8</b>	<b>37.7</b>	<b>47%</b>	<b>D</b>
	Los Osos Valley	US 101 NB Ramps	US 101 SB Ramps	NB	C	32.9	37.4	88%	A	20.1	37.4	54%	C
17	Los Osos Valley	S. Higuera St	US 101 NB Ramps	WB	C	27.1	39.2	69%	B	25.9	39.2	66%	C
	<b>Los Osos Valley</b>	<b>US 101 NB Ramps</b>	<b>S. Higuera St</b>	<b>EB</b>	<b>C</b>	<b>17.6</b>	<b>39.4</b>	<b>45%</b>	<b>D</b>	<b>10.6</b>	<b>39.4</b>	<b>27%</b>	<b>F</b>
18	Prado Rd	S. Higuera St	Froom Ranch Way	WB	C	31.5	40.3	78%	B	29.5	40.3	73%	B
	Prado Rd	Froom Ranch Way	S. Higuera St	EB	C	24.9	40.1	62%	C	24.2	40.1	60%	C
19	<b>Froom Ranch Way</b>	<b>Dick's Sporting Goods</b>	<b>Los Osos Valley</b>	<b>WB</b>	<b>C</b>	<b>22.6</b>	<b>37.7</b>	<b>60%</b>	<b>C</b>	<b>10.4</b>	<b>37.7</b>	<b>28%</b>	<b>F</b>
	Froom Ranch Way	Los Osos Valley	Dick's Sporting Good:	EB	C	35.4	38.0	93%	A	34.9	38.0	92%	A
20	<b>Dalidio Dr</b>	<b>Madonna Rd</b>	<b>Froom Ranch Way</b>	<b>SB</b>	<b>C</b>	<b>18.5</b>	<b>36.0</b>	<b>51%</b>	<b>C</b>	<b>17.9</b>	<b>36.0</b>	<b>50%</b>	<b>D</b>
	<b>Dalidio Dr</b>	<b>Froom Ranch Way</b>	<b>Madonna Rd</b>	<b>NB</b>	<b>C</b>	<b>0.7</b>	<b>37.9</b>	<b>2%</b>	<b>F</b>	<b>0.2</b>	<b>37.9</b>	<b>1%</b>	<b>F</b>
21	Froom Ranch Way	Dalidio	Dick's Sporting Good:	WB	C	39.4	40.8	97%	A	39.1	40.6	96%	A
	Froom Ranch Way	Dick's Sporting Goods	Dalidio	EB	C	28.1	40.7	69%	B	27.0	40.8	66%	C

**TABLE 101: YEAR 2035 PRADO ROAD OVERCROSSING CONDITIONS SEGMENT LEVEL OF SERVICE: PEDESTRIAN ANALYSIS**

PEDESTRIAN SEGMENT LOS						AM PEAK		PM PEAK		
ID	Roadway	From	To	Direction	LOS Threshold	Average Ped. Space (ft <sup>2</sup> /p)	SEGMENT SCORE	LOS	SEGMENT SCORE	LOS
1	Madonna Rd	Oceanaire Dr	LOVR	WB	C	6090	3.59	D	3.83	D
	Madonna Rd	LOVR	Oceanaire Dr	EB	C	17482	4.12	D	4.07	D
2	Madonna Rd	Dalidio	Oceanaire Dr	WB	C	84000	3.77	D	4.00	D
	Madonna Rd	Oceanaire Dr	Dalidio	EB	C	26250	4.04	D	4.19	D
3	Madonna Rd	El Mercado	Dalidio Dr	WB	C	37450	3.55	D	3.77	D
	Madonna Rd	Dalidio Dr	El Mercado	EB	C	52920	3.60	D	4.01	D
4	Madonna Rd	US 101 SB Ramps	El Mercado	WB	C	26250	3.64	D	3.69	D
	Madonna Rd	El Mercado	US 101 SB Ramps	EB	C	27915	3.64	D	3.78	D
5	Madonna Rd	US 101 NB Ramps	US 101 SB Ramps	WB	C	No Peds	3.68	D	3.71	F
	Madonna Rd	US 101 SB Ramps	US 101 NB Ramps	EB	C	No Peds	4.05	D	3.96	D
6	Madonna Rd	Higuera St	US 101 NB Ramps	WB	C	25200	3.76	D	3.94	D
	Madonna Rd	US 101 NB Ramps	Higuera St	EB	C	19838	3.95	D	3.74	D
7	S. Higuera St	Madonna Rd	Margarita Ave	SB	C	23247	3.99	D	3.94	D
	S. Higuera St	Margarita Ave	Madonna Rd	NB	C	5398	3.84	D	4.13	D
8	S. Higuera St	Margarita Ave	Prado Rd	SB	C	40979	3.78	D	3.82	D
	S. Higuera St	Prado Rd	Margarita Ave	NB	C	21700	3.66	D	3.90	D
9	S. Higuera St	Prado Rd	Granada Dr	SB	C	9292	3.68	D	3.83	D
	S. Higuera St	Granada Dr	Prado Rd	NB	C	8400	3.33	C	3.56	D
10	S. Higuera St	Granada Dr	Tank Farm Road	SB	C	46305	3.69	D	3.87	D
	S. Higuera St	Tank Farm Road	Granada Dr	NB	C	49140	3.22	C	3.40	C
11	S. Higuera St	Tank Farm Road	Suburban Drive	SB	C	12600	3.74	D	4.02	D
	S. Higuera St	Suburban Drive	Tank Farm Road	NB	C	31500	3.79	D	3.62	D
12	S. Higuera St	Suburban Drive	Los Osos Valley Road	SB	C	39312	3.69	D	3.99	D
	S. Higuera St	Los Osos Valley Road	Suburban Drive	NB	C	43533	4.18	D	3.91	D
13	Los Osos Valley	Madonna Rd	Froom Ranch Way	SB	C	21833	3.65	D	4.02	D
	Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	C	0	3.74	F	4.09	F
14	Los Osos Valley	Froom Ranch Way	Calle Joaquin	SB	C	27300	3.88	D	4.17	D
	Los Osos Valley	Calle Joaquin	Froom Ranch Way	NB	C	22050	3.66	D	4.08	D
15	Los Osos Valley	Calle Joaquin	US 101 SB Ramps	SB	C	No Peds	3.85	D	4.13	D
	Los Osos Valley	US 101 SB Ramps	Calle Joaquin	NB	C	63000	3.75	D	3.54	D
16	Los Osos Valley	US 101 SB Ramps	US 101 NB Ramps	SB	C	No Peds	3.96	D	4.02	D
	Los Osos Valley	US 101 NB Ramps	US 101 SB Ramps	NB	C	53928	3.83	D	4.13	D
17	Los Osos Valley	S. Higuera St	US 101 NB Ramps	WB	C	1680	4.03	D	4.77	E
	Los Osos Valley	US 101 NB Ramps	S. Higuera St	EB	C	39393	4.02	D	3.88	D
18	Prado Rd	S. Higuera St	Froom Ranch Way	WB	C	12505	3.65	D	3.73	D
	Prado Rd	Froom Ranch Way	S. Higuera St	EB	C	8274	4.06	D	3.69	D
19	Froom Ranch Way	Dick's Sporting Goods	Los Osos Valley	WB	C	No Peds	3.62	D	3.83	D
	Froom Ranch Way	Los Osos Valley	Dick's Sporting Good	EB	C	75600	1.87	A	1.97	A
20	Dalidio Dr	Madonna Rd	Froom Ranch Way	SB	C	63000	3.34	C	3.40	C
	Dalidio Dr	Froom Ranch Way	Madonna Rd	NB	C	63000	3.33	C	3.58	D
21	Froom Ranch Way	Dalidio	Dick's Sporting Good	WB	C	No Peds	1.73	A	1.73	A
	Froom Ranch Way	Dick's Sporting Goods	Dalidio	EB	C	No Peds	3.23	C	3.31	C

Notes:

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. HCM2010 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.

**TABLE 102: YEAR 2035 PRADO ROAD OVERCROSSING CONDITIONS SEGMENT LEVEL OF SERVICE: BICYCLE ANALYSIS**

BICYCLE SEGMENT LOS					AM PEAK		PM PEAK		
ID	Roadway	From	To	Direction	LOS Threshold	SEGMENT SCORE	LOS	SEGMENT SCORE	LOS
1	Madonna Rd	Oceanaire Dr	LOVR	WB	D	3.64	D	4.06	D
	Madonna Rd	LOVR	Oceanaire Dr	EB	D	3.81	D	3.78	D
2	Madonna Rd	Dalidio	Oceanaire Dr	WB	D	3.17	C	3.24	C
	Madonna Rd	Oceanaire Dr	Dalidio	EB	D	3.59	D	3.44	C
3	Madonna Rd	El Mercado	Dalidio Dr	WB	D	3.30	C	3.19	C
	Madonna Rd	Dalidio Dr	El Mercado	EB	D	3.35	C	3.40	C
4	<b>Madonna Rd</b>	<b>US 101 SB Ramps</b>	<b>El Mercado</b>	<b>WB</b>	<b>D</b>	3.95	D	<b>4.32</b>	<b>E</b>
	Madonna Rd	El Mercado	US 101 SB Ramps	EB	D	3.59	D	3.63	D
5	Madonna Rd	US 101 NB Ramps	US 101 SB Ramps	WB	D	3.31	C	3.32	C
	Madonna Rd	US 101 SB Ramps	US 101 NB Ramps	EB	D	3.38	C	3.33	C
6	Madonna Rd	Higuera St	US 101 NB Ramps	WB	D	3.53	D	3.58	D
	Madonna Rd	US 101 NB Ramps	Higuera St	EB	D	3.91	D	3.54	D
7	S. Higuera St	Madonna Rd	Margarita Ave	SB	D	3.94	D	3.91	D
	<b>S. Higuera St</b>	<b>Margarita Ave</b>	<b>Madonna Rd</b>	<b>NB</b>	<b>D</b>	4.14	D	<b>4.27</b>	<b>E</b>
8	S. Higuera St	Margarita Ave	Prado Rd	SB	D	3.69	D	3.68	D
	S. Higuera St	Prado Rd	Margarita Ave	NB	D	3.96	D	4.03	D
9	S. Higuera St	Prado Rd	Granada Dr	SB	D	3.88	D	3.93	D
	S. Higuera St	Granada Dr	Prado Rd	NB	D	3.46	C	3.53	D
10	S. Higuera St	Granada Dr	Tank Farm Road	SB	D	4.16	D	4.21	D
	S. Higuera St	Tank Farm Road	Granada Dr	NB	D	3.51	D	3.56	D
11	S. Higuera St	Tank Farm Road	Suburban Drive	SB	D	3.37	C	3.48	C
	S. Higuera St	Suburban Drive	Tank Farm Road	NB	D	3.50	C	3.45	C
12	S. Higuera St	Suburban Drive	Los Osos Valley Road	SB	D	3.30	C	3.87	D
	S. Higuera St	Los Osos Valley Road	Suburban Drive	NB	D	4.00	D	3.90	D
13	Los Osos Valley	Madonna Rd	Froom Ranch Way	SB	D	3.86	D	3.75	D
	Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	D	3.39	C	3.47	C
14	Los Osos Valley	Froom Ranch Way	Calle Joaquin	SB	D	3.57	D	3.61	D
	<b>Los Osos Valley</b>	<b>Calle Joaquin</b>	<b>Froom Ranch Way</b>	<b>NB</b>	<b>D</b>	<b>4.36</b>	<b>E</b>	3.90	D
15	Los Osos Valley	Calle Joaquin	US 101 SB Ramps	SB	D	3.30	C	3.39	C
	Los Osos Valley	US 101 SB Ramps	Calle Joaquin	NB	D	3.56	D	3.52	D
16	Los Osos Valley	US 101 SB Ramps	US 101 NB Ramps	SB	D	3.73	D	3.74	D
	Los Osos Valley	US 101 NB Ramps	US 101 SB Ramps	NB	D	3.70	D	3.87	D
17	Los Osos Valley	S. Higuera St	US 101 NB Ramps	WB	D	3.46	C	3.47	C
	Los Osos Valley	US 101 NB Ramps	S. Higuera St	EB	D	3.33	C	3.39	C
18	Prado Rd	S. Higuera St	Froom Ranch Way	WB	D	3.74	D	3.79	D
	Prado Rd	Froom Ranch Way	S. Higuera St	EB	D	3.72	D	3.65	D
19	Froom Ranch Way	Dick's Sporting Goods	Los Osos Valley	WB	D	3.40	C	3.70	D
	Froom Ranch Way	Los Osos Valley	Dick's Sporting Goods	EB	D	3.49	C	3.56	D
20	Dalidio Dr	Madonna Rd	Froom Ranch Way	SB	D	3.65	D	3.65	D
	Dalidio Dr	Froom Ranch Way	Madonna Rd	NB	D	3.74	D	3.96	D
21	Froom Ranch Way	Dalidio	Dick's Sporting Goods	WB	D	2.62	B	3.02	C
	Froom Ranch Way	Dick's Sporting Goods	Dalidio	EB	D	3.74	D	3.78	D

Notes:

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 incorporated into the methodology for evaluating bicycle segment performance.

**TABLE 103: YEAR 2035 PRADO ROAD OVERCROSSING CONDITIONS SEGMENT LEVEL OF SERVICE: TRANSIT ANALYSIS**

TRANSIT 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	4.16	D	4.26	E
	Madonna Rd	LOVR	Oceanaire Dr	EB	D	Route 5	4.46	E	4.00	D
2	Madonna Rd	Dalidio	Oceanaire Dr	WB	D	Route 4	4.49	E	4.58	E
	Madonna Rd	Oceanaire Dr	Dalidio	EB	D	Route 5	4.72	E	4.42	E
3	Madonna Rd	El Mercado	Dalidio Dr	WB	D	Route 4	4.32	E	4.40	E
	Madonna Rd	Dalidio Dr	El Mercado	EB	D	Route 5	4.19	D	4.22	D
4	Madonna Rd	US 101 SB Ramps	El Mercado	WB	D	Route 4	4.33	E	4.50	E
	Madonna Rd	El Mercado	US 101 SB Ramps	EB	D	Route 5	4.56	E	4.34	E
5	Madonna Rd	US 101 NB Ramps	US 101 SB Ramps	WB	D	Route 4	4.13	D	4.25	D
	Madonna Rd	US 101 SB Ramps	US 101 NB Ramps	EB	D	Route 5	4.23	D	3.80	D
6	Madonna Rd	Higuera St	US 101 NB Ramps	WB	D	Route 4	4.32	E	4.42	E
	Madonna Rd	US 101 NB Ramps	Higuera St	EB	D	Route 5	4.54	E	4.13	D
7	S. Higuera St	Madonna Rd	Margarita Ave	SB	D	Route 2	Not Analyzed	N/A	3.53	D
	S. Higuera St	Margarita Ave	Madonna Rd	NB	D	Route 2	3.69	D	3.84	D
8	S. Higuera St	Margarita Ave	Prado Rd	SB	D	Route 2	Not Analyzed	N/A	4.22	D
	S. Higuera St	Prado Rd	Margarita Ave	NB	D	Route 2	4.29	E	4.54	E
9	S. Higuera St	Prado Rd	Granada Dr	SB	D	Route 2	4.42	E	4.34	E
	S. Higuera St	Granada Dr	Prado Rd	NB	D	Route 2	3.84	D	4.02	D
10	S. Higuera St	Granada Dr	Tank Farm Road	SB	D	Route 2	3.82	D	3.95	D
	S. Higuera St	Tank Farm Road	Granada Dr	NB	D	Route 2	3.54	D	3.65	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	4.06	D	4.02	D
12	S. Higuera St	Suburban Drive	Los Osos Valley	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	4.54	E	4.58	E
	Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	D	Route 4	4.25	D	4.40	E
13	Los Osos Valley	Madonna Rd	Froom Ranch Way	SB	D	Route 5	4.65	E	4.39	E
	Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	D	Route 5	4.36	E	4.18	D
14	Los Osos Valley	Froom Ranch Way	Calle Joaquin	SB	D	Route 4	4.33	E	4.54	E
	Los Osos Valley	Calle Joaquin	Froom Ranch Way	NB	D		Not Analyzed	N/A	Not Analyzed	N/A
14	Los Osos Valley	Madonna Rd	Froom Ranch Way	SB	D	Route 5	4.46	E	4.32	E
	Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	D		Not Analyzed	N/A	Not Analyzed	N/A
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
18	Prado Rd	S. Higuera St	Froom Ranch Way	WB	D		Not Analyzed	N/A	Not Analyzed	N/A
	Prado Rd	Froom Ranch Way	S. Higuera St	EB	D	Route 2	3.79	D	Not Analyzed	N/A
19	Froom Ranch Way	Dick's Sporting	Los Osos Valley	WB	D		Not Analyzed	N/A	Not Analyzed	N/A
	Froom Ranch Way	Los Osos Valley	Dick's Sporting	EB	D		Not Analyzed	N/A	Not Analyzed	N/A
20	Dalidio Dr	Madonna Rd	Froom Ranch Way	SB	D	Route 4	4.19	D	4.22	D
	Dalidio Dr	Madonna Rd	Froom Ranch Way	SB	D	Route 5	4.26	E	4.06	D
21	Froom Ranch Way	Dalidio	Dick's Sporting	WB	D		Not Analyzed	N/A	Not Analyzed	N/A
	Froom Ranch Way	Dalidio	Dick's Sporting	WB	D		Not Analyzed	N/A	Not Analyzed	N/A

Note: Route 2 Serves the Prado Day Center stop during the AM peak hour, and the DMV/Margarita stop during the PM Peak Hour  
 Segment 20 transit is southbound for routes 4 and 5

**TABLE 104: YEAR 2035 PRADO ROAD OVERCROSSING CONDITIONS SEGMENT LEVEL OF SERVICE:  
FREEWAY ANALYSIS**

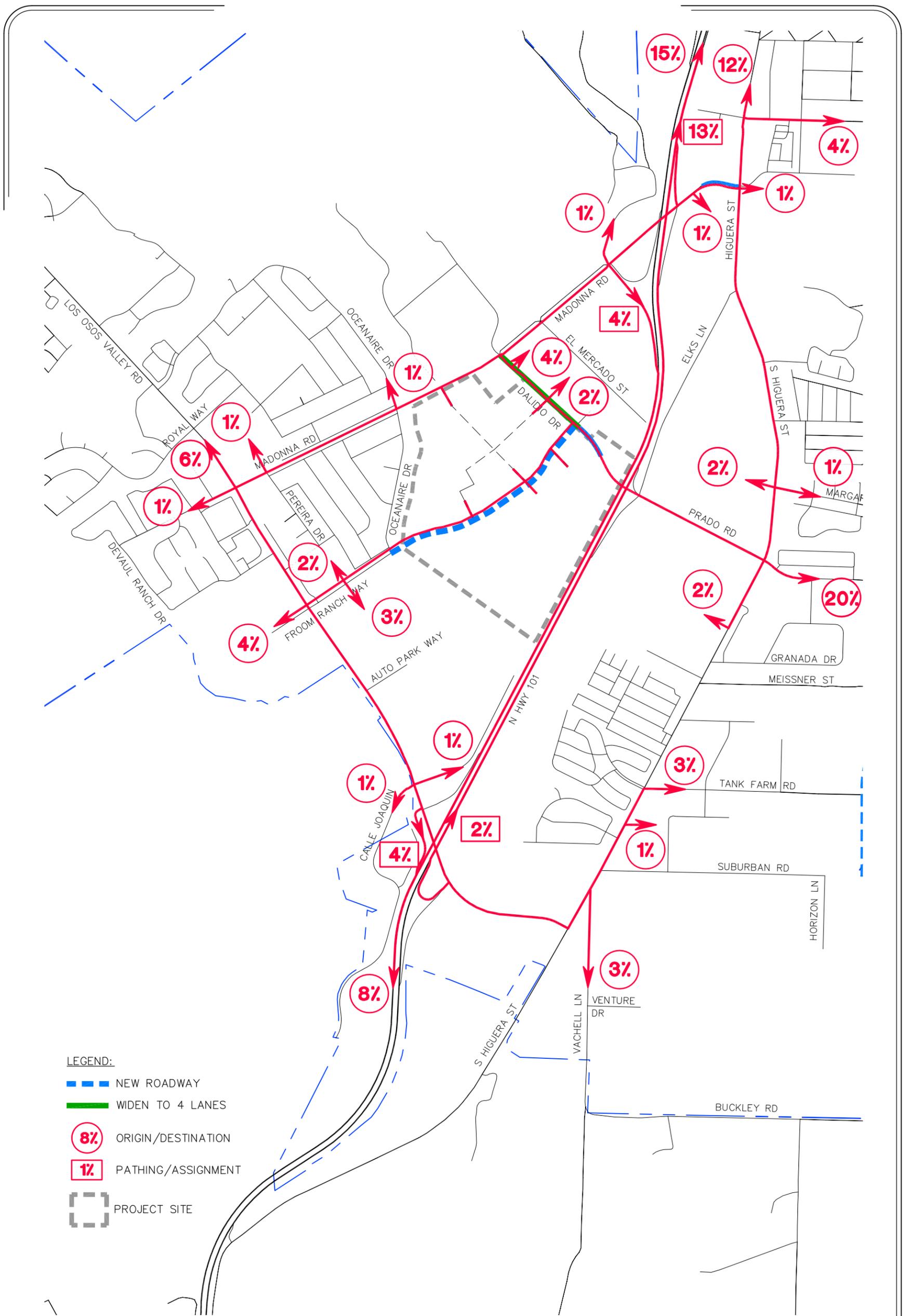
Interchange Location	Target LOS	Segment Type	No. of Lanes	AM Peak Hour			PM Peak Hour		
				Volume	Density (pc/mi/ln)	LOS	Volume	Density (pc/mi/ln)	LOS
<b>US 101 at Los Osos Valley Road</b>									
US 101 NB South of Los Osos Valley Road	C	Freeway	2	<b>3,454</b>	<b>32.6</b>	<b>D</b>	2,688	23.7	C
US 101 SB South of Los Osos Valley Road	C	Freeway	2	1,809	15.9	B	<b>3,875</b>	<b>39.7</b>	<b>E</b>
<b>US 101 at Madonna Road</b>									
US 101 NB South of Madonna Road	C	Freeway	2	2,831	25.1	C	2,664	23.5	C
US 101 SB South of Madonna Road	C	Freeway	2	2,072	18.2	C	<b>3,584</b>	<b>34.6</b>	<b>D</b>

As shown in the Year 2035 Prado Road Overcrossing Conditions segment analysis tables, most of the segments are currently operating at deficient LOS for pedestrian and transit modes, as well as several segments for automobile mode and only a couple segments for the bicycle mode. The segment of US 101 south of Los Osos Valley Road is operating at deficient LOS D during the PM peak hour for Year 2035 Prado Road Overcrossing conditions.

## Year 2035 Prado Road Overcrossing Plus Project Conditions

The project generated peak hour volume has been added to the derived 2035 Prado Road Overcrossing volumes to obtain the Year 2035 Prado Road Overcrossing Plus Project conditions. The LOS has been quantified and compared to all study intersections and roadways analyzed in Prado Road Overcrossing (No Project) conditions. All proposed driveway intersections have been evaluated for LOS operations, potential vehicle queuing and pedestrian and bicycle level of service.

Figures 21A and 21B present the project trip distribution for the 2035 Prado Road Overcrossing scenario. Figure 22 presents the 2035 Full Build Prado Interchange Plus Project lane geometrics and control assuming the proposed project is in place. Figure 23 presents the 2035 Full Build Prado Interchange Plus Project peak hour traffic volumes with the proposed project in place.



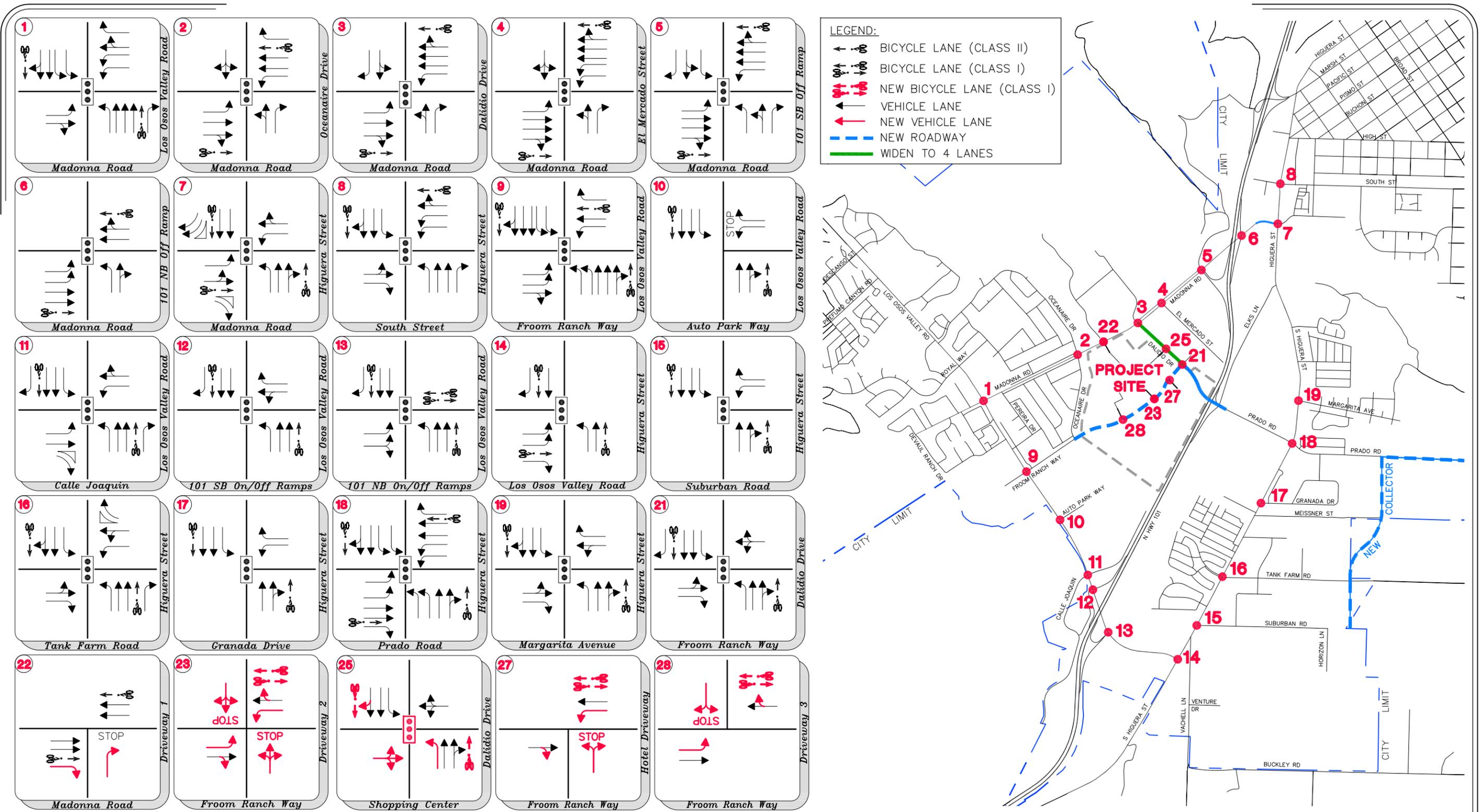
San Luis Ranch Specific Plan Multimodal TIS

Figure 21A

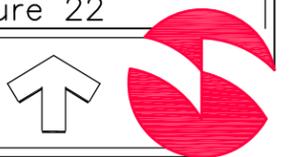
2035 Prado Overcrossing Plus Project Trip Distribution (Outbound)

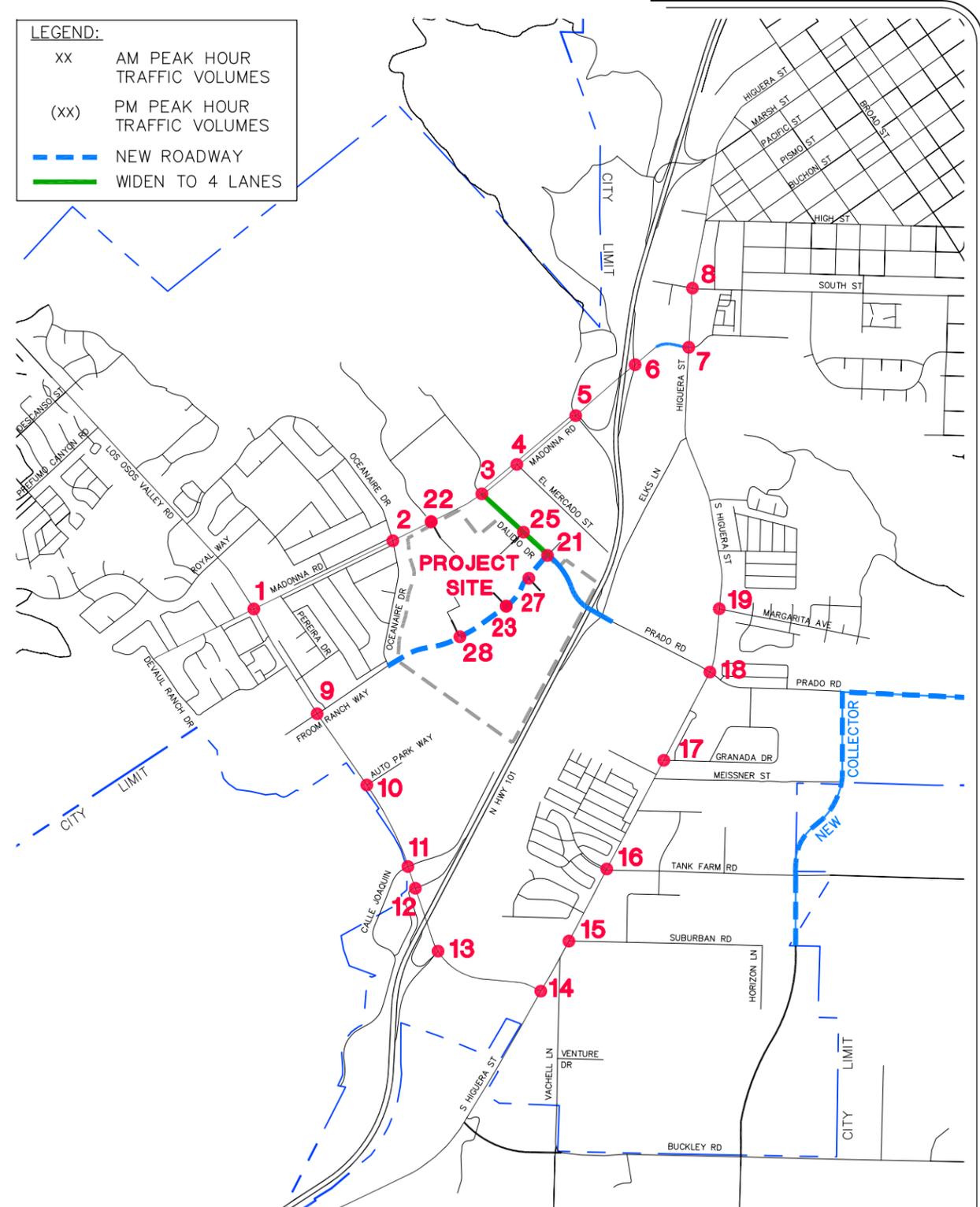
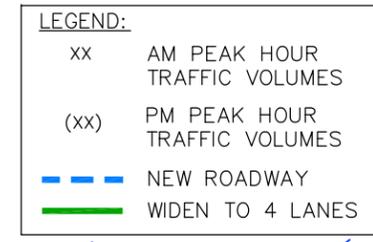
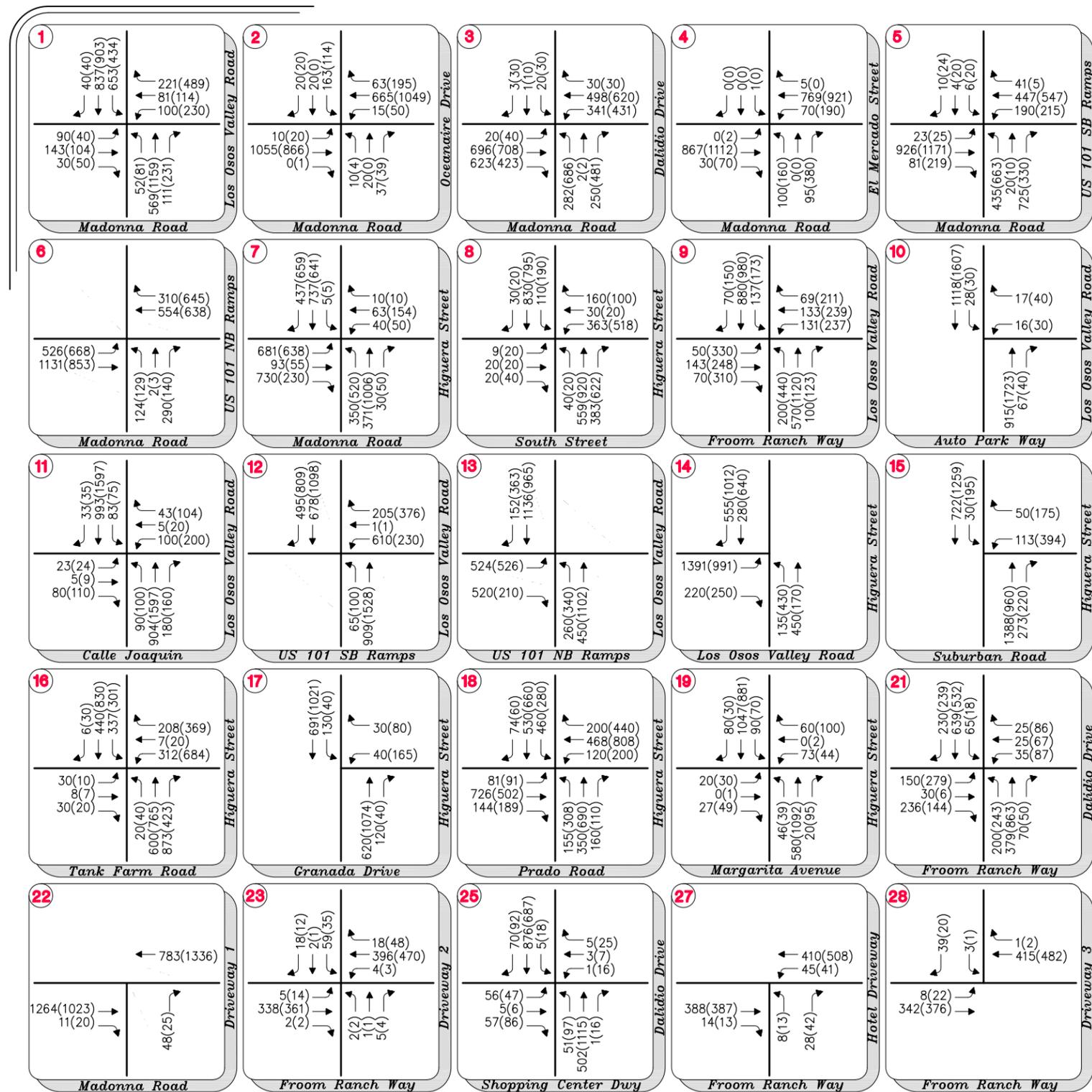






Year 2035 Overcrossing Plus Project Lane Geometrics and Control

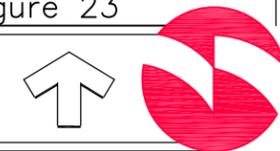




San Luis Ranch Specific Plan Multimodal TIS

Figure 23

# Year 2035 Overcrossing Plus Project Peak Hour Traffic Volumes



# Year 2035 Prado Road Overcrossing Plus Project Conditions Analysis

The Year 2035 Prado Road Overcrossing Plus Project conditions multimodal analysis for the study intersections and segments are presented below.

## Year 2035 Prado Road Overcrossing Plus Project Conditions Intersection Analysis

Table 105 provides a summary of the Year 2035 Prado Road Overcrossing Plus Project conditions vehicular AM and PM peak hour intersection delay and LOS. Table 106 provides a summary of the Year 2035 Prado Road Overcrossing Plus Project pedestrian AM and PM peak hour conditions at the study intersections. Table 107 provides a summary of the Year 2035 Prado Road Overcrossing Plus Project bicycle AM and PM peak hour conditions at the study intersections. Table 108 provides a summary of the Prado Road Overcrossing Plus Project conditions queuing analysis.

**TABLE 105: YEAR 2035 PRADO ROAD OVERCROSSING PLUS PROJECT CONDITIONS INTERSECTION LOS: AUTOMOBILE ANALYSIS**

#	Intersection	Control Type <sup>1,2</sup>	Target LOS	AM Peak Hour			PM Peak Hour		
				v/c <sup>3</sup>	Delay	LOS	v/c <sup>3</sup>	Delay	LOS
1	Madonna Road/Los Osos Valley Road	Signal	D		37.3	D		45.1	D
2	Madonna Road/Oceanaire Drive	Signal	D		24.2	C		17.6	B
<b>3</b>	<b>Madonna Road/Dalidio Drive</b>	<b>Signal</b>	<b>D</b>	<b>4.04</b>	<b>258.4</b>	<b>F</b>	<b>8.66</b>	<b>806.7</b>	<b>F</b>
4	Madonna Road/EI Mercado	Signal	D		10.7	B		20.7	C
5	Madonna Road/US 101 SB Ramps/Madonna Inn	Signal	C		34.5	C		31.4	C
6	Madonna Road/US 101 NB Ramps	Signal	C		26.5	C		28.3	C
7	Madonna Road/Higuera Street	Signal	D		43.8	D		47.0	D
8	Higuera Street/South Street	Signal	D		20.8	C		28.6	C
<b>9</b>	<b>Los Osos Valley Road/Froom Ranch Way</b>	<b>Signal</b>	<b>D</b>		24.4	C	<b>1.11</b>	<b>63.8</b>	<b>E</b>
<b>10</b>	<b>Los Osos Valley Road/Auto Park Way</b>	<b>TWSC</b>	<b>D</b>		18.2	C	<b>0.44</b>	<b>49.1</b>	<b>E</b>
11	Los Osos Valley Road/Calle Joaquin	Signal	D		26.0	C		14.5	B
<b>12</b>	<b>Los Osos Valley Road/US 101 SB Ramps</b>	<b>Signal</b>	<b>C</b>	<b>1.26</b>	<b>41.8</b>	<b>D</b>		29.9	C
<b>13</b>	<b>Los Osos Valley Road/US 101 NB Ramps</b>	<b>Signal</b>	<b>C</b>	<b>1.17</b>	<b>57.6</b>	<b>E</b>		24.4	C
<b>14</b>	<b>S. Higuera Street/Los Osos Valley Road</b>	<b>Signal</b>	<b>D</b>		23.6	C	<b>1.10</b>	<b>79.9</b>	<b>E</b>
15	S. Higuera Street/Suburban Drive	Signal	D		7.5	A		16.7	B
<b>16</b>	<b>S. Higuera Street/Tank Farm Road</b>	<b>Signal</b>	<b>D</b>	<b>1.48</b>	<b>114.9</b>	<b>F</b>		26.2	C
17	S. Higuera Street/Granada Drive	Signal	D		8.3	A		10.9	B
18	S. Higuera Street/Prado Road	Signal	D		34.9	C		32.2	C
19	S. Higuera Street/Margarita Avenue	Signal	D		17.9	B		13.0	B
21	Froom Ranch Road/Dalidio Drive/Prado Road	Signal	D		20.5	C		32.0	C
22	Madonna Road/Project Driveway	TWSC	D		15.8	C		13.2	B
23	Froom Ranch Road/Project Driveway #2	TWSC	D		20.1	C		21.9	C
25	Dalidio Drive/SC Project Driveway	Signal	D		10.6	B		15.7	B
27	Froom Ranch Road/Hotel Project Driveway	TWSC	D		13.8	B		14.3	B
28	Froom Ranch Road/Project Driveway #3	TWSC	D		11.9	B		12.2	B

Notes:

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

**TABLE 106: YEAR 2035 PRADO ROAD OVERCROSSING PLUS PROJECT CONDITIONS INTERSECTION LOS: 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	2.12	B	2.12	B
		WB	C	3.05	C	3.27	C
		NB	C	3.11	C	3.35	C
		SB	C	3.30	C	3.34	C
2	Madonna Road/Oceanaire Drive	EB	C	2.89	C	2.98	C
		WB	C	3.31	C	3.40	C
		NB	C	2.03	B	2.02	B
		SB	C	1.86	A	1.87	A
3	Madonna Road/Dalidio Drive	EB	C	3.73	D	4.23	D
		WB	C	3.02	C	3.08	C
		NB	C	2.72	B	2.79	C
		SB	C	1.97	A	2.01	B
4	Madonna Road/El Mercado	EB	C	n/a	-	n/a	-
		WB	C	3.09	C	3.19	C
		NB	C	2.36	B	2.76	C
		SB	C	1.74	A	1.74	A
5	Madonna Road/US 101 SB Ramps/Madonna Inn	EB	C	3.02	C	3.15	C
		WB	C	n/a	-	n/a	-
		NB	C	2.83	C	2.74	B
		SB	C	2.17	B	2.20	B
6	Madonna Road/US 101 NB Ramps	EB	C	n/a	-	n/a	-
		WB	C	3.12	C	3.13	C
		NB	C	2.03	B	2.04	B
		SB	C	n/a	-	n/a	-
7	Madonna Road/Higuera Street	EB	C	2.96	C	3.10	C
		WB	C	2.05	B	2.07	B
		NB	C	3.05	C	3.10	C
		SB	C	n/a	-	n/a	-
8	Higuera Street/South Street	EB	C	2.02	B	2.05	B
		WB	C	2.77	C	2.84	C
		NB	C	n/a	-	n/a	-
		SB	C	2.64	B	2.74	B
9	Los Osos Valley Road/Froom Ranch Way	EB	C	2.45	B	2.66	B
		WB	C	2.51	B	2.70	B
		NB	C	n/a	-	n/a	-
		SB	C	3.10	C	3.33	C
10	Los Osos Valley Road/Auto Park Way	EB	C	-	-	-	-
		WB	C	-	-	-	-
		NB	C	n/a	-	n/a	-
		SB	C	-	-	-	-
11	Los Osos Valley Road/Calle Joaquin	EB	C	2.59	B	2.47	B
		WB	C	2.26	B	2.33	B
		NB	C	3.19	C	3.54	D
		SB	C	3.08	C	3.37	C
12	Los Osos Valley Road/US 101 SB Ramps	EB	C	2.03	B	2.46	B
		WB	C	2.21	B	2.14	B
		NB	C	n/a	-	n/a	-
		SB	C	n/a	-	n/a	-
13	Los Osos Valley Road/US 101 NB Ramps	EB	C	2.70	B	2.56	B
		NB	C	2.89	C	2.97	C
		SB	C	n/a	-	n/a	-
		EB	C	3.11	C	3.68	D
14	S. Higuera Street/Los Osos Valley Road	NB	C	2.51	B	2.73	B
		SB	C	n/a	-	n/a	-
		WB	C	2.18	B	2.60	B
		NB	C	3.32	C	3.84	D
15	S. Higuera Street/Suburban Drive	SB	C	3.00	C	3.09	C
		EB	C	2.02	B	2.02	B
		WB	C	2.96	C	3.24	C
		NB	C	3.62	D	3.36	C
16	S. Higuera Street/Tank Farm Road	SB	C	2.82	C	3.02	C
		WB	C	2.08	B	2.13	B
		NB	C	n/a	-	n/a	-
		SB	C	2.74	B	2.96	C
17	S. Higuera Street/Granada Drive	EB	C	2.98	C	3.02	C
		WB	C	3.04	C	3.20	C
		NB	C	2.93	C	3.34	C
		SB	C	2.92	C	3.18	C
18	S. Higuera Street/Prado Road	EB	C	2.27	B	2.11	B
		WB	C	2.22	B	2.28	B
		NB	C	2.97	C	3.08	C
		SB	C	2.92	C	3.06	C
19	S. Higuera Street/Margarita Avenue	EB	C	2.54	B	2.47	B
		WB	C	1.87	A	1.91	A
		NB	C	2.65	B	2.71	B
		SB	C	2.85	C	2.96	C
21	Froom Ranch Road/Dalidio Drive/Prado Road	EB	C	1.91	A	2.01	B
		WB	C	1.74	A	1.80	A
		NB	C	2.57	B	2.66	B
		SB	C	2.58	B	2.67	B
25	Dalidio Drive/SC Project Driveway	EB	C	1.91	A	2.01	B
		WB	C	1.74	A	1.80	A
		NB	C	2.57	B	2.66	B
		SB	C	2.58	B	2.67	B

Notes:

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.

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 107: YEAR 2035 PRADO ROAD OVERCROSSING TERM PLUS PROJECT CONDITIONS INTERSECTION LOS: BICYCLE ANALYSIS**

#	Intersection	Approach	Target LOS	AM Peak Hour		PM Peak Hour	
				Bicycle LOS		Bicycle LOS	
				Score	LOS	Score	LOS
1	Madonna Road/Los Osos Valley Road	EB	D	3.30	C	3.16	C
		WB	D	3.47	C	4.17	D
		NB	D	1.70	A	2.10	B
		SB	D	2.96	C	2.78	C
2	Madonna Road/Oceanaire Drive	EB	D	3.07	C	2.91	C
		WB	D	1.32	A	1.81	A
		NB	D	2.76	C	2.74	B
		SB	D	2.29	B	2.25	B
3	Madonna Road/Dalidio Drive	EB	D	2.39	B	2.13	B
		WB	D	1.66	A	1.73	A
		NB	D	2.82	C	3.81	D
		SB	D	1.79	A	1.86	A
4	Madonna Road/EI Mercado	EB	D	1.68	A	1.78	A
		WB	D	1.83	A	1.92	A
		NB	D	3.39	C	3.94	D
		SB	D	3.03	C	3.03	C
5	Madonna Road/US 101 SB Ramps/Madonna Inn	EB	D	1.90	A	2.08	B
		WB	D	1.69	A	1.71	A
		NB	D	n/a	-	n/a	-
		SB	D	2.91	C	2.99	C
6	Madonna Road/US 101 NB Ramps	EB	D	2.74	B	2.41	B
		WB	D	1.89	A	2.13	B
		NB	D	n/a	-	n/a	-
7	Madonna Road/Higuera Street	EB	D	3.95	D	2.83	C
		WB	D	2.61	B	2.78	C
		NB	D	2.05	B	2.76	C
		SB	D	2.52	B	2.59	B
8	Higuera Street/South Street	EB	D	2.71	B	2.77	C
		WB	D	2.54	B	2.72	B
		NB	D	3.08	C	3.62	D
		SB	D	1.96	A	2.02	B
9	Los Osos Valley Road/Froom Ranch Way	EB	D	3.56	D	<b>4.62</b>	<b>E</b>
		WB	D	2.28	B	3.18	C
		NB	D	1.83	A	2.28	B
		SB	D	1.84	A	1.94	A
10	Los Osos Valley Road/Auto Park Way	EB	D	-	-	-	-
		WB	D	n/a	-	n/a	-
		NB	D	-	-	-	-
		SB	D	-	-	-	-
11	Los Osos Valley Road/Calle Joaquin	EB	D	3.08	C	3.12	C
		WB	D	3.21	C	3.49	C
		NB	D	1.67	A	2.17	B
		SB	D	0.58	A	1.02	A
12	Los Osos Valley Road/US 101 SB Ramps	WB	D	n/a	-	n/a	-
		NB	D	2.89	C	3.37	C
		SB	D	1.75	A	2.29	B
13	Los Osos Valley Road/US 101 NB Ramps	EB	D	n/a	-	n/a	-
		NB	D	2.00	A	2.60	B
		SB	D	2.93	C	2.93	C
14	S. Higuera Street/Los Osos Valley Road	EB	D	2.45	B	2.12	B
		NB	D	2.32	B	2.33	B
		SB	D	2.73	B	4.14	D
15	S. Higuera Street/Suburban Drive	WB	D	0.95	A	1.64	A
		NB	D	2.68	B	2.22	B
		SB	D	1.91	A	2.50	B
16	S. Higuera Street/Tank Farm Road	EB	D	2.72	B	2.66	B
		WB	D	2.43	B	3.34	C
		NB	D	2.58	B	2.31	B
		SB	D	1.93	A	2.24	B
17	S. Higuera Street/Granada Drive	WB	D	2.63	B	2.93	C
		NB	D	1.84	A	2.17	B
		SB	D	2.05	B	2.27	B
18	S. Higuera Street/Prado Road	EB	D	1.54	A	1.38	A
		WB	D	2.63	B	2.51	B
		NB	D	1.82	A	2.20	B
		SB	D	2.18	B	2.11	B
19	S. Higuera Street/Margarita Avenue	EB	D	2.50	B	2.56	B
		WB	D	2.74	B	2.77	C
		NB	D	1.86	A	2.38	B
		SB	D	2.45	B	2.26	B
21	Froom Ranch Road/Dalidio Drive/Prado Road	EB	D	2.17	B	2.19	B
		WB	D	2.81	C	3.09	C
		NB	D	1.59	A	2.05	B
		SB	D	2.03	B	1.96	A
25	Dalidio Drive/SC Project Driveway	EB	D	2.70	B	2.73	B
		WB	D	2.50	B	2.56	B
		NB	D	2.43	B	3.03	C
		SB	D	2.78	C	2.64	B

Notes:  
 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 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 108: YEAR 2035 PRADO ROAD OVERCROSSING PLUS PROJECT CONDITIONS 95<sup>TH</sup> PERCENTILE QUEUING ANALYSIS**

Intersection		Movement	No. Lanes	Total Storage (ft) <sup>1</sup>	95 <sup>th</sup> Percentile Queue/Lane (ft)	
ID	Location				AM Peak Hour	PM Peak Hour
1	Madonna Road/Los Osos Valley Road	Northbound Right	1	175	102	<b>259</b>
		Southbound Left	2	350	<b>393</b>	267
2	Madonna Road/Oceanaire Drive	Westbound Right	1	100	72	<b>132</b>
3	Madonna Road/Dalidio Drive	Westbound Left	1	275	<b>703</b>	<b>335</b>
4	Madonna Road/El Mercado	Westbound Left	2	260	<b>317</b>	<b>538</b>
5	Madonna Road/US 101 SB Ramps/Madonna Inn	Eastbound Left	1	100	77	<b>112</b>
		Westbound Left	1	260	185	<b>548</b>
6	Madonna Road/US 101 NB Ramps	Northbound Left	1	185	<b>202</b>	<b>300</b>
7	Madonna Road/Higuera Street	Eastbound Right	1	150	<b>337</b>	<b>225</b>
		Northbound Left	1	160	<b>330</b>	<b>332</b>
		Southbound Left/Through	2	250	<b>328</b>	<b>992</b>
		Southbound Right	2	340	44	<b>635</b>
8	Higuera Street/South Street	Eastbound Right	1	60	43	<b>88</b>
		Westbound Left	2	240	179	<b>1024</b>
		Northbound Left	1	60	<b>89</b>	49
		Northbound Right	1	60	<b>112</b>	<b>168</b>
		Southbound Left	1	70	<b>119</b>	<b>126</b>
9	Los Osos Valley Road/Froom Ranch Way	Eastbound Left	2	250*	74	<b>650</b>
		Eastbound Through/Right	1	445	189	<b>617</b>
		Westbound Left	1	295	143	<b>354</b>
		Westbound Right	1	50	<b>80</b>	<b>100</b>
		Southbound Left	2	200	134	<b>296</b>
11	Los Osos Valley Road/Calle Joaquin	Northbound Right	1	105	<b>112</b>	64
		Southbound Right	2	80	<b>91</b>	<b>153</b>
12	Los Osos Valley Road/US 101 SB Ramps	Westbound Left/Through	1	180	<b>272</b>	<b>255</b>
		Southbound Through	1	240	<b>356</b>	<b>358</b>
		Southbound Right	1	125	<b>194</b>	<b>180</b>
13	Los Osos Valley Road/US 101 NB Ramps	Eastbound Left/Right	1	625	<b>1365</b>	454
		Southbound Through	1	865	<b>1069</b>	429
		Southbound Right	1	130	<b>271</b>	<b>231</b>
14	S. Higuera Street/Los Osos Valley Road	Eastbound Right	1	90	<b>207</b>	<b>202</b>
		Northbound Left	1	160	153	<b>222</b>
15	S. Higuera Street/Suburban Drive	Westbound Right	1	170	57	<b>288</b>
		Southbound Left	1	200	92	<b>328</b>
16	S. Higuera Street/Tank Farm Road	Northbound Right	1	100	<b>179</b>	<b>205</b>
		Southbound Left	1	165	<b>261</b>	<b>238</b>
17	S. Higuera Street/Granada Drive	Southbound Left	1	80	<b>99</b>	66
18	S. Higuera Street/Prado Road	Eastbound Right	1	140	<b>165</b>	92
		Westbound Left	1	105	<b>205</b>	<b>233</b>
		Westbound Right	1	100	<b>284</b>	<b>275</b>
		Northbound Left	1	100	<b>101</b>	<b>204</b>
		Southbound Left	1	60	<b>183</b>	<b>159</b>
19	S. Higuera Street/Margarita Avenue	Northbound Left	1	60	<b>84</b>	<b>73</b>
		Southbound Left	1	60	<b>122</b>	<b>95</b>

Notes 1. **Bolded entries indicate queues exceed available storage**

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

As shown in Table 105, the intersection of Madonna Road/Dalidio Drive, Los Osos Valley Road/Froom Ranch Way, Los Osos Valley Road/Auto Park Way, and S. Higuera Street/Tank Farm Road continue to operate at unacceptable conditions during the Prado Road Overcrossing Plus Project conditions. .

Pedestrian analysis shows acceptable conditions at the study intersections. Bicycle analysis shows deficiencies at Los Osos Valley Road/Froom Ranch Way. Queuing analysis results to be completed. Transportation improvements required to mitigate project-related impacts are detailed in a subsequent section of this report.

## **Year 2035 Prado Road Overcrossing Plus Project Conditions Segment Analysis**

Table 109 provides a summary of the Year 2035 Prado Road Overcrossing Plus Project vehicular AM and PM peak hour conditions for the study segments. Table 110 provides a summary of the Year 2035 Prado Road Overcrossing Plus Project pedestrian AM and PM peak hour conditions for the study segments. Table 111 provides a summary of the Year 2035 Prado Road Overcrossing Plus Project bicycle AM and PM peak hour conditions for the study segments. Table 112 provides a summary of the Year 2035 Prado Road Overcrossing Plus Project transit AM and PM peak hour conditions for the study segments. Table 113 provides a summary of the Year 2035 Full Build Prado Interchange Plus Project freeway segments analysis for AM and PM peak hour conditions for the study segments along US 101. Transportation improvements required to mitigate project-related impacts are detailed in a subsequent section of this report.

TABLE 109: YEAR 2035 PRADO ROAD OVERCROSSING PLUS PROJECT CONDITIONS SEGMENT LEVEL OF SERVICE: AUTOMOBILE ANALYSIS

AUTO SEGMENT LOS					AM PEAK				PM PEAK				
ID	Roadway	From	To	Direction	LOS Threshold	Travel Speed (mph)	Base Free-Flow Speed BFFS (mph)	Travel Speed/ BFFS (%)	LOS	Travel Speed (mph)	Base Free-Flow Speed BFFS	Travel Speed/ BFFS (%)	LOS
1	Madonna Rd	Oceanaire Dr	LOVR	WB	D	19.5	40.1	49%	D	14.2	40.1	35%	E
	Madonna Rd	LOVR	Oceanaire Dr	EB	D	24.2	40.0	60%	C	27.3	40.0	68%	B
2	Madonna Rd	Dalidio	Oceanaire Dr	WB	D	22.2	40.8	54%	C	23.5	40.7	58%	C
	Madonna Rd	Oceanaire Dr	Dalidio	EB	D	6.1	40.7	15%	F	15.9	40.8	39%	E
3	Madonna Rd	El Mercado	Dalidio Dr	WB	D	14.9	34.1	44%	D	15.0	34.8	43%	D
	Madonna Rd	Dalidio Dr	El Mercado	EB	D	27.4	38.2	72%	B	12.8	34.6	37%	E
4	Madonna Rd	US 101 SB Ramps	El Mercado	WB	D	30.6	37.9	81%	B	21.2	37.3	57%	C
	Madonna Rd	El Mercado	US 101 SB Ramps	EB	D	10.5	37.8	28%	F	16.5	37.7	44%	D
5	Madonna Rd	US 101 NB Ramps	US 101 SB Ramps	WB	D	26.0	37.8	69%	B	23.1	37.8	61%	C
	Madonna Rd	US 101 SB Ramps	US 101 NB Ramps	EB	D	32.4	37.8	86%	A	33.4	37.8	88%	A
6	Madonna Rd	Higuera St	US 101 NB Ramps	WB	D	9.4	37.2	25%	F	11.6	37.2	31%	E
	Madonna Rd	US 101 NB Ramps	Higuera St	EB	D	11.5	37.2	31%	E	9.1	37.2	25%	F
7	S. Higuera St	Madonna Rd	Margarita Ave	SB	D	29.6	44.5	66%	C	34.9	44.5	78%	B
	S. Higuera St	Margarita Ave	Madonna Rd	NB	D	35.4	44.8	79%	B	29.3	44.8	65%	C
8	S. Higuera St	Margarita Ave	Prado Rd	SB	D	13.3	38.9	34%	E	12.1	38.9	31%	E
	S. Higuera St	Prado Rd	Margarita Ave	NB	D	20.4	38.9	53%	C	18.7	38.9	48%	D
9	S. Higuera St	Prado Rd	Granada Dr	SB	D	33.3	41.8	80%	B	29.8	41.8	71%	B
	S. Higuera St	Granada Dr	Prado Rd	NB	D	16.2	41.9	39%	E	15.4	41.9	37%	E
10	S. Higuera St	Granada Dr	Tank Farm Road	SB	D	42.1	41.6	101%	A	23.5	42.6	55%	C
	S. Higuera St	Tank Farm Road	Granada Dr	NB	D	29.6	41.6	71%	B	25.6	42.6	60%	C
11	S. Higuera St	Tank Farm Road	Suburban Drive	SB	D	27.0	42.4	64%	C	23.0	41.2	56%	C
	S. Higuera St	Suburban Drive	Tank Farm Road	NB	D	18.5	42.5	43%	D	14.8	41.3	36%	E
12	S. Higuera St	Suburban Drive	Los Osos Valley Road	SB	D	20.3	42.1	48%	D	4.3	39.1	11%	F
	S. Higuera St	Los Osos Valley Road	Suburban Drive	NB	D	23.3	42.0	55%	C	19.6	39.0	50%	C
13	Los Osos Valley	Madonna Rd	Froom Ranch Way	SB	D	22.4	41.9	54%	C	12.7	41.8	30%	E
	Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	D	19.2	41.8	46%	D	15.7	41.8	38%	E
14	Los Osos Valley	Froom Ranch Way	Calle Joaquin	SB	D	22.0	43.0	51%	C	23.5	43.0	55%	C
	Los Osos Valley	Calle Joaquin	Froom Ranch Way	NB	D	28.2	43.2	65%	C	18.9	43.2	44%	D
15	Los Osos Valley	Calle Joaquin	US 101 SB Ramps	SB	D	6.4	32.1	20%	F	15.4	32.1	48%	D
	Los Osos Valley	US 101 SB Ramps	Calle Joaquin	NB	D	6.6	31.1	21%	F	14.6	31.1	47%	D
16	Los Osos Valley	US 101 SB Ramps	US 101 NB Ramps	SB	D	14.9	37.7	40%	E	15.7	37.7	42%	D
	Los Osos Valley	US 101 NB Ramps	US 101 SB Ramps	NB	D	29.8	37.4	80%	B	19.7	37.4	53%	C
17	Los Osos Valley	S. Higuera St	US 101 NB Ramps	WB	D	28.3	39.2	72%	B	25.7	39.2	66%	C
	Los Osos Valley	US 101 NB Ramps	S. Higuera St	EB	D	17.5	39.4	44%	D	10.7	39.4	27%	F
18	Prado Rd	S. Higuera St	Froom Ranch Way	WB	D	29.7	40.3	74%	B	23.9	40.3	59%	C
	Prado Rd	Froom Ranch Way	S. Higuera St	EB	D	24.7	40.1	62%	C	24.0	40.1	60%	C
19	Froom Ranch Way	Dick's Sporting Goods Dwy	Los Osos Valley	WB	D	22.6	37.7	60%	C	10.6	37.7	28%	F
	Froom Ranch Way	Los Osos Valley	Dick's Sporting Goods Dwy	EB	D	35.1	38.0	92%	A	34.7	38.0	91%	A
20	Dalidio Dr	Madonna Rd	SC Project Dwy	SB	D	21.8	36.0	61%	C	18.3	36.0	51%	C
	Dalidio Dr	SC Project Dwy	Madonna Rd	NB	D	0.7	38.0	2%	F	0.2	38.0	1%	F
21	#N/A	Dalidio	Dick's Sporting Goods Dwy	WB	D	39.2	40.8	96%	A	38.7	40.6	95%	A
	#N/A	Dick's Sporting Goods Dwy	Dalidio	EB	D	25.6	40.7	63%	C	24.8	40.8	61%	C
24	Dalidio Dr	SC Project Dwy	Froom Ranch Way	SB	D	15.5	36.4	43%	D	14.0	36.4	38%	E
	Dalidio Dr	Froom Ranch Way	SC Project Dwy	NB	D	25.7	37.9	68%	B	20.6	37.9	54%	C

**TABLE 110: YEAR 2035 PRADO ROAD OVERCROSSING PLUS PROJECT CONDITIONS SEGMENT LEVEL OF SERVICE: PEDESTRIAN ANALYSIS**

PEDESTRIAN SEGMENT LOS						AM PEAK		PM PEAK		
ID	Roadway	From	To	Direction	LOS Threshold	Average Ped. Space (ft <sup>2</sup> /p)	SEGMENT SCORE	LOS	SEGMENT SCORE	LOS
1	Madonna Rd	Oceanaire Dr	LOVR	WB	C	3045	3.58	D	3.81	D
	Madonna Rd	LOVR	Oceanaire Dr	EB	C	11655	4.11	D	4.06	D
2	Madonna Rd	Dalidio	Oceanaire Dr	WB	C	8400	3.76	D	4.01	D
	Madonna Rd	Oceanaire Dr	Dalidio	EB	C	3750	4.09	D	4.17	D
3	Madonna Rd	El Mercado	Dalidio Dr	WB	C	37450	3.52	D	3.80	D
	Madonna Rd	Dalidio Dr	El Mercado	EB	C	52920	3.64	D	3.88	D
4	Madonna Rd	US 101 SB Ramps	El Mercado	WB	C	26250	3.67	D	3.75	D
	Madonna Rd	El Mercado	US 101 SB Ramps	EB	C	27915	3.69	D	3.82	D
5	Madonna Rd	US 101 NB Ramps	US 101 SB Ramps	WB	C	No Peds	3.72	D	3.75	F
	Madonna Rd	US 101 SB Ramps	US 101 NB Ramps	EB	C	No Peds	4.10	D	4.02	D
6	Madonna Rd	Higuera St	US 101 NB Ramps	WB	C	25200	3.79	D	3.96	D
	Madonna Rd	US 101 NB Ramps	Higuera St	EB	C	19838	3.98	D	3.78	D
7	S. Higuera St	Madonna Rd	Margarita Ave	SB	C	23247	3.21	C	3.95	D
	S. Higuera St	Margarita Ave	Madonna Rd	NB	C	5398	3.84	D	4.13	D
8	S. Higuera St	Margarita Ave	Prado Rd	SB	C	10245	3.79	D	3.83	D
	S. Higuera St	Prado Rd	Margarita Ave	NB	C	21700	3.66	D	3.91	D
9	S. Higuera St	Prado Rd	Granada Dr	SB	C	9292	3.69	D	3.83	D
	S. Higuera St	Granada Dr	Prado Rd	NB	C	8400	3.30	C	3.56	D
10	S. Higuera St	Granada Dr	Tank Farm Road	SB	C	46305	3.69	D	3.88	D
	S. Higuera St	Tank Farm Road	Granada Dr	NB	C	49140	3.22	C	3.43	C
11	S. Higuera St	Tank Farm Road	Suburban Drive	SB	C	12600	3.73	D	4.02	D
	S. Higuera St	Suburban Drive	Tank Farm Road	NB	C	31500	3.79	D	3.60	D
12	S. Higuera St	Suburban Drive	Los Osos Valley Road	SB	C	6552	3.70	D	4.00	D
	S. Higuera St	Los Osos Valley Road	Suburban Drive	NB	C	43533	4.14	D	4.07	D
13	Los Osos Valley	Madonna Rd	Froom Ranch Way	SB	C	5458	3.90	D	4.02	D
	Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	C	0	3.71	F	4.10	F
14	Los Osos Valley	Froom Ranch Way	Calle Joaquin	SB	C	27300	3.89	D	4.19	D
	Los Osos Valley	Calle Joaquin	Froom Ranch Way	NB	C	3675	3.76	D	4.10	D
15	Los Osos Valley	Calle Joaquin	US 101 SB Ramps	SB	C	No Peds	3.75	D	4.15	D
	Los Osos Valley	US 101 SB Ramps	Calle Joaquin	NB	C	12600	3.77	D	4.15	D
16	Los Osos Valley	US 101 SB Ramps	US 101 NB Ramps	SB	C	No Peds	3.98	D	4.00	D
	Los Osos Valley	US 101 NB Ramps	US 101 SB Ramps	NB	C	10786	3.84	D	4.15	D
17	Los Osos Valley	S. Higuera St	US 101 NB Ramps	WB	C	335	4.04	D	4.79	E
	Los Osos Valley	US 101 NB Ramps	S. Higuera St	EB	C	39393	4.09	D	3.91	D
18	Prado Rd	S. Higuera St	Froom Ranch Way	WB	C	9450	3.56	D	3.77	D
	Prado Rd	Froom Ranch Way	S. Higuera St	EB	C	8400	3.85	D	3.75	D
19	Froom Ranch Way	Dick's Sporting Goods Dwy	Los Osos Valley	WB	C	6852	3.69	D	3.89	D
	Froom Ranch Way	Los Osos Valley	Dick's Sporting Goods D	EB	C	9450	1.91	A	2.01	B
20	Dalidio Dr	Madonna Rd	SC Project Dwy	SB	C	4500	3.42	C	3.39	C
	Dalidio Dr	SC Project Dwy	Madonna Rd	NB	C	15750	3.30	C	3.59	D
21	#N/A	<b>Dalidio</b>	<b>Dick's Sporting Goods</b>	<b>WB</b>	<b>C</b>	<b>0</b>	<b>1.76</b>	<b>F</b>	1.79	A
	#N/A	Dalidio	Dick's Sporting Goods Dwy	EB	C	No Peds	3.41	C	3.41	C
24	Dalidio Dr	SC Project Dwy	Froom Ranch Way	SB	C	4500	3.49	C	3.43	C
	<b>Dalidio Dr</b>	<b>Froom Ranch Way</b>	<b>SC Project Dwy</b>	<b>NB</b>	<b>C</b>	15750	3.27	C	<b>3.55</b>	<b>D</b>

Notes:

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.

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.

**TABLE 111: YEAR 2035 PRADO ROAD OVERCROSSING PLUS PROJECT CONDITIONS SEGMENT LEVEL OF SERVICE: BICYCLE ANALYSIS**

BICYCLE SEGMENT LOS					AM PEAK		PM PEAK		
ID	Roadway	From	To	Direction	LOS Threshold	SEGMENT SCORE	LOS	SEGMENT SCORE	LOS
1	Madonna Rd	Oceanaire Dr	LOVR	WB	D	3.65	D	4.06	D
	Madonna Rd	LOVR	Oceanaire Dr	EB	D	3.83	D	3.78	D
2	Madonna Rd	Dalidio	Oceanaire Dr	WB	D	3.17	C	3.24	C
	Madonna Rd	Oceanaire Dr	Dalidio	EB	D	3.60	D	3.44	C
3	Madonna Rd	El Mercado	Dalidio Dr	WB	D	3.31	C	3.20	C
	Madonna Rd	Dalidio Dr	El Mercado	EB	D	3.37	C	3.41	C
4	<b>Madonna Rd</b>	<b>US 101 SB Ramps</b>	<b>El Mercado</b>	<b>WB</b>	<b>D</b>	3.98	D	<b>4.33</b>	<b>E</b>
	Madonna Rd	El Mercado	US 101 SB Ramps	EB	D	3.60	D	3.64	D
5	Madonna Rd	US 101 NB Ramps	US 101 SB Ramps	WB	D	3.32	C	3.33	C
	Madonna Rd	US 101 SB Ramps	US 101 NB Ramps	EB	D	3.40	C	3.34	C
6	Madonna Rd	Higuera St	US 101 NB Ramps	WB	D	3.54	D	3.59	D
	Madonna Rd	US 101 NB Ramps	Higuera St	EB	D	3.96	D	3.54	D
7	S. Higuera St	Madonna Rd	Margarita Ave	SB	D	3.94	D	3.91	D
	<b>S. Higuera St</b>	<b>Margarita Ave</b>	<b>Madonna Rd</b>	<b>NB</b>	<b>D</b>	4.14	D	<b>4.27</b>	<b>E</b>
8	S. Higuera St	Margarita Ave	Prado Rd	SB	D	3.69	D	3.68	D
	S. Higuera St	Prado Rd	Margarita Ave	NB	D	3.96	D	4.03	D
9	S. Higuera St	Prado Rd	Granada Dr	SB	D	3.89	D	3.93	D
	S. Higuera St	Granada Dr	Prado Rd	NB	D	3.46	C	3.53	D
10	S. Higuera St	Granada Dr	Tank Farm Road	SB	D	4.16	D	4.21	D
	S. Higuera St	Tank Farm Road	Granada Dr	NB	D	3.51	D	3.57	D
11	S. Higuera St	Tank Farm Road	Suburban Drive	SB	D	3.37	C	3.48	C
	S. Higuera St	Suburban Drive	Tank Farm Road	NB	D	3.50	C	3.45	C
12	S. Higuera St	Suburban Drive	Los Osos Valley Road	SB	D	3.31	C	3.87	D
	S. Higuera St	Los Osos Valley Road	Suburban Drive	NB	D	3.99	D	3.90	D
13	Los Osos Valley	Madonna Rd	Froom Ranch Way	SB	D	3.73	D	3.75	D
	Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	D	3.38	C	3.47	C
14	Los Osos Valley	Froom Ranch Way	Calle Joaquin	SB	D	3.57	D	3.61	D
	Los Osos Valley	Calle Joaquin	Froom Ranch Way	NB	D	3.83	D	3.91	D
15	Los Osos Valley	Calle Joaquin	US 101 SB Ramps	SB	D	3.30	C	3.39	C
	Los Osos Valley	US 101 SB Ramps	Calle Joaquin	NB	D	3.56	D	3.64	D
16	Los Osos Valley	US 101 SB Ramps	US 101 NB Ramps	SB	D	3.74	D	3.74	D
	Los Osos Valley	US 101 NB Ramps	US 101 SB Ramps	NB	D	3.71	D	3.87	D
17	Los Osos Valley	S. Higuera St	US 101 NB Ramps	WB	D	3.46	C	3.48	C
	Los Osos Valley	US 101 NB Ramps	S. Higuera St	EB	D	3.39	C	3.39	C
18	Prado Rd	S. Higuera St	Froom Ranch Way	WB	D	3.72	D	3.80	D
	Prado Rd	Froom Ranch Way	S. Higuera St	EB	D	3.69	D	3.67	D
19	Froom Ranch Way	Dick's Sporting Goods	Los Osos Valley	WB	D	3.42	C	3.71	D
	Froom Ranch Way	Los Osos Valley	Dick's Sporting Goods	EB	D	3.51	D	3.57	D
20	Dalidio Dr	Madonna Rd	SC Project Dwy	SB	D	3.79	D	3.76	D
	Dalidio Dr	SC Project Dwy	Madonna Rd	NB	D	3.56	D	3.94	D
21	#N/A	Dalidio	Dick's Sporting Goods	WB	D	2.63	B	3.04	C
	#N/A	Dick's Sporting Goods	Dalidio	EB	D	3.80	D	3.81	D
24	Dalidio Dr	SC Project Dwy	Froom Ranch Way	SB	D	3.70	D	3.69	D
	Dalidio Dr	Froom Ranch Way	SC Project Dwy	NB	D	3.51	D	3.57	D

Notes:

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 incorporated into the methodology for evaluating bicycle segment performance.

**TABLE 112: YEAR 2035 PRADO ROAD OVERCROSSING PLUS PROJECT CONDITIONS SEGMENT LEVEL OF SERVICE: TRANSIT ANALYSIS**

TRANSIT 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	4.18	D	4.28	E
	Madonna Rd	LOVR	Oceanaire Dr	EB	D	Route 5	4.50	E	4.04	D
2	Madonna Rd	Dalidio	Oceanaire Dr	WB	D	Route 4	4.50	E	4.59	E
	Madonna Rd	Oceanaire Dr	Dalidio	EB	D	Route 5	4.72	E	4.43	E
3	Madonna Rd	El Mercado	Dalidio Dr	WB	D	Route 4	4.34	E	4.42	E
	Madonna Rd	Dalidio Dr	El Mercado	EB	D	Route 5	4.21	D	4.26	E
4	Madonna Rd	US 101 SB Ramps	El Mercado	WB	D	Route 4	4.35	E	4.52	E
	Madonna Rd	El Mercado	US 101 SB Ramps	EB	D	Route 5	4.56	E	4.34	E
5	Madonna Rd	US 101 NB Ramps	US 101 SB Ramps	WB	D	Route 4	4.15	D	4.28	E
	Madonna Rd	US 101 SB Ramps	US 101 NB Ramps	EB	D	Route 5	4.25	E	3.82	D
6	Madonna Rd	Higuera St	US 101 NB Ramps	WB	D	Route 4	4.33	E	4.44	E
	Madonna Rd	US 101 NB Ramps	Higuera St	EB	D	Route 5	4.55	E	4.14	D
7	S. Higuera St	Madonna Rd	Margarita Ave	SB	D	Route 2	Not Analyzed	N/A	3.53	D
	S. Higuera St	Margarita Ave	Madonna Rd	NB	D	Route 2	3.69	D	3.85	D
8	S. Higuera St	Margarita Ave	Prado Rd	SB	D	Route 2	Not Analyzed	N/A	4.22	D
	S. Higuera St	Prado Rd	Margarita Ave	NB	D	Route 2	4.30	E	4.55	E
9	S. Higuera St	Prado Rd	Granada Dr	SB	D	Route 2	4.42	E	4.40	E
	S. Higuera St	Granada Dr	Prado Rd	NB	D	Route 2	3.85	D	4.02	D
10	S. Higuera St	Granada Dr	Tank Farm Road	SB	D	Route 2	3.82	D	3.96	D
	S. Higuera St	Tank Farm Road	Granada Dr	NB	D	Route 2	3.54	D	3.67	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	4.06	D	4.02	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	4.54	E	4.58	E
	Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	D	Route 4	4.23	D	4.40	E
13	Los Osos Valley	Madonna Rd	Froom Ranch Way	SB	D	Route 5	4.63	E	4.39	E
	Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	D	Route 5	4.34	E	4.19	D
14	Los Osos Valley	Froom Ranch Way	Calle Joaquin	SB	D	Route 4	4.45	E	4.55	E
	Los Osos Valley	Calle Joaquin	Froom Ranch Way	NB	D	-	Not Analyzed	N/A	Not Analyzed	N/A
14	Los Osos Valley	Madonna Rd	Froom Ranch Way	SB	D	Route 5	4.55	E	4.34	E
	Los Osos Valley	Froom Ranch Way	Madonna Rd	NB	D	-	Not Analyzed	N/A	Not Analyzed	N/A
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
18	Prado Rd	S. Higuera St	Froom Ranch Way	WB	D		Not Analyzed	N/A	Not Analyzed	N/A
	Prado Rd	Froom Ranch Way	S. Higuera St	EB	D	Route 2	3.73	D	Not Analyzed	N/A
19	Froom Ranch Way	Dick's Sporting Goods Dwy	Los Osos Valley	WB	D		Not Analyzed	N/A	Not Analyzed	N/A
	Froom Ranch Way	Los Osos Valley	Dick's Sporting Goods	EB	D		Not Analyzed	N/A	Not Analyzed	N/A
20	Dalidio Dr	Madonna Rd	SC Project Dwy	SB	D	Route 4	4.22	D	4.25	D
	Dalidio Dr	Madonna Rd	SC Project Dwy	SB	D	Route 5	4.27	E	4.09	D
21	#N/A	Dalidio	Dick's Sporting Goods	WB	D	0.00	Not Analyzed	N/A	Not Analyzed	N/A
	#N/A	Dalidio	Dick's Sporting Goods	WB	D	0.00	Not Analyzed	N/A	Not Analyzed	N/A
24	Dalidio Dr	SC Project Dwy	Froom Ranch Way	SB	D	Route 4	4.25	E	4.22	D
	Dalidio Dr	SC Project Dwy	Froom Ranch Way	SB	D	Route 5	4.16	D	4.40	E

Note: Route 2 Serves the Prado Day Center stop during the AM peak hour, and the DMV/Margarita stop during the PM Peak Hour  
Segment 20 transit is southbound for routes 4 and 5

**TABLE 113: YEAR 2035 PRADO ROAD OVERCROSSING PLUS PROJECT 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
<b>US 101 at Los Osos Valley Road</b>									
US 101 NB South of Los Osos Valley Road	C	Freeway	2	<b>3,481</b>	<b>33.0</b>	<b>D</b>	2,723	24.0	C
US 101 SB South of Los Osos Valley Road	C	Freeway	2	1,835	16.1	B	<b>3,911</b>	<b>40.4</b>	<b>E</b>
<b>US 101 at Madonna Road</b>									
US 101 NB South of Madonna Road	C	Freeway	2	2,849	25.3	C	2,690	23.7	C
US 101 SB South of Madonna Road	C	Freeway	2	2,090	18.4	C	<b>3,608</b>	<b>35.0</b>	<b>D</b>

As shown in the Year 2035 Prado Road Overcrossing Plus Project Conditions segment analysis tables, most of the pedestrian and transit facilities are projected to operate at unacceptable levels of service as well as several segments for automobile mode and only one segment for the bicycle mode.

## Year 2035 Prado Road Overcrossing Plus Project Impacts & Mitigation Measures

This section presents the project-related impacts and mitigation measures at the study intersections and segments, developed based on the findings from the analyses presented in the prior sections of this report. Improvements are identified only where this is a significant project impact, based on the significance thresholds identified previously.

Table 114 presents the intersections projected to operate at unacceptable levels of service for vehicle, pedestrian, bicycle, and transit travel modes under 2035 Prado Road Overcrossing Plus Project conditions, and whether the project has a significant impact based on the thresholds listed above. Table 115 presents the US 101 Mainline project impacts for Year 2035 Prado Road Overcrossing Plus Project conditions. Tables 116A and 116B present the roadway segments projected to operate at unacceptable levels of service for vehicle, pedestrian, bicycle, and transit travel modes under 2035 Prado Road Overcrossing Plus Project AM and PM peak hour conditions, respectively, and whether the project has a significant impact based on the thresholds listed above. Table 117 presents the project impacts for the queuing analysis at the study intersections.

**TABLE 114: YEAR 2035 PRADO ROAD OVERCROSSING PLUS PROJECT SIGNIFICANT INTERSECTION IMPACTS**

Intersection #	3				9				10		11		12		13	
Name	Madonna Road/ Dalidio Drive				Los Osos Valley Road/ Froom Ranch Way				Los Osos Valley Road/ Auto Park Way		Los Osos Valley Road/ US 101 SB Ramps		Los Osos Valley Road/ US 101 SB Ramps		Los Osos Valley Road/ US 101 NB Ramps	
Mode	AUTO		PED		AUTO		BIKE		AUTO		PED		AUTO		AUTO	
SCENARIO	v/c	LOS	v/c	LOS	v/c	LOS	Score	LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS
<i>AM PEAK HOUR</i>			EB				EB				NB					
Year 2035 Overcrossing	3.76	F	3.59	D	-	C	3.54	D	-	C	3.18	C	1.22	D	-	C
Year 2035 OC Plus Project	4.04	F	3.73	D	-	C	3.56	D	-	C	3.19	C	1.26	D	1.17	E
Significant Impact?	Yes		No		No		No		No		No		Yes		Yes	
<i>PM PEAK HOUR</i>			EB				EB				NB					
Year 2035 Overcrossing	8.42	F	4.21	D	1.05	E	4.59	E	0.41	E	3.53	D	-	C	-	B
Year 2035 OC Plus Project	8.66	F	4.23	D	1.11	E	4.62	E	0.44	F	3.54	D	-	C	-	C
Significant Impact?	Yes		No		Yes		No		Yes		No		No		No	

Note: V/C Ratio is based on worst movement

**TABLE 114 (CONT'D.): YEAR 2035 PRADO ROAD OVERCROSSING PLUS PROJECT SIGNIFICANT INTERSECTION IMPACTS**

Intersection #	14				15		16			
Name	Los Osos Valley Road/ S. Higuera Street				S. Higuera Street/ Suburban Drive		S. Higuera Street/Tank Farm Road			
Mode	AUTO		PED		PED		AUTO		PED	
SCENARIO	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS	Score	LOS
<i>AM PEAK HOUR</i>			EB		NB				NB	
Year 2035 Overcrossing	-	C	3.14	C	3.34	C	1.45	F	3.62	D
Year 2035 OC Plus Project	-	C	3.15	C	3.35	C	1.48	F	3.62	D
Significant Impact?	No		No		No		Yes		No	
<i>PM PEAK HOUR</i>			EB		NB				NB	
Year 2035 Overcrossing	1.08	E	3.68	D	3.83	D	-	C	3.43	C
Year 2035 OC Plus Project	1.10	E	3.68	D	3.84	D	-	C	3.36	C
Significant Impact?	Yes		No		No		No		No	

Note: V/C Ratio is based on worst movement

**TABLE 115: YEAR 2035 PRADO ROAD OVERCROSSING PLUS PROJECT SIGNIFICANT US 101 MAINLINE IMPACTS**

Name	South of Los Osos Valley Road				South of Madonna Road			
	US 101 NB		US 101 SB		US 101 NB		US 101 SB	
SCENARIO	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
<i>AM PEAK HOUR</i>								
Year 2035 Overcrossing	32.6	D	-	-	25.1	C	-	-
Year 2035 Overcrossing Plus Project	33.0	D	-	-	25.3	C	-	-
Difference	0.4				0.2			
Percent Change	1.2%				0.8%			
Significant Impact?	No		n/a		No		n/a	
<i>PM PEAK HOUR</i>								
Year 2035 Overcrossing	-	-	39.7	E	-	-	34.6	D
Year 2035 Overcrossing Plus Project	-	-	40.4	E	-	-	35.0	D
Difference			0.7				0.4	
Percent Change			1.8%				1.2%	
Significant Impact?	n/a		No		n/a		No	

Note: conducted for deficient operations only

TABLE 116A: YEAR 2035 PRADO ROAD OVERCROSSING PLUS PROJECT SIGNIFICANT ROADWAY IMPACTS

2035 Overcrossing Multimodal Segment LOS					Auto Mode					Pedestrian Mode					Bicycle Mode					Transit Mode								
AM PEAK HOUR																												
ID	Roadway	From	To	Direction	Auto LOS Threshold	2035 OC		2035 OC + Project		Significant Impact?	Ped LOS Threshold	2035 OC		2035 OC + Project		Significant Impact?	Bike LOS Threshold	2035 OC		2035 OC + Project		Significant Impact?	Transit LOS Threshold	2035 OC		2035 OC+Project		Significant Impact?
						Travel Speed (mph)	LOS	Travel Speed (mph)	LOS			Segment Score	LOS	Segment Score	LOS			Segment Score	LOS	Segment Score	LOS			Segment Score	LOS	Segment Score	LOS	
2	Madonna Rd	Oceanaire Dr	Dalidio	EB	D	7.1	F	6.1	F	Yes	C	4.04	D	4.09	D	No	D	3.59	D	3.60	D	No	D	4.72	E	4.72	E	No
5	Madonna Rd	US 101 SB Ramps	US 101 NB Ramps	EB	D	32.6	A	32.4	A	No	C	4.05	D	4.10	D	No	D	3.38	C	3.40	C	No	D	4.23	D	4.25	E	Yes
15	Los Osos Valley	US 101 SB Ramps	Calle Joaquin	NB	D	16.1	C	6.6	F	Yes	C	3.75	D	3.77	D	No	D	3.56	D	3.56	D	No	D	Not Analyzed	N/A	Not Analyzed	N/A	
16	Los Osos Valley	US 101 SB Ramps	US 101 NB Ramps	SB	D	16.3	D	14.9	E	Yes	C	3.96	D	3.98	D	No	D	3.73	D	3.74	D	No	D	Not Analyzed	N/A	Not Analyzed	N/A	
24	Dalidio Dr	SC Project Dwy	Froom Ranch Way	SB	D	18.5	C	15.5	D	No	C	3.34	C	3.49	C	No	D	3.65	D	3.70	D	No	D	4.19	D	4.25	E	Yes

Note: Segments 20 and 24 transit is southbound for Routes 4 and 5; Segment 24 SB is compared to Segment 20 SB

2035 Overcrossing Multimodal Segment LOS					Auto Mode					Pedestrian Mode					Bicycle Mode					Transit Mode								
PM PEAK HOUR																												
ID	Roadway	From	To	Direction	Auto LOS Threshold	2035 OC		2035 OC + Project		Significant Impact?	Ped LOS Threshold	2035 OC		2035 OC + Project		Significant Impact?	Bike LOS Threshold	2035 OC		2035 OC + Project		Significant Impact?	Transit LOS Threshold	2035 OC		2035 OC+Project		Significant Impact?
						Travel Speed (mph)	LOS	Travel Speed (mph)	LOS			Segment Score	LOS	Segment Score	LOS			Segment Score	LOS	Segment Score	LOS			Segment Score	LOS	Segment Score	LOS	
2	Madonna Rd	Oceanaire Dr	Dalidio	EB	D	16.6	D	15.9	E	Yes	C	4.19	D	4.17	D	No	D	3.44	C	3.44	C	No	D	4.42	E	4.43	E	No
5	Madonna Rd	US 101 NB Ramps	US 101 SB Ramps	WB	D	23.6	C	23.1	C	No	C	3.71	F	3.75	F	No	D	3.32	C	3.33	C	No	D	4.25	D	4.28	E	Yes
6	Madonna Rd	Higuera St	US 101 NB Ramps	WB	D	13.0	E	11.6	E	Yes	C	3.94	D	3.96	D	No	D	3.58	D	3.59	D	No	D	4.42	E	4.44	E	No
6	Madonna Rd	US 101 NB Ramps	Higuera St	EB	D	10.2	F	9.1	F	Yes	C	3.74	D	3.78	D	No	D	3.54	D	3.54	D	No	D	4.13	D	4.14	D	No
24	Dalidio Dr	SC Project Dwy	Froom Ranch Way	SB	D	17.9	D	14.0	E	Yes	C	3.40	C	3.43	C	No	D	3.65	D	3.69	D	No	D	4.22	D	4.22	D	No

Note: Segments 20 and 24 transit is southbound for Routes 4 and 5; Segment 24 SB is compared to Segment 20 SB

**TABLE 117:  
YEAR 2035 PRADO ROAD OVERCROSSING PLUS PROJECT CONDITIONS 95<sup>TH</sup> PERCENTILE QUEUING  
ANALYSIS**

					2035		2035 PP Conditions	
Intersection		Movement	No. Lanes	Total Storage (ft) <sup>1</sup>	95 <sup>th</sup> Percentile Queue/Lane (ft)		95 <sup>th</sup> Percentile Queue/Lane (ft)	
ID	Location				AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
1	Madonna Road/Los Osos Valley Road	Northbound Right	1	175	100	<b>203</b>	87	<b>259</b>
		Southbound Left	2	350	<b>355</b>	262	<b>370</b>	267
2	Madonna Road/Oceanaire Drive	Westbound Right	1	100	58	<b>116</b>	98	<b>132</b>
3	Madonna Road/Dalidio Drive	Westbound Left	1	275	254	<b>336</b>	<b>675</b>	<b>335</b>
4	Madonna Road/El Mercado	Westbound Left	2	260	66	<b>528</b>	<b>269</b>	<b>538</b>
5	Madonna Road/US 101 SB Ramps/Madonna Inn	Eastbound Left	1	100	82	100	96	<b>112</b>
		Westbound Left	1	260	201	<b>474</b>	195	<b>548</b>
6	Madonna Road/US 101 NB Ramps	Northbound Left	1	185	<b>194</b>	<b>195</b>	175	<b>300</b>
7	Madonna Road/Higuera Street	Eastbound Right	1	150	<b>328</b>	<b>199</b>	<b>330</b>	<b>225</b>
		Southbound Left/Through	2	380	316	<b>405</b>	313	<b>668</b>
		Southbound Right	2	340	63	317	69	<b>635</b>
8	Higuera Street/South Street	Eastbound Right	1	60	40	56	40	<b>88</b>
		Westbound Left	2	240	169	<b>501</b>	193	<b>1024</b>
		Northbound Right	1	60	<b>148</b>	<b>163</b>	<b>109</b>	<b>168</b>
		Southbound Left	1	70	<b>120</b>	<b>118</b>	<b>116</b>	<b>126</b>
9	Los Osos Valley Road/Froom Ranch Way	Eastbound Left	2*	250	73	<b>592</b>	74	<b>650</b>
		Eastbound Through/Right	1	445	151	<b>599</b>	180	<b>617</b>
		Westbound Left	1	295	122	272	152	<b>354</b>
		Westbound Right	1	50	<b>81</b>	<b>98</b>	<b>82</b>	<b>100</b>
		Southbound Left	2	200	111	<b>288</b>	125	<b>296</b>
11	Los Osos Valley Road/Calle Joaquin	Northbound Right	1	105	54	96	<b>109</b>	64
		Southbound Right	1	80	49	<b>139</b>	<b>94</b>	<b>153</b>
12	Los Osos Valley Road/US 101 SB Ramps	Westbound Left/Through	1	180	<b>272</b>	<b>250</b>	<b>281</b>	<b>255</b>
		Southbound Through	1	240	<b>300</b>	<b>334</b>	<b>323</b>	<b>358</b>
14	S. Higuera Street/Los Osos Valley Road	Eastbound Right	1	90	<b>206</b>	<b>200</b>	<b>206</b>	<b>202</b>
15	S. Higuera Street/Suburban Drive	Southbound Left	1	200	83	<b>321</b>	75	<b>328</b>
16	S. Higuera Street/Tank Farm Road	Northbound Right	1	100	<b>185</b>	<b>204</b>	<b>192</b>	<b>205</b>
		Southbound Left	1	165	<b>250</b>	<b>265</b>	<b>256</b>	<b>238</b>
18	S. Higuera Street/Prado Road	Eastbound Right	1	140	<b>143</b>	103	<b>148</b>	92
		Westbound Left	2	105	<b>117</b>	<b>200</b>	<b>206</b>	<b>233</b>
		Westbound Right	1	100	85	<b>182</b>	<b>256</b>	<b>275</b>
		Northbound Left	2	100	<b>133</b>	<b>185</b>	99	<b>204</b>

- Notes: 1. **Bolded entries indicate queues exceed available storage**  
2. Storage Length of " - " represents a lane which exceeds 900 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.

**Red Cells represent New Impacts from Project-added traffic**  
**Yellow Cells represent Existing queues exceeding storage that are increased by project-added traffic.**

# Year 2035 Prado Road Overcrossing Plus Project Mitigation Measures

The mitigation measures have been summarized in Table 118, identifying which mitigation measures are projected to reduce the project’s impact to less than significant for the corresponding intersection or segment, for each mode. Additionally, it is important to note that the optimization of throughput to mitigate segment impacts may create queuing impacts for opposing movements.

**TABLE 118: YEAR 2035 PRADO OVERCROSSING PLUS PROJECT MITIGATION MEASURES SUMMARY**

2035 OC Plus Project Significant Impact Location	Mode	Impact	Mitigation Measure
Intersection #1 Madonna Rd/Los Osos Valley Rd	Auto (Queue)	Addition of project traffic would: •Exacerbate the northbound right queue in the PM peak hour  •Exacerbate the southbound left queue in the AM peak hour	•Extension of the northbound right turn pocket to 295' would improve this condition to an acceptable level, and would require the relocation of the existing frontage road.  •Extension of the southbound left turn pocket to 395' would improve this condition to an acceptable level, but would result in driveway access implications. Optimization of throughput for northbound approach may create an increase in queuing impacts for this opposing movement.
Intersection #2 Madonna Rd/Oceanaire Dr	Auto (Queue)	Addition of project traffic would exacerbate the westbound right queue in the PM peak hour.	Extension of the westbound right queue pocket to 150' would improve this condition to an acceptable level, but may require expansion of bridge/ culvert.
Intersection #3 Madonna Rd/Dalidio Dr	Auto	This intersection is projected to operate at unacceptable LOS F in the AM and PM peak hours. The addition of Project traffic exacerbates this unacceptable condition by increasing delay and v/c ratio.	2025 Plus Project Mitigations are projected to mitigate the impact to acceptable conditions.
Intersection #3 Madonna Rd/Dalidio Dr	Auto (Queue)	Addition of project traffic would result in a new impact to the westbound left queue in the AM peak hour.	Extension of the westbound left queue pocket to 370' would improve this condition to an acceptable level, but may be infeasible due to existing raised median.

**TABLE 118: YEAR 2035 PRADO OVERCROSSING PLUS PROJECT MITIGATION MEASURES SUMMARY**

2035 OC Plus Project Significant Impact Location	Mode	Impact	Mitigation Measure
Intersection #4 Madonna Rd/El Mercado	Auto (Queue)	Addition of project traffic would result in a new impact to the westbound left queue in the AM peak hour, and exacerbate the queue in the PM peak hour.	Extension of the westbound left turn pocket is not desirable due to existing raised median and shopping center driveway. Addition of a second westbound left turn pocket at Intersection #3 Madonna Rd/Dalidio Dr would improve this condition to an acceptable level due to the spillback into this intersection.
Intersection #5 Madonna Rd/US 101 SB Ramps/Madonna Inn	Auto (Queue)	Addition of project traffic would: •Result in a new impact to the eastbound left queue in the PM peak hour.  •Exacerbate the westbound left queue in the PM peak hour.	•See Table 41.  •Optimize signal timings; and Extension of the westbound left turn pocket to 315' would improve this condition to an acceptable level. This pocket is back-to-back with another turn pocket that would be shortened to accommodate the extension. Alternatively, construction of the Prado Interchange will mitigate this impact along with signal timing optimization.
Intersection #6 Madonna Rd/US 101 NB Ramps	Auto (Queue)	Addition of project traffic would exacerbate the northbound left queue in the PM peak hour.	• Optimize timings to improve the operations at this intersection.
Intersection #7 Madonna Rd/S. Higuera St	Auto (Queue)	Addition of project traffic would: •Exacerbate the eastbound right queue in the AM and PM peak hours.  •Exacerbate the southbound left/through queue in the PM peak hour.  •Result in a new impact to the southbound right queue in the PM peak hour.	Relocation of this intersection is part of Circulation Element and will necessitate improvements based on engineering feasibility not included in this analysis.  •Geometric improvements are recommended to be constructed in coordination with the planned relocation of Madonna Road/S. Higuera Street to minimize potential impacts to adjacent property owners and impacts to the intersection operations.

**TABLE 118: YEAR 2035 PRADO OVERCROSSING PLUS PROJECT MITIGATION MEASURES SUMMARY**

2035 OC Plus Project Significant Impact Location	Mode	Impact	Mitigation Measure
<p>Intersection #8 Higuera St/South St</p>	<p>Auto (Queue)</p>	<p>Addition of project traffic would:</p> <ul style="list-style-type: none"> <li>•Result in a new impact to the eastbound right queue in the PM peak hour.</li> <li>•Exacerbate the westbound left queue in the AM and PM peak hours.</li> <li>•Exacerbate the northbound right queue in the PM peak hour</li> <li>•Exacerbate the southbound left queue in the PM peak hour.</li> </ul>	<ul style="list-style-type: none"> <li>•Extension of the eastbound right turn pocket to 100' would improve this condition to an acceptable level. Removal of on-street parking would be required with potential access implications.</li> <li>•Although westbound queues are projected to extend past Parker Street driveway, they can be accommodated within the lane.</li> <li>•Extension of the northbound right turn pocket to 185' would improve this condition to an acceptable level. Geometric improvements to the northbound approach are recommended to be constructed in coordination with the planned relocation of Madonna Road/S. Higuera Street to minimize potential impacts to adjacent property owners and impacts to the intersection operations.</li> <li>•Extension of the southbound left turn pocket to 140' would improve this condition to an acceptable level. Southbound left turn queues can be accommodated within the center turn lane without driveway access implications. Pocket striping could be extended but may affect driveway access.</li> </ul>
<p>Intersection #9 Los Osos Valley Road/Froom Ranch Way</p>	<p>Auto</p>	<p>This intersection is projected to operate at unacceptable LOS E in the PM peak hour. The addition of Project traffic exacerbates this unacceptable condition by increasing delay and v/c ratio.</p>	<p>2025 Plus Project Mitigations are projected to mitigate the impact to acceptable conditions.</p>

**TABLE 118: YEAR 2035 PRADO OVERCROSSING PLUS PROJECT MITIGATION MEASURES SUMMARY**

2035 OC Plus Project Significant Impact Location	Mode	Impact	Mitigation Measure
<p>Intersection #9 Los Osos Valley Road/Froom Ranch Way</p>	<p>Auto (Queue)</p>	<p>Addition of project traffic would:</p> <ul style="list-style-type: none"> <li>•Exacerbate the eastbound left queue in the PM peak hour</li> <li>•Exacerbate the eastbound through/right queue in the PM peak hour</li> <li>•Result in a new impact to the westbound left queue in the PM peak hour</li> <li>•Exacerbate the westbound right queue in the AM and PM peak hours</li> <li>•Exacerbate the southbound left queue in the PM peak hour</li> </ul>	<ul style="list-style-type: none"> <li>•2025 Plus Project Mitigations are projected to mitigate the impacts to acceptable conditions for the EB approach and the WBL queue. See Table 65.</li> <li>•Extension of the westbound right turn pocket to 315' would improve this condition to an acceptable level. Additional right-of-way from the adjacent vacant parcel may be required along with reconstruction of the frontage road. Implementing a right-turn overlap phase and prohibiting U-turns southbound would also likely reduce the storage capacity required.</li> <li>•Extension of the southbound left turn pocket to 375' would improve this condition to an acceptable level, but may be infeasible due to existing raised median and the back-to-back turn pocket.</li> </ul>
<p>Intersection #10 Los Osos Valley Road/Auto Park Way**</p>	<p>Auto</p>	<p>This intersection is projected to operate at unacceptable LOS E in the PM peak hour. The addition of Project traffic exacerbates this unacceptable condition by increasing delay, LOS to F, and v/c ratio.</p>	<p>Installation of a traffic signal is not currently warranted. Ultimately, signalization will be required to allow access to future adjacent development. Signalization will provide acceptable operations.</p>
<p>Intersection #11 Los Osos Valley Road/Calle Joaquin</p>	<p>Auto (Queue)</p>	<p>Addition of project traffic would:</p> <ul style="list-style-type: none"> <li>•Result in a new impact to the northbound right queue in the AM peak hour</li> <li>•Result in a new impact to the southbound right queue in the AM peak hour, and exacerbate the queue in the PM peak hour</li> </ul>	<ul style="list-style-type: none"> <li>•Extension of the northbound right turn pocket may not be feasible due to existing gas station driveway and intersection spacing.</li> <li>•Extension of the southbound right turn pocket to 175' would improve this condition to an acceptable level.</li> <li>•Alternatively, construction of the Prado Interchange mitigates these queuing impacts.</li> </ul>

**TABLE 118: YEAR 2035 PRADO OVERCROSSING PLUS PROJECT MITIGATION MEASURES SUMMARY**

2035 OC Plus Project Significant Impact Location	Mode	Impact	Mitigation Measure
Intersection #12 Los Osos Valley Road/US 101 SB Ramps	Auto	This intersection is projected to operate at unacceptable LOS D in the AM peak hour. The addition of Project traffic exacerbates this unacceptable condition by increasing delay and v/c ratio.	<ul style="list-style-type: none"> <li>• Optimize timings to improve the operations at this intersection.</li> <li>• Construction of the Prado Interchange (Full Access) will also mitigate this impact to acceptable operations.</li> </ul>
Intersection #12 Los Osos Valley Road/US 101 SB Ramps	Auto (Queue)	Addition of project traffic would: <ul style="list-style-type: none"> <li>•Exacerbate the westbound left/through queue in the AM and PM peak hours</li> <li>•Exacerbate the southbound through queue in the AM and PM peak hours</li> </ul>	<ul style="list-style-type: none"> <li>•Extension of the westbound left/through storage to 300' would improve this condition to an acceptable level. Construction of the Prado Interchange will reduce the queue and storage capacity requirements.</li> <li>•Extension of the southbound through storage is not feasible due to existing intersection spacing.</li> </ul>
Intersection #13 Los Osos Valley Road/US 101 NB Ramps**	Auto	The Project added traffic increases the delay at this intersection to be unacceptable LOS E during the AM peak hour.	<ul style="list-style-type: none"> <li>• Construction of the Prado Interchange (Full Access) will mitigate this impact to acceptable operations.</li> </ul>
Intersection #14 Los Osos Valley Road/S. Higuera St**	Auto	This intersection is projected to operate at unacceptable LOS E in the PM peak hour. The addition of Project traffic exacerbates this unacceptable condition by increasing delay and v/c ratio.	<ul style="list-style-type: none"> <li>• Construction of the Prado Interchange (Full Access) will mitigate this impact to acceptable operations.</li> </ul>
Intersection #14 Los Osos Valley Road/S. Higuera St**	Auto (Queue)	Addition of project traffic would exacerbate the eastbound right queue in the PM peak hour.	Extension of the eastbound right turn pocket to 230' would improve this condition to an acceptable level, but may require additional right-of-way. Alternatively, construction of the Prado Interchange is projected to mitigate this queue.
Intersection #15 Madonna Rd/S. Higuera St	Auto (Queue)	Addition of project traffic would exacerbate the southbound left queue in the PM peak hour.	Extension of the southbound left turn pocket may not be feasible due to back-to-back northbound left turn pocket at S. Higuera St/Las Praderas Dr.
Intersection #16 Higuera Rd/Tank Farm Rd	Auto	This intersection is projected to operate at unacceptable LOS F in the AM peak hour. The addition of Project traffic exacerbates this unacceptable condition by increasing delay and v/c ratio.	<ul style="list-style-type: none"> <li>• Construct a Northbound channelized right turn with yield control.</li> </ul>

**TABLE 118: YEAR 2035 PRADO OVERCROSSING PLUS PROJECT MITIGATION MEASURES SUMMARY**

2035 OC Plus Project Significant Impact Location	Mode	Impact	Mitigation Measure
<p>Intersection #16 Higuera Rd/Tank Farm Rd</p>	<p>Auto (Queue)</p>	<p>Addition of project traffic would:</p> <ul style="list-style-type: none"> <li>•Exacerbate the northbound right queue in the AM and PM peak hours</li> <li>•Exacerbate the southbound left queue in the AM peak hour</li> </ul>	<ul style="list-style-type: none"> <li>•Extension of the northbound right turn pocket to 230' would improve this condition to an acceptable level, but may require additional right-of-way.</li> <li>•Extension of the southbound left turn pocket to 270' would improve this condition to an acceptable level. Left turn queues can be accommodated within the center turn lane without driveway access implications. Pocket striping could be extended but may affect driveway access.</li> </ul>
<p>Intersection #18 S. Higuera St/Prado Rd</p>	<p>Auto (Queue)</p>	<p>Addition of project traffic would:</p> <ul style="list-style-type: none"> <li>•Exacerbate the eastbound right queue in the AM peak hour</li> <li>•Exacerbate the westbound left queue in the AM and PM peak hours</li> <li>•Result in a new impact to the westbound right queue in the AM peak hour, and exacerbate the queue in the PM peak hour</li> <li>•Exacerbate the northbound left queue in the PM peak hour</li> </ul>	<ul style="list-style-type: none"> <li>•Geometric improvements are recommended to be constructed in coordination with planned improvements to this intersection.</li> <li>•Extension of the eastbound right turn pocket to 150' would improve this condition to an acceptable level.</li> <li>•Extension of the westbound left turn pocket to 260' would improve this condition to an acceptable level.</li> <li>•Extension of the westbound right turn pocket to 310' would improve this condition to an acceptable level.</li> <li>•Extension of the northbound left turn pocket to 220' would improve this condition to an acceptable level. Left turn queues can be accommodated within the center turn lane without driveway access implications. Pocket striping could be extended but may affect driveway access.</li> </ul>

**TABLE 118: YEAR 2035 PRADO OVERCROSSING PLUS PROJECT MITIGATION MEASURES SUMMARY**

2035 OC Plus Project Significant Impact Location	Mode	Impact	Mitigation Measure
Segment #2: Madonna Rd EB - Oceanair Dr to Dalidio Dr	Auto	This segment is projected to operate at unacceptable LOS F in the AM peak hour. The addition of Project traffic exacerbates this unacceptable condition by decreasing the travel speed by 1 mph or more, as well as resulting in LOS F. The addition of Project traffic also decreases the LOS to unacceptable conditions in the PM peak hour.	2025 Plus Project Mitigations are projected to mitigate the impact to acceptable conditions.
Segment #5: Madonna Rd WB - US 101 NB Ramps to US 101 SB Ramps	Transit	The Project added traffic results in a decrease in the travel speed and results in unacceptable LOS E in the PM peak hours for Transit Route 4.	<ul style="list-style-type: none"> <li>• Decrease Transit Route 4 headway from 30 minutes to 25 minutes.</li> <li>• Construction of the Prado Interchange (Full Access) will also mitigate this impact to acceptable operations.</li> </ul>
Segment #5: Madonna Rd EB - US 101 SB Ramps to US 101 NB Ramps	Transit	The Project added traffic results in a decrease in the travel speed and results in unacceptable LOS E in the AM peak hours for Transit Route 5.	<ul style="list-style-type: none"> <li>• Decrease Transit Route 5 headway from 30 minutes to 25 minutes.</li> <li>• Construction of the Prado Interchange (Full Access) will also mitigate this impact to acceptable operations.</li> </ul>
Segment #6: Madonna Rd EB - US 101 NB Ramps to Higuera St	Auto	This segment is projected to operate at unacceptable LOS F in the PM peak hour. The addition of Project traffic exacerbates this unacceptable condition by decreasing the travel speed by 1 mph or more.	<ul style="list-style-type: none"> <li>• Construction of the Prado Interchange (Full Access) will also mitigate this impact to acceptable operations.</li> </ul>
Segment #6: Madonna Rd WB - Higuera St to US 101 NB Ramps	Auto	This segment is projected to operate at unacceptable LOS E in the PM peak hour. The addition of Project traffic exacerbates this unacceptable condition by decreasing the travel speed by 1 mph or more.	<ul style="list-style-type: none"> <li>• Optimize timings at the intersection of Madonna Road/US 101 NB Ramps to improve the operations of the WB throughput. However, optimization of throughput may create queuing impacts for opposing movements.</li> <li>• Construction of the Prado Interchange (Full Access) will also mitigate this impact to acceptable operations.</li> </ul>

**TABLE 118: YEAR 2035 PRADO OVERCROSSING PLUS PROJECT MITIGATION MEASURES SUMMARY**

2035 OC Plus Project Significant Impact Location	Mode	Impact	Mitigation Measure
Segment #15: Los Osos Valley Road NB - US 101 SB Ramps to Calle Joaquin Rd	Auto	The Project added traffic results in a decrease in the travel speed and results in unacceptable LOS F in the AM peak hour.	<ul style="list-style-type: none"> <li>• Optimize timings at the intersection of LOVR/Calle Joaquin to improve the operations of the NB throughput. However, optimization of throughput may create queuing impacts for opposing movements.</li> <li>• Construction of the Prado Interchange (Full Access) will also mitigate this impact to acceptable operations.</li> </ul>
Segment #16: Los Osos Valley Road SB - US 101 SB Ramps to US 101 NB Ramps	Auto	The Project added traffic results in a decrease in the travel speed and results in unacceptable LOS E in the AM peak hour.	<ul style="list-style-type: none"> <li>• Optimize timings at the intersection of LOVR/US 101 SB Ramps to improve the operations of the SB throughput. However, optimization of throughput may create queuing impacts for opposing movements.</li> <li>• Construction of the Prado Interchange (Full Access) will also mitigate this impact to acceptable operations.</li> </ul>
Segment #24: Dalidio Dr SB - SC Project Dwy to Froom Ranch Rd	Auto	The Project added traffic results in a decrease in the travel speed and results in unacceptable LOS E in the PM peak hour.	2025 Plus Project Mitigations to Intersection #21 (Dalidio Drive/Froom Ranch Way) are projected to mitigate the impact on this segment to acceptable conditions.
Segment #24: Dalidio Dr SB - SC Project Dwy to Froom Ranch Rd	Transit	The Project added traffic results in a decrease in the travel speed and results in unacceptable LOS E in the AM peak hours for Transit Route 4.	<ul style="list-style-type: none"> <li>• Decrease Transit Route 4 headway from 30 minutes to 25 minutes.</li> <li>• Construction of the Prado Interchange (Full Access) will also mitigate this impact to acceptable operations.</li> </ul>

\*\*Mitigated with FB Interchange

As shown in Table 118 above, some of the mitigations required are the same for Existing Plus Project and Near Term mitigations. Table 119 presents the mitigated intersection LOS operations assuming the above mitigation measures to be in place. Table 120 presents the mitigated roadway segment LOS operations assuming the proposed mitigation measures to be in place.

**TABLE 119:  
YEAR 2035 PRADO ROAD OVERCROSSING PLUS PROJECT – MITIGATED INTERSECTION LOS**

Intersection #	3				9				10		11		12		13	
Name	Madonna Road/ Dalidio Drive				Los Osos Valley Road/ Froom Ranch Way				Los Osos Valley Road/ Auto Park Way		Los Osos Valley Road/ US 101 SB Ramps		Los Osos Valley Road/ US 101 SB Ramps		Los Osos Valley Road/ US 101 NB Ramps	
Mode	AUTO		PED		AUTO		BIKE		AUTO**		PED		AUTO		AUTO**	
SCENARIO	v/c	LOS	v/c	LOS	v/c	LOS	Score	LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS
<b>AM PEAK HOUR</b>				EB			EB					NB				
Year 2035 Overcrossing	3.76	F	3.59	D	-	C	3.54	D	-	C	3.18	C	1.22	D	-	C
Year 2035 OC Plus Project	-	D	3.28	C	-	C	3.56	D	-	C	3.19	C	-	C	1.08	D
Significant Impact?	No		No		No		No		No		No		No		Yes	
<b>PM PEAK HOUR</b>				EB			EB					NB				
Year 2035 Overcrossing	8.42	F	4.21	D	1.05	E	4.59	E	0.41	E	3.53	D	-	C	-	B
Year 2035 OC Plus Project	-	C	3.38	C	-	D	4.62	E	0.44	E	3.34	C	-	C	-	C
Significant Impact?	No		No		No		No		Yes		No		No		No	

Note: V/C Ratio is based on worst movement

\*\*Fixed with Prado Full Build Interchange

**TABLE 119 (CONT'D.):  
YEAR 2035 PRADO ROAD OVERCROSSING PLUS PROJECT – MITIGATED INTERSECTION LOS**

Intersection #	14				15		16				21				25						
Name	Los Osos Valley Road/ S. Higuera Street				S. Higuera Street/ Suburban Drive		S. Higuera Street/Tank Farm Road				Dalidio Drive/ Froom Ranch Way				Dalidio Drive/ SC Project Driveway						
Mode	AUTO**		PED		PED		AUTO		PED		AUTO*		AUTO*		AUTO*		AUTO*				
SCENARIO	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS	Score	LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS			
<b>AM PEAK HOUR</b>				EB					NB					Signal		Roundabout			Signal		Roundabout
Year 2035 Overcrossing	-	C	3.10	C	3.31	C	1.45	F	3.62	D	-	-	-	-	-	-	-	-	-	-	-
Year 2035 OC Plus Project	-	C	3.11	C	3.32	C	-	D	3.59	D	-	C	-	B	-	B	-	B	-	A	
Significant Impact?	No		No		No		No		No		No		No		No		No		No		
<b>PM PEAK HOUR</b>				EB					NB					Signal		Roundabout			Signal		Roundabout
Year 2035 Overcrossing	1.08	E	3.68	D	3.83	D	-	C	3.43	C	-	-	-	-	-	-	-	-	-	-	
Year 2035 OC Plus Project	1.19	E	3.68	D	3.25	C	-	D	3.34	C	-	D	-	B	-	B	-	B	-	A	
Significant Impact?	Yes		No		No		No		No		No		No		No		No		No		

Note: V/C Ratio is based on worst movement

**TABLE 120:  
YEAR 2035 PRADO ROAD OVERCROSSING PLUS PROJECT – MITIGATED SEGMENT LOS**

2035 Overcrossing Multimodal Segment LOS					Auto Mode					Pedestrian Mode					Bicycle Mode					Transit Mode								
AM PEAK HOUR																												
ID	Roadway	From	To	Direction	Auto LOS Threshold	2035 OC		2035 OC + Project		Significant Impact?	Ped LOS Threshold	2035 OC		2035 OC + Project		Significant Impact?	Bike LOS Threshold	2035 OC		2035 OC + Project		Significant Impact?	Transit LOS Threshold	2035 OC		2035 OC+Project		Significant Impact?
						Travel Speed (mph)	LOS	Travel Speed (mph)	LOS			Segment Score	LOS	Segment Score	LOS			Segment Score	LOS	Segment Score	LOS			Segment Score	LOS	Segment Score	LOS	
2	Madonna Rd	Oceanaire Dr	Dalidio	EB	D	7.1	F	19.0	D	No	C	4.03	D	4.09	D	No	D	3.59	D	3.60	D	No	D	4.72	E	4.64	E	No
5	Madonna Rd	US 101 SB Ramps	US 101 NB Ramps	EB	D	32.6	A	32.4	A	No	C	4.05	D	4.10	D	No	D	3.38	C	3.40	C	No	D	4.23	D	4.20	D	No
15	Los Osos Valley	US 101 SB Ramps	Calle Joaquin	NB	D	16.1	C	16.1	C	No	C	3.75	D	3.77	D	No	D	3.56	D	3.56	D	No	D	Not Analyzed	N/A	Not Analyzed	N/A	No
16	Los Osos Valley	US 101 SB Ramps	US 101 NB Ramps	SB	D	16.3	D	15.2	D	No	C	3.96	D	3.96	D	No	D	3.73	D	3.74	D	No	D	Not Analyzed	N/A	Not Analyzed	N/A	No
24	Dalidio Drive	SC Project Dwy	Froom Ranch Way	SB	D	18.5	C	15.1	D	No	C	3.34	C	3.49	F	Yes	D	3.65	D	3.69	D	No	D	4.19	D	4.20	D	No

Note: Segments 20 and 24 transit is southbound for Routes 4 and 5; Segment 24 SB is compared to Segment 20 SB

2035 Overcrossing Multimodal Segment LOS					Auto Mode					Pedestrian Mode					Bicycle Mode					Transit Mode								
PM PEAK HOUR																												
ID	Roadway	From	To	Direction	Auto LOS Threshold	2035 OC		2035 OC + Project		Significant Impact?	Ped LOS Threshold	2035 OC		2035 OC + Project		Significant Impact?	Bike LOS Threshold	2035 OC		2035 OC + Project		Significant Impact?	Transit LOS Threshold	2035 OC		2035 OC+Project		Significant Impact?
						Travel Speed (mph)	LOS	Travel Speed (mph)	LOS			Segment Score	LOS	Segment Score	LOS			Segment Score	LOS	Segment Score	LOS			Segment Score	LOS	Segment Score	LOS	
2	Madonna Rd	Oceanaire Dr	Dalidio	EB	D	16.6	D	18.7	D	No	C	4.19	D	4.22	D	No	D	3.44	C	3.44	C	No	D	4.42	E	4.39	E	No
5	Madonna Rd	US 101 NB Ramps	US 101 SB Ramps	WB	D	23.6	C	23.1	C	No	C	3.71	F	3.75	F	No	D	3.32	C	3.33	C	No	D	4.25	D	4.23	D	No
6	Madonna Rd	Higuera St	US 101 NB Ramps	WB	D	13.0	E	15.1	D	No	C	3.94	D	3.97	D	No	D	3.58	D	3.59	D	No	D	4.42	E	4.44	E	No
6	Madonna Rd	US 101 NB Ramps	Higuera St	EB	D	10.2	F	12.5	E	No	C	3.74	D	3.76	D	No	D	3.54	D	3.54	D	No	D	4.13	D	4.14	D	No
24	Dalidio Drive	SC Project Dwy	Froom Ranch Way	SB	D	17.9	D	14.8	D	No	C	3.40	C	3.44	F	Yes	D	3.65	D	3.68	D	No	D	4.22	D	4.23	D	No

Note: Segments 20 and 24 transit is southbound for Routes 4 and 5; Segment 24 SB is compared to Segment 20 SB

## Vehicle Miles Traveled

As reported by the City of San Luis Obispo Travel Demand Model, the forecasted 2035 Daily Vehicle Miles Traveled (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 model's forecasts for the project are 60,000, 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 miles traveled per household. The proposed project VMT per household is lower than the City's average due to varied characteristics of the proposed land uses, including significant amounts of commercial/service uses. Additionally, the VMT per household for the project was estimate by converting the non-residential trips into equivalent dwelling units and adding them to the residential dwelling units. Table 121 presents these calculations.

**TABLE 121: PROJECT-GENERATED VEHICLE MILES TRAVELED**

<b>Description</b>	<b>Daily VMT</b>	<b>VMT per HH<sup>1</sup></b>
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 have been identified for all intersections, which are projected to operate at unacceptable LOS under no project conditions, and experience an increase in delay with the addition of project traffic. Below is a listing of 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<sub>B</sub> = 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<sub>E</sub> = 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. Table 123 presents these calculations.

**TABLE 123: CUMULATIVE (YEAR 2035) FULL BUILD FAIR SHARE CALCULATIONS**

Intersection / 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	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

## **TECHNICAL APPENDIX:**

- A. ACCESS MANAGEMENT MEMORANDUM
- B. MULTIMODAL SYNCHRO OUTPUTS
- C. SIMTRAFFIC QUEUING OUTPUTS
- D. MULTIMODAL SEGMENT WORKSHEETS
- E. HIGHWAY CAPACITY SOFTWARE (HCS) 2010 OUTPUTS
- F. SIGNAL WARRANTS
- G. SIDRA OUTPUTS
- H. PHASING ASSESSMENT