Appendix J

Traffic Study Technical Calculations

Santa Margarita Ranch
Transportation Impact Analysis

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EXECUTIVE SUMMARY

This report presents the results of the traffic impact analysis (TIA) for the proposed Santa Margarita Ranch project located southeast of the town of Santa Margarita in unincorporated San Luis Obispo County, California. The Agricultural Residential Cluster Subdivision (ARCS) includes 112 single-family homes on 3,778 acres. The Future Development Program (FDP) reflects buildout of Santa Margarita Ranch over a 20-year horizon and includes a variety of uses surrounding the Santa Margarita community.

The purpose of the analysis is to identify potential transportation impacts of the proposed development on the surrounding roadway system, and recommend appropriate improvements to mitigate impacts considered significant in comparison to County and Caltrans thresholds. The roadway system was evaluated under Existing, Existing Plus ARCS Conditions, Cumulative No Project, Cumulative Plus ARCS, and Cumulative Plus ARCS Plus FDP Conditions.

PROJECT TRIP ESTIMATES

The ARCS development (112 homes) is estimated to generate 1,154 daily trips, 88 AM peak-hour trips, and 119 PM peak-hour trips. The FDP development (431 homes, 36-hole golf course, 9 wineries, hotel, livestock sales, retreat center, and 3 churches) is estimated to generate 8,137 daily trips, 655 AM peak-hour trips (297 inbound and 358 outbound), and 818 PM peak-hour trips (446 inbound and 372 outbound).

INTERSECTION, ROADWAY AND FREEWAY SEGMENT MITIGATION MEASURES

The project sponsor will be required to contribute towards the following mitigation measures to mitigate project impacts:

Existing Plus ARCS Conditions

- Redesign the merge area for the US 101 Northbound Off-Ramp where it meets SR 58, This mitigation requires redesign of the park-n-ride facility and the frontage road located adjacent to the northbound off-ramp.
- Redesign of the El Camino Real/Estrada Avenue intersection to eliminate the crest,
- Implementation of one of the following alternatives (increase curb radius or realign SR 58) should be considered to improve operational issues for the 90-degree curve on SR 58 at J Street.
- Widening of both sides of SR 58 from El Camino Real to the project site to provide shoulders and/or bike lanes in accordance with County standards,
- Installation of in-pavement pedestrian lights on SR 58 at Encina Avenue,
- Installation of advanced warning beacons on Estrada Avenue on the approaches to H Street, and
- Redesign of the US 101 southbound off-ramp to accommodate a longer deceleration lane and preparation of Project Study Report to evaluate a larger loop radius and higher design speed. The preparation of the PSR shall include upgrading of the entire interchange to current design standards.

Cumulative Plus ARCS Conditions

In addition to the mitigation listed above, installation of a traffic signal along with rail pre-emption at the El Camino Real/Estrada Avenue intersection is required.

Cumulative Plus ARCS Plus FDP Conditions

The following mitigation measures, in addition to those recommended under Existing Plus ARCS and Cumulative Plus ARCS conditions, are required:

- Installation of a traffic signal at the El Camino Real/Wilhelmina Avenue intersection,
- Widening SR 58, between Wilhelmina Avenue and Encina Avenue to provide a three lane section (one lane in each direction with a center two-way left-turn lane or median island). This improvement is consistent with the *Santa Margarita Design Plan*.
- Development of a funding plan to implement improvements under Future Development Plan

TRANSIT, BICYCLE, AND PEDESTRIAN MITIGATION MEASURES

Transit

Under Existing Plus ARCS and Cumulative Plus ARCS Conditions, the project is expected to have a less than significant impact on transit service and no mitigation is required. Under Cumulative ARCS Plus FDP Conditions, the project applicant shall fund installation of new bus stops and to coordinate with San Luis Obispo Regional Transit Authority to adjust bus schedules to accommodate new demand.

Bicycle and Pedestrian

The previous recommendation to improve SR 58, from El Camjno Real to the site, will provide for shoulders and/or bike lanes. In-pavement pedestrian lights at SR 58/Encina Avenue were also recommended under Existing Plus ARCS Conditions. The *Santa Margarita Design Plan* recommended wider sidewalks, landscaped planters and a center median, street trees, pedestrian lights, textured pedestrian crossings, mid-block crosswalks, bulb-outs, and other streetscape improvements to enhance the pedestrian environment. The improvements listed above in conjunction with in-pavement lighting shall be implemented with under Cumulative Plus ARCS plus FDP Conditions.

SITE ACCESS AND ON-SITE CIRCULATION

Site Access

The ARCS site is adequately served by the two proposed driveways. The volume of turning vehicles at the driveways is not high enough to warrant turn pockets on West Pozo Road. The west driveway should be moved 590 feet east to increase sight distance at this driveway. The project driveways shall meet Caltrans Highway Design Manual standards for right-turn inbound and outbound movements.

Since site plans for FDP sites are not available at the time of this study, detailed site plans shall be submitted to County staff for review and comment when these plans are developed.

On-Site Circulation

All roadways are required to meet cross-section standards established by the County. Adequate shoulder width or parallel paths, in accordance with County standards, should be provided along all internal roadways to accommodate bicyclists and pedestrians separately from vehicular travel lanes. The FDP site driveways should intersect with the roadways at points that provide adequate sight distance for all movements, and all intersections should be spaced a minimum of 150 feet apart.

ARCS PROJECT ALTERNATIVES

The four project alternatives would have the same freeway, roadway, and intersection impacts as the proposed ARCS development because traffic will be added to the same locations in Santa Margarita that have existing operational issues or do not currently meet state or County design standards. Two alternatives would likely result in new impacts and mitigation measures in downtown Santa Margarita.

1. INTRODUCTION

This report presents the results of the traffic impact analysis (TIA) for the proposed Santa Margarita Ranch Agricultural Residential Cluster Subdivision (ARCS) located southeast of the community of Santa Margarita near the junction of U.S. Highway 101 and State Route (SR) 58 in an unincorporated area of San Luis Obispo County, California, and the contemplated Future Development Program (FDP), which encompasses the remainder of the Ranch property. The proposed Agricultural Residential Cluster Subdivision includes 112 single-family homes on 3,778 acres. The contemplated Future Development Program reflects Ranch buildout and includes a variety of uses throughout the balance of 14,000 acres surrounding the Santa Margarita community. Detailed development plans for contemplated Future Development Program land uses have not been prepared. Thus, implementation of the Future Development Program is assumed to occur under Cumulative Conditions.

The analysis was conducted to identify potential transportation impacts of the proposed development on the surrounding roadway system and to recommend appropriate improvements to mitigate any significant impacts. Figure 1 presents a map of the project location and the location of Phase 1 & 2 development. Figure 2 shows the proposed Phase 1 site plan. Figure 3 shows the general location of uses proposed for Phase 2 development.

Existing and future conditions were evaluated with level of service calculations for the key intersections and roadway segments near the Ranch property. Impacts were estimated following the guidelines of the County of San Luis Obispo and the California Department of Transportation (Caltrans).

The analysis evaluated the operations of the following key intersections and roadway segments:

<u>Study Intersections</u>

1. US 101 Northbound Ramps and State Route 58 (SR 58)
2. El Camino Real (SR 58) and Wilhelmina Avenue
3. El Camino Real (SR 58) and Encina Avenue
4. El Camino Real (SR 58) and Estrada Avenue
5. El Camino Real and Santa Margarita Road
6. Estrada Avenue (SR 58) and H Street
7. Calf Canyon Highway (SR 58) and West Pozo Road
8. West Pozo Road (SR 58) and West Driveway
9. West Pozo Road (SR 58) and East Driveway

<u>Study Roadway Segments</u>

1. El Camino Real (SR 58) between Wilhelmina Avenue and Maud Avenue
2. El Camino Real (SR 58) between Pinal Avenue and Estrada Avenue
3. El Camino Real north of Estrada Avenue
4. Estrada Avenue (SR 58) south of El Camino Real
5. West Pozo Road (SR 58) between J Street and West Driveway

6. West Pozo Road southeast of Calf Canyon Highway (SR 58)
7. Calf Canyon Highway (SR 58) northeast of West Pozo Road
8. Wilhelmina Avenue between El Camino Real and I Street
9. US 101 north of SR 58
10. US 101 south of SR 58

In addition, all four freeway ramp junctions at the US 101/SR 58 interchange were analyzed.

The operations of the study intersections, roadway, and freeway segments were evaluated during the weekday morning (AM) and evening (PM) peak periods for the following five scenarios:

Scenario 1: *Existing Conditions* – Existing volumes obtained from counts or previous traffic studies.

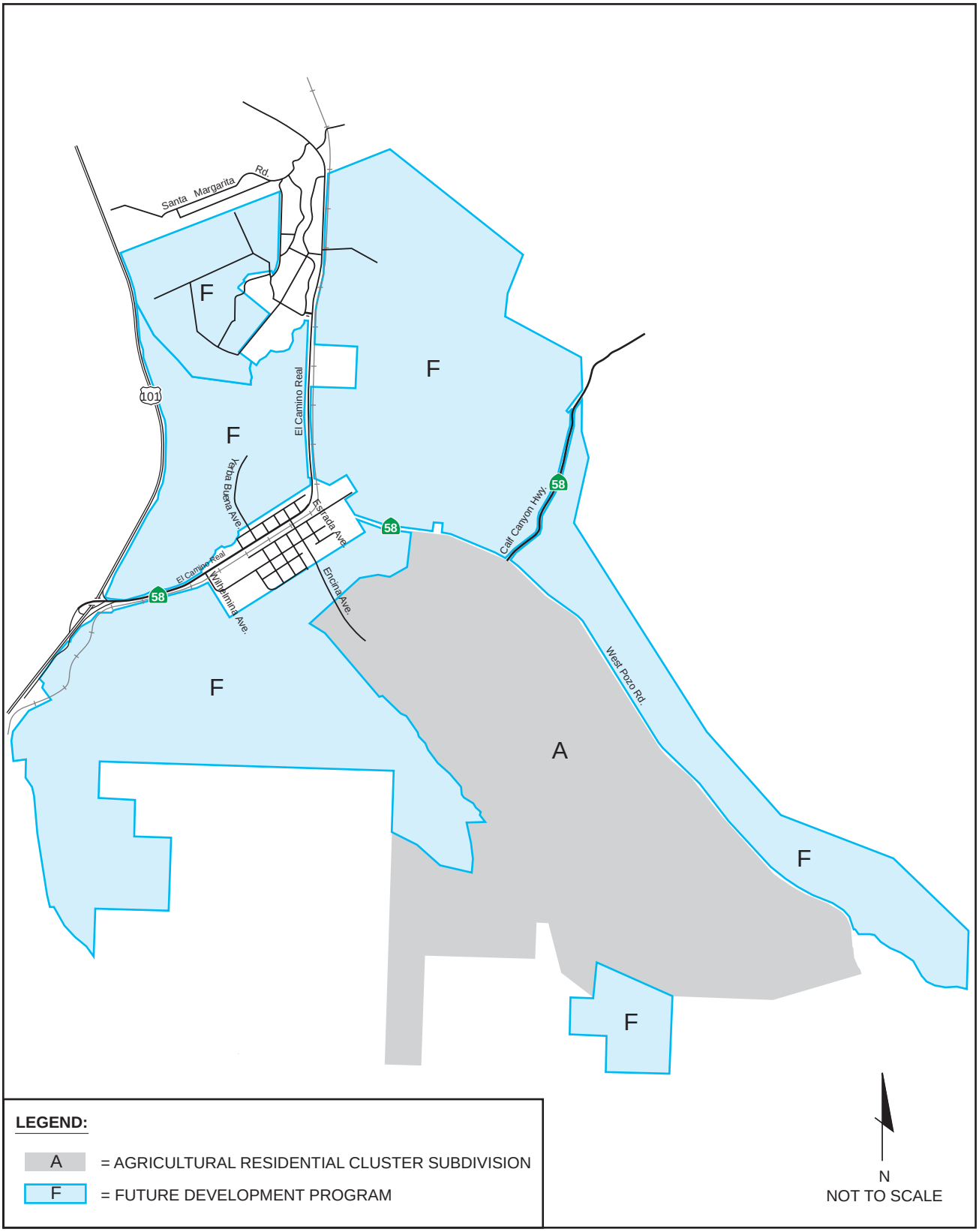
Scenario 2: *Existing Plus ARCS Conditions* – Existing volumes plus new traffic generated by the proposed ARCS development.

Scenario 3: *Cumulative No Project Condition*s – Existing traffic volumes increased using an annual growth factor over a 20-year horizon.

Scenario 4: *Cumulative Plus ARCS Conditions* – Traffic volumes anticipated under Scenario 3 plus traffic generated by the proposed ARCS development.

Scenario 5: *Cumulative Plus ARCS Plus FDP Conditions* – Cumulative Conditions with full buildout of Santa Margarita Ranch (ARCS and FDP development).

This report is divided into three chapters. The existing transportation system serving the property and the current operating conditions of the key intersections and roadway segments are described in Chapter 2. Chapter 3 describes the method used to estimate the traffic added to the surrounding roadways by the ARCS and its impacts on the transportation system under ARCS Conditions. This chapter also includes a discussion of site access and on-site circulation. Cumulative Conditions with ARCS development and full buildout of Santa Margarita Ranch (ARCS Plus FDP development) are described in Chapter 4.



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PROJECT LOCATION

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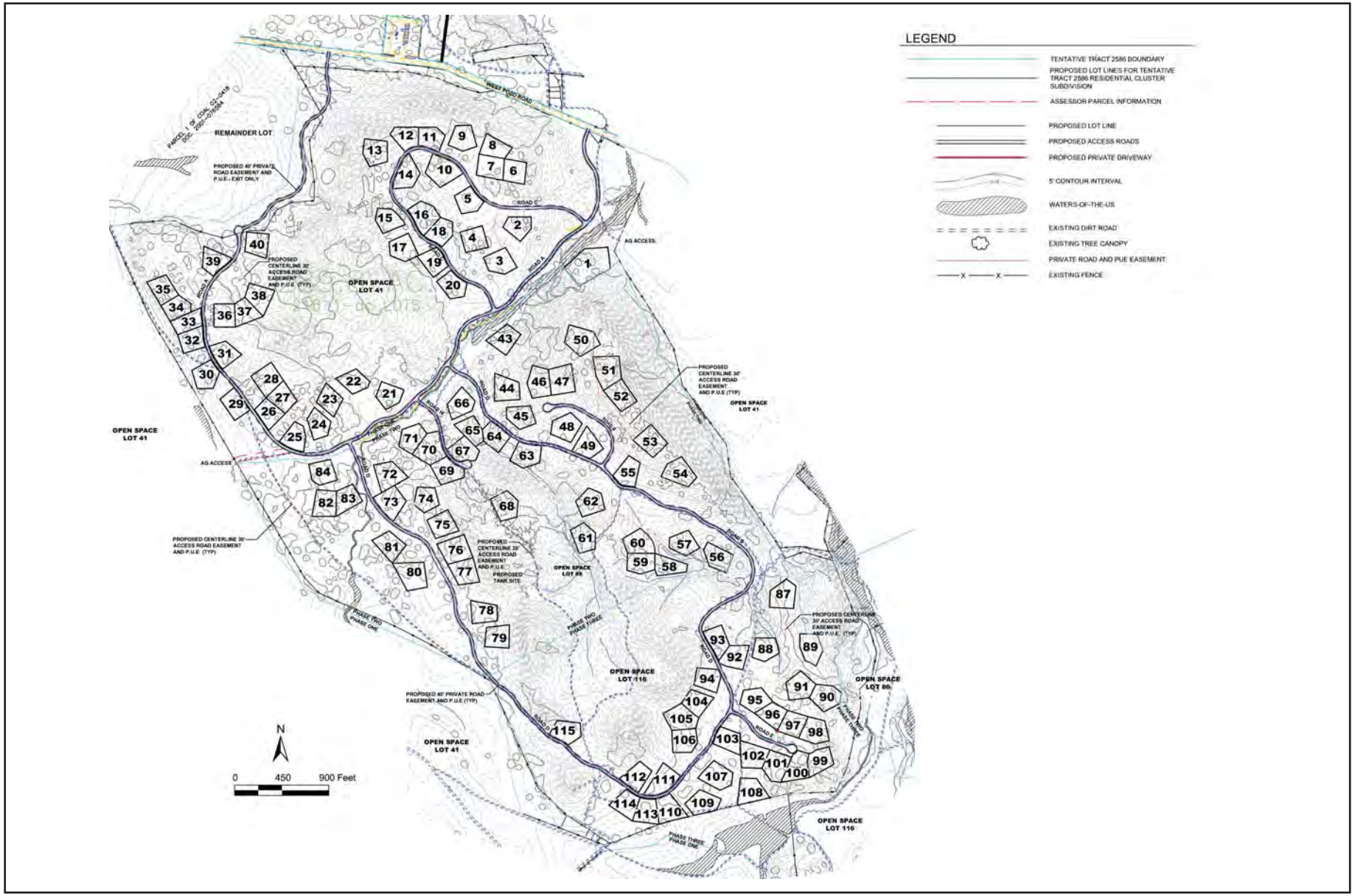
FIGURE 1



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AGRICULTURAL RESIDENTIAL CLUSTER SUBDIVISION SITE PLAN

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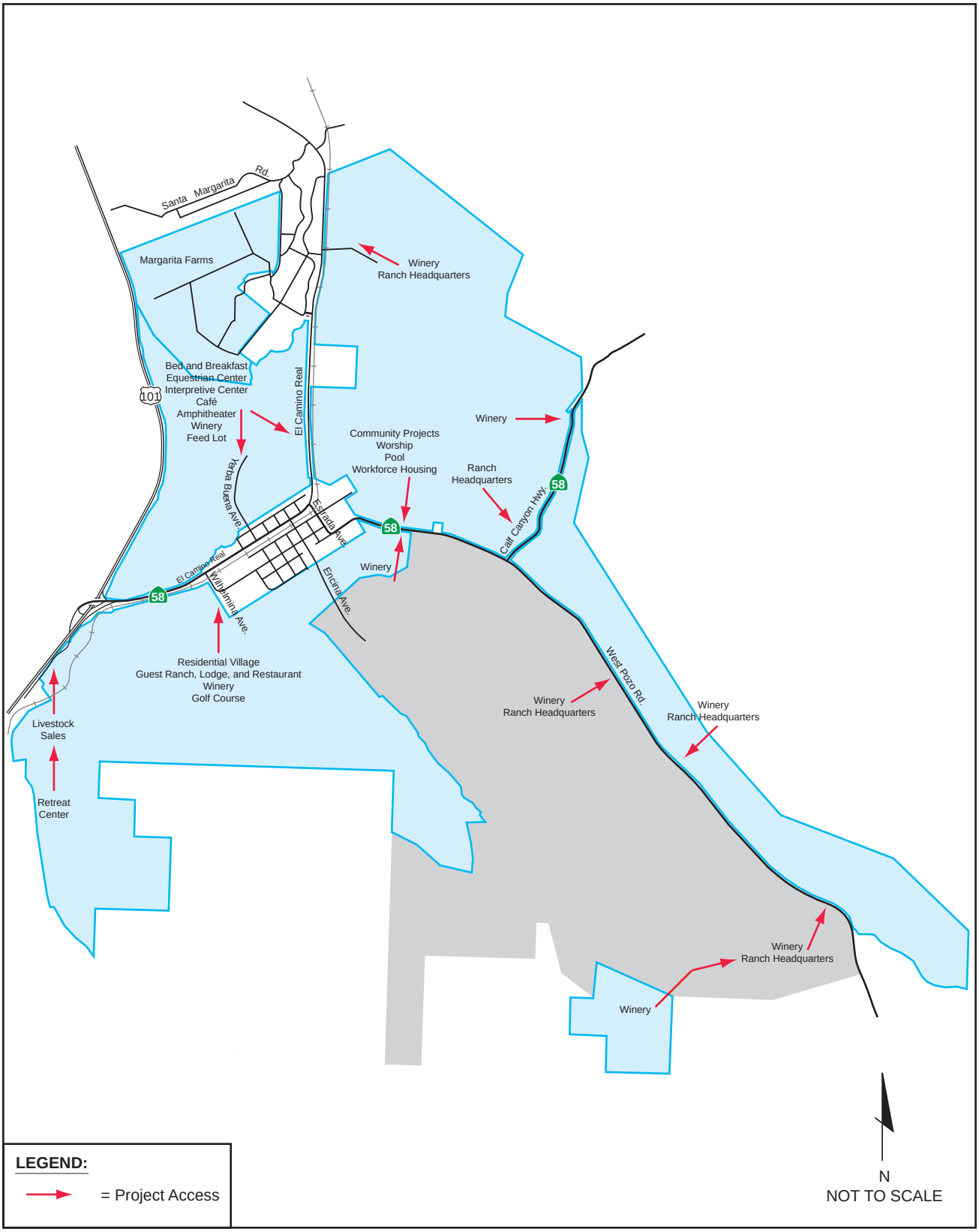
FIGURE 2



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FUTURE DEVELOPMENT PROGRAM SITE LOCATIONS

FIGURE 3

2. EXISTING CONDITIONS

This chapter describes the existing conditions of the roadway facilities, pedestrian and bicycle facilities, transit service, traffic volumes, and intersection operations. This chapter also includes a discussion of the methodology used to calculate intersection levels of service and the corresponding results.

ROADWAY NETWORK

The project location and the surrounding roadway network are presented on Figure 1. Regional access is provided by US 101 and State Route 58 (SR 58). Local access is provided by El Camino Real, Estrada Avenue, West Pozo Road, and Wilhelmina Avenue. Descriptions of these roadways are provided below.

US Highway 101 is a regional roadway that traverses through San Luis Obispo County, continuing north to San Francisco and south to Los Angeles. Within the study area, US 101 is a four-lane freeway with an interchange with SR 58. South of the immediate study area, US 101 is a divided highway with at-grade intersections.

State Route 58 is an east-west, two-lane street/highway that connects US 101 to I-5 and SR 99 in Kern County. Within the study area, SR 58 links the Santa Margarita community to US 101. The section of SR 58 east of Santa Margarita becomes winding and narrow through the Caliente Range mountains. The following roadways are designated as SR 58: El Camino Real (US 101 to Estrada Avenue), Estrada Avenue (El Camino Real to West Pozo Road), West Pozo Road (Estrada Avenue to Calf Canyon Highway), and Calf Canyon Highway (East of West Pozo Road).

El Camino Real is a north-south, roadway connecting Santa Margarita with Atascadero. Within Santa Margarita, El Camino Real is oriented in an east-west direction and contains one lane in each direction between US 101 and Estrada Avenue. East of Estrada Avenue, El Camino Real curves into a north-south orientation and contains one lane in each direction.

Estrada Avenue is a north-south, two-lane local street in Santa Margarita that extends from El Camino Real and turns into West Pozo Road to the south.

West Pozo Road is an east-west, two-lane local street connecting Santa Margarita and the town of Pozo. This roadway extends from Estrada Avenue in the west to Pozo in the east.

Wilhelmina Avenue is a north-south, two-lane local street in Santa Margarita extending from El Camino Real at its northern terminus to I Street to the south.

PEDESTRIAN AND BICYCLE FACILITIES

Pedestrian facilities include sidewalks, crosswalks, and pedestrian signals at signalized intersections. Sidewalks are not provided on West Pozo Road adjacent to the ARCS site. Sidewalks are provided on El Camino Real through portions of downtown Santa Margarita. Sidewalks are also provided near the elementary school on the north side of H Street east of Estrada Avenue.. A pedestrian bridge over Yerba Buena Creek is located on J Street west of Estrada Avenue. The intersection of El Camino Real and Encina Avenue has marked crosswalks. There are no signalized intersections in the study area.

Bicycle facilities include bike paths, bike lanes, and bike routes. Bike paths (Class I facilities) are paved pathways for use by bicycles that are separated from roadways. Bike lanes (Class II facilities) are lanes on roadways designated for use by bicycles with special lane markings, pavement legends, and signage. Bike

routes (Class III facilities) are designated with signs only. Bike lanes are provided on El Camino Real north of Estrada Avenue. Bicycle routes are designated on Wilhelmina Avenue, I Street, West Pozo Road east of Calf Canyon Highway, and US 101 south of SR 58. The existing pedestrian and bicycle facilities are shown on Figure 4.

TRANSIT SERVICE

The San Luis Obispo Regional Transit Authority (RTA) operates regional bus service in San Luis Obispo County. Figure 4 shows the existing transit service in Santa Margarita.

RTA Route 9 provides intercity fixed-route service between San Luis Obispo, Santa Margarita, Atascadero, Templeton, and Paso Robles, with limited service to San Miguel. Service to Santa Margarita operates Monday-Friday from 6:41 AM to 8:41 PM with nine trips in each direction and Saturdays from 8:27 AM to 5:34 PM with three trips in each direction. There is no Sunday or holiday service. This is the only fixed-route bus service in Santa Margarita.

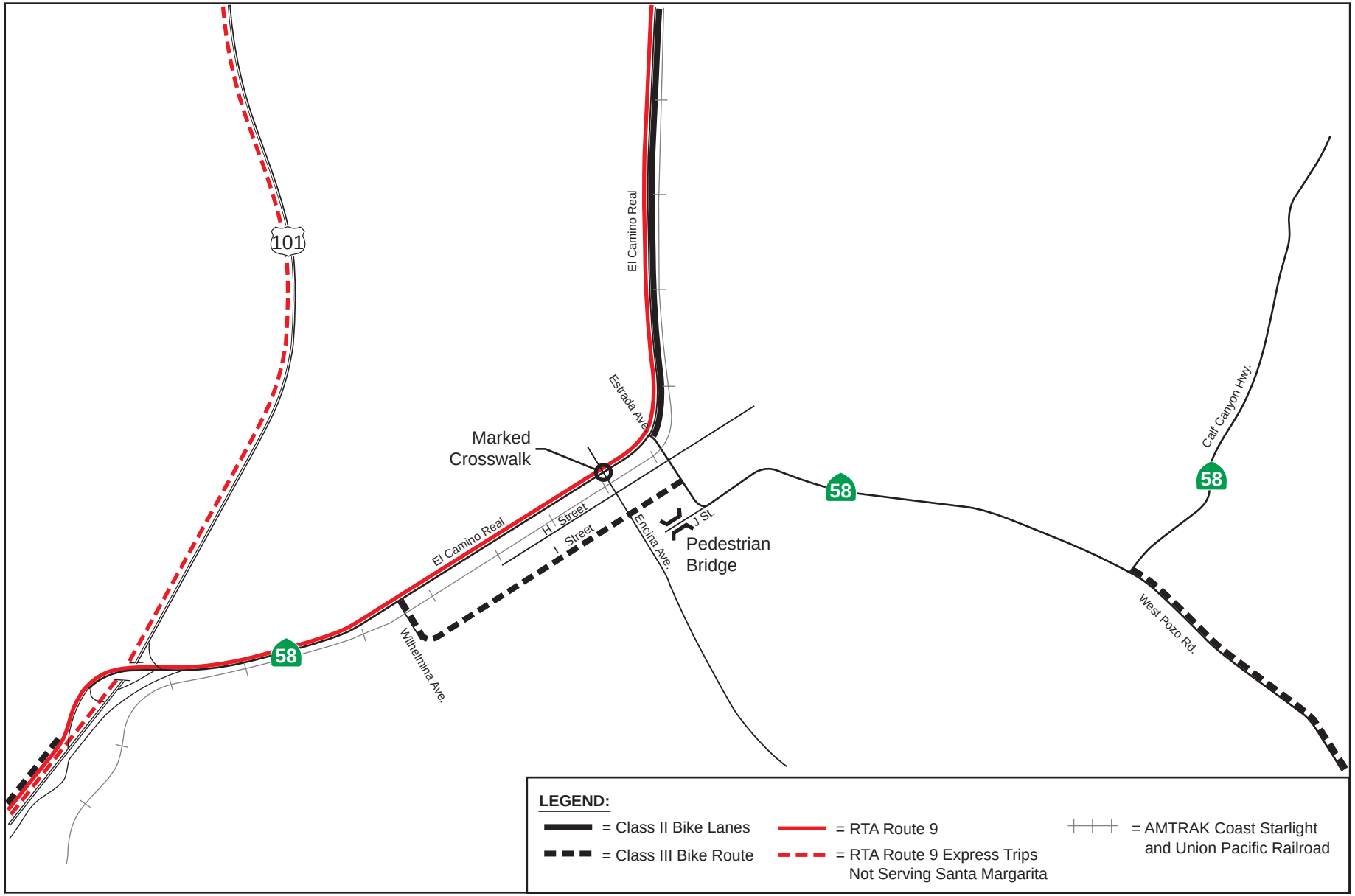
Runabout provides countywide ADA paratransit service for qualified individuals within ¾ mile of the fixed-route bus service. The service span in Santa Margarita is approximately equal to that of RTA Route 9.

Amtrak provides daily passenger rail service along the Union Pacific railroad tracks through Santa Margarita. The Coast Starlight operates once daily south to Los Angeles and north to the San Francisco Bay Area and Seattle. The nearest station is in the City of San Luis Obispo to the south.

VOLUMES AND LANE CONFIGURATIONS

May 2004 morning (AM) and evening (PM) peak-hour traffic volumes at several intersections were obtained from the *Santa Margarita Ranch Project Draft Traffic and Circulation Study* (Associated Transportation Engineers, August 16, 2004). The peak hour represents the highest one-hour volumes during the peak periods of 7:00-9:00 AM and 4:00-6:00 PM. New intersection peak-hour counts were conducted in March and April 2006 to supplement this information. Figure 5 presents the existing AM and PM peak-hour turning movement volumes at the study intersections, as well as existing intersection lane configurations and traffic control devices.

Year 2004 freeway mainline counts were provided by Caltrans. 72-hour (3-day) machine counts on the local roads were conducted in April 2006. Figure 6 presents the average daily traffic volumes for the study roadway segments. The intersection and roadway counts are contained in Appendix A.



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EXISTING PEDESTRIAN AND BICYCLE FACILITIES AND TRANSIT SERVICE

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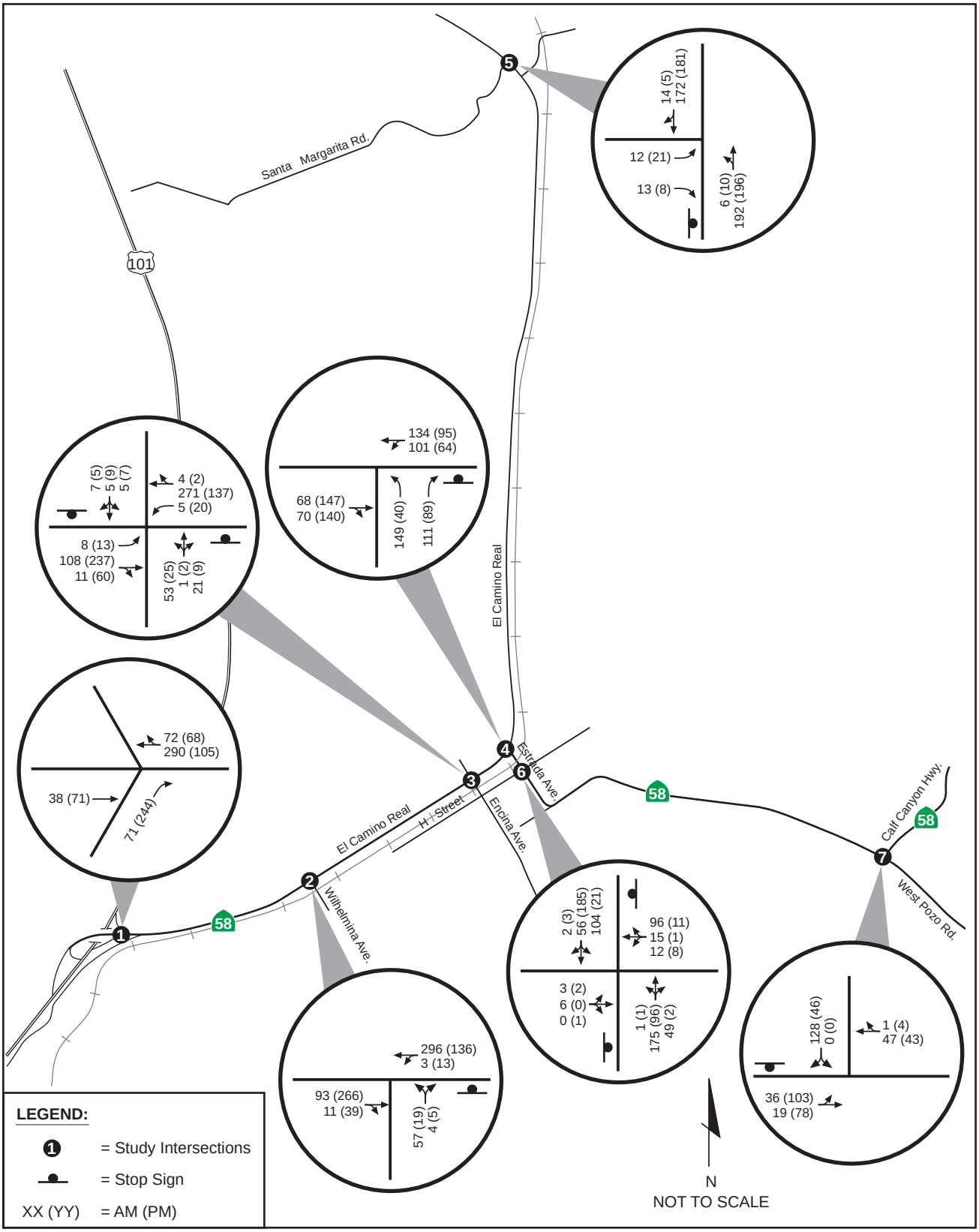
FIGURE 4



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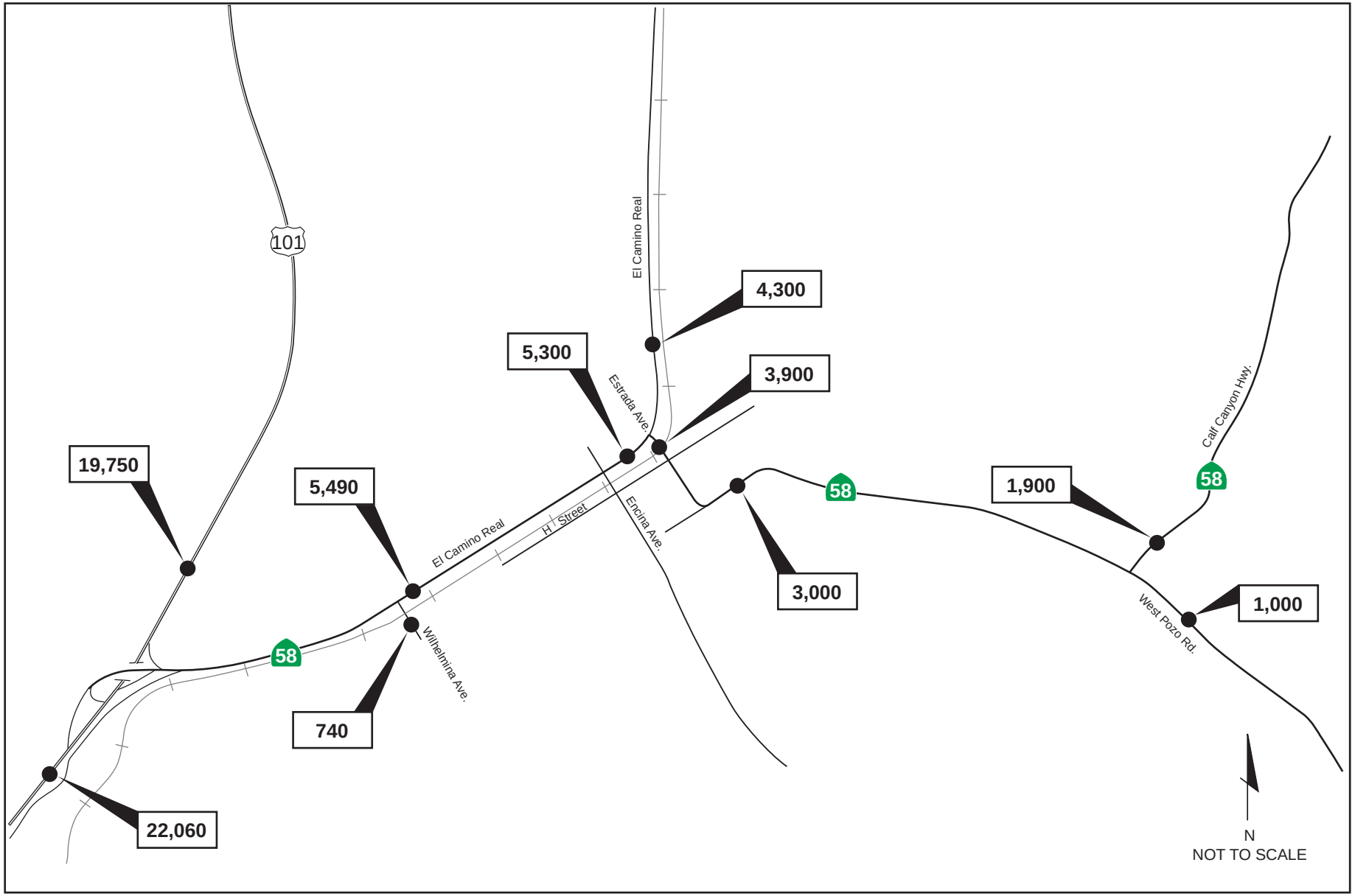
EXISTING INTERSECTION PEAK-HOUR VOLUMES, LANE GEOMETRIES, AND STOP CONTROLS

FIGURE 5



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EXISTING AVERAGE DAILY TRAFFIC VOLUMES

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FIGURE 6

LEVEL OF SERVICE METHODOLOGY

The operations of roadway facilities are described with the term level of service (LOS). LOS is a qualitative description of traffic flow based on such factors as speed, travel time, delay, and freedom to maneuver. Six levels are defined, from LOS A with the best operating conditions to LOS F with the worst operating conditions. LOS E represents "at-capacity" operations. Operations are designated as LOS F when volumes exceed capacity, resulting in stop-and-go conditions.

Intersection Level of Service Criteria

The County maintains LOS C as the minimum acceptable level of service for rural intersections (i.e., LOS D, E and F are considered unacceptable operations). Caltrans strives to maintain operations at the LOS C/D threshold on state-operated facilities in the study area, which include US 101 and SR 58.

Unsignalized Intersections

Operations of the unsignalized study intersections (e.g., stop-sign controlled) were evaluated using the methodology contained in Chapter 17 of the *2000 Highway Capacity Manual* (*2000 HCM*) and the SYNCHRO software program. LOS ratings for stop-sign controlled intersections are based on the average control delay expressed in seconds per vehicle. At two-way or side street-controlled intersections, the control delay is calculated for each movement, not for the intersection as a whole. For approaches composed of a single lane, the control delay is computed as the average of all movements in that lane. For all-way stop-controlled locations, a weighted average delay for the entire intersection is presented. Table 1 summarizes the relationship between delay and LOS for unsignalized intersections.

TABLE 1
UNSIGNALIZED INTERSECTION LEVEL OF SERVICE DEFINITIONS
USING AVERAGE CONTROL DELAY

Level of Service	Description	Average Control Delay Per Vehicle (Seconds)
A	Little or no delay.	≤ 10.0
B	Short traffic delays.	10.1 to 15.0
C	Average traffic delays.	15.1 to 25.0
D	Long traffic delays.	25.1 to 35.0
E	Very long traffic delays.	35.1 to 50.0
F	Extreme traffic delays with intersection capacity exceeded.	> 50.0

Source: *Highway Capacity Manual*, Transportation Research Board, 2000.

Roadway Segments

Two-Lane Highways

Four of the study roadway segments (El Camino Real north of Estrada Avenue, SR 58 between J Street and West Project Driveway, West Pozo Road south of SR 58, and SR 58 east of West Pozo Road) were evaluated using the two-lane highway analysis methodology described in Chapter 20 of the *2000 HCM*. The percent time-spent-following was calculated using the HCS+ analysis software and is correlated to an LOS designation for ramp junctions as shown in Table 2. Although these roadway segments are local roads, the two-lane highway methodology was selected because the segments contain two lanes, have relatively high posted speed limits, and have rural characteristics (relatively low volumes and few access points). According to the *2000 HCM*, percent time-spent-following is defined as the average percentage of travel time vehicles spend traveling in platoons behind slower vehicles due to their inability to pass.

Two-lane highway facilities are separated into two classes. Class I facilities have higher speeds and more direct routes where mobility is more critical, and LOS is defined by both time-spent-following and average travel speed. Class II facilities have slower travel speeds and primarily serve shorter trips where travel time is less important, and LOS is defined only in terms of percent time-spent-following without consideration of average travel speed. El Camino Real is evaluated as a Class I facility. SR 58 and West Pozo Road are evaluated as Class II facilities. The LOS criteria for Class I and Class II two-lane highway segments are presented in Table 2.

TABLE 2
TWO-LANE HIGHWAY LEVEL OF SERVICE DEFINITIONS

Level of Service	Class I	Class II
	Percent Time-Spent-Following	Percent Time-Spent-Following
A	≤ 35	≤ 40
B	35.1 to 50	40.1 to 55
C	50.1 to 65	55.1 to 70
D	65.1 to 80	70.1 to 85
E	> 80	> 85

Source: *Highway Capacity Manual*, Transportation Research Board, 2000.

Local Roadways

Four of the study roadway segments (El Camino Real between Wilhelmina Avenue and Maud Avenue, El Camino Real between Pinal Avenue and Estrada Avenue, Estrada Avenue south of El Camino Real, and Wilhelmina Avenue between El Camino Real and I Street) were evaluated by comparing the measured daily volume to threshold volumes as based on the *2000 HCM*. Table 3 presents threshold volumes for various roadway types. These threshold volumes include adjustments for divided and undivided facilities and for roadways with left-turn lanes. The threshold volumes are approximate and serve as a general guide for determining if a roadway is below or over capacity.

TABLE 3
DAILY TRAFFIC VOLUME LEVEL OF SERVICE DEFINITIONS

Roadway Type	Maximum Daily Volume				
	LOS A	LOS B	LOS C	LOS D	LOS E
2-Lane Arterial (with left-turn lane)	11,000	12,500	14,500	16,000	18,000
2-Lane Arterial (no left-turn lane)[1]	5,000	6,250	7,750	10,000	11,250
2-Lane Collector/Local Street[1]	3,500	4,750	6,000	6,750	8,500

Note:
1 Threshold volumes are the average of the range presented in the *South County Traffic Model Update Draft Final Report* prepared by Omni-Means, as derived from the 2000 *HCM*. This accounts for the nonstandard design features of some roads in the study area, such as narrow lane widths and dirt shoulders.
Source: *Highway Capacity Manual*, Transportation Research Board, 2000.

Freeway Segments

Freeway segment operations were evaluated using the methodology contained in Chapter 21 of the *2000 HCM*. The density is calculated using the HCS+ analysis software and is correlated to an LOS designation for both mainline segments and ramp junctions as shown in Table 4.

TABLE 4
DENSITY-BASED FREEWAY LEVEL OF SERVICE DEFINITIONS

Level of Service	Mainline Density[1]	Ramp Junction Density[1]
A	≤ 11.0	≤ 10.0
B	11.1 to 18.0	10.1 to 20.0
C	18.1 to 26.0	20.1 to 28.0
D	26.1 to 35.0	28.1 to 35.0
E	35.1 to 45.0	> 35.0
F	> 45.0	Demand exceeds capacity.

Note:
1 Measured in vehicles per mile per lane.
Source: *Highway Capacity Manual*, Transportation Research Board, 2000.

EXISTING LEVELS OF SERVICE

Intersections

Existing intersection lane configurations and peak-hour turning movement volumes were used to calculate the LOS for the key intersections during the AM and PM peak hours. The results of the LOS analysis for existing conditions are presented in Table 5. The corresponding calculation sheets are contained in Appendix B. The results of the LOS calculations indicate that all study intersections currently operate at acceptable levels of service (above County's LOS C and Caltrans LOS C/D cusp standards) during both peak hours.

TABLE 5
EXISTING INTERSECTION LEVELS OF SERVICE

Intersection	Peak Hour[1]	Intersection Control	Delay[2]	LOS[3]
1. US 101 Northbound Ramps and State Route 58	AM PM	Uncontrolled	8.9 10.1	A B
2. El Camino Real (SR 58) and Wilhelmina Avenue	AM PM	Side Street Stop	12.2 11.7	B B
3. El Camino Real (SR 58) and Encina Avenue	AM PM	Side Street Stop	12.8 13.0	B B
4. El Camino Real (SR 58) and Estrada Avenue	AM PM	Side Street Stop	13.8 11.0	B B
5. El Camino Real and Santa Margarita Road	AM PM	Side Street Stop	10.4 11.0	B B
6. Estrada Avenue (SR 58) and H Street	AM PM	Side Street Stop	15.6 10.7	C B
7. Calf Canyon Highway (SR 58) and West Pozo Road	AM PM	Side Street Stop	9.2 8.8	A A
8. West Pozo Road (SR 58) and West Driveway	AM PM	Future Intersection		
9. West Pozo Road (SR 58) and East Driveway	AM PM	Future Intersection		

Notes:

1 AM = morning peak hour, PM = afternoon peak hour.

2 Whole intersection weighted average control delay expressed in seconds per vehicle using methodology described in the *2000 HCM*. For side street stop controlled intersections, total control delay for the worst movement is presented.

3 LOS = Level of service. For side street stop-controlled intersections, LOS for the worst movement is shown. LOS calculations conducted using the Synchro analysis software package.

Roadway Segments

The results of the LOS analysis for existing roadway conditions are presented in Tables 6 and 7. The corresponding calculation sheets are contained in Appendix C. The LOS calculations indicate that all study roadways currently operate at acceptable levels of service (above County's LOS C and Caltrans LOS C/D threshold standards).

TABLE 6
EXISTING TWO-LANE HIGHWAY LEVELS OF SERVICE

Roadway Segment	Class Designation	Peak Hour	Percent Time-Spent-Following	Level of Service
El Camino Real north of Estrada Avenue	I	AM PM	37.4 31.7	B B
West Pozo Road (SR 58) between J Street and West Driveway	II	AM PM	45.5 45.9	B B
West Pozo Road southeast of Calf Canyon Highway (SR 58)	II	AM PM	30.2 28.5	A A
Calf Canyon Highway (SR 58) northeast of West Pozo Road	II	AM PM	51.0 46.3	B B

TABLE 7
EXISTING LOCAL ROADWAY LEVELS OF SERVICE

Roadway Segment	Roadway Type	Volume[1]	LOS[2]
El Camino Real (SR 58) between Wilhelmina Avenue and Maud Avenue	2-Lane Arterial (no left-turn lane)	5,490	B
El Camino Real (SR 58) between Pinal Avenue and Estrada Avenue	2-Lane Arterial (no left-turn lane)	5,300	B
Estrada Avenue (SR 58) south of El Camino Real	2-Lane Arterial (no left-turn lane)	3,900	A
Wilhelmina Avenue between El Camino Real and I Street	2-Lane Collector/ Local Street	740	A

Notes:
1 Average daily traffic.
2 LOS = Level of service.

Freeway Segments and Ramps

The AM and PM peak-hour operations of US 101 freeway segments and ramps were analyzed under Existing Conditions. The traffic volumes used in the mainline segment analysis were obtained from counts conducted by Caltrans in 2004. The ramp volumes used in the merge/diverge analysis were taken from the counts conducted at the ramp intersection in 2004.

Mainline Segments

The results of the LOS analysis for existing freeway mainline conditions are presented in Table 8. The corresponding calculation sheets are contained in Appendix D. The LOS calculations indicate that all mainline segments currently operate at acceptable levels of service (above Caltrans' LOS C/D cusp) during both the AM and PM peak hours.

TABLE 8
EXISTING US 101 MAINLINE LEVELS OF SERVICE

Travel Direction	Segment	Peak Hour	Density (vehicles per mile per lane)	Level of Service
Northbound	South of SR 58	AM	9.1	A
		PM	22.7	C
	North of SR 58	AM	9.1	A
		PM	21.1	C
Southbound	North of SR 58	AM	19.3	C
		PM	12.3	B
	South of SR 58	AM	21.6	C
		PM	12.6	B

Ramp Junctions

The results of the LOS analysis for existing ramp junction conditions are presented in Table 9. The corresponding calculation sheets are contained in Appendix E. The LOS calculations indicate that all ramp junctions, except for the northbound off-ramp during the PM peak hour, currently operate at acceptable levels of service (above Caltrans' LOS C/D threshold) during the AM and PM peak hours.

Although the ramp junction on eastbound SR 58 from northbound US 101 may have been originally been planned as a freeway-to-freeway connection, this ramp junction operates as a freeway-to-arterial roadway connection because of the design speed of eastbound SR 58. The design of this ramp junction was compared to current Caltrans design standards (see Project Impact and Mitigation Measure section in the following chapter).

TABLE 9
EXISTING US 101 RAMP AT SR 58 JUNCTION LEVELS OF SERVICE

Travel Direction	Ramp	Merge/Diverge	Peak Hour	Density (vehicles per mile per lane)	Level of Service
Northbound	SR 58	Diverge (Off-ramp)	AM PM	13.2 28.3	B D
		Merge (On-ramp)	AM PM	11.9 24.0	B C
Southbound	SR 58	Diverge (Off-ramp)	AM PM	23.6 15.8	C B
		Merge (On-ramp)	AM PM	24.3 15.3	C B

COLLISION RATES

Collision data for SR 58 and US 101 in Santa Margarita were provided by Caltrans for a 36-month period spanning from August 2002 through July 2005. The data is summarized in Table 10.

The SR 58 corridor, between US 101 and post mile 6.20 (east of the town of Santa Margaria), has a collision rate nearly double the statewide average for equivalent roadway facilities. The collision rates at certain study intersections within the corridor exceed the statewide average, with the El Camino Real/Estrada Avenue intersection having a collision rate three times higher than the statewide average. A total of six (6) collisions were reported for the 90-degree curve on SR 58 at J Street.

US 101, between post miles 37.34 and 38.14 (south and north of SR 58, respectively), has a collision rate slightly above the statewide average for equivalent roadway facilities. The collisions rates at certain ramp junctions with SR 58 exceed the statewide average, with the southbound and northbound on-ramp junctions having a rate three times higher than the statewide average.

TABLE 10
COLLISION TOTALS AND RATES

Location	Post Mile	Collisions			Actual Rate[1]	Average Rate[1]
		Total	Fatalities	Injuries		
SR 58 between US 101 and Post Mile 6.20	0.00 to 6.20	47	1	16	2.15	1.14
SR 58 at Wilhelmina Avenue	0.77	1	0	0	0.14	0.22
SR 58 at Encina Avenue	1.45	2	1	0	0.24	0.33
SR 58 at Estrada Avenue	1.63	6	0	3	0.71	0.22
SR 58 at H Street	1.72	0	0	0	0.00	0.33
SR 58 at Pozo Road	3.14	1	0	0	0.33	0.22
US 101 between Post Miles 37.34 and 38.14	37.34 to 38.14	23	1	6	0.66	0.58
US 101 at SR 58 SB On	37.54	3	0	1	1.27	0.40
US 101 at SR 58 SB Off	37.76	2	0	0	2.24	1.20
US 101 at SR 58 NB Off	37.79	0	0	0	0.00	0.30
US 101 at SR 58 NB On	37.94	1	0	0	1.19	0.40

Note:
1 Measured in number of collisions per million vehicle miles
Source: Caltrans (August 2002 through July 2005 data).

FIELD OBSERVATIONS AND EXISTING OPERATIONAL ISSUES

Field observations of the study intersections and roadway segments were conducted during the morning and afternoon peak periods in March 2006. The intersections were observed to operate generally at the calculated levels of service for each peak period. No substantial congestion was noted on any of the roadway segments. However, existing operational issues were noted at several locations as discussed below.

US 101 Southbound Off-Ramp to SR 58

Southbound US 101 is configured with a short diverge taper of approximately 250 feet and vehicles exiting the freeway must negotiate a short radius curve that is posted for 15 mph immediately after exiting the mainline. This design causes southbound US 101 vehicles to slow down on the mainline section or brake rapidly within a short distance to negotiate the off-ramp.

US 101 Northbound Off-Ramp to SR 58

The SR 58/US 101 Northbound Off-ramp intersection has no traffic control devices. Vehicles exiting the US 101 northbound off-ramp meet eastbound SR 58 traffic at an incline that limits sight distance, and is the merge area is only 150 feet long. According to section 504.4 of the Caltrans *Highway Design Manual (HDM)*, the required merge area for vehicles traveling on a two-lane highway at 50 mph is 400 feet.

El Camino Real (SR 58) and Estrada Avenue

The intersection of El Camino Real (SR 58) and Estrada Avenue was observed to operate at good levels of service during both peak hours. An average queue of 2 to 3 vehicles was observed on Estrada Avenue during either peak hour. Westbound left-turn vehicles from El Camino Real to southbound Estrada Avenue occasionally delay southbound through vehicles since the westbound approach includes only one lane.

Because El Camino Real is at a lower elevation than Estrada Avenue (Estrada Avenue is located on the outside of the super-elevated curve on El Camino Real), vehicles on Estrada Avenue encroach into the intersection to increase their sight distance before turning onto El Camino Real. In addition, vehicles on Estrada Avenue are not visible to drivers on El Camino Real due to the grade of the road.

El Camino Real (SR 58) west of Pinal Avenue

Observations showed that pedestrians cross El Camino Real west of Pinal Avenue without using the crosswalks striped at the El Camino Real/Pinal Avenue intersection. Vehicles in both directions on El Camino Real stop mid-block between intersections and are parked on the shoulder. Drivers and passengers then cross mid-block to access the retail stores. Over 30 pedestrians were observed crossing mid-block during both the AM and PM peak-hour.

El Camino Real (SR 58) from Estrada Avenue to Pozo Road

Up to 10 bicyclists were observed to bike along SR 58 from Estrada Avenue to Pozo Road during both peak-hour. Since bicycle lanes are not provided on this stretch of SR 58, bicyclists use the narrow shoulders or the travel lanes. Vehicles are forced to encroach into the opposing travel lane to pass bicyclists.

Estrada Avenue and H Street

Santa Margarita Elementary School is located on H Street east of Estrada Avenue. School crossing guards direct students across the north leg of the intersection during the morning drop-off and afternoon pick-up periods. An existing crest on Estrada Avenue, south of H Street, limits sight distance for pedestrians crossing Estrada Avenue and for vehicles turning in and out of H Street. According to the school crossing guards, northbound Estrada Avenue vehicles speed over the crest and must come to an abrupt stop for pedestrians or side street turning movements. The school crossing guards mentioned several near collisions due to this problem.

Estrada Avenue south of J Street

Estrada Avenue transitions into a 90-degree curve south of J Street. Except for a 15 mile per hour (mph) warning sign, no additional warnings signs or physical barriers are in place. Vehicles have to slow considerably to navigate through this curve.

3. EXISTING PLUS ARCS CONDITIONS

The impacts of the proposed Agriculatural Residential Cluster Subdivision (ARCS) on the surrounding transportation system under Existing Plus ARCS Conditions are discussed in this chapter. Existing Plus ARCS Conditions are defined as Existing Conditions plus traffic generated by the proposed ARCS development. First, the methodology used to estimate the amount of traffic generated by the ARCS is described. Then, the results of the level of service calculations for Existing Plus ARCS Conditions are presented. A comparison of roadway operations under Existing and Existing Plus ARCS Conditions is presented and the impacts of the project on the study intersections and roadway segments are discussed. Site access, on-site circulation, and potential impacts to non-automobile modes are also addressed in this chapter.

The ARCS includes 112 single-family homes on 3,778 acres located southeast of the community of Santa Margarita. The Future Development Program (FDP) represents buildout of Santa Margarita Ranch and includes a variety of residential and non-residential uses. However, FDP plans have not been prepared, and the potential impacts of FDP development are addressed only under Cumulative Conditions in Chapter 4.

ARCS TRAFFIC ESTIMATES

The amount of traffic added to the roadway system by the proposed development is estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. The first step estimates the amount of added traffic to the roadway network. The second step estimates the direction of travel to and from the development area. The trips are assigned to specific street segments and intersection turning movements during the third step. The results of this process are described in the following sections.

Trip Generation

The amount of traffic added to the surrounding roadway system by the proposed ARCS was estimated by applying "Single Family Residential" land use trip generation rates published in *Trip Generation* (Institute of Transportation Engineers, 7th Edition) to the proposed number of units. The peak-hour trip generation rates and trip estimates are presented in Table 11. The ARCS is estimated to generate 1,154 daily trips, 88 AM peak-hour trips (22 inbound and 66 outbound), and 119 PM peak-hour trips (75 inbound and 44 outbound).

TABLE 11
ARCS TRIP GENERATION RATES AND ESTIMATES

Use	Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Trip Rates (per dwelling unit)							
Single-Family Residential	10.30	0.20	0.59	0.79	0.67	0.39	1.06
Trip Estimates							
Single-Family Residential (112 d.u.)	1,154	22	66	88	75	44	119

Source: *Trip Generation (*Institute of Transportation Engineers, *7th Edition* 2003) using the equation..

Trip Distribution

The directions of approach and departure for project traffic were estimated based on the existing travel patterns in the area and the relative locations of employment centers and other attractions such as schools, parks, and retail areas. Figure 7 illustrates the major directions of approach and departure that form the trip distribution pattern for the Phase 1 development.

Trip Assignment

The project trips were assigned to the roadway system based on the directions of approach and departure discussed above. Figure 8 shows the ARCS trips assigned to each turning movement by intersection. The ARCS trips were added to existing traffic volumes to establish intersection volumes for Existing Plus ARCS Conditions shown on Figure 9. The number of daily project trips for each roadway segment was summed with the existing volumes to represent Existing Plus ARCS Conditions roadway volumes as illustrated on Figure 10.

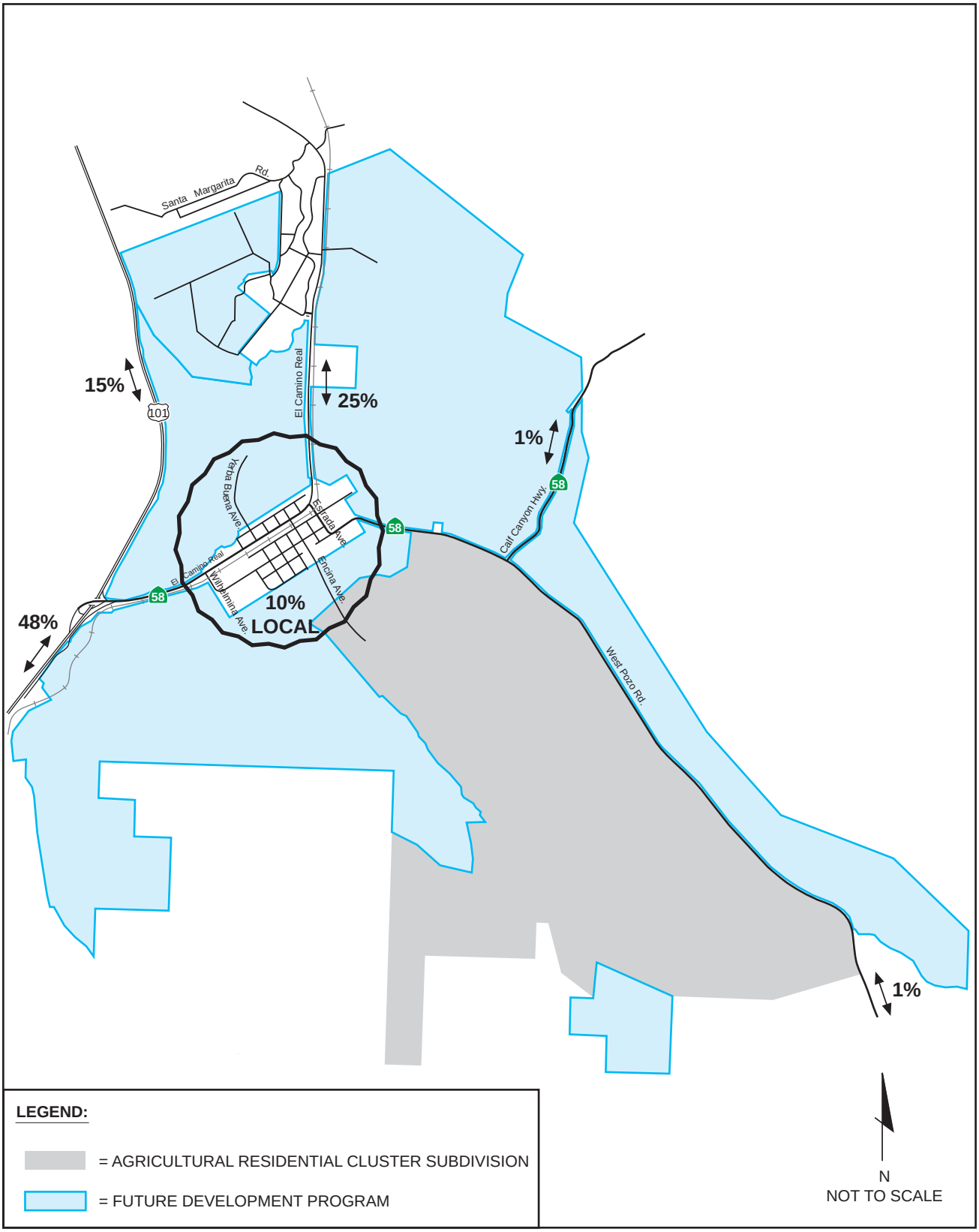
EXISTING PLUS ARCS LEVELS OF SERVICE

Intersections

Intersection levels of service were calculated with the Existing Plus ARCS volumes to evaluate the operating conditions of the intersections. The results of the intersection level of service calculations for Existing and Existing Plus ARCS Conditions are presented in Table 12. The levels of service calculation sheets are included in Appendix B.

For the West Pozo Road/West Driveway and West Pozo Road/East Driveway project intersections, a shared left-right turn exit lane with a stop sign is assumed. No separate turn lanes are assumed on West Pozo Road.

All of the study intersections are projected to operate at acceptable levels (above County's LOS C and Caltrans' LOS C/D threshold standards) with implementation of the ARCS development.



Santa Margarita Ranch

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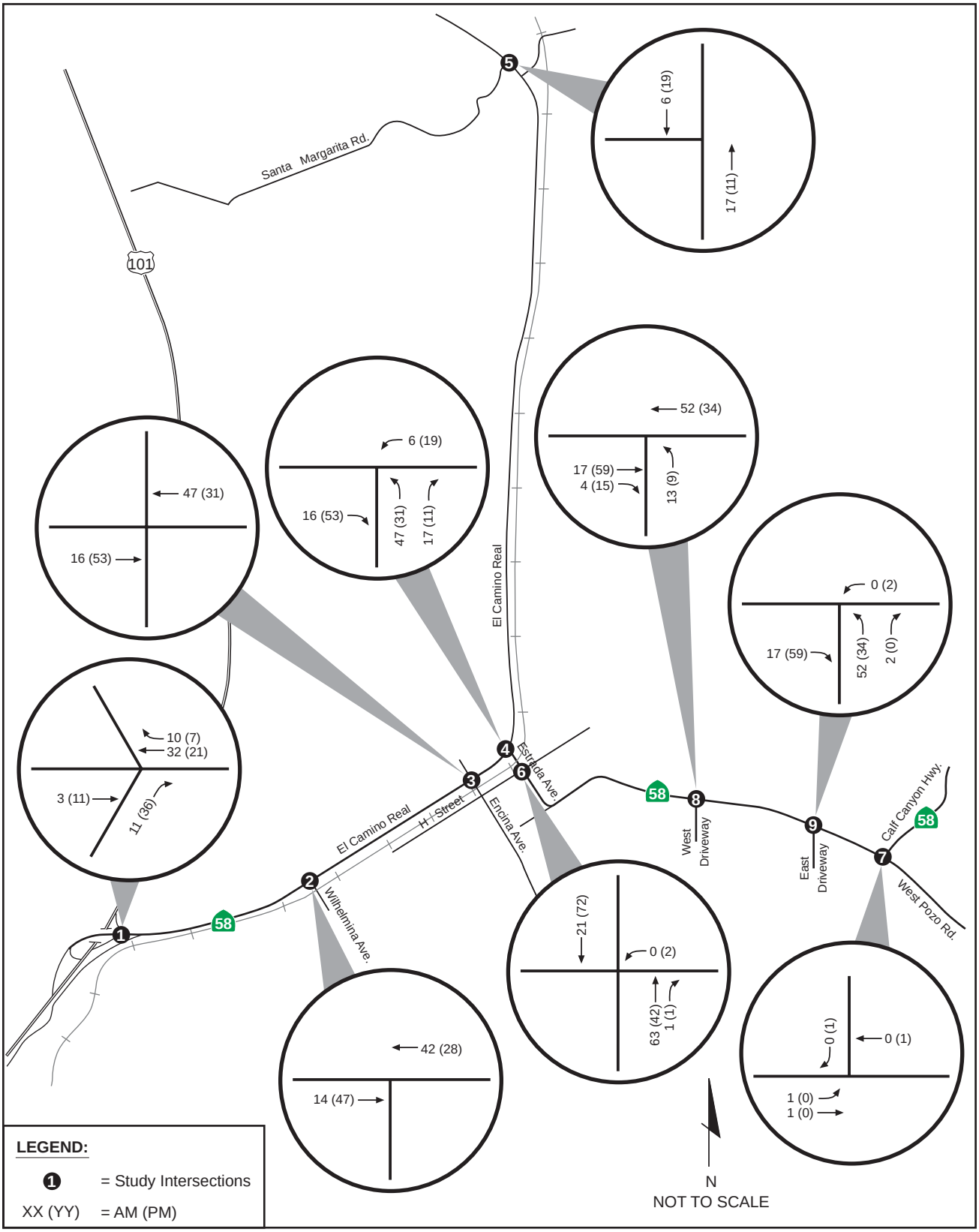
RESIDENTIAL TRIP DISTRIBUTION

December 2006
SJ05-815

FIGURE 7



Santa Margarita Ranch

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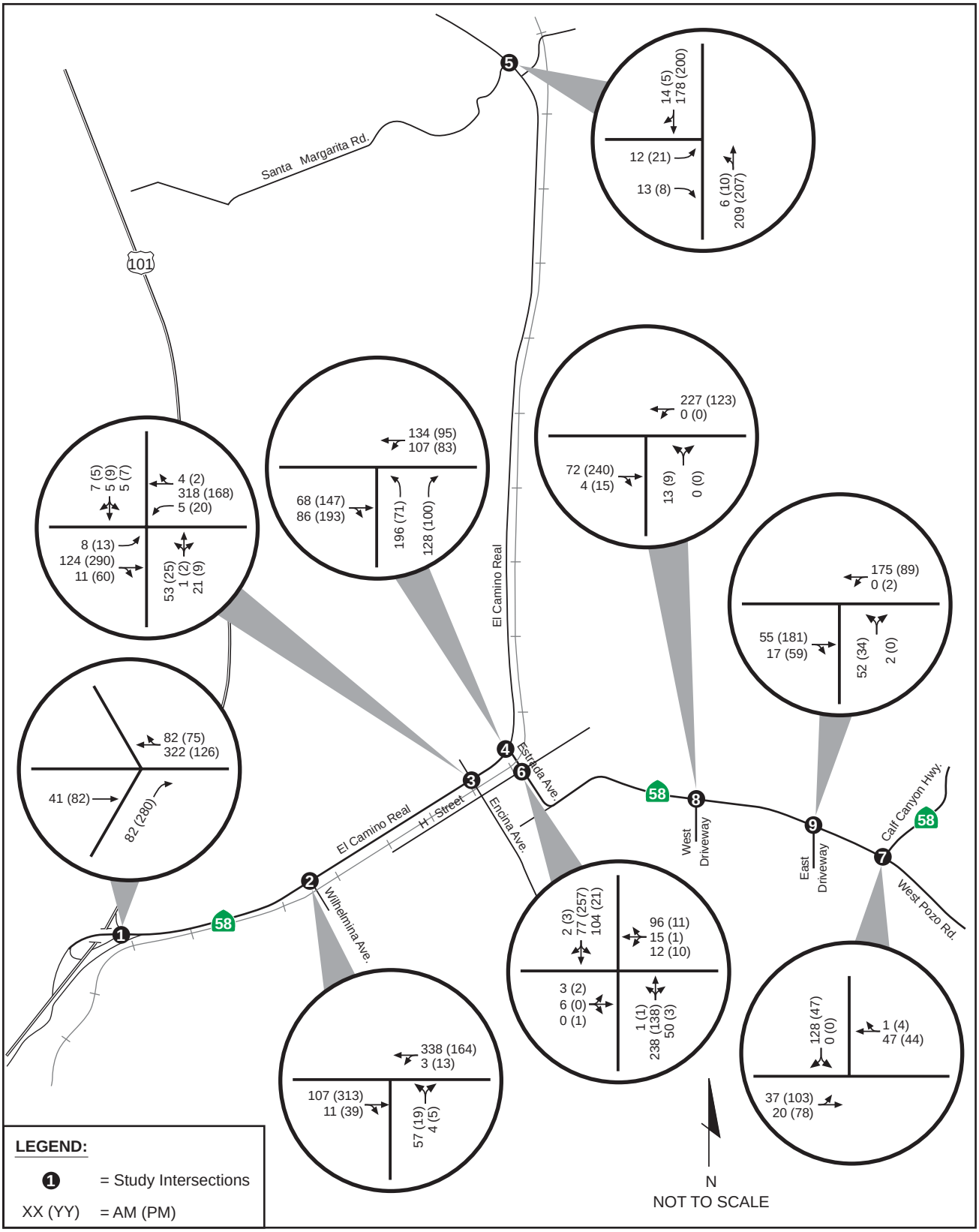
ARCS TRIP ASSIGNMENT

December 2006
SJ05-815

FIGURE 8



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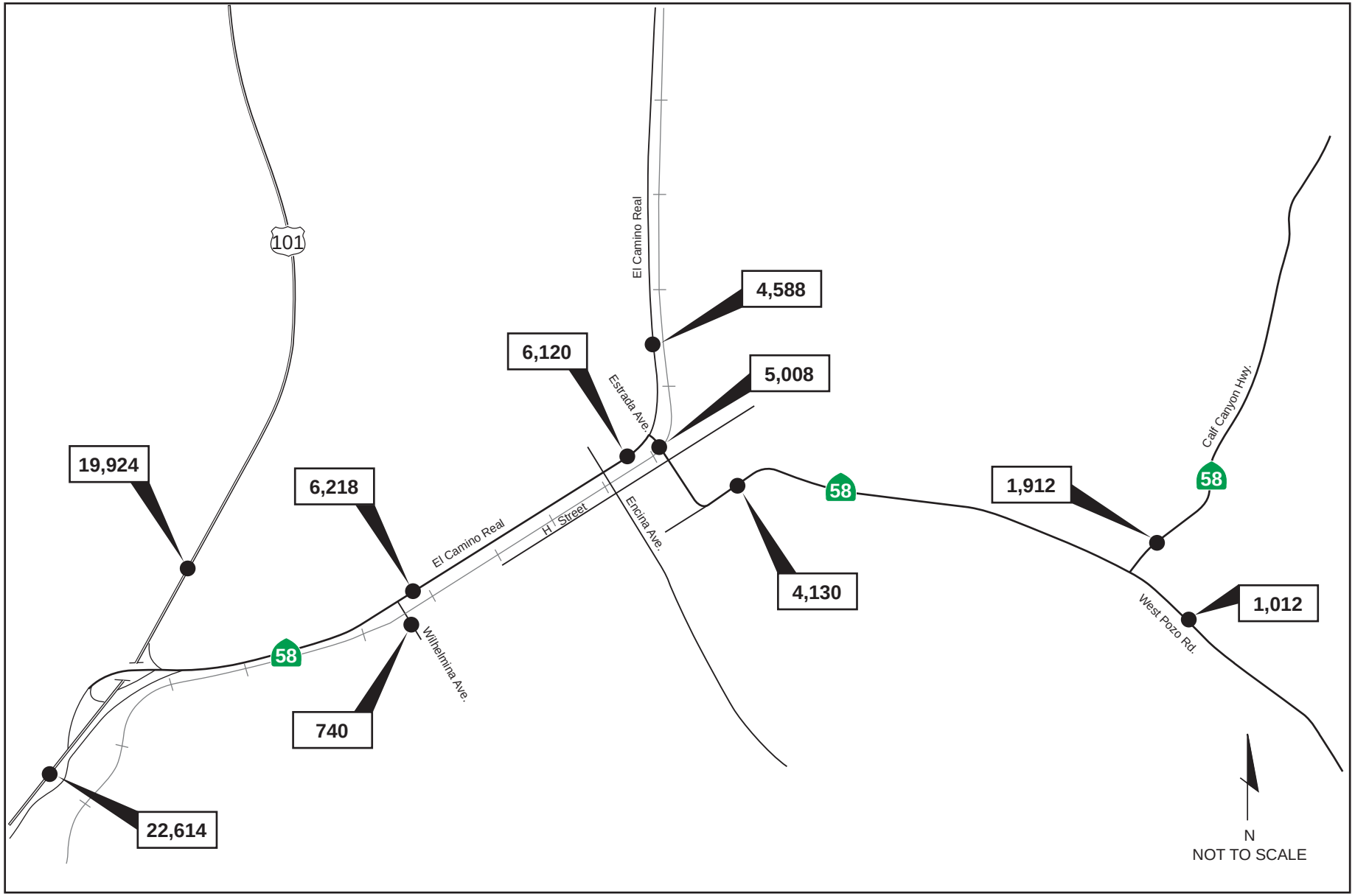
EXISTING + ARCS INTERSECTION PEAK-HOUR VOLUMES

FIGURE 9



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EXISTING + ARCS AVERAGE DAILY TRAFFIC VOLUMES

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FIGURE 10

TABLE 12
EXISTING + ARCS INTERSECTION LEVELS OF SERVICE

Intersection	Peak Hour[1]	Intersection Control	Existing		Existing Plus ARCS	
			Delay[2]	LOS[3]	Delay[2]	LOS[3]
1. US 101 Northbound Ramps and State Route 58	AM PM	Uncontrolled	8.9 10.1	A B	8.9 10.5	A B
2. El Camino Real (SR 58) and Wilhelmina Avenue	AM PM	Side Street Stop	12.2 11.7	B B	13.0 12.5	B B
3. El Camino Real (SR 58) and Encina Avenue	AM PM	Side Street Stop	12.8 13.0	B B	13.8 14.2	B B
4. El Camino Real (SR 58) and Estrada Avenue	AM PM	Side Street Stop	13.8 11.0	B B	16.3 12.3	C B
5. El Camino Real and Santa Margarita Road	AM PM	Side Street Stop	10.4 11.0	B B	10.6 11.2	B B
6. Estrada Avenue (SR 58) and H Street	AM PM	Side Street Stop	15.6 10.7	C B	17.4 11.7	C B
7. Calf Canyon Highway (SR 58) and West Pozo Road	AM PM	Side Street Stop	9.2 8.8	A A	9.2 8.8	A A
8. West Pozo Road (SR 58) and West Driveway	AM PM	Side Street Stop	Future Intersection		10.7 11.1	B B
9. West Pozo Road (SR 58) and East Driveway	AM PM	Side Street Stop	Future Intersection		10.5 10.7	B B

Notes:

1 AM = morning peak hour, PM = afternoon peak hour.

2 Whole intersection weighted average control delay expressed in seconds per vehicle using methodology described in the *2000 HCM*. For side street stop controlled intersections, total control delay for the worst movement is presented.

3 LOS = Level of service. For side street stop controlled intersections, LOS for the worst movement is shown. LOS calculations conducted using the Synchro analysis software package.

Roadway Segments

The results of the roadway level of service analysis for Existing Plus ARCS Conditions are summarized in Tables 13 and 14. The corresponding calculation sheets are contained in Appendix C. The roadways segments are projected to operate at acceptable levels (above County's LOS C and Caltrans LOS C/D cusp) with the addition of ARCS traffic.

TABLE 13
EXISTING + ARCS TWO-LANE HIGHWAY LEVELS OF SERVICE

Roadway Segment	Class Designation	Peak Hour	Existing		Existing Plus ARCS	
			PTSF[1]	LOS[2]	PTSF[1]	LOS[2]
El Camino Real north of Estrada Avenue	I	AM	37.4	B	39.4	C
		PM	31.7	B	33.7	B
West Pozo Road (SR 58) between J Street and West Driveway	II	AM	45.5	B	50.6	B
		PM	45.9	B	53.2	B
West Pozo Road southeast of Calf Canyon Highway (SR 58)	II	AM	30.2	A	30.3	A
		PM	28.5	A	28.6	A
Calf Canyon Highway (SR 58) northeast of West Pozo Road	II	AM	51.0	B	51.1	B
		PM	46.3	B	46.4	B

Notes:
1 PTSF = Percent time-spent-following.
2 LOS = Level of service. LOS calculations conducted using the HCS+ analysis software package.

TABLE 14
EXISTING + ARCS LOCAL ROADWAY LEVELS OF SERVICE

Roadway Segment	Roadway Type	Existing		Existing Plus ARCS	
		Volume[1]	LOS[2]	Volume[1]	LOS[3]
El Camino Real (SR 58) between Wilhelmina Avenue and Maud Avenue	2-Lane Arterial (no left-turn lane)	5,490	B	6,218	B
El Camino Real (SR 58) between Pinal Avenue and Estrada Avenue	2-Lane Arterial (no left-turn lane)	5,300	B	6,120	B
Estrada Avenue (SR 58) south of El Camino Real	2-Lane Arterial (no left-turn lane)	3,900	A	5,008	A
Wilhelmina Avenue between El Camino Real and I Street	2-Lane Collector/ Local Street	740	A	740	A

Notes:
1 Average daily traffic.
2 LOS = Level of service.

Freeway Segments and Ramps

Mainline Segments

Table 15 presents the freeway mainline levels of service under Existing Plus ARCS Conditions. The corresponding calculation sheets are contained in Appendix D. The segments of US 101 near the site are projected to operate at LOS C or better which is above Caltrans' LOS C/D cusp.

TABLE 15
EXISTING + ARCS US 101 MAINLINE LEVELS OF SERVICE

Travel Direction	Segment	Peak Hour	Existing		Existing Plus ARCS	
			Density[1]	LOS[2]	Density[1]	LOS[2]
Northbound	South of SR 58	AM	9.1	A	9.2	A
		PM	22.7	C	23.0	C
	North of SR 58	AM	9.1	A	9.2	A
		PM	21.1	C	21.1	C
Southbound	North of SR 58	AM	19.3	C	19.4	C
		PM	12.3	B	12.4	B
	South of SR 58	AM	21.6	C	21.9	C
		PM	12.6	B	12.8	B

Notes:
1 Measured in vehicles per mile per lane.
2 LOS = Level of service.

Ramp Junctions

A freeway ramp junction LOS analysis was conducted with traffic added by the ARCS development. The results are summarized in Table 16 and the corresponding calculation sheets are contained in Appendix E. The addition of ARCS traffic is not projected to degrade the level of service rating at the ramp junctions between Existing and Existing Plus ARCS Conditions. The northbound off-ramp is projected to continue to operate below the Caltrans LOS D standard. The remaining ramp junctions are projected to operate at acceptable levels (LOS C or better).

TABLE 16
EXISTING + ARCS US 101 AT SR 58 RAMP JUNCTION LEVELS OF SERVICE

Travel Direction	Merge/Diverge	Peak Hour	Existing		Existing Plus ARCS	
			Density[1]	LOS[2]	Density[1]	LOS[2]
Northbound	Diverge (Off-ramp)	AM	13.2	B	13.3	B
		PM	28.3	D	28.7	D
	Merge (On-ramp)	AM	11.9	B	12.0	B
		PM	24.0	C	24.0	C
Southbound	Diverge (Off-ramp)	AM	23.6	C	23.7	C
		PM	15.8	B	15.9	B
	Merge (On-ramp)	AM	24.3	C	24.6	C
		PM	15.3	B	15.5	B

Notes:
1 Measured in vehicles per mile per lane.
2 LOS = Level of service.

THRESHOLDS OF SIGNIFICANCE

CEQA Guidelines

The significance of potential transportation and circulation impacts are based on thresholds identified within Appendix G of the State CEQA Guidelines. According to the guidelines, transportation impacts are considered significant if the proposed project will:

- Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections);
- Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways;
- Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment);
- Result in inadequate emergency access;
- Result in inadequate parking capacity; or,
- Conflict with adopted polities, plans, or programs supporting alternative transportation (e.g. bus turnouts or bicycle racks).

County of San Luis Obispo

In addition to the CEQA impact guidelines, any adverse transportation and circulation impacts are considered to be significant if they result in an inconsistency with the thresholds identified in the *County of San Luis Obispo General Plan*. The following are impact thresholds maintained by the County:

Unsignalized Intersections

A significant impact at an unsignalized intersection is defined to occur when the addition of project traffic:

1. Causes intersection operations to deteriorate from an acceptable level (LOS C or better) to an unacceptable level (LOS D, E, or F) and satisfies the peak-hour signal warrant from the *Manual on Uniform Traffic Control Devices (MUTCD)*.
2. Exacerbates unacceptable operations (LOS D, E, or F) and satisfies the peak-hour signal warrant from the *Manual on Uniform Traffic Control Devices* (MUTCD).

Roadway Segments

Evaluation of arterial roadway segments reflects planning-level conditions along a street, whereas analysis of the intersections reflects detailed conditions of the arterial. Typically, poor operating conditions on an arterial are due to constraints at the intersections, and can be mitigated at the intersection. Therefore, if an arterial roadway segment analysis shows poor operating conditions, but individual intersections operate within acceptable standards, the mitigation measures defer to the intersection. For County roadway segments, a degradation in the level of service from an acceptable level (LOS C or better) to an unacceptable level (LOS D, E, or F) is a significant impact. For segments already operating at LOS D, E, or F without the project, the addition of any project traffic to that location is considered a significant impact.

Caltrans

For Caltrans' facilities (intersections, roadway segment, freeway segments, and freeway ramp junctions), a degradation in the level of service from an acceptable level (LOS C/D threshold or better) to an unacceptable level (LOS D, E, or F) is a significant impact.

Transit Impacts

Impacts to transit would be considered significant if the proposed project will conflict with existing or planned transit facilities or will generate potential transit trips and will not provide adequate facilities for pedestrians and bicyclists to access transit routes and stops.

Bicycle and Pedestrian Impacts

An impact to pedestrians and bicyclists would be considered significant if implementation of the proposed project will conflict with existing or planned bicycle facilities or will generate pedestrian and bicycle demand without providing adequate and appropriate facilities for safe non-motorized mobility.

PROJECT IMPACTS AND MITIGATION MEASURES

Intersections

Although all unsignalized intersections are operating at acceptable levels of service (LOS C/D threshold or better), the addition of Phase 1 project traffic will add traffic to locations with existing operational issues and to locations that do not meet current Caltrans or County design standards. These locations are discussed in detail below:

US 101 Northbound Off-Ramp/SR 58

As indicated previously, the SR 58/US 101 Northbound Off-ramp intersection has no traffic control devices and US 101 northbound off-ramp vehicles merge directly with eastbound SR 58 traffic. The existing design does not meet Caltrans standards, and the addition of Phase 1 traffic will exacerbate the existing operational problem.

The required mitigation is to redesign the merge area to provide 400 feet of merging distance. Since the park-and-ride facility is located adjacent to the northbound off-ramp, reconfiguration of the parking lot and access to a nearby frontage road is required. Further studies would need to be completed to determine whether the slope next to the off-ramp will need to be re-graded to provide the additional merge distance as part of this improvement. However, a field assessment indicates that the merge area could be lengthened simply by physically separating the park and ride lot from the roadway, which would improve the existing situation and reduce the project impact. The project applicant should contribute towards reconfiguration of the northbound off-ramp and/or park-n-ride facilities to provide additional merge distance. This improvement could be combined with other improvements to the interchange as a part of a Project Study Report (PSR) as described below under the Freeway Segments and Ramps section. It should be noted that if the costs of the improvements can be completed for one million dollars or less, the work can be completed under an encroachment permit from Caltrans and a PSR would not be required.

El Camino Real/Estrada Avenue

The El Camino Real/Estrada Avenue intersection has a crest in the center of the intersection that limits the sight distance for northbound vehicles to turn onto El Camino Real. As indicated in Table 10, a total of six (6) collisions were reported at this location. The types of collision for each incident were as follows: driving under influence (1), rear-end (1), side-swipe (1), and hitting a fixed object (3).

The intersection shall be redesigned so that both roadways are at the same grade. Consideration should be given to the railroad tracks, which are located 60 feet from the intersection. The railroad grade would control the final elevations and profile of the intersection.

Queues

A review of the northbound (Estrada Avenue) queues indicate that the northbound left-turns are projected to queue back to the railroad tracks during the AM peak hour. Thus, future signalization of this intersection (required to mitigate cumulative impacts) should include rail pre-emption to allow northbound vehicles to clear the tracks.

Left and Right-turn Warrants

A review of the westbound left-turns from El Camino Real to Estrada Avenue was conducted to determine if a dedicated westbound left-turn lane is warranted. According to *Manual on Uniform Traffic Control Devices (MUTCD) 2003 California Supplement*, protected left-turn phasing is not warranted based on the projected volumes (product of westbound left-turns and conflicting through volume do not exceed 100,000). Other conditions such as collisions (5 or more left-turn collisions in 12-month period), delay, and miscellaneous factors (impaired sight distance due to horizontal or vertical curvature) should be considered according to the MUTCD CA supplement. The collision history does not indicate a problem with left-turns and the redesign of the intersection, as indicated above, would improve sight distance. The left-turn volume warrants from the Intersection Channelization Design Guide (Transportation Research Board, 1985) also indicate that a westbound left-turn lane is not warranted under Existing or Project Conditions (see Appendix F).

According to Chapter 5 of the ITE Transportation and Land Development Manual, right-turn lanes should be considered when right-turn volumes exceeds 350 vehicles per hour per lane. The eastbound right-turn volume does not exceed 350 vehicles for either peak hour and a right-turn lane is not recommended based on this guideline.

The County and Caltrans shall make the final determination on the need for exclusive left- and right-turn lanes at this intersection. The redesign of the intersection should not preclude construction of the westbound left-turn and eastbound right-turn pockets, which would be required under the Future Development Program. According to San Luis Obispo County Public Works staff, extension of an existing culvert is required as part of this improvement.

Sight Distance

Vehicles turning left or right from Estrada Avenue onto El Camino Real have a sight distance of approximately 450 feet to the west and over 500 feet to the east. The *Highway Design Manual* (Caltrans, Fifth Edition) requires a minimum stopping sight distance of 310 feet for a 40 mph design speed and a minimum of 590 feet for a 60 mph design speed. As indicated in the field observations, vehicles have to encroach into the intersection to access SR 58. The project applicant shall pay fair share fees to fund the redesign of this intersection to eliminate the grade differential.

<u>Estrada Avenue/H Street</u>

Similar to the El Camino Real/Estrada Avenue intersection, sight distance for northbound Estrada Avenue vehicles is limited due to a crest in the roadway. Northbound vehicles travel over the crest and immediately arrive at H Street.

Field measurements indicate that the stopping sight distance for northbound Estrada Avenue vehicles is approximately 225 feet which corresponds to a design speed of 30 mph. Vehicles are currently exceeding the 30 mph speed limit and may not have sufficient time and pavement to come to a complete stop if pedestrians are crossing Estrada Avenue at H Street to travel to Santa Margarita Elementary School or to Santa Margarita Park.

The Flashing Beacon at School Crossings warrant (Section 4K.103 from MUTCD 2003 CA Supplement) is satisfied under Project Conditions. The vehicular volume exceeds 140 vehicles and the school age pedestrians exceed 40 pedestrians for each of 2 hours and the critical approach speed exceeds 35 mph with no other controlled crossing nearby. Thus. a pedestrian-activated advanced warning beacon should be installed on the northbound approach before the crest to warn drivers of the presence of pedestrians crossing at the intersection. A pedestrian-activated beacon shall also be installed to face southbound Estrada Avenue

traffic. The project applicant shall pay fair share fees to fund and install advance warning beacons on Estrada Avenue.

The *Santa Margarita Design Plan*, adopted October 9, 2001, recommended the following long-term improvements to Estrada Avenue between H Street and I Street:

- Improve sight distance by eliminating the hill/crest
- Add curbs and textured crossings at Estrada Avenue/H Street
- Provide bike lanes on Estrada Avenue

These improvements represent alternative mitigation measures for this intersection. However, eliminating the crest would require extensive earthwork and roadbed re-construction resulting in substantially design and construction costs. Depending on the final design of the long-term improvements, the flashing beacons could be integrated into the plan.

Roadway Segments

The addition of ARCS traffic will contribute to existing operational problems on SR 58 near J Street. SR 58 transitions into a 90-degree curve south of J Street. Except for a 15 mile per hour (mph) warning sign, no additional warnings signs or physical barriers are provided. As indicated in the Existing Conditions section, a total of six (6) collisions were reported over a three-year period. These collisions include the following types and number of incidents: head-on collision (2), side-swipe collision (2), broad-side collision (1), and hitting a fixed object (1).

Implementation of one of the following alternatives should be considered to improve the existing operational deficiencies:

1. Increase the curb radius to allow vehicles to make a gradual turn instead of a sharp 90-degree turn. This mitigation would have secondary impacts such as additional right-of-way requirements and would encroach onto the single-family house located at the northeast corner.
2. Realign SR 58 along a tangent south of J Street to the ARCS development. The realignment would make the SR 58/J Street intersection into more of a typical intersection layout.

Widening of both sides of SR 58 (from El Camino Real to the project site) to provide shoulders and/or bike lanes in accordance with County standards would also be required with implementation of one of the alternatives listed above. According to City staff, the project applicant controls all adjacent right-of-way, except for the areas adjacent to the cemetery parcel, to allow for potential widening. A supplemental analysis would be required to determine if additional right-of-way take is required or if there are secondary impacts associated with the proposed widening.

Freeway Segments and Ramps

ARCS traffic will be added to the US 101 southbound off-ramp to SR 58. Currently this ramp is configured with a short diverge taper of approximately 250 feet, and vehicles exiting the freeway must negotiate a short radius curve that is posted for 15 mph immediately after exiting the mainline. This design causes southbound US 101 vehicles to slow down on the mainline section or brake rapidly within a short distance to negotiate the off-ramp.. This existing design does not meet current Caltrans standards. According to Figure 504.2A of the HDM, 590 feet of deceleration length is required for exit ramps with a radius of less than 300 feet. Section

504.3 of the HDM also requires the minimum ramp design speed to meet or exceed the design speed of the facility for which the through movement is provided. The southbound off-ramp posted speed of 15 mph is below the design speed across the overpass (estimated to be 35 mph).

The required mitigation is to lengthen the southbound off-ramp deceleration length to meet current Caltrans standards. Redesign of the southbound off-ramp to accommodate a larger loop radius and higher design speed can be accomplished by relocating the ramp further north and west. A Project Study Report (PSR) would be required to determine potential environmental impacts and to analyze design alternatives. The project applicant should contribute towards preparation of applicable Caltrans project development (including the PSR) and environmental studies, and reconstruction of the southbound off-ramp. The PSR will also address the LOS deficiency for the northbound off-ramp.

According to Caltrans staff, the preparation of such studies may be credited towards required mitigation measures on state facilities. The creation of a County area-wide impact fee program could be used to contribute funding towards these studies and to other required mitigation measures.

Transit

The nearest transit facilities to the proposed Phase 1 project are located more than one mile away on El Camino Real in Santa Margarita. Typical activities within the proposed development are unlikely to create demand for transit facilities due to the relatively low density of the proposed development. Based on the project impact criteria listed above, the proposed project would have a less than significant impact on the transit facilities.

Bicycle and Pedestrian

As indicated previously, bike lanes are not provided on SR 58 adjacent to the site. Bicyclists are forced to use the narrow shoulders or to ride in the travel lanes. The traffic added by the proposed development will increase potential automobile-bicycle conflicts. As indicated in the roadway segment mitigation measure section, widening of both sides of SR 58, from El Camino Real to the eastern site driveway, to provide standard shoulders and/or bike lanes would be required.

Limited pedestrian sidewalks and crosswalks are provided in downtown Santa Margarita and there are currently no pedestrian facilities between the proposed development and downtown. Typical activities within the proposed development are unlikely to create high demand for pedestrian facilities to and from downtown because the site is located more than one mile away. However, traffic generated by the Agricultural Residential Cluster Subdivision development will be adding traffic to the El Camino Real/Encina Avenue intersection. According to San Luis Obispo County Public Works Department, Caltrans District 5 Traffic Safety staff has completed a warrant study which shows the El Camino Real/Encina Avenue intersection meeting warrants for pedestrian flashing warning lights (the volume warrant is not met). According to Caltrans District 5 staff, the proposed Agricultural Residential Cluster Subdivision would likely trigger the volume warrant being satisfied.

Pedestrian in-pavement flashing lights shall be installed on the eastbound and westbound approaches to the intersection of El Camino Real and Encina Avenue to warn drivers of the presence of pedestrians crossing at the intersection. The applicant shall pay fair share fees to fund and install the in-pavement flashing lights on El Camino Real. The design of the pedestrian in-pavement flashing lights shall be consistent with the *Santa Margarita Design Plan*, adopted October 9, 2001, which recommended pedestrian improvements along El Camino Real in downtown Santa Margarita. Because El Camino Real (SR 58) is a state-maintained roadway, this measure would require Caltrans approval.

The proposed provision of a pathway between the existing community and proposed development would accommodate the increased pedestrian demand.

SITE ACCESS AND ON-SITE CIRCULATION

The proposed site plan for the ARCS development is shown on Figure 2. Access to the site from SR 58 is provided via one new driveway and one existing driveway on West Pozo Road. The west driveway is located approximately 0.5 miles west of Calf Canyon Road (SR 58)/West Pozo Road intersection. The existing east driveway is located approximately 750 feet west of the Calf Canyon Road (SR 58)/West Pozo Road intersection. No improvements (i.e. turn pockets) on West Pozo Road (SR 58) at the two project driveways are proposed.

The east driveway will handle the majority (i.e., approximately 80%) of ARCS traffic, and the main internal roadway connects to this driveway. Both driveways are assumed to be side-street stop-controlled intersections, with the project roadways having one shared left-right exit lane and one entrance lane. Sight distance at the proposed western driveway is limited by an existing crest on West Pozo Road to the west of the currently proposed driveway location. According to County of San Luis Obispo Public Works staff, vehicles travel at speeds at or over 55 mph. Based upon a review of sight distance at the project driveways, we recommend that the west driveway be relocated a minimum of 590 feet to the east to meet the sight distance requirements of the existing travel speeds. The relocated west driveway will be in close proximity to the driveway for the cemetery located on the north side of Pozo Road.

The internal roadway system is structured as a series of three loop roads and two cul-de-sacs. Several of the housing units are located at the end of private drives connected to the loop roads and cul-de-sacs.

Based upon a review of the projected volumes at the driveways, the number of proposed driveways is adequate to serve the ARCS development. The number of right-turning vehicles is not high enough to justify turn pockets.

Internal vehicular circulation is adequate. All roadways are required to meet cross-section standards established by the County. Internal bicycle and pedestrian circulation may be inadequate. Adequate shoulder width or parallel paths, in accordance with County standards, should be provided along all internal roadways to accommodate bicyclists and pedestrians separately from vehicular travel lanes.

The design of the driveways on West Pozo Road shall follow the tapers and radius as illustrated on Figure 405.7 of the Caltrans Highway Design Manual.

The proposed pedestrian pathway between the West Pozo Road/West Driveway intersection and J Street in Santa Margarita should be realigned to run parallel to West Pozo Road on the south side of the street. The current configuration requires pedestrians to cross West Pozo Road at the project driveway instead of in town, where traffic speeds are lower. Also, the current alignment requires pedestrians to cross Estrada Avenue in town to return to the west side of the street to access downtown and most residential development.

4. CUMULATIVE CONDITIONS

This chapter presents an analysis of Cumulative Conditions without the proposed project, with the Agricultural Residential Cluster Subdivision (ARCS), and with the Future Development Program (FDP). Cumulative No Project Conditions are defined as existing traffic volumes expanded by an annual growth factor over the next 20 years, plus traffic from pending projects. Trips from the ARCS were added to the Cumulative No Project Conditions to obtain Cumulative Plus ARCS Conditions. Trips from the FDP were added to Cumulative Plus ARCS Conditions to obtain Cumulative Plus ARCS Plus FDP Conditions. This chapter describes the procedure used to determine the cumulative traffic volumes and the results of the level of service analysis for Cumulative Conditions.

TRAFFIC ESTIMATES

Cumulative No Project Volumes

Cumulative No Project volumes reflect 20 years of growth in the study area plus traffic from pending projects. According to County staff, no pending projects are proposed in the immediate Santa Margarita area. Two pending projects were identified in south Atascadero that would add some trips through Santa Margarita.

In addition to traffic from the three pending projects, an annual growth factor of 1.4% was applied to the existing volumes for a 20-year period. The growth factor is based upon a comparison of existing (Year 2006) roadway volumes to Year 2001 volumes. Pending project trips were added to the growth-factored volumes to represent Cumulative No Project Conditions, and the resulting volumes are shown on Figure 11. Cumulative No Project roadway segment volumes were developed by applying the growth factor and including traffic from the pending projects (see Figure 12 for the Cumulative No Project roadway segment volumes).

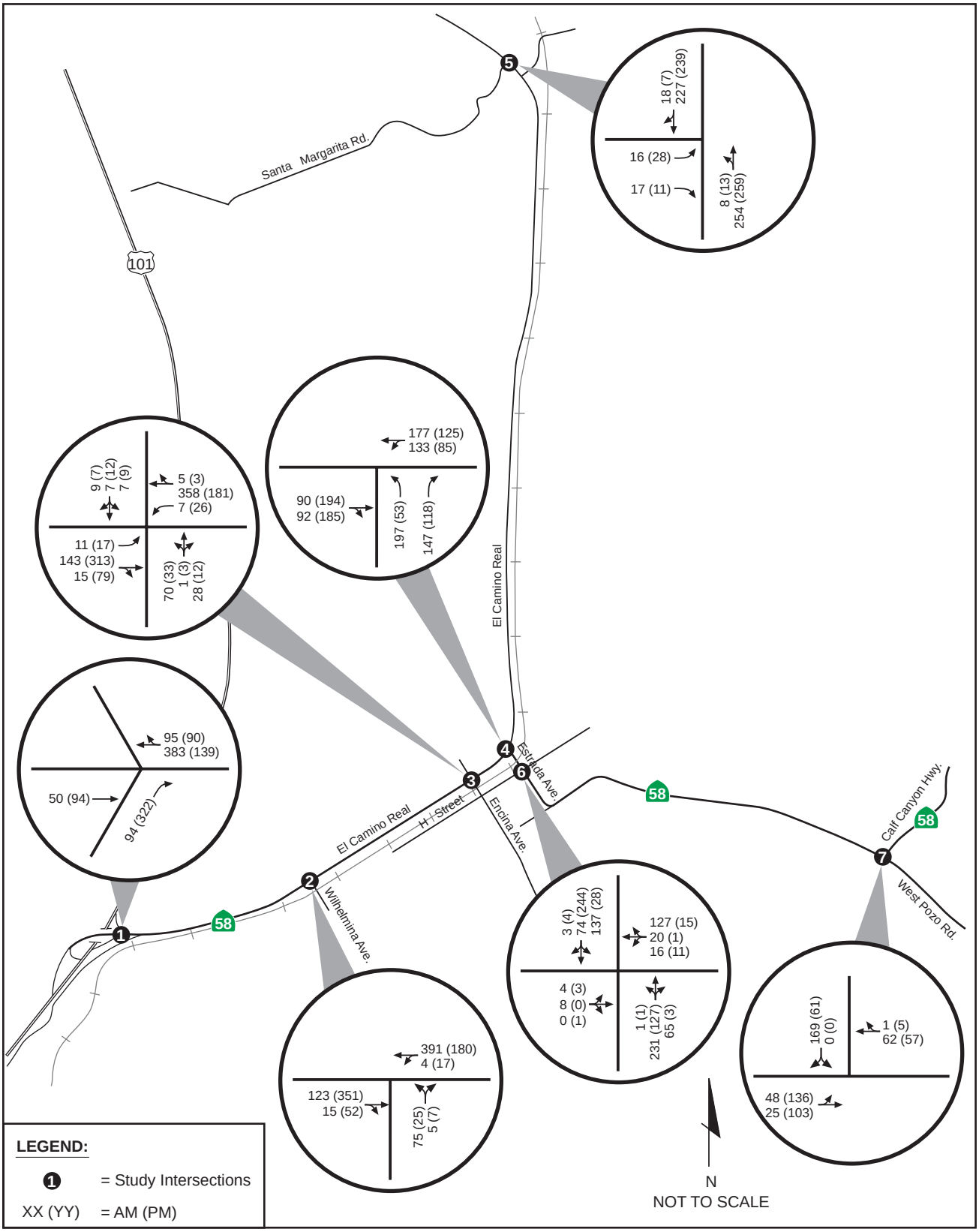
Cumulative Plus ARCS Volumes

The ARCS-generated trips identified in Chapter 3 were added to the Cumulative No Project volumes to represent Cumulative Plus ARCS Conditions, as shown on Figure 13. Figure 12 presents the Cumulative No Project and Cumulative Plus ARCS roadway segment volumes.

Cumulative Plus ARCS Plus FDP Volumes

The amount of traffic added to the surrounding roadway system by most FDP uses was estimated by applying trip generation rates appropriate for the AM and PM peak hours as published in *Trip Generation (7th Edition)* by the Institute of Transportation Engineers. Trip generation estimates for the wineries are based on surveys presented in the *Santa Margarita Ranch Project Draft Traffic and Circulation Study* (ATE, 2004).

Several land uses are assumed to generate traffic outside of the weekday morning and evening peak-hours. These uses include the farm support quarters, amphitheater, churches, livestock sales, and special events for wineries. These uses are estimated to generate a majority of their trips during early weekday evenings (after 6 p.m.) or during the weekend. The swimming pool/neighborhood park is assumed to serve Santa Margarita residents and would be considered trips internal to the community and not new trips to the area. The retreat center was assumed to generate trips at the same rate as single-family homes, as a reasonable worst-case estimate.



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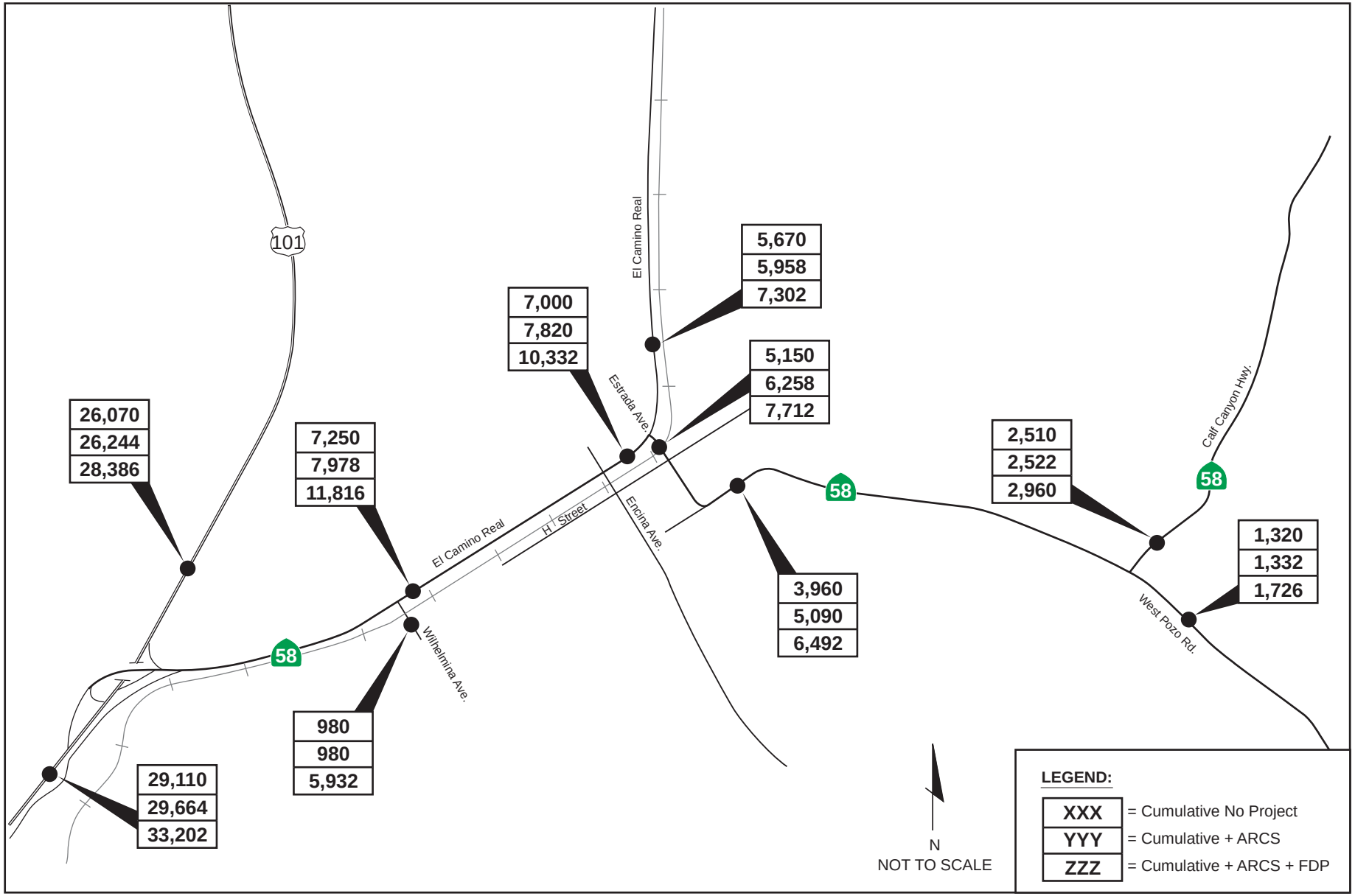
CUMULATIVE NO PROJECT INTERSECTION PEAK-HOUR VOLUMES

FIGURE 11



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CUMULATIVE AVERAGE DAILY TRAFFIC VOLUMES

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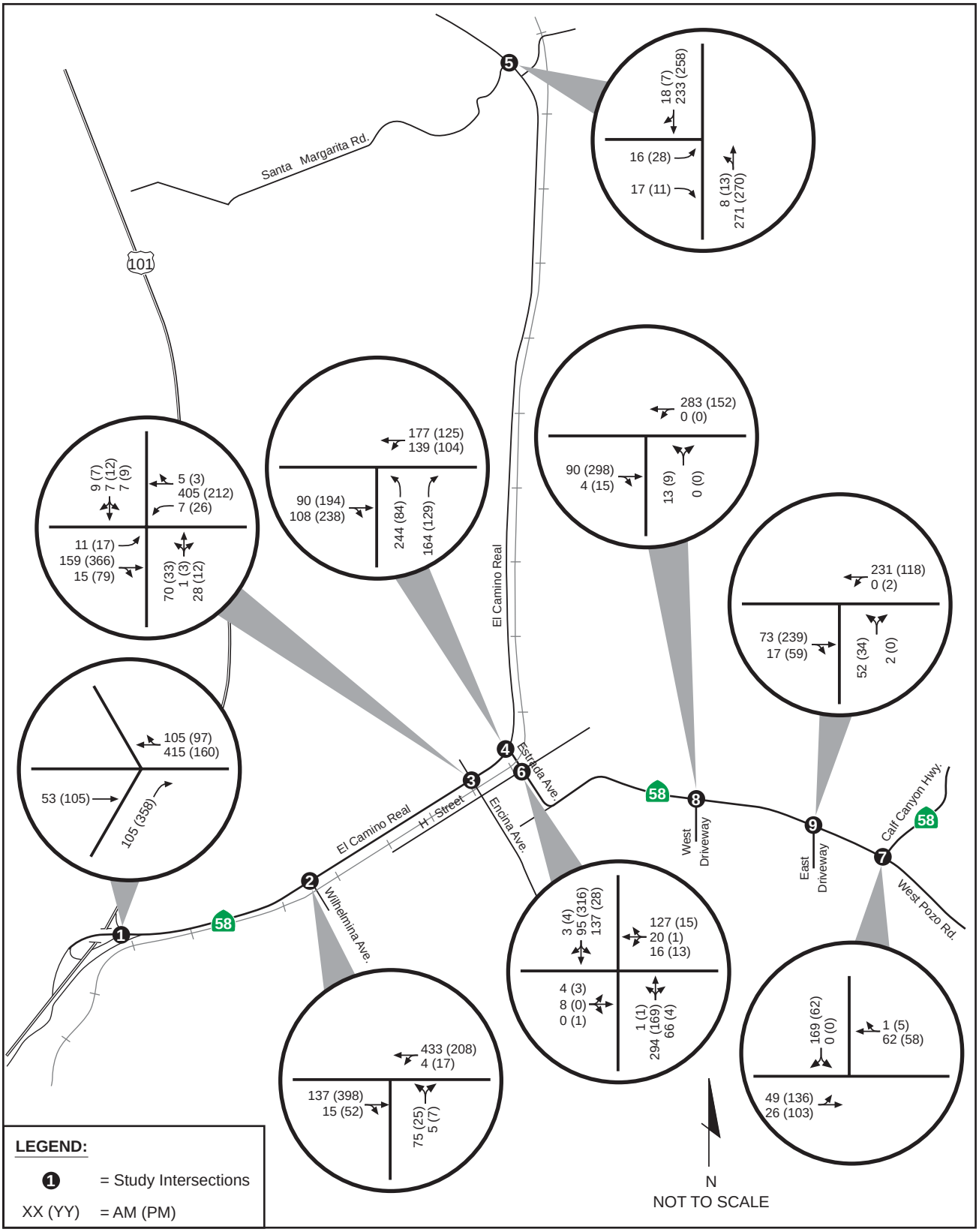
FIGURE 12



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CUMULATIVE + ARCS INTERSECTION PEAK-HOUR VOLUMES

FIGURE 13

The peak-hour trip generation rates, ITE Land Use Code, and trip estimates for FDP land uses are presented in Table 17. The contemplated FDP land uses are estimated to generate 8,137 daily weekday trips, 655 AM peak-hour trips (297 inbound and 358 outbound), and 818 PM peak-hour trips (446 inbound and 372 outbound).

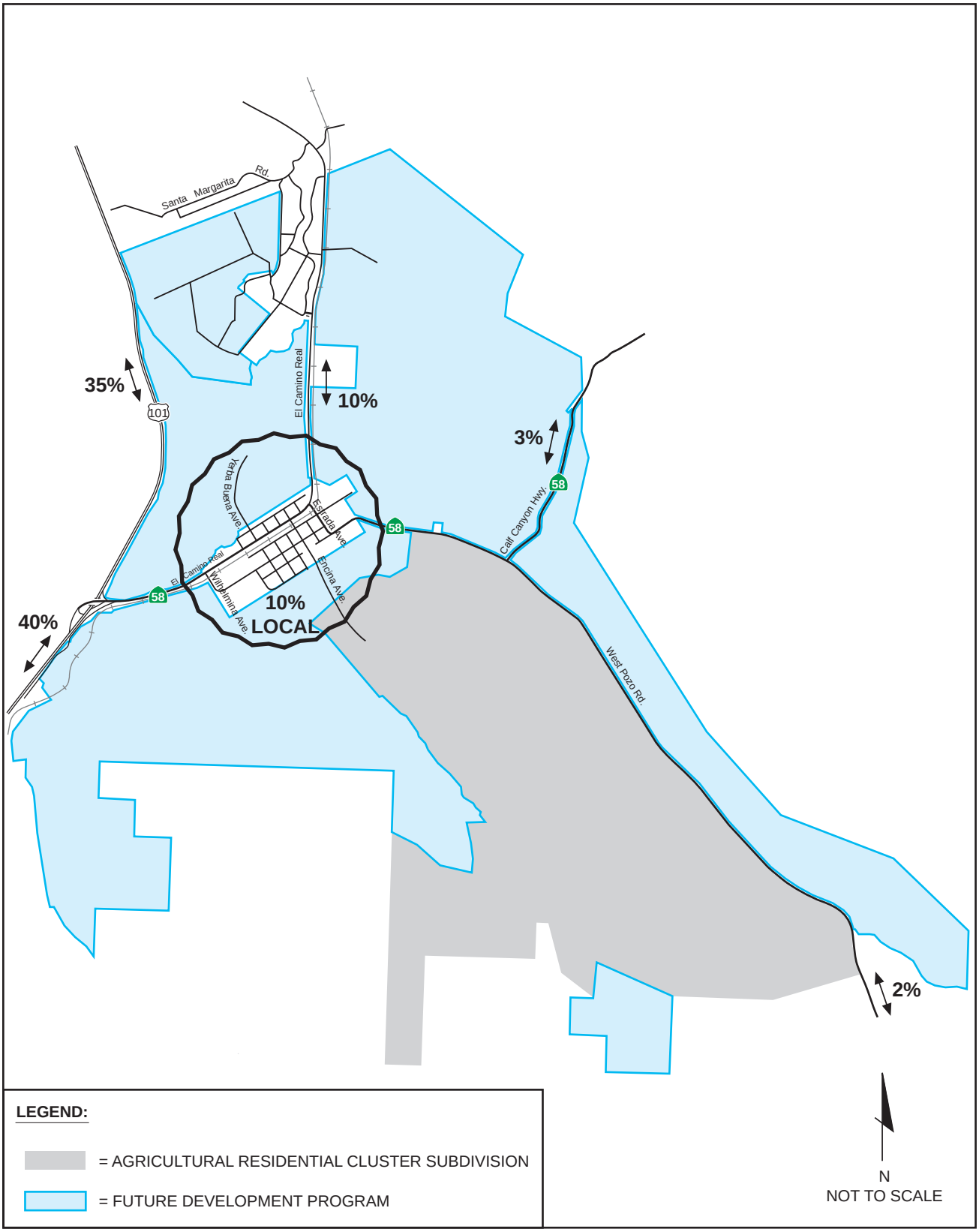
TABLE 17
FDP TRIP GENERATION RATES AND ESTIMATES

Use	ITE Land Use and Code	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Trip Rates								
Single-Family Res. and Retreat Center (per dwelling unit)	Single-Family Detached Housing, 210	9.25	0.18	0.54	0.72	0.58	0.35	0.93
Golf Course (per hole)	Golf Course, 430	35.74	1.75	0.47	2.22	1.21	1.53	2.74
Guest Ranch (per unit)	Resort Hotel, 330	2.45	0.27	0.10	0.37	0.21	0.28	0.49
Café (per seat)	High-Turnover Restaurant, 932	4.83	0.24	0.23	0.47	0.24	0.18	0.42
Amphitheater (per seat)	Live Theater, 441	0.20	0.00	0.00	0.00	0.01	0.01	0.02
Specialty Retail (per 1,000 square feet)	Specialty Retail Center, 814	44.32	0.00	0.00	0.00	1.19	1.52	2.71
Winery (per 1,000 square feet)	–	22.20	1.15	1.14	2.29	0.92	1.37	2.29
Worship (per 1,000 square feet)	Church, 560	9.11	0.39	0.33	0.72	0.34	0.32	0.66
Trip Estimates								
Single-Family Res. and Retreat Center (431 d.u.)		3,987	78	233	311	251	148	399
Golf Course (36 holes)		1,287	63	17	80	44	55	99
Guest Ranch (262 units)		642	70	27	97	55	73	128
Café (200 seats)		966	49	45	94	49	35	84
Amphitheater (600 seats)		120	0	0	0	6	6	12
Specialty Retail (9 k.s.f.)		399	0	0	0	11	13	24
Winery (27 k.s.f.)		599	31	31	62	25	37	62
Worship (15 k.s.f.)		137	6	5	11	5	5	10
Total FDP Estimates		***8,137***	***297***	***358***	***655***	***446***	***372***	***818***

Source: *Trip Generation (7th Edition*), Institute of Transportation Engineers, 2003.

Figure 7 illustrates the major directions of approach and departure that form the trip distribution pattern for the residential land uses. Figure 14 illustrates the trip distribution pattern for the commercial and retail land uses.

The trips generated from the FDP were assigned to the roadway system based on the directions of approach and departure presented on Figures 7 and 14. The FDP trips were added to Cumulative Plus ARCS traffic volumes to establish intersection volumes for Cumulative Plus ARCS Plus FDP Conditions, and are shown on Figure 15.



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COMMERCIAL TRIP DISTRIBUTION

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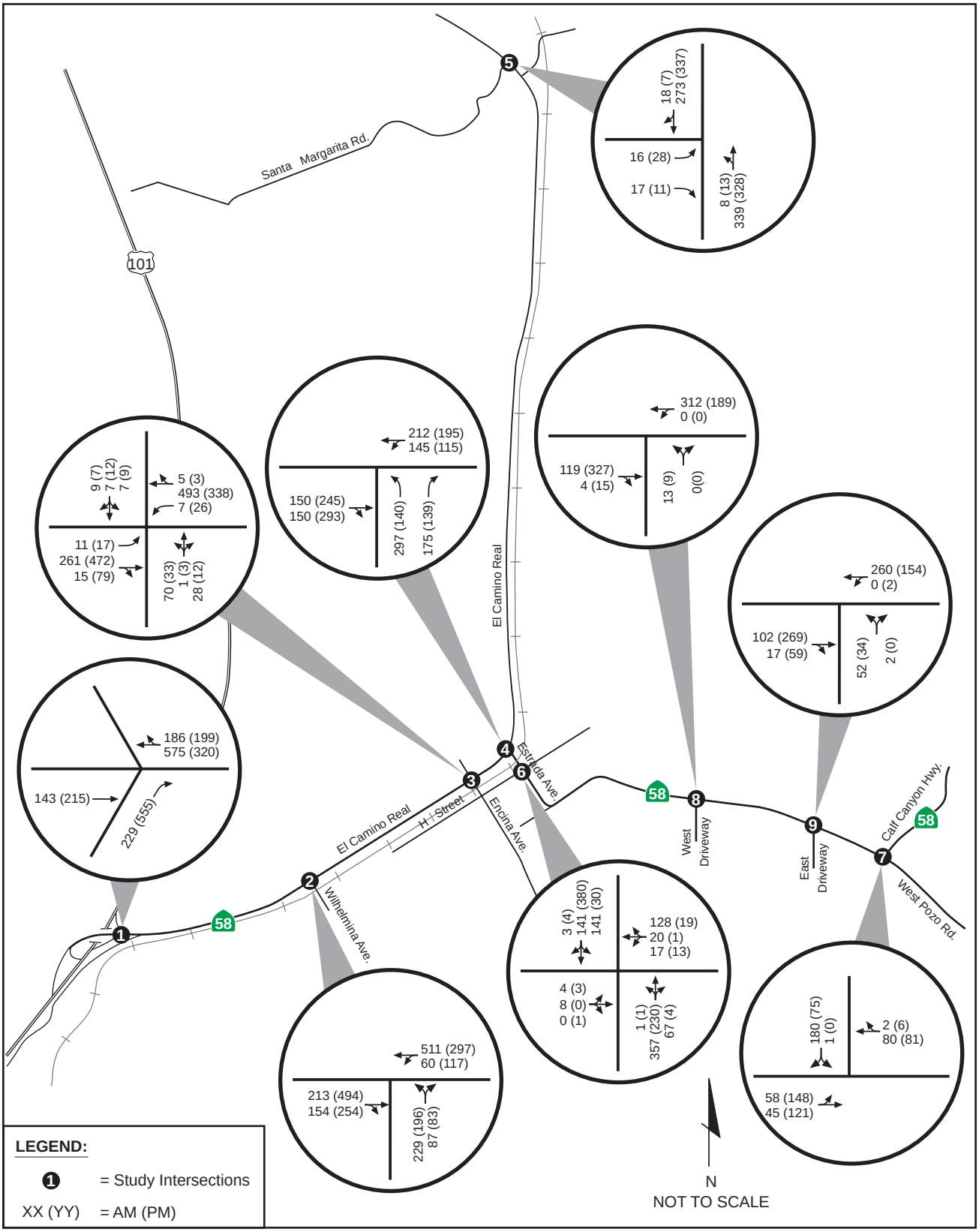
FIGURE 14



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CUMULATIVE + ARCS + FDP INTERSECTION PEAK-HOUR VOLUMES

FIGURE 15

CUMULATIVE LEVELS OF SERVICE

Level of service calculations were conducted for the key intersections and roadway segments under Cumulative Conditions.

Intersections

Table 18 presents the results of the intersection level of service calculations under Cumulative No Project, Cumulative Plus ARCS, and Cumulative Plus ARCS Plus FDP Conditions. The levels of service calculation sheets are included in Appendix B. The addition of ARCS traffic is estimated to degrade the level of service at El Camino Real/Estrada Avenue to LOS D under Cumulative Phase 1 Conditions. This intersection and the El Camino Real/Wilhelmina Avenue intersection are projected to operate at LOS F under Cumulative Plus ARCS Plus FDP Conditions.

TABLE 18
CUMULATIVE INTERSECTION LEVELS OF SERVICE

Intersection	Peak Hour[1]	Cumulative No Project		Cumulative Plus ARCS		Cumulative Plus ARCS Plus FDP	
		Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delay[2]	LOS[3]
1. US 101 Northbound Ramps and State Route 58	AM	9.1	A	9.1	A	11.0	B
	PM	11.1	B	11.7	B	22.8	C
2. El Camino Real (SR 58) and Wilhelmina Avenue	AM	14.5	B	15.6	C	>100	F
	PM	13.5	B	14.5	B	>100	F
3. El Camino Real (SR 58) and Encina Avenue	AM	15.9	C	17.5	C	25.3	D
	PM	15.9	C	17.7	C	25.3	D
4. El Camino Real (SR 58) and Estrada Avenue	AM	21.2	C	31.5	D	>100	F
	PM	12.5	B	14.4	B	24.0	C
5. El Camino Real and Santa Margarita Road	AM	11.3	B	11.5	B	12.4	B
	PM	12.2	B	12.5	B	14.2	B
6. Estrada Avenue (SR 58) and H Street	AM	20.1	C	22.9	C	27.9	D
	PM	11.7	B	12.9	B	14.8	B
7. Calf Canyon Highway (SR 58) and West Pozo Road	AM	9.6	A	9.6	A	9.9	A
	PM	8.9	A	8.9	A	9.1	A
8. West Pozo Road (SR 58) and West Driveway	AM	Future Intersection		11.4	B	12.0	B
	PM			11.9	B	12.7	B
9. West Pozo Road (SR 58) and East Driveway	AM	Future Intersection		11.2	B	11.9	B
	PM			11.5	B	12.3	B

Notes:

1 AM = morning peak hour, PM = afternoon peak hour.

2 Whole intersection weighted average control delay expressed in seconds per vehicle using methodology described in the *2000 HCM*. For side street stop controlled intersections, total control delay for the worst movement is presented.

3 LOS = Level of service. For side street stop controlled intersections, LOS for the worst movement is shown. LOS calculations conducted using the Synchro analysis software package.

Roadway Segments

Tables 19 and 20 present the results of the level of service calculations under Cumulative No Project, Cumulative Plus ARCS, and Cumulative Plus ARCS Plus FDP Conditions, and the corresponding calculation sheets are contained in Appendix C. The two local segments of SR 58 are projected to operate at unacceptable levels by degrading to LOS D under Cumulative Plus ARCS Conditions and LOS E or F under Cumulative Plus ARCS Plus FDP Conditions.

TABLE 19
CUMULATIVE TWO-LANE HIGHWAY LEVELS OF SERVICE

Roadway Segment	Class Desig-nation	Peak Hour	Cumulative No Project		Cumulative Plus ARCS		Cumulative Plus ARCS Plus FDP	
			PTSF[1]	LOS[2]	PTSF[1]	LOS[2]	PTSF[1]	LOS[2]
El Camino Real north of Estrada Avenue	I	AM	46.0	C	47.5	C	54.4	C
		PM	39.4	C	41.2	C	48.8	C
West Pozo Road (SR 58) between J Street and West Driveway	II	AM	50.2	B	54.6	B	57.4	C
		PM	52.0	B	58.2	C	60.1	C
West Pozo Road southeast of Calf Canyon Highway (SR 58)	II	AM	32.6	A	32.7	A	36.3	A
		PM	31.7	A	31.8	A	35.7	A
Calf Canyon Highway (SR 58) northeast of West Pozo Road	II	AM	55.3	C	55.6	C	57.0	C
		PM	51.4	B	51.5	B	53.7	B

Notes:
1 PTSF = Percent time-spent-following.
2 LOS = Level of service. LOS calculations conducted using the HCS+ analysis software package.

TABLE 20
CUMULATIVE LOCAL ROADWAY LEVELS OF SERVICE

Roadway Segment	Cumulative No Project		Cumulative Plus ARCS		Cumulative Plus ARCS Plus FDP	
	Volume[1]	LOS[2]	Volume[1]	LOS[2]	Volume[1]	LOS[3]
El Camino Real (SR 58) between Wilhelmina Avenue and Maud Avenue	7,250	C	7,978	D	11,816	F
El Camino Real (SR 58) between Pinal Avenue and Estrada Avenue	7.000	C	7,820	D	10,332	E
Estrada Avenue (SR 58) south of El Camino Real	5,150	B	6,258	C	7,712	C
Wilhelmina Avenue between El Camino Real and I Street	980	A	980	A	5,932	C

Notes:
1 Average daily traffic. 2 LOS = Level of service.

Freeway Segments and Ramps

Mainline Segments

Freeway mainline operations were evaluated with level of service calculations under Cumulative No Project, Cumulative Plus ARCS, and Cumulative Plus ARCS Plus FDP Conditions as shown in Table 21. The corresponding calculation sheets are contained in Appendix D. The freeway mainline segments are projected to operate at unacceptable levels since the LOS D rating under both Cumulative scenarios exceed the LOS C/D cusp.

TABLE 21
CUMULATIVE US 101 MAINLINE LEVELS OF SERVICE

Travel Direction	Segment	Peak Hour	Cumulative No Project		Cumulative Plus ARCS		Cumulative Plus ARCS Plus FDP	
			Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]
Northbound	South of SR 58	AM	16.5	B	16.6	B	17.8	B
		PM	36.5	E	36.8	E	38.8	E
	North of SR 58	AM	14.8	B	14.9	B	15.6	B
		PM	30.8	D	30.9	D	31.7	D
Southbound	North of SR 58	AM	30.6	D	30.6	D	31.5	D
		PM	20.2	C	20.3	C	21.4	C
	South of SR 58	AM	31.3	D	31.6	D	32.9	D
		PM	19.4	B	19.6	B	20.9	C

Notes:
1 Measured in vehicles per mile per lane.
2 LOS = Level of service.

Ramp Junctions

Freeway ramp junction operations were evaluated with level of service calculations under Cumulative No Project, Cumulative Plus ARCS, and Cumulative Plus ARCS Plus FDP Conditions are shown in Table 22. The corresponding calculation sheets are contained in Appendix D. All ramp junctions are projected to exceed the Caltrans LOS C/D threshold standard under Cumulative No Project Conditions. The addition of ARCS or FDP traffic will exacerbate ramp junction operations.

TABLE 22
CUMULATIVE US 101 AT SR 58 RAMP JUNCTION LEVELS OF SERVICE

Travel Direction	Merge/Diverge	Peak Hour	Cumulative No Project		Cumulative Plus ARCS		Cumulative Plus ARCS Plus FDP	
			Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]
Northbound	Diverge (Off-ramp)	AM	15.9	B	16.0	B	17.3	B
		PM	35.2	E	35.5	E	37.4	E
	Merge (On-ramp)	AM	14.4	B	14.4	B	15.1	B
		PM	29.7	D	29.8	D	30.6	D
Southbound	Diverge (Off-ramp)	AM	29.5	D	29.5	D	30.4	D
		PM	19.5	B	19.6	B	20.7	C
	Merge (On-ramp)	AM	30.2	D	30.5	D	31.8	D
		PM	18.7	B	18.9	B	20.3	C

Notes:
1 Measured in vehicles per mile per lane.
2 LOS = Level of service.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

The significance thresholds listed in the previous chapter were used to identify significant impacts under Cumulative Conditions.

Intersections

El Camino Real/Estrada Avenue

As indicated in the previous chapter, sight distance is limited at this location due to the steep grade of the Estrada Avenue approach. In addition, the minor street approach (Estrada Avenue) is projected to deteriorate to an unacceptable level under Cumulative Plus ARCS and Cumulative Plus ARCS Plus FDP Conditions. The intersection meets the rural MUTCD peak-hour signal warrant (see Appendix F). Therefore, the addition of project traffic causes a significant cumulative impact.

In addition to the Existing Plus ARCS mitigation measure (redesign of the intersection to eliminate the grade differential), the installation of a traffic signal would provide acceptable operations. As indicated earlier, rail pre-emption should be included. A westbound left-turn lane is warranted under both Cumulative project scenarios (see Appendix F). The redesign of the intersection shall consider the adjacent physical constraints: railroad tracks south of the intersection, a creek west of the intersection, a house northwest of the intersection, and a utility box southeast of the intersection. Signalization would result in LOS A operations under Cumulative Plus ARCS Conditions and LOS B operations under Cumulative Plus ARCS Plus FDP Conditions. This improvement would also eliminate the sight-distance impediment for left-turn vehicles by requiring El Camino Real traffic to stop.

It should be noted that the MUTCD contains seven other warrants that should be considered when determining the need for a traffic signal. The peak-hour signal warrant analysis should not serve as the only basis for deciding whether and when to install a signal. To reach such a decision, the full set of warrants

should be investigated based on a thorough study of traffic and roadway conditions. The decision to install a signal should not be based solely upon the warrants, since the installation of signals can lead to certain types of collisions. Caltrans shall make the final determination on the need for a signal at this location since SR 58 is a state-maintained roadway. The project applicant shall pay fair share fees to fund the installation of a traffic signal at this location.

El Camino Real/Wilhelmina Avenue

The side-street approach (Wilhelmina Avenue) is projected to deteriorate to unacceptable levels under Cumulative Plus ARCS Plus FDP Conditions and the rural peak-hour signal warrant is satisfied. This is considered a significant impact under Cumulative Plus ARCS Plus FDP Conditions.

The installation of a traffic signal will improve intersection operations to an acceptable level of service (LOS B or better) and mitigate ARCS plus FDP impacts. Caltrans shall make the final determination on the need for a signal at this location. The project applicant shall pay fair share fees to fund the installation of a traffic signal at this location.

El Camino Real/Encina Avenue

The level of service at the El Camino Real/Encina Avenue intersection deteriorates to an unacceptable level (LOS D) under Cumulative Plus ARCS Plus FDP Conditions, but the rural peak-hour signal warrants are not satisfied. Thus, the proposed project is estimated to have a less-than-significant impact at this location and no mitigation is required.

Estrada Avenue/H Street

This intersection is projected to operate at LOS D during the AM peak hour under Cumulative Plus ARCS Plus FDP Conditions and the peak-hour signal warrant is satisfied. As under Existing Plus ARCS Conditions, the addition of pedestrian-activated advanced warning beacon is recommended as a mitigation measure to warn drivers of the presence of pedestrians at the intersection. An alternative option is to remove the crest on Estrada Avenue to improve sight distance. The installation of a traffic signal is required to provide acceptable intersection operations according to Caltrans standards. However, it should be noted that a signal at this location would be located approximately 500 feet from the recommended signal at the El Camino Real/Estrada Avenue intersection and signal coordination between the two signals would be required. A traffic signal is not recommended at the Estrada Avenue/H Street intersection because of the close proximity to the adjacent signal and County staff does not support signalization at this location. Caltrans will make the final determination on the need for a signal at this location.

Roadway Segments

ARCS and FDP project traffic is estimated to have a significant impact on two segments of El Camino Real, between Wilhelmina Avenue and Maud Avenue and between Pinal Avenue and Estrada Avenue. These two segments are projected to operate at LOS D under Cumulative Plus ARCS Conditions and LOS E or F under Cumulative Plus ARCS Plus FDP Conditions. East of Murphy Avenue to Pinal Avenue, SR 58 widens to include a center two-way turn lane with left-turn lanes at intersections. The wider section of SR 58 provides additional roadway capacity by allowing vehicles to move out of the through lanes and wait in the center of the roadway to turn left.

The *Santa Margarita Design Plan* calls for a three lane section (one lane in each direction with a center two-way left-turn lane or median island) between Wilhelmina Avenue and Encina Avenue. Implementation of these improvements would mitigate roadway segment impacts to Encina Avenue. Development of the FDP plan will be required to make fair-share contributions toward improvements on SR 58 between Wilhelmina Avenue to Pinal Avenue.

Freeway Segments and Ramps

The freeway mainline segments on US 101 near the property are projected to operate at LOS D under Cumulative No Project Conditions and exceed Caltrans LOS C/D cusp threshold. The addition of project traffic will exacerbate LOS D operations but will not degrade operations to LOS E or F.

Additional capacity to US 101 is required to provide acceptable operations (i.e., to reduce the density to better than the LOS C/D threshold). The widening of US 101 from four to six lanes from the Cuesta Grade north to Atascadero is identified as a planned improvement in the *2005 Regional Transportation Plan* but is not currently funded. Therefore, the impacts to the US 101 mainline segments are considered significant and unavoidable.

As indicated in Table 22, all four ramps at the US 101/SR 58 interchange are projected to operate at unacceptable levels, LOS D, under Cumulative No Project Conditions. The addition of ARCS or FDP traffic will contribute to existing operational issues at the interchange. As indicated in the Project Conditions chapter, the applicant should contribute towards preparation of a PSR report to address identify appropriate interchange improvements to correct existing operational deficiencies and evaluate alternative configurations The PSR report will identify an interchange design to provide improved operations for all ramps.

Transit

Transit facilities are located along El Camino Real in Santa Margarita. The residential and commercial activities in the FDP will create demand for transit facilities in the areas closest to El Camino Real and the town of Santa Margarita. The project applicant shall contribute an in-lieu fee to pay for the installation of bus stops near some of the project access points, such as at the El Camino Real/Wilhelmina Avenue intersection, and coordinate with San Luis Obispo Regional Transit Authority to adjust the bus schedules to meet increased demand when it occurs. The number and location of necessary bus stops shall be determined at the project-level review of the FDP.

Bicycle and Pedestrian

As indicated in the Existing Conditions chapter, bike lanes are provided on El Camino Real north of Estrada Avenue and bicycle routes are designated on other roadways: Wilhelmina Avenue, I Street, West Pozo Road east of Calf Canyon Highway, and US 101 south of SR 58.

The traffic added by the FDP will increase potential automobile-bicycle conflicts on El Camino Real within Santa Margarita. The *Santa Margarita Design Plan* calls for bike lanes in both directions on El Camino Real in downtown Santa Margarita. The project sponsor should contribute toward these bicycle improvements.

Limited pedestrian facilities are provided in Santa Margarita and there are currently no pedestrian facilities between the project site and downtown Santa Margarita. Traffic from the FDP will increase pedestrian demand in downtown Santa Margarita. The *Santa Margarita Design Plan* recommended wider sidewalks, landscaped planters and a center median, street trees, pedestrian lights, textured pedestrian crossings, mid-block crosswalks, bulb-outs, and other streetscape improvements to enhance the pedestrian environment.

Installation of a center median lane would reduce capacity in the corridor by focusing access to adjacent properties at intersections. Vehicles would still be able to make u-turns to access development.

An additional enhancement is the use of in-pavement lighting at crosswalks, which can be installed on state-maintained roadways provided certain conditions are met. Several conditions including pedestrian and vehicular volumes appear to be met, but consideration of this feature should be included in a final plan for the corridor. The project sponsor shall make a fair-share contribution towards these pedestrian improvements.

Funding Plan

A funding plan needs to be created to implement the improvements under the Future Development Program. The funding plan may consist of an area wide fee where projects that are located within the Future Development Program would be required to pay impact fees or require the applicant to "front" the cost of the improvements and be reimbursed as land uses are developed. Supplemental studies would be required to determine the cost of the required improvements and the appropriate impact fee.

FDP SITE ACCESS AND ON-SITE CIRCULATION

The general locations of the proposed land uses for the FDP are shown on Figure 3. The FDP does not contain specific circulation proposals, and site access and on-site circulation should be reviewed once a final project is proposed. Detailed site plans for the FDP sites shall be submitted to County staff for review and comment when these plans are available.

The FDP analysis assumes the livestock sales yard and retreat center connect to SR 58 via the frontage road along US 101. Traffic from the residential village, guest ranch, lodge, restaurant, winery, and golf course are assumed to access study roadways via Wilhelmina Avenue. Traffic from the workforce housing, community pool, and four wineries were assigned directly to West Pozo Road. Traffic from one winery was assigned directly to Calf Canyon Highway, and traffic from another winery was assigned directly to El Camino Real. Traffic from the bed and breakfast, equestrian and interpretive centers, café, amphitheater, winery, and feed lot was assigned to El Camino Real and Yerba Buena Avenue. A detailed analysis of the project access points and the El Camino Real/Yerba Buena Avenue intersection should be conducted once specific development applications are proposed.

The livestock sales yard and retreat center should connect to SR 58 via a new roadway connection. Additional analysis would be required to determine an appropriate access point.

Additional access points should be considered for the residential and commercial areas located south and east of Santa Margarita. These access points should minimize intrusion into the existing residential neighborhoods. Potential access could be provided via new roadways extending east to SR 58 that are located south of the Santa Margarita downtown area. A detailed assignment of traffic may alter impacts identified in Cumulative Plus ARCS Plus FDP Conditions (such as at the El Camino Real/Encina Avenue intersection) or warrant the analysis of additional intersections (such as Estrada Avenue/I Street).

Access to proposed land uses that require railroad crossings should be located at existing railroad crossings. Where possible, access to SR 58 and El Camino Real should be consolidated with existing access points. If new public or private crossings are proposed, the project applicant must coordinate and receive approval from Union Pacific Rail and the California Public Utilities Commission (PUC) when FDP plans are developed.

All new roadways should meet cross-section standards established by the County. Adequate shoulder width or parallel paths should be provided along all roadways to accommodate bicyclists and pedestrians separate

from vehicular travel lanes. Driveways should intersect with the roadways at points that provide adequate sight distance for all movements, and all intersections should be spaced a minimum of 150 feet apart.

5. ARCS PROJECT ALTERNATIVES

This chapter presents a qualitative discussion of the four ARCS alternatives. A comparison of the potential impacts and mitigation measures to those identified in Chapter 3, Existing Plus ARCS Conditions, is included.

ARCS PROJECT ALTERNATIVES DESCRIPTION

The four project alternatives are listed below:

Alternative 4: 112 single-family units located north of and adjacent to existing community

Alternative 5: 112 single-family units located south of and adjacent to existing community

Alternative 6: 112 single-family units located southwest of existing community

Alternative 7: 46 single-family units on proposed ARCS site

As indicated above, three of the four alternatives propose the same number of units as the ARCS project and the fourth alternative proposes a lower number of units.

ANTICIPATED IMPACTS (EXISTING PLUS ARCS CONDITIONS)

As indicated in Table 23, the four project alternatives would have the same freeway, roadway, and intersection impacts as the proposed ARCS development because traffic will be added to the same locations in Santa Margarita that have existing operational issues or do not currently meet state design standards.

Alternatives 4 & 5 would result in new impacts and mitigation measures in downtown Santa Margarita. Additional traffic will be added to the side streets in downtown Santa Margarita thus causing additional congestion and potentially requiring intersection improvements such as additional turn lanes or traffic signals. In addition, pedestrian and bicycle conflicts would increase downtown thus requiring implementation of the improvements as outlined in the Santa Margarita Design Plan. Transit demand for services would also increase.

TABLE 23
SUMMARY COMPARISON OF ANTICIPATED IMPACTS

Impact/Mitigation	ARCS (112 Units)	Alt 4 (112 Units North)	Alt 5 (112 Units South)	Alt 6 (112 Units Southwest)	Alt 7 (46 Units)
Freeway					
US 101 NB Off to SR 58 (lengthen merge area)	X	X	X	X	X
US 101 SB Off to SR 58 (lengthen merge area, prepare PSR, reconfigure interchange)	X	X	X	X	X
Intersections					
SR 58 intersections between Wilhemia and Pinal (widening and/or intersection improvements such as signalization)		X	X		
El Camino Real/Estrada Avenue (redesign intersection)	X	X	X	X	X
Estrada Avenue/H Street (provide advanced warning beacons)	X	X	X	X	X
Roadway Segments					
SR 58 curve at J Street (implement one of 3 alternatives)	X	X	X	X	X
SR 58 widening from I St to Pozo Rd (bike lanes and shoulders)	X	X	X	X	X
Bike, Pedestrian, & Transit					
Increase Bike & Ped Conflicts downtown (incorporate Santa Margarita Design Plan ped & bike improvements)		X	X		
Increase Transit Demand (coordinate with RTA regarding schedule)		X	X		

Notes:
X = Anticipated impact requiring mitigation

APPENDIX A:
EXISTING TRAFFIC COUNTS

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Groups Printed- Unshifted

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Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	1	16	2	0	19	2	1	0	0	3	0	45	1	0	46	0	0	4	0	4	72
07:15 AM	0	14	4	0	18	6	1	0	0	7	2	52	0	0	54	0	0	0	0	0	79
07:30 AM	1	13	6	0	20	5	1	2	0	8	2	64	1	0	67	0	0	0	0	0	95
07:45 AM	0	14	23	6	43	11	2	0	0	13	7	36	0	0	43	0	1	0	0	1	100
Total	2	57	35	6	100	24	5	2	0	31	11	197	2	0	210	0	1	4	0	5	346
08:00 AM	0	15	49	8	72	32	7	2	0	41	25	47	0	1	73	0	2	0	1	3	189
08:15 AM	1	14	26	0	41	48	5	8	0	61	15	28	0	0	43	0	3	3	0	6	151
08:30 AM	0	16	4	0	20	8	1	0	0	9	0	30	0	0	30	1	0	0	0	1	60
08:45 AM	1	11	5	2	19	5	1	0	0	6	3	32	0	0	35	0	1	0	0	1	61
Total	2	56	84	10	152	93	14	10	0	117	43	137	0	1	181	1	6	3	1	11	461
Grand Total	4	113	119	16	252	117	19	12	0	148	54	334	2	1	391	1	7	7	1	16	807
Apprch %	1.6	44.8	47.2	6.3		79.1	12.8	8.1	0.0		13.8	85.4	0.5	0.3		6.3	43.8	43.8	6.3		
Total %	0.5	14.0	14.7	2.0	31.2	14.5	2.4	1.5	0.0	18.3	6.7	41.4	0.2	0.1	48.5	0.1	0.9	0.9	0.1	2.0	

	ESTRADA AVE Southbound					H ST Westbound					ESTRADA AVE Northbound					H ST Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	2	56	104	14	176	96	15	12	0	123	49	175	1	1	226	0	6	3	1	10	535
Percent	1.1	31.8	59.1	8.0		78.0	12.2	9.8	0.0		21.7	77.4	0.4	0.4		0.0	60.0	30.0	10.0		
08:00 Volume	0	15	49	8	72	32	7	2	0	41	25	47	0	1	73	0	2	0	1	3	189
Peak Factor																					0.708
High Int.	08:00 AM					08:15 AM					08:00 AM					08:15 AM					
Volume	0	15	49	8	72	48	5	8	0	61	25	47	0	1	73	0	3	3	0	6	
Peak Factor					0.611					0.504					0.774					0.417	

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Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
02:00 PM	1	24	7	0	32	3	1	0	0	4	1	20	0	0	21	1	1	0	0	2	59
02:15 PM	1	18	12	0	31	1	0	0	0	1	3	23	0	0	26	1	1	1	0	3	61
02:30 PM	2	32	33	6	73	20	5	4	0	29	15	26	0	0	41	1	3	1	0	5	148
02:45 PM	13	27	14	14	68	39	8	11	0	58	1	20	1	0	22	0	0	1	0	1	149
Total	17	101	66	20	204	63	14	15	0	92	20	89	1	0	110	3	5	3	0	11	417
03:00 PM	1	36	4	0	41	9	0	0	0	9	1	24	0	0	25	1	0	0	0	1	76
03:15 PM	3	23	2	0	28	12	0	0	0	12	1	13	0	2	16	2	0	3	0	5	61
03:30 PM	2	29	12	1	44	5	0	0	0	5	0	24	0	0	24	0	2	0	1	3	76
03:45 PM	1	33	6	2	42	19	2	2	0	23	1	17	4	0	22	1	1	1	0	3	90
Total	7	121	24	3	155	45	2	2	0	49	3	78	4	2	87	4	3	4	1	12	303
Grand Total	24	222	90	23	359	108	16	17	0	141	23	167	5	2	197	7	8	7	1	23	720
Apprch %	6.7	61.8	25.1	6.4		76.6	11.3	12.1	0.0		11.7	84.8	2.5	1.0		30.4	34.8	30.4	4.3		
Total %	3.3	30.8	12.5	3.2	49.9	15.0	2.2	2.4	0.0	19.6	3.2	23.2	0.7	0.3	27.4	1.0	1.1	1.0	0.1	3.2	

	ESTRADA AVE Southbound					H ST Westbound					ESTRADA AVE Northbound					H ST Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 02:00 PM to 03:45 PM - Peak 1 of 1																					
Intersection	02:15 PM																				
Volume	17	113	63	20	213	69	13	15	0	97	20	93	1	0	114	3	4	3	0	10	434
Percent	8.0	53.1	29.6	9.4		71.1	13.4	15.5	0.0		17.5	81.6	0.9	0.0		30.0	40.0	30.0	0.0		
02:45 Volume	13	27	14	14	68	39	8	11	0	58	1	20	1	0	22	0	0	1	0	1	149
Peak Factor																					0.728
High Int.	02:30 PM					02:45 PM					02:30 PM					02:30 PM					
Volume	2	32	33	6	73	39	8	11	0	58	15	26	0	0	41	1	3	1	0	5	
Peak Factor					0.729					0.418					0.695					0.500	

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Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
04:00 PM	2	44	2	1	49	9	3	2	0	14	1	32	0	0	33	0	0	0	0	0	96
04:15 PM	0	34	3	0	37	1	0	0	0	1	0	32	0	0	32	2	1	2	0	5	75
04:30 PM	0	43	0	0	43	4	0	0	0	4	0	24	0	0	24	0	0	1	0	1	72
04:45 PM	0	37	2	4	43	2	1	1	0	4	0	30	0	0	30	0	0	1	0	1	78
Total	2	158	7	5	172	16	4	3	0	23	1	118	0	0	119	2	1	4	0	7	321
05:00 PM	1	43	3	2	49	2	0	0	0	2	0	27	0	0	27	0	0	0	1	1	79
05:15 PM	2	52	7	0	61	3	0	3	0	6	2	21	0	0	23	0	0	1	0	1	91
05:30 PM	0	53	9	0	62	4	0	4	0	8	0	18	1	0	19	1	0	0	0	1	90
05:45 PM	1	45	4	0	50	2	2	0	0	4	0	19	0	0	19	0	1	0	0	1	74
Total	4	193	23	2	222	11	2	7	0	20	2	85	1	0	88	1	1	1	1	4	334
Grand Total	6	351	30	7	394	27	6	10	0	43	3	203	1	0	207	3	2	5	1	11	655
Apprch %	1.5	89.1	7.6	1.8		62.8	14.0	23.3	0.0		1.4	98.1	0.5	0.0		27.3	18.2	45.5	9.1		
Total %	0.9	53.6	4.6	1.1	60.2	4.1	0.9	1.5	0.0	6.6	0.5	31.0	0.2	0.0	31.6	0.5	0.3	0.8	0.2	1.7	

	ESTRADA AVE Southbound					H ST Westbound					ESTRADA AVE Northbound					H ST Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:45 PM																				
Volume	3	185	21	6	215	11	1	8	0	20	2	96	1	0	99	1	0	2	1	4	338
Percent	1.4	86.0	9.8	2.8		55.0	5.0	40.0	0.0		2.0	97.0	1.0	0.0		25.0	0.0	50.0	25.0		
05:15 Volume	2	52	7	0	61	3	0	3	0	6	2	21	0	0	23	0	0	1	0	1	91
Peak Factor																					0.929
High Int.	05:30 PM					05:30 PM					04:45 PM					04:45 PM					
Volume	0	53	9	0	62	4	0	4	0	8	0	30	0	0	30	0	0	1	0	1	
Peak Factor					0.867					0.625					0.825					1.000	

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Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	3	23	0	0	26	0	0	0	0	0	0	30	4	0	34	5	0	4	0	9	69
07:15 AM	2	29	0	0	31	0	0	0	0	0	0	45	1	0	46	1	0	1	0	2	79
07:30 AM	3	31	0	0	34	0	0	0	0	0	0	49	2	0	51	4	0	3	0	7	92
07:45 AM	4	42	0	0	46	0	0	0	0	0	0	47	0	0	47	4	0	4	0	8	101
Total	12	125	0	0	137	0	0	0	0	0	0	171	7	0	178	14	0	12	0	26	341
08:00 AM	1	58	0	0	59	0	0	0	0	0	0	51	4	0	55	4	0	1	0	5	119
08:15 AM	6	41	0	0	47	0	0	0	0	0	0	45	0	0	45	1	0	4	0	5	97
08:30 AM	1	33	0	0	34	0	0	0	0	0	0	41	3	0	44	1	0	3	0	4	82
08:45 AM	6	12	0	0	18	0	0	0	0	0	0	33	2	0	35	1	0	0	0	1	54
Total	14	144	0	0	158	0	0	0	0	0	0	170	9	0	179	7	0	8	0	15	352
Grand Total	26	269	0	0	295	0	0	0	0	0	0	341	16	0	357	21	0	20	0	41	693
Apprch %	8.8	91.2	0.0	0.0		0.0	0.0	0.0	0.0		0.0	95.5	4.5	0.0		51.2	0.0	48.8	0.0		
Total %	3.8	38.8	0.0	0.0	42.6	0.0	0.0	0.0	0.0	0.0	0.0	49.2	2.3	0.0	51.5	3.0	0.0	2.9	0.0	5.9	

	EL CAMINO REAL Southbound					Westbound					EL CAMINO REAL Northbound					SANTA MARGARITA RD Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	14	172	0	0	186	0	0	0	0	0	0	192	6	0	198	13	0	12	0	25	409
Percent	7.5	92.5	0.0	0.0		0.0	0.0	0.0	0.0		0.0	97.0	3.0	0.0		52.0	0.0	48.0	0.0		
08:00 Volume	1	58	0	0	59	0	0	0	0	0	0	51	4	0	55	4	0	1	0	5	119
Peak Factor																					0.859
High Int.	08:00 AM					6:45:00 AM					08:00 AM					07:45 AM					
Volume	1	58	0	0	59	0	0	0	0	0	0	51	4	0	55	4	0	4	0	8	
Peak Factor					0.788										0.900					0.781	

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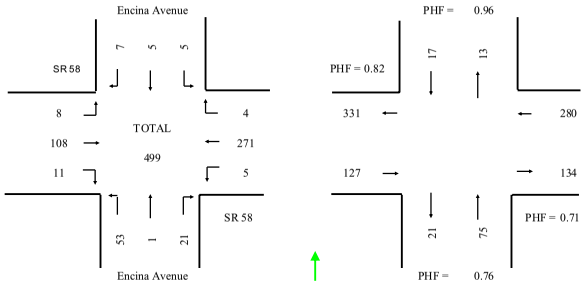
	EL CAMINO REAL Southbound					Westbound					EL CAMINO REAL Northbound					SANTA MARGARITA RD Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
04:00 PM	1	47	0	0	48	0	0	0	0	0	0	44	2	0	46	1	0	4	0	5	99
04:15 PM	3	43	0	0	46	0	0	0	0	0	0	49	3	0	52	3	0	2	0	5	103
04:30 PM	4	44	0	0	48	0	0	0	0	0	0	48	0	0	48	4	0	3	0	7	103
04:45 PM	2	34	0	0	36	0	0	0	0	0	0	55	2	0	57	2	0	3	0	5	98
Total	10	168	0	0	178	0	0	0	0	0	0	196	7	0	203	10	0	12	0	22	403
05:00 PM	0	44	0	0	44	0	0	0	0	0	0	50	3	0	53	6	0	9	0	15	112
05:15 PM	1	49	0	0	50	0	0	0	0	0	0	51	2	0	53	0	0	0	0	0	103
05:30 PM	2	54	0	0	56	0	0	0	0	0	0	40	3	0	43	0	0	9	0	9	108
05:45 PM	1	47	0	0	48	0	0	0	0	0	0	32	2	0	34	3	0	2	0	5	87
Total	4	194	0	0	198	0	0	0	0	0	0	173	10	0	183	9	0	20	0	29	410
Grand Total	14	362	0	0	376	0	0	0	0	0	0	369	17	0	386	19	0	32	0	51	813
Apprch %	3.7	96.3	0.0	0.0		0.0	0.0	0.0	0.0		0.0	95.6	4.4	0.0		37.3	0.0	62.7	0.0		
Total %	1.7	44.5	0.0	0.0	46.2	0.0	0.0	0.0	0.0	0.0	0.0	45.4	2.1	0.0	47.5	2.3	0.0	3.9	0.0	6.3	

	EL CAMINO REAL Southbound					Westbound					EL CAMINO REAL Northbound					SANTA MARGARITA RD Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:45 PM																				
Volume	5	181	0	0	186	0	0	0	0	0	0	196	10	0	206	8	0	21	0	29	421
Percent	2.7	97.3	0.0	0.0		0.0	0.0	0.0	0.0		0.0	95.1	4.9	0.0		27.6	0.0	72.4	0.0		
05:00 Volume	0	44	0	0	44	0	0	0	0	0	0	50	3	0	53	6	0	9	0	15	112
Peak Factor																					0.940
High Int.	05:30 PM					3:45:00 PM					04:45 PM					05:00 PM					
Volume	2	54	0	0	56	0	0	0	0	0	0	55	2	0	57	6	0	9	0	15	
Peak Factor					0.830										0.904					0.483	

FEHR & PEERS ASSOCIATES, INC.
INTERSECTION TURNING MOVEMENT SUMMARY

INTERSECTION:	**SR 58/Encina Avenue**	**TIME:**	**7:15 AM to 9:00 AM**
JURISDICTION:	**San Luis Obispo County**	**DATE:**	**3-23-06, Thu**
PROJECT TITLE:	**Santa Margarita Ranch**	**PROJECT NO:**	**SJ05-815**

PEAK HOUR PERIOD: 7:30 AM to 8:30 AM — CYCLE LENGTH: Unsignalized
PEAK 15 MINUTE PERIOD: 7:30 AM to 7:45 AM — PHASING: N/A



INTERSECTION
PEAK HOUR FACTOR: 0.83

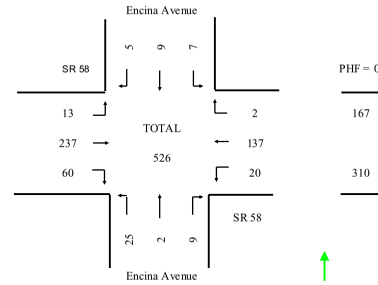
RUNNING COUNTS	Encina Avenue Northbound Left	Thru	Right	Encina Avenue Southbound Left	Thru	Right	SR 58 Eastbound Left	Thru	Right	SR 58 Westbound Left	Thru	Right	
Period End	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**TOTAL**
7:30 AM	12	0	3	1	0	0	2	27	1	3	68	3	120
7:45 AM	31	0	7	1	1	2	4	55	4	6	156	4	271
8:00 AM	44	0	17	3	2	3	6	78	8	6	211	4	382
8:15 AM	54	0	18	4	4	4	6	106	12	7	275	5	495
8:30 AM	65	1	24	6	5	7	10	135	12	8	339	7	619
8:45 AM	70	1	25	6	5	9	12	156	15	10	380	7	696
9:00 AM	75	2	29	7	5	9	16	182	17	12	415	7	776

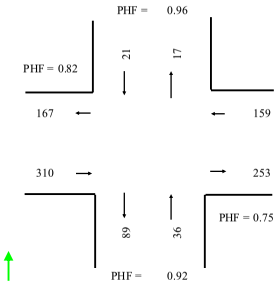
PERIOD COUNTS													
Period End	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**TOTAL**
7:30 AM	12	0	3	1	0	0	2	27	1	3	68	3	120
7:45 AM	19	0	4	0	1	2	2	28	3	3	88	1	151
8:00 AM	13	0	10	2	1	1	2	23	4	0	55	0	111
8:15 AM	10	0	1	1	2	1	0	28	4	1	64	1	113
8:30 AM	11	1	6	2	1	3	4	29	0	1	64	2	124
8:45 AM	5	0	1	0	0	2	2	21	3	2	41	0	77
9:00 AM	5	1	4	1	0	0	4	26	2	2	35	0	80

FEHR & PEERS ASSOCIATES, INC.
INTERSECTION TURNING MOVEMENT SUMMARY

INTERSECTION:	**SR 58/Encina Avenue**	**TIME:**	**4:00 PM to 6:00 PM**
JURISDICTION:	**San Luis Obispo County**	**DATE:**	**3-23-06, Thu**
PROJECT TITLE:	**Santa Margarita Ranch**	**PROJECT NO:**	**SJ05-815**

PEAK HOUR PERIOD: 4:45 PM to 5:45 PM — CYCLE LENGTH: Unsignalized
PEAK 15 MINUTE PERIOD: 5:00 PM to 5:15 PM — PHASING: N/A

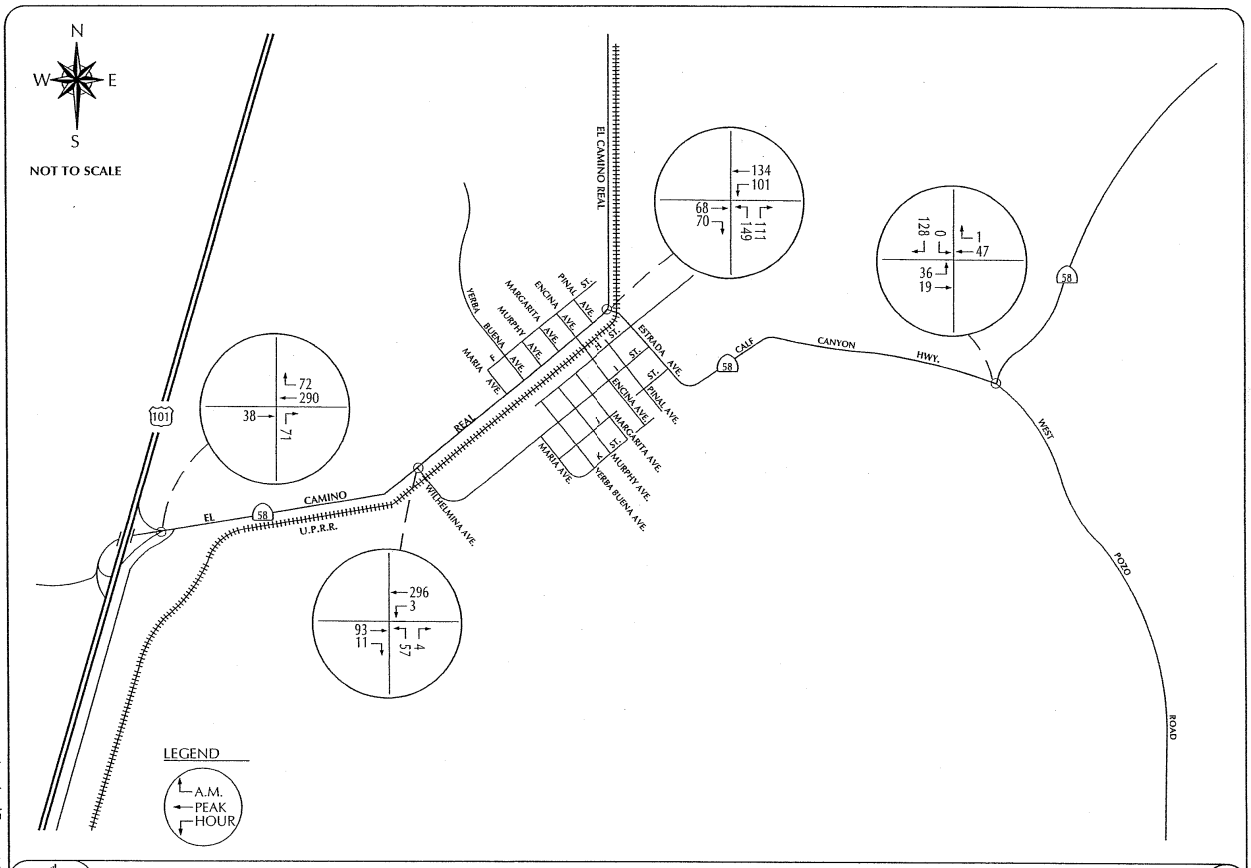




INTERSECTION
PEAK HOUR FACTOR: 0.96

RUNNING COUNTS	Encina Avenue Northbound Left	Thru	Right	Encina Avenue Southbound Left	Thru	Right	SR 58 Eastbound Left	Thru	Right	SR 58 Westbound Left	Thru	Right	
Period End	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**TOTAL**
4:15 PM	4	0	5	5	3	1	0	20	3	3	24	0	68
4:30 PM	8	1	7	6	4	3	4	72	18	7	64	0	194
4:45 PM	10	1	10	8	4	4	6	116	27	10	105	1	302
5:00 PM	18	1	13	10	5	7	9	173	39	14	141	3	433
5:15 PM	25	1	13	11	11	7	15	231	55	18	180	3	570
5:30 PM	30	1	17	13	12	8	17	294	71	27	210	3	703
5:45 PM	35	3	19	15	13	9	19	353	87	30	242	3	828
6:00 PM	42	3	23	15	15	9	22	385	95	32	265	3	909

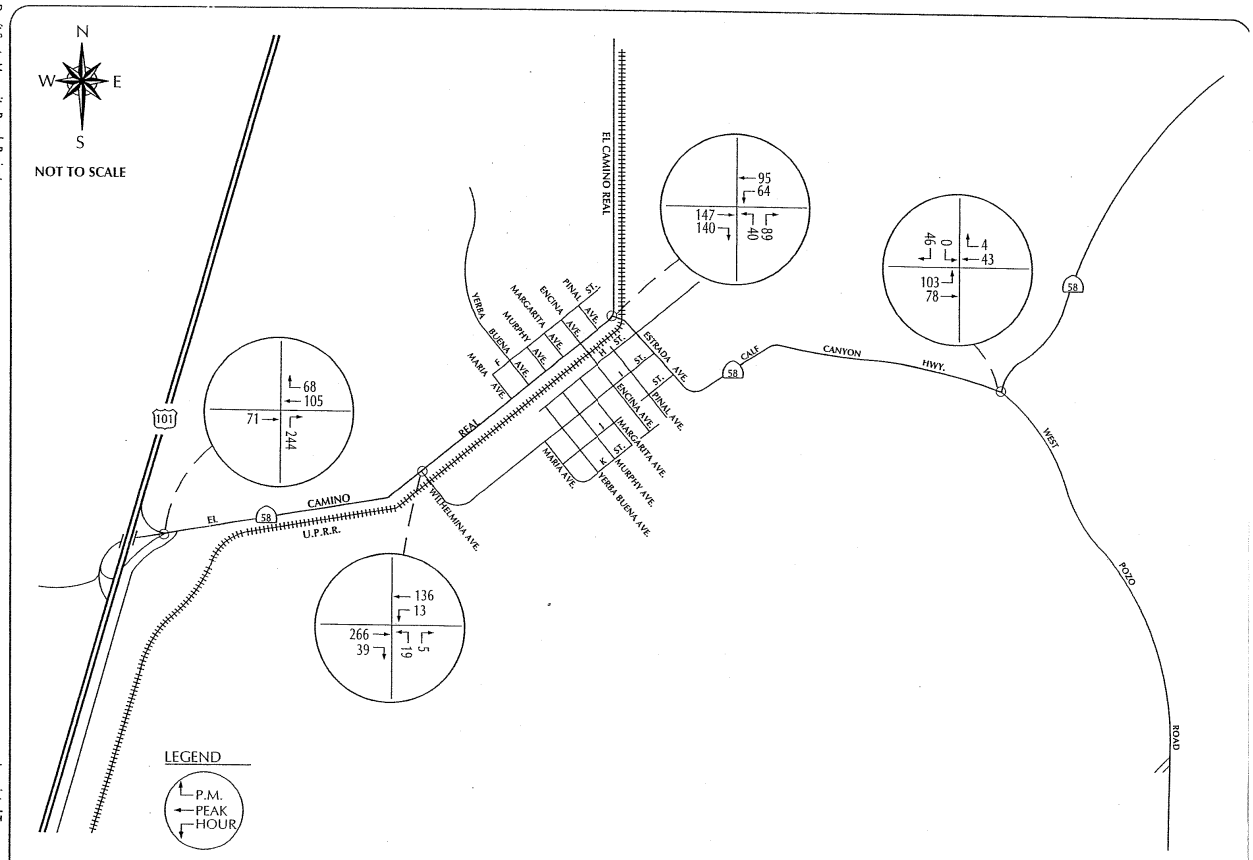
PERIOD COUNTS													
Period End	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**TOTAL**
4:15 PM	4	0	5	5	3	1	0	20	3	3	24	0	68
4:30 PM	4	1	2	1	1	2	4	52	15	4	40	0	126
4:45 PM	2	0	3	2	0	1	2	44	9	3	41	1	108
5:00 PM	8	0	3	2	1	3	3	57	12	4	36	2	131
5:15 PM	7	0	0	1	6	0	6	58	16	4	39	0	137
5:30 PM	5	0	4	2	1	1	2	63	16	9	30	0	133
5:45 PM	5	2	2	2	1	1	2	59	16	3	32	0	125
6:00 PM	7	0	4	0	2	0	3	32	8	2	23	0	81



ASSOCIATED TRANSPORTATION ENGINEERS

EXISTING A.M. PEAK HOUR TRAFFIC VOLUMES

FIGURE 4



ASSOCIATED TRANSPORTATION ENGINEERS

EXISTING P.M. PEAK HOUR TRAFFIC VOLUMES

FIGURE 5

raffic ata Service
Event ounts

Event ount-85 -- English (E)

atasets
Site [1EB] EB EL AM REAL (SR 58) BE WEE W LHELM A AVE & MA AVE
nput A
nput B w x
ame
Scheme w
nits , , , , ,

* uesday, April 11, 2006=2619, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
11	**7**	**4**	**2**	**4**	**20**	**72**	**113**	**116**	**91**	**119**	**155**	**147**	**148**	**197**	**226**	**258**	**347**	**206**	**128**	**90**	**90**	**52**	**16**	
5	1	1	2	0	7	8	19	37	18	27	38	**44**	36	49	47	65	**78**	54	35	26	25	20	3	3
2	2	0	0	0	3	21	19	25	29	29	**36**	36	36	37	49	64	**110**	56	35	23	35	11	2	3
1	3	1	0	4	3	13	32	25	22	31	**36**	28	35	64	60	56	**84**	43	31	21	16	13	5	1
3	1	2	0	0	7	30	43	29	22	32	**45**	39	41	47	70	73	**75**	53	27	20	14	8	6	1

AM eak 1115 - 1215 (161), AM H =0.89 M eak 1700 - 1800 (347), M H =0.79

* Wednesday, April 12, 2006=2707, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
8	**9**	**8**	**4**	**11**	**25**	**65**	**106**	**127**	**148**	**142**	**142**	**168**	**166**	**184**	**226**	**250**	**320**	**182**	**136**	**99**	**104**	**52**	**25**	
3	3	1	1	0	7	8	25	40	32	**44**	34	31	42	39	44	63	**82**	50	37	33	24	20	9	8
3	3	2	1	3	8	18	20	34	**40**	33	32	38	46	39	48	68	**85**	53	41	18	32	13	7	7
1	2	4	1	7	5	18	25	30	**46**	33	46	54	44	59	60	56	**84**	33	30	23	22	9	2	5
1	1	1	1	1	5	21	36	23	**30**	32	30	45	34	47	74	63	**69**	46	28	25	26	10	7	2

AM eak 0915 - 1015 (160), AM H =0.87 M eak 1700 - 1800 (320), M H =0.94

* hursday, April 13, 2006=2833, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
22	**3**	**7**	**4**	**9**	**30**	**85**	**122**	**110**	**130**	**131**	**172**	**153**	**157**	**211**	**239**	**281**	**339**	**170**	**125**	**119**	**121**	**62**	**31**	
8	0	1	3	0	8	12	40	32	34	24	**47**	36	29	44	60	58	62	50	36	22	48	12	6	-
7	1	3	1	3	4	13	19	39	49	37	**33**	27	40	58	57	74	107	48	28	36	28	24	7	-
5	1	1	0	5	5	18	34	19	23	42	**38**	38	52	52	63	83	84	43	27	35	29	15	9	-
2	1	2	0	1	13	42	29	20	24	28	**54**	52	36	57	59	66	86	29	34	26	16	11	9	-

AM eak 1100 - 1200 (172), AM H =0.80

raffic ata Service
Event ounts

Event ount-86 -- English (E)

atasets
Site [1WB] WB EL AM REAL (SR 58) BE WEE W LHELM A AVE & MA AVE
nput A
nput B w x
ame
Scheme w
nits , , , , ,

* uesday, April 11, 2006=2667, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
2	**4**	**5**	**9**	**21**	**78**	**185**	**335**	**263**	**178**	**157**	**177**	**171**	**174**	**153**	**157**	**181**	**150**	**111**	**55**	**44**	**31**	**14**	**12**	
1	1	1	0	2	17	25	60	**81**	44	34	38	43	32	36	34	**44**	39	31	20	11	1	9	3	1
0	1	0	6	2	20	39	**90**	69	42	33	53	42	53	35	46	**36**	36	29	14	10	15	1	5	0
1	1	0	1	5	21	60	**104**	60	53	47	42	43	35	36	36	**43**	45	26	10	12	10	2	2	1
0	1	4	2	12	20	61	**81**	53	39	43	44	43	54	46	41	**58**	30	25	11	11	5	2	2	1

AM eak 0715 - 0815 (356), AM H =0.86 M eak 1600 - 1700 (181), M H =0.78

* Wednesday, April 12, 2006=2773, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
3	**3**	**7**	**3**	**33**	**79**	**172**	**357**	**284**	**181**	**163**	**168**	**159**	**170**	**202**	**167**	**166**	**118**	**126**	**79**	**47**	**38**	**28**	**20**	
1	0	0	0	5	16	27	63	**82**	49	37	41	51	35	**43**	37	48	30	34	27	14	12	10	4	1
0	1	4	2	4	19	36	**97**	84	42	36	31	31	45	**44**	38	41	22	34	25	11	11	12	5	1
1	1	2	0	11	21	57	**107**	63	51	44	55	39	48	**55**	40	44	28	25	13	11	6	3	7	1
1	1	1	1	13	23	52	**90**	55	39	46	41	38	42	**60**	52	33	38	33	14	11	9	3	4	1

AM eak 0715 - 0815 (376), AM H =0.88 M eak 1400 - 1500 (202), M H =0.84

* hursday, April 13, 2006=2875, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
4	**4**	**9**	**6**	**23**	**78**	**195**	**323**	**275**	**194**	**167**	**170**	**157**	**156**	**212**	**196**	**195**	**182**	**117**	**67**	**65**	**43**	**29**	**8**	
1	2	0	3	1	10	22	68	**89**	57	44	40	36	39	51	50	49	48	25	17	20	10	13	1	-
1	0	1	2	3	19	45	72	**76**	54	53	49	37	36	54	45	55	52	36	17	16	10	7	4	-
1	2	6	1	7	20	68	**95**	57	53	38	47	34	33	46	52	40	43	27	18	12	11	3	1	-
1	0	2	0	12	29	60	**88**	53	30	32	34	50	48	61	49	51	39	29	15	17	12	6	2	-

AM eak 0730 - 0830 (348), AM H =0.92

raffic ata Service
Event ounts

Event ount-87 -- English (E)

atasets

Site	**[2EB] EB EL AM REAL (SR 58) BE WEE AL AVE & ES RA A AVE**
nput A	
nput B	w x
ame	
Scheme	w
nits	, , , , ,

*** uesday, April 11, 2006=2483, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
11	**4**	**2**	**3**	**1**	**18**	**66**	**129**	**112**	**99**	**113**	**156**	**150**	**143**	**199**	**207**	**246**	**298**	**185**	**121**	**83**	**72**	**52**	**13**	
5	0	0	3	0	6	8	23	31	21	22	**40**	39	33	49	45	56	**65**	49	34	19	20	17	3	4
3	1	0	0	0	4	17	25	28	31	31	**49**	48	37	38	42	70	**85**	57	32	19	25	16	1	1
1	2	1	0	1	2	14	32	14	20	29	**35**	30	34	58	53	54	**74**	35	31	21	15	4	4	1
2	1	1	0	0	6	27	49	39	27	31	**32**	33	39	54	67	66	**74**	44	24	24	12	15	5	1

AM Peak 1100 - 1200 (156), AM PHF=0.80 PM Peak 1700 - 1800 (298), PM PHF=0.88

*** Wednesday, April 12, 2006=2586, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
7	**6**	**9**	**2**	**8**	**14**	**57**	**116**	**124**	**132**	**156**	**148**	**138**	**174**	**178**	**214**	**253**	**283**	**183**	**123**	**105**	**93**	**41**	**22**	
4	3	2	0	0	5	10	27	27	26	**43**	38	18	46	46	45	67	**64**	49	35	35	16	18	8	3
1	2	2	1	1	5	14	21	39	40	**41**	18	35	44	29	43	60	**83**	56	36	27	33	10	4	7
1	1	3	1	6	1	13	33	27	39	**27**	45	41	47	55	49	54	**73**	32	29	22	20	7	4	5
1	0	2	0	1	3	20	35	31	27	**45**	47	44	37	48	77	**72**	63	46	23	21	24	6	6	4

AM Peak 1000 - 1100 (156), AM PHF=0.87 PM Peak 1645 - 1745 (292), PM PHF=0.88

*** Thursday, April 13, 2006=2774, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
19	**3**	**7**	**4**	**7**	**27**	**75**	**128**	**129**	**120**	**141**	**175**	**165**	**162**	**217**	**222**	**260**	**311**	**170**	**132**	**112**	**103**	**60**	**25**	
3	1	1	1	0	4	11	33	36	30	30	**40**	32	33	39	46	54	56	51	36	21	36	9	6	-
7	1	2	3	2	6	12	29	49	26	39	**40**	32	41	61	54	63	88	42	32	35	30	27	9	-
5	0	2	0	4	7	13	31	24	31	39	**43**	42	51	65	63	77	83	48	33	30	28	15	4	-
4	1	2	0	1	10	39	35	20	33	33	**52**	59	37	52	59	66	84	29	31	26	9	9	6	-

AM Peak 1100 - 1200 (175), AM PHF=0.84

Traffic Data Service
Event Counts

EventCount-88 -- English (ENU)

Datasets:

Site:	**[2WB] WB EL CAMINO REAL (SR 58) BETWEEN PINAL AVE & ESTRADA AVE**
Input A:	4 - West bound. - Added to totals. (1)
Input B:	0 - Unused or unknown. - Excluded from totals. (0)
Name:	Factory default profile
Scheme:	Count events divided by two.
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)

*** Tuesday, April 11, 2006=2583, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
3	**4**	**2**	**5**	**15**	**65**	**145**	**263**	**229**	**159**	**156**	**191**	**182**	**182**	**156**	**182**	**182**	**146**	**132**	**69**	**49**	**38**	**17**	**11**	
1	0	1	1	1	15	22	50	**79**	38	26	48	38	35	**42**	45	40	35	34	20	14	3	8	2	2
0	1	0	2	2	16	33	**72**	65	39	31	58	56	**59**	37	53	41	30	41	14	10	14	3	5	1
1	2	0	1	4	14	44	**79**	39	42	48	44	45	**42**	35	42	45	44	31	20	14	14	3	2	1
1	1	1	1	8	20	46	**62**	46	40	51	41	43	**46**	42	42	56	37	26	15	11	7	3	2	1

AM Peak 0715 - 0815 (292), AM PHF=0.92 PM Peak 1315 - 1415 (189), PM PHF=0.80

*** Wednesday, April 12, 2006=2688, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
5	**3**	**3**	**4**	**25**	**70**	**131**	**281**	**252**	**159**	**163**	**174**	**161**	**152**	**193**	**207**	**189**	**133**	**129**	**106**	**58**	**44**	**26**	**20**	
2	0	0	0	4	16	23	59	**73**	51	35	40	49	39	35	48	**62**	27	33	31	21	15	12	5	1
1	1	0	3	2	14	29	**76**	75	34	44	40	38	39	46	**48**	45	28	36	33	15	16	11	6	0
1	1	2	0	8	18	45	**78**	55	41	33	47	37	37	59	**54**	50	39	21	20	10	7	1	4	1
1	1	1	1	11	22	34	**68**	49	33	51	47	37	37	53	**57**	32	39	39	22	12	6	2	5	1

AM Peak 0715 - 0815 (295), AM PHF=0.95 PM Peak 1515 - 1615 (221), PM PHF=0.89

*** Thursday, April 13, 2006=2784, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
3	**4**	**5**	**4**	**21**	**68**	**151**	**261**	**250**	**160**	**166**	**180**	**174**	**168**	**211**	**207**	**190**	**185**	**137**	**95**	**65**	**37**	**28**	**14**	
1	1	0	2	1	13	20	56	**81**	49	39	47	41	42	50	59	46	41	32	23	15	9	9	5	-
0	0	1	1	3	13	43	71	**75**	47	47	52	41	34	56	53	57	54	41	28	20	8	7	7	-
1	2	2	1	6	16	41	**64**	57	39	45	45	41	43	49	51	41	48	30	19	18	7	7	1	-
1	1	2	0	11	26	47	**70**	37	25	35	36	51	49	56	44	46	42	34	25	12	13	5	1	-

AM Peak 0730 - 0830 (290), AM PHF=0.90

Traffic Data Service
Vehicle Counts

VehicleCount-91 -- English (ENU)

Datasets:

Site:	**[3NB] NB EL CAMINO REAL JUST NORTH OF ESTRADA AVE**
Direction:	7 - North bound A>B, South bound B>A., **Lane:** 0
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range:	5 - 100 mph.
Direction:	North (bound)
Separation:	All - (Headway)
Name:	Factory default profile
Scheme:	Vehicle classification (Scheme F)
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)

*** Tuesday, April 11, 2006 - Total=2045, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
3	**4**	**1**	**4**	**5**	**19**	**64**	**136**	**154**	**95**	**97**	**124**	**119**	**136**	**157**	**165**	**194**	**211**	**123**	**78**	**73**	**42**	**34**	**7**	
1	1	0	3	1	4	7	26	**35**	19	19	24	27	38	29	31	48	**47**	33	24	22	16	11	1	2
0	1	0	1	0	7	19	37	**61**	25	27	35	42	36	34	29	50	**64**	36	20	15	10	13	1	4
0	1	1	0	1	3	12	**30**	24	23	27	30	21	30	39	44	48	**55**	27	19	17	11	3	3	1
2	1	0	0	3	5	26	**43**	34	28	24	35	29	32	55	61	**48**	45	27	15	19	5	7	2	1

AM Peak 0730 - 0830 (169), AM PHF=0.69 PM Peak 1645 - 1745 (214), PM PHF=0.84

*** Wednesday, April 12, 2006 - Total=2181, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
8	**4**	**3**	**1**	**11**	**19**	**70**	**126**	**150**	**134**	**134**	**137**	**126**	**131**	**163**	**168**	**185**	**209**	**140**	**76**	**79**	**58**	**34**	**15**	
2	2	1	0	2	4	12	25	**43**	35	41	36	22	37	27	35	54	**49**	31	21	24	10	15	4	2
4	2	0	0	2	6	16	35	**51**	39	24	28	39	32	26	45	47	**57**	43	17	19	21	5	4	2
1	0	1	1	4	3	17	**30**	28	37	32	32	32	38	47	35	39	**51**	31	22	18	14	8	3	5
1	0	1	0	3	6	25	**36**	28	23	37	41	33	24	63	53	45	**52**	35	16	18	13	6	4	2

AM Peak 0730 - 0830 (160), AM PHF=0.78 PM Peak 1700 - 1800 (209), PM PHF=0.92

*** Thursday, April 13, 2006 - Total=2241, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
11	**1**	**5**	**2**	**7**	**23**	**78**	**134**	**147**	**111**	**109**	**132**	**129**	**153**	**180**	**194**	**181**	**203**	**135**	**105**	**75**	**63**	**42**	**21**	
2	1	1	0	0	4	11	30	**38**	28	20	28	20	34	32	47	32	45	35	44	15	25	9	8	-
2	0	1	1	1	3	9	42	**56**	22	29	30	29	46	33	38	48	61	32	20	24	18	16	6	-
5	0	1	0	3	9	21	21	**32**	32	28	34	34	42	52	46	49	40	47	28	12	16	7	3	-
2	0	2	1	3	7	37	**41**	21	29	32	40	46	31	63	63	52	57	21	13	24	4	10	4	-

AM Peak 0745 - 0845 (167), AM PHF=0.75

Traffic Data Service
Vehicle Counts

VehicleCount-92 -- English (ENU)

Datasets:

Site:	**[3SB] SB EL CAMINO REAL JUST NORTH OF ESTRADA AVE**
Direction:	7 - North bound A>B, South bound B>A., **Lane:** 0
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range:	5 - 100 mph.
Direction:	South (bound)
Separation:	All - (Headway)
Name:	Factory default profile
Scheme:	Vehicle classification (Scheme F)
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)

*** Tuesday, April 11, 2006 - Total=2068, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
6	**2**	**2**	**2**	**6**	**38**	**72**	**136**	**174**	**118**	**116**	**137**	**134**	**149**	**143**	**160**	**172**	**158**	**148**	**73**	**53**	**37**	**22**	**10**	
2	0	1	0	0	7	12	28	**70**	27	29	43	23	31	36	41	36	**42**	34	20	12	5	7	1	5
2	0	0	2	0	7	11	34	**45**	30	23	31	48	44	36	44	**44**	31	41	18	12	10	6	4	1
0	2	0	0	4	13	21	**43**	27	28	28	32	34	48	33	39	**47**	47	36	18	15	12	4	3	1
2	0	1	0	2	11	28	**31**	32	33	36	31	29	26	38	36	**45**	38	37	17	14	10	5	2	1

AM Peak 0730 - 0830 (189), AM PHF=0.68 PM Peak 1615 - 1715 (178), PM PHF=0.95

*** Wednesday, April 12, 2006 - Total=2158, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
8	**1**	**2**	**4**	**10**	**40**	**69**	**153**	**208**	**114**	**124**	**128**	**132**	**119**	**160**	**164**	**162**	**157**	**138**	**92**	**68**	**47**	**37**	**21**	
5	0	0	0	2	8	15	22	**81**	28	23	32	48	29	40	37	**45**	34	35	25	23	19	19	4	3
1	0	0	3	1	8	10	38	**51**	27	36	29	24	38	36	**49**	35	41	37	31	16	17	9	10	3
1	0	2	0	4	12	25	**40**	35	27	27	32	27	26	50	**42**	43	45	24	19	13	10	5	3	1
1	1	0	1	3	12	19	**53**	41	32	38	35	33	26	34	**36**	39	37	42	17	16	1	4	4	1

AM Peak 0730 - 0830 (225), AM PHF=0.69 PM Peak 1515 - 1615 (172), PM PHF=0.88

*** Thursday, April 13, 2006 - Total=2201, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
8	**4**	**1**	**4**	**10**	**39**	**75**	**155**	**196**	**96**	**120**	**141**	**141**	**145**	**154**	**165**	**186**	**170**	**133**	**101**	**73**	**42**	**25**	**17**	
3	0	0	2	1	5	12	35	**81**	32	31	33	45	32	37	49	44	41	28	19	19	8	6	3	-
3	0	0	0	4	12	12	35	**48**	27	34	41	31	32	45	46	49	53	35	36	15	8	8	9	-
1	2	1	1	2	10	26	37	**38**	25	32	39	33	39	40	41	47	48	32	18	23	8	6	3	-
1	2	0	1	3	12	25	**48**	29	12	23	28	32	42	32	29	46	28	38	28	16	18	5	2	-

AM Peak 0745 - 0845 (215), AM PHF=0.66

Traffic Data Service
Vehicle Counts

VehicleCount-93 -- English (ENU)

Datasets:

Site:	**[4NB] NB ESTRADA AVE (SR 58) SOUTH OF EL CAMINO REAL**
Direction:	7 - North bound A>B, South bound B>A., **Lane:** 0
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range:	5 - 100 mph.
Direction:	North (bound)
Separation:	All - (Headway)
Name:	Factory default profile
Scheme:	Vehicle classification (Scheme F)
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)

*** Tuesday, April 11, 2006 - Total=1899, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
1	**4**	**1**	**3**	**15**	**40**	**121**	**218**	**229**	**119**	**104**	**110**	**110**	**118**	**149**	**121**	**123**	**103**	**70**	**53**	**40**	**28**	**13**	**6**	
0	1	1	0	3	9	13	43	**71**	28	15	17	23	32	**29**	17	36	23	19	20	21	6	6	2	1
0	1	0	2	1	12	35	53	**88**	34	23	38	29	37	**35**	30	25	27	21	10	6	8	4	2	5
1	1	0	0	2	7	34	**66**	38	34	38	24	22	23	**34**	37	30	29	18	14	5	11	2	2	0
0	1	0	1	9	12	39	**56**	32	23	28	31	36	26	**51**	37	32	24	12	9	8	3	1	0	1

AM Peak 0730 - 0830 (281), AM PHF=0.80 PM Peak 1400 - 1500 (149), PM PHF=0.73

*** Wednesday, April 12, 2006 - Total=2006, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
7	**3**	**1**	**1**	**19**	**44**	**104**	**223**	**214**	**131**	**115**	**141**	**114**	**103**	**165**	**153**	**121**	**106**	**86**	**59**	**35**	**31**	**24**	**6**	
1	0	0	0	2	9	14	50	**69**	43	30	33	22	27	18	**34**	34	29	21	16	12	5	14	1	1
5	1	0	0	3	10	25	57	**80**	34	16	35	33	24	34	**42**	38	20	22	15	9	9	6	2	0
0	1	0	1	4	11	33	**61**	38	38	32	39	36	30	**50**	40	33	24	24	13	8	5	1	1	5
1	1	1	0	10	14	32	**55**	27	16	37	34	23	22	**63**	37	16	33	19	15	6	12	3	2	1

AM Peak 0730 - 0830 (265), AM PHF=0.83 PM Peak 1430 - 1530 (189), PM PHF=0.75

*** Thursday, April 13, 2006 - Total=2094, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
7	**2**	**5**	**3**	**14**	**41**	**127**	**209**	**223**	**138**	**118**	**108**	**135**	**132**	**183**	**158**	**125**	**130**	**91**	**56**	**40**	**22**	**18**	**9**	
1	1	0	0	0	10	14	43	**70**	33	24	25	24	32	29	42	27	37	17	21	10	3	8	6	-
0	0	2	2	0	6	36	60	**83**	38	36	28	28	40	32	29	42	38	24	11	15	7	1	1	-
5	1	1	0	4	9	32	49	**51**	37	25	30	37	25	56	39	23	25	34	17	6	7	4	0	-
1	0	2	1	10	16	45	**57**	19	30	33	25	46	35	66	48	33	30	16	7	9	5	5	2	-

AM Peak 0745 - 0845 (261), AM PHF=0.79

Traffic Data Service
Vehicle Counts

VehicleCount-94 -- English (ENU)

Datasets:

Site:	**[4SB] SB ESTRADA AVE (SR 58) SOUTH OF EL CAMINO REAL**
Direction:	7 - North bound A>B, South bound B>A., **Lane:** 0
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range:	5 - 100 mph.
Direction:	South (bound)
Separation:	All - (Headway)
Name:	Factory default profile
Scheme:	Vehicle classification (Scheme F)
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)

*** Tuesday, April 11, 2006 - Total=1815, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
12	**2**	**2**	**0**	**2**	**11**	**48**	**88**	**129**	**87**	**80**	**95**	**95**	**95**	**168**	**142**	**159**	**196**	**148**	**98**	**54**	**58**	**34**	**12**	
5	0	1	0	0	1	3	16	**60**	17	23	24	20	21	36	33	39	**43**	36	26	16	12	11	3	6
5	0	0	0	0	0	8	13	**37**	32	17	29	28	25	39	31	45	**47**	41	27	12	20	10	2	2
1	2	0	0	1	5	12	**20**	13	19	21	21	22	28	44	34	39	**51**	31	25	10	11	4	3	0
1	0	1	0	1	5	25	**39**	19	19	19	21	25	21	49	44	36	**55**	40	20	16	15	9	4	1

AM Peak 0730 - 0830 (156), AM PHF=0.65 PM Peak 1700 - 1800 (196), PM PHF=0.89

*** Wednesday, April 12, 2006 - Total=1870, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
9	**3**	**5**	**2**	**3**	**11**	**28**	**90**	**148**	**80**	**94**	**112**	**98**	**114**	**145**	**152**	**152**	**202**	**132**	**95**	**68**	**68**	**43**	**16**	
6	1	1	0	0	2	5	17	**60**	15	21	28	19	29	32	34	30	**54**	39	24	24	15	24	3	4
2	0	2	1	0	3	4	10	**48**	26	27	17	21	32	33	40	35	**56**	33	35	17	22	9	6	8
0	1	1	1	3	3	7	**25**	19	20	19	37	29	26	44	32	41	**50**	25	18	15	12	5	2	5
1	1	1	0	0	3	12	**38**	21	19	27	30	29	27	36	46	**46**	42	35	18	12	19	5	5	3

AM Peak 0730 - 0830 (171), AM PHF=0.71 PM Peak 1645 - 1745 (206), PM PHF=0.92

*** Thursday, April 13, 2006 - Total=2019, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
20	**4**	**3**	**5**	**3**	**17**	**45**	**96**	**153**	**86**	**99**	**116**	**136**	**115**	**161**	**151**	**192**	**212**	**114**	**94**	**86**	**65**	**33**	**13**	
4	0	0	1	0	3	5	22	**73**	22	26	23	40	22	28	36	41	45	23	11	18	14	5	3	-
8	1	1	3	1	7	10	14	**50**	22	31	32	21	33	44	40	47	67	27	33	22	19	13	4	-
5	1	1	0	2	2	13	**26**	18	25	20	35	35	27	54	44	57	61	34	20	27	13	9	3	-
3	2	1	1	0	5	17	**34**	12	17	22	26	40	33	35	31	47	39	30	30	19	19	6	3	-

AM Peak 0730 - 0830 (183), AM PHF=0.63

Traffic Data Service
Vehicle Counts

VehicleCount-96 -- English (ENU)

Datasets:

Site:	**[5EB] EB SR 58 EAST OF THE 90-DEGREE BEND AT J STREET**
Direction:	6 - West bound A>B, East bound B>A., **Lane:** 0
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range:	5 - 100 mph.
Direction:	East (bound)
Separation:	All - (Headway)
Name:	Factory default profile
Scheme:	Vehicle classification (Scheme F)
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)

*** Tuesday, April 11, 2006 - Total=1386, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
8	**2**	**2**	**0**	**2**	**10**	**35**	**59**	**42**	**58**	**65**	**73**	**79**	**71**	**111**	**121**	**152**	**169**	**117**	**82**	**46**	**41**	**32**	**9**	
3	0	1	0	0	1	3	12	12	8	14	15	**16**	17	27	28	37	**39**	34	18	10	8	12	2	1
4	0	0	0	0	0	6	15	8	27	16	24	**22**	18	31	32	46	**32**	32	24	12	12	9	2	4
1	2	0	0	1	3	11	13	8	11	18	16	**20**	21	17	27	34	**49**	29	23	12	9	4	2	0
0	0	1	0	1	6	15	19	14	12	17	**18**	21	15	36	34	35	**49**	22	17	12	12	7	3	1

AM Peak 1145 - 1245 (76), AM PHF=0.86 PM Peak 1700 - 1800 (169), PM PHF=0.86

*** Wednesday, April 12, 2006 - Total=1442, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
6	**3**	**4**	**2**	**3**	**10**	**18**	**60**	**54**	**55**	**73**	**96**	**71**	**97**	**102**	**136**	**132**	**172**	**98**	**72**	**62**	**63**	**42**	**11**	
1	1	0	0	0	2	4	10	8	10	17	**23**	17	24	27	35	31	**45**	35	15	21	13	26	2	2
4	0	2	1	0	2	3	10	20	14	20	**11**	12	25	22	30	31	**52**	26	25	15	21	10	3	7
0	1	1	1	3	3	6	18	12	18	16	**24**	22	22	26	29	37	**39**	18	16	15	11	2	3	4
1	1	1	0	0	3	5	22	14	13	20	**38**	20	26	27	42	33	**36**	19	16	11	18	4	3	2

AM Peak 1100 - 1200 (96), AM PHF=0.63 PM Peak 1700 - 1800 (172), PM PHF=0.83

*** Thursday, April 13, 2006 - Total=1306, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
15	**4**	**2**	**4**	**2**	**17**	**32**	**65**	**66**	**61**	**69**	**91**	**104**	**92**	**117**	**131**	**175**	**110**	**53**	**38**	**21**	**18**	**13**	**6**	
2	0	0	1	0	3	5	16	11	19	13	19	**27**	22	25	28	36	32	11	8	7	1	5	2	-
7	1	1	3	0	6	9	14	25	14	23	**22**	20	27	32	38	40	44	16	11	8	4	1	0	-
4	1	0	0	2	2	8	19	20	15	18	**28**	27	18	32	35	56	25	15	12	1	8	2	0	-
2	2	1	0	0	6	10	16	10	13	15	**22**	30	25	28	30	43	9	11	7	5	5	5	4	-

AM Peak 1115 - 1215 (99), AM PHF=0.88

Traffic Data Service
Vehicle Counts

VehicleCount-95 -- English (ENU)

Datasets:

Site:	**[5WB] WB SR 58 EAST OF THE 90-DEGREE BEND AT J STREET**
Direction:	6 - West bound A>B, East bound B>A., **Lane:** 0
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range:	5 - 100 mph.
Direction:	West (bound)
Separation:	All - (Headway)
Name:	Factory default profile
Scheme:	Vehicle classification (Scheme F)
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)

*** Tuesday, April 11, 2006 - Total=1404, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
2	**4**	**1**	**3**	**16**	**33**	**107**	**173**	**137**	**92**	**78**	**93**	**83**	**95**	**85**	**80**	**103**	**69**	**54**	**38**	**21**	**24**	**8**	**5**	
0	1	1	0	4	6	11	34	**52**	29	9	18	22	16	21	13	**28**	11	18	12	9	6	2	1	3
0	1	0	2	1	11	28	41	**42**	18	23	35	19	31	26	24	**23**	18	9	8	2	7	3	2	0
2	1	0	0	2	5	36	**57**	24	26	29	22	20	22	22	27	**23**	22	16	13	3	6	3	2	0
0	1	0	1	9	11	32	**41**	19	19	17	18	22	26	16	16	**29**	18	11	5	7	5	0	0	1

AM Peak 0730 - 0830 (192), AM PHF=0.84 PM Peak 1600 - 1700 (103), PM PHF=0.89

*** Wednesday, April 12, 2006 - Total=1509, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
4	**3**	**1**	**1**	**19**	**40**	**94**	**180**	**134**	**102**	**79**	**123**	**74**	**81**	**111**	**105**	**105**	**76**	**81**	**40**	**20**	**17**	**15**	**4**	
3	0	0	0	2	10	15	43	**51**	31	20	29	14	19	18	**32**	32	23	23	11	6	4	6	1	1
0	1	0	0	4	7	20	**46**	38	25	14	30	23	18	**32**	20	31	12	19	8	4	9	6	1	0
0	1	0	1	3	12	31	**53**	23	31	18	25	24	27	**34**	29	24	21	20	9	7	2	1	1	0
1	1	1	0	10	11	28	**38**	22	15	27	39	13	17	**27**	24	18	20	19	12	3	2	2	1	1

AM Peak 0715 - 0815 (188), AM PHF=0.89 PM Peak 1415 - 1515 (125), PM PHF=0.92

*** Thursday, April 13, 2006 - Total=1962, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
2	**2**	**4**	**2**	**15**	**36**	**110**	**170**	**136**	**108**	**88**	**84**	**109**	**101**	**121**	**95**	**107**	**179**	**157**	**131**	**96**	**63**	**36**	**10**	
1	1	0	0	0	9	11	31	**49**	23	13	23	20	24	33	24	21	31	27	27	22	8	11	3	-
0	0	2	1	0	4	30	**48**	33	29	26	28	14	28	26	22	40	57	41	38	31	17	11	1	-
0	1	1	0	4	9	35	**47**	39	35	19	15	30	16	40	24	22	46	50	30	25	20	5	2	-
1	0	1	1	11	14	34	**44**	15	21	30	18	45	33	22	25	24	45	39	36	18	18	9	4	-

AM Peak 0715 - 0815 (188), AM PHF=0.96

Traffic Data Service
Vehicle Counts

VehicleCount-97 -- English (ENU)

Datasets:

Site:	**[6NB] NB WEST POZO RD SOUTH OF SR 58**
Direction:	7 - North bound A>B, South bound B>A., **Lane:** 0
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range:	5 - 100 mph.
Direction:	North (bound)
Separation:	All - (Headway)
Name:	Factory default profile
Scheme:	Vehicle classification (Scheme F)
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)

*** Tuesday, April 11, 2006 - Total=460, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	**1**	**0**	**2**	**4**	**10**	**28**	**49**	**35**	**33**	**22**	**34**	**28**	**35**	**28**	**44**	**40**	**22**	**19**	**15**	**6**	**1**	**3**	**1**	
0	0	0	0	1	4	6	10	**19**	10	5	11	5	4	10	10	**14**	4	9	6	3	0	0	0	0
0	0	0	1	1	1	6	**11**	6	6	7	14	9	12	11	**8**	6	6	3	4	0	0	1	0	0
0	1	0	0	0	3	6	**18**	8	12	6	3	6	9	6	**19**	9	3	4	2	1	0	1	1	0
0	0	0	1	2	2	10	**10**	2	5	4	6	8	10	1	**7**	11	9	3	3	2	1	1	0	0

AM Peak 0715 - 0815 (58), AM PHF=0.76 PM Peak 1515 - 1615 (48), PM PHF=0.63

*** Wednesday, April 12, 2006 - Total=479, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	**0**	**0**	**1**	**4**	**10**	**29**	**42**	**35**	**29**	**20**	**42**	**24**	**27**	**34**	**44**	**49**	**23**	**31**	**13**	**12**	**7**	**2**	**1**	
0	0	0	0	1	2	3	**13**	12	10	2	8	2	10	4	10	**17**	8	12	3	5	1	0	0	0
0	0	0	1	1	2	9	**6**	4	4	5	10	12	5	8	7	**11**	3	7	3	3	4	0	0	0
0	0	0	0	0	4	9	**14**	7	11	8	16	6	8	10	**14**	13	9	6	3	3	0	0	1	0
0	0	0	0	2	2	8	**9**	12	4	5	8	4	4	12	**13**	8	3	6	4	1	2	2	0	0

AM Peak 0700 - 0800 (42), AM PHF=0.75 PM Peak 1530 - 1630 (55), PM PHF=0.81

*** Thursday, April 13, 2006 - Total=548, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	**0**	**1**	**1**	**5**	**12**	**26**	**41**	**38**	**30**	**30**	**35**	**35**	**46**	**50**	**41**	**52**	**49**	**20**	**18**	**8**	**3**	**5**	**2**	
0	0	0	0	0	3	2	8	**18**	9	3	8	7	13	14	10	17	17	8	4	3	0	2	1	-
0	0	1	0	0	1	8	**14**	5	6	9	5	9	17	4	10	12	11	8	2	4	2	0	0	-
0	0	0	0	2	3	7	**9**	13	11	7	9	8	4	19	13	8	11	1	7	0	0	1	1	-
0	0	0	1	3	5	9	**10**	2	4	11	13	11	12	13	8	15	10	3	5	1	1	2	0	-

AM Peak 0715 - 0815 (51), AM PHF=0.71

Traffic Data Service
Vehicle Counts

VehicleCount-98 -- English (ENU)

Datasets:

Site:	**[6SB] SB WEST POZO RD SOUTH OF SR 58**
Direction:	7 - North bound A>B, South bound B>A., **Lane:** 0
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range:	5 - 100 mph.
Direction:	South (bound)
Separation:	All - (Headway)
Name:	Factory default profile
Scheme:	Vehicle classification (Scheme F)
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)

*** Tuesday, April 11, 2006 - Total=471, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	**0**	**1**	**0**	**0**	**7**	**18**	**23**	**21**	**25**	**22**	**27**	**30**	**31**	**48**	**38**	**43**	**50**	**29**	**21**	**14**	**11**	**9**	**3**	
0	0	0	0	0	0	3	7	6	4	7	5	**6**	6	9	**6**	12	11	8	7	2	4	4	0	0
0	0	0	0	0	0	3	6	5	9	3	7	**9**	10	12	**16**	15	10	6	3	4	1	2	1	0
0	0	0	0	0	3	7	2	3	7	7	**8**	5	10	7	**11**	8	10	8	6	5	4	2	1	0
0	0	1	0	0	4	5	8	7	5	5	**7**	10	5	**20**	5	8	19	7	5	3	2	1	1	0

AM Peak 1130 - 1230 (30), AM PHF=0.83 PM Peak 1445 - 1545 (53), PM PHF=0.66

*** Wednesday, April 12, 2006 - Total=482, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	**0**	**1**	**0**	**0**	**7**	**14**	**23**	**26**	**19**	**25**	**37**	**21**	**32**	**34**	**46**	**50**	**47**	**26**	**21**	**19**	**19**	**15**	**0**	
0	0	0	0	0	1	6	4	7	2	2	**11**	6	12	10	9	16	**16**	11	6	9	4	12	0	0
0	0	1	0	0	1	3	2	6	5	7	**4**	8	9	6	8	7	**15**	7	8	6	4	1	0	3
0	0	0	0	0	3	2	7	5	7	7	**6**	4	6	6	16	**13**	12	3	5	3	4	1	0	2
0	0	0	0	0	2	3	10	8	5	9	**16**	3	5	12	13	**14**	4	5	2	1	7	1	0	1

AM Peak 1100 - 1200 (37), AM PHF=0.58 PM Peak 1630 - 1730 (58), PM PHF=0.91

*** Thursday, April 13, 2006 - Total=553, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
6	**2**	**1**	**1**	**1**	**9**	**22**	**35**	**24**	**23**	**24**	**34**	**41**	**39**	**36**	**47**	**54**	**46**	**29**	**27**	**27**	**11**	**13**	**1**	
0	0	0	0	0	1	5	9	4	7	4	4	**9**	13	5	12	10	10	9	7	7	1	2	0	-
3	0	0	1	0	1	5	8	9	5	5	**9**	9	10	13	17	13	14	6	9	5	3	7	1	-
2	0	0	0	1	4	3	10	7	7	6	**11**	8	9	4	9	19	12	8	3	8	2	1	0	-
1	2	1	0	0	3	9	8	4	4	9	**10**	15	7	14	9	12	10	6	8	7	5	3	0	-

AM Peak 1115 - 1215 (39), AM PHF=0.89

Traffic Data Service
Vehicle Counts

VehicleCount-100 -- English (ENU)

Datasets:

Site:	**[7EB] EB SR 58 EAST OF WEST POZO RD**
Direction:	6 - West bound A>B, East bound B>A., **Lane:** 0
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range:	5 - 100 mph.
Direction:	East (bound)
Separation:	All - (Headway)
Name:	Factory default profile
Scheme:	Vehicle classification (Scheme F)
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)

*** Tuesday, April 11, 2006 - Total=886, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
8	**2**	**1**	**1**	**2**	**3**	**15**	**33**	**21**	**33**	**39**	**42**	**48**	**42**	**60**	**78**	**105**	**117**	**87**	**62**	**29**	**31**	**22**	**5**	
3	0	1	0	0	1	3	8	6	3	11	10	**11**	12	12	19	23	28	**24**	12	7	4	6	2	1
3	0	0	0	0	0	3	7	5	17	9	11	**9**	8	20	15	29	21	**30**	19	9	10	8	1	4
2	2	0	0	1	0	3	9	4	6	9	10	**15**	8	10	17	30	**30**	17	17	9	8	2	1	1
0	0	0	1	1	2	6	9	6	7	10	**11**	13	14	18	27	23	**38**	16	14	4	9	6	1	1

AM Peak 1145 - 1245 (46), AM PHF=0.77 PM Peak 1730 - 1830 (122), PM PHF=0.80

*** Wednesday, April 12, 2006 - Total=924, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
7	**3**	**3**	**3**	**3**	**5**	**5**	**33**	**28**	**35**	**45**	**49**	**46**	**71**	**53**	**89**	**86**	**110**	**79**	**46**	**47**	**39**	**28**	**11**	
1	1	0	0	0	1	0	7	3	8	15	**11**	9	14	13	19	21	28	**33**	8	16	7	14	3	2
4	0	1	2	0	1	0	5	11	10	13	**5**	6	17	12	27	25	**30**	17	12	10	13	9	3	3
1	1	1	1	3	0	2	10	7	9	9	**22**	18	15	15	11	23	**26**	17	15	10	9	3	2	2
1	1	1	0	0	3	3	11	7	8	8	**11**	13	25	13	32	17	**26**	12	11	11	10	2	3	1

AM Peak 1100 - 1200 (49), AM PHF=0.56 PM Peak 1715 - 1815 (115), PM PHF=0.87

*** Thursday, April 13, 2006 - Total=980, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
8	**2**	**1**	**4**	**1**	**10**	**12**	**31**	**35**	**45**	**43**	**55**	**58**	**50**	**66**	**81**	**118**	**116**	**84**	**56**	**43**	**33**	**17**	**11**	
2	0	0	1	0	2	0	7	8	17	10	15	**15**	15	14	16	27	27	22	4	11	6	4	3	-
3	0	1	2	0	3	6	4	9	9	17	9	**13**	16	14	21	24	29	17	21	9	8	5	1	-
2	1	0	0	1	1	3	8	13	9	9	**16**	16	9	23	25	38	42	22	14	13	11	3	3	-
1	1	0	1	0	4	3	12	5	10	7	**15**	14	10	15	19	29	18	23	17	10	8	5	4	-

AM Peak 1130 - 1230 (59), AM PHF=0.92

Traffic Data Service
Vehicle Counts

VehicleCount-99 -- English (ENU)

Datasets:

Site:	**[7WB] WB SR 58 EAST OF WEST POZO RD**
Direction:	6 - West bound A>B, East bound B>A., **Lane:** 0
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range:	5 - 100 mph.
Direction:	West (bound)
Separation:	All - (Headway)
Name:	Factory default profile
Scheme:	Vehicle classification (Scheme F)
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)

*** Tuesday, April 11, 2006 - Total=912, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
3	**2**	**1**	**3**	**10**	**25**	**84**	**119**	**93**	**60**	**53**	**54**	**58**	**52**	**53**	**36**	**54**	**51**	**32**	**25**	**15**	**21**	**5**	**3**	
0	0	1	1	2	2	13	25	**33**	18	7	12	15	**11**	13	6	12	10	8	7	7	7	1	0	3
0	1	0	0	0	11	17	**28**	28	13	18	18	11	**18**	15	10	13	10	9	6	2	5	2	2	0
2	0	0	0	2	5	33	**42**	20	16	17	16	**16**	13	14	10	14	20	7	8	2	5	2	1	0
1	1	0	2	6	7	21	**24**	12	13	11	8	**16**	10	11	10	15	11	8	4	4	4	0	0	0

AM Peak 0715 - 0815 (127), AM PHF=0.76 PM Peak 1230 - 1330 (61), PM PHF=0.85

*** Wednesday, April 12, 2006 - Total=985, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
3	**3**	**1**	**1**	**15**	**33**	**68**	**131**	**100**	**65**	**56**	**66**	**45**	**52**	**74**	**59**	**55**	**54**	**44**	**29**	**8**	**12**	**8**	**3**	
3	0	0	0	1	8	15	31	**41**	13	10	24	9	11	**13**	12	15	15	10	8	2	6	3	1	1
0	1	0	0	3	6	10	**36**	31	21	14	12	12	14	**24**	15	17	11	11	4	1	2	3	1	0
0	2	0	1	3	11	19	**40**	13	18	10	17	16	17	**25**	14	15	12	12	8	3	3	2	0	0
0	0	1	0	8	8	24	**24**	15	13	22	13	8	10	**12**	18	8	16	11	9	2	1	0	1	1

AM Peak 0715 - 0815 (141), AM PHF=0.86 PM Peak 1400 - 1500 (74), PM PHF=0.74

*** Thursday, April 13, 2006 - Total=1008, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
2	**2**	**3**	**2**	**9**	**28**	**86**	**127**	**96**	**73**	**52**	**51**	**78**	**50**	**54**	**53**	**57**	**70**	**46**	**26**	**22**	**10**	**9**	**2**	
1	1	0	0	0	6	13	30	**36**	15	9	18	13	13	14	17	12	12	5	8	6	0	4	1	-
0	1	1	1	0	4	21	**31**	21	19	15	18	8	9	14	12	19	27	15	6	7	3	1	0	-
0	0	1	0	1	9	29	**33**	26	26	13	8	28	13	15	10	14	16	17	6	4	5	2	0	-
1	0	1	1	8	9	23	**33**	13	13	15	7	29	15	11	14	12	15	9	6	5	2	2	1	-

AM Peak 0715 - 0815 (133), AM PHF=0.92

Traffic Data Service
Vehicle Counts

VehicleCount-101 -- English (ENU)

Datasets:

Site:	**[8NB] NB WILHELMINA AVE BETWEEN EL CAMINO REAL & I STREET**
Direction:	7 - North bound A>B, South bound B>A., **Lane:** 0
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range:	5 - 100 mph.
Direction:	North (bound)
Separation:	All - (Headway)
Name:	Factory default profile
Scheme:	Vehicle classification (Scheme F)
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)

*** Tuesday, April 11, 2006 - Total=354, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2300	
2	**1**	**3**	**0**	**3**	**8**	**32**	**59**	**44**	**12**	**17**	**17**	**13**	**14**	**21**	**24**	**16**	**22**	**22**	**9**	**4**	**5**	**1**	
1	0	0	0	1	1	7	**16**	18	4	3	6	2	4	2	**3**	3	5	4	5	2	2	0	0
0	0	2	0	0	4	5	**25**	10	4	5	5	6	2	7	**5**	3	6	8	1	0	0	4	1	0
0	0	0	0	0	1	10	**15**	8	3	1	4	1	5	10	**10**	3	4	4	0	2	1	0	0	1
1	1	1	0	2	2	**10**	3	8	1	8	2	4	3	2	**6**	7	7	6	3	0	2	1	0	0

AM Peak 0645 - 0745 (66), AM PHF=0.66 PM Peak 1500 - 1600 (24), PM PHF=0.60

*** Wednesday, April 12, 2006 - Total=364, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2300	
1	**0**	**1**	**2**	**4**	**10**	**28**	**67**	**32**	**15**	**23**	**16**	**23**	**18**	**19**	**18**	**16**	**25**	**15**	**9**	**12**	**4**	**4**	**2**
0	0	0	1	0	0	2	**19**	12	1	4	4	6	6	4	4	3	5	**4**	2	6	0	2	1	0
0	0	1	0	1	2	5	**22**	6	4	3	1	8	4	4	4	4	7	**9**	3	3	1	2	0	0
1	0	0	0	1	3	13	**16**	11	4	7	4	4	6	5	3	6	**6**	1	2	2	3	0	1	0
0	0	0	1	2	5	8	**10**	3	6	9	7	5	2	6	7	3	**7**	1	2	1	0	0	0	0

AM Peak 0700 - 0800 (67), AM PHF=0.76 PM Peak 1730 - 1830 (26), PM PHF=0.72

*** Thursday, April 13, 2006 - Total=366, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2300	
0	**1**	**2**	**0**	**3**	**6**	**26**	**60**	**35**	**19**	**17**	**18**	**24**	**13**	**21**	**17**	**23**	**26**	**15**	**16**	**9**	**8**	**5**	**2**
0	0	2	0	0	1	2	**21**	14	4	4	3	3	6	2	3	5	12	5	7	0	2	1	0	-
0	0	0	0	1	2	4	**21**	13	2	5	6	3	2	4	3	5	5	3	3	3	3	2	1	-
0	0	0	0	0	1	**12**	11	4	7	5	4	9	2	7	7	4	4	3	1	3	1	0	1	-
0	1	0	0	2	2	**8**	7	4	6	3	5	9	3	8	4	9	5	4	5	3	2	2	0	-

AM Peak 0630 - 0730 (62), AM PHF=0.74

Traffic Data Service
Vehicle Counts

VehicleCount-102 -- English (ENU)

Datasets:

Site:	**[8SB] SB WILHELMINA AVE BETWEEN EL CAMINO REAL & I STREET**
Direction:	7 - North bound A>B, South bound B>A., **Lane:** 0
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range:	5 - 100 mph.
Direction:	South (bound)
Separation:	All - (Headway)
Name:	Factory default profile
Scheme:	Vehicle classification (Scheme F)
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)

*** Tuesday, April 11, 2006 - Total=365, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
3	**2**	**2**	**2**	**0**	**2**	**4**	**11**	**11**	**7**	**13**	**24**	**11**	**15**	**26**	**39**	**45**	**52**	**29**	**24**	**15**	**17**	**7**	**4**	
1	0	0	0	0	0	1	2	2	1	1	3	**4**	2	5	9	8	**11**	9	13	3	5	0	1	2
0	0	1	1	0	1	1	5	4	3	2	**5**	4	3	6	10	10	**16**	7	2	5	3	5	0	0
1	2	0	1	0	0	2	1	2	1	7	**5**	2	5	7	11	**13**	10	7	2	5	4	1	1	3
1	0	1	0	0	1	0	3	3	2	3	**11**	1	5	8	9	**14**	15	6	7	2	5	1	2	0

AM Peak 1115 - 1215 (25), AM PHF=0.57 PM Peak 1630 - 1730 (54), PM PHF=0.84

*** Wednesday, April 12, 2006 - Total=382, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
5	**2**	**2**	**0**	**0**	**1**	**6**	**9**	**15**	**15**	**13**	**10**	**14**	**30**	**29**	**33**	**43**	**46**	**31**	**28**	**25**	**16**	**6**	**3**	
2	0	0	0	0	1	0	0	3	1	**3**	2	5	10	9	7	10	**11**	6	12	6	9	2	0	0
0	0	0	0	0	0	1	3	7	3	**4**	1	2	8	9	8	11	**12**	7	6	6	4	1	1	3
3	1	0	0	0	0	4	3	4	**6**	3	3	3	8	7	11	10	**14**	7	5	8	2	1	0	0
0	1	2	0	0	0	1	3	1	**5**	3	4	4	4	4	7	**12**	9	11	5	5	1	2	2	1

AM Peak 0930 - 1030 (18), AM PHF=0.75 PM Peak 1645 - 1745 (49), PM PHF=0.88

*** Thursday, April 13, 2006 - Total=389, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
4	**3**	**2**	**0**	**2**	**1**	**4**	**10**	**11**	**10**	**15**	**13**	**22**	**21**	**19**	**33**	**46**	**52**	**30**	**38**	**23**	**12**	**7**	**11**	
0	1	1	0	0	1	0	2	3	1	3	4	**6**	3	6	5	12	8	6	10	5	2	4	3	-
3	0	0	0	0	0	1	3	2	1	7	2	**8**	2	5	10	13	13	8	12	9	4	1	5	-
0	2	0	0	2	0	2	3	4	5	2	2	**3**	9	5	12	11	10	9	13	7	4	0	2	-
1	0	1	0	0	0	1	2	2	3	3	**5**	5	7	3	6	10	21	7	3	2	2	2	1	-

AM Peak 1145 - 1245 (22), AM PHF=0.69

APPENDIX B:
INTERSECTION LEVEL OF SERVICE CALCULATIONS

Existing AM
1: SR 58 & US 101 NB Ramps

6/14/2006

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations										
Sign Control		Free			Free		Yield		Stop	
Grade		0%			0%		0%		0%	
Volume (veh/h)	0	38	0	0	290	72	0	71	0	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	0	44	0	0	337	84	0	83	0	0
Pedestrians										
Lane Width (ft)										
Walking Speed (ft/s)										
Percent Blockage										
Right turn flare (veh)										
Median type							None		None	
Median storage veh)										
Upstream signal (ft)										
pX, platoon unblocked										
vC, conflicting volume	421			44			465	44	506	423
vC1, stage 1 conf vol										
vC2, stage 2 conf vol										
vCu, unblocked vol	421			44			465	44	506	423
tC, single (s)	4.2			4.2			6.6	6.3	7.2	6.6
tC, 2 stage (s)										
tF (s)	2.3			2.3			4.1	3.4	3.6	4.1
p0 queue free %	100			100			100	92	100	100
cM capacity (veh/h)	1117			1539			489	1015	432	516

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	44	421	83
Volume Left	0	0	0
Volume Right	0	84	83
cSH	1700	1700	1015
Volume to Capacity	0.03	0.25	0.08
Queue Length 95th (ft)	0	0	7
Control Delay (s)	0.0	0.0	8.9
Lane LOS			A
Approach Delay (s)	0.0	0.0	8.9
Approach LOS			A

Intersection Summary			
Average Delay		1.3	
Intersection Capacity Utilization		23.0%	ICU Level of Service A
Analysis Period (min)		15	

Existing AM
2: El Camino Real & Wilhelmina Ave 6/14/2006

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	93	11	3	296	57	4
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	108	13	3	344	66	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			121		466	115
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			121		466	115
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		88	100
cM capacity (veh/h)			1467		554	938

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	121	348	71
Volume Left	0	3	66
Volume Right	13	0	5
cSH	1700	1467	569
Volume to Capacity	0.07	0.00	0.12
Queue Length 95th (ft)	0	0	11
Control Delay (s)	0.0	0.1	12.2
Lane LOS		A	B
Approach Delay (s)	0.0	0.1	12.2
Approach LOS			B

Intersection Summary			
Average Delay		1.7	
Intersection Capacity Utilization		28.0%	ICU Level of Service A
Analysis Period (min)		15	

Existing AM
3: El Camino Real & Encina Ave 6/14/2006

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	8	108	11	5	271	4	53	1	21	5	5	7
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	9	126	13	6	315	5	62	1	24	6	6	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	320			138			488	482	132	498	486	317
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	320			138			488	482	132	498	486	317
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			87	100	97	99	99	99
cM capacity (veh/h)	1240			1445			476	478	917	465	476	723

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	9	138	6	320	87	20
Volume Left	9	0	6	0	62	6
Volume Right	0	13	0	5	24	8
cSH	1240	1700	1445	1700	550	549
Volume to Capacity	0.01	0.08	0.00	0.19	0.16	0.04
Queue Length 95th (ft)	1	0	0	0	14	3
Control Delay (s)	7.9	0.0	7.5	0.0	12.8	11.8
Lane LOS	A		A		B	B
Approach Delay (s)	0.5		0.1		12.8	11.8
Approach LOS					B	B

Intersection Summary			
Average Delay		2.5	
Intersection Capacity Utilization		30.3%	ICU Level of Service A
Analysis Period (min)		15	

Existing AM
4: El Camino Real & Estrada Ave 6/14/2006

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	68	70	101	134	149	111
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	79	81	117	156	173	129
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			160		510	120
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			160		510	120
tC, single (s)			4.2		6.5	6.3
tC, 2 stage (s)						
tF (s)			2.3		3.6	3.4
p0 queue free %			92		63	86
cM capacity (veh/h)			1395		473	921

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	160	273	173	129
Volume Left	0	117	173	0
Volume Right	81	0	0	129
cSH	1700	1395	473	921
Volume to Capacity	0.09	0.08	0.37	0.14
Queue Length 95th (ft)	0	7	42	12
Control Delay (s)	0.0	3.8	17.0	9.5
Lane LOS		A	C	A
Approach Delay (s)	0.0	3.8	13.8	
Approach LOS			B	

Intersection Summary			
Average Delay	7.1		
Intersection Capacity Utilization	38.8%	ICU Level of Service	A
Analysis Period (min)	15		

Existing AM
5: Santa Margarita Rd & El Camino Real 6/14/2006

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	12	13	6	192	172	14
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	14	15	7	223	200	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	445	208	216			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	445	208	216			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	98	99			
cM capacity (veh/h)	567	832	1354			

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	14	15	230	216
Volume Left	14	0	7	0
Volume Right	0	15	0	16
cSH	567	832	1354	1700
Volume to Capacity	0.02	0.02	0.01	0.13
Queue Length 95th (ft)	2	1	0	0
Control Delay (s)	11.5	9.4	0.3	0.0
Lane LOS	B	A	A	
Approach Delay (s)	10.4		0.3	0.0
Approach LOS	B			

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	24.9%	ICU Level of Service	A
Analysis Period (min)	15		

Existing AM
6: H St & Estrada Ave 6/14/2006

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	3	6	0	12	15	96	1	175	49	104	56	2
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	3	7	0	14	17	112	1	203	57	121	65	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	663	571	66	546	544	232	67			260		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	663	571	66	546	544	232	67			260		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	98	100	97	96	86	100			91		
cM capacity (veh/h)	290	391	997	411	405	807	1534			1304		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	10	143	262	188
Volume Left	3	14	1	121
Volume Right	0	112	57	2
cSH	350	664	1534	1304
Volume to Capacity	0.03	0.22	0.00	0.09
Queue Length 95th (ft)	2	20	0	8
Control Delay (s)	15.6	11.9	0.0	5.4
Lane LOS	C	B	A	A
Approach Delay (s)	15.6	11.9	0.0	5.4
Approach LOS	C	B		

Intersection Summary				
Average Delay		4.8		
Intersection Capacity Utilization		38.8%	ICU Level of Service	A
Analysis Period (min)		15		

Existing AM
7: West Pozo Rd & Calf Canyon Hwy 6/14/2006

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	36	19	47	1	0	128
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	42	22	55	1	0	149
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		1121				
pX, platoon unblocked						
vC, conflicting volume	56				161	55
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	56				161	55
tC, single (s)	4.2				6.4	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.4
p0 queue free %	97				100	85
cM capacity (veh/h)	1524				807	1000

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	64	56	149
Volume Left	42	0	0
Volume Right	0	1	149
cSH	1524	1700	1000
Volume to Capacity	0.03	0.03	0.15
Queue Length 95th (ft)	2	0	13
Control Delay (s)	4.9	0.0	9.2
Lane LOS	A		A
Approach Delay (s)	4.9	0.0	9.2
Approach LOS			A

Intersection Summary				
Average Delay		6.3		
Intersection Capacity Utilization		24.3%	ICU Level of Service	A
Analysis Period (min)		15		

Existing PM
1: SR 58 & US 101 NB Ramps 6/14/2006

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations										
Sign Control		Free			Free		Yield		Stop	
Grade		0%			0%		0%		0%	
Volume (veh/h)	0	71	0	0	105	68	0	244	0	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	78	0	0	115	75	0	268	0	0
Pedestrians										
Lane Width (ft)										
Walking Speed (ft/s)										
Percent Blockage										
Right turn flare (veh)										
Median type							None		None	
Median storage veh)										
Upstream signal (ft)										
pX, platoon unblocked										
vC, conflicting volume	190			78			268	78	499	231
vC1, stage 1 conf vol										
vC2, stage 2 conf vol										
vCu, unblocked vol	190			78			268	78	499	231
tC, single (s)	4.2			4.2			6.6	6.3	7.2	6.6
tC, 2 stage (s)										
tF (s)	2.3			2.3			4.1	3.4	3.6	4.1
p0 queue free %	100			100			100	72	100	100
cM capacity (veh/h)	1360			1495			631	972	344	662

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	78	190	268
Volume Left	0	0	0
Volume Right	0	75	268
cSH	1700	1700	972
Volume to Capacity	0.05	0.11	0.28
Queue Length 95th (ft)	0	0	28
Control Delay (s)	0.0	0.0	10.1
Lane LOS			B
Approach Delay (s)	0.0	0.0	10.1
Approach LOS			B

Intersection Summary			
Average Delay		5.1	
Intersection Capacity Utilization		25.5%	ICU Level of Service A
Analysis Period (min)		15	

Existing PM
2: El Camino Real & Wilhelmina Ave 6/14/2006

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	266	39	13	136	19	5
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	292	43	14	149	21	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			335		492	314
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			335		492	314
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		96	99
cM capacity (veh/h)			1224		530	727

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	335	164	26
Volume Left	0	14	21
Volume Right	43	0	5
cSH	1700	1224	562
Volume to Capacity	0.20	0.01	0.05
Queue Length 95th (ft)	0	1	4
Control Delay (s)	0.0	0.8	11.7
Lane LOS		A	B
Approach Delay (s)	0.0	0.8	11.7
Approach LOS			B

Intersection Summary			
Average Delay		0.8	
Intersection Capacity Utilization		28.0%	ICU Level of Service A
Analysis Period (min)		15	

Existing PM
3: El Camino Real & Encina Ave 6/14/2006

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	13	237	60	20	137	2	25	2	9	7	9	5
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	14	260	66	22	151	2	27	2	10	8	10	5
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	153			326			527	519	293	496	551	152
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	153			326			527	519	293	496	551	152
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			98			94	100	99	98	98	99
cM capacity (veh/h)	1428			1233			441	449	746	466	430	895

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	14	326	22	153	40	23
Volume Left	14	0	22	0	27	8
Volume Right	0	66	0	2	10	5
cSH	1428	1700	1233	1700	492	506
Volume to Capacity	0.01	0.19	0.02	0.09	0.08	0.05
Queue Length 95th (ft)	1	0	1	0	7	4
Control Delay (s)	7.5	0.0	8.0	0.0	13.0	12.5
Lane LOS	A		A		B	B
Approach Delay (s)	0.3		1.0		13.0	12.5
Approach LOS					B	B

Intersection Summary				
Average Delay	1.9			
Intersection Capacity Utilization	27.2%	ICU Level of Service	A	
Analysis Period (min)	15			

Existing PM
4: El Camino Real & Estrada Ave 6/14/2006

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	147	140	64	95	40	89
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	162	154	70	104	44	98
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			315		484	238
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			315		484	238
tC, single (s)			4.2		6.5	6.3
tC, 2 stage (s)						
tF (s)			2.3		3.6	3.4
p0 queue free %			94		91	88
cM capacity (veh/h)			1222		504	791

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	315	175	44	98
Volume Left	0	70	44	0
Volume Right	154	0	0	98
cSH	1700	1222	504	791
Volume to Capacity	0.19	0.06	0.09	0.12
Queue Length 95th (ft)	0	5	7	11
Control Delay (s)	0.0	3.6	12.8	10.2
Lane LOS		A	B	B
Approach Delay (s)	0.0	3.6	11.0	
Approach LOS			B	

Intersection Summary				
Average Delay	3.5			
Intersection Capacity Utilization	38.2%	ICU Level of Service	A	
Analysis Period (min)	15			

Existing PM
5: Santa Margarita Rd & El Camino Real 6/14/2006

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	21	8	10	196	181	5
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	23	9	11	215	199	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	439	202	204			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	439	202	204			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	99	99			
cM capacity (veh/h)	571	839	1367			

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	23	9	226	204
Volume Left	23	0	11	0
Volume Right	0	9	0	5
cSH	571	839	1367	1700
Volume to Capacity	0.04	0.01	0.01	0.12
Queue Length 95th (ft)	3	1	1	0
Control Delay (s)	11.6	9.3	0.4	0.0
Lane LOS	B	A	A	
Approach Delay (s)	11.0		0.4	0.0
Approach LOS	B			

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	28.5%	ICU Level of Service	A
Analysis Period (min)	15		

Existing PM
6: H St & Estrada Ave 6/14/2006

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	0	1	8	1	11	1	96	2	21	185	3
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	2	0	1	9	1	12	1	105	2	23	203	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	373	361	205	361	362	107	207			108		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	373	361	205	361	362	107	207			108		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	99	100	99	100			98		
cM capacity (veh/h)	569	557	836	586	556	948	1365			1483		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	3	22	109	230
Volume Left	2	9	1	23
Volume Right	1	12	2	3
cSH	637	739	1365	1483
Volume to Capacity	0.01	0.03	0.00	0.02
Queue Length 95th (ft)	0	2	0	1
Control Delay (s)	10.7	10.0	0.1	0.9
Lane LOS	B	B	A	A
Approach Delay (s)	10.7	10.0	0.1	0.9
Approach LOS	B	B		

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	27.7%	ICU Level of Service	A
Analysis Period (min)	15		

Existing PM
7: West Pozo Rd & Calf Canyon Hwy 6/14/2006

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	103	78	43	4	0	46
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	113	86	47	4	0	51
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		1121				
pX, platoon unblocked						
vC, conflicting volume	52				362	49
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	52				362	49
tC, single (s)	4.2				6.4	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.4
p0 queue free %	93				100	95
cM capacity (veh/h)	1529				590	1008

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	199	52	51
Volume Left	113	0	0
Volume Right	0	4	51
cSH	1529	1700	1008
Volume to Capacity	0.07	0.03	0.05
Queue Length 95th (ft)	6	0	4
Control Delay (s)	4.5	0.0	8.8
Lane LOS	A		A
Approach Delay (s)	4.5	0.0	8.8
Approach LOS			A

Intersection Summary			
Average Delay		4.5	
Intersection Capacity Utilization		26.5%	ICU Level of Service A
Analysis Period (min)		15	

Existing + Phase 1 AM
1: SR 58 & US 101 NB Ramps 6/14/2006

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations										
Sign Control		Free			Free		Yield		Stop	
Grade		0%			0%		0%		0%	
Volume (veh/h)	0	41	0	0	322	82	0	82	0	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	0	48	0	0	374	95	0	95	0	0
Pedestrians										
Lane Width (ft)										
Walking Speed (ft/s)										
Percent Blockage										
Right turn flare (veh)										
Median type							None		None	
Median storage veh)										
Upstream signal (ft)										
pX, platoon unblocked										
vC, conflicting volume	470			48			517	48	565	470
vC1, stage 1 conf vol										
vC2, stage 2 conf vol										
vCu, unblocked vol	470			48			517	48	565	470
tC, single (s)	4.2			4.2			6.6	6.3	7.2	6.6
tC, 2 stage (s)										
tF (s)	2.3			2.3			4.1	3.4	3.6	4.1
p0 queue free %	100			100			100	91	100	100
cM capacity (veh/h)	1071			1534			456	1010	389	486

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	48	470	95
Volume Left	0	0	0
Volume Right	0	95	95
cSH	1700	1700	1010
Volume to Capacity	0.03	0.28	0.09
Queue Length 95th (ft)	0	0	8
Control Delay (s)	0.0	0.0	8.9
Lane LOS			A
Approach Delay (s)	0.0	0.0	8.9
Approach LOS			A

Intersection Summary			
Average Delay		1.4	
Intersection Capacity Utilization		25.3%	ICU Level of Service A
Analysis Period (min)		15	

Existing + Phase 1 AM
2: SR 58 & Wilhelmina Ave 6/14/2006

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	107	11	3	338	57	4
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	124	13	3	393	66	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			137		531	131
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			137		531	131
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		87	99
cM capacity (veh/h)			1447		508	919

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	137	397	71
Volume Left	0	3	66
Volume Right	13	0	5
cSH	1700	1447	523
Volume to Capacity	0.08	0.00	0.14
Queue Length 95th (ft)	0	0	12
Control Delay (s)	0.0	0.1	13.0
Lane LOS		A	B
Approach Delay (s)	0.0	0.1	13.0
Approach LOS			B

Intersection Summary			
Average Delay		1.6	
Intersection Capacity Utilization		30.2%	ICU Level of Service A
Analysis Period (min)		15	

Existing + Phase 1 AM
3: SR 58 & Encina Ave 6/14/2006

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	8	124	11	5	318	4	53	1	21	5	5	7
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	9	144	13	6	370	5	62	1	24	6	6	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	374			157			562	555	151	572	559	372
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	374			157			562	555	151	572	559	372
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			85	100	97	99	99	99
cM capacity (veh/h)	1184			1423			424	435	896	415	432	674

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	9	157	6	374	87	20
Volume Left	9	0	6	0	62	6
Volume Right	0	13	0	5	24	8
cSH	1184	1700	1423	1700	498	500
Volume to Capacity	0.01	0.09	0.00	0.22	0.18	0.04
Queue Length 95th (ft)	1	0	0	0	16	3
Control Delay (s)	8.1	0.0	7.5	0.0	13.8	12.5
Lane LOS	A		A		B	B
Approach Delay (s)	0.5		0.1		13.8	12.5
Approach LOS					B	B

Intersection Summary			
Average Delay		2.4	
Intersection Capacity Utilization		32.8%	ICU Level of Service A
Analysis Period (min)		15	

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	68	86	107	134	196	128
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	79	100	124	156	228	149
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			179		534	129
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			179		534	129
tC, single (s)			4.2		6.5	6.3
tC, 2 stage (s)						
tF (s)			2.3		3.6	3.4
p0 queue free %			91		50	84
cM capacity (veh/h)			1373		455	910

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	179	280	228	149
Volume Left	0	124	228	0
Volume Right	100	0	0	149
cSH	1700	1373	455	910
Volume to Capacity	0.11	0.09	0.50	0.16
Queue Length 95th (ft)	0	7	69	15
Control Delay (s)	0.0	3.9	20.6	9.7
Lane LOS		A	C	A
Approach Delay (s)	0.0	3.9	16.3	
Approach LOS			C	

Intersection Summary			
Average Delay	8.7		
Intersection Capacity Utilization	42.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	12	13	6	209	178	14
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	14	15	7	243	207	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	472	215	223			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	472	215	223			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	97	98	99			
cM capacity (veh/h)	548	825	1346			

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	14	15	250	223
Volume Left	14	0	7	0
Volume Right	0	15	0	16
cSH	548	825	1346	1700
Volume to Capacity	0.03	0.02	0.01	0.13
Queue Length 95th (ft)	2	1	0	0
Control Delay (s)	11.7	9.4	0.3	0.0
Lane LOS	B	A	A	
Approach Delay (s)	10.6		0.3	0.0
Approach LOS	B			

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	25.8%	ICU Level of Service	A
Analysis Period (min)	15		

Existing + Phase 1 AM
6: H St & Estrada Ave

6/14/2006

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	3	6	0	12	15	96	1	238	50	104	77	2
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	3	7	0	14	17	112	1	277	58	121	90	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	761	670	91	644	642	306	92			335		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	761	670	91	644	642	306	92			335		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	98	100	96	95	85	100			90		
cM capacity (veh/h)	243	341	967	351	353	734	1503			1224		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	10	143	336	213
Volume Left	3	14	1	121
Volume Right	0	112	58	2
cSH	300	593	1503	1224
Volume to Capacity	0.03	0.24	0.00	0.10
Queue Length 95th (ft)	3	23	0	8
Control Delay (s)	17.4	13.0	0.0	5.1
Lane LOS	C	B	A	A
Approach Delay (s)	17.4	13.0	0.0	5.1
Approach LOS	C	B		

Intersection Summary				
Average Delay		4.5		
Intersection Capacity Utilization		43.3%	ICU Level of Service	A
Analysis Period (min)		15		

Existing + Phase 1 AM
7: SR 58 & Pozo Rd

6/14/2006

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	37	20	47	1	0	128
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	43	23	55	1	0	149
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	56				165	55
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	56				165	55
tC, single (s)	4.2				6.4	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.4
p0 queue free %	97				100	85
cM capacity (veh/h)	1524				803	1000

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	66	56	149
Volume Left	43	0	0
Volume Right	0	1	149
cSH	1524	1700	1000
Volume to Capacity	0.03	0.03	0.15
Queue Length 95th (ft)	2	0	13
Control Delay (s)	4.9	0.0	9.2
Lane LOS	A		A
Approach Delay (s)	4.9	0.0	9.2
Approach LOS			A

Intersection Summary				
Average Delay		6.3		
Intersection Capacity Utilization		24.4%	ICU Level of Service	A
Analysis Period (min)		15		

Existing + Phase 1 AM
8: Estrada Ave & Site Driveway 1 6/14/2006

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	72	4	0	227	13	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	84	5	0	264	15	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			88		350	86
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			88		350	86
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		98	100
cM capacity (veh/h)			1507		647	973

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	88	264	15
Volume Left	0	0	15
Volume Right	5	0	0
cSH	1700	1507	647
Volume to Capacity	0.05	0.00	0.02
Queue Length 95th (ft)	0	0	2
Control Delay (s)	0.0	0.0	10.7
Lane LOS			B
Approach Delay (s)	0.0	0.0	10.7
Approach LOS			B

Intersection Summary			
Average Delay		0.4	
Intersection Capacity Utilization		21.9%	ICU Level of Service A
Analysis Period (min)		15	

Existing + Phase 1 AM
9: Pozo Rd & Site Driveway 2 6/14/2006

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	55	17	0	175	52	1
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	64	20	0	203	60	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			84		277	74
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			84		277	74
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		92	100
cM capacity (veh/h)			1513		712	988

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	84	203	62
Volume Left	0	0	60
Volume Right	20	0	1
cSH	1700	1513	716
Volume to Capacity	0.05	0.00	0.09
Queue Length 95th (ft)	0	0	7
Control Delay (s)	0.0	0.0	10.5
Lane LOS			B
Approach Delay (s)	0.0	0.0	10.5
Approach LOS			B

Intersection Summary			
Average Delay		1.9	
Intersection Capacity Utilization		19.2%	ICU Level of Service A
Analysis Period (min)		15	

Existing + Phase 1 PM
1: SR 58 & US 101 NB Ramps 6/14/2006

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations										
Sign Control		Free			Free		Yield		Stop	
Grade		0%			0%		0%		0%	
Volume (veh/h)	0	82	0	0	126	75	0	280	0	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	90	0	0	138	82	0	308	0	0
Pedestrians										
Lane Width (ft)										
Walking Speed (ft/s)										
Percent Blockage										
Right turn flare (veh)										
Median type							None		None	
Median storage veh)										
Upstream signal (ft)										
pX, platoon unblocked										
vC, conflicting volume	221			90			311	90	577	270
vC1, stage 1 conf vol										
vC2, stage 2 conf vol										
vCu, unblocked vol	221			90			311	90	577	270
tC, single (s)	4.2			4.2			6.6	6.3	7.2	6.6
tC, 2 stage (s)										
tF (s)	2.3			2.3			4.1	3.4	3.6	4.1
p0 queue free %	100			100			100	68	100	100
cM capacity (veh/h)	1325			1480			597	957	286	630

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	90	221	308
Volume Left	0	0	0
Volume Right	0	82	308
cSH	1700	1700	957
Volume to Capacity	0.05	0.13	0.32
Queue Length 95th (ft)	0	0	35
Control Delay (s)	0.0	0.0	10.5
Lane LOS			B
Approach Delay (s)	0.0	0.0	10.5
Approach LOS			B

Intersection Summary			
Average Delay		5.2	
Intersection Capacity Utilization		28.3%	ICU Level of Service A
Analysis Period (min)		15	

Existing + Phase 1 PM
2: El Camino Real & Wilhelmina Ave 6/14/2006

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	313	39	13	164	19	5
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	344	43	14	180	21	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			387		574	365
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			387		574	365
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		96	99
cM capacity (veh/h)			1172		474	680

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	387	195	26
Volume Left	0	14	21
Volume Right	43	0	5
cSH	1700	1172	506
Volume to Capacity	0.23	0.01	0.05
Queue Length 95th (ft)	0	1	4
Control Delay (s)	0.0	0.7	12.5
Lane LOS		A	B
Approach Delay (s)	0.0	0.7	12.5
Approach LOS			B

Intersection Summary			
Average Delay		0.8	
Intersection Capacity Utilization		29.4%	ICU Level of Service A
Analysis Period (min)		15	

Existing + Phase 1 PM
3: El Camino Real & Encina Ave 6/14/2006

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	13	290	60	20	168	2	25	2	9	7	9	5
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	14	319	66	22	185	2	27	2	10	8	10	5
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	187			385			619	611	352	588	643	186
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	187			385			619	611	352	588	643	186
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			98			93	99	99	98	97	99
cM capacity (veh/h)	1388			1174			382	397	692	404	381	856

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	14	385	22	187	40	23
Volume Left	14	0	22	0	27	8
Volume Right	0	66	0	2	10	5
cSH	1388	1700	1174	1700	431	448
Volume to Capacity	0.01	0.23	0.02	0.11	0.09	0.05
Queue Length 95th (ft)	1	0	1	0	8	4
Control Delay (s)	7.6	0.0	8.1	0.0	14.2	13.5
Lane LOS	A		A		B	B
Approach Delay (s)	0.3		0.9		14.2	13.5
Approach LOS					B	B

Intersection Summary				
Average Delay		1.7		
Intersection Capacity Utilization		29.5%	ICU Level of Service	A
Analysis Period (min)		15		

Existing + Phase 1 PM
4: El Camino Real & Estrada Ave 6/14/2006

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	147	193	83	95	71	100
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	162	212	91	104	78	110
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			374		554	268
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			374		554	268
tC, single (s)			4.2		6.5	6.3
tC, 2 stage (s)						
tF (s)			2.3		3.6	3.4
p0 queue free %			92		83	86
cM capacity (veh/h)			1163		448	762

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	374	196	78	110
Volume Left	0	91	78	0
Volume Right	212	0	0	110
cSH	1700	1163	448	762
Volume to Capacity	0.22	0.08	0.17	0.14
Queue Length 95th (ft)	0	6	16	13
Control Delay (s)	0.0	4.3	14.7	10.5
Lane LOS		A	B	B
Approach Delay (s)	0.0	4.3	12.3	
Approach LOS			B	

Intersection Summary				
Average Delay		4.1		
Intersection Capacity Utilization		43.1%	ICU Level of Service	A
Analysis Period (min)		15		

Existing + Phase 1 PM
5: Santa Margarita Rd & El Camino Real 6/14/2006

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	21	8	10	207	200	5
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	23	9	11	227	220	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	472	223	225			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	472	223	225			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	99	99			
cM capacity (veh/h)	546	817	1343			

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	23	9	238	225
Volume Left	23	0	11	0
Volume Right	0	9	0	5
cSH	546	817	1343	1700
Volume to Capacity	0.04	0.01	0.01	0.13
Queue Length 95th (ft)	3	1	1	0
Control Delay (s)	11.9	9.5	0.4	0.0
Lane LOS	B	A	A	
Approach Delay (s)	11.2		0.4	0.0
Approach LOS	B			

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	29.0%	ICU Level of Service	A
Analysis Period (min)	15		

Existing + Phase 1 PM
6: H St & Estrada Ave 6/14/2006

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	0	1	10	1	11	1	138	3	21	257	3
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	2	0	1	11	1	12	1	152	3	23	282	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	498	487	284	487	487	153	286			155		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	498	487	284	487	487	153	286			155		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	98	100	99	100			98		
cM capacity (veh/h)	469	472	755	484	472	893	1276			1425		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	3	24	156	309
Volume Left	2	11	1	23
Volume Right	1	12	3	3
cSH	537	627	1276	1425
Volume to Capacity	0.01	0.04	0.00	0.02
Queue Length 95th (ft)	0	3	0	1
Control Delay (s)	11.7	11.0	0.1	0.7
Lane LOS	B	B	A	A
Approach Delay (s)	11.7	11.0	0.1	0.7
Approach LOS	B	B		

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	35.7%	ICU Level of Service	A
Analysis Period (min)	15		

Existing + Phase 1 PM
7: West Pozo Rd & Calf Canyon Hwy 6/14/2006

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	103	78	44	4	0	47
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	113	86	48	4	0	52
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	53				363	51
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	53				363	51
tC, single (s)	4.2				6.4	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.4
p0 queue free %	93				100	95
cM capacity (veh/h)	1528				589	1006

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	199	53	52
Volume Left	113	0	0
Volume Right	0	4	52
cSH	1528	1700	1006
Volume to Capacity	0.07	0.03	0.05
Queue Length 95th (ft)	6	0	4
Control Delay (s)	4.5	0.0	8.8
Lane LOS	A		A
Approach Delay (s)	4.5	0.0	8.8
Approach LOS			A

Intersection Summary			
Average Delay		4.5	
Intersection Capacity Utilization		26.5%	ICU Level of Service A
Analysis Period (min)		15	

Existing + Phase 1 PM
8: West Pozo Rd & West Driveway 6/14/2006

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	240	15	0	123	9	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	264	16	0	135	10	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			280		407	272
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			280		407	272
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		98	100
cM capacity (veh/h)			1282		600	767

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	280	135	10
Volume Left	0	0	10
Volume Right	16	0	0
cSH	1700	1282	600
Volume to Capacity	0.16	0.00	0.02
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	11.1
Lane LOS			B
Approach Delay (s)	0.0	0.0	11.1
Approach LOS			B

Intersection Summary			
Average Delay		0.3	
Intersection Capacity Utilization		23.5%	ICU Level of Service A
Analysis Period (min)		15	

Existing + Phase 1 PM
9: West Pozo Rd & East Driveway 6/14/2006

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	181	59	1	89	34	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	199	65	1	98	37	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			264		331	231
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			264		331	231
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		94	100
cM capacity (veh/h)			1300		663	808

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	264	99	38
Volume Left	0	1	37
Volume Right	65	0	1
cSH	1700	1300	666
Volume to Capacity	0.16	0.00	0.06
Queue Length 95th (ft)	0	0	5
Control Delay (s)	0.0	0.1	10.7
Lane LOS		A	B
Approach Delay (s)	0.0	0.1	10.7
Approach LOS			B

Intersection Summary			
Average Delay		1.1	
Intersection Capacity Utilization		23.1%	ICU Level of Service A
Analysis Period (min)		15	

Cumulative No Project AM
1: SR 58 & US 101 NB Ramps 6/14/2006

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations										
Sign Control		Free			Free		Yield		Stop	
Grade		0%			0%		0%		0%	
Volume (veh/h)	0	50	0	0	382	95	0	93	0	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	0	58	0	0	444	110	0	108	0	0
Pedestrians										
Lane Width (ft)										
Walking Speed (ft/s)										
Percent Blockage										
Right turn flare (veh)										
Median type							None		None	
Median storage veh)										
Upstream signal (ft)										
pX, platoon unblocked										
vC, conflicting volume	555			58			613	58	666	558
vC1, stage 1 conf vol										
vC2, stage 2 conf vol										
vCu, unblocked vol	555			58			613	58	666	558
tC, single (s)	4.2			4.2			6.6	6.3	7.2	6.6
tC, 2 stage (s)										
tF (s)	2.3			2.3			4.1	3.4	3.6	4.1
p0 queue free %	100			100			100	89	100	100
cM capacity (veh/h)	996			1521			402	997	328	433

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	58	555	108
Volume Left	0	0	0
Volume Right	0	110	108
cSH	1700	1700	997
Volume to Capacity	0.03	0.33	0.11
Queue Length 95th (ft)	0	0	9
Control Delay (s)	0.0	0.0	9.1
Lane LOS			A
Approach Delay (s)	0.0	0.0	9.1
Approach LOS			A

Intersection Summary			
Average Delay		1.4	
Intersection Capacity Utilization		29.2%	ICU Level of Service A
Analysis Period (min)		15	

Cumulative No Project AM
2: El Camino Real & Wilhelmina Ave 6/14/2006

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	122	14	3	390	75	5
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	142	16	3	453	87	6
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			158		610	150
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			158		610	150
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		81	99
cM capacity (veh/h)			1421		456	896

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	158	457	93
Volume Left	0	3	87
Volume Right	16	0	6
cSH	1700	1421	471
Volume to Capacity	0.09	0.00	0.20
Queue Length 95th (ft)	0	0	18
Control Delay (s)	0.0	0.1	14.5
Lane LOS		A	B
Approach Delay (s)	0.0	0.1	14.5
Approach LOS			B

Intersection Summary			
Average Delay		2.0	
Intersection Capacity Utilization		34.0%	ICU Level of Service A
Analysis Period (min)		15	

Cumulative No Project AM
3: El Camino Real & Encina Ave 6/14/2006

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	142	14	6	357	5	69	1	27	6	6	9
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	12	165	16	7	415	6	80	1	31	7	7	10
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	421			181			640	631	173	652	637	418
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	421			181			640	631	173	652	637	418
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			78	100	96	98	98	98
cM capacity (veh/h)	1138			1394			372	392	870	362	389	635

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	12	181	7	421	113	24
Volume Left	12	0	7	0	80	7
Volume Right	0	16	0	6	31	10
cSH	1138	1700	1394	1700	443	455
Volume to Capacity	0.01	0.11	0.01	0.25	0.25	0.05
Queue Length 95th (ft)	1	0	0	0	25	4
Control Delay (s)	8.2	0.0	7.6	0.0	15.9	13.4
Lane LOS	A		A		C	B
Approach Delay (s)	0.5		0.1		15.9	13.4
Approach LOS					C	B

Intersection Summary			
Average Delay		3.0	
Intersection Capacity Utilization		37.9%	ICU Level of Service A
Analysis Period (min)		15	

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	89	92	133	176	196	146
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	103	107	155	205	228	170
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			210		671	157
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			210		671	157
tC, single (s)			4.2		6.5	6.3
tC, 2 stage (s)						
tF (s)			2.3		3.6	3.4
p0 queue free %			88		38	81
cM capacity (veh/h)			1337		367	878

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	210	359	228	170
Volume Left	0	155	228	0
Volume Right	107	0	0	170
cSH	1700	1337	367	878
Volume to Capacity	0.12	0.12	0.62	0.19
Queue Length 95th (ft)	0	10	100	18
Control Delay (s)	0.0	4.1	29.5	10.1
Lane LOS		A	D	B
Approach Delay (s)	0.0	4.1	21.2	
Approach LOS			C	

Intersection Summary			
Average Delay	10.2		
Intersection Capacity Utilization	47.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	15	17	7	253	227	18
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	17	20	8	294	264	21
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	585	274	285			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	585	274	285			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	97	99			
cM capacity (veh/h)	470	764	1277			

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	17	20	302	285
Volume Left	17	0	8	0
Volume Right	0	20	0	21
cSH	470	764	1277	1700
Volume to Capacity	0.04	0.03	0.01	0.17
Queue Length 95th (ft)	3	2	0	0
Control Delay (s)	12.9	9.8	0.3	0.0
Lane LOS	B	A	A	
Approach Delay (s)	11.3		0.3	0.0
Approach LOS	B			

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	29.0%	ICU Level of Service	A
Analysis Period (min)	15		

Cumulative No Project AM
6: H St & Estrada Ave 6/14/2006

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	3	7	0	15	19	126	1	231	64	137	73	2
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	3	8	0	17	22	147	1	269	74	159	85	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	870	750	86	717	714	306	87			343		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	870	750	86	717	714	306	87			343		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	97	100	94	93	80	100			87		
cM capacity (veh/h)	185	295	973	304	310	734	1509			1216		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	12	186	344	247
Volume Left	3	17	1	159
Volume Right	0	147	74	2
cSH	251	567	1509	1216
Volume to Capacity	0.05	0.33	0.00	0.13
Queue Length 95th (ft)	4	36	0	11
Control Delay (s)	20.1	14.4	0.0	5.8
Lane LOS	C	B	A	A
Approach Delay (s)	20.1	14.4	0.0	5.8
Approach LOS	C	B		

Intersection Summary				
Average Delay		5.5		
Intersection Capacity Utilization		47.9%	ICU Level of Service	A
Analysis Period (min)		15		

Cumulative No Project AM
7: West Pozo Rd & Calf Canyon Hwy 6/14/2006

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	47	25	62	1	0	169
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	55	29	72	1	0	197
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		1121				
pX, platoon unblocked						
vC, conflicting volume	73				211	73
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	73				211	73
tC, single (s)	4.2				6.4	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.4
p0 queue free %	96				100	80
cM capacity (veh/h)	1501				749	978

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	84	73	197
Volume Left	55	0	0
Volume Right	0	1	197
cSH	1501	1700	978
Volume to Capacity	0.04	0.04	0.20
Queue Length 95th (ft)	3	0	19
Control Delay (s)	5.0	0.0	9.6
Lane LOS	A		A
Approach Delay (s)	5.0	0.0	9.6
Approach LOS			A

Intersection Summary				
Average Delay		6.5		
Intersection Capacity Utilization		27.7%	ICU Level of Service	A
Analysis Period (min)		15		

Cumulative No Project PM
1: SR 58 & US 101 NB Ramps 6/14/2006

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations										
Sign Control		Free			Free		Yield		Stop	
Grade		0%			0%		0%		0%	
Volume (veh/h)	0	93	0	0	138	89	0	322	0	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	102	0	0	152	98	0	354	0	0
Pedestrians										
Lane Width (ft)										
Walking Speed (ft/s)										
Percent Blockage										
Right turn flare (veh)										
Median type							None		None	
Median storage veh)										
Upstream signal (ft)										
pX, platoon unblocked										
vC, conflicting volume	249			102			352	102	657	303
vC1, stage 1 conf vol										
vC2, stage 2 conf vol										
vCu, unblocked vol	249			102			352	102	657	303
tC, single (s)	4.2			4.2			6.6	6.3	7.2	6.6
tC, 2 stage (s)										
tF (s)	2.3			2.3			4.1	3.4	3.6	4.1
p0 queue free %	100			100			100	62	100	100
cM capacity (veh/h)	1293			1465			567	942	233	604

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	102	249	354
Volume Left	0	0	0
Volume Right	0	98	354
cSH	1700	1700	942
Volume to Capacity	0.06	0.15	0.38
Queue Length 95th (ft)	0	0	44
Control Delay (s)	0.0	0.0	11.1
Lane LOS			B
Approach Delay (s)	0.0	0.0	11.1
Approach LOS			B

Intersection Summary			
Average Delay		5.6	
Intersection Capacity Utilization		31.5%	ICU Level of Service A
Analysis Period (min)		15	

Cumulative No Project PM
2: El Camino Real & Wilhelmina Ave 6/14/2006

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	351	51	17	179	25	6
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	386	56	19	197	27	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			442		648	414
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			442		648	414
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		94	99
cM capacity (veh/h)			1118		428	638

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	442	215	34
Volume Left	0	19	27
Volume Right	56	0	7
cSH	1700	1118	457
Volume to Capacity	0.26	0.02	0.07
Queue Length 95th (ft)	0	1	6
Control Delay (s)	0.0	0.9	13.5
Lane LOS		A	B
Approach Delay (s)	0.0	0.9	13.5
Approach LOS			B

Intersection Summary			
Average Delay		0.9	
Intersection Capacity Utilization		33.5%	ICU Level of Service A
Analysis Period (min)		15	

Cumulative No Project PM
3: El Camino Real & Encina Ave 6/14/2006

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	17	312	79	26	180	2	33	2	11	9	11	6
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	19	343	87	29	198	2	36	2	12	10	12	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	200			430			691	681	386	649	723	199
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	200			430			691	681	386	649	723	199
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			97			89	99	98	97	96	99
cM capacity (veh/h)	1372			1130			336	358	662	363	339	842

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	19	430	29	200	51	29
Volume Left	19	0	29	0	36	10
Volume Right	0	87	0	2	12	7
cSH	1372	1700	1130	1700	382	404
Volume to Capacity	0.01	0.25	0.03	0.12	0.13	0.07
Queue Length 95th (ft)	1	0	2	0	11	6
Control Delay (s)	7.7	0.0	8.3	0.0	15.9	14.6
Lane LOS	A		A		C	B
Approach Delay (s)	0.3		1.0		15.9	14.6
Approach LOS					C	B

Intersection Summary				
Average Delay	2.1			
Intersection Capacity Utilization	33.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Cumulative No Project PM
4: El Camino Real & Estrada Ave 6/14/2006

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	194	184	84	125	52	117
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	213	202	92	137	57	129
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			415		636	314
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			415		636	314
tC, single (s)			4.2		6.5	6.3
tC, 2 stage (s)						
tF (s)			2.3		3.6	3.4
p0 queue free %			92		86	82
cM capacity (veh/h)			1122		400	717

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	415	230	57	129
Volume Left	0	92	57	0
Volume Right	202	0	0	129
cSH	1700	1122	400	717
Volume to Capacity	0.24	0.08	0.14	0.18
Queue Length 95th (ft)	0	7	12	16
Control Delay (s)	0.0	3.9	15.5	11.1
Lane LOS		A	C	B
Approach Delay (s)	0.0	3.9	12.5	
Approach LOS			B	

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	46.0%	ICU Level of Service	A
Analysis Period (min)	15		

Cumulative No Project PM
5: Santa Margarita Rd & El Camino Real 6/14/2006

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	27	10	13	258	239	6
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	30	11	14	284	263	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	578	266	269			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	578	266	269			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	94	99	99			
cM capacity (veh/h)	473	773	1294			

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	30	11	298	269
Volume Left	30	0	14	0
Volume Right	0	11	0	7
cSH	473	773	1294	1700
Volume to Capacity	0.06	0.01	0.01	0.16
Queue Length 95th (ft)	5	1	1	0
Control Delay (s)	13.1	9.7	0.5	0.0
Lane LOS	B	A	A	
Approach Delay (s)	12.2		0.5	0.0
Approach LOS	B			

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	34.2%	ICU Level of Service	A
Analysis Period (min)	15		

Cumulative No Project PM
6: H St & Estrada Ave 6/14/2006

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	0	1	10	1	14	1	126	2	27	244	3
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	2	0	1	11	1	15	1	138	2	30	268	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	487	472	270	472	473	140	271			141		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	487	472	270	472	473	140	271			141		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	98	100	98	100			98		
cM capacity (veh/h)	474	480	769	493	479	909	1292			1442		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	3	27	142	301
Volume Left	2	11	1	30
Volume Right	1	15	2	3
cSH	543	662	1292	1442
Volume to Capacity	0.01	0.04	0.00	0.02
Queue Length 95th (ft)	0	3	0	2
Control Delay (s)	11.7	10.7	0.1	0.9
Lane LOS	B	B	A	A
Approach Delay (s)	11.7	10.7	0.1	0.9
Approach LOS	B	B		

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	34.7%	ICU Level of Service	A
Analysis Period (min)	15		

Cumulative No Project PM
7: West Pozo Rd & Calf Canyon Hwy 6/14/2006

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	136	103	56	5	0	60
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	149	113	62	5	0	66
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		1121				
pX, platoon unblocked						
vC, conflicting volume	67				476	64
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	67				476	64
tC, single (s)	4.2				6.4	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.4
p0 queue free %	90				100	93
cM capacity (veh/h)	1509				493	989

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	263	67	66
Volume Left	149	0	0
Volume Right	0	5	66
cSH	1509	1700	989
Volume to Capacity	0.10	0.04	0.07
Queue Length 95th (ft)	8	0	5
Control Delay (s)	4.7	0.0	8.9
Lane LOS	A		A
Approach Delay (s)	4.7	0.0	8.9
Approach LOS			A

Intersection Summary			
Average Delay		4.6	
Intersection Capacity Utilization		30.0%	ICU Level of Service A
Analysis Period (min)		15	

Cumulative Phase 1 AM
1: SR 58 & US 101 NB Ramps 6/14/2006

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations										
Sign Control		Free			Free		Yield		Stop	
Grade		0%			0%		0%		0%	
Volume (veh/h)	0	53	0	0	414	105	0	104	0	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	0	62	0	0	481	122	0	121	0	0
Pedestrians										
Lane Width (ft)										
Walking Speed (ft/s)										
Percent Blockage										
Right turn flare (veh)										
Median type							None		None	
Median storage veh)										
Upstream signal (ft)										
pX, platoon unblocked										
vC, conflicting volume	603			62			665	62	725	604
vC1, stage 1 conf vol										
vC2, stage 2 conf vol										
vCu, unblocked vol	603			62			665	62	725	604
tC, single (s)	4.2			4.2			6.6	6.3	7.2	6.6
tC, 2 stage (s)										
tF (s)	2.3			2.3			4.1	3.4	3.6	4.1
p0 queue free %	100			100			100	88	100	100
cM capacity (veh/h)	955			1516			375	992	295	407

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	62	603	121
Volume Left	0	0	0
Volume Right	0	122	121
cSH	1700	1700	992
Volume to Capacity	0.04	0.35	0.12
Queue Length 95th (ft)	0	0	10
Control Delay (s)	0.0	0.0	9.1
Lane LOS			A
Approach Delay (s)	0.0	0.0	9.1
Approach LOS			A

Intersection Summary			
Average Delay		1.4	
Intersection Capacity Utilization		31.5%	ICU Level of Service A
Analysis Period (min)		15	

Cumulative Phase 1 AM
2: El Camino Real & Wilhelmina Ave 6/14/2006

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	136	14	3	432	75	5
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	158	16	3	502	87	6
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			174		676	166
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			174		676	166
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		79	99
cM capacity (veh/h)			1402		418	878

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	174	506	93
Volume Left	0	3	87
Volume Right	16	0	6
cSH	1700	1402	432
Volume to Capacity	0.10	0.00	0.22
Queue Length 95th (ft)	0	0	20
Control Delay (s)	0.0	0.1	15.6
Lane LOS		A	C
Approach Delay (s)	0.0	0.1	15.6
Approach LOS			C

Intersection Summary			
Average Delay		1.9	
Intersection Capacity Utilization		36.2%	ICU Level of Service A
Analysis Period (min)		15	

Cumulative Phase 1 AM
3: El Camino Real & Encina Ave 6/14/2006

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	158	14	6	404	5	69	1	27	6	6	9
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	12	184	16	7	470	6	80	1	31	7	7	10
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	476			200			713	705	192	726	710	473
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	476			200			713	705	192	726	710	473
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			76	100	96	98	98	98
cM capacity (veh/h)	1087			1372			332	355	850	323	353	591

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	12	200	7	476	113	24
Volume Left	12	0	7	0	80	7
Volume Right	0	16	0	6	31	10
cSH	1087	1700	1372	1700	400	413
Volume to Capacity	0.01	0.12	0.01	0.28	0.28	0.06
Queue Length 95th (ft)	1	0	0	0	29	5
Control Delay (s)	8.3	0.0	7.6	0.0	17.5	14.3
Lane LOS	A		A		C	B
Approach Delay (s)	0.5		0.1		17.5	14.3
Approach LOS					C	B

Intersection Summary			
Average Delay		3.0	
Intersection Capacity Utilization		40.3%	ICU Level of Service A
Analysis Period (min)		15	

Cumulative Phase 1 AM
4: El Camino Real & Estrada Ave 6/14/2006

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	89	108	139	176	243	163
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	103	126	162	205	283	190
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			229		694	166
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			229		694	166
tC, single (s)			4.2		6.5	6.3
tC, 2 stage (s)						
tF (s)			2.3		3.6	3.4
p0 queue free %			88		20	78
cM capacity (veh/h)			1316		353	868

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	229	366	283	190
Volume Left	0	162	283	0
Volume Right	126	0	0	190
cSH	1700	1316	353	868
Volume to Capacity	0.13	0.12	0.80	0.22
Queue Length 95th (ft)	0	10	170	21
Control Delay (s)	0.0	4.2	45.7	10.3
Lane LOS		A	E	B
Approach Delay (s)	0.0	4.2	31.5	
Approach LOS			D	

Intersection Summary			
Average Delay	15.4		
Intersection Capacity Utilization	51.7%	ICU Level of Service	A
Analysis Period (min)	15		

Cumulative Phase 1 AM
5: Santa Margarita Rd & El Camino Real 6/14/2006

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	15	17	7	270	233	18
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	17	20	8	314	271	21
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	612	281	292			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	612	281	292			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	97	99			
cM capacity (veh/h)	454	757	1270			

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	17	20	322	292
Volume Left	17	0	8	0
Volume Right	0	20	0	21
cSH	454	757	1270	1700
Volume to Capacity	0.04	0.03	0.01	0.17
Queue Length 95th (ft)	3	2	0	0
Control Delay (s)	13.3	9.9	0.3	0.0
Lane LOS	B	A	A	
Approach Delay (s)	11.5		0.3	0.0
Approach LOS	B			

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	29.8%	ICU Level of Service	A
Analysis Period (min)	15		

Cumulative Phase 1 AM
6: H St & Estrada Ave 6/14/2006

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	3	7	0	15	19	126	1	294	65	137	94	2
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	3	8	0	17	22	147	1	342	76	159	109	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	969	849	110	815	812	380	112			417		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	969	849	110	815	812	380	112			417		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	97	100	93	92	78	100			86		
cM capacity (veh/h)	152	256	943	258	269	667	1478			1142		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	12	186	419	271
Volume Left	3	17	1	159
Volume Right	0	147	76	2
cSH	213	504	1478	1142
Volume to Capacity	0.05	0.37	0.00	0.14
Queue Length 95th (ft)	4	42	0	12
Control Delay (s)	22.9	16.3	0.0	5.6
Lane LOS	C	C	A	A
Approach Delay (s)	22.9	16.3	0.0	5.6
Approach LOS	C	C		

Intersection Summary				
Average Delay		5.4		
Intersection Capacity Utilization		52.4%	ICU Level of Service	A
Analysis Period (min)		15		

Cumulative Phase 1 AM
7: West Pozo Rd & Calf Canyon Hwy 6/14/2006

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	48	26	62	1	0	169
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	56	30	72	1	0	197
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	73				215	73
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	73				215	73
tC, single (s)	4.2				6.4	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.4
p0 queue free %	96				100	80
cM capacity (veh/h)	1501				745	978

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	86	73	197
Volume Left	56	0	0
Volume Right	0	1	197
cSH	1501	1700	978
Volume to Capacity	0.04	0.04	0.20
Queue Length 95th (ft)	3	0	19
Control Delay (s)	5.0	0.0	9.6
Lane LOS	A		A
Approach Delay (s)	5.0	0.0	9.6
Approach LOS			A

Intersection Summary				
Average Delay		6.5		
Intersection Capacity Utilization		27.8%	ICU Level of Service	A
Analysis Period (min)		15		

Cumulative Phase 1 AM
8: West Pozo Rd & West Driveway 6/14/2006

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	89	4	0	283	13	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	103	5	0	329	15	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			108		435	106
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			108		435	106
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		97	100
cM capacity (veh/h)			1482		578	948

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	108	329	15
Volume Left	0	0	15
Volume Right	5	0	0
cSH	1700	1482	578
Volume to Capacity	0.06	0.00	0.03
Queue Length 95th (ft)	0	0	2
Control Delay (s)	0.0	0.0	11.4
Lane LOS			B
Approach Delay (s)	0.0	0.0	11.4
Approach LOS			B

Intersection Summary			
Average Delay		0.4	
Intersection Capacity Utilization		24.9%	ICU Level of Service A
Analysis Period (min)		15	

Cumulative Phase 1 AM
9: West Pozo Rd & East Driveway 6/14/2006

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	72	17	0	231	52	1
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	84	20	0	269	60	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			103		362	94
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			103		362	94
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		91	100
cM capacity (veh/h)			1488		637	963

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	103	269	62
Volume Left	0	0	60
Volume Right	20	0	1
cSH	1700	1488	641
Volume to Capacity	0.06	0.00	0.10
Queue Length 95th (ft)	0	0	8
Control Delay (s)	0.0	0.0	11.2
Lane LOS			B
Approach Delay (s)	0.0	0.0	11.2
Approach LOS			B

Intersection Summary			
Average Delay		1.6	
Intersection Capacity Utilization		22.2%	ICU Level of Service A
Analysis Period (min)		15	

Cumulative Phase 1 PM
1: SR 58 & US 101 NB Ramps 6/14/2006

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations										
Sign Control		Free			Free		Yield		Stop	
Grade		0%			0%		0%		0%	
Volume (veh/h)	0	104	0	0	159	96	0	358	0	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	114	0	0	175	105	0	393	0	0
Pedestrians										
Lane Width (ft)										
Walking Speed (ft/s)										
Percent Blockage										
Right turn flare (veh)										
Median type							None		None	
Median storage veh)										
Upstream signal (ft)										
pX, platoon unblocked										
vC, conflicting volume	280			114			395	114	735	342
vC1, stage 1 conf vol										
vC2, stage 2 conf vol										
vCu, unblocked vol	280			114			395	114	735	342
tC, single (s)	4.2			4.2			6.6	6.3	7.2	6.6
tC, 2 stage (s)										
tF (s)	2.3			2.3			4.1	3.4	3.6	4.1
p0 queue free %	100			100			100	58	100	100
cM capacity (veh/h)	1260			1450			536	928	190	574

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	114	280	393
Volume Left	0	0	0
Volume Right	0	105	393
cSH	1700	1700	928
Volume to Capacity	0.07	0.16	0.42
Queue Length 95th (ft)	0	0	54
Control Delay (s)	0.0	0.0	11.7
Lane LOS			B
Approach Delay (s)	0.0	0.0	11.7
Approach LOS			B

Intersection Summary			
Average Delay			5.8
Intersection Capacity Utilization		34.3%	ICU Level of Service A
Analysis Period (min)			15

Cumulative Phase 1 PM
2: El Camino Real & Wilhelmina Ave 6/14/2006

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	398	51	17	207	25	6
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	437	56	19	227	27	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			493		730	465
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			493		730	465
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		93	99
cM capacity (veh/h)			1070		382	597

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	493	246	34
Volume Left	0	19	27
Volume Right	56	0	7
cSH	1700	1070	411
Volume to Capacity	0.29	0.02	0.08
Queue Length 95th (ft)	0	1	7
Control Delay (s)	0.0	0.8	14.5
Lane LOS		A	B
Approach Delay (s)	0.0	0.8	14.5
Approach LOS			B

Intersection Summary			
Average Delay			0.9
Intersection Capacity Utilization		34.9%	ICU Level of Service A
Analysis Period (min)			15

Cumulative Phase 1 PM
3: El Camino Real & Encina Ave 6/14/2006

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	17	365	79	26	211	2	33	2	11	9	11	6
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	19	401	87	29	232	2	36	2	12	10	12	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	234			488			784	773	445	742	815	233
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	234			488			784	773	445	742	815	233
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			97			87	99	98	97	96	99
cM capacity (veh/h)	1333			1075			290	316	613	314	299	806

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	19	488	29	234	51	29
Volume Left	19	0	29	0	36	10
Volume Right	0	87	0	2	12	7
cSH	1333	1700	1075	1700	333	357
Volume to Capacity	0.01	0.29	0.03	0.14	0.15	0.08
Queue Length 95th (ft)	1	0	2	0	13	6
Control Delay (s)	7.7	0.0	8.4	0.0	17.7	16.0
Lane LOS	A		A		C	C
Approach Delay (s)	0.3		0.9		17.7	16.0
Approach LOS					C	C

Intersection Summary				
Average Delay		2.0		
Intersection Capacity Utilization		35.7%	ICU Level of Service	A
Analysis Period (min)		15		

Cumulative Phase 1 PM
4: El Camino Real & Estrada Ave 6/14/2006

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	194	237	103	125	83	128
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	213	260	113	137	91	141
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			474		707	343
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			474		707	343
tC, single (s)			4.2		6.5	6.3
tC, 2 stage (s)						
tF (s)			2.3		3.6	3.4
p0 queue free %			89		74	80
cM capacity (veh/h)			1068		354	690

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	474	251	91	141
Volume Left	0	113	91	0
Volume Right	260	0	0	141
cSH	1700	1068	354	690
Volume to Capacity	0.28	0.11	0.26	0.20
Queue Length 95th (ft)	0	9	25	19
Control Delay (s)	0.0	4.5	18.7	11.5
Lane LOS		A	C	B
Approach Delay (s)	0.0	4.5	14.4	
Approach LOS			B	

Intersection Summary				
Average Delay		4.7		
Intersection Capacity Utilization		51.6%	ICU Level of Service	A
Analysis Period (min)		15		

Cumulative Phase 1 PM
5: Santa Margarita Rd & El Camino Real 6/14/2006

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	27	10	13	269	258	6
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	30	11	14	296	284	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	611	287	290			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	611	287	290			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	93	99	99			
cM capacity (veh/h)	452	752	1272			

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	30	11	310	290
Volume Left	30	0	14	0
Volume Right	0	11	0	7
cSH	452	752	1272	1700
Volume to Capacity	0.07	0.01	0.01	0.17
Queue Length 95th (ft)	5	1	1	0
Control Delay (s)	13.5	9.9	0.5	0.0
Lane LOS	B	A	A	
Approach Delay (s)	12.5		0.5	0.0
Approach LOS	B			

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	34.7%	ICU Level of Service	A
Analysis Period (min)	15		

Cumulative Phase 1 PM
6: H St & Estrada Ave 6/14/2006

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	0	1	12	1	14	1	168	3	27	316	3
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	2	0	1	13	1	15	1	185	3	30	347	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	613	598	349	598	598	186	351			188		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	613	598	349	598	598	186	351			188		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	100	97	100	98	100			98		
cM capacity (veh/h)	390	406	694	407	406	856	1208			1386		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	3	30	189	380
Volume Left	2	13	1	30
Volume Right	1	15	3	3
cSH	457	559	1208	1386
Volume to Capacity	0.01	0.05	0.00	0.02
Queue Length 95th (ft)	1	4	0	2
Control Delay (s)	12.9	11.8	0.1	0.8
Lane LOS	B	B	A	A
Approach Delay (s)	12.9	11.8	0.1	0.8
Approach LOS	B	B		

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	40.7%	ICU Level of Service	A
Analysis Period (min)	15		

Cumulative Phase 1 PM
7: West Pozo Rd & Calf Canyon Hwy 6/14/2006

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	136	103	57	5	0	61
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	149	113	63	5	0	67
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	68				477	65
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	68				477	65
tC, single (s)	4.2				6.4	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.4
p0 queue free %	90				100	93
cM capacity (veh/h)	1508				492	987

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	263	68	67
Volume Left	149	0	0
Volume Right	0	5	67
cSH	1508	1700	987
Volume to Capacity	0.10	0.04	0.07
Queue Length 95th (ft)	8	0	5
Control Delay (s)	4.7	0.0	8.9
Lane LOS	A		A
Approach Delay (s)	4.7	0.0	8.9
Approach LOS			A

Intersection Summary			
Average Delay		4.6	
Intersection Capacity Utilization		30.1%	ICU Level of Service A
Analysis Period (min)		15	

Cumulative Phase 1 PM
8: West Pozo Rd & West Driveway 6/14/2006

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	298	15	0	151	9	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	327	16	0	166	10	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			344		502	336
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			344		502	336
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		98	100
cM capacity (veh/h)			1215		529	706

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	344	166	10
Volume Left	0	0	10
Volume Right	16	0	0
cSH	1700	1215	529
Volume to Capacity	0.20	0.00	0.02
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	11.9
Lane LOS			B
Approach Delay (s)	0.0	0.0	11.9
Approach LOS			B

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization		26.6%	ICU Level of Service A
Analysis Period (min)		15	

Cumulative Phase 1 PM
9: West Pozo Rd & East Driveway 6/14/2006

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	239	59	1	117	34	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	263	65	1	129	37	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			327		426	295
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			327		426	295
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		94	100
cM capacity (veh/h)			1232		585	744

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	327	130	38
Volume Left	0	1	37
Volume Right	65	0	1
cSH	1700	1232	588
Volume to Capacity	0.19	0.00	0.07
Queue Length 95th (ft)	0	0	5
Control Delay (s)	0.0	0.1	11.5
Lane LOS		A	B
Approach Delay (s)	0.0	0.1	11.5
Approach LOS			B

Intersection Summary			
Average Delay		0.9	
Intersection Capacity Utilization		26.2%	ICU Level of Service A
Analysis Period (min)		15	

Cumulative Phase 2 AM
1: SR 58 & US 101 NB Ramps 6/14/2006

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations										
Sign Control		Free			Free		Yield		Stop	
Grade		0%			0%		0%		0%	
Volume (veh/h)	0	143	0	0	574	186	0	228	0	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	0	166	0	0	667	216	0	265	0	0
Pedestrians										
Lane Width (ft)										
Walking Speed (ft/s)										
Percent Blockage										
Right turn flare (veh)										
Median type							None		None	
Median storage veh)										
Upstream signal (ft)										
pX, platoon unblocked										
vC, conflicting volume	884			166			1050	166	1207	942
vC1, stage 1 conf vol										
vC2, stage 2 conf vol										
vCu, unblocked vol	884			166			1050	166	1207	942
tC, single (s)	4.2			4.2			6.6	6.3	7.2	6.6
tC, 2 stage (s)										
tF (s)	2.3			2.3			4.1	3.4	3.6	4.1
p0 queue free %	100			100			100	69	100	100
cM capacity (veh/h)	749			1388			223	868	109	259

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	166	884	265
Volume Left	0	0	0
Volume Right	0	216	265
cSH	1700	1700	868
Volume to Capacity	0.10	0.52	0.31
Queue Length 95th (ft)	0	0	32
Control Delay (s)	0.0	0.0	11.0
Lane LOS			B
Approach Delay (s)	0.0	0.0	11.0
Approach LOS			B

Intersection Summary			
Average Delay		2.2	
Intersection Capacity Utilization		44.9%	ICU Level of Service A
Analysis Period (min)		15	

Cumulative Phase 2 AM
2: El Camino Real & Wilhelmina Ave 6/14/2006

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	212	153	59	510	229	87
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	247	178	69	593	266	101
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			424		1066	335
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			424		1066	335
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			94		0	86
cM capacity (veh/h)			1135		231	707

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	424	662	367
Volume Left	0	69	266
Volume Right	178	0	101
cSH	1700	1135	284
Volume to Capacity	0.25	0.06	1.29
Queue Length 95th (ft)	0	5	452
Control Delay (s)	0.0	1.6	192.4
Lane LOS		A	F
Approach Delay (s)	0.0	1.6	192.4
Approach LOS			F

Intersection Summary			
Average Delay		49.3	
Intersection Capacity Utilization		78.6%	ICU Level of Service D
Analysis Period (min)		15	

Cumulative Phase 2 AM
3: El Camino Real & Encina Ave 6/14/2006

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	260	14	6	492	5	69	1	27	6	6	9
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	12	302	16	7	572	6	80	1	31	7	7	10
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	578			319			934	926	310	947	931	575
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	578			319			934	926	310	947	931	575
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			66	100	96	97	97	98
cM capacity (veh/h)	996			1241			233	264	730	227	262	518

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	12	319	7	578	113	24
Volume Left	12	0	7	0	80	7
Volume Right	0	16	0	6	31	10
cSH	996	1700	1241	1700	288	315
Volume to Capacity	0.01	0.19	0.01	0.34	0.39	0.08
Queue Length 95th (ft)	1	0	0	0	45	6
Control Delay (s)	8.7	0.0	7.9	0.0	25.3	17.4
Lane LOS	A		A		D	C
Approach Delay (s)	0.3		0.1		25.3	17.4
Approach LOS					D	C

Intersection Summary			
Average Delay		3.3	
Intersection Capacity Utilization		45.0%	ICU Level of Service A
Analysis Period (min)		15	

Cumulative Phase 2 AM
4: El Camino Real & Estrada Ave 6/14/2006

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	149	150	145	211	296	174
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	173	174	169	245	344	202
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			348		843	260
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			348		843	260
tC, single (s)			4.2		6.5	6.3
tC, 2 stage (s)						
tF (s)			2.3		3.6	3.4
p0 queue free %			86		0	74
cM capacity (veh/h)			1189		282	769

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	348	414	344	202
Volume Left	0	169	344	0
Volume Right	174	0	0	202
cSH	1700	1189	282	769
Volume to Capacity	0.20	0.14	1.22	0.26
Queue Length 95th (ft)	0	12	397	26
Control Delay (s)	0.0	4.3	164.5	11.3
Lane LOS		A	F	B
Approach Delay (s)	0.0	4.3	107.8	
Approach LOS			F	

Intersection Summary			
Average Delay	46.4		
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		

Cumulative Phase 2 AM
5: Santa Margarita Rd & El Camino Real 6/14/2006

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	15	17	7	338	273	18
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	17	20	8	393	317	21
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	737	328	338			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	737	328	338			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	97	99			
cM capacity (veh/h)	383	713	1221			

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	17	20	401	338
Volume Left	17	0	8	0
Volume Right	0	20	0	21
cSH	383	713	1221	1700
Volume to Capacity	0.05	0.03	0.01	0.20
Queue Length 95th (ft)	4	2	1	0
Control Delay (s)	14.8	10.2	0.2	0.0
Lane LOS	B	B	A	
Approach Delay (s)	12.4		0.2	0.0
Approach LOS	B			

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	33.4%	ICU Level of Service	A
Analysis Period (min)	15		

Cumulative Phase 2 AM
6: H St & Estrada Ave 6/14/2006

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	3	7	0	16	19	127	1	357	66	141	140	2
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	3	8	0	19	22	148	1	415	77	164	163	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1106	986	164	952	949	453	165			492		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1106	986	164	952	949	453	165			492		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	96	100	91	90	76	100			85		
cM capacity (veh/h)	116	210	881	205	220	606	1413			1072		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	12	188	493	329
Volume Left	3	19	1	164
Volume Right	0	148	77	2
cSH	169	434	1413	1072
Volume to Capacity	0.07	0.43	0.00	0.15
Queue Length 95th (ft)	5	54	0	13
Control Delay (s)	27.9	19.5	0.0	5.2
Lane LOS	D	C	A	A
Approach Delay (s)	27.9	19.5	0.0	5.2
Approach LOS	D	C		

Intersection Summary				
Average Delay	5.6			
Intersection Capacity Utilization	58.5%	ICU Level of Service	B	
Analysis Period (min)	15			

Cumulative Phase 2 AM
7: West Pozo Rd & Calf Canyon Hwy 6/14/2006

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	57	45	80	2	1	180
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	66	52	93	2	1	209
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	95				279	94
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	95				279	94
tC, single (s)	4.2				6.4	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.4
p0 queue free %	96				100	78
cM capacity (veh/h)	1474				679	952

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	119	95	210
Volume Left	66	0	1
Volume Right	0	2	209
cSH	1474	1700	950
Volume to Capacity	0.04	0.06	0.22
Queue Length 95th (ft)	4	0	21
Control Delay (s)	4.4	0.0	9.9
Lane LOS	A		A
Approach Delay (s)	4.4	0.0	9.9
Approach LOS			A

Intersection Summary			
Average Delay	6.1		
Intersection Capacity Utilization	30.1%	ICU Level of Service	A
Analysis Period (min)	15		

Cumulative Phase 2 AM
8: West Pozo Rd & West Driveway 6/14/2006

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	118	4	0	312	13	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	137	5	0	363	15	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			142		502	140
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			142		502	140
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		97	100
cM capacity (veh/h)			1441		529	909

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	142	363	15
Volume Left	0	0	15
Volume Right	5	0	0
cSH	1700	1441	529
Volume to Capacity	0.08	0.00	0.03
Queue Length 95th (ft)	0	0	2
Control Delay (s)	0.0	0.0	12.0
Lane LOS			B
Approach Delay (s)	0.0	0.0	12.0
Approach LOS			B

Intersection Summary			
Average Delay		0.3	
Intersection Capacity Utilization		26.4%	ICU Level of Service A
Analysis Period (min)		15	

Cumulative Phase 2 AM
9: West Pozo Rd & East Driveway 6/14/2006

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	101	17	0	260	52	1
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	117	20	0	302	60	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			137		430	127
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			137		430	127
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		90	100
cM capacity (veh/h)			1447		582	923

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	137	302	62
Volume Left	0	0	60
Volume Right	20	0	1
cSH	1700	1447	586
Volume to Capacity	0.08	0.00	0.11
Queue Length 95th (ft)	0	0	9
Control Delay (s)	0.0	0.0	11.9
Lane LOS			B
Approach Delay (s)	0.0	0.0	11.9
Approach LOS			B

Intersection Summary			
Average Delay		1.5	
Intersection Capacity Utilization		23.7%	ICU Level of Service A
Analysis Period (min)		15	

Cumulative Phase 2 PM
1: SR 58 & US 101 NB Ramps 6/14/2006

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations										
Sign Control		Free			Free		Yield		Stop	
Grade		0%			0%		0%		0%	
Volume (veh/h)	0	214	0	0	319	198	0	555	0	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	235	0	0	351	218	0	610	0	0
Pedestrians										
Lane Width (ft)										
Walking Speed (ft/s)										
Percent Blockage										
Right turn flare (veh)										
Median type							None		None	
Median storage veh)										
Upstream signal (ft)										
pX, platoon unblocked										
vC, conflicting volume	568			235			803	235	1304	695
vC1, stage 1 conf vol										
vC2, stage 2 conf vol										
vCu, unblocked vol	568			235			803	235	1304	695
tC, single (s)	4.2			4.2			6.6	6.3	7.2	6.6
tC, 2 stage (s)										
tF (s)	2.3			2.3			4.1	3.4	3.6	4.1
p0 queue free %	100			100			100	23	100	100
cM capacity (veh/h)	984			1309			312	794	31	361

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	235	568	610
Volume Left	0	0	0
Volume Right	0	218	610
cSH	1700	1700	794
Volume to Capacity	0.14	0.33	0.77
Queue Length 95th (ft)	0	0	187
Control Delay (s)	0.0	0.0	22.8
Lane LOS			C
Approach Delay (s)	0.0	0.0	22.8
Approach LOS			C

Intersection Summary			
Average Delay		9.9	
Intersection Capacity Utilization		52.3%	ICU Level of Service A
Analysis Period (min)		15	

Cumulative Phase 2 PM
2: El Camino Real & Wilhelmina Ave 6/14/2006

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	494	253	117	296	196	82
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	543	278	129	325	215	90
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			821		1264	682
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			821		1264	682
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			84		0	80
cM capacity (veh/h)			808		157	450

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	821	454	305
Volume Left	0	129	215
Volume Right	278	0	90
cSH	1700	808	195
Volume to Capacity	0.48	0.16	1.57
Queue Length 95th (ft)	0	14	492
Control Delay (s)	0.0	4.4	323.6
Lane LOS		A	F
Approach Delay (s)	0.0	4.4	323.6
Approach LOS			F

Intersection Summary			
Average Delay		63.8	
Intersection Capacity Utilization		89.3%	ICU Level of Service E
Analysis Period (min)		15	

Cumulative Phase 2 PM
3: El Camino Real & Encina Ave 6/14/2006

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	17	471	79	26	337	2	33	2	11	9	11	6
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	19	518	87	29	370	2	36	2	12	10	12	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	373			604			1038	1028	561	997	1070	371
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	373			604			1038	1028	561	997	1070	371
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			97			81	99	98	95	94	99
cM capacity (veh/h)	1186			973			191	224	527	209	211	674

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	19	604	29	373	51	29
Volume Left	19	0	29	0	36	10
Volume Right	0	87	0	2	12	7
cSH	1186	1700	973	1700	227	250
Volume to Capacity	0.02	0.36	0.03	0.22	0.22	0.11
Queue Length 95th (ft)	1	0	2	0	21	10
Control Delay (s)	8.1	0.0	8.8	0.0	25.3	21.3
Lane LOS	A		A		D	C
Approach Delay (s)	0.2		0.6		25.3	21.3
Approach LOS					D	C

Intersection Summary				
Average Delay	2.1			
Intersection Capacity Utilization	41.2%	ICU Level of Service	A	
Analysis Period (min)	15			

Cumulative Phase 2 PM
4: El Camino Real & Estrada Ave 6/14/2006

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	245	292	114	195	139	138
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	269	321	125	214	153	152
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			590		895	430
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			590		895	430
tC, single (s)			4.2		6.5	6.3
tC, 2 stage (s)						
tF (s)			2.3		3.6	3.4
p0 queue free %			87		43	75
cM capacity (veh/h)			966		267	617

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	590	340	153	152
Volume Left	0	125	153	0
Volume Right	321	0	0	152
cSH	1700	966	267	617
Volume to Capacity	0.35	0.13	0.57	0.25
Queue Length 95th (ft)	0	11	82	24
Control Delay (s)	0.0	4.3	35.2	12.7
Lane LOS		A	E	B
Approach Delay (s)	0.0	4.3	24.0	
Approach LOS			C	

Intersection Summary				
Average Delay	7.1			
Intersection Capacity Utilization	65.0%	ICU Level of Service	C	
Analysis Period (min)	15			

Cumulative Phase 2 PM
5: Santa Margarita Rd & El Camino Real 6/14/2006

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	27	10	13	327	337	6
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	30	11	14	359	370	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	762	374	377			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	762	374	377			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	92	98	99			
cM capacity (veh/h)	369	673	1182			

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	30	11	374	377
Volume Left	30	0	14	0
Volume Right	0	11	0	7
cSH	369	673	1182	1700
Volume to Capacity	0.08	0.02	0.01	0.22
Queue Length 95th (ft)	7	1	1	0
Control Delay (s)	15.6	10.4	0.4	0.0
Lane LOS	C	B	A	
Approach Delay (s)	14.2		0.4	0.0
Approach LOS	B			

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	37.7%	ICU Level of Service	A
Analysis Period (min)	15		

Cumulative Phase 2 PM
6: H St & Estrada Ave 6/14/2006

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	0	1	12	1	18	1	229	3	29	380	3
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	2	0	1	13	1	20	1	252	3	32	418	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	759	740	419	740	740	253	421			255		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	759	740	419	740	740	253	421			255		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	100	96	100	97	100			98		
cM capacity (veh/h)	308	336	634	326	336	785	1138			1310		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	3	34	256	453
Volume Left	2	13	1	32
Volume Right	1	20	3	3
cSH	372	494	1138	1310
Volume to Capacity	0.01	0.07	0.00	0.02
Queue Length 95th (ft)	1	6	0	2
Control Delay (s)	14.8	12.8	0.0	0.8
Lane LOS	B	B	A	A
Approach Delay (s)	14.8	12.8	0.0	0.8
Approach LOS	B	B		

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	47.4%	ICU Level of Service	A
Analysis Period (min)	15		

Cumulative Phase 2 PM
7: West Pozo Rd & Calf Canyon Hwy 6/14/2006

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	148	121	80	6	0	74
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	163	133	88	7	0	81
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	95				549	91
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	95				549	91
tC, single (s)	4.2				6.4	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.4
p0 queue free %	89				100	91
cM capacity (veh/h)	1475				442	955

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	296	95	81
Volume Left	163	0	0
Volume Right	0	7	81
cSH	1475	1700	955
Volume to Capacity	0.11	0.06	0.09
Queue Length 95th (ft)	9	0	7
Control Delay (s)	4.7	0.0	9.1
Lane LOS	A		A
Approach Delay (s)	4.7	0.0	9.1
Approach LOS			A

Intersection Summary			
Average Delay		4.5	
Intersection Capacity Utilization		32.5%	ICU Level of Service A
Analysis Period (min)		15	

Cumulative Phase 2 PM
8: West Pozo Rd & West Driveway 6/14/2006

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	327	15	0	188	9	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	359	16	0	207	10	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			376		574	368
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			376		574	368
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		98	100
cM capacity (veh/h)			1183		480	678

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	376	207	10
Volume Left	0	0	10
Volume Right	16	0	0
cSH	1700	1183	480
Volume to Capacity	0.22	0.00	0.02
Queue Length 95th (ft)	0	0	2
Control Delay (s)	0.0	0.0	12.7
Lane LOS			B
Approach Delay (s)	0.0	0.0	12.7
Approach LOS			B

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization		28.1%	ICU Level of Service A
Analysis Period (min)		15	

Cumulative Phase 2 PM
9: West Pozo Rd & East Driveway 6/14/2006

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	269	59	1	153	34	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	296	65	1	168	37	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			360		498	328
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			360		498	328
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		93	100
cM capacity (veh/h)			1198		531	713

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	360	169	38
Volume Left	0	1	37
Volume Right	65	0	1
cSH	1700	1198	535
Volume to Capacity	0.21	0.00	0.07
Queue Length 95th (ft)	0	0	6
Control Delay (s)	0.0	0.1	12.3
Lane LOS		A	B
Approach Delay (s)	0.0	0.1	12.3
Approach LOS			B

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	27.7%	ICU Level of Service	A
Analysis Period (min)	15		

Cumulative Phase 1 AM Mitigation
4: El Camino Real & Estrada Ave
Timing Plan: Default
6/14/2006

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	4.0
Lane Util. Factor	1.00			1.00	1.00	1.00
Frpb, ped/bikes	0.99			1.00	1.00	0.97
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	0.93			1.00	1.00	0.85
Flt Protected	1.00			0.98	0.95	1.00
Satd. Flow (prot)	1635			1750	1703	1484
Flt Permitted	1.00			0.77	0.95	1.00
Satd. Flow (perm)	1635			1375	1703	1484
Volume (vph)	89	108	139	176	243	163
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	103	126	162	205	283	190
RTOR Reduction (vph)	64	0	0	0	0	129
Lane Group Flow (vph)	165	0	0	367	283	61
Confl. Peds. (#/hr)		5	5		5	5
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%
Turn Type			Perm			Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Actuated Green, G (s)	18.5			18.5	12.0	12.0
Effective Green, g (s)	19.5			19.5	12.0	12.0
Actuated g/C Ratio	0.49			0.49	0.30	0.30
Clearance Time (s)	5.0			5.0	4.0	4.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	807			679	517	451
v/s Ratio Prot	0.10				c0.17	
v/s Ratio Perm				c0.27		0.04
v/c Ratio	0.20			0.54	0.55	0.13
Uniform Delay, d1	5.6			6.9	11.5	10.0
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	0.1			0.9	1.2	0.1
Delay (s)	5.8			7.8	12.7	10.1
Level of Service	A			A	B	B
Approach Delay (s)	5.8			7.8	11.6	
Approach LOS	A			A	B	

Intersection Summary			
HCM Average Control Delay	9.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	39.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	52.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Cumulative Phase 2 AM Mitigation
2: El Camino Real & Wilhelmina Ave

Timing Plan: Default
6/14/2006

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	1.00			1.00	1.00	
Frpb, ped/bikes	0.99			1.00	1.00	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.94			1.00	0.96	
Flt Protected	1.00			0.99	0.97	
Satd. Flow (prot)	1696			1789	1723	
Flt Permitted	1.00			0.92	0.97	
Satd. Flow (perm)	1696			1660	1723	
Volume (vph)	212	153	59	510	229	87
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	247	178	69	593	266	101
RTOR Reduction (vph)	38	0	0	0	20	0
Lane Group Flow (vph)	387	0	0	662	347	0
Confl. Peds. (#/hr)		5	5		5	5
Heavy Vehicles (%)	6%	2%	2%	6%	2%	2%
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	26.1			26.1	14.6	
Effective Green, g (s)	27.1			27.1	14.6	
Actuated g/C Ratio	0.55			0.55	0.29	
Clearance Time (s)	5.0			5.0	4.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	925			905	506	
v/s Ratio Prot	0.23				c0.20	
v/s Ratio Perm				c0.40		
v/c Ratio	0.42			0.73	0.68	
Uniform Delay, d1	6.7			8.5	15.5	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	0.3			3.1	3.8	
Delay (s)	7.0			11.6	19.3	
Level of Service	A			B	B	
Approach Delay (s)	7.0			11.6	19.3	
Approach LOS	A			B	B	

Intersection Summary			
HCM Average Control Delay	12.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	49.7	Sum of lost time (s)	8.0
Intersection Capacity Utilization	79.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Cumulative Phase 2 PM Mitigation
2: El Camino Real & Wilhelmina Ave

Timing Plan: Default
6/14/2006

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	1.00			1.00	1.00	
Frpb, ped/bikes	0.99			1.00	0.99	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.95			1.00	0.96	
Flt Protected	1.00			0.99	0.97	
Satd. Flow (prot)	1714			1786	1719	
Flt Permitted	1.00			0.52	0.97	
Satd. Flow (perm)	1714			947	1719	
Volume (vph)	494	253	117	296	196	82
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	543	278	129	325	215	90
RTOR Reduction (vph)	26	0	0	0	22	0
Lane Group Flow (vph)	795	0	0	454	283	0
Confl. Peds. (#/hr)		5	5		5	5
Heavy Vehicles (%)	6%	2%	2%	6%	2%	2%
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	35.3			35.3	13.4	
Effective Green, g (s)	36.3			36.3	13.4	
Actuated g/C Ratio	0.63			0.63	0.23	
Clearance Time (s)	5.0			5.0	4.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	1078			596	399	
v/s Ratio Prot	0.46				c0.16	
v/s Ratio Perm				c0.48		
v/c Ratio	0.74			0.76	0.71	
Uniform Delay, d1	7.4			7.6	20.4	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	2.7			5.7	5.7	
Delay (s)	10.1			13.3	26.0	
Level of Service	B			B	C	
Approach Delay (s)	10.1			13.3	26.0	
Approach LOS	B			B	C	

Intersection Summary			
HCM Average Control Delay	14.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	57.7	Sum of lost time (s)	8.0
Intersection Capacity Utilization	89.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

APPENDIX C:
ROADWAY SEGMENT LEVEL OF SERVICE CALCULATIONS

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	AM Peak Hour
Highway	El Camino Real
From/To	n/o Estrada Ave
Jurisdiction	SLO County
Analysis Year	2006
Description	Existing Conditions

Input Data

Highway class	Class 1				
Shoulder width	4.0	ft	Peak-hour factor, PHF	0.71	
Lane width	12.0	ft	% Trucks and buses	6	%
Segment length	1.3	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	2	/mi
Up/down		%			

Two-way hourly volume, V	375			veh/h
Directional split	56	/	44	%

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.7	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.960	
Two-way flow rate,(note-1) vp	550	pc/h
Highest directional split proportion (note-2)	308	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	55.0	mi/h
Adj. for lane and shoulder width, fLS	1.3	mi/h
Adj. for access points, fA	0.5	mi/h
Free-flow speed, FFS	53.2	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	48.9	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.994	
Two-way flow rate,(note-1) vp	531	pc/h
Highest directional split proportion (note-2)	297	
Base percent time-spent-following, BPTSF	37.3	%
Adj.for directional distribution and no-passing zones, fd/np	0.1	
Percent time-spent-following, PTSF	37.4	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.17	
Peak 15-min vehicle-miles of travel, VMT15	172	veh-mi
Peak-hour vehicle-miles of travel, VMT60	487	veh-mi
Peak 15-min total travel time, TT15	3.5	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	AM Peak Hour
Highway	West Pozo Rd
From/To	J Street/West Driveway
Jurisdiction	SLO County
Analysis Year	2006
Description	Existing Conditions

Input Data

Highway class	Class 2				
Shoulder width	1.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	6	%
Segment length	0.7	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	50	%
Grade: Length		mi	Access points/mi	7	/mi
Up/down		%			

Two-way hourly volume, V 251 veh/h
Directional split 75 / 25 %

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.7	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.960	
Two-way flow rate,(note-1) vp	291	pc/h
Highest directional split proportion (note-2)	218	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	4.2	mi/h
Adj. for access points, fA	1.8	mi/h
Free-flow speed, FFS	39.0	mi/h
Adjustment for no-passing zones, fnp	2.4	mi/h
Average travel speed, ATS	34.3	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.994	
Two-way flow rate,(note-1) vp	281	pc/h
Highest directional split proportion (note-2)	211	
Base percent time-spent-following, BPTSF	21.9	%
Adj.for directional distribution and no-passing zones, fd/np	23.7	
Percent time-spent-following, PTSF	45.5	%

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.09	
Peak 15-min vehicle-miles of travel, VMT15	49	veh-mi
Peak-hour vehicle-miles of travel, VMT60	176	veh-mi
Peak 15-min total travel time, TT15	1.4	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	AM Peak Hour
Highway	West Pozo Rd
From/To	e/o Calf Canyon Hwy
Jurisdiction	SLO County
Analysis Year	2006
Description	Existing Conditions

Input Data

Highway class	Class 2				
Shoulder width	1.0	ft	Peak-hour factor, PHF	0.74	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.7	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	50	%
Grade: Length		mi	Access points/mi	0	/mi
Up/down		%			

Two-way hourly volume, V	79			veh/h
Directional split	63	/	37	%

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.7	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.986	
Two-way flow rate,(note-1) vp	108	pc/h
Highest directional split proportion (note-2)	68	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	4.2	mi/h
Adj. for access points, fA	0.0	mi/h
Free-flow speed, FFS	40.8	mi/h
Adjustment for no-passing zones, fnp	1.0	mi/h
Average travel speed, ATS	38.9	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.998	
Two-way flow rate,(note-1) vp	107	pc/h
Highest directional split proportion (note-2)	67	
Base percent time-spent-following, BPTSF	9.0	%
Adj.for directional distribution and no-passing zones, fd/np	21.3	
Percent time-spent-following, PTSF	30.2	%

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	19	veh-mi
Peak-hour vehicle-miles of travel, VMT60	55	veh-mi
Peak 15-min total travel time, TT15	0.5	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	AM Peak Hour
Highway	Calf Canyon Hwy
From/To	n/o West Pozo Rd
Jurisdiction	SLO County
Analysis Year	2006
Description	Existing Conditions

Input Data

Highway class	Class 2				
Shoulder width	1.0	ft	Peak-hour factor, PHF	0.85	
Lane width	12.0	ft	% Trucks and buses	6	%
Segment length	1.3	mi	% Recreational vehicles	0	%
Terrain type	Rolling		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	1	/mi
Up/down		%			

Two-way hourly volume, V	170		veh/h	
Directional split	79	/ 21	%	

Average Travel Speed

Grade adjustment factor, fG	0.71	
PCE for trucks, ET	2.5	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.917	
Two-way flow rate,(note-1) vp	307	pc/h
Highest directional split proportion (note-2)	243	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	4.2	mi/h
Adj. for access points, fA	0.3	mi/h
Free-flow speed, FFS	40.5	mi/h
Adjustment for no-passing zones, fnp	4.0	mi/h
Average travel speed, ATS	34.1	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	0.77	
PCE for trucks, ET	1.8	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.954	
Two-way flow rate,(note-1) vp	272	pc/h
Highest directional split proportion (note-2)	215	
Base percent time-spent-following, BPTSF	21.3	%
Adj.for directional distribution and no-passing zones, fd/np	29.7	
Percent time-spent-following, PTSF	51.0	%

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.10	
Peak 15-min vehicle-miles of travel, VMT15	65	veh-mi
Peak-hour vehicle-miles of travel, VMT60	221	veh-mi
Peak 15-min total travel time, TT15	1.9	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	PM Peak Hour
Highway	El Camino Real
From/To	n/o Estrada Ave
Jurisdiction	SLO County
Analysis Year	2006
Description	Existing Conditions

Input Data

Highway class	Class 1				
Shoulder width	4.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	6	%
Segment length	1.3	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	2	/mi
Up/down		%			

Two-way hourly volume, V	386	veh/h		
Directional split	54 /	46	%	

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.7	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.960	
Two-way flow rate,(note-1) vp	447	pc/h
Highest directional split proportion (note-2)	241	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	55.0	mi/h
Adj. for lane and shoulder width, fLS	1.3	mi/h
Adj. for access points, fA	0.5	mi/h
Free-flow speed, FFS	53.2	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	49.7	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.994	
Two-way flow rate,(note-1) vp	431	pc/h
Highest directional split proportion (note-2)	233	
Base percent time-spent-following, BPTSF	31.5	%
Adj.for directional distribution and no-passing zones, fd/np	0.2	
Percent time-spent-following, PTSF	31.7	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.14	
Peak 15-min vehicle-miles of travel, VMT15	139	veh-mi
Peak-hour vehicle-miles of travel, VMT60	502	veh-mi
Peak 15-min total travel time, TT15	2.8	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	PM Peak Hour
Highway	West Pozo Rd
From/To	J Street/West Driveway
Jurisdiction	SLO County
Analysis Year	2006
Description	Existing Conditions

Input Data

Highway class	Class 2				
Shoulder width	1.0	ft	Peak-hour factor, PHF	0.86	
Lane width	12.0	ft	% Trucks and buses	6	%
Segment length	0.7	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	50	%
Grade: Length		mi	Access points/mi	7	/mi
Up/down		%			

Two-way hourly volume, V	301			veh/h
Directional split	57	/	43	%

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.7	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.960	
Two-way flow rate,(note-1) vp	365	pc/h
Highest directional split proportion (note-2)	208	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	4.2	mi/h
Adj. for access points, fA	1.8	mi/h
Free-flow speed, FFS	39.0	mi/h
Adjustment for no-passing zones, fnp	2.9	mi/h
Average travel speed, ATS	33.3	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.994	
Two-way flow rate,(note-1) vp	352	pc/h
Highest directional split proportion (note-2)	201	
Base percent time-spent-following, BPTSF	26.6	%
Adj.for directional distribution and no-passing zones, fd/np	19.3	
Percent time-spent-following, PTSF	45.9	%

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.11	
Peak 15-min vehicle-miles of travel, VMT15	61	veh-mi
Peak-hour vehicle-miles of travel, VMT60	211	veh-mi
Peak 15-min total travel time, TT15	1.8	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	PM Peak Hour
Highway	West Pozo Rd
From/To	e/o Calf Canyon Hwy
Jurisdiction	SLO County
Analysis Year	2006
Description	Existing Conditions

Input Data

Highway class	Class 2				
Shoulder width	1.0	ft	Peak-hour factor, PHF	0.86	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.7	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	50	%
Grade: Length		mi	Access points/mi	0	/mi
Up/down		%			

Two-way hourly volume, V	102		veh/h	
Directional split	53	/ 47	%	

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.7	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.986	
Two-way flow rate,(note-1) vp	120	pc/h
Highest directional split proportion (note-2)	64	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	4.2	mi/h
Adj. for access points, fA	0.0	mi/h
Free-flow speed, FFS	40.8	mi/h
Adjustment for no-passing zones, fnp	1.1	mi/h
Average travel speed, ATS	38.7	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.998	
Two-way flow rate,(note-1) vp	119	pc/h
Highest directional split proportion (note-2)	63	
Base percent time-spent-following, BPTSF	9.9	%
Adj.for directional distribution and no-passing zones, fd/np	18.6	
Percent time-spent-following, PTSF	28.5	%

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.04	
Peak 15-min vehicle-miles of travel, VMT15	21	veh-mi
Peak-hour vehicle-miles of travel, VMT60	71	veh-mi
Peak 15-min total travel time, TT15	0.5	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	PM Peak Hour
Highway	Calf Canyon Hwy
From/To	n/o West Pozo Rd
Jurisdiction	SLO County
Analysis Year	2006
Description	Existing Conditions

Input Data

Highway class	Class 2				
Shoulder width	1.0	ft	Peak-hour factor, PHF	0.84	
Lane width	12.0	ft	% Trucks and buses	6	%
Segment length	1.3	mi	% Recreational vehicles	0	%
Terrain type	Rolling		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	1	/mi
Up/down		%			

Two-way hourly volume, V	178		veh/h	
Directional split	66	/ 34	%	

Average Travel Speed

Grade adjustment factor, fG	0.71	
PCE for trucks, ET	2.5	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.917	
Two-way flow rate,(note-1) vp	325	pc/h
Highest directional split proportion (note-2)	215	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	4.2	mi/h
Adj. for access points, fA	0.3	mi/h
Free-flow speed, FFS	40.5	mi/h
Adjustment for no-passing zones, fnp	4.1	mi/h
Average travel speed, ATS	33.9	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	0.77	
PCE for trucks, ET	1.8	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.954	
Two-way flow rate,(note-1) vp	288	pc/h
Highest directional split proportion (note-2)	190	
Base percent time-spent-following, BPTSF	22.4	%
Adj.for directional distribution and no-passing zones, fd/np	23.9	
Percent time-spent-following, PTSF	46.3	%

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.10	
Peak 15-min vehicle-miles of travel, VMT15	69	veh-mi
Peak-hour vehicle-miles of travel, VMT60	231	veh-mi
Peak 15-min total travel time, TT15	2.0	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	AM Peak Hour
Highway	El Camino Real
From/To	n/o Estrada Ave
Jurisdiction	SLO County
Analysis Year	2006
Description	Phase 1 Conditions

Input Data

Highway class	Class 1				
Shoulder width	4.0	ft	Peak-hour factor, PHF	0.71	
Lane width	12.0	ft	% Trucks and buses	6	%
Segment length	1.3	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	2	/mi
Up/down		%			

Two-way hourly volume, V	401			veh/h
Directional split	56	/	44	%

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.7	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.960	
Two-way flow rate,(note-1) vp	589	pc/h
Highest directional split proportion (note-2)	330	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	55.0	mi/h
Adj. for lane and shoulder width, fLS	1.3	mi/h
Adj. for access points, fA	0.5	mi/h
Free-flow speed, FFS	53.2	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	48.6	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.994	
Two-way flow rate,(note-1) vp	568	pc/h
Highest directional split proportion (note-2)	318	
Base percent time-spent-following, BPTSF	39.3	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	39.4	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.18	
Peak 15-min vehicle-miles of travel, VMT15	184	veh-mi
Peak-hour vehicle-miles of travel, VMT60	521	veh-mi
Peak 15-min total travel time, TT15	3.8	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	AM Peak Hour
Highway	West Pozo Rd
From/To	J Street/West Driveway
Jurisdiction	SLO County
Analysis Year	2006
Description	Phase 1 Conditions

Input Data

Highway class	Class 2				
Shoulder width	1.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	6	%
Segment length	0.7	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	50	%
Grade: Length		mi	Access points/mi	7	/mi
Up/down		%			

Two-way hourly volume, V	338			veh/h
Directional split	75	/	25	%

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.7	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.960	
Two-way flow rate,(note-1) vp	391	pc/h
Highest directional split proportion (note-2)	293	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	4.2	mi/h
Adj. for access points, fA	1.8	mi/h
Free-flow speed, FFS	39.0	mi/h
Adjustment for no-passing zones, fnp	3.0	mi/h
Average travel speed, ATS	33.0	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.994	
Two-way flow rate,(note-1) vp	378	pc/h
Highest directional split proportion (note-2)	284	
Base percent time-spent-following, BPTSF	28.3	%
Adj.for directional distribution and no-passing zones, fd/np	22.3	
Percent time-spent-following, PTSF	50.6	%

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.12	
Peak 15-min vehicle-miles of travel, VMT15	66	veh-mi
Peak-hour vehicle-miles of travel, VMT60	237	veh-mi
Peak 15-min total travel time, TT15	2.0	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	AM Peak Hour
Highway	West Pozo Rd
From/To	e/o Calf Canyon Hwy
Jurisdiction	SLO County
Analysis Year	2006
Description	Phase 1 Conditions

Input Data

Highway class	Class 2				
Shoulder width	1.0	ft	Peak-hour factor, PHF	0.74	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.7	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	50	%
Grade: Length		mi	Access points/mi	0	/mi
Up/down		%			

Two-way hourly volume, V	80			veh/h
Directional split	63	/	37	%

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.7	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.986	
Two-way flow rate,(note-1) vp	110	pc/h
Highest directional split proportion (note-2)	69	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	4.2	mi/h
Adj. for access points, fA	0.0	mi/h
Free-flow speed, FFS	40.8	mi/h
Adjustment for no-passing zones, fnp	1.0	mi/h
Average travel speed, ATS	38.9	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.998	
Two-way flow rate,(note-1) vp	108	pc/h
Highest directional split proportion (note-2)	68	
Base percent time-spent-following, BPTSF	9.1	%
Adj.for directional distribution and no-passing zones, fd/np	21.2	
Percent time-spent-following, PTSF	30.3	%

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	19	veh-mi
Peak-hour vehicle-miles of travel, VMT60	56	veh-mi
Peak 15-min total travel time, TT15	0.5	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	AM Peak Hour
Highway	Calf Canyon Hwy
From/To	n/o West Pozo Rd
Jurisdiction	SLO County
Analysis Year	2006
Description	Phase 1 Conditions

Input Data

Highway class	Class 2				
Shoulder width	1.0	ft	Peak-hour factor, PHF	0.85	
Lane width	12.0	ft	% Trucks and buses	6	%
Segment length	1.3	mi	% Recreational vehicles	0	%
Terrain type	Rolling		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	1	/mi
Up/down		%			

Two-way hourly volume, V	171		veh/h	
Directional split	79	/ 21	%	

Average Travel Speed

Grade adjustment factor, fG	0.71	
PCE for trucks, ET	2.5	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.917	
Two-way flow rate,(note-1) vp	309	pc/h
Highest directional split proportion (note-2)	244	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	4.2	mi/h
Adj. for access points, fA	0.3	mi/h
Free-flow speed, FFS	40.5	mi/h
Adjustment for no-passing zones, fnp	4.0	mi/h
Average travel speed, ATS	34.1	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	0.77	
PCE for trucks, ET	1.8	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.954	
Two-way flow rate,(note-1) vp	274	pc/h
Highest directional split proportion (note-2)	216	
Base percent time-spent-following, BPTSF	21.4	%
Adj.for directional distribution and no-passing zones, fd/np	29.7	
Percent time-spent-following, PTSF	51.1	%

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.10	
Peak 15-min vehicle-miles of travel, VMT15	65	veh-mi
Peak-hour vehicle-miles of travel, VMT60	222	veh-mi
Peak 15-min total travel time, TT15	1.9	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	PM Peak Hour
Highway	El Camino Real
From/To	n/o Estrada Ave
Jurisdiction	SLO County
Analysis Year	2006
Description	Phase 1 Conditions

Input Data

Highway class	Class 1				
Shoulder width	4.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	6	%
Segment length	1.3	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	2	/mi
Up/down		%			

Two-way hourly volume, V	416			veh/h
Directional split	54	/	46	%

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.7	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.960	
Two-way flow rate,(note-1) vp	482	pc/h
Highest directional split proportion (note-2)	260	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	55.0	mi/h
Adj. for lane and shoulder width, fLS	1.3	mi/h
Adj. for access points, fA	0.5	mi/h
Free-flow speed, FFS	53.2	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	49.5	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.994	
Two-way flow rate,(note-1) vp	465	pc/h
Highest directional split proportion (note-2)	251	
Base percent time-spent-following, BPTSF	33.6	%
Adj.for directional distribution and no-passing zones, fd/np	0.1	
Percent time-spent-following, PTSF	33.7	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.15	
Peak 15-min vehicle-miles of travel, VMT15	150	veh-mi
Peak-hour vehicle-miles of travel, VMT60	541	veh-mi
Peak 15-min total travel time, TT15	3.0	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

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Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	PM Peak Hour
Highway	West Pozo Rd
From/To	J Street/West Driveway
Jurisdiction	SLO County
Analysis Year	2006
Description	Phase 1 Conditions

Input Data

Highway class	Class 2				
Shoulder width	1.0	ft	Peak-hour factor, PHF	0.86	
Lane width	12.0	ft	% Trucks and buses	6	%
Segment length	0.7	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	50	%
Grade: Length		mi	Access points/mi	7	/mi
Up/down		%			

Two-way hourly volume, V	418		veh/h	
Directional split	57	/ 43	%	

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.7	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.960	
Two-way flow rate,(note-1) vp	506	pc/h
Highest directional split proportion (note-2)	288	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	4.2	mi/h
Adj. for access points, fA	1.8	mi/h
Free-flow speed, FFS	39.0	mi/h
Adjustment for no-passing zones, fnp	2.9	mi/h
Average travel speed, ATS	32.2	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.994	
Two-way flow rate,(note-1) vp	489	pc/h
Highest directional split proportion (note-2)	279	
Base percent time-spent-following, BPTSF	34.9	%
Adj.for directional distribution and no-passing zones, fd/np	18.3	
Percent time-spent-following, PTSF	53.2	%

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.16	
Peak 15-min vehicle-miles of travel, VMT15	85	veh-mi
Peak-hour vehicle-miles of travel, VMT60	293	veh-mi
Peak 15-min total travel time, TT15	2.6	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

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Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	PM Peak Hour
Highway	West Pozo Rd
From/To	e/o Calf Canyon Hwy
Jurisdiction	SLO County
Analysis Year	2006
Description	Phase 1 Conditions

Input Data

Highway class	Class 2				
Shoulder width	1.0	ft	Peak-hour factor, PHF	0.86	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.7	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	50	%
Grade: Length		mi	Access points/mi	0	/mi
Up/down		%			

Two-way hourly volume, V	103			veh/h
Directional split	53	/	47	%

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.7	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.986	
Two-way flow rate,(note-1) vp	121	pc/h
Highest directional split proportion (note-2)	64	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	4.2	mi/h
Adj. for access points, fA	0.0	mi/h
Free-flow speed, FFS	40.8	mi/h
Adjustment for no-passing zones, fnp	1.1	mi/h
Average travel speed, ATS	38.7	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.998	
Two-way flow rate,(note-1) vp	120	pc/h
Highest directional split proportion (note-2)	64	
Base percent time-spent-following, BPTSF	10.0	%
Adj.for directional distribution and no-passing zones, fd/np	18.6	
Percent time-spent-following, PTSF	28.6	%

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.04	
Peak 15-min vehicle-miles of travel, VMT15	21	veh-mi
Peak-hour vehicle-miles of travel, VMT60	72	veh-mi
Peak 15-min total travel time, TT15	0.5	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	PM Peak Hour
Highway	Calf Canyon Hwy
From/To	n/o West Pozo Rd
Jurisdiction	SLO County
Analysis Year	2006
Description	Phase 1 Conditions

Input Data

Highway class	Class 2				
Shoulder width	1.0	ft	Peak-hour factor, PHF	0.84	
Lane width	12.0	ft	% Trucks and buses	6	%
Segment length	1.3	mi	% Recreational vehicles	0	%
Terrain type	Rolling		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	1	/mi
Up/down		%			

Two-way hourly volume, V	179		veh/h	
Directional split	66	/ 34	%	

Average Travel Speed

Grade adjustment factor, fG	0.71	
PCE for trucks, ET	2.5	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.917	
Two-way flow rate,(note-1) vp	327	pc/h
Highest directional split proportion (note-2)	216	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	4.2	mi/h
Adj. for access points, fA	0.3	mi/h
Free-flow speed, FFS	40.5	mi/h
Adjustment for no-passing zones, fnp	4.1	mi/h
Average travel speed, ATS	33.9	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	0.77	
PCE for trucks, ET	1.8	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.954	
Two-way flow rate,(note-1) vp	290	pc/h
Highest directional split proportion (note-2)	191	
Base percent time-spent-following, BPTSF	22.5	%
Adj.for directional distribution and no-passing zones, fd/np	23.9	
Percent time-spent-following, PTSF	46.4	%

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.10	
Peak 15-min vehicle-miles of travel, VMT15	69	veh-mi
Peak-hour vehicle-miles of travel, VMT60	233	veh-mi
Peak 15-min total travel time, TT15	2.0	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	AM Peak Hour
Highway	El Camino Real
From/To	n/o Estrada Ave
Jurisdiction	SLO County
Analysis Year	2026
Description	Cumulative No Project Conditions

Input Data

Highway class	Class 1				
Shoulder width	4.0	ft	Peak-hour factor, PHF	0.71	
Lane width	12.0	ft	% Trucks and buses	6	%
Segment length	1.3	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	2	/mi
Up/down		%			

Two-way hourly volume, V	495			veh/h
Directional split	56	/	44	%

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.2	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.988	
Two-way flow rate,(note-1) vp	706	pc/h
Highest directional split proportion (note-2)	395	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	55.0	mi/h
Adj. for lane and shoulder width, fLS	1.3	mi/h
Adj. for access points, fA	0.5	mi/h
Free-flow speed, FFS	53.2	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	47.7	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.994	
Two-way flow rate,(note-1) vp	701	pc/h
Highest directional split proportion (note-2)	393	
Base percent time-spent-following, BPTSF	46.0	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	46.0	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.22	
Peak 15-min vehicle-miles of travel, VMT15	227	veh-mi
Peak-hour vehicle-miles of travel, VMT60	643	veh-mi
Peak 15-min total travel time, TT15	4.8	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	AM Peak Hour
Highway	West Pozo Rd
From/To	J Street/West Driveway
Jurisdiction	SLO County
Analysis Year	2026
Description	Cumulative No Project Conditions

Input Data

Highway class	Class 2				
Shoulder width	1.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	6	%
Segment length	0.7	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	50	%
Grade: Length		mi	Access points/mi	7	/mi
Up/down		%			

Two-way hourly volume, V	331		veh/h	
Directional split	75	/ 25	%	

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.7	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.960	
Two-way flow rate,(note-1) vp	383	pc/h
Highest directional split proportion (note-2)	287	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	4.2	mi/h
Adj. for access points, fA	1.8	mi/h
Free-flow speed, FFS	39.0	mi/h
Adjustment for no-passing zones, fnp	3.0	mi/h
Average travel speed, ATS	33.1	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.994	
Two-way flow rate,(note-1) vp	370	pc/h
Highest directional split proportion (note-2)	278	
Base percent time-spent-following, BPTSF	27.8	%
Adj.for directional distribution and no-passing zones, fd/np	22.4	
Percent time-spent-following, PTSF	50.2	%

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.12	
Peak 15-min vehicle-miles of travel, VMT15	64	veh-mi
Peak-hour vehicle-miles of travel, VMT60	232	veh-mi
Peak 15-min total travel time, TT15	1.9	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	AM Peak Hour
Highway	West Pozo Rd
From/To	e/o Calf Canyon Hwy
Jurisdiction	SLO County
Analysis Year	2026
Description	Cumulative No Project Conditions

Input Data

Highway class	Class 2				
Shoulder width	1.0	ft	Peak-hour factor, PHF	0.74	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.7	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	50	%
Grade: Length		mi	Access points/mi	0	/mi
Up/down		%			

Two-way hourly volume, V	104			veh/h
Directional split	63	/	37	%

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.7	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.986	
Two-way flow rate,(note-1) vp	143	pc/h
Highest directional split proportion (note-2)	90	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	4.2	mi/h
Adj. for access points, fA	0.0	mi/h
Free-flow speed, FFS	40.8	mi/h
Adjustment for no-passing zones, fnp	1.4	mi/h
Average travel speed, ATS	38.3	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.998	
Two-way flow rate,(note-1) vp	141	pc/h
Highest directional split proportion (note-2)	89	
Base percent time-spent-following, BPTSF	11.7	%
Adj.for directional distribution and no-passing zones, fd/np	21.0	
Percent time-spent-following, PTSF	32.6	%

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.04	
Peak 15-min vehicle-miles of travel, VMT15	25	veh-mi
Peak-hour vehicle-miles of travel, VMT60	73	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	AM Peak Hour
Highway	Calf Canyon Hwy
From/To	n/o West Pozo Rd
Jurisdiction	SLO County
Analysis Year	2026
Description	Cumulative No Project Conditions

Input Data

Highway class	Class 2				
Shoulder width	1.0	ft	Peak-hour factor, PHF	0.85	
Lane width	12.0	ft	% Trucks and buses	6	%
Segment length	1.3	mi	% Recreational vehicles	0	%
Terrain type	Rolling		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	1	/mi
Up/down		%			

Two-way hourly volume, V	224	veh/h		
Directional split	79 /	21	%	

Average Travel Speed

Grade adjustment factor, fG	0.71	
PCE for trucks, ET	2.5	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.917	
Two-way flow rate,(note-1) vp	405	pc/h
Highest directional split proportion (note-2)	320	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	4.2	mi/h
Adj. for access points, fA	0.3	mi/h
Free-flow speed, FFS	40.5	mi/h
Adjustment for no-passing zones, fnp	4.5	mi/h
Average travel speed, ATS	32.9	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	0.77	
PCE for trucks, ET	1.8	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.954	
Two-way flow rate,(note-1) vp	359	pc/h
Highest directional split proportion (note-2)	284	
Base percent time-spent-following, BPTSF	27.1	%
Adj.for directional distribution and no-passing zones, fd/np	28.2	
Percent time-spent-following, PTSF	55.3	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.13	
Peak 15-min vehicle-miles of travel, VMT15	86	veh-mi
Peak-hour vehicle-miles of travel, VMT60	291	veh-mi
Peak 15-min total travel time, TT15	2.6	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	PM Peak Hour
Highway	El Camino Real
From/To	n/o Estrada Ave
Jurisdiction	SLO County
Analysis Year	2026
Description	Cumulative No Project Conditions

Input Data

Highway class	Class 1				
Shoulder width	4.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	6	%
Segment length	1.3	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	2	/mi
Up/down		%			

Two-way hourly volume, V	510			veh/h
Directional split	54	/	46	%

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.7	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.960	
Two-way flow rate,(note-1) vp	590	pc/h
Highest directional split proportion (note-2)	319	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	55.0	mi/h
Adj. for lane and shoulder width, fLS	1.3	mi/h
Adj. for access points, fA	0.5	mi/h
Free-flow speed, FFS	53.2	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	48.6	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.994	
Two-way flow rate,(note-1) vp	570	pc/h
Highest directional split proportion (note-2)	308	
Base percent time-spent-following, BPTSF	39.4	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	39.4	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.18	
Peak 15-min vehicle-miles of travel, VMT15	184	veh-mi
Peak-hour vehicle-miles of travel, VMT60	663	veh-mi
Peak 15-min total travel time, TT15	3.8	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
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Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	PM Peak Hour
Highway	West Pozo Rd
From/To	J Street/West Driveway
Jurisdiction	SLO County
Analysis Year	2026
Description	Cumulative No Project Conditions

Input Data

Highway class	Class 2				
Shoulder width	1.0	ft	Peak-hour factor, PHF	0.86	
Lane width	12.0	ft	% Trucks and buses	6	%
Segment length	0.7	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	50	%
Grade: Length		mi	Access points/mi	7	/mi
Up/down		%			

Two-way hourly volume, V	397			veh/h
Directional split	57	/	43	%

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.7	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.960	
Two-way flow rate,(note-1) vp	481	pc/h
Highest directional split proportion (note-2)	274	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	4.2	mi/h
Adj. for access points, fA	1.8	mi/h
Free-flow speed, FFS	39.0	mi/h
Adjustment for no-passing zones, fnp	2.9	mi/h
Average travel speed, ATS	32.4	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.994	
Two-way flow rate,(note-1) vp	464	pc/h
Highest directional split proportion (note-2)	264	
Base percent time-spent-following, BPTSF	33.5	%
Adj.for directional distribution and no-passing zones, fd/np	18.5	
Percent time-spent-following, PTSF	52.0	%

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.15	
Peak 15-min vehicle-miles of travel, VMT15	81	veh-mi
Peak-hour vehicle-miles of travel, VMT60	278	veh-mi
Peak 15-min total travel time, TT15	2.5	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

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Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	PM Peak Hour
Highway	West Pozo Rd
From/To	e/o Calf Canyon Hwy
Jurisdiction	SLO County
Analysis Year	2026
Description	Cumulative No Project Conditions

Input Data

Highway class	Class 2				
Shoulder width	1.0	ft	Peak-hour factor, PHF	0.86	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.7	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	50	%
Grade: Length		mi	Access points/mi	0	/mi
Up/down		%			

Two-way hourly volume, V	135		veh/h	
Directional split	53	/ 47	%	

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.7	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.986	
Two-way flow rate,(note-1) vp	159	pc/h
Highest directional split proportion (note-2)	84	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	4.2	mi/h
Adj. for access points, fA	0.0	mi/h
Free-flow speed, FFS	40.8	mi/h
Adjustment for no-passing zones, fnp	1.5	mi/h
Average travel speed, ATS	38.1	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.998	
Two-way flow rate,(note-1) vp	157	pc/h
Highest directional split proportion (note-2)	83	
Base percent time-spent-following, BPTSF	12.9	%
Adj.for directional distribution and no-passing zones, fd/np	18.8	
Percent time-spent-following, PTSF	31.7	%

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.05	
Peak 15-min vehicle-miles of travel, VMT15	27	veh-mi
Peak-hour vehicle-miles of travel, VMT60	94	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	PM Peak Hour
Highway	Calf Canyon Hwy
From/To	n/o West Pozo Rd
Jurisdiction	SLO County
Analysis Year	2026
Description	Cumulative No Project Conditions

Input Data

Highway class	Class 2				
Shoulder width	1.0	ft	Peak-hour factor, PHF	0.84	
Lane width	12.0	ft	% Trucks and buses	6	%
Segment length	1.3	mi	% Recreational vehicles	0	%
Terrain type	Rolling		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	1	/mi
Up/down		%			

Two-way hourly volume, V	235		veh/h	
Directional split	66	/ 34	%	

Average Travel Speed

Grade adjustment factor, fG	0.71	
PCE for trucks, ET	2.5	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.917	
Two-way flow rate,(note-1) vp	429	pc/h
Highest directional split proportion (note-2)	283	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	4.2	mi/h
Adj. for access points, fA	0.3	mi/h
Free-flow speed, FFS	40.5	mi/h
Adjustment for no-passing zones, fnp	4.4	mi/h
Average travel speed, ATS	32.8	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	0.77	
PCE for trucks, ET	1.8	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.954	
Two-way flow rate,(note-1) vp	381	pc/h
Highest directional split proportion (note-2)	251	
Base percent time-spent-following, BPTSF	28.5	%
Adj.for directional distribution and no-passing zones, fd/np	23.0	
Percent time-spent-following, PTSF	51.4	%

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.13	
Peak 15-min vehicle-miles of travel, VMT15	91	veh-mi
Peak-hour vehicle-miles of travel, VMT60	305	veh-mi
Peak 15-min total travel time, TT15	2.8	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	AM Peak Hour
Highway	El Camino Real
From/To	n/o Estrada Ave
Jurisdiction	SLO County
Analysis Year	2026
Description	Cumulative Phase 1 Conditions

Input Data

Highway class	Class 1				
Shoulder width	4.0	ft	Peak-hour factor, PHF	0.71	
Lane width	12.0	ft	% Trucks and buses	6	%
Segment length	1.3	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	2	/mi
Up/down		%			

Two-way hourly volume, V	518			veh/h
Directional split	56	/	44	%

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.2	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.988	
Two-way flow rate,(note-1) vp	738	pc/h
Highest directional split proportion (note-2)	413	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	55.0	mi/h
Adj. for lane and shoulder width, fLS	1.3	mi/h
Adj. for access points, fA	0.5	mi/h
Free-flow speed, FFS	53.2	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	47.5	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.994	
Two-way flow rate,(note-1) vp	734	pc/h
Highest directional split proportion (note-2)	411	
Base percent time-spent-following, BPTSF	47.5	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	47.5	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.23	
Peak 15-min vehicle-miles of travel, VMT15	237	veh-mi
Peak-hour vehicle-miles of travel, VMT60	673	veh-mi
Peak 15-min total travel time, TT15	5.0	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	AM Peak Hour
Highway	West Pozo Rd
From/To	J Street/West Driveway
Jurisdiction	SLO County
Analysis Year	2026
Description	Cumulative Phase 1 Conditions

Input Data

Highway class	Class 2				
Shoulder width	1.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	6	%
Segment length	0.7	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	50	%
Grade: Length		mi	Access points/mi	7	/mi
Up/down		%			

Two-way hourly volume, V	417			veh/h
Directional split	75	/	25	%

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.7	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.960	
Two-way flow rate,(note-1) vp	483	pc/h
Highest directional split proportion (note-2)	362	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	4.2	mi/h
Adj. for access points, fA	1.8	mi/h
Free-flow speed, FFS	39.0	mi/h
Adjustment for no-passing zones, fnp	2.9	mi/h
Average travel speed, ATS	32.4	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.994	
Two-way flow rate,(note-1) vp	466	pc/h
Highest directional split proportion (note-2)	350	
Base percent time-spent-following, BPTSF	33.6	%
Adj.for directional distribution and no-passing zones, fd/np	21.0	
Percent time-spent-following, PTSF	54.6	%

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.15	
Peak 15-min vehicle-miles of travel, VMT15	81	veh-mi
Peak-hour vehicle-miles of travel, VMT60	292	veh-mi
Peak 15-min total travel time, TT15	2.5	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	AM Peak Hour
Highway	West Pozo Rd
From/To	e/o Calf Canyon Hwy
Jurisdiction	SLO County
Analysis Year	2026
Description	Cumulative Phase 1 Conditions

Input Data

Highway class	Class 2				
Shoulder width	1.0	ft	Peak-hour factor, PHF	0.74	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.7	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	50	%
Grade: Length		mi	Access points/mi	0	/mi
Up/down		%			

Two-way hourly volume, V	105			veh/h
Directional split	63	/	37	%

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.7	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.986	
Two-way flow rate,(note-1) vp	144	pc/h
Highest directional split proportion (note-2)	91	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	4.2	mi/h
Adj. for access points, fA	0.0	mi/h
Free-flow speed, FFS	40.8	mi/h
Adjustment for no-passing zones, fnp	1.4	mi/h
Average travel speed, ATS	38.3	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.998	
Two-way flow rate,(note-1) vp	142	pc/h
Highest directional split proportion (note-2)	89	
Base percent time-spent-following, BPTSF	11.7	%
Adj.for directional distribution and no-passing zones, fd/np	21.0	
Percent time-spent-following, PTSF	32.7	%

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.05	
Peak 15-min vehicle-miles of travel, VMT15	25	veh-mi
Peak-hour vehicle-miles of travel, VMT60	73	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	AM Peak Hour
Highway	Calf Canyon Hwy
From/To	n/o West Pozo Rd
Jurisdiction	SLO County
Analysis Year	2026
Description	Cumulative Phase 1 Conditions

Input Data

Highway class	Class 2				
Shoulder width	1.0	ft	Peak-hour factor, PHF	0.84	
Lane width	12.0	ft	% Trucks and buses	6	%
Segment length	1.3	mi	% Recreational vehicles	0	%
Terrain type	Rolling		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	1	/mi
Up/down		%			

Two-way hourly volume, V	225	veh/h		
Directional split	79 /	21	%	

Average Travel Speed

Grade adjustment factor, fG	0.71	
PCE for trucks, ET	2.5	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.917	
Two-way flow rate,(note-1) vp	411	pc/h
Highest directional split proportion (note-2)	325	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	4.2	mi/h
Adj. for access points, fA	0.3	mi/h
Free-flow speed, FFS	40.5	mi/h
Adjustment for no-passing zones, fnp	4.5	mi/h
Average travel speed, ATS	32.9	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	0.77	
PCE for trucks, ET	1.8	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.954	
Two-way flow rate,(note-1) vp	365	pc/h
Highest directional split proportion (note-2)	288	
Base percent time-spent-following, BPTSF	27.4	%
Adj.for directional distribution and no-passing zones, fd/np	28.1	
Percent time-spent-following, PTSF	55.6	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.13	
Peak 15-min vehicle-miles of travel, VMT15	87	veh-mi
Peak-hour vehicle-miles of travel, VMT60	292	veh-mi
Peak 15-min total travel time, TT15	2.6	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

HCS+: Two-Lane Highways Release 5.2

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Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	PM Peak Hour
Highway	El Camino Real
From/To	n/o Estrada Ave
Jurisdiction	SLO County
Analysis Year	2026
Description	Cumulative Phase 1 Conditions

Input Data

Highway class	Class 1				
Shoulder width	4.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	6	%
Segment length	1.3	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	2	/mi
Up/down		%			

Two-way hourly volume, V	540			veh/h
Directional split	54	/	46	%

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.2	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.988	
Two-way flow rate,(note-1) vp	607	pc/h
Highest directional split proportion (note-2)	328	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	55.0	mi/h
Adj. for lane and shoulder width, fLS	1.3	mi/h
Adj. for access points, fA	0.5	mi/h
Free-flow speed, FFS	53.2	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	48.5	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.994	
Two-way flow rate,(note-1) vp	604	pc/h
Highest directional split proportion (note-2)	326	
Base percent time-spent-following, BPTSF	41.2	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	41.2	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.19	
Peak 15-min vehicle-miles of travel, VMT15	195	veh-mi
Peak-hour vehicle-miles of travel, VMT60	702	veh-mi
Peak 15-min total travel time, TT15	4.0	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	PM Peak Hour
Highway	West Pozo Rd
From/To	J Street/West Driveway
Jurisdiction	SLO County
Analysis Year	2026
Description	Cumulative Phase 1 Conditions

Input Data

Highway class	Class 2				
Shoulder width	1.0	ft	Peak-hour factor, PHF	0.86	
Lane width	12.0	ft	% Trucks and buses	6	%
Segment length	0.7	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	50	%
Grade: Length		mi	Access points/mi	7	/mi
Up/down		%			

Two-way hourly volume, V	514			veh/h
Directional split	57	/	43	%

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.2	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.988	
Two-way flow rate,(note-1) vp	605	pc/h
Highest directional split proportion (note-2)	345	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	4.2	mi/h
Adj. for access points, fA	1.8	mi/h
Free-flow speed, FFS	39.0	mi/h
Adjustment for no-passing zones, fnp	2.7	mi/h
Average travel speed, ATS	31.7	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.994	
Two-way flow rate,(note-1) vp	601	pc/h
Highest directional split proportion (note-2)	343	
Base percent time-spent-following, BPTSF	41.0	%
Adj.for directional distribution and no-passing zones, fd/np	17.1	
Percent time-spent-following, PTSF	58.2	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.19	
Peak 15-min vehicle-miles of travel, VMT15	105	veh-mi
Peak-hour vehicle-miles of travel, VMT60	360	veh-mi
Peak 15-min total travel time, TT15	3.3	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	PM Peak Hour
Highway	West Pozo Rd
From/To	e/o Calf Canyon Hwy
Jurisdiction	SLO County
Analysis Year	2026
Description	Cumulative Phase 1 Conditions

Input Data

Highway class	Class 2				
Shoulder width	1.0	ft	Peak-hour factor, PHF	0.86	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.7	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	50	%
Grade: Length		mi	Access points/mi	0	/mi
Up/down		%			

Two-way hourly volume, V	136			veh/h
Directional split	53	/	47	%

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.7	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.986	
Two-way flow rate,(note-1) vp	160	pc/h
Highest directional split proportion (note-2)	85	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	4.2	mi/h
Adj. for access points, fA	0.0	mi/h
Free-flow speed, FFS	40.8	mi/h
Adjustment for no-passing zones, fnp	1.5	mi/h
Average travel speed, ATS	38.0	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.998	
Two-way flow rate,(note-1) vp	158	pc/h
Highest directional split proportion (note-2)	84	
Base percent time-spent-following, BPTSF	13.0	%
Adj.for directional distribution and no-passing zones, fd/np	18.8	
Percent time-spent-following, PTSF	31.8	%

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.05	
Peak 15-min vehicle-miles of travel, VMT15	28	veh-mi
Peak-hour vehicle-miles of travel, VMT60	95	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
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Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	PM Peak Hour
Highway	Calf Canyon Hwy
From/To	n/o West Pozo Rd
Jurisdiction	SLO County
Analysis Year	2026
Description	Cumulative Phase 1 Conditions

Input Data

Highway class	Class 2				
Shoulder width	1.0	ft	Peak-hour factor, PHF	0.84	
Lane width	12.0	ft	% Trucks and buses	6	%
Segment length	1.3	mi	% Recreational vehicles	0	%
Terrain type	Rolling		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	1	/mi
Up/down		%			

Two-way hourly volume, V	236		veh/h	
Directional split	66	/ 34	%	

Average Travel Speed

Grade adjustment factor, fG	0.71	
PCE for trucks, ET	2.5	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.917	
Two-way flow rate,(note-1) vp	431	pc/h
Highest directional split proportion (note-2)	284	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	4.2	mi/h
Adj. for access points, fA	0.3	mi/h
Free-flow speed, FFS	40.5	mi/h
Adjustment for no-passing zones, fnp	4.4	mi/h
Average travel speed, ATS	32.8	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	0.77	
PCE for trucks, ET	1.8	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.954	
Two-way flow rate,(note-1) vp	382	pc/h
Highest directional split proportion (note-2)	252	
Base percent time-spent-following, BPTSF	28.5	%
Adj.for directional distribution and no-passing zones, fd/np	23.0	
Percent time-spent-following, PTSF	51.5	%

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.13	
Peak 15-min vehicle-miles of travel, VMT15	91	veh-mi
Peak-hour vehicle-miles of travel, VMT60	307	veh-mi
Peak 15-min total travel time, TT15	2.8	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
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Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	AM Peak Hour
Highway	El Camino Real
From/To	n/o Estrada Ave
Jurisdiction	SLO County
Analysis Year	2026
Description	Cumulative Phase 2 Conditions

Input Data

Highway class	Class 1				
Shoulder width	4.0	ft	Peak-hour factor, PHF	0.71	
Lane width	12.0	ft	% Trucks and buses	6	%
Segment length	1.3	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	2	/mi
Up/down		%			

Two-way hourly volume, V	630			veh/h
Directional split	56	/	44	%

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.2	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.988	
Two-way flow rate,(note-1) vp	898	pc/h
Highest directional split proportion (note-2)	503	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	55.0	mi/h
Adj. for lane and shoulder width, fLS	1.3	mi/h
Adj. for access points, fA	0.5	mi/h
Free-flow speed, FFS	53.2	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	46.2	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.994	
Two-way flow rate,(note-1) vp	893	pc/h
Highest directional split proportion (note-2)	500	
Base percent time-spent-following, BPTSF	54.4	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	54.4	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.28	
Peak 15-min vehicle-miles of travel, VMT15	288	veh-mi
Peak-hour vehicle-miles of travel, VMT60	819	veh-mi
Peak 15-min total travel time, TT15	6.2	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
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Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	AM Peak Hour
Highway	West Pozo Rd
From/To	J Street/West Driveway
Jurisdiction	SLO County
Analysis Year	2026
Description	Cumulative Phase 2 Conditions

Input Data

Highway class	Class 2				
Shoulder width	1.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	6	%
Segment length	0.7	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	50	%
Grade: Length		mi	Access points/mi	7	/mi
Up/down		%			

Two-way hourly volume, V	475			veh/h
Directional split	75	/	25	%

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.7	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.960	
Two-way flow rate,(note-1) vp	550	pc/h
Highest directional split proportion (note-2)	413	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	4.2	mi/h
Adj. for access points, fA	1.8	mi/h
Free-flow speed, FFS	39.0	mi/h
Adjustment for no-passing zones, fnp	2.8	mi/h
Average travel speed, ATS	32.0	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.994	
Two-way flow rate,(note-1) vp	531	pc/h
Highest directional split proportion (note-2)	398	
Base percent time-spent-following, BPTSF	37.3	%
Adj.for directional distribution and no-passing zones, fd/np	20.1	
Percent time-spent-following, PTSF	57.4	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.17	
Peak 15-min vehicle-miles of travel, VMT15	92	veh-mi
Peak-hour vehicle-miles of travel, VMT60	332	veh-mi
Peak 15-min total travel time, TT15	2.9	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
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Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	AM Peak Hour
Highway	West Pozo Rd
From/To	e/o Calf Canyon Hwy
Jurisdiction	SLO County
Analysis Year	2026
Description	Cumulative Phase 2 Conditions

Input Data

Highway class	Class 2				
Shoulder width	1.0	ft	Peak-hour factor, PHF	0.74	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.7	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	50	%
Grade: Length		mi	Access points/mi	0	/mi
Up/down		%			

Two-way hourly volume, V	144			veh/h
Directional split	63	/	37	%

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.7	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.986	
Two-way flow rate,(note-1) vp	197	pc/h
Highest directional split proportion (note-2)	124	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	4.2	mi/h
Adj. for access points, fA	0.0	mi/h
Free-flow speed, FFS	40.8	mi/h
Adjustment for no-passing zones, fnp	1.9	mi/h
Average travel speed, ATS	37.4	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.998	
Two-way flow rate,(note-1) vp	195	pc/h
Highest directional split proportion (note-2)	123	
Base percent time-spent-following, BPTSF	15.8	%
Adj.for directional distribution and no-passing zones, fd/np	20.5	
Percent time-spent-following, PTSF	36.3	%

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.06	
Peak 15-min vehicle-miles of travel, VMT15	34	veh-mi
Peak-hour vehicle-miles of travel, VMT60	101	veh-mi
Peak 15-min total travel time, TT15	0.9	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	AM Peak Hour
Highway	Calf Canyon Hwy
From/To	n/o West Pozo Rd
Jurisdiction	SLO County
Analysis Year	2026
Description	Cumulative Phase 2 Conditions

Input Data

Highway class	Class 2				
Shoulder width	1.0	ft	Peak-hour factor, PHF	0.85	
Lane width	12.0	ft	% Trucks and buses	6	%
Segment length	1.3	mi	% Recreational vehicles	0	%
Terrain type	Rolling		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	1	/mi
Up/down		%			

Two-way hourly volume, V 247 veh/h
Directional split 79 / 21 %

Average Travel Speed

Grade adjustment factor, fG	0.71	
PCE for trucks, ET	2.5	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.917	
Two-way flow rate,(note-1) vp	446	pc/h
Highest directional split proportion (note-2)	352	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	4.2	mi/h
Adj. for access points, fA	0.3	mi/h
Free-flow speed, FFS	40.5	mi/h
Adjustment for no-passing zones, fnp	4.4	mi/h
Average travel speed, ATS	32.7	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	0.77	
PCE for trucks, ET	1.8	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.954	
Two-way flow rate,(note-1) vp	396	pc/h
Highest directional split proportion (note-2)	313	
Base percent time-spent-following, BPTSF	29.4	%
Adj.for directional distribution and no-passing zones, fd/np	27.6	
Percent time-spent-following, PTSF	57.0	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.14	
Peak 15-min vehicle-miles of travel, VMT15	94	veh-mi
Peak-hour vehicle-miles of travel, VMT60	321	veh-mi
Peak 15-min total travel time, TT15	2.9	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	PM Peak Hour
Highway	El Camino Real
From/To	n/o Estrada Ave
Jurisdiction	SLO County
Analysis Year	2026
Description	Cumulative Phase 2 Conditions

Input Data

Highway class	Class 1				
Shoulder width	4.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	6	%
Segment length	1.3	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	2	/mi
Up/down		%			

Two-way hourly volume, V	682			veh/h
Directional split	54	/	46	%

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.2	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.988	
Two-way flow rate,(note-1) vp	767	pc/h
Highest directional split proportion (note-2)	414	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	55.0	mi/h
Adj. for lane and shoulder width, fLS	1.3	mi/h
Adj. for access points, fA	0.5	mi/h
Free-flow speed, FFS	53.2	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	47.2	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.994	
Two-way flow rate,(note-1) vp	762	pc/h
Highest directional split proportion (note-2)	411	
Base percent time-spent-following, BPTSF	48.8	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	48.8	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.24	
Peak 15-min vehicle-miles of travel, VMT15	246	veh-mi
Peak-hour vehicle-miles of travel, VMT60	887	veh-mi
Peak 15-min total travel time, TT15	5.2	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	PM Peak Hour
Highway	West Pozo Rd
From/To	J Street/West Driveway
Jurisdiction	SLO County
Analysis Year	2026
Description	Cumulative Phase 2 Conditions

Input Data

Highway class	Class 2				
Shoulder width	1.0	ft	Peak-hour factor, PHF	0.86	
Lane width	12.0	ft	% Trucks and buses	6	%
Segment length	0.7	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	50	%
Grade: Length		mi	Access points/mi	7	/mi
Up/down		%			

Two-way hourly volume, V	580			veh/h
Directional split	57	/	43	%

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.2	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.988	
Two-way flow rate,(note-1) vp	683	pc/h
Highest directional split proportion (note-2)	389	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	4.2	mi/h
Adj. for access points, fA	1.8	mi/h
Free-flow speed, FFS	39.0	mi/h
Adjustment for no-passing zones, fnp	2.5	mi/h
Average travel speed, ATS	31.3	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.994	
Two-way flow rate,(note-1) vp	678	pc/h
Highest directional split proportion (note-2)	386	
Base percent time-spent-following, BPTSF	44.9	%
Adj.for directional distribution and no-passing zones, fd/np	15.2	
Percent time-spent-following, PTSF	60.1	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.21	
Peak 15-min vehicle-miles of travel, VMT15	118	veh-mi
Peak-hour vehicle-miles of travel, VMT60	406	veh-mi
Peak 15-min total travel time, TT15	3.8	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	PM Peak Hour
Highway	West Pozo Rd
From/To	e/o Calf Canyon Hwy
Jurisdiction	SLO County
Analysis Year	2026
Description	Cumulative Phase 2 Conditions

Input Data

Highway class	Class 2				
Shoulder width	1.0	ft	Peak-hour factor, PHF	0.86	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.7	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	50	%
Grade: Length		mi	Access points/mi	0	/mi
Up/down		%			

Two-way hourly volume, V	178			veh/h
Directional split	53	/	47	%

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.7	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.986	
Two-way flow rate,(note-1) vp	210	pc/h
Highest directional split proportion (note-2)	111	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	4.2	mi/h
Adj. for access points, fA	0.0	mi/h
Free-flow speed, FFS	40.8	mi/h
Adjustment for no-passing zones, fnp	2.0	mi/h
Average travel speed, ATS	37.2	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.998	
Two-way flow rate,(note-1) vp	207	pc/h
Highest directional split proportion (note-2)	110	
Base percent time-spent-following, BPTSF	16.6	%
Adj.for directional distribution and no-passing zones, fd/np	19.1	
Percent time-spent-following, PTSF	35.7	%

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.07	
Peak 15-min vehicle-miles of travel, VMT15	36	veh-mi
Peak-hour vehicle-miles of travel, VMT60	125	veh-mi
Peak 15-min total travel time, TT15	1.0	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	DD
Agency/Co.	Fehr & Peers
Date Performed	June 2006
Analysis Time Period	PM Peak Hour
Highway	Calf Canyon Hwy
From/To	n/o West Pozo Rd
Jurisdiction	SLO County
Analysis Year	2026
Description	Cumulative Phase 2 Conditions

Input Data

Highway class	Class 2				
Shoulder width	1.0	ft	Peak-hour factor, PHF	0.84	
Lane width	12.0	ft	% Trucks and buses	6	%
Segment length	1.3	mi	% Recreational vehicles	0	%
Terrain type	Rolling		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	1	/mi
Up/down		%			

Two-way hourly volume, V	262		veh/h	
Directional split	66	/ 34	%	

Average Travel Speed

Grade adjustment factor, fG	0.71	
PCE for trucks, ET	2.5	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.917	
Two-way flow rate,(note-1) vp	479	pc/h
Highest directional split proportion (note-2)	316	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	4.2	mi/h
Adj. for access points, fA	0.3	mi/h
Free-flow speed, FFS	40.5	mi/h
Adjustment for no-passing zones, fnp	4.3	mi/h
Average travel speed, ATS	32.6	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	0.77	
PCE for trucks, ET	1.8	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.954	
Two-way flow rate,(note-1) vp	425	pc/h
Highest directional split proportion (note-2)	281	
Base percent time-spent-following, BPTSF	31.2	%
Adj.for directional distribution and no-passing zones, fd/np	22.6	
Percent time-spent-following, PTSF	53.7	%

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.15	
Peak 15-min vehicle-miles of travel, VMT15	101	veh-mi
Peak-hour vehicle-miles of travel, VMT60	341	veh-mi
Peak 15-min total travel time, TT15	3.1	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

APPENDIX D:
FREEWAY MAINLINE LEVEL OF SERVICE CALCULATIONS

HCS+: Basic Freeway Segments Release 5.2

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	AM Peak Period
Freeway/Direction:	US 101 NB
From/To:	South of SR 58
Jurisdiction:	SLO County
Analysis Year:	2006
Description:	Existing Conditions

Flow Inputs and Adjustments

Volume, V	1004	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	285	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	593	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	593	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	2	
Density, D	9.1	pc/mi/ln
Level of service, LOS	A	

Overall results are not computed when free-flow speed is less than 55 mph.

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Phone: Fax:
E-mail:

Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	AM Peak Period
Freeway/Direction:	US 101 NB
From/To:	North of SR 58
Jurisdiction:	SLO County
Analysis Year:	2006
Description:	Existing Conditions

Flow Inputs and Adjustments

Volume, V	1005	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	286	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	594	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	594	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	2	
Density, D	9.1	pc/mi/ln
Level of service, LOS	A	

Overall results are not computed when free-flow speed is less than 55 mph.

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Phone: Fax:
E-mail:

Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	AM Peak Period
Freeway/Direction:	US 101 SB
From/To:	North of SR 58
Jurisdiction:	SLO County
Analysis Year:	2006
Description:	Existing Conditions

Flow Inputs and Adjustments

Volume, V	2128	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	605	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	1257	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	1257	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	2	
Density, D	19.3	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

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Phone: Fax:
E-mail:

Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	AM Peak Period
Freeway/Direction:	US 101 SB
From/To:	South of SR 58
Jurisdiction:	SLO County
Analysis Year:	2006
Description:	Existing Conditions

Flow Inputs and Adjustments

Volume, V	2380	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	676	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	1406	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	1406	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	2	
Density, D	21.6	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

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Phone: Fax:
E-mail:

Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	PM Peak Period
Freeway/Direction:	US 101 NB
From/To:	South of SR 58
Jurisdiction:	SLO County
Analysis Year:	2006
Description:	Existing Conditions

Flow Inputs and Adjustments

Volume, V	2494	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	709	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	1474	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	1474	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	2	
Density, D	22.7	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

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Phone: Fax:
E-mail:

Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	PM Peak Period
Freeway/Direction:	US 101 NB
From/To:	North of SR 58
Jurisdiction:	SLO County
Analysis Year:	2006
Description:	Existing Conditions

Flow Inputs and Adjustments

Volume, V	2318	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	659	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	1370	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	1370	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	2	
Density, D	21.1	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

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Phone: Fax:
E-mail:

Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	PM Peak Period
Freeway/Direction:	US 101 SB
From/To:	North of SR 58
Jurisdiction:	SLO County
Analysis Year:	2006
Description:	Existing Conditions

Flow Inputs and Adjustments

Volume, V	1356	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	385	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	801	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	801	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	2	
Density, D	12.3	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.2

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	PM Peak Period
Freeway/Direction:	US 101 SB
From/To:	South of SR 58
Jurisdiction:	SLO County
Analysis Year:	2006
Description:	Existing Conditions

Flow Inputs and Adjustments

Volume, V	1390	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	395	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	821	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	821	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	2	
Density, D	12.6	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.2

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	AM Peak Period
Freeway/Direction:	US 101 NB
From/To:	South of SR 58
Jurisdiction:	SLO County
Analysis Year:	2006
Description:	Phase 1 Conditions

Flow Inputs and Adjustments

Volume, V	1015	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	288	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	600	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	600	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	2	
Density, D	9.2	pc/mi/ln
Level of service, LOS	A	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.2

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	AM Peak Period
Freeway/Direction:	US 101 NB
From/To:	North of SR 58
Jurisdiction:	SLO County
Analysis Year:	2006
Description:	Phase 1 Conditions

Flow Inputs and Adjustments

Volume, V	1015	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	288	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	600	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	600	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	2	
Density, D	9.2	pc/mi/ln
Level of service, LOS	A	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.2

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	AM Peak Period
Freeway/Direction:	US 101 SB
From/To:	North of SR 58
Jurisdiction:	SLO County
Analysis Year:	2006
Description:	Phase 1 Conditions

Flow Inputs and Adjustments

Volume, V	2131	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	605	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	1259	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	1259	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	2	
Density, D	19.4	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.2

Phone: Fax:
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Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	AM Peak Period
Freeway/Direction:	US 101 SB
From/To:	South of SR 58
Jurisdiction:	SLO County
Analysis Year:	2006
Description:	Phase 1 Conditions

Flow Inputs and Adjustments

Volume, V	2412	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	685	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	1425	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	1425	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	2	
Density, D	21.9	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	PM Peak Period
Freeway/Direction:	US 101 NB
From/To:	South of SR 58
Jurisdiction:	SLO County
Analysis Year:	2006
Description:	Phase 1 Conditions

Flow Inputs and Adjustments

Volume, V	2530	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	719	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	1495	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	1495	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	2	
Density, D	23.0	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	PM Peak Period
Freeway/Direction:	US 101 NB
From/To:	North of SR 58
Jurisdiction:	SLO County
Analysis Year:	2006
Description:	Phase 1 Conditions

Flow Inputs and Adjustments

Volume, V	2325	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	661	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	1374	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	1374	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	2	
Density, D	21.1	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

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E-mail:

Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	PM Peak Period
Freeway/Direction:	US 101 SB
From/To:	North of SR 58
Jurisdiction:	SLO County
Analysis Year:	2006
Description:	Phase 1 Conditions

Flow Inputs and Adjustments

Volume, V	1367	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	388	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	808	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	808	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	2	
Density, D	12.4	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	PM Peak Period
Freeway/Direction:	US 101 SB
From/To:	South of SR 58
Jurisdiction:	SLO County
Analysis Year:	2006
Description:	Phase 1 Conditions

Flow Inputs and Adjustments

Volume, V	1411	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	401	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	834	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	834	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	2	
Density, D	12.8	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

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E-mail:

Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	AM Peak Period
Freeway/Direction:	US 101 NB
From/To:	South of SR 58
Jurisdiction:	SLO County
Analysis Year:	2026

Description: Cumulative No Project Conditions

Flow Inputs and Adjustments

Volume, V	1325	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	376	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	783	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	783	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	2	
Density, D	12.0	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	AM Peak Period
Freeway/Direction:	US 101 NB
From/To:	North of SR 58
Jurisdiction:	SLO County
Analysis Year:	2026

Description: Cumulative No Project Conditions

Flow Inputs and Adjustments

Volume, V	1326	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	377	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	784	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	784	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	2	
Density, D	12.1	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	AM Peak Period
Freeway/Direction:	US 101 SB
From/To:	North of SR 58
Jurisdiction:	SLO County
Analysis Year:	2026

Description: Cumulative No Project Conditions

Flow Inputs and Adjustments

Volume, V	2809	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	798	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	1660	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	1660	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	64.7	mi/h
Number of lanes, N	2	
Density, D	25.7	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	AM Peak Period
Freeway/Direction:	US 101 SB
From/To:	South of SR 58
Jurisdiction:	SLO County
Analysis Year:	2026

Description: Cumulative No Project Conditions

Flow Inputs and Adjustments

Volume, V	3142	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	893	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	1857	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	1857	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	63.4	mi/h
Number of lanes, N	2	
Density, D	29.3	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	PM Peak Period
Freeway/Direction:	US 101 NB
From/To:	South of SR 58
Jurisdiction:	SLO County
Analysis Year:	2026

Description: Cumulative No Project Conditions

Flow Inputs and Adjustments

Volume, V	3292	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	935	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	1945	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	1945	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	62.3	mi/h
Number of lanes, N	2	
Density, D	31.2	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	PM Peak Period
Freeway/Direction:	US 101 NB
From/To:	North of SR 58
Jurisdiction:	SLO County
Analysis Year:	2026

Description: Cumulative No Project Conditions

Flow Inputs and Adjustments

Volume, V	3060	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	869	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	1808	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	1808	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	63.8	mi/h
Number of lanes, N	2	
Density, D	28.3	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	PM Peak Period
Freeway/Direction:	US 101 SB
From/To:	North of SR 58
Jurisdiction:	SLO County
Analysis Year:	2026

Description: Cumulative No Project Conditions

Flow Inputs and Adjustments

Volume, V	1790	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	509	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	1058	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	1058	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	2	
Density, D	16.3	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

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Phone: Fax:
E-mail:

Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	PM Peak Period
Freeway/Direction:	US 101 SB
From/To:	South of SR 58
Jurisdiction:	SLO County
Analysis Year:	2026

Description: Cumulative No Project Conditions

Flow Inputs and Adjustments

Volume, V	1835	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	521	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	1084	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	1084	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	2	
Density, D	16.7	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.2

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	AM Peak Period
Freeway/Direction:	US 101 NB
From/To:	South of SR 58
Jurisdiction:	SLO County
Analysis Year:	2026
Description:	Cumulative Phase 1 Conditions

Flow Inputs and Adjustments

Volume, V	1336	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	380	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	789	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	789	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	2	
Density, D	12.1	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.2

Phone: Fax:
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Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	AM Peak Period
Freeway/Direction:	US 101 NB
From/To:	North of SR 58
Jurisdiction:	SLO County
Analysis Year:	2026

Description: Cumulative Phase 1 Conditions

Flow Inputs and Adjustments

Volume, V	1336	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	380	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	789	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	789	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	2	
Density, D	12.1	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	AM Peak Period
Freeway/Direction:	US 101 SB
From/To:	North of SR 58
Jurisdiction:	SLO County
Analysis Year:	2026
Description:	Cumulative Phase 1 Conditions

Flow Inputs and Adjustments

Volume, V	2812	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	799	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	1662	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	1662	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	64.7	mi/h
Number of lanes, N	2	
Density, D	25.7	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	AM Peak Period
Freeway/Direction:	US 101 SB
From/To:	South of SR 58
Jurisdiction:	SLO County
Analysis Year:	2026
Description:	Cumulative Phase 1 Conditions

Flow Inputs and Adjustments

Volume, V	3174	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	902	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	1876	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	1876	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	63.2	mi/h
Number of lanes, N	2	
Density, D	29.7	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	PM Peak Period
Freeway/Direction:	US 101 NB
From/To:	South of SR 58
Jurisdiction:	SLO County
Analysis Year:	2026

Description: Cumulative Phase 1 Conditions

Flow Inputs and Adjustments

Volume, V	3328	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	945	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	1967	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	1967	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	62.0	mi/h
Number of lanes, N	2	
Density, D	31.7	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	PM Peak Period
Freeway/Direction:	US 101 NB
From/To:	North of SR 58
Jurisdiction:	SLO County
Analysis Year:	2026

Description: Cumulative Phase 1 Conditions

Flow Inputs and Adjustments

Volume, V	3067	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	871	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	1812	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	1812	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	63.8	mi/h
Number of lanes, N	2	
Density, D	28.4	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	PM Peak Period
Freeway/Direction:	US 101 SB
From/To:	North of SR 58
Jurisdiction:	SLO County
Analysis Year:	2026
Description:	Cumulative Phase 1 Conditions

Flow Inputs and Adjustments

Volume, V	1801	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	512	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	1064	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	1064	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	2	
Density, D	16.4	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	PM Peak Period
Freeway/Direction:	US 101 SB
From/To:	South of SR 58
Jurisdiction:	SLO County
Analysis Year:	2026

Description: Cumulative Phase 1 Conditions

Flow Inputs and Adjustments

Volume, V	1856	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	527	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	1097	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	1097	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	2	
Density, D	16.9	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	AM Peak Period
Freeway/Direction:	US 101 NB
From/To:	South of SR 58
Jurisdiction:	SLO County
Analysis Year:	2026

Description: Cumulative Phase 2 Conditions

Flow Inputs and Adjustments

Volume, V	1460	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	415	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	863	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	863	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	2	
Density, D	13.3	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	AM Peak Period
Freeway/Direction:	US 101 NB
From/To:	North of SR 58
Jurisdiction:	SLO County
Analysis Year:	2026

Description: Cumulative Phase 2 Conditions

Flow Inputs and Adjustments

Volume, V	1417	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	403	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	837	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	837	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	2	
Density, D	12.9	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	AM Peak Period
Freeway/Direction:	US 101 SB
From/To:	North of SR 58
Jurisdiction:	SLO County
Analysis Year:	2026
Description:	Cumulative Phase 2 Conditions

Flow Inputs and Adjustments

Volume, V	2902	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	824	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	1715	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	1715	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	64.5	mi/h
Number of lanes, N	2	
Density, D	26.6	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	AM Peak Period
Freeway/Direction:	US 101 SB
From/To:	South of SR 58
Jurisdiction:	SLO County
Analysis Year:	2026
Description:	Cumulative Phase 2 Conditions

Flow Inputs and Adjustments

Volume, V	3334	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	947	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	1970	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	1970	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	61.9	mi/h
Number of lanes, N	2	
Density, D	31.8	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	PM Peak Period
Freeway/Direction:	US 101 NB
From/To:	South of SR 58
Jurisdiction:	SLO County
Analysis Year:	2026

Description: Cumulative Phase 2 Conditions

Flow Inputs and Adjustments

Volume, V	3525	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	1001	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	2083	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	2083	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	59.9	mi/h
Number of lanes, N	2	
Density, D	34.8	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	PM Peak Period
Freeway/Direction:	US 101 NB
From/To:	North of SR 58
Jurisdiction:	SLO County
Analysis Year:	2026
Description:	Cumulative Phase 2 Conditions

Flow Inputs and Adjustments

Volume, V	3169	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	900	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	1873	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	1873	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	63.2	mi/h
Number of lanes, N	2	
Density, D	29.6	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

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Phone: Fax:
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Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	PM Peak Period
Freeway/Direction:	US 101 SB
From/To:	North of SR 58
Jurisdiction:	SLO County
Analysis Year:	2026
Description:	Cumulative Phase 2 Conditions

Flow Inputs and Adjustments

Volume, V	1911	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	543	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	1129	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	1129	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	2	
Density, D	17.4	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

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Phone: Fax:
E-mail:

Operational Analysis

Analyst:	DD
Agency or Company:	Fehr & Peers
Date Performed:	June 2006
Analysis Time Period:	PM Peak Period
Freeway/Direction:	US 101 SB
From/To:	South of SR 58
Jurisdiction:	SLO County
Analysis Year:	2026
Description:	Cumulative Phase 2 Conditions

Flow Inputs and Adjustments

Volume, V	2016	veh/h
Peak-hour factor, PHF	0.88	
Peak 15-min volume, v15	573	v
Trucks and buses	8	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.962	
Driver population factor, fp	1.00	
Flow rate, vp	1191	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.40	interchange/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Rural Freeway	

LOS and Performance Measures

Flow rate, vp	1191	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	2	
Density, D	18.3	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

APPENDIX E:
FREEWAY RAMP JUNCTION LEVEL OF SERVICE CALCULATIONS

Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	AM Peak Hour
Freeway/Dir of Travel:	US 101 NB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2006
Description:	Existing Conditions

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	1004	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	50.0	mph
Volume on ramp	71	vph
Length of first accel/decel lane	140	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent ramp	72	vph
Position of adjacent ramp	Downstream	
Type of adjacent ramp	On	
Distance to adjacent ramp	1050	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp		
Volume, V (vph)	1004		71		72		vph
Peak-hour factor, PHF	0.88		0.88		0.88		
Peak 15-min volume, v15	285		20		20		v
Trucks and buses	8		6		6		%
Recreational vehicles	0		0		0		%
Terrain type:	Level		Level		Level		
Grade	0.00	%	0.00	%	0.00	%	
Length	0.00	mi	0.00	mi	0.00	mi	
Trucks and buses PCE, ET	1.5		1.5		1.5		
Recreational vehicle PCE, ER	1.2		1.2		1.2		

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	1187	83	84	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 Using Equation 0

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 1187 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	1187	4700	No
v_{12}	1187	4400	No
$v_{FO} = v_F - v_R$	1104	4700	No
v_R	83	2100	No

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 13.2 pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, D_S = 0.240

Space mean speed in ramp influence area, S_R = 59.5 mph

Space mean speed in outer lanes, S_O = N/A mph

Space mean speed for all vehicles, S = 59.5 mph

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Phone: Fax:
E-mail:

Merge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	AM Peak Hour
Freeway/Dir of Travel:	US 101 NB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2006
Description:	Existing Conditions

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	933	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	20.0	mph
Volume on ramp	72	vph
Length of first accel/decel lane	450	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent Ramp	71	vph
Position of adjacent Ramp	Upstream	
Type of adjacent Ramp	Off	
Distance to adjacent Ramp	1050	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	933	72	71	vph
Peak-hour factor, PHF	0.88	0.88	0.88	
Peak 15-min volume, v15	265	20	20	v
Trucks and buses	8	6	6	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	1103	84	83	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 Using Equation 0

$v_{12} = v_F (P_{FM})$ = 1103 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	1187	4700	No
v_{R12}	1187	4600	No

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 11.9 pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, M_S = 0.316

Space mean speed in ramp influence area, S_R = 57.7 mph

Space mean speed in outer lanes, S_O = N/A mph

Space mean speed for all vehicles, S = 57.7 mph

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Phone: Fax:
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Diverge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	AM Peak Hour
Freeway/Dir of Travel:	US 101 SB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2006
Description:	Existing Conditions

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2128	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	15.0	mph
Volume on ramp	38	vph
Length of first accel/decel lane	250	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent ramp	290	vph
Position of adjacent ramp	Downstream	
Type of adjacent ramp	On	
Distance to adjacent ramp	1230	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp		
Volume, V (vph)	2128		38		290		vph
Peak-hour factor, PHF	0.88		0.88		0.88		
Peak 15-min volume, v15	605		11		82		v
Trucks and buses	8		6		6		%
Recreational vehicles	0		0		0		%
Terrain type:	Level		Level		Level		
Grade	0.00	%	0.00	%	0.00	%	
Length	0.00	mi	0.00	mi	0.00	mi	
Trucks and buses PCE, ET	1.5		1.5		1.5		
Recreational vehicle PCE, ER	1.2		1.2		1.2		

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	2515	44	339	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 Using Equation 0

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 2515 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	2515	4700	No
v_{12}	2515	4400	No
$v_{FO} = v_F - v_R$	2471	4700	No
v_R	44	1800	No

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 23.6 pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable,	D_S = 0.692	
Space mean speed in ramp influence area,	S_R = 49.1	mph
Space mean speed in outer lanes,	S_O = N/A	mph
Space mean speed for all vehicles,	S = 49.1	mph

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	AM Peak Hour
Freeway/Dir of Travel:	US 101 SB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2006
Description:	Existing Conditions

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2090	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	290	vph
Length of first accel/decel lane	465	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent Ramp	38	vph
Position of adjacent Ramp	Upstream	
Type of adjacent Ramp	Off	
Distance to adjacent Ramp	1230	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2090	290	38	vph
Peak-hour factor, PHF	0.88	0.88	0.88	
Peak 15-min volume, v15	594	82	11	v
Trucks and buses	8	6	6	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	2470	339	44	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 Using Equation 0

$v_{12} = v_F (P_{FM})$ = 2470 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	2809	4700	No
v_{R12}	2809	4600	No

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 24.3 pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable,	M_S = 0.353	
Space mean speed in ramp influence area,	S_R = 56.9	mph
Space mean speed in outer lanes,	S_O = N/A	mph
Space mean speed for all vehicles,	S = 56.9	mph

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Phone: Fax:
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Diverge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	PM Peak Hour
Freeway/Dir of Travel:	US 101 NB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2006
Description:	Existing Conditions

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2494	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	50.0	mph
Volume on ramp	244	vph
Length of first accel/decel lane	140	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent ramp	68	vph
Position of adjacent ramp	Downstream	
Type of adjacent ramp	On	
Distance to adjacent ramp	1050	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp		
Volume, V (vph)	2494		244		68		vph
Peak-hour factor, PHF	0.88		0.88		0.88		
Peak 15-min volume, v15	709		69		19		v
Trucks and buses	8		6		6		%
Recreational vehicles	0		0		0		%
Terrain type:	Level		Level		Level		
Grade	0.00	%	0.00	%	0.00	%	
Length	0.00	mi	0.00	mi	0.00	mi	
Trucks and buses PCE, ET	1.5		1.5		1.5		
Recreational vehicle PCE, ER	1.2		1.2		1.2		

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	2947	286	80	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 Using Equation 0

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 2947 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	2947	4700	No
v_{12}	2947	4400	No
$v_{FO} = v_F - v_R$	2661	4700	No
v_R	286	2100	No

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 28.3 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable,	D_S = 0.259	
Space mean speed in ramp influence area,	S_R = 59.0	mph
Space mean speed in outer lanes,	S_O = N/A	mph
Space mean speed for all vehicles,	S = 59.0	mph

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Phone: Fax:
E-mail:

Merge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	PM Peak Hour
Freeway/Dir of Travel:	US 101 NB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2006
Description:	Existing Conditions

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2250	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	20.0	mph
Volume on ramp	68	vph
Length of first accel/decel lane	450	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent Ramp	244	vph
Position of adjacent Ramp	Upstream	
Type of adjacent Ramp	Off	
Distance to adjacent Ramp	1050	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2250	68	244	vph
Peak-hour factor, PHF	0.88	0.88	0.88	
Peak 15-min volume, v15	639	19	69	v
Trucks and buses	8	6	6	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	2659	80	286	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 Using Equation 0

$v_{12} = v_F (P_{FM})$ = 2659 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	2739	4700	No
v_{R12}	2739	4600	No

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 24.0 pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable,	M_S = 0.363	
Space mean speed in ramp influence area,	S_R = 56.6	mph
Space mean speed in outer lanes,	S_O = N/A	mph
Space mean speed for all vehicles,	S = 56.6	mph

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Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	PM Peak Hour
Freeway/Dir of Travel:	US 101 SB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2006
Description:	Existing Conditions

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	1356	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	15.0	mph
Volume on ramp	71	vph
Length of first accel/decel lane	250	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent ramp	105	vph
Position of adjacent ramp	Downstream	
Type of adjacent ramp	On	
Distance to adjacent ramp	1230	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp		
Volume, V (vph)	1356		71		105		vph
Peak-hour factor, PHF	0.88		0.88		0.88		
Peak 15-min volume, v15	385		20		30		v
Trucks and buses	8		6		6		%
Recreational vehicles	0		0		0		%
Terrain type:	Level		Level		Level		
Grade	0.00	%	0.00	%	0.00	%	
Length	0.00	mi	0.00	mi	0.00	mi	
Trucks and buses PCE, ET	1.5		1.5		1.5		
Recreational vehicle PCE, ER	1.2		1.2		1.2		

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	1603	83	123	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 Using Equation 0

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 1603 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	1603	4700	No
v_{12}	1603	4400	No
$v_{FO} = v_F - v_R$	1520	4700	No
v_R	83	1800	No

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 15.8 pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable,	D_S = 0.695
Space mean speed in ramp influence area,	S_R = 49.0 mph
Space mean speed in outer lanes,	S_O = N/A mph
Space mean speed for all vehicles,	S = 49.0 mph

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Phone: Fax:
E-mail:

Merge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	PM Peak Hour
Freeway/Dir of Travel:	US 101 SB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2006
Description:	Existing Conditions

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	1285	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	105	vph
Length of first accel/decel lane	465	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent Ramp	71	vph
Position of adjacent Ramp	Upstream	
Type of adjacent Ramp	Off	
Distance to adjacent Ramp	1230	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	1285	105	71	vph
Peak-hour factor, PHF	0.88	0.88	0.88	
Peak 15-min volume, v15	365	30	20	v
Trucks and buses	8	6	6	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	1519	123	83	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 Using Equation 0

$v_{12} = v_F (P_{FM})$ = 1519 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	1642	4700	No
v_{R12}	1642	4600	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 15.3 pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable,	M_S = 0.309	
Space mean speed in ramp influence area,	S_R = 57.9	mph
Space mean speed in outer lanes,	S_O = N/A	mph
Space mean speed for all vehicles,	S = 57.9	mph

HCS+: Ramps and Ramp Junctions Release 5.2

Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	AM Peak Hour
Freeway/Dir of Travel:	US 101 NB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2006
Description:	Phase 1 Conditions

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	1015	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	50.0	mph
Volume on ramp	82	vph
Length of first accel/decel lane	140	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent ramp	82	vph
Position of adjacent ramp	Downstream	
Type of adjacent ramp	On	
Distance to adjacent ramp	1050	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp		
Volume, V (vph)	1015		82		82		vph
Peak-hour factor, PHF	0.88		0.88		0.88		
Peak 15-min volume, v15	288		23		23		v
Trucks and buses	8		6		6		%
Recreational vehicles	0		0		0		%
Terrain type:	Level		Level		Level		
Grade	0.00	%	0.00	%	0.00	%	
Length	0.00	mi	0.00	mi	0.00	mi	
Trucks and buses PCE, ET	1.5		1.5		1.5		
Recreational vehicle PCE, ER	1.2		1.2		1.2		

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	1200	96	96	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 Using Equation 0

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 1200 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	1200	4700	No
v_{12}	1200	4400	No
$v_{FO} = v_F - v_R$	1104	4700	No
v_R	96	2100	No

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 13.3 pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable,	D_S = 0.242	
Space mean speed in ramp influence area,	S_R = 59.4	mph
Space mean speed in outer lanes,	S_O = N/A	mph
Space mean speed for all vehicles,	S = 59.4	mph

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Phone: Fax:
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Merge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	AM Peak Hour
Freeway/Dir of Travel:	US 101 NB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2006

Description: Phase 1 Conditions

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	933	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	20.0	mph
Volume on ramp	82	vph
Length of first accel/decel lane	450	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent Ramp	82	vph
Position of adjacent Ramp	Upstream	
Type of adjacent Ramp	Off	
Distance to adjacent Ramp	1050	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	933	82	82	vph
Peak-hour factor, PHF	0.88	0.88	0.88	
Peak 15-min volume, v15	265	23	23	v
Trucks and buses	8	6	6	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	1103	96	96	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 Using Equation 0

$v_{12} = v_F (P_{FM})$ = 1103 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	1199	4700	No
v_{R12}	1199	4600	No

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 12.0 pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, M_S = 0.316

Space mean speed in ramp influence area, S_R = 57.7 mph

Space mean speed in outer lanes, S_O = N/A mph

Space mean speed for all vehicles, S = 57.7 mph

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Diverge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	AM Peak Hour
Freeway/Dir of Travel:	US 101 SB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2006
Description:	Phase 1 Conditions

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2131	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	15.0	mph
Volume on ramp	41	vph
Length of first accel/decel lane	250	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent ramp	322	vph
Position of adjacent ramp	Downstream	
Type of adjacent ramp	On	
Distance to adjacent ramp	1230	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp		
Volume, V (vph)	2131		41		322		vph
Peak-hour factor, PHF	0.88		0.88		0.88		
Peak 15-min volume, v15	605		12		91		v
Trucks and buses	8		6		6		%
Recreational vehicles	0		0		0		%
Terrain type:	Level		Level		Level		
Grade	0.00	%	0.00	%	0.00	%	
Length	0.00	mi	0.00	mi	0.00	mi	
Trucks and buses PCE, ET	1.5		1.5		1.5		
Recreational vehicle PCE, ER	1.2		1.2		1.2		

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	2518	48	377	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 Using Equation 0

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 2518 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	2518	4700	No
v_{12}	2518	4400	No
$v_{FO} = v_F - v_R$	2470	4700	No
v_R	48	1800	No

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 23.7 pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable,	D_S = 0.692	
Space mean speed in ramp influence area,	S_R = 49.1	mph
Space mean speed in outer lanes,	S_O = N/A	mph
Space mean speed for all vehicles,	S = 49.1	mph

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Merge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	AM Peak Hour
Freeway/Dir of Travel:	US 101 SB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2006
Description:	Phase 1 Conditions

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2090	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	322	vph
Length of first accel/decel lane	465	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent Ramp	41	vph
Position of adjacent Ramp	Upstream	
Type of adjacent Ramp	Off	
Distance to adjacent Ramp	1230	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2090	322	41	vph
Peak-hour factor, PHF	0.88	0.88	0.88	
Peak 15-min volume, v15	594	91	12	v
Trucks and buses	8	6	6	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	2470	377	48	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 Using Equation 0

$v_{12} = v_F (P_{FM})$ = 2470 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	2847	4700	No
v_{R12}	2847	4600	No

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 24.6 pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable,	M_S = 0.356	
Space mean speed in ramp influence area,	S_R = 56.8	mph
Space mean speed in outer lanes,	S_O = N/A	mph
Space mean speed for all vehicles,	S = 56.8	mph

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Diverge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	PM Peak Hour
Freeway/Dir of Travel:	US 101 NB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2006
Description:	Phase 1 Conditions

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2530	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	50.0	mph
Volume on ramp	280	vph
Length of first accel/decel lane	140	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent ramp	75	vph
Position of adjacent ramp	Downstream	
Type of adjacent ramp	On	
Distance to adjacent ramp	1050	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp		
Volume, V (vph)	2530		280		75		vph
Peak-hour factor, PHF	0.88		0.88		0.88		
Peak 15-min volume, v15	719		80		21		v
Trucks and buses	8		6		6		%
Recreational vehicles	0		0		0		%
Terrain type:	Level		Level		Level		
Grade	0.00	%	0.00	%	0.00	%	
Length	0.00	mi	0.00	mi	0.00	mi	
Trucks and buses PCE, ET	1.5		1.5		1.5		
Recreational vehicle PCE, ER	1.2		1.2		1.2		

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	2990	328	88	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 Using Equation 0

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 2990 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	2990	4700	No
v_{12}	2990	4400	No
$v_{FO} = v_F - v_R$	2662	4700	No
v_R	328	2100	No

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 28.7 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, D_S = 0.263

Space mean speed in ramp influence area, S_R = 59.0 mph

Space mean speed in outer lanes, S_O = N/A mph

Space mean speed for all vehicles, S = 59.0 mph

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Merge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	PM Peak Hour
Freeway/Dir of Travel:	US 101 NB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2006

Description: Phase 1 Conditions

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2250	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	20.0	mph
Volume on ramp	75	vph
Length of first accel/decel lane	450	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent Ramp	280	vph
Position of adjacent Ramp	Upstream	
Type of adjacent Ramp	Off	
Distance to adjacent Ramp	1050	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2250	75	280	vph
Peak-hour factor, PHF	0.88	0.88	0.88	
Peak 15-min volume, v15	639	21	80	v
Trucks and buses	8	6	6	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	2659	88	328	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 Using Equation 0

$v_{12} = v_F (P_{FM})$ = 2659 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	2747	4700	No
v_{R12}	2747	4600	No

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 24.0 pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, M_S = 0.364

Space mean speed in ramp influence area, S_R = 56.6 mph

Space mean speed in outer lanes, S_O = N/A mph

Space mean speed for all vehicles, S = 56.6 mph

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Diverge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	PM Peak Hour
Freeway/Dir of Travel:	US 101 SB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2006
Description:	Phase 1 Conditions

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	1367	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	15.0	mph
Volume on ramp	82	vph
Length of first accel/decel lane	250	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent ramp	126	vph
Position of adjacent ramp	Downstream	
Type of adjacent ramp	On	
Distance to adjacent ramp	1230	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp		
Volume, V (vph)	1367		82		126		vph
Peak-hour factor, PHF	0.88		0.88		0.88		
Peak 15-min volume, v15	388		23		36		v
Trucks and buses	8		6		6		%
Recreational vehicles	0		0		0		%
Terrain type:	Level		Level		Level		
Grade	0.00	%	0.00	%	0.00	%	
Length	0.00	mi	0.00	mi	0.00	mi	
Trucks and buses PCE, ET	1.5		1.5		1.5		
Recreational vehicle PCE, ER	1.2		1.2		1.2		

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	1616	96	147	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 Using Equation 0

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 1616 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	1616	4700	No
v_{12}	1616	4400	No
$v_{FO} = v_F - v_R$	1520	4700	No
v_R	96	1800	No

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 15.9 pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable,	D_S = 0.697	
Space mean speed in ramp influence area,	S_R = 49.0	mph
Space mean speed in outer lanes,	S_O = N/A	mph
Space mean speed for all vehicles,	S = 49.0	mph

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Merge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	PM Peak Hour
Freeway/Dir of Travel:	US 101 SB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2006
Description:	Phase 1 Conditions

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	1285	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	126	vph
Length of first accel/decel lane	465	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent Ramp	82	vph
Position of adjacent Ramp	Upstream	
Type of adjacent Ramp	Off	
Distance to adjacent Ramp	1230	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	1285	126	82	vph
Peak-hour factor, PHF	0.88	0.88	0.88	
Peak 15-min volume, v15	365	36	23	v
Trucks and buses	8	6	6	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	1519	147	96	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 Using Equation 0

$v_{12} = v_F (P_{FM})$ = 1519 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	1666	4700	No
v_{R12}	1666	4600	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 15.5 pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, M_S = 0.309

Space mean speed in ramp influence area, S_R = 57.9 mph

Space mean speed in outer lanes, S_O = N/A mph

Space mean speed for all vehicles, S = 57.9 mph

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Diverge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	AM Peak Hour
Freeway/Dir of Travel:	US 101 NB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2026

Description: Cumulative No Project Conditions

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	1325	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	50.0	mph
Volume on ramp	94	vph
Length of first accel/decel lane	140	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent ramp	95	vph
Position of adjacent ramp	Downstream	
Type of adjacent ramp	On	
Distance to adjacent ramp	1050	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp		
Volume, V (vph)	1325		94		95		vph
Peak-hour factor, PHF	0.88		0.88		0.88		
Peak 15-min volume, v15	376		27		27		v
Trucks and buses	8		6		6		%
Recreational vehicles	0		0		0		%
Terrain type:	Level		Level		Level		
Grade	0.00	%	0.00	%	0.00	%	
Length	0.00	mi	0.00	mi	0.00	mi	
Trucks and buses PCE, ET	1.5		1.5		1.5		
Recreational vehicle PCE, ER	1.2		1.2		1.2		

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	1566	110	111	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 Using Equation 0

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 1566 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	1566	4700	No
v_{12}	1566	4400	No
$v_{FO} = v_F - v_R$	1456	4700	No
v_R	110	2100	No

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 16.5 pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, D_S = 0.243

Space mean speed in ramp influence area, S_R = 59.4 mph

Space mean speed in outer lanes, S_O = N/A mph

Space mean speed for all vehicles, S = 59.4 mph

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Phone: Fax:
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Merge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	AM Peak Hour
Freeway/Dir of Travel:	US 101 NB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2026

Description: Cumulative No Project Conditions

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	1231	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	20.0	mph
Volume on ramp	95	vph
Length of first accel/decel lane	450	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent Ramp	94	vph
Position of adjacent Ramp	Upstream	
Type of adjacent Ramp	Off	
Distance to adjacent Ramp	1050	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	1231	95	94	vph
Peak-hour factor, PHF	0.88	0.88	0.88	
Peak 15-min volume, v15	350	27	27	v
Trucks and buses	8	6	6	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	1455	111	110	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 Using Equation 0

$v_{12} = v_F (P_{FM})$ = 1455 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	1566	4700	No
v_{R12}	1566	4600	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 14.8 pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable,	M_S = 0.322	
Space mean speed in ramp influence area,	S_R = 57.6	mph
Space mean speed in outer lanes,	S_O = N/A	mph
Space mean speed for all vehicles,	S = 57.6	mph

HCS+: Ramps and Ramp Junctions Release 5.2

Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	AM Peak Hour
Freeway/Dir of Travel:	US 101 SB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2026

Description: Cumulative No Project Conditions

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2809	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	15.0	mph
Volume on ramp	50	vph
Length of first accel/decel lane	250	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent ramp	383	vph
Position of adjacent ramp	Downstream	
Type of adjacent ramp	On	
Distance to adjacent ramp	1230	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp		
Volume, V (vph)	2809		50		383		vph
Peak-hour factor, PHF	0.88		0.88		0.88		
Peak 15-min volume, v15	798		14		109		v
Trucks and buses	8		6		6		%
Recreational vehicles	0		0		0		%
Terrain type:	Level		Level		Level		
Grade	0.00	%	0.00	%	0.00	%	
Length	0.00	mi	0.00	mi	0.00	mi	
Trucks and buses PCE, ET	1.5		1.5		1.5		
Recreational vehicle PCE, ER	1.2		1.2		1.2		

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	3320	59	448	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 Using Equation 0

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 3320 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	3320	4700	No
v_{12}	3320	4400	No
$v_{FO} = v_F - v_R$	3261	4700	No
v_R	59	1800	No

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 30.6 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable,	D_S = 0.693	
Space mean speed in ramp influence area,	S_R = 49.1	mph
Space mean speed in outer lanes,	S_O = N/A	mph
Space mean speed for all vehicles,	S = 49.1	mph

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Phone: Fax:
E-mail:

Merge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	AM Peak Hour
Freeway/Dir of Travel:	US 101 SB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2026

Description: Cumulative No Project Conditions

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2759	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	383	vph
Length of first accel/decel lane	465	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent Ramp	50	vph
Position of adjacent Ramp	Upstream	
Type of adjacent Ramp	Off	
Distance to adjacent Ramp	1230	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2759	383	50	vph
Peak-hour factor, PHF	0.88	0.88	0.88	
Peak 15-min volume, v15	784	109	14	v
Trucks and buses	8	6	6	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	3261	448	59	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 Using Equation 0

$v_{12} = v_F (P_{FM})$ = 3261 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	3709	4700	No
v_{R12}	3709	4600	No

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 31.3 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable,	M_S = 0.448	
Space mean speed in ramp influence area,	S_R = 54.7	mph
Space mean speed in outer lanes,	S_O = N/A	mph
Space mean speed for all vehicles,	S = 54.7	mph

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Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	PM Peak Hour
Freeway/Dir of Travel:	US 101 NB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2026

Description: Cumulative No Project Conditions

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	3292	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	50.0	mph
Volume on ramp	322	vph
Length of first accel/decel lane	140	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent ramp	90	vph
Position of adjacent ramp	Downstream	
Type of adjacent ramp	On	
Distance to adjacent ramp	1050	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp		
Volume, V (vph)	3292		322		90		vph
Peak-hour factor, PHF	0.88		0.88		0.88		
Peak 15-min volume, v15	935		91		26		v
Trucks and buses	8		6		6		%
Recreational vehicles	0		0		0		%
Terrain type:	Level		Level		Level		
Grade	0.00	%	0.00	%	0.00	%	
Length	0.00	mi	0.00	mi	0.00	mi	
Trucks and buses PCE, ET	1.5		1.5		1.5		
Recreational vehicle PCE, ER	1.2		1.2		1.2		

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	3891	377	105	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 Using Equation 0

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 3891 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	3891	4700	No
v_{12}	3891	4400	No
$v_{FO} = v_F - v_R$	3514	4700	No
v_R	377	2100	No

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 36.5 pc/mi/ln

Level of service for ramp-freeway junction areas of influence E

Speed Estimation

Intermediate speed variable, D_S = 0.267

Space mean speed in ramp influence area, S_R = 58.9 mph

Space mean speed in outer lanes, S_O = N/A mph

Space mean speed for all vehicles, S = 58.9 mph

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	PM Peak Hour
Freeway/Dir of Travel:	US 101 NB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2026

Description: Cumulative No Project Conditions

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2970	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	20.0	mph
Volume on ramp	90	vph
Length of first accel/decel lane	450	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent Ramp	322	vph
Position of adjacent Ramp	Upstream	
Type of adjacent Ramp	Off	
Distance to adjacent Ramp	1050	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2970	90	322	vph
Peak-hour factor, PHF	0.88	0.88	0.88	
Peak 15-min volume, v15	844	26	91	v
Trucks and buses	8	6	6	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	3510	105	377	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 Using Equation 0

$v_{12} = v_F (P_{FM})$ = 3510 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	3615	4700	No
v_{R12}	3615	4600	No

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 30.8 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable,	M_S = 0.448	
Space mean speed in ramp influence area,	S_R = 54.7	mph
Space mean speed in outer lanes,	S_O = N/A	mph
Space mean speed for all vehicles,	S = 54.7	mph

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Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	PM Peak Hour
Freeway/Dir of Travel:	US 101 SB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2026

Description: Cumulative No Project Conditions

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	1790	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	15.0	mph
Volume on ramp	94	vph
Length of first accel/decel lane	250	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent ramp	139	vph
Position of adjacent ramp	Downstream	
Type of adjacent ramp	On	
Distance to adjacent ramp	1230	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp		
Volume, V (vph)	1790		94		139		vph
Peak-hour factor, PHF	0.88		0.88		0.88		
Peak 15-min volume, v15	509		27		39		v
Trucks and buses	8		6		6		%
Recreational vehicles	0		0		0		%
Terrain type:	Level		Level		Level		
Grade	0.00	%	0.00	%	0.00	%	
Length	0.00	mi	0.00	mi	0.00	mi	
Trucks and buses PCE, ET	1.5		1.5		1.5		
Recreational vehicle PCE, ER	1.2		1.2		1.2		

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	2115	110	163	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 Using Equation 0

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 2115 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	2115	4700	No
v_{12}	2115	4400	No
$v_{FO} = v_F - v_R$	2005	4700	No
v_R	110	1800	No

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 20.2 pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, D_S = 0.698

Space mean speed in ramp influence area, S_R = 48.9 mph

Space mean speed in outer lanes, S_O = N/A mph

Space mean speed for all vehicles, S = 48.9 mph

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Phone: Fax:
E-mail:

Merge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	PM Peak Hour
Freeway/Dir of Travel:	US 101 SB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2026

Description: Cumulative No Project Conditions

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	1696	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	139	vph
Length of first accel/decel lane	465	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent Ramp	94	vph
Position of adjacent Ramp	Upstream	
Type of adjacent Ramp	Off	
Distance to adjacent Ramp	1230	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	1696	139	94	vph
Peak-hour factor, PHF	0.88	0.88	0.88	
Peak 15-min volume, v15	482	39	27	v
Trucks and buses	8	6	6	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	2004	163	110	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 Using Equation 0

$v_{12} = v_F (P_{FM})$ = 2004 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	2167	4700	No
v_{R12}	2167	4600	No

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 19.4 pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, M_S = 0.323

Space mean speed in ramp influence area, S_R = 57.6 mph

Space mean speed in outer lanes, S_O = N/A mph

Space mean speed for all vehicles, S = 57.6 mph

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Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	AM Peak Hour
Freeway/Dir of Travel:	US 101 NB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2026
Description:	Cumulative Phase 1 Conditions

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	1336	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	50.0	mph
Volume on ramp	105	vph
Length of first accel/decel lane	140	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent ramp	105	vph
Position of adjacent ramp	Downstream	
Type of adjacent ramp	On	
Distance to adjacent ramp	1050	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp		
Volume, V (vph)	1336		105		105		vph
Peak-hour factor, PHF	0.88		0.88		0.88		
Peak 15-min volume, v15	380		30		30		v
Trucks and buses	8		6		6		%
Recreational vehicles	0		0		0		%
Terrain type:	Level		Level		Level		
Grade	0.00	%	0.00	%	0.00	%	
Length	0.00	mi	0.00	mi	0.00	mi	
Trucks and buses PCE, ET	1.5		1.5		1.5		
Recreational vehicle PCE, ER	1.2		1.2		1.2		

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	1579	123	123	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 Using Equation 0

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 1579 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	1579	4700	No
v_{12}	1579	4400	No
$v_{FO} = v_F - v_R$	1456	4700	No
v_R	123	2100	No

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 16.6 pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable,	D_S = 0.244	
Space mean speed in ramp influence area,	S_R = 59.4	mph
Space mean speed in outer lanes,	S_O = N/A	mph
Space mean speed for all vehicles,	S = 59.4	mph

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Phone: Fax:
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Merge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	AM Peak Hour
Freeway/Dir of Travel:	US 101 NB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2026

Description: Cumulative Phase 1 Conditions

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	1231	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	20.0	mph
Volume on ramp	105	vph
Length of first accel/decel lane	450	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent Ramp	105	vph
Position of adjacent Ramp	Upstream	
Type of adjacent Ramp	Off	
Distance to adjacent Ramp	1050	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	1231	105	105	vph
Peak-hour factor, PHF	0.88	0.88	0.88	
Peak 15-min volume, v15	350	30	30	v
Trucks and buses	8	6	6	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	1455	123	123	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 Using Equation 0

$v_{12} = v_F (P_{FM})$ = 1455 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	1578	4700	No
v_{R12}	1578	4600	No

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 14.9 pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, M_S = 0.322

Space mean speed in ramp influence area, S_R = 57.6 mph

Space mean speed in outer lanes, S_O = N/A mph

Space mean speed for all vehicles, S = 57.6 mph

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Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	AM Peak Hour
Freeway/Dir of Travel:	US 101 SB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2026
Description:	Cumulative Phase 1 Conditions

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2812	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	15.0	mph
Volume on ramp	53	vph
Length of first accel/decel lane	250	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent ramp	415	vph
Position of adjacent ramp	Downstream	
Type of adjacent ramp	On	
Distance to adjacent ramp	1230	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp		
Volume, V (vph)	2812		53		415		vph
Peak-hour factor, PHF	0.88		0.88		0.88		
Peak 15-min volume, v15	799		15		118		v
Trucks and buses	8		6		6		%
Recreational vehicles	0		0		0		%
Terrain type:	Level		Level		Level		
Grade	0.00	%	0.00	%	0.00	%	
Length	0.00	mi	0.00	mi	0.00	mi	
Trucks and buses PCE, ET	1.5		1.5		1.5		
Recreational vehicle PCE, ER	1.2		1.2		1.2		

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	3323	62	486	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 Using Equation 0

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 3323 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	3323	4700	No
v_{12}	3323	4400	No
$v_{FO} = v_F - v_R$	3261	4700	No
v_R	62	1800	No

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 30.6 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable,	D_S = 0.694	
Space mean speed in ramp influence area,	S_R = 49.0	mph
Space mean speed in outer lanes,	S_O = N/A	mph
Space mean speed for all vehicles,	S = 49.0	mph

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Phone: Fax:
E-mail:

Merge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	AM Peak Hour
Freeway/Dir of Travel:	US 101 SB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2026

Description: Cumulative Phase 1 Conditions

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2759	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	415	vph
Length of first accel/decel lane	465	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent Ramp	53	vph
Position of adjacent Ramp	Upstream	
Type of adjacent Ramp	Off	
Distance to adjacent Ramp	1230	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2759	415	53	vph
Peak-hour factor, PHF	0.88	0.88	0.88	
Peak 15-min volume, v15	784	118	15	v
Trucks and buses	8	6	6	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	3261	486	62	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 Using Equation 0

$v_{12} = v_F (P_{FM})$ = 3261 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	3747	4700	No
v_{R12}	3747	4600	No

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 31.6 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable,	M_S = 0.454	
Space mean speed in ramp influence area,	S_R = 54.6	mph
Space mean speed in outer lanes,	S_O = N/A	mph
Space mean speed for all vehicles,	S = 54.6	mph

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Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	PM Peak Hour
Freeway/Dir of Travel:	US 101 NB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2026
Description:	Cumulative Phase 1 Conditions

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	3328	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	50.0	mph
Volume on ramp	358	vph
Length of first accel/decel lane	140	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent ramp	97	vph
Position of adjacent ramp	Downstream	
Type of adjacent ramp	On	
Distance to adjacent ramp	1050	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp		
Volume, V (vph)	3328		358		97		vph
Peak-hour factor, PHF	0.88		0.88		0.88		
Peak 15-min volume, v15	945		102		28		v
Trucks and buses	8		6		6		%
Recreational vehicles	0		0		0		%
Terrain type:	Level		Level		Level		
Grade	0.00	%	0.00	%	0.00	%	
Length	0.00	mi	0.00	mi	0.00	mi	
Trucks and buses PCE, ET	1.5		1.5		1.5		
Recreational vehicle PCE, ER	1.2		1.2		1.2		

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	3933	419	114	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 Using Equation 0

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 3933 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	3933	4700	No
v_{12}	3933	4400	No
$v_{FO} = v_F - v_R$	3514	4700	No
v_R	419	2100	No

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 36.8 pc/mi/ln

Level of service for ramp-freeway junction areas of influence E

Speed Estimation

Intermediate speed variable, D_S = 0.271

Space mean speed in ramp influence area, S_R = 58.8 mph

Space mean speed in outer lanes, S_O = N/A mph

Space mean speed for all vehicles, S = 58.8 mph

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Phone: Fax:
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Merge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	PM Peak Hour
Freeway/Dir of Travel:	US 101 NB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2026
Description:	Cumulative Phase 1 Conditions

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2970	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	20.0	mph
Volume on ramp	97	vph
Length of first accel/decel lane	450	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent Ramp	358	vph
Position of adjacent Ramp	Upstream	
Type of adjacent Ramp	Off	
Distance to adjacent Ramp	1050	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2970	97	358	vph
Peak-hour factor, PHF	0.88	0.88	0.88	
Peak 15-min volume, v15	844	28	102	v
Trucks and buses	8	6	6	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	3510	114	419	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 Using Equation 0

$v_{12} = v_F (P_{FM})$ = 3510 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	3624	4700	No
v_{R12}	3624	4600	No

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 30.9 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable,	M_S = 0.449	
Space mean speed in ramp influence area,	S_R = 54.7	mph
Space mean speed in outer lanes,	S_O = N/A	mph
Space mean speed for all vehicles,	S = 54.7	mph

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Phone: Fax:
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Diverge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	PM Peak Hour
Freeway/Dir of Travel:	US 101 SB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2026
Description:	Cumulative Phase 1 Conditions

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	1801	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	15.0	mph
Volume on ramp	105	vph
Length of first accel/decel lane	250	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent ramp	160	vph
Position of adjacent ramp	Downstream	
Type of adjacent ramp	On	
Distance to adjacent ramp	1230	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp		
Volume, V (vph)	1801		105		160		vph
Peak-hour factor, PHF	0.88		0.88		0.88		
Peak 15-min volume, v15	512		30		45		v
Trucks and buses	8		6		6		%
Recreational vehicles	0		0		0		%
Terrain type:	Level		Level		Level		
Grade	0.00	%	0.00	%	0.00	%	
Length	0.00	mi	0.00	mi	0.00	mi	
Trucks and buses PCE, ET	1.5		1.5		1.5		
Recreational vehicle PCE, ER	1.2		1.2		1.2		

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	2128	123	187	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 Using Equation 0

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 2128 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	2128	4700	No
v_{12}	2128	4400	No
$v_{FO} = v_F - v_R$	2005	4700	No
v_R	123	1800	No

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 20.3 pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable,	D_S = 0.699	
Space mean speed in ramp influence area,	S_R = 48.9	mph
Space mean speed in outer lanes,	S_O = N/A	mph
Space mean speed for all vehicles,	S = 48.9	mph

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Phone: Fax:
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Merge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	PM Peak Hour
Freeway/Dir of Travel:	US 101 SB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2026

Description: Cumulative Phase 1 Conditions

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	1696	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	160	vph
Length of first accel/decel lane	465	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent Ramp	105	vph
Position of adjacent Ramp	Upstream	
Type of adjacent Ramp	Off	
Distance to adjacent Ramp	1230	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	1696	160	105	vph
Peak-hour factor, PHF	0.88	0.88	0.88	
Peak 15-min volume, v15	482	45	30	v
Trucks and buses	8	6	6	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	2004	187	123	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 Using Equation 0

$v_{12} = v_F (P_{FM})$ = 2004 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	2191	4700	No
v_{R12}	2191	4600	No

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 19.6 pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, M_S = 0.323

Space mean speed in ramp influence area, S_R = 57.6 mph

Space mean speed in outer lanes, S_O = N/A mph

Space mean speed for all vehicles, S = 57.6 mph

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Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	AM Peak Hour
Freeway/Dir of Travel:	US 101 NB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2026
Description:	Cumulative Phase 2 Conditions

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	1460	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	50.0	mph
Volume on ramp	229	vph
Length of first accel/decel lane	140	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent ramp	186	vph
Position of adjacent ramp	Downstream	
Type of adjacent ramp	On	
Distance to adjacent ramp	1050	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp		
Volume, V (vph)	1460		229		186		vph
Peak-hour factor, PHF	0.88		0.88		0.88		
Peak 15-min volume, v15	415		65		53		v
Trucks and buses	8		6		6		%
Recreational vehicles	0		0		0		%
Terrain type:	Level		Level		Level		
Grade	0.00	%	0.00	%	0.00	%	
Length	0.00	mi	0.00	mi	0.00	mi	
Trucks and buses PCE, ET	1.5		1.5		1.5		
Recreational vehicle PCE, ER	1.2		1.2		1.2		

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	1725	268	218	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 Using Equation 0

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 1725 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	1725	4700	No
v_{12}	1725	4400	No
$v_{FO} = v_F - v_R$	1457	4700	No
v_R	268	2100	No

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 17.8 pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable,	D_S = 0.257	
Space mean speed in ramp influence area,	S_R = 59.1	mph
Space mean speed in outer lanes,	S_O = N/A	mph
Space mean speed for all vehicles,	S = 59.1	mph

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	AM Peak Hour
Freeway/Dir of Travel:	US 101 NB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2026

Description: Cumulative Phase 2 Conditions

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	1231	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	20.0	mph
Volume on ramp	186	vph
Length of first accel/decel lane	450	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent Ramp	229	vph
Position of adjacent Ramp	Upstream	
Type of adjacent Ramp	Off	
Distance to adjacent Ramp	1050	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	1231	186	229	vph
Peak-hour factor, PHF	0.88	0.88	0.88	
Peak 15-min volume, v15	350	53	65	v
Trucks and buses	8	6	6	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	1455	218	268	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 Using Equation 0

$v_{12} = v_F (P_{FM})$ = 1455 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	1673	4700	No
v_{R12}	1673	4600	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 15.6 pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable,	M_S = 0.324	
Space mean speed in ramp influence area,	S_R = 57.6	mph
Space mean speed in outer lanes,	S_O = N/A	mph
Space mean speed for all vehicles,	S = 57.6	mph

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Phone: Fax:
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Diverge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	AM Peak Hour
Freeway/Dir of Travel:	US 101 SB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2026
Description:	Cumulative Phase 2 Conditions

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2902	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	15.0	mph
Volume on ramp	143	vph
Length of first accel/decel lane	250	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent ramp	575	vph
Position of adjacent ramp	Downstream	
Type of adjacent ramp	On	
Distance to adjacent ramp	1230	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp		
Volume, V (vph)	2902		143		575		vph
Peak-hour factor, PHF	0.88		0.88		0.88		
Peak 15-min volume, v15	824		41		163		v
Trucks and buses	8		6		6		%
Recreational vehicles	0		0		0		%
Terrain type:	Level		Level		Level		
Grade	0.00	%	0.00	%	0.00	%	
Length	0.00	mi	0.00	mi	0.00	mi	
Trucks and buses PCE, ET	1.5		1.5		1.5		
Recreational vehicle PCE, ER	1.2		1.2		1.2		

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	3430	167	673	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 Using Equation 0

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 3430 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	3430	4700	No
v_{12}	3430	4400	No
$v_{FO} = v_F - v_R$	3263	4700	No
v_R	167	1800	No

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 31.5 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, D_S = 0.703

Space mean speed in ramp influence area, S_R = 48.8 mph

Space mean speed in outer lanes, S_O = N/A mph

Space mean speed for all vehicles, S = 48.8 mph

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Phone: Fax:
E-mail:

Merge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	AM Peak Hour
Freeway/Dir of Travel:	US 101 SB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2026

Description: Cumulative Phase 2 Conditions

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2759	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	575	vph
Length of first accel/decel lane	465	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent Ramp	143	vph
Position of adjacent Ramp	Upstream	
Type of adjacent Ramp	Off	
Distance to adjacent Ramp	1230	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2759	575	143	vph
Peak-hour factor, PHF	0.88	0.88	0.88	
Peak 15-min volume, v15	784	163	41	v
Trucks and buses	8	6	6	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	3261	673	167	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 Using Equation 0

$v_{12} = v_F (P_{FM})$ = 3261 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	3934	4700	No
v_{R12}	3934	4600	No

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 32.9 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable,	M_S = 0.488	
Space mean speed in ramp influence area,	S_R = 53.8	mph
Space mean speed in outer lanes,	S_O = N/A	mph
Space mean speed for all vehicles,	S = 53.8	mph

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Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	PM Peak Hour
Freeway/Dir of Travel:	US 101 NB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2026
Description:	Cumulative Phase 2 Conditions

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	3525	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	50.0	mph
Volume on ramp	555	vph
Length of first accel/decel lane	140	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent ramp	199	vph
Position of adjacent ramp	Downstream	
Type of adjacent ramp	On	
Distance to adjacent ramp	1050	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp		
Volume, V (vph)	3525		555		199		vph
Peak-hour factor, PHF	0.88		0.88		0.88		
Peak 15-min volume, v15	1001		158		57		v
Trucks and buses	8		6		6		%
Recreational vehicles	0		0		0		%
Terrain type:	Level		Level		Level		
Grade	0.00	%	0.00	%	0.00	%	
Length	0.00	mi	0.00	mi	0.00	mi	
Trucks and buses PCE, ET	1.5		1.5		1.5		
Recreational vehicle PCE, ER	1.2		1.2		1.2		

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	4166	650	233	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 Using Equation 0

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 4166 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	4166	4700	No
v_{12}	4166	4400	No
$v_{FO} = v_F - v_R$	3516	4700	No
v_R	650	2100	No

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 38.8 pc/mi/ln

Level of service for ramp-freeway junction areas of influence E

Speed Estimation

Intermediate speed variable,	D_S = 0.292	
Space mean speed in ramp influence area,	S_R = 58.3	mph
Space mean speed in outer lanes,	S_O = N/A	mph
Space mean speed for all vehicles,	S = 58.3	mph

HCS+: Ramps and Ramp Junctions Release 5.2

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	PM Peak Hour
Freeway/Dir of Travel:	US 101 NB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2026

Description: Cumulative Phase 2 Conditions

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2970	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	20.0	mph
Volume on ramp	199	vph
Length of first accel/decel lane	450	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent Ramp	555	vph
Position of adjacent Ramp	Upstream	
Type of adjacent Ramp	Off	
Distance to adjacent Ramp	1050	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2970	199	555	vph
Peak-hour factor, PHF	0.88	0.88	0.88	
Peak 15-min volume, v15	844	57	158	v
Trucks and buses	8	6	6	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	3510	233	650	pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 Using Equation 0

$v_{12} = v_F (P_{FM})$ = 3510 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	3743	4700	No
v_{R12}	3743	4600	No

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 31.7 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, M_S = 0.468

Space mean speed in ramp influence area, S_R = 54.2 mph

Space mean speed in outer lanes, S_O = N/A mph

Space mean speed for all vehicles, S = 54.2 mph

HCS+: Ramps and Ramp Junctions Release 5.2

Phone: Fax:
E-mail:

Diverge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	PM Peak Hour
Freeway/Dir of Travel:	US 101 SB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2026
Description:	Cumulative Phase 2 Conditions

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	1911	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	15.0	mph
Volume on ramp	215	vph
Length of first accel/decel lane	250	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent ramp	320	vph
Position of adjacent ramp	Downstream	
Type of adjacent ramp	On	
Distance to adjacent ramp	1230	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp		
Volume, V (vph)	1911		215		320		vph
Peak-hour factor, PHF	0.88		0.88		0.88		
Peak 15-min volume, v15	543		61		91		v
Trucks and buses	8		6		6		%
Recreational vehicles	0		0		0		%
Terrain type:	Level		Level		Level		
Grade	0.00	%	0.00	%	0.00	%	
Length	0.00	mi	0.00	mi	0.00	mi	
Trucks and buses PCE, ET	1.5		1.5		1.5		
Recreational vehicle PCE, ER	1.2		1.2		1.2		

Heavy vehicle adjustment, fHV	0.962	0.971	0.971	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	2258	252	375	pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 Using Equation 0

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 2258 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	2258	4700	No
v_{12}	2258	4400	No
$v_{FO} = v_F - v_R$	2006	4700	No
v_R	252	1800	No

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 21.4 pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, D_S = 0.711

Space mean speed in ramp influence area, S_R = 48.7 mph

Space mean speed in outer lanes, S_O = N/A mph

Space mean speed for all vehicles, S = 48.7 mph

HCS+: Ramps and Ramp Junctions Release 5.2

Phone: Fax:
E-mail:

Merge Analysis

Analyst:	DD
Agency/Co.:	Fehr & Peers
Date performed:	June 2006
Analysis time period:	PM Peak Hour
Freeway/Dir of Travel:	US 101 SB
Junction:	SR 58
Jurisdiction:	SLO County
Analysis Year:	2026

Description: Cumulative Phase 2 Conditions

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	1696	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	320	vph
Length of first accel/decel lane	465	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent Ramp	215	vph
Position of adjacent Ramp	Upstream	
Type of adjacent Ramp	Off	
Distance to adjacent Ramp	1230	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	1696	320	215	vph
Peak-hour factor, PHF	0.88	0.88	0.88	
Peak 15-min volume, v15	482	91	61	v
Trucks and buses	8	6	6	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

```
Heavy vehicle adjustment, fHV          0.962       0.971       0.971
Driver population factor, fP           1.00        1.00        1.00
Flow rate, vp                          2004        375         252       pcph

__________________________Estimation of V12 Merge Areas__________________________

                  L  =            (Equation 25-2 or 25-3)
                   EQ
                  P  =    1.000   Using Equation  0
                   FM
                  v  = v  (P  ) =  2004   pc/h
                   12   F   FM

_______________________________Capacity Checks_________________________________

                           Actual        Maximum         LOS F?
     v                     2379          4700            No
      FO
     v                     2379          4600            No
      R12

__________________Level of Service Determination (if not F)_____________________

Density, D = 5.475 + 0.00734 v  + 0.0078 v   - 0.00627 L   =   20.9    pc/mi/ln
          R                   R           12            A
Level of service for ramp-freeway junction areas of influence  C

_____________________________Speed Estimation___________________________________

Intermediate speed variable,                M  = 0.331
                                             S
Space mean speed in ramp influence area,    S  = 57.4    mph
                                             R
Space mean speed in outer lanes,            S  =  N/A    mph
                                             0
Space mean speed for all vehicles,          S  = 57.4    mph
_____________________________________________________________________________
```

APPENDIX F:
PEAK-HOUR SIGNAL AND LEFT-TURN WARRANTS

Warrant 3A: Peak Hour Delay

The peak hour delay warrant is intended for application where traffic conditions are such that for one hour of the day minor street traffic suffers undue delay in entering or crossing the major street. The peak hour delay warrant is satisfied when the conditions given below exist for one hour (any four consecutive 15-minute periods) of an average weekday.

The peak hour delay warrant is met when:

1. The total delay experienced by the traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach and five vehicle-hours for a two-lane approach, and

2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes, and

3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four (or more) approaches or 650 vph for intersections with three approaches.

Analysis

Minor Street Lanes	2
Total Approaches	3

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced for the Intersection (vph)
Cumulative Phase 1	3.6	408	922
Limiting Value	5	150	650
Met/ Not Met	Not Met	Met	Met

Warrant	**Not Met**

Warrant 3B: Peak Hour Volume

The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

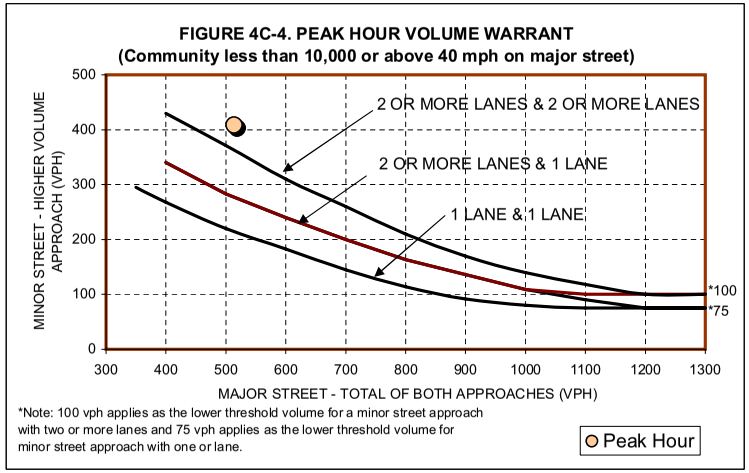
When the 85-percentile speed of the major street traffic exceeds 40 mile per hour or when the intersection lies within a built-up area of an isolated community having a population less than 10,000, the peak hour volume requirement is satisfied when the plotted point referred to above falls above the curve in Figure 4-6 for the existing combination of approach lanes.

Analysis

	No of lanes
Major Street	1
Minor Street	2

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
AM	514	408



Warrant	**Met**

Warrant 3A: Peak Hour Delay

The peak hour delay warrant is intended for application where traffic conditions are such that for one hour of the day minor street traffic suffers undue delay in entering or crossing the major street. The peak hour delay warrant is satisfied when the conditions given below exist for one hour (any four consecutive 15-minute periods) of an average weekday.

The peak hour delay warrant is met when:

1. The total delay experienced by the traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach and five vehicle-hours for a two-lane approach, and

2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes, and

3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four (or more) approaches or 650 vph for intersections with three approaches.

Analysis

Minor Street Lanes	1
Total Approaches	3

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced for the Intersection (vph)
Cumulative Phase 2	16.9	279	1,441
Limiting Value	4	100	650
Met/ Not Met	Met	Met	Met

Warrant	**Met**

Warrant 3B: Peak Hour Volume

The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

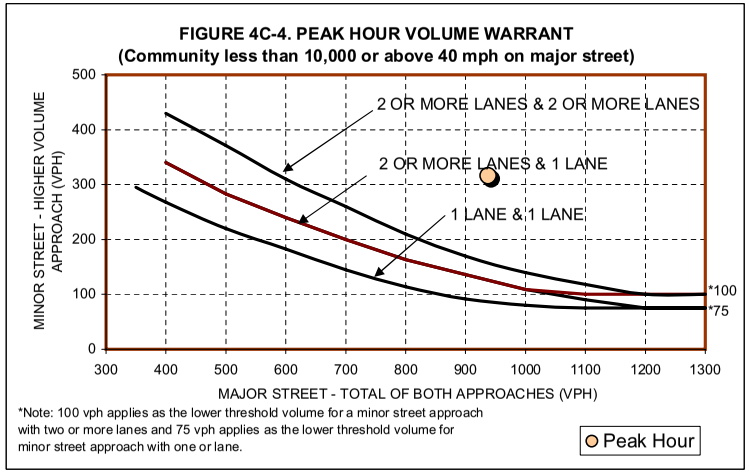
When the 85-percentile speed of the major street traffic exceeds 40 mile per hour or when the intersection lies within a built-up area of an isolated community having a population less than 10,000, the peak hour volume requirement is satisfied when the plotted point referred to above falls above the curve in Figure 4-6 for the existing combination of approach lanes.

Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
AM	938	316



Warrant	**Met**

Warrant 3A: Peak Hour Delay

The peak hour delay warrant is intended for application where traffic conditions are such that for one hour of the day minor street traffic suffers undue delay in entering or crossing the major street. The peak hour delay warrant is satisfied when the conditions given below exist for one hour (any four consecutive 15-minute periods) of an average weekday.

The peak hour delay warrant is met when:

1. The total delay experienced by the traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach and five vehicle-hours for a two-lane approach, and

2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes, and

3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four (or more) approaches or 650 vph for intersections with three approaches.

Analysis

Minor Street Lanes	1
Total Approaches	3

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced for the Intersection (vph)
Cumulative Phase 2	25.1	279	1,441
Limiting Value	4	100	650
Met/ Not Met	Met	Met	Met

Warrant	**Met**

Warrant 3B: Peak Hour Volume

The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

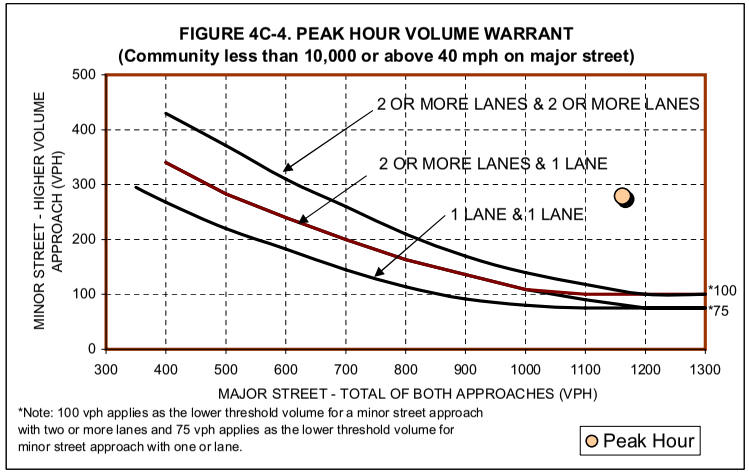
When the 85-percentile speed of the major street traffic exceeds 40 mile per hour or when the intersection lies within a built-up area of an isolated community having a population less than 10,000, the peak hour volume requirement is satisfied when the plotted point referred to above falls above the curve in Figure 4-6 for the existing combination of approach lanes.

Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
PM	1,162	279



Warrant	**Met**

Warrant 3A: Peak Hour Delay

The peak hour delay warrant is intended for application where traffic conditions are such that for one hour of the day minor street traffic suffers undue delay in entering or crossing the major street. The peak hour delay warrant is satisfied when the conditions given below exist for one hour (any four consecutive 15-minute periods) of an average weekday.

The peak hour delay warrant is met when:

1. The total delay experienced by the traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach and five vehicle-hours for a two-lane approach, and

2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes, and

3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four (or more) approaches or 650 vph for intersections with three approaches.

Analysis

Minor Street Lanes	1
Total Approaches	4

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced for the Intersection (vph)
Cumulative Phase 2	0.7	99	914
Limiting Value	4	100	800
Met/ Not Met	Not Met	Not Met	Met

Warrant	**Not Met**

Warrant 3B: Peak Hour Volume

The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

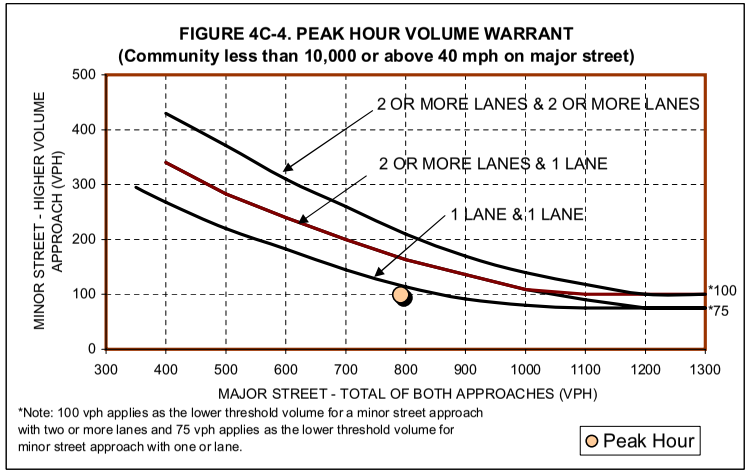
When the 85-percentile speed of the major street traffic exceeds 40 mile per hour or when the intersection lies within a built-up area of an isolated community having a population less than 10,000, the peak hour volume requirement is satisfied when the plotted point referred to above falls above the curve in Figure 4-6 for the existing combination of approach lanes.

Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
AM	792	99



Warrant	**Not Met**

Warrant 3A: Peak Hour Delay

The peak hour delay warrant is intended for application where traffic conditions are such that for one hour of the day minor street traffic suffers undue delay in entering or crossing the major street. The peak hour delay warrant is satisfied when the conditions given below exist for one hour (any four consecutive 15-minute periods) of an average weekday.

The peak hour delay warrant is met when:

1. The total delay experienced by the traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach and five vehicle-hours for a two-lane approach, and

2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes, and

3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four (or more) approaches or 650 vph for intersections with three approaches.

Analysis

Minor Street Lanes	1
Total Approaches	4

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced for the Intersection (vph)
Cumulative Phase 2	0.3	48	1,011
Limiting Value	4	100	800
Met/ Not Met	Not Met	Not Met	Met

Warrant	**Not Met**

Warrant 3B: Peak Hour Volume

The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

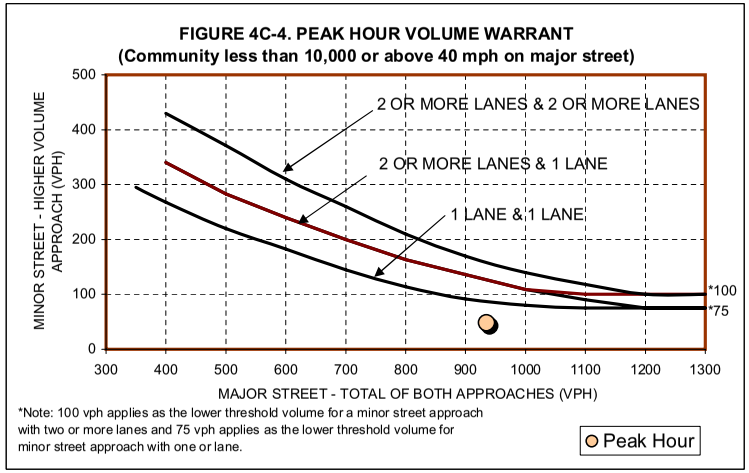
When the 85-percentile speed of the major street traffic exceeds 40 mile per hour or when the intersection lies within a built-up area of an isolated community having a population less than 10,000, the peak hour volume requirement is satisfied when the plotted point referred to above falls above the curve in Figure 4-6 for the existing combination of approach lanes.

Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
PM	935	48



Warrant	**Not Met**

Warrant 3A: Peak Hour Delay

The peak hour delay warrant is intended for application where traffic conditions are such that for one hour of the day minor street traffic suffers undue delay in entering or crossing the major street. The peak hour delay warrant is satisfied when the conditions given below exist for one hour (any four consecutive 15-minute periods) of an average weekday.

The peak hour delay warrant is met when:

1. The total delay experienced by the traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach and five vehicle-hours for a two-lane approach, and

2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes, and

3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four (or more) approaches or 650 vph for intersections with three approaches.

Analysis

Minor Street Lanes	1
Total Approaches	4

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced for the Intersection (vph)
Cumulative Phase 2	1.3	165	887
Limiting Value	4	100	800
Met/ Not Met	Not Met	Met	Met

Warrant	**Not Met**

Warrant 3B: Peak Hour Volume

The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

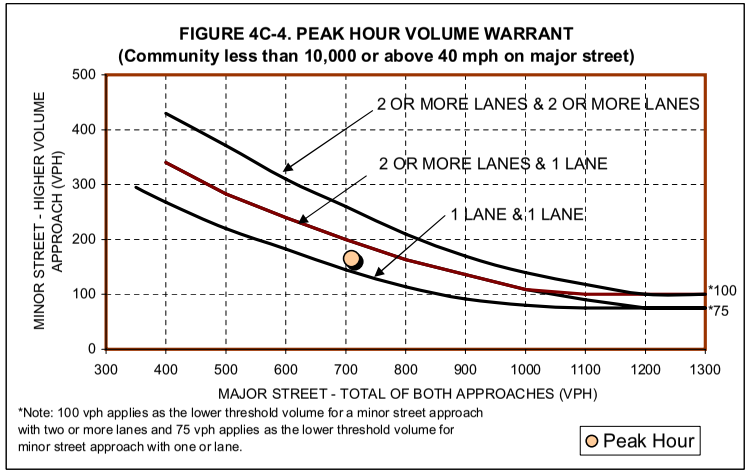
When the 85-percentile speed of the major street traffic exceeds 40 mile per hour or when the intersection lies within a built-up area of an isolated community having a population less than 10,000, the peak hour volume requirement is satisfied when the plotted point referred to above falls above the curve in Figure 4-6 for the existing combination of approach lanes.

Analysis

	No of lanes
Major Street	1
Minor Street	1

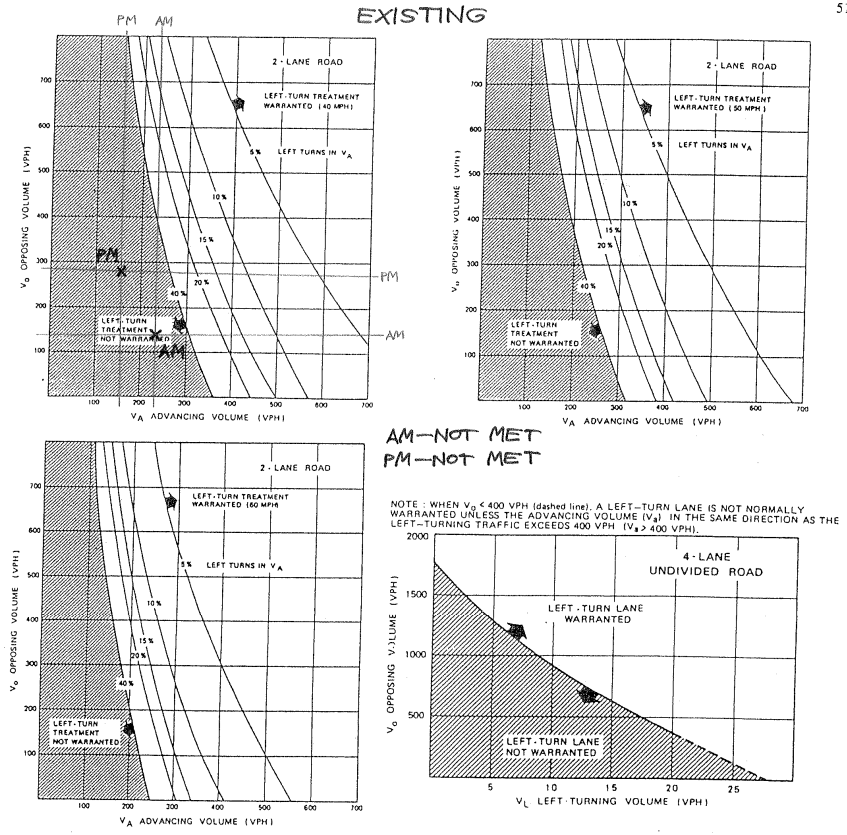
Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
AM	710	165



Warrant	**Met**

EXISTING



AM—NOT MET
PM—NOT MET

NOTE : WHEN V_O < 400 VPH (dashed line). A LEFT–TURN LANE IS NOT NORMALLY WARRANTED UNLESS THE ADVANCING VOLUME (V_a) IN THE SAME DIRECTION AS THE LEFT–TURNING TRAFFIC EXCEEDS 400 VPH (V_a > 400 VPH).

Figure 4-12. Volume warrants for left-turn lanes at unsignalized intersections. (Source: Ref. *4-7*)

a partially shadowed left-turn lane, as illustrated in Figure 4-14. With partially shadowed left-turn lanes, the offset created by the approach taper does not entirely protect or "shadow" the turn lane.

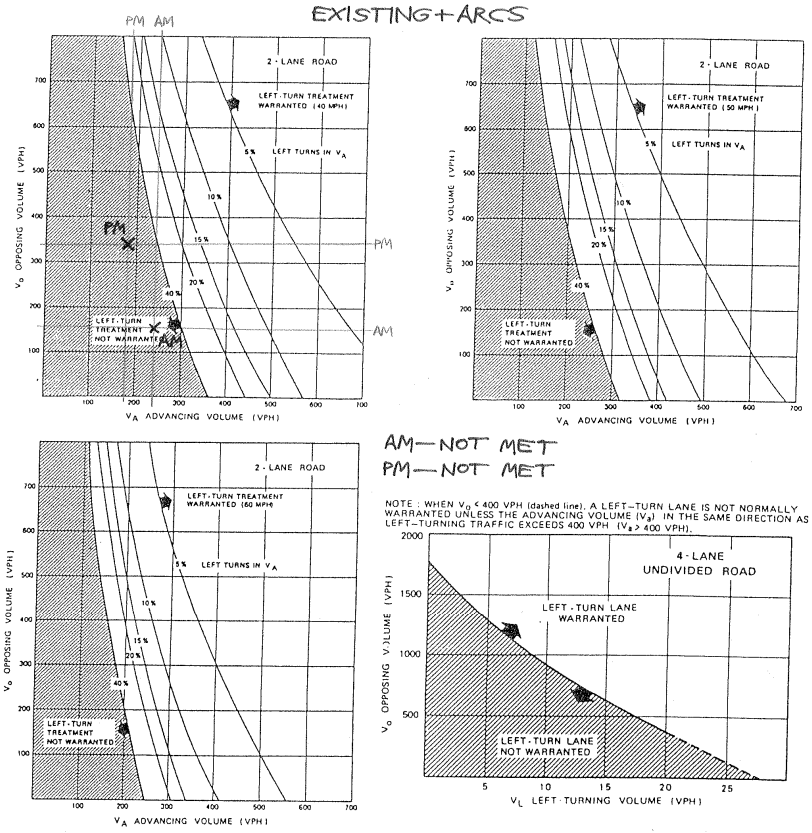
Length of Lane

The left-turn lane length is among the most important design element of left-turn lanes. Its design is directly tied to the particular function of the lane, which is based on prevailing speeds, traffic volumes, and traffic control. The design basis for length can be deceleration, storage, or a combination of both.

Left-turn lanes on high-speed highways should be designed to accommodate vehicle deceleration and braking. The channelization principle of removing slow or decelerating vehicles from through traffic applies at such locations. Figure 4-15 illustrates the functional basis for design of deceleration-based left-turn lanes according to AASHTO. The assumed "reasonable" driver behavior includes deceleration in gear for 3 sec., followed by comfortable braking completely within the turning lane. Where constraints exist and speeds are moderate, an al-

INTERSECTION CHANNELIZATION DESIGN GUIDE (TRB, 11/85)

EXISTING+ARCS



AM—NOT MET
PM—NOT MET

NOTE : WHEN V_O < 400 VPH (dashed line). A LEFT–TURN LANE IS NOT NORMALLY WARRANTED UNLESS THE ADVANCING VOLUME (V_a) IN THE SAME DIRECTION AS THE LEFT–TURNING TRAFFIC EXCEEDS 400 VPH (V_a > 400 VPH).

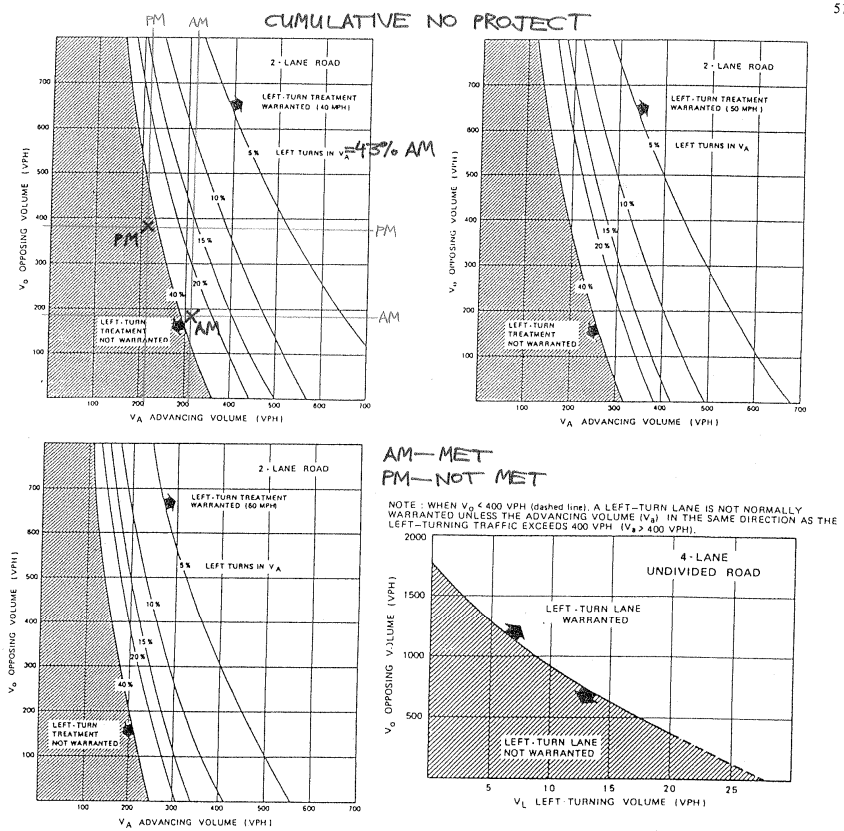
Figure 4-12. Volume warrants for left-turn lanes at unsignalized intersections. (Source: Ref. *4-7*)

a partially shadowed left-turn lane, as illustrated in Figure 4-14. With partially shadowed left-turn lanes, the offset created by the approach taper does not entirely protect or "shadow" the turn lane.

Length of Lane

The left-turn lane length is among the most important design element of left-turn lanes. Its design is directly tied to the particular function of the lane, which is based on prevailing speeds, traffic volumes, and traffic control. The design basis for length can be deceleration, storage, or a combination of both.

Left-turn lanes on high-speed highways should be designed to accommodate vehicle deceleration and braking. The channelization principle of removing slow or decelerating vehicles from through traffic applies at such locations. Figure 4-15 illustrates the functional basis for design of deceleration-based left-turn lanes according to AASHTO. The assumed "reasonable" driver behavior includes deceleration in gear for 3 sec., followed by comfortable braking completely within the turning lane. Where constraints exist and speeds are moderate, an al-



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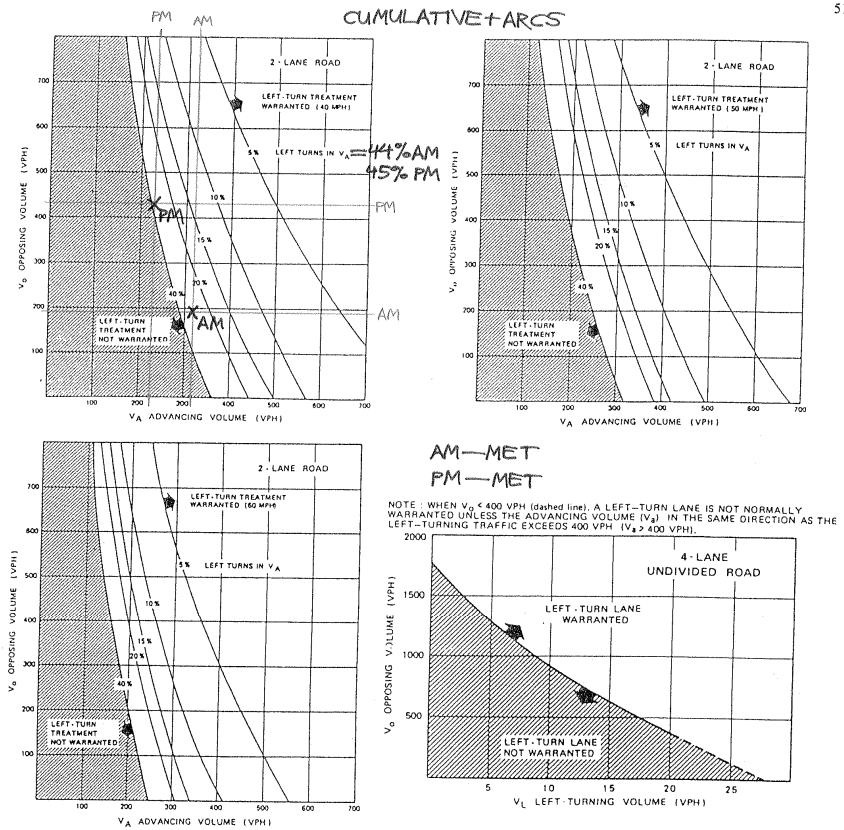

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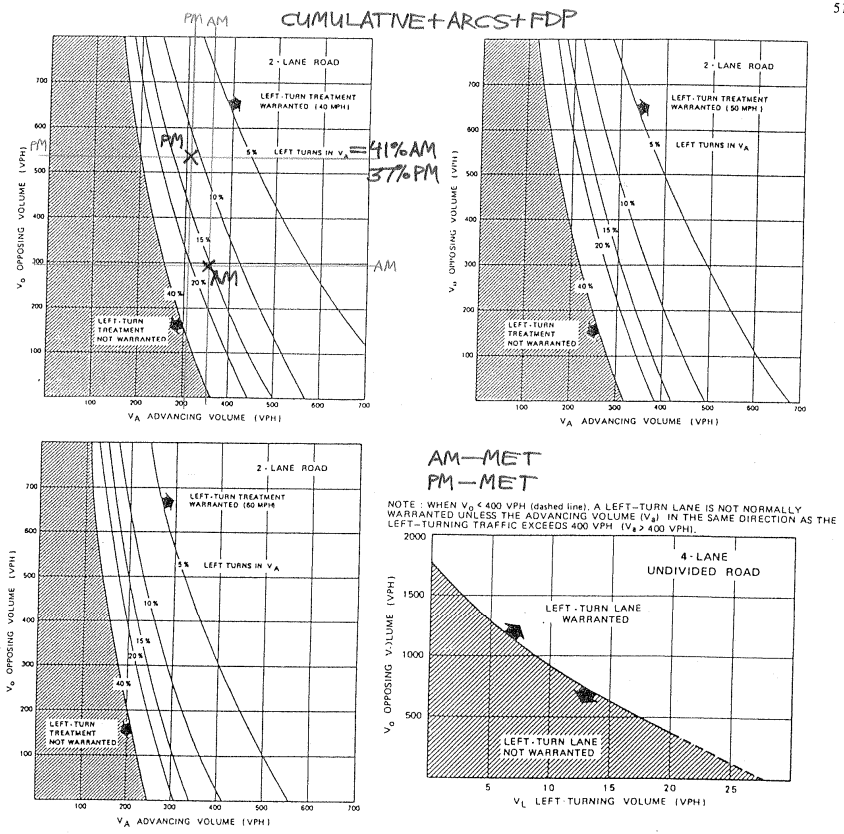

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