APPENDIX M

Traffic Impact Study

APPENDIX M1

Warner Ranch Traffic Impact Study Letter – 2013

DEPARTMENT OF TRANSPORTATION
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April 24, 2013

11-IMP-76
PM 23.01
Warner Ranch
Traffic Impact Study

Mr. Dennis Campbell
San Diego County
Planning & Development Services
5510 Overland Avenue, Ste 310
San Diego, CA 92123

Dear Mr. Campbell:

The California Department of Transportation (Caltrans) appreciates the opportunity to have reviewed the Warner Ranch Traffic Impact Study (TIS), dated February 2013. Caltrans has the following comments:

- In the previous Caltrans comment letter dated May 6, 2010, the Cumulative PM Peak Hour Intersection Volumes with Project stated the number of trips making a left turn from State Route 76 (SR-76) to W. Pala Mission Road were 366. The current TIS, Figure 4-6, for this intersection states the trips for the left turn movement are 277. Please explain the decrease in trips.

- Please provide a soft copy of the Traffix and Synchro files.

- Please provide the left turn length calculations for the left turn lanes into the development.

- Project Access -Two emergency access driveways are proposed to serve the site along SR-76. Caltrans will only allow emergency access to SR-76 to be controlled by locked gate, otherwise the access will need to be designed to meet Caltrans full access design standards.

- The TIS identified a "Fair Share" contribution of 11.2% to the I-15/SR-76 Interchange. Based on Caltrans methodology for calculating "Fair Share" responsibility for traffic impacts outlined in *Caltrans Guide for the Preparation of Traffic Impact Studies* using the traffic volumes identified in the Warner Ranch TIS, a "Fair Share" percentage of 17.1% was calculated. Based on the unfunded portion of the interchange of 10 million, this equates to a "Fair Share" contribution of 1.7 million. It is also recommended the Warner Ranch project applicant enter into a reimbursement agreement directly with SANDAG when the county "Fair Share" mitigation condition is warranted.

- Caltrans concurs with the proposed cumulative mitigation for the SR-76 segment to contribute to the cost and implement improvements to signalize and channelize the SR-76 Cole Grade Road Intersection.

If you have any questions on the comments Caltrans has provided, please contact Roger Sanchez of the Development Review Branch at (619) 688-6494.

Sincerely,

JACOB M. ARMSTRONG, Chief
Development Review Branch

APPENDIX M2

Warner Ranch Traffic Impact Study – 2016

WARNER RANCH
TRAFFIC IMPACT STUDY

3810-06-002 (SP), 3800-06-009 (GPA), 3600-06-011 (R), 3100-5508 (TM), 3500-11-007 (S), 3000-06-040 (AD), 3910-0602020 (ER)

March 2016

KOA CORPORATION
PLANNING & ENGINEERING
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WARNER RANCH
TRAFFIC IMPACT STUDY

3810-06-002 (SP), 3800-06-009 (GPA), 3600-06-011 (R), 3100-5508 (TM), 3500-11-007 (S), 3000-06-040 (AD), 3910-0602020 (ER)

March 2016

Prepared for:
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GLOSSARY OF TERMS AND ACRONYMS

Acronyms	Definitions
AASHTO	American Association of State Highway and Transportation Officials
ADA	Americans with Disabilities Act
ADT	Average Daily Traffic
APE	Area of Potential Effect
AWSC	All-way Stop-Controlled
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CMP	Congestion Management Program
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
FEIR	Final Environmental Impact Report
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
GIS	Geographic Information Systems
HCM	2000 Highway Capacity Manual
HUD	U.S. Department of Housing and Urban Development
ILV	Intersecting Lane Volume
ITS	Intelligent Transportation Systems
LOS	Level of Service
MHPA	Multi-Habitat Planning Area
MOA	Memorandum of Agreement
MOE	Measure of Effectiveness
MOU	Memorandum of Understanding
mph	miles per hour
MTDB	Metropolitan Transit Development Board
NOC	Notice of Completion
NOP	Notice of Preparation
PCE	Passenger Car Equivalent
pcphgpl	passenger cars per hour of green per lane
PeMS	Performance Measurement Systems
RTP	Regional Transportation Plan
SANDAG	San Diego Association of Governments
SANTEC	San Diego Traffic Engineers' Council
sf	square feet
SR	State Route
TIF	Transportation Impact Fee
TIS	Traffic Impact Study
TWSC	Two-way Stop Controlled
V/C	Volume-to-Capacity ratio

EXECUTIVE SUMMARY

This traffic impact analysis has been prepared for the proposed Warner Ranch development project, a 780 unit residential project that includes a small park and a fire station. The proposed development is located in the unincorporated County of San Diego in the Warner Ranch Specific Plan Area, approximately five miles east of Interstate 15. The project is adjacent to State Route 76 just west of Pala Temecula Road. Access to the project site is provided by State Route 76. State Route 76 and Pala Temecula Road are arterials that connect the project to other arterials. Interstate 15 provides regional access to the project site.

The traffic study is prepared in accordance with the *County of San Diego Report Format and Content Requirements (Transportation and Traffic)* and the *County of San Diego Guidelines for Determining Significance (Transportation and Traffic, August, 2011).*

Traffic counts for the project were taken in March, June and October of 2009 and an update of the base counts was commissioned in November of 2010 to verify that no substantial growth in volumes has occurred since that time. The project is estimated to generate 7,540 total daily trips to and from the site. The trip generation rates used in this analysis are determined based on rates contained in the *(SANDAG) (Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region* (2002). This manual provides standards and recommendations for the probable traffic generation of various land uses based upon local, regional and nationwide studies of existing developments in comparable settings.

Trip distribution and assignment is the process of identifying the probable destinations, directions and traffic routes that project related traffic will likely affect. The trip distribution and assignment for this project is based on SANDAG's computerized travel forecast model (Series 11 Select Zone analysis). In some cases engineering judgment was used to modify the SANDAG Select Zone. Based on SANDAG's model, 61.7% of the project traffic will travel west on State Route 76 towards Interstate 15; 8% will travel east towards Lilac Road and Pauma Valley; 12.5% will travel north on Pala Temecula Road; and 17.8% will be served by jobs, schools, shopping and churches in the Pala community.

The project is evaluated for potential direct and cumulative impacts as well as conformance with both the previously adopted and adopted General Plan. The traffic study indicates that the project will cause several direct impacts to State Route 76 west of Interstate 15, and there are cumulative impacts as well. The project is dependent on the implementation of the State Route 76 west of Interstate 15 which will address its direct impacts. The State Route 76 East Project is a Transnet funded Caltrans improvement project that runs from South Mission Road to Interstate 15. The current proposal is to improve State Route 76 to a four-lane conventional highway and have six-lanes plus turn pockets at the interchange. The project is scheduled for completion in 2015. To the east of Interstate 15 the adopted Mobility Element continues the improvements that already exist between the freeway and a point approximately 0.7 miles east of Pankey Road, and this is identified as a 4 lane major roadway all the way eastward in our study area to Couser Canyon Road where the improvements would end. Abutting improvements being made by the project shall be made along State Route 76 at the project frontage, and a signalized entrance point to the project is being proposed.

CHAPTER 1
THE PROJECT

This traffic impact analysis has been prepared for the proposed Warner Ranch development project. The proposed development is located in the unincorporated County of San Diego in the Warner Ranch Specific Plan Area, approximately five miles east of Interstate 15.

The project is adjacent to State Route 76 just west of Pala Temecula Road. Access to the project site is provided by State Route 76. State Route 76 and Pala Temecula Road are arterials that connect the project to other arterials. Interstate 15 provides regional access to the project site.

Figure 1-1 shows the project vicinity and study area. Figure 1-2 shows the project site plan.

PROJECT DESCRIPTION

The proposed development includes 534 single-family detached homes, 246 multi-family condominiums (condominiums), a small park and a fire station. The proposed development is expected to generate approximately 7,570 daily trips with 618 occurring in the AM peak hour and 756 occurring in the PM peak hour. The trip generation is shown below in the trip generation table.

STUDY AREA

The study area for this project includes those locations that are expected to be affected by this project. The scope of the study area is based on the County of San Diego Guidelines which specifies that an intersection or roadway segment should be analyzed if it will carry 25 peak hour peak direction project trips. The study area is shown in Figure 1-1. The specific study area includes eighteen roadway segments, twenty intersections, two freeway mainlines.

Roadway Segments

- State Route 76 between E. Vista Way and N. River Road
- State Route 76 between N. River Road and Camino Del Rey/Olive Hill Rd
- State Route 76 between Camino Del Rey/Olive Hill Rd and S. Mission Road
- State Route 76 between S. Mission Road and Gird Road
- State Route 76 between Gird Road and Old Highway 395
- State Route 76 between Old Highway 395 and I-15 SB Ramp
- State Route 76 between I-15 Ramps
- State Route 76 between I-15 NB Ramp and Pankey Road
- State Route 76 between Pankey Road and Horse Ranch Creek Road
- State Route 76 between Horse Ranch Creek Road and Rice Canyon
- State Route 76 between Rice Canyon and Couser Canyon
- State Route 76 between Couser Canyon and W. Pala Mission Road
- State Route 76 between W. Pala Mission Road and E. Pala Mission Road
- State Route 76 between E. Pala Mission Road and Lilac Road
- State Route 76 between Lilac Road and Adams Drive
- State Route 76 between Adams Drive and Cole Grade Road
- W. Pala Mission Road between State Route 76 and Pala Temecula Road

- Pala Temecula Road north of Pala Mission Road

Intersections

- State Route 76 / E. Vista Way
- State Route 76 / N. River Road
- State Route 76 / Camino Del Rey/Olive Hill Road
- State Route 76 / S. Mission Road
- State Route 76 / Gird Road
- State Route 76 / Old Highway 395
- State Route 76 / I-15 SB Ramp
- State Route 76 / I-15 NB Ramp
- State R Route 76 / Pankey Road
- State Route 76 / Horse Ranch Creek Road
- State Route 76 / Rice Canyon Road
- State Route 76 / Couser Canyon Road
- State Route 76 / Project Driveway
- State Route 76 / W. Pala Mission Road
- W. Pala Mission Road/ Pala Temecula Road
- State Route 76 / Brittian Road
- State Route 76/ E. Pala Missions Road
- State Route 76/ Lilac Road
- State Route 76 / Adams Drive
- State Route 76 / Cole Grade Road

Freeway Mainlines

- Interstate 15 north of State Route 76
- Interstate 15 south of State Route 76

PROJECT TRIP GENERATION

Trip generation is a measure or forecast of the number of trips that begin or end at the project site. The traffic generated is a function of the extent and type of development proposed for the site. These trips will result in some traffic increases on the streets where they occur. Vehicular traffic generation characteristics for projects are estimated based on established rates. These rates identify the probable traffic generation of various land uses based studies of developments in comparable settings. The rates used in this analysis are determined based on rates contained in the *(SANDAG) (Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region (2002.)* This manual provides standards and recommendations for the probable traffic generation of various land uses based upon local, regional and nationwide studies of existing developments in comparable settings.

As shown in Table 1-1 each single family dwelling unit is expected to generate 10 trips a day. Each multi-family unit is expected to generate 8 trips a day. The small park is expected to generate 50 trips per acre per day. The fire station is expected to generate 50 trips per day. Appendix B contains excerpts from this manual.

Table 1-1
Project Trip Generation

Land Use	Intensity	Unit	Rate/Trips	Daily Trips	AM Peak Hour			PM Peak Hour		
					Total	In	Out	Total	In	Out
Single Family (3-6 DU/acre)	534	dwelling unit	Rate	10	8%	30%	70%	10%	70%	30%
			Trips	5,340	428	129	300	534	374	161
Condominium (6-20 DU/acre)	246	dwelling unit	Rate	8	8%	20%	80%	10%	70%	30%
			Trips	1,968	158	32	127	197	138	60
Developed Park	4.23	AC	Rate	50	13%	50%	50%	9%	50%	50%
			Trips	212	28	14	14	20	10	10
Fire Station	1	Station	Rate	50	8%	60%	40%	10%	40%	60%
			Trips	50	4	3	2	5	2	3
Totals				7,570	618	178	443	756	524	234

Source: SANDAG

TRIP DISTRIBUTION AND ASSIGNMENT

Trip distribution and assignment is the process of identifying the probable destinations, directions and traffic routes that project related traffic will likely affect. Trip distribution and assignment information can be estimated from observed traffic patterns, experience or through use of a computerized travel forecast model. Once the proposed developments trips have been estimated, they are assigned to the study area network. The trip distribution and assignment for this project is based on SANDAG's computerized travel forecast model (Series 11 Select Zone analysis).

This project many potential local services to link up to in the community of Pala, which begins half a mile to the east. The Pala community has is its own village center with many services (i.e. live-work-play opportunities) that interact with and support the residential uses of the proposed project. The model also shows only modest growth in the adjacent zones between now and the year 2030. These services include:

- Employment at Pala Casino (or further east at Pauma Casino);
- Education at the Vivian Banks Charter School, the Ashwet Patia School, the Pala State Preschool;
- Limited shopping at the Pala Store (including produce, groceries, sundries), the Pala Minimart and additional shopping and entertainment at the casino;
- Other services including a Catholic Church, the Pala Buffet, a fire station, Wells Fargo Bank, play fields.

SANDAG's transportation model, which is used to determine the trip distribution of the project, indicates that 19% of residential trips are home-to-work, 12% are home-to-school, 19% are shopping-related, and the remaining 50% have other trip purposes (including home-to-other, work-to-other, other-to-other, etc.). Nonetheless, rather conservative assumptions regarding local trip connections have been assumed, and most travel to and from the project further away on State Route 76.

Table 1-2
Local Trip Making By Purpose

Trip Purpose	Total %	Local Capture	Total Local
Home-Work	19%	50%	10%
Home-School	12%	40%	5%
Home-Shop	19%	60%	11%
Home-Other	32%	60%	19%
Other	18%	10%	2%
Total	100%		47%

The trip distribution and assignment for the project-related trips is shown in Figure 1-3. Figure 1-4 shows the daily project trips while Figures 1-5 and 1-6 show peak hour project trips. Appendix B contains the select zone model, illustrations of any model adjustments and traffic analysis zone (TAZ) land use information for the existing and year 2030 land uses.

PROJECT ACCESS

The proposed project will take access off State Route 76 via a signalized intersection. This is the only public access point including the fire station. Refer to the conceptual plan showing the signal, access point, and acceleration and deceleration lanes in Appendix K. Two emergency access driveways also serve the site along State Route 76. These access points are closed for public use and controlled in a manner satisfactory to Caltrans and the County Engineer. Regional access is provided by State Route 76 (south of the project site) and Interstate 15 (west of the project site).

SIGHT DISTANCE

The main entrance will be positively controlled by a signalized intersection. The intersection will be designed to meet County standards.

PARKING

The County of San Diego requires that two parking spaces be provided per dwelling unit.

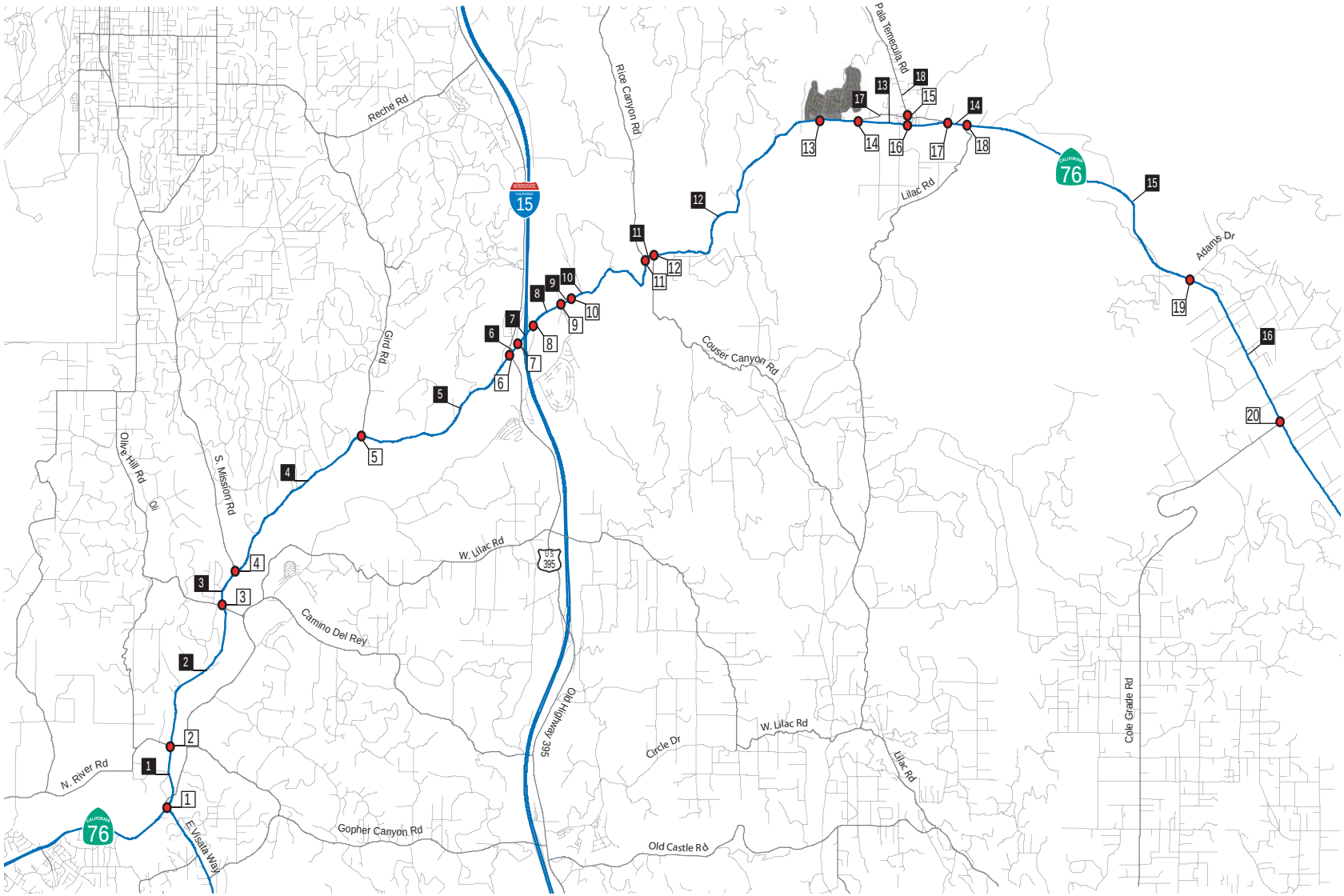


Figure 1-1
Project Study Area

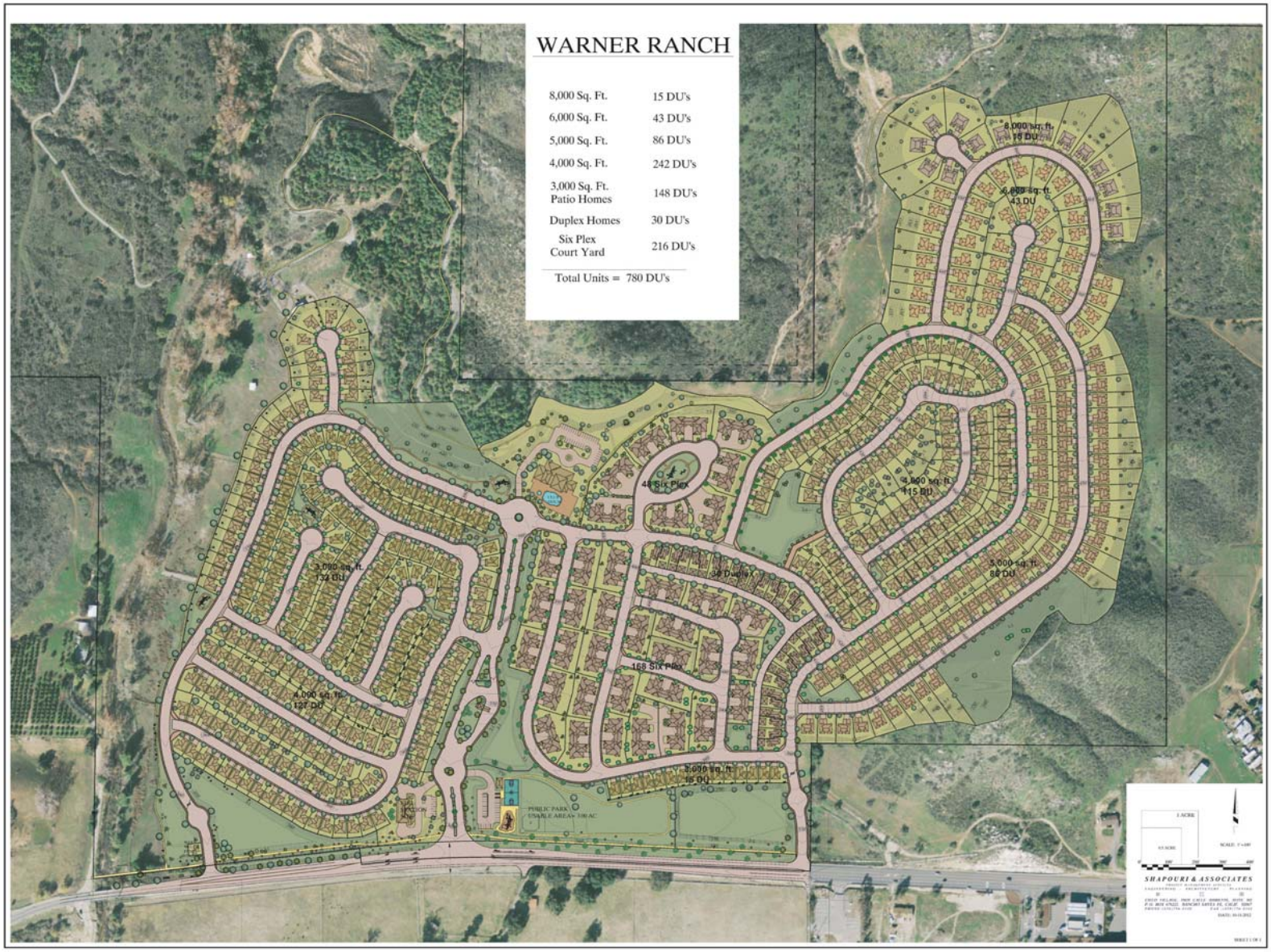
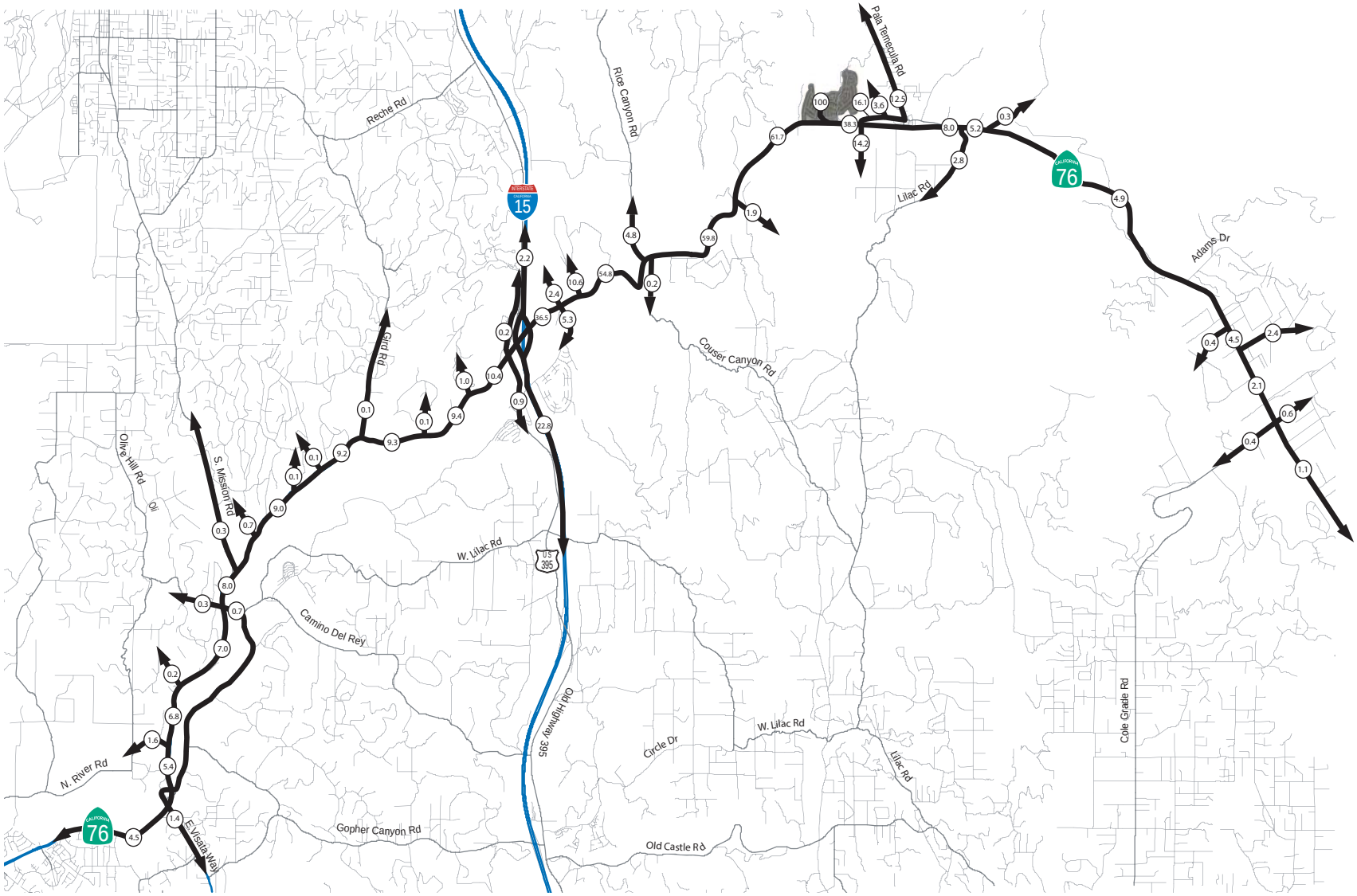


Figure 1-2
Project Site Plan

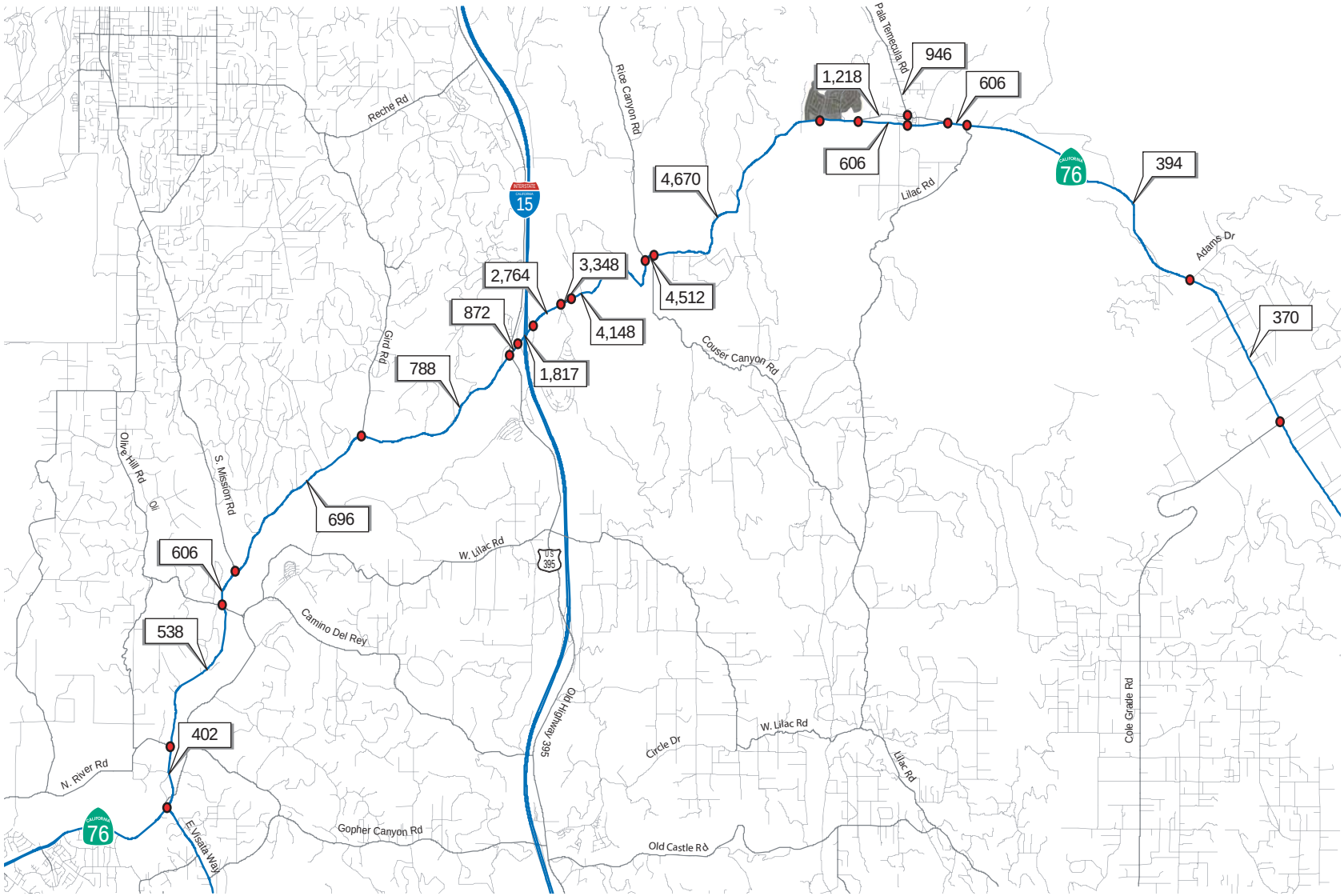


LEGEND

4.5 Distribution Percentage

Figure 1-3
Project Trip Distribution

N
Not To Scale



LEGEND

100 Project Daily Trips

Figure 1-4
Daily Project Trips

N
Not To Scale

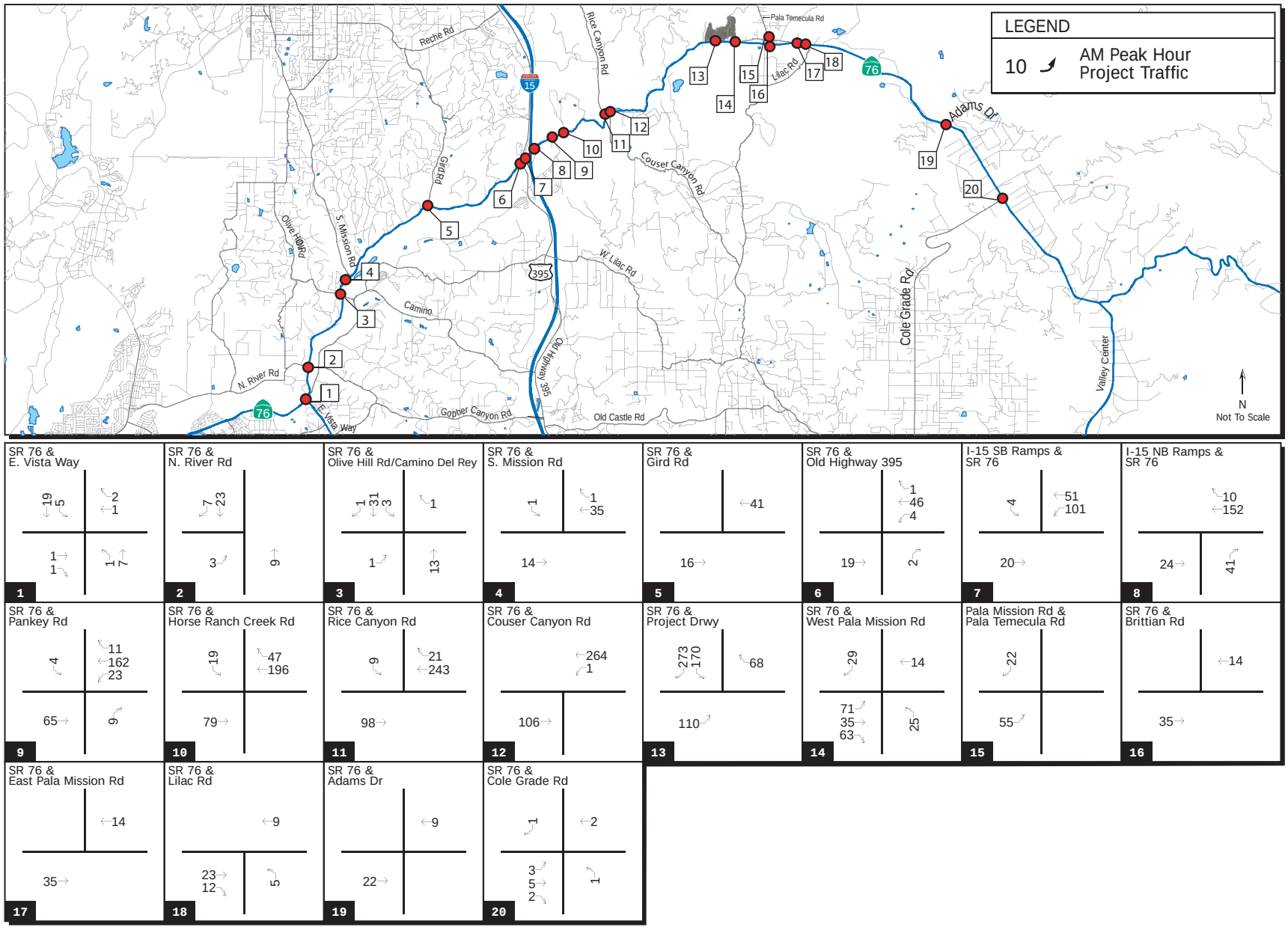


Figure 1-5
AM Peak Hour Project Trips

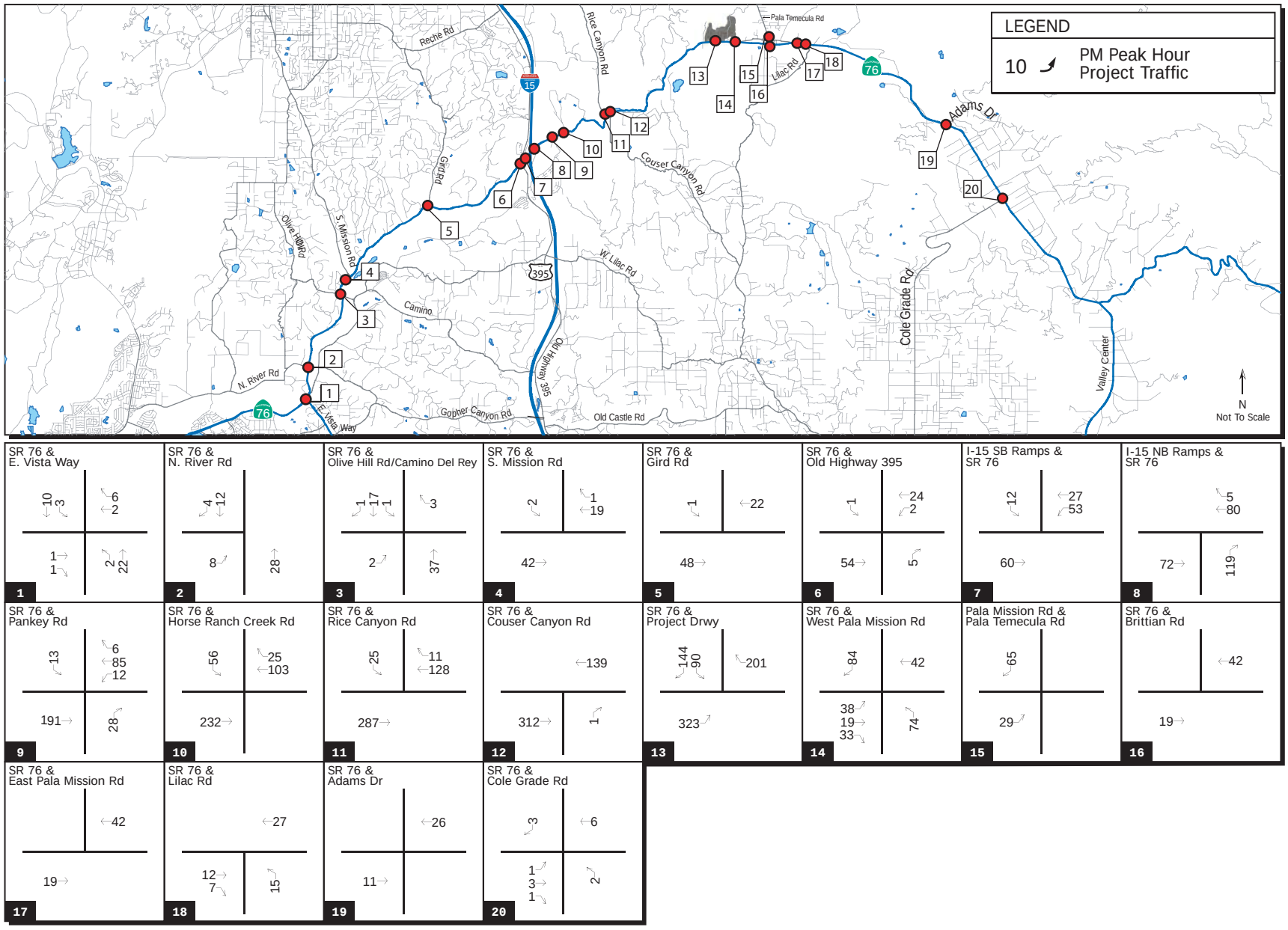


Figure 1-6
PM Peak Hour Project Trips

CHAPTER 2
METHODOLOGIES

This chapter documents the methodologies and assumptions used to conduct the traffic impact analysis for the project. The study methodology and analysis is based on the *County of San Diego Report Format and Content Requirements (Transportation and Traffic)* and the *County of San Diego Guidelines for Determining Significance (Transportation and Traffic)* adopted in April 24, 2011. The guidelines are used to determine the project's conformance and evaluate whether a project's impacts are perceptible to the average driver. This section contains the following background information:

- Study scenarios
- Study time periods
- Capacity analysis methodologies

STUDY SCENARIOS

This report presents an analysis of the following scenarios:

- Existing Conditions
- Existing Conditions With Project
- Cumulative Conditions
- Cumulative Conditions With Project
- Previously Adopted General Plan Conditions
- Previously Adopted General Plan Conditions With Project
- Adopted General Plan Conditions
- Adopted General Plan Conditions With Project

ANALYSIS METHODOLOGIES

Street system operating conditions are typically described in terms of "level of service." Level of service is a report-card scale used to indicate the quality of traffic flow on roadway segments and at intersections. Level of service (LOS) ranges from LOS A (free flow, little congestion) to LOS F (forced flow, extreme congestion). A more detailed description of the concepts described in this section is provided in Appendix A of this document. The following methods are outlined in this publication and used in this study.

Roadway Segment Capacity Analysis
The County of San Diego has published daily traffic volume standards for roadways within its jurisdiction. To determine service levels on study area roadway segments, we compared the appropriate average daily traffic thresholds for level of service to the daily capacity of the study area roadway segments, and the existing and future volumes in the study area. The thresholds for determining level of service used in this analysis are summarized in Appendix A.

Regionally Significant Arterial Analysis
The regional association of governments (SANDAG) Congestion Management Program (CMP) identifies the regionally significant circulation network. The SANDAG CMP requires that all large projects generating over 2,400 average daily trips perform a detailed analysis of any CMP roadways within the project study area.

Intersection Capacity Analysis

The analysis of peak hour intersection performance was conducted using the Traffix analysis software program, which uses methodologies defined in the 2000 Highway Capacity Manual (HCM) to calculate results. Level of service (LOS) for intersections is determined by control delay. Control delay is defined as the total elapsed time from when a vehicle stops at the end of a queue to the time the vehicle departs from the stop line. The total elapsed time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position, including deceleration of vehicles from free-flow speed to the speed of vehicles in the queue. Appendix A lists the HCM delay/LOS criteria for both signalized and unsignalized intersections.

Signalized Intersections

The HCM analysis methodology for evaluating signalized intersections is based on the "operational analysis" procedure. This technique uses 1,900 passenger cars per hour of green per lane (pcphgpl) as the maximum saturation flow of a single lane at an intersection. This saturation flow rate is adjusted to account for lane width, on-street parking, conflicting pedestrian flow, traffic composition, (e.g., the percentage of vehicles that are trucks) and shared lane movements (e.g., through and right-turn movements from the same lane). Average control delay is calculated by taking a volume-weighted average of all the delays for all vehicles entering the intersection.

All-way Stop-controlled (AWSC) Intersections

The HCM analysis methodology for evaluating all-way Stop-controlled intersections is based on the degree of conflict for each independent approach created by the opposing approach and each conflicting approach. Level of Service for AWSC intersections is also based on the average control delay. However, AWSC intersections have different threshold values than those applied to signalized intersections. This is based on the rationale that drivers expect AWSC intersections to carry lower traffic volumes than at signalized intersections. Therefore, a higher level of delay is acceptable at a signalized intersection for the same LOS.

Two-way Stop-controlled (TWSC) Intersections

The HCM analysis methodology for evaluating two-way Stop-controlled (TWSC) intersections is based on gap acceptance and conflicting traffic for vehicles stopped on the minor-street approaches. The critical gap (or minimum gap that would be acceptable) is defined as the minimum time interval in the major-street traffic stream that allows intersection entry for one minor-street vehicle. Average control delay and LOS for the "worst approach" are reported. Level of service is not defined for the intersection as a whole.

Freeway Mainline Level of Service

The method for calculating freeway level of service is based on the volume-to-capacity (v/c) ratio using the following equation:

$$v/c = \frac{(ADT * \text{Peak hour percent} * \text{Directional factor})/\text{Truck factor}}{\text{Capacity}}$$

where:
ADT = average daily traffic volume (2-way);
Peak hour percent = the proportion of ADT that occurs during the peak hour (not specifically AM or PM);
Directional factor = the proportion of peak hour traffic traveling in the peak direction;
Truck factor = a reduction in capacity to account for heavy vehicles and grades; and
Capacity = 2,300 vehicles per hour per lane.

The resultant v/c ratios are compared to the standard v/c thresholds for level of service contained in Appendix A.

Analysis of Significance

To determine direct project impacts, the County of San Diego has developed a series of thresholds based on allowable increases in volume-to-capacity ratios that become more stringent as level of service worsens. Appendix A summarizes these thresholds in terms of the allowable increase in traffic which also relates directly to the change in the volume to capacity (V/C) ratio. Where roadway segments and intersections operate at LOS D or better impacts are not considered significant.

The August, 2011 Guidelines define the threshold of significance as on average the addition of one car per lane every 2.4 – 4.8 minutes during peak hour conditions depending on the level of service of the roadway. In most cases, this increase would result in changes to traffic flow that would not be noticeable to the average driver and, therefore, would not constitute a significant impact on the roadway.

CHAPTER 3
EXISTING CONDITIONS

TRAFFIC VOLUMES

The intersection turning movement counts were conducted during the weekday morning peak period from 7:00 AM to 9:00 AM and during the weekday evening peak period from 4:00 PM to 6:00 PM in June of 2009, October of 2009 and November of 2010. Average daily traffic volumes were obtained through machine data collection. Freeway mainline volumes were collected from Caltrans online volume databank and are representative of 2008 freeway volumes. Count data can be found in Appendix C. The resultant existing weekday morning and evening peak hour intersection volumes are shown in Figures 3-4 and 3-5. The daily traffic volumes are shown in Figure 3-3.

ROADWAY NETWORK

The principal roadways in the project study area are described briefly below. The description includes the physical characteristics, adjacent land uses, and traffic control devices along these roadways. The existing roadway geometry and control conditions are shown in Figure 3-1 and 3-2. Additional details regarding specific intersection operating conditions can be found on the capacity analysis worksheets in Appendix D.

State Route 76 is a State Highway that runs east/west connecting several of the northern communities in San Diego County. State Route 76 varies in its classification from a 2 lane highway near the project, to a 4 lane collector just east of I-15 for some distance, to a 4 lane major west of So. Mission Road. Specifics regarding the classifications can be seen in the segment analysis sections of each chapter. The roadway does provide project access to adjacent land uses. It has a painted median. The posted speed limit is 55 MPH. State Route 76 provides project access. The adjacent land uses on the project access road includes: fronting residential, and open space.

Old Highway 395 runs north/south running parallel to Interstate 15. It has a functional classification of a 2 lane collector with 1 lane in each direction. The roadway does provide access to adjacent uses. It has a painted median. The posted speed limit is 50 MPH.

Pala Mission Road runs east/ west connecting SR-76 to Pala Temecula Road. It has a functional classification of a 2 lane local road with 1 lane in each direction. The roadway does provide access to adjacent uses. It has a painted median. The posted speed limit is 25 MPH.

Pala Temecula Road runs north/ south connecting the Pala community to the City of Temecula. It has a functional classification of a 2 lane rural collector with 1 lane in each direction. The roadway does provide access to adjacent uses. The posted speed limit is 30 MPH.

Tables 3-1 to 3-4 show the LOS results. Existing with project intersection volumes are shown in Figures 3-6 through 3-8.

Table 3-1
Existing With Project Roadway Segment Conditions

Roadway Segment	Lanes/ Class	LOS E Capacity	Existing			Existing + Project			Δ Traffic	Δ v/c	Direct Impact?	CMP Impact?
			ADT	V/C	LOS	ADT	V/C	LOS				
State Route 76												
E. Vista Way to N. River Road	2SR	22,900	28,805	1.258	F	29,207	1.275	F	402	0.018	Yes	No
N. River Road to Camino Del Rey	2SR	22,900	39,736	1.735	F	40,274	1.759	F	538	0.023	Yes	Yes
Camino Del Rey to S. Mission Road	2SR	22,900	39,316	1.717	F	39,922	1.743	F	606	0.026	Yes	Yes
S. Mission Road to Gird Road	2SR	22,900	26,752	1.168	F	27,448	1.199	F	696	0.030	Yes	Yes
Gird Road to Old Hwy 395	2SR	22,900	23,789	1.039	F	24,577	1.073	F	788	0.034	Yes	Yes
Old Hwy 395 to I-15 SB Ramp	4C	34,200	29,407	0.860	D	30,279	0.885	D	872	0.025	No	No
I-15 SB Ramp to I-15 NB Ramp	2SR	22,900	19,359	0.845	E	21,176	0.925	E	1,817	0.079	Yes	Yes
I-15 NB Ramp to Pankey Road	4MR	37,000	11,031	0.298	A	13,795	0.373	A	2,764	0.075	No	No
Pankey Road to Horse Ranch Creek Road	4MR	37,000	11,031	0.298	A	14,379	0.389	A	3,348	0.090	No	No
Horse Ranch Creek Road to Rice Canyon Road	2SR	22,900	11,031	0.482	C	15,179	0.663	D	4,148	0.181	No	No
Rice Canyon Road to Couser Canyon Road	2SR	22,900	11,031	0.482	C	15,543	0.679	D	4,512	0.197	No	No
Couser Canyon Road to W. Pala Mission Road	2SR	22,900	10,224	0.446	C	14,894	0.650	D	4,670	0.204	No	No
W. Pala Mission Road to E. Pala Mission Road	2SR	22,900	10,329	0.451	C	10,935	0.478	C	606	0.026	No	No
E. Pala Mission Road to Lilac Road	2SR	22,900	8,821	0.385	C	9,427	0.412	C	606	0.026	No	No
Lilac Road to Adams Drive	2SR	22,900	9,456	0.413	C	9,850	0.430	C	394	0.017	No	No
Adams Drive to Cole Grade Road	2SR	22,900	9,090	0.397	C	9,460	0.413	C	370	0.016	No	No
W. Pala Mission Road												
State Route 76 and Pala Temecula Road	2RC	16,200	4,711	0.291	C	5,929	0.366	C	1,218	0.075	No	No
Pala Temecula Road												
Pala Mission Road to Trujillo Road	2RC	16,200	8,318	0.513	D	9,264	0.572	D	946	0.058	No	No

Note: 2RC: 2-lane Rural Collector; 2SR: 2-lanes State Route; 2SR w/ LTL: 2-lane State Route w/ Left-turn Lanes; 4C: 4-lane Collector; 4M: 4-lane Major; 6PA: 6-lane Prime Arterial.

Table 3-2
Existing With Project Intersection Conditions AM Peak Hour

Intersection	Existing		Existing + Project		Δ Trips	Δ Delay	Direct Impact ?	CMP Impact ?
	Delay	LOS	Delay	LOS				
AM Peak Hour								
1. SR 76 / E. Vista Way	84.1	F	88.1	F	NA	4.0	Yes	Yes
2. SR 76/N. River Road	21.1	C	22.3	C	NA	1.2	No	No
3. SR 76/Olive Hill Road/Camino Del Rey	36.7	D	38.1	D	NA	1.4	No	No
4. SR 76/ S. Mission Road	28.8	C	29.0	C	NA	0.2	No	No
5. SR 76/ Gird Road	13.4	B	13.5	B	NA	0.1	No	No
6. Old Highway 395 / SR 76	31.1	C	31.3	C	NA	0.2	No	No
7. I-15 / SR 76 SB Ramp	31.1	C	44.2	D	NA	13.1	No	No
8. I-15 / SR 76 NB Ramp	23.6	C	28.4	C	NA	4.8	No	No
9. SR 76 / Pankey Road[1]	12.3	B	14.6	B	4	2.3	No	No
10. SR 76 / Horse Ranch Creek Rd	N/A	N/A	N/A	N/A	N/A	N/A	No	No
11. SR 76 / Rice Canyon Road[1]	11.2	B	16.0	C	9	4.8	No	No
12. SR 76 / Couser Canyon Road[1]	12.3	B	17.4	C	0	5.1	No	No
13. SR 76/Driveway	0.5	A	18.8	B	NA	18.3	No	No
14. SR 76 / W. Pala Mission Road	26.4	C	28.5	C	NA	2.1	No	No
15. Pala Mission Rd./ Pala Temecula Road[1]	9.7	A	10.4	B	0	0.7	No	No
16. SR 76 / Brittian Road[1]	9.1	A	9.2	A	0	0.1	No	No
17. SR 76/ E. Pala Mission Road[1]	12.5	B	13.2	B	0	0.7	No	No
18. SR 76/ Lilac Road[1]	11.8	B	12.3	B	5	0.5	No	No
19. SR 76 / Adams Drive[1]	10.1	B	10.2	B	0	0.1	No	No
20. SR 76 / Cole Grade Road[1]	17.0	C	17.5	C	1	0.5	No	No

[1] Significance of unsignalized intersections is determined by the number of added project trips to the critical movement.

Note: The change in trips added to the critical movement are only reported for intersections operating at LOS E or F.

Table 3-3
Existing With Project Intersection Conditions PM Peak Hour

Intersection	Existing		Existing + Project		Δ Trips	Δ Delay	Direct Impact ?	CMP Impact ?
	Delay	LOS	Delay	LOS				
PM Peak Hour								
1. SR 76 / E. Vista Way	68.7	E	71.9	E	NA	3.2	Yes	Yes
2. SR 76/N. River Road	34.5	C	37.0	D	NA	2.5	No	No
3. SR 76/Olive Hill Road/Camino Del Rey	40.7	D	42.6	D	NA	1.9	No	No
4. SR 76/ S. Mission Road	31.9	C	34.1	C	NA	2.2	No	No
5. SR 76/ Gird Road	11.6	B	12.0	B	NA	0.4	No	No
6. Old Highway 395 / SR 76	30.8	C	31.3	C	NA	0.5	No	No
7. I-15 / SR 76 SB Ramp	58.8	E	74.6	E	NA	15.8	Yes	Yes
8. I-15 / SR 76 NB Ramp	51.1	D	60.1	E	NA	9.0	Yes	Yes
9. SR 76 / Pankey Road[1]	13.1	B	19.8	C	13	6.7	No	No
10. SR 76 / Horse Ranch Creek Rd	N/A	N/A	N/A	N/A	NA	N/A	No	No
11. SR 76 / Rice Canyon Road[1]	13.3	B	26.7	D	25	13.4	No	No
12. SR 76 / Couser Canyon Road[1]	14.8	B	23.9	C	0	9.1	No	No
13. SR 76/Driveway	0.5	A	11.5	B	NA	11.0	No	No
14. SR 76 / W. Pala Mission Road	27.6	C	32.2	C	NA	4.6	No	No
15. Pala Mission Rd./ Pala Temecula Road[1]	11.2	B	12.7	B	0	1.5	No	No
16. SR 76 / Brittian Road[1]	10.1	B	10.5	B	0	0.4	No	No
17. SR 76/ E. Pala Mission Road[1]	16.7	C	18.4	C	0	1.7	No	No
18. SR 76/ Lilac Road[1]	13.1	B	15.7	C	15	2.6	No	No
19. SR 76 / Adams Drive[1]	13.4	B	13.8	B	0	0.4	No	No
20. SR 76 / Cole Grade Road[1]	17.9	C	18.5	C	2	0.6	No	No

[1] Significance of unsignalized intersections is determined by the number of added project trips to the critical movement.

Note: The change in trips added to the critical movement are only reported for intersections operating at LOS E or F.

Table 3-4
Existing With Project Freeway Mainline Conditions

Segment	Direction/ Lanes	Capacity	Grade (%)	Truck Proportion (%)	Truck Factor	Existing			Existing + Project			Δ V/C	Direct Impact?
						Peak Hour PCE[1]	V/C	LOS	Peak Hour PCE[1]	V/C	LOS		
AM Peak Hour													
Interstate 15 North of SR 76	South/4	9,200	1.00%	2.00%	0.9901	6,569	0.714	C	6,583	0.716	C	0.002	No
Interstate 15 South of SR 76	South/4	9,200	1.00%	2.00%	0.9901	6,195	0.673	C	6,338	0.689	C	0.015	No
PM Peak Hour													
Interstate 15 North of SR 76	North/4	9,200	1.00%	2.00%	0.9901	6,283	0.683	C	6,300	0.685	C	0.002	No
Interstate 15 South of SR 76	North/4	9,200	1.00%	2.00%	0.9901	6,094	0.662	C	6,268	0.681	C	0.019	No

[1]Passenger Car Equivalent

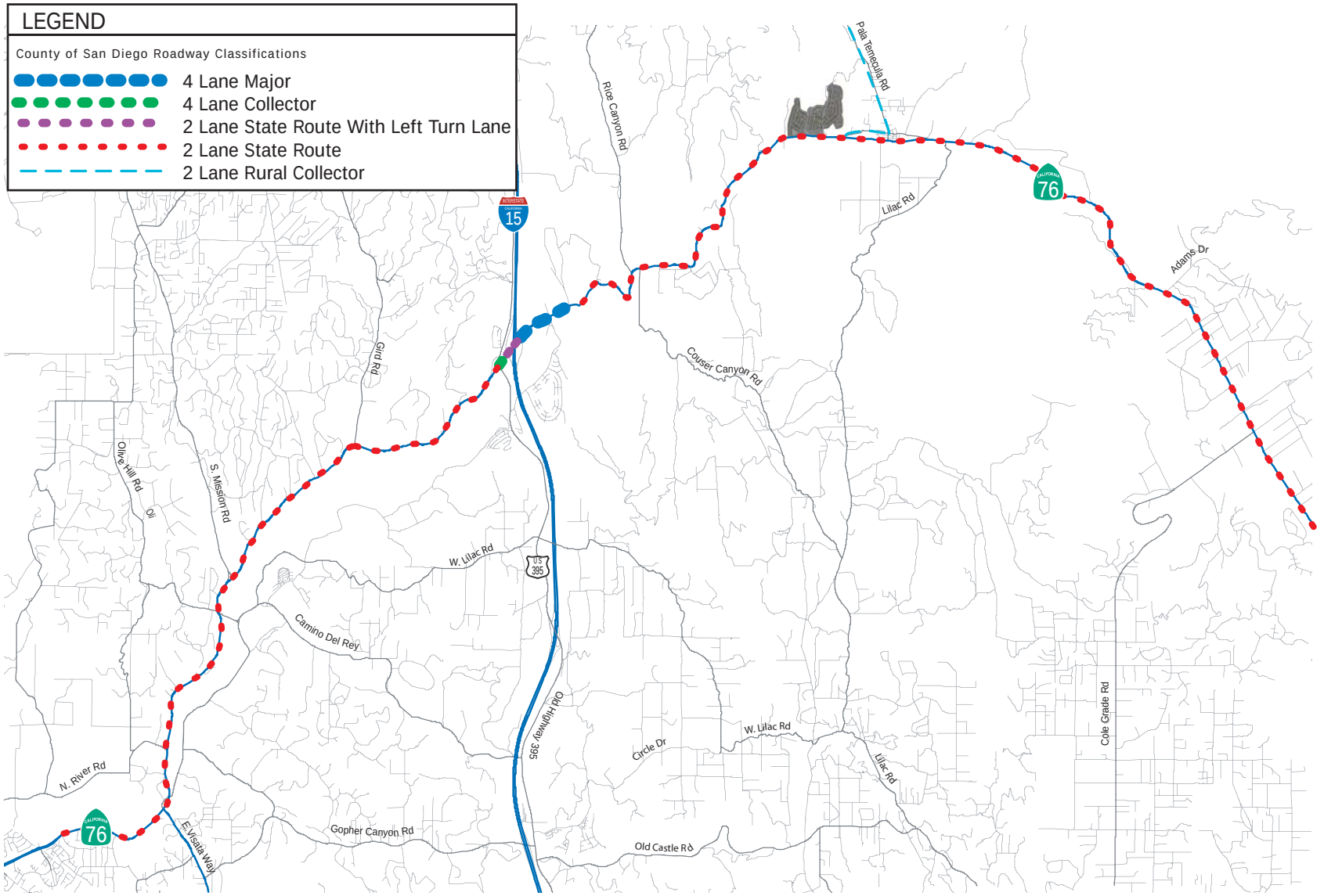


Figure 3-1
Existing Circulation Network

N
Not To Scale

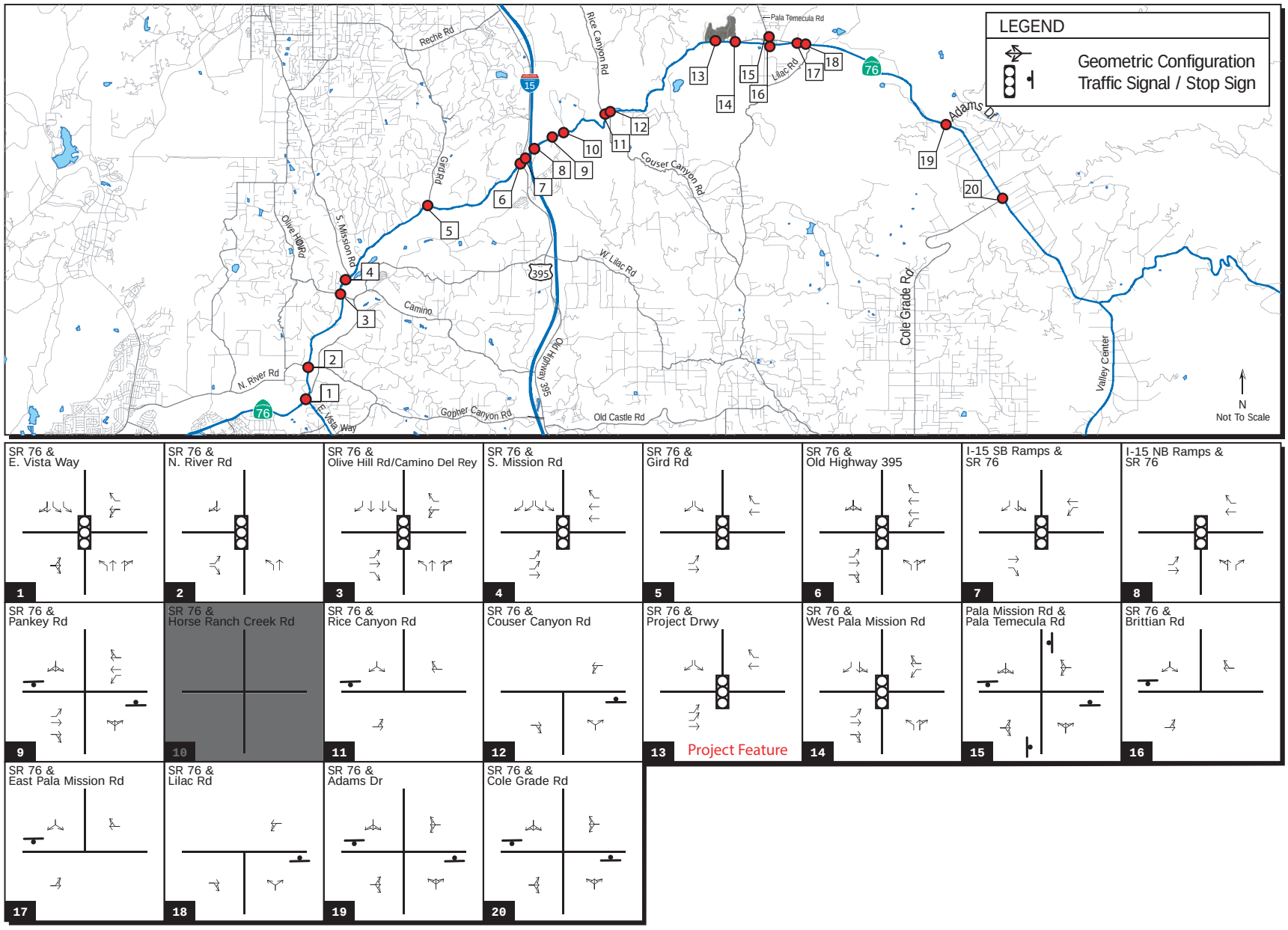


Figure 3-2
Existing Geometric Configuration

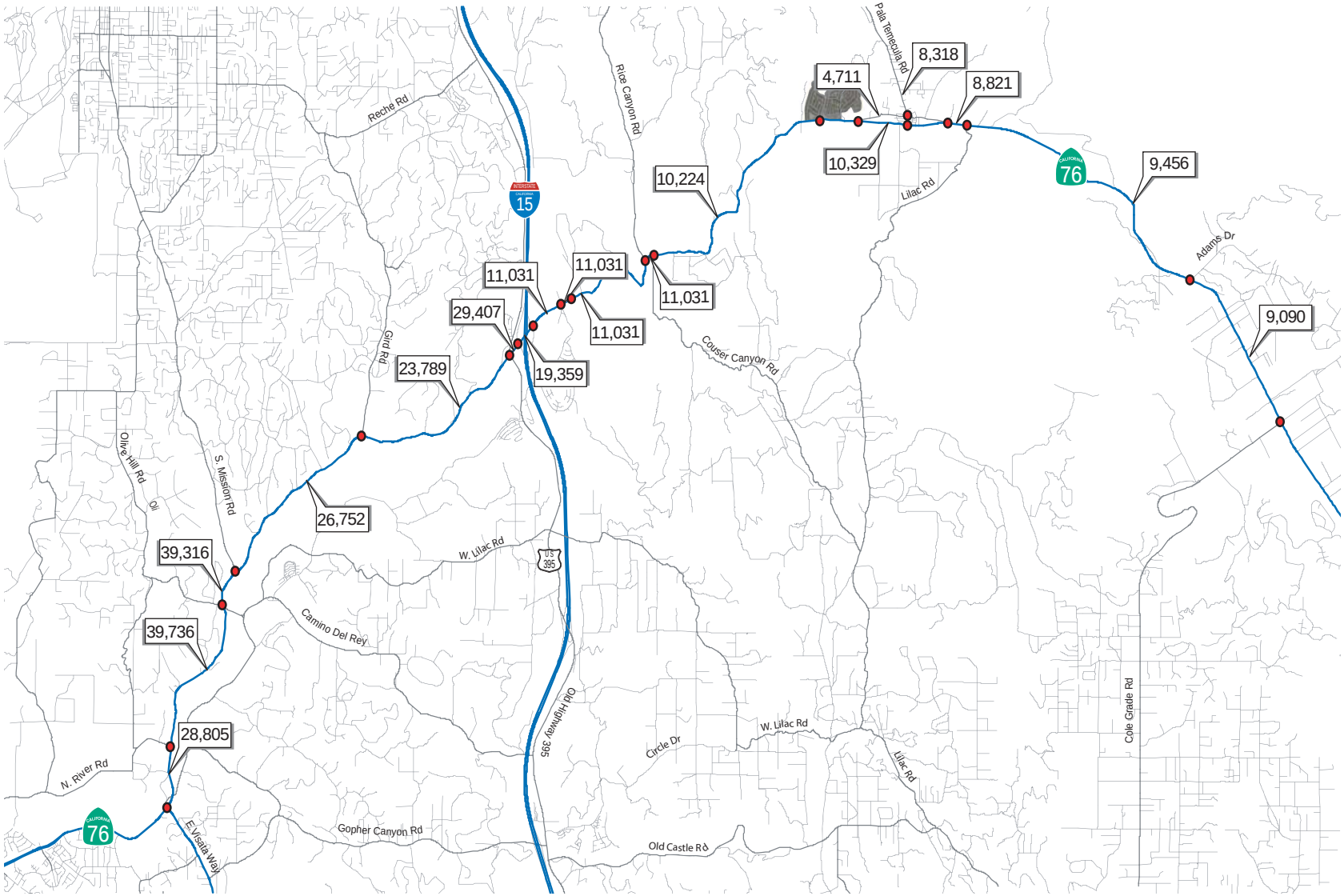


Figure 3-3
Existing Roadway Segment Volumes