DRAFT

LYONS CANYON – TT 53653

TRAFFIC IMPACT ANALYSIS

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1.0 INTRODUCTION

This report presents the results of a traffic study carried out to evaluate the Lyons Canyon project (Tentative Tract 53653) located in an unincorporated area of the Santa Clarita Valley. It provides the traffic and circulation material for the Environmental Impact Report (EIR) prepared for this project.

1.1 PROJECT DESCRIPTION

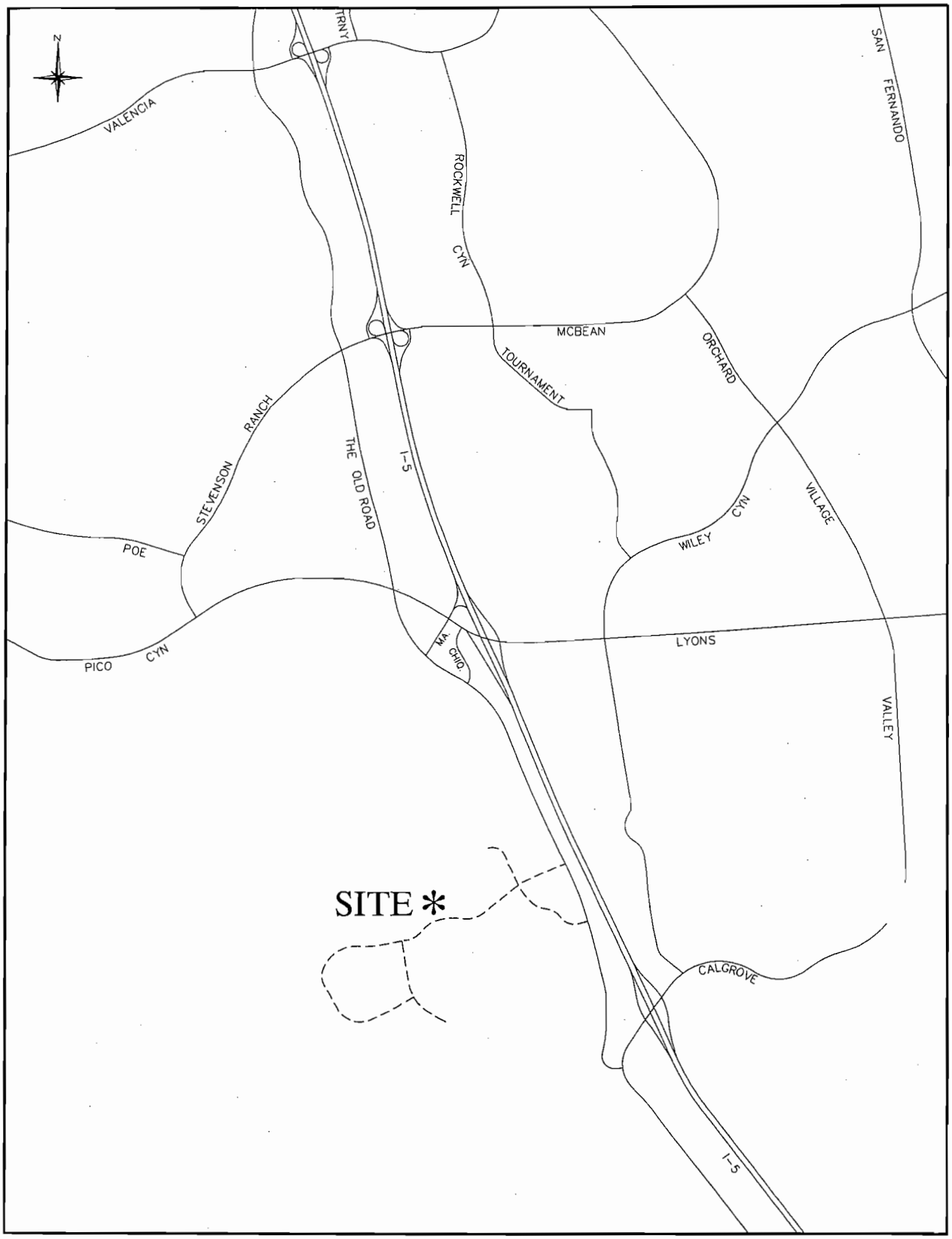
A detailed description of this project and the resulting California Environmental Quality Act (CEQA) requirements addressed here can be found in the Notice of Preparation and in the EIR itself. The proposed project is located on an approximately 232 acre site and consists primarily of 186 residential dwelling units, a neighborhood park, a fire station and open space. 96 of the residential units are proposed as single family detached homes and the remaining residential units are proposed as 90 senior condominium homes. The site is generally bounded by The Old Road and the Interstate 5 freeway (I-5) to the east, existing residential development to the north, Towsley Canyon to the south and the Santa Sussana mountains to the west. Figure 1-1 illustrates the location of the site in relation to the surrounding roadway system.

1.2 STUDY AREA

The study area includes the roadways and intersections near to the project site and those locations where project generated traffic could cause a significant impact. Figure 1-2 illustrates the intersections selected for study based on the distribution of project generated traffic, which is discussed in detail in Chapter 3.

1.3 METHODOLOGY

The traffic analysis evaluates the proposed project in accordance with the guidelines of the County of Los Angeles Department of Public Works, Traffic and Lighting Division. The project is evaluated for project only impacts (existing plus ambient growth conditions) and for cumulative impacts (existing plus ambient growth plus project plus related project conditions). Two study area intersections are within the City of Santa Clarita and are evaluated in accordance with the City's guidelines.



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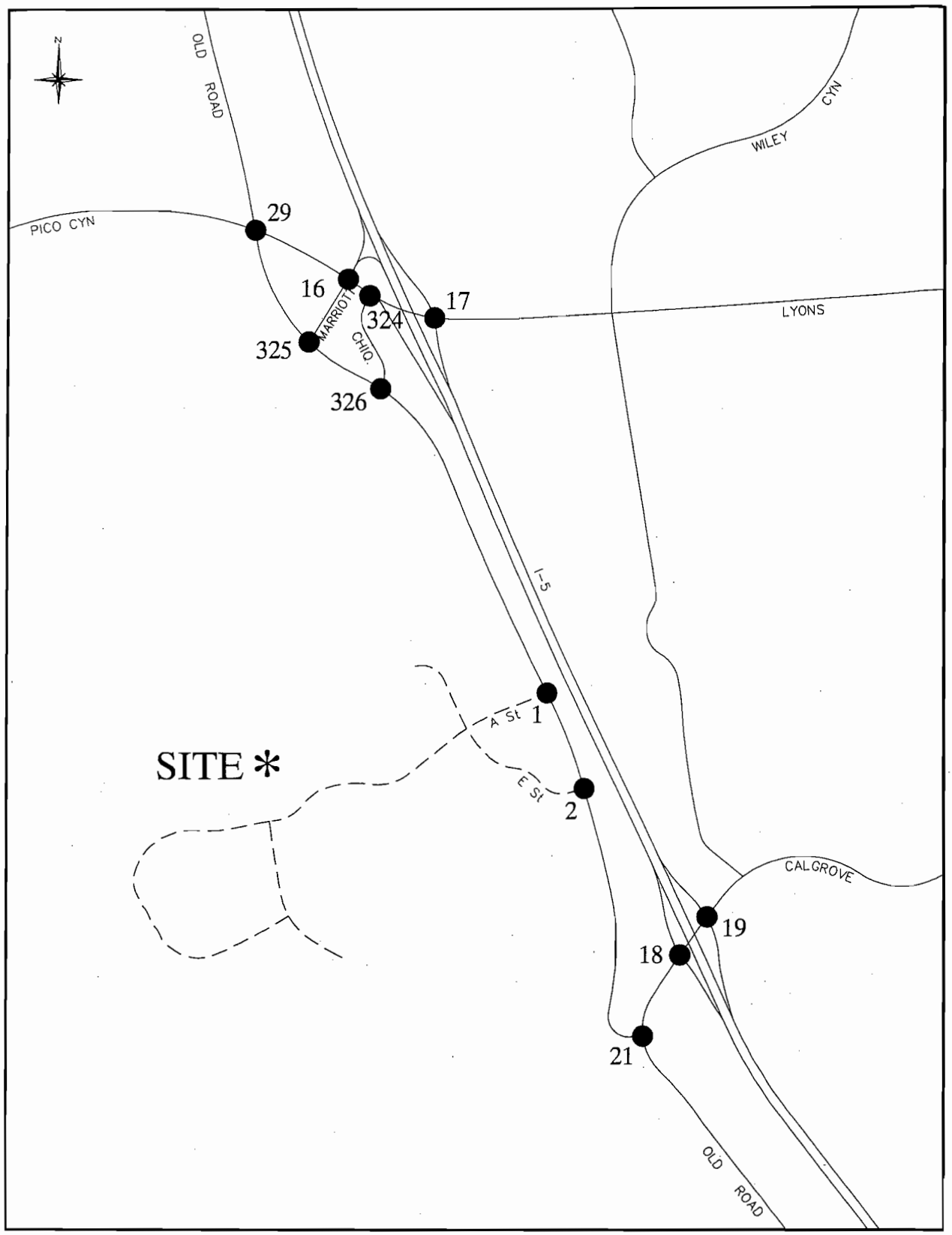
* Site Location

Figure 1-1

SITE LOCATION



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● Study Area Intersection

Figure 1-2

PROJECT STUDY AREA

To derive project only impacts, background conditions are based on existing traffic counts (measured traffic volumes) plus an ambient annual growth rate specified by County staff. To derive cumulative impacts, related projects are added to the Santa Clarita Valley Consolidated Traffic Model (SCVCTM) to forecast future cumulative conditions. The SCVCTM is a travel demand model developed jointly by the City of Santa Clarita and the County of Los Angeles, and is the primary tool used for forecasting traffic volumes for the Santa Clarita Valley. The SCVCTM has the ability to forecast traffic volumes for an Interim Year horizon, which generally corresponds to the year 2015, and for long-range buildout conditions, which is generally referred to as year 2030.

The cumulative impact analysis utilized in this report has been developed utilizing the Interim Year model since it includes each of the approved and pending projects within the Santa Clarita Valley. Since the project does not represent a change to the General Plan land use designations for the project site, a separate long-range analysis is not needed since the project traffic is already accounted for in the County's established long-range General Plan traffic forecasts.

An update to the SCVCTM was recently undertaken (see Reference 7 in Section 1.6) which included incorporating current land use information for planned, pending and reasonably foreseen cumulative projects. As part of the development of this traffic impact analysis, the SCVCTM land use database was reviewed and verified for use in the cumulative analysis (see Section 2.2 for related project information obtained from the SCVCTM).

The impact analysis is based on specific performance criteria which are outlined in the following section. Where appropriate, mitigation measures are identified for those scenarios in which significant impacts are determined based on the established impact thresholds.

1.4 PERFORMANCE CRITERIA

For CEQA purposes, defined performance criteria are utilized to determine if a proposed project causes a significant impact. In most traffic studies, performance criteria are based on two primary measures. The first is "capacity", which establishes the vehicle carrying ability of a roadway and the second is "volume." The volume measure is either a traffic count (in the case of existing volumes) or a forecast for a future point in time. The ratio between the volume and the capacity gives a volume/capacity (V/C) ratio and based on that V/C ratio, a corresponding level of service (LOS) is

defined. Traffic LOS is designated A through F with LOS A representing free flow conditions and LOS F representing severe traffic congestion. Traffic flow quality for each LOS is described in Table 1-1.

Both the V/C ratio and the LOS are used in determining impact significance. Certain LOS values are deemed unacceptable by the County and increases in the V/C ratio which cause or contribute to the LOS being unacceptable are defined as a significant impact (see following sections for details).

In establishing V/C based performance criteria, there are certain items that need to be addressed to obtain suitable V/C estimates and relate them to LOS. For instance, while average daily traffic (ADT) is a useful measure to show general levels of traffic on a facility and to provide data for other related aspects such as noise and air quality, highway congestion is largely a peak hour or peak period occurrence and ADT does not reflect peak period conditions very effectively. Because of this, ADT is not used here as the basis for capacity evaluation but instead this evaluation focuses on those parts of the day when such congestion can occur, specifically the AM and PM peak hours.

1.4.1 Arterial Roads

For the arterial system, the peak hour is the accepted time period used for impact evaluation and a number of techniques are available to establish suitable V/C ratios and define the corresponding LOS. These definitions and procedures are established by individual local jurisdictions or by regional programs such as the Congestion Management Program (CMP).

The analysis of the arterial road system is based on intersection capacity since this is the defining capacity limitation on an arterial highway system. There may be exceptions where certain facilities have long distances between signalized intersections, but within the traffic analysis study area, peak hour intersection performance is the most representative measure for evaluating the arterial road system. Levels of service for arterial roadway intersections are determined based on operating conditions during the AM and PM peak hours. For intersections, the intersection capacity utilization (ICU) methodology is applied, providing a planning level basis for determining V/C and LOS. This methodology sums the V/C ratios for the critical movements of an intersection and is the preferred procedure for intersection analysis by the City of Santa Clarita and the County of Los Angeles. The ICU methodology is generally compatible with the intersection capacity analysis methodology outlined in the *HCM 2000*.

Table 1-1

LEVEL OF SERVICE DESCRIPTIONS

LOS	Arterial Roads	Freeway Segments
A	Describes primarily free-flow operations at average travel speeds, usually about 90 percent of the free-flow speed for the given street class. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Control delay at signalized intersections is minimal.	Describes free-flow operations. Free-flow speeds prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream. The effects of incidents or point breakdowns are easily absorbed at this level.
B	Describes reasonably unimpeded operations at average travel speeds, usually about 70 percent of the free-flow speed for the street class. The ability to maneuver within the traffic stream is only slightly restricted, and control delays at signalized intersections are not significant.	Represents reasonably free flow, and free-flow speeds are maintained. The ability to maneuver within the traffic stream is only slightly restricted, and the general level of physical and psychological comfort provided to drivers is still high. The effects of minor incidents and point breakdowns are still easily absorbed.
C	Describes stable operations; however, ability to maneuver and change lanes in midblock locations may be more restricted than at LOS B, and longer queues, adverse signal coordination, or both may contribute to lower average travel speeds of about 50 percent of the free-flow speed for the street class.	Provides for flow with speeds at or near the free-flow speed of the freeway. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver. Minor incidents may still be absorbed, but the local deterioration in service will be substantial. Queues may be expected to form behind any significant blockage.
D	Borders on a range in which small increases in flow may cause substantial increases in delay and decreases in travel speed. LOS D may be due to adverse signal progression, inappropriate signal timing, high volumes, or a combination of these factors. Average travel speeds are about 40 percent of free-flow speed.	The level at which speeds begin to decline slightly with increasing flows and density begins to increase somewhat more quickly. Freedom to maneuver within the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort levels. Even minor incidents can be expected to create queuing, because the traffic stream has little space to absorb disruptions.

(cont.)

Table 1-1 (cont.)
LEVEL OF SERVICE DESCRIPTIONS

LOS	Arterial Roads	Freeway Segments
E	Characterized by significant delays and average travel speeds of 33 percent or less of the free-flow speed. Such operations are caused by a combination of adverse signal progression, high signal density, high volumes, extensive delays at critical intersections, and inappropriate signal timing.	At its highest density value, LOS E describes operation at capacity. Operations at this level are volatile, because there are virtually no usable gaps in the traffic stream. Vehicles are closely spaced, leaving little room to maneuver within the traffic stream at speeds that still exceed 49 miles per hour. Any disruption of the traffic stream, such as vehicles entering from a ramp or a vehicle changing lanes, can establish a disruption wave that propagates throughout the upstream traffic flow. At capacity, the traffic stream has no ability to dissipate even the most minor disruption, and any incident can be expected to produce a serious breakdown with extensive queuing. Maneuverability within the traffic stream is extremely limited, and the level of physical and psychological comfort afforded the driver is poor.
F	Characterized by urban street flow at extremely low speeds, typically one-third to one-fourth of the free-flow speed. Intersection congestion is likely at critical signalized locations, with high delays, high volumes, and extensive queuing.	Describes breakdowns in vehicular flow. Such conditions generally exist within queues forming behind breakdown points. LOS F operations within a queue are the result of a breakdown or bottleneck at a downstream point. LOS F is also used to describe conditions at the point of the breakdown or bottleneck and the queue discharge flow that occurs at speeds lower than the lowest speed for LOS E, as well as the operations within the queue that forms upstream. Whenever LOS F conditions exist, they have the potential to extend upstream for significant distances.

Source: *Highway Capacity Manual 2000 (HCM 2000)*, Transportation Research Board, National Research Council.

1.4.2 Impact Criteria for Arterial Roads

The ICU calculation methodology and associated impact criteria for the study area arterial system are summarized in Table 1-2.

1.4.3 Freeway Segments

For the freeway system, the peak hour is the accepted time period used for impact evaluation. The Caltrans guidelines for the preparation of traffic impact studies (see Reference 4 in Section 1.6) define the transition between LOS C and LOS D as the target LOS to be maintained. Caltrans acknowledges that this may not always be feasible and allows for an alternative target LOS when appropriate. If an existing freeway is operating at less (worse) than the appropriate target LOS, the guidelines recommend that the existing measure of effectiveness (MOE) should be maintained. The MOE used by Caltrans for freeway segments is Density and is measured in passenger cars per mile per lane (pc/mi/ln).

The CMP guidelines for a transportation impact analysis (see Reference 8 in Section 1.6) require a simplified analysis of freeway impacts that consists of a demand-to-capacity calculation for the affected CMP monitoring locations. The CMP defines a significant impact occurring when the proposed project increases traffic demand by two percent of capacity ($V/C \geq .02$), causing or worsening LOS F.

Table 1-2

ARTERIAL INTERSECTION PERFORMANCE CRITERIA

V/C Calculation Methodology

Level of service to be based on peak hour intersection capacity utilization (ICU) values calculated using the following assumptions (County Methodology):

Saturation Flow Rates: 1,600 vehicles/hour/lane for through lanes, right-turn lanes & single left-turn lanes
2,800 vehicles/hour for dual left-turn lanes
1,750 vehicles/hour/lane for intersections within the City of Santa Clarita

Clearance Interval: .10

Performance Standards

County: LOS D (peak hour ICU less than or equal to 0.90) for new/future intersections for buildout conditions
LOS C (peak hour ICU less than 0.75) or existing LOS, whichever is greater, for existing intersections

City: LOS D or existing LOS, whichever is greater

Impact Thresholds

An intersection is considered to be adversely impacted if compared to the ICU in the no-project alternative, the ICU in the with-project alternative increases the ICU by the following:

County Thresholds:	Pre-Project ICU	Project Increment
	.71 - .80 (LOS C)	greater than or equal to .04
	.81 - .90 (LOS D)	greater than or equal to .02
	.91 or more (LOS E & F)	greater than or equal to .01

City Thresholds:	With-Project ICU	Project Increment
	.81 - .90 (LOS D)	greater than or equal to .02
	.91 or more (LOS E & F)	greater than or equal to .01

Abbreviations:
V/C – Volume/Capacity Ratio
LOS – Level of Service
ICU – Intersection Capacity Utilization

1.5 DEFINITIONS

Certain terms used throughout this report are defined below to clarify their intended meaning:

ADT — Average Daily Traffic. Generally used to measure the total two-directional traffic volumes passing a given point on a roadway.

CMP — Congestion Management Program. A state mandated program administered by the Los Angeles County Metropolitan Transportation Authority (MTA) that provides a mechanism for coordinating land use and development decisions.

ICU — Intersection Capacity Utilization. A measure of the volume to capacity ratio for an intersection. Typically used to determine the peak hour level of service for a given set of intersection volumes.

LOS — Level of Service. A scale used to evaluate circulation system performance based on intersection ICU values or volume/capacity ratios of arterial segments.

Peak Hour — This refers to the hour during the AM peak period (typically 7 AM - 9 AM) or the PM peak period (typically 3 PM - 6 PM) in which the greatest number of vehicle trips are generated by a given land use or are traveling on a given roadway.

Tripend — A trip generation measure which represents the total trips entering and leaving a location.

V/C — Volume to Capacity Ratio. This is typically used to describe the percentage of capacity utilized by existing or projected traffic on a segment of an arterial or intersection.

VPH — Vehicles Per Hour. Used for roadway volumes (counts or forecasts) and trip generation estimates. Measures the number of vehicles in a one-hour period, typically the AM or PM peak hour.

1.6 REFERENCES

1. "Highway Capacity Manual 2000," Transportation Research Board, National Research Council, 2000.

2. "Trip Generation 7th Edition," Institute of Transportation Engineers, 2004.

3. "Caltrans Highway Design Manual," Caltrans, July 1995.

4. "Guide for the Preparation of Traffic Impact Studies," Caltrans, December 2002.

5. "Traffic Impact Analysis Report Guidelines," County of Los Angeles Department of Public Works, January 1997.

6. "Santa Clarita Valley Consolidated Traffic Model Report," County of Los Angeles Department of Public Works, 1994.

7. "Santa Clarita Valley Consolidated Traffic Model 2004 Update and Validation," City of Santa Clarita and County of Los Angeles Department of Public Works, March 2005.

8. "2002 Congestion Management Program for Los Angeles County," Los Angeles County Metropolitan Transportation Authority, June 2002.

9. "City of Santa Clarita General Plan Circulation Element," City of Santa Clarita, December 1997.

10. "North County Combined Highway Corridors Study Final Report," Los Angeles County Metropolitan Transportation Authority, June 2004.

11. "Preliminary Traffic Impact Report Guidelines," City of Santa Clarita, August 1990.

2.0 TRANSPORTATION SETTING

This chapter describes the transportation setting for the traffic analysis. Existing conditions are first discussed, followed by a description of the future circulation system as outlined in the County's Circulation Element.

2.1 EXISTING CONDITIONS

The following section describes existing traffic conditions in the study area. It includes a description of the study area roadway system, existing traffic volumes and corresponding levels of service as defined by the performance criteria outlined in the previous chapter.

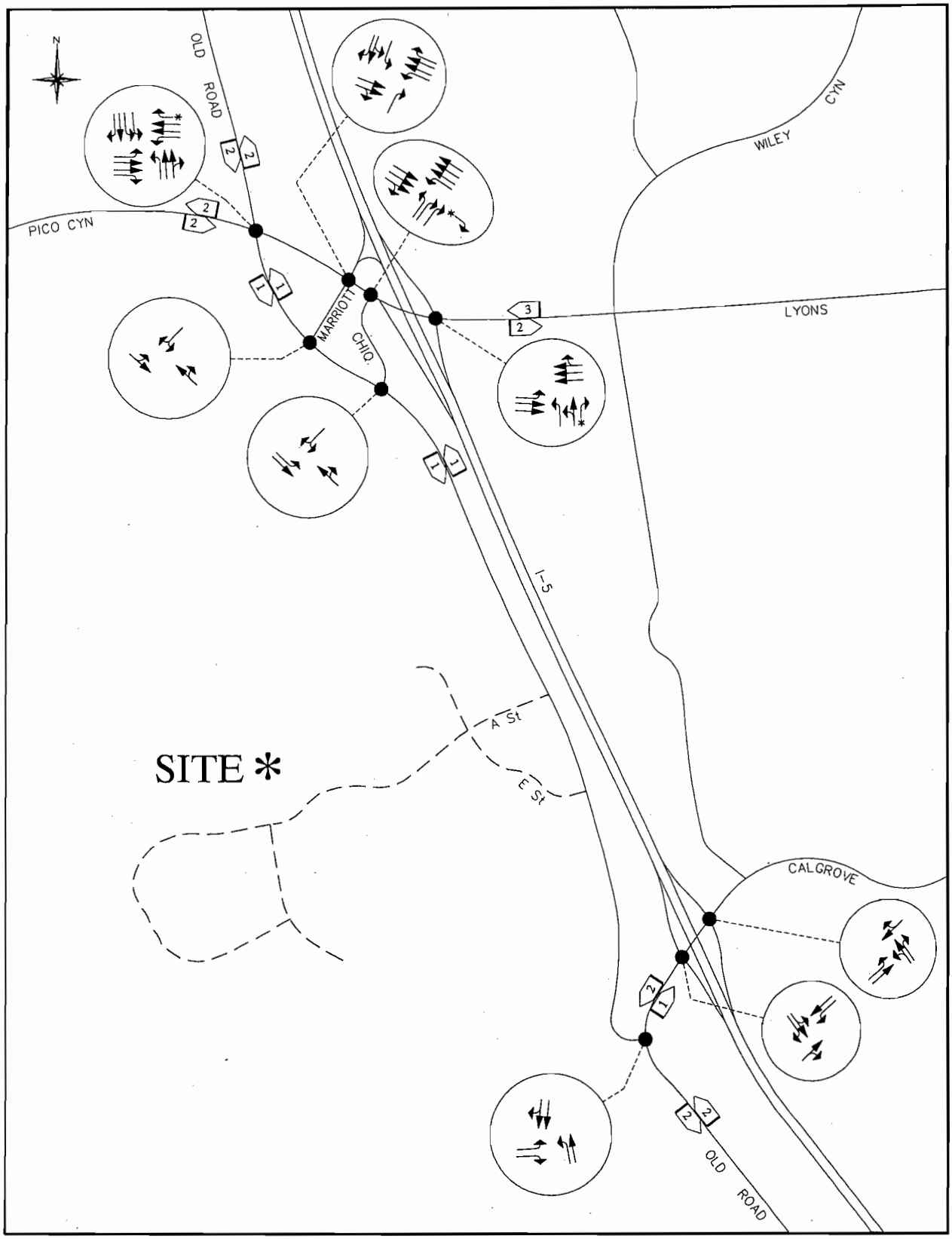
2.1.1 Existing Roadway System

The existing roadway network in the study area is illustrated in Figure 2-1 in the form of mid-block lanes and intersection lane configurations for the intersections being studied. Major arterial streets near to the project site consist of The Old Road, Pico Canyon Road and Calgrove Boulevard.

The I-5 Freeway provides regional access for residents of the site and is located just east of the project site. The I-5 Freeway can be accessed from the project site via full interchanges at Calgrove Blvd and Pico Canyon Road/Lyons Avenue.

2.1.2 Existing Traffic Volumes and Levels of Service

The existing average daily traffic (ADT) volumes on the study area roadway system are illustrated in Figure 2-2. Illustrations of peak hour turning movement volumes for each study area intersection can be found in Figures 2-3 and 2-4 for the AM and PM peak hours, respectively. The peak hour counts were collected during March and April, 2004, for this impact analysis.



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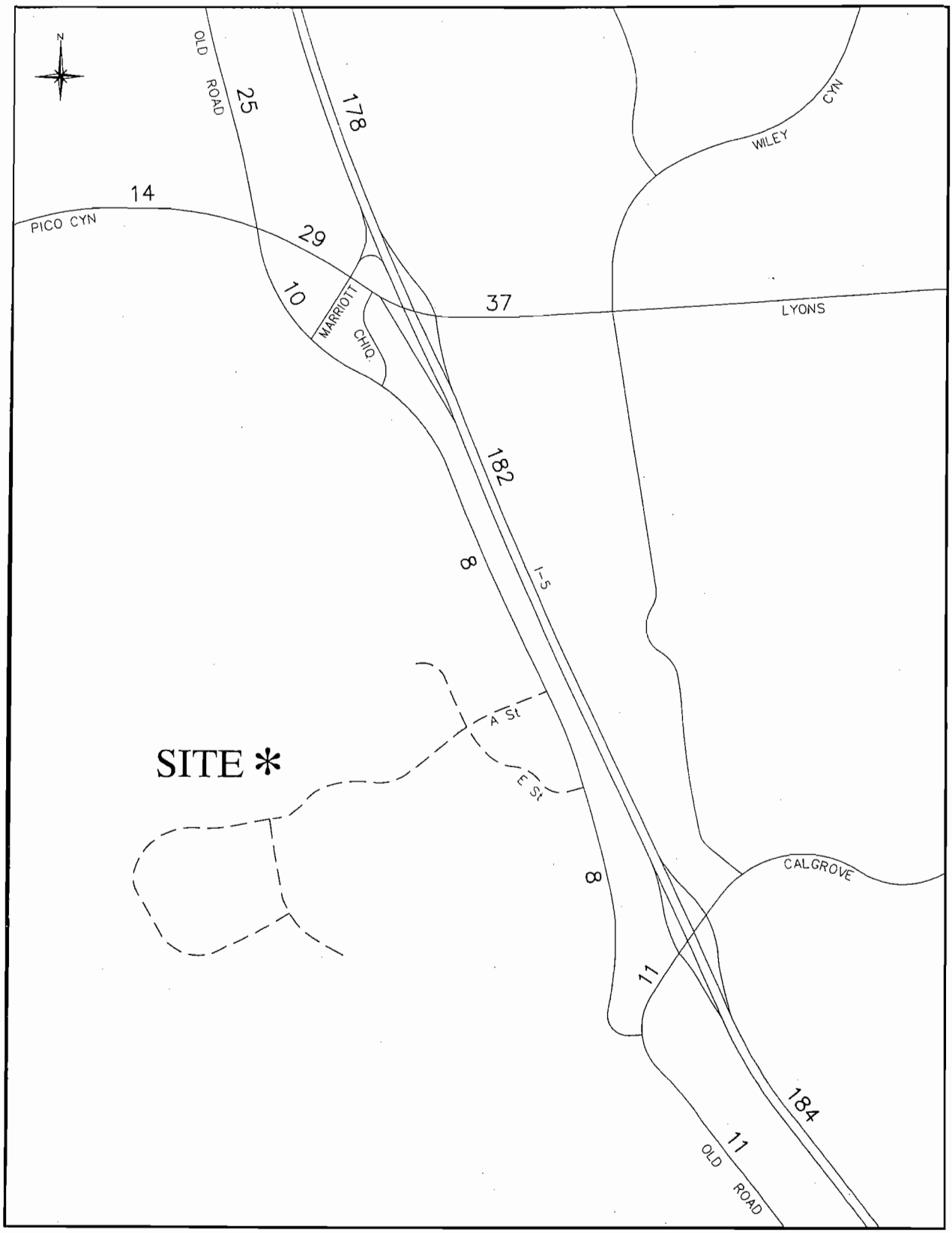
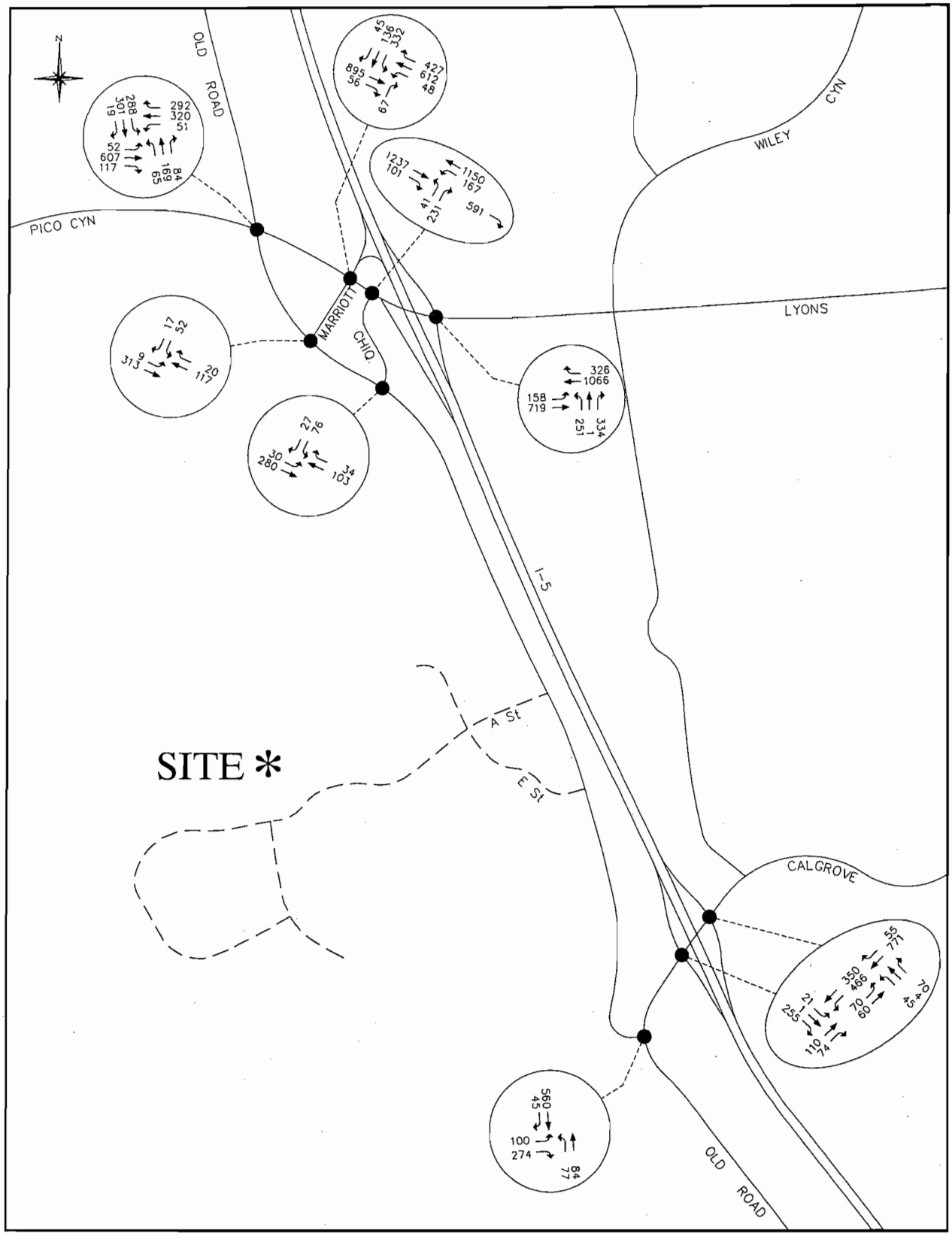
- Intersection Lane
- Free-flow Right-turn Lane
- X Mid-block Lanes (each direction)

Figure 2-1

EXISTING ROADWAY NETWORK
- INTERSECTION LANE CONFIGURATIONS



Legend	Figure 2-2
XX ADT Volume (000s)	AVERAGE DAILY TRAFFIC VOLUMES - EXISTING COUNTS



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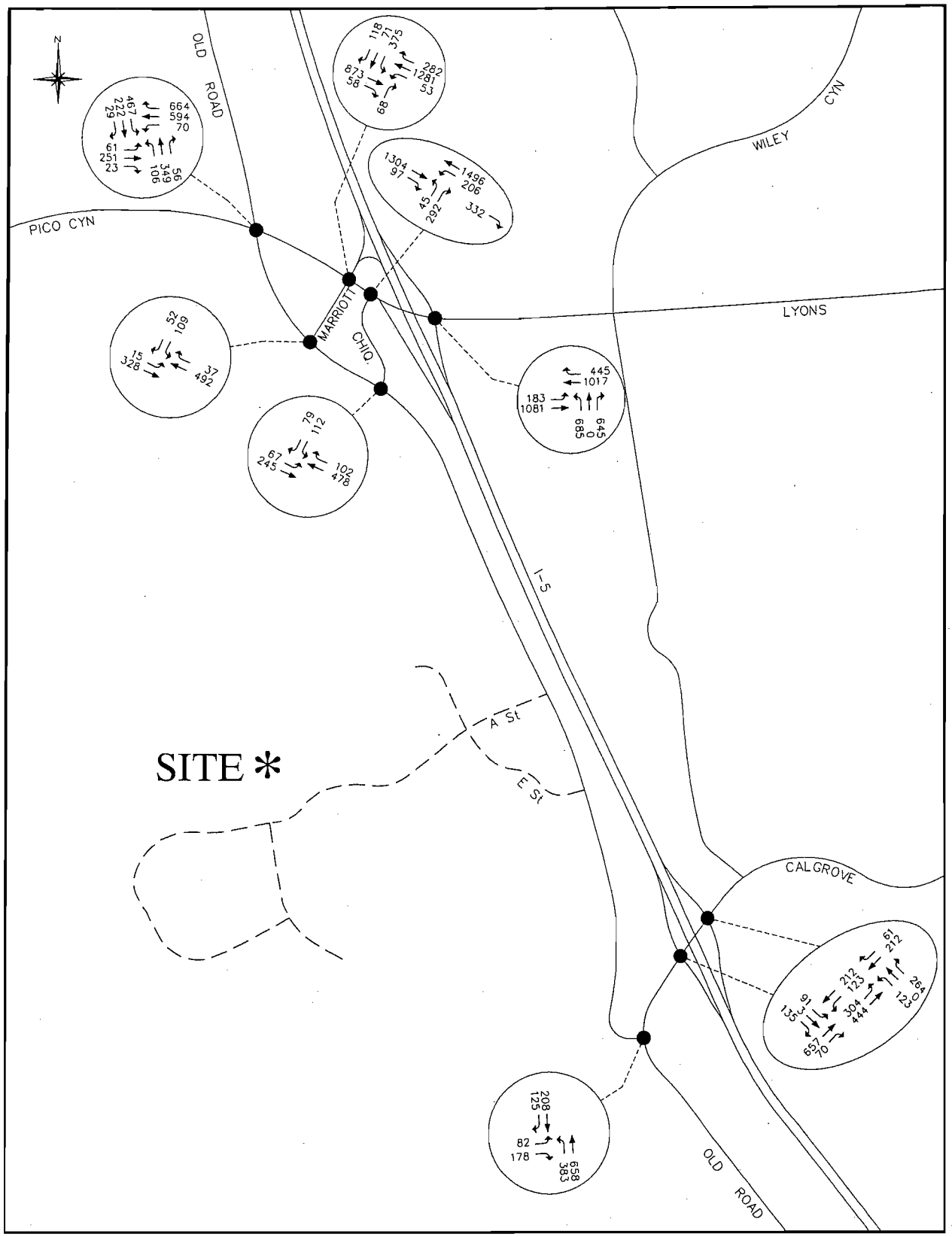
←xxx Intersection Volume

Figure 2-3

AM PEAK HOUR TURNING MOVEMENT VOLUMES - EXISTING COUNTS



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←xxx Intersection Volume

Figure 2-4

PM PEAK HOUR TURNING MOVEMENT VOLUMES - EXISTING COUNTS

As discussed in the section on performance criteria in Chapter 1.0, level of service (LOS) is a concept developed to quantify the degree of comfort afforded to drivers as they travel on a given roadway. The degree of comfort includes such elements as travel time, number of stops, total amount of stopped delay, etc. As defined in the HCM 2000, six grades are used to denote the various LOS. The six are denoted A through F and a discussion on these was also given in Chapter 1.0.

The results of the ICU LOS analyses for project area intersections are shown in Table 2-1 (ICU worksheets are provided in Appendix A). The table shows how each intersection currently meets the performance standard of the respective jurisdiction.

As noted in the table, a number of intersections in the study area are not currently controlled by a traffic signal. For those locations, the ICU provides an indication of the level of service based on traffic signal control and provides a benchmark for comparison of future conditions with the proposed project.

2.1.3 Public Transportation

Santa Clarita Transit currently does not provide fixed-route transit immediately adjacent to the project site. The nearest fixed-route transit line is for Routes 5 and 6, which passes through the intersection of The Old Road and Pico Canyon Road and is just over one mile north of the project site. Routes 5 and 6 provide service to the Stevenson Ranch Area, Hart High School, the Valencia Town Center and Canyon Country.

The nearest transit center is the Newhall Metrolink station which is located approximately three miles northeast of the project site.

2.2 INTERIM YEAR TRANSPORTATION SYSTEM

The Interim Year transportation system consists of roadway improvements and future infrastructure consistent with the related projects included within the horizon year. Generally, this horizon year corresponds to the year 2015 based on anticipated Santa Clarita Valley growth rates from sources such as the Southern California Association of Governments (SCAG). While this horizon does not coincide specifically with the buildout of the project site, it represents the best timeframe for planning

Table 2-1

ICU SUMMARY – EXISTING (2004) CONDITIONS

Location	AM Peak Hour ICU	AM Peak Hour LOS	PM Peak Hour ICU	PM Peak Hour LOS	Count Date
Freeway On/Off Ramp Intersections					
16. I-5 SB/Marriott & Pico Cyn Rd	.60	A	.64	B	March 2004
17. I-5 NB Ramps & Lyons Ave	.53	A	.68	B	March 2004
18. I-5 SB Ramps & Calgrove Blvd[1]	.53	A	.69	B	April 2004
19. I-5 NB Ramps & Calgrove Blvd[1]	.64	B	.52	A	April 2004
County Intersections					
21. Calgrove Blvd & The Old Rd[1]	.47	A	.56	A	April 2004
29. The Old Rd & Pico Canyon	.55	A	.62	B	March 2004
324. Chiquella Ln & Pico Cyn Rd	.51	A	.55	A	April 2004
325. Marriott Wy & The Old Rd[1]	.34	A	.54	A	April 2004
326. Chiquella Ln & The Old Rd[1]	.34	A	.62	B	April 2004

[1]Unsignalized, stop-sign control

Level of service ranges: .00 - .60 A .81 - .90 D
.61 - .70 B .91 – 1.00 E
.71 - .80 C Above 1.00 F

purposes for a fast growing area such as the Santa Clarita Valley, since it includes a comprehensive set of cumulative development projects that have been incorporated into the SCVCTM. With this, a conservative scenario is established for analyzing the impacts of the proposed project combined with projected and approved growth on a reasonably expanded circulation system.

Interim Year land use is based on data provided by the City and County and includes approved, pending and planned development projects. For this analysis, the recently updated Interim Year land use database was utilized since it includes the most recent data from the City and County regarding these future projects. Table 2-2 summarizes the total land use and trip generation statistics for the entire Santa Clarita Valley area for existing (2004), Interim Year (2015) and Long-range General Plan (2030) conditions. The table shows how the total ADT generated within the valley is expected to double between 2004 and buildout, with just more than half of that growth occurring by 2015.

Table 2-2

LAND USE AND ADT SUMMARY – SANTA CLARITA VALLEY EXISTING AND FUTURE

		Existing (2004)		Interim Year (2015)		Long-Range General Plan (2030)	
Land Use Type	**Units**	**Amount**	**ADT**	**Amount**	**ADT**	**Amount**	**ADT**
Single Family Residential	DU	51,300	501,000	72,700	713,000	90,300	886,000
Multi-Family Residential	DU	25,600	203,000	41,200	320,000	49,400	386,000
Commercial Retail, Office & Industrial	MSF	31.8	696,000	67.0	1,183,000	82.6	1,581,000
Other	--	--	170,000	--	228,000	--	247,000
TOTAL	--	--	1,570,000	--	2,444,000	--	3,100,000

Notes:
DU = Dwelling Units
MSF = Million Square Feet

Table 2-3 lists the cumulative projects included with the Interim Year scenario that are located within or close to the project study area.

Table 2-3

CUMULATIVE PROJECTS WITHIN PROJECT STUDY AREA

Location	Description
TR 33608 – North of Pico Canyon Road, east of Stevenson Ranch Parkway (TAZ 147)	Stevenson Ranch Phase III 140 Single Family Residential DU 667 Multi Family Residential DU
TR 48208 – South of Pico Canyon Road, west of Stevenson Ranch Parkway (TAZ 161)	51 Single Family Residential DU
TR 52905 – South of Pico Canyon Road, west of Stevenson Ranch Parkway (TAZ 161)	23 Single Family Residential DU
New Commercial/Infill – South of Pico Canyon Road/West of The Old Road (TAZ 161)	83,000 sq. ft. Commercial Retail 221,0000 sq. ft. Commercial Office

Sources:
Santa Clarita Valley Subdivision Activity Map (City March 2005, County June 2004)
SCVCTM 4.0 Land Use Database (2004)
Aerial Photography (April 2004)

Notes:
TAZ = SCVCTM Traffic Zone
DU = Dwelling Units
sq. ft. = Square Feet

2.3 LONG-RANGE TRANSPORTATION SYSTEM

The County's Highway Plan includes significant future roadway projects throughout the valley that will affect traffic patterns of both existing and future trips. Near to the project site, The Old Road will be expanded from its existing two-lane configuration to a four-lane roadway.

The I-5 freeway is part of a recent study prepared by the Los Angeles County Metropolitan Transportation Authority (Metro) and Caltrans (see Reference 10 in Section 1.6) in which it was determined that the I-5 corridor between SR-14 and SR-126 West will ultimately double from the current

four lanes in each direction to eight lanes in each direction. Two of the eight lanes would be for high occupancy vehicles (HOVs), two lanes for trucks, and four lanes for general use. The increase in the number of lanes would accommodate that study's forecast of a doubling of I-5 travel demand by 2025.

3.0 PROJECT DESCRIPTION

This chapter describes the project in terms of its transportation characteristics. Trip generation is summarized and the distribution of project trips on the study area roadway network is presented.

3.1 PROJECT OVERVIEW

The site plan for the proposed Lyons Canyon project can be seen in Figure 3-1. The site is immediately west of The Old Road, just north of the intersection of The Old Road and Calgrove Boulevard.

The proposed project is located on an approximately 232 acre site and consists primarily of 186 residential dwelling units, a neighborhood park, a fire station and open space. 96 of the residential units are proposed as single family detached homes and the remaining residential units are proposed as 90 senior condominium homes.

Access for the residential uses is from two new roadways that intersect with The Old Road and extend west into the project site. The first roadway, "A" Street, intersects with The Old Road approximately 0.65 miles north of Calgrove Boulevard and will function as the primary access point for the site. The second roadway, "E" Street, intersects with The Old Road approximately 1,100 feet south of the "A" Street intersection and will be configured for right-turn-in and right-turn-out movements only.

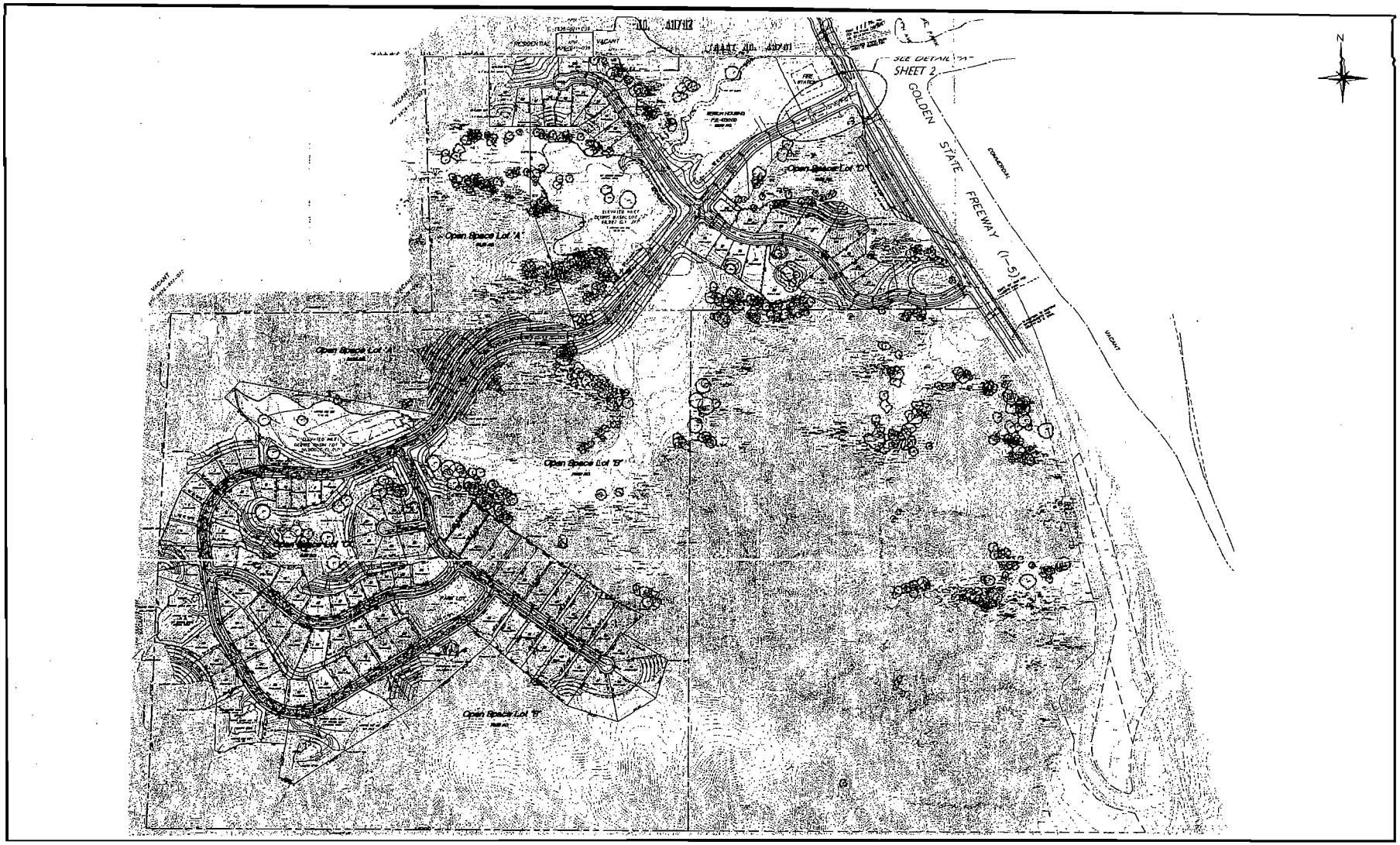


Figure 3-1

SITE PLAN

3.2 PROJECT TRIP GENERATION

Trip generation estimates for the proposed project are shown in Table 3-1. The trip generation is calculated using published data from the Institute of Transportation Engineers (ITE) Seventh Edition Trip Generation Manual (see Reference 2 in Section 1.6). The ITE senior housing trip rate is derived from studies of active senior communities composed of detached homes, and is applied for the senior condominiums as well as the senior detached homes. The same rate is used for both based on an expectation of occupancy by active seniors, as opposed to seniors that require convalescent care.

Table 3-1

LAND USE AND TRIP GENERATION SUMMARY

	Units	AM Peak Hour			PM Peak Hour			ADT
		In	Out	Total	In	Out	Total	
Lyons Canyon Ranch (June 2005)								
Single Family Residential	96 DU	18	54	72	61	36	97	919
Senior (Active) Residential	90 DU	7	11	18	14	9	23	334
Total		25	65	90	75	45	120	1,253
Trip Rates								
Single Family Residential [1]	DU	.19	.56	.75	.64	.37	1.01	9.57
Senior (Active) Residential [2]	DU	.08	.12	.20	.16	.10	.26	3.71

Notes:
[1] ITE Category 210 (Single Family Residential)
[2] ITE Category 251 (Senior Adult Housing - Detached) / SCVCTM Category 7 (Senior (Active))

DU = Dwelling Unit

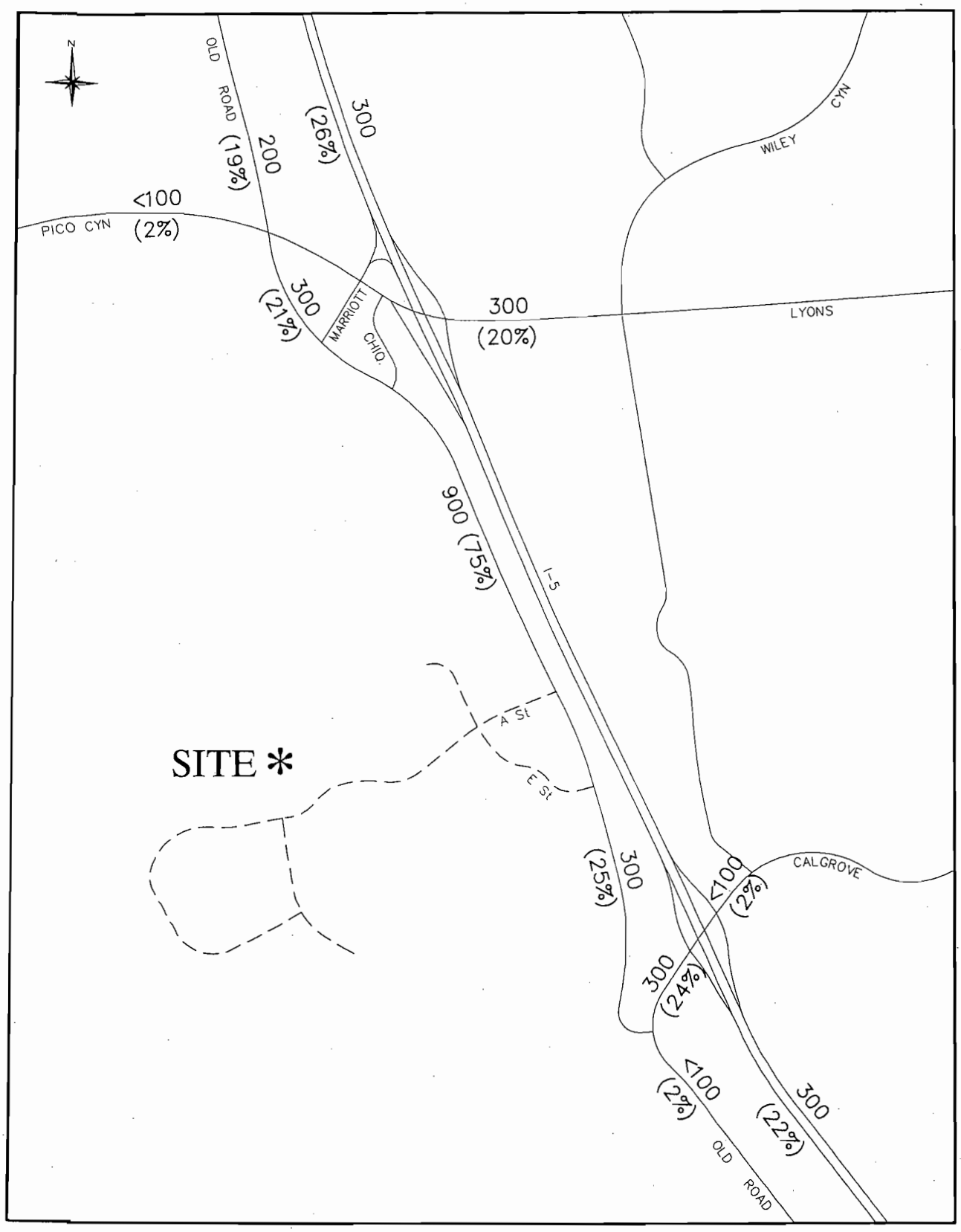
The proposed project is estimated to generate approximately 1,300 total average daily trips (ADT) with approximately 90 occurring in the AM peak hour (65 outbound) and approximately 120 occurring in the PM peak hour (75 inbound).

3.3 PROJECT TRIP DISTRIBUTION

The geographic distribution of project-generated trips was determined using the SCVCTM to prepare a project only select zone run. The Interim Year version of the SCVCTM provided the background conditions for this select zone run. The model takes into account the specific type of land use proposed for the site and how that land use would interact with the other land uses in the City.

Figure 3-2 illustrates the project only average daily trips (ADT) and distribution percentages for the proposed project. Figures 3-3 and 3-4 illustrate the project generated trips for the AM and PM peak hours, respectively, within the study area. Since the SCVCTM performs separate assignments for the AM peak hour, the PM peak hour and the off-peak period, the specific volumes for any individual time period will not precisely match the percentages noted in the previous figure.

Approximately 75 percent of the trips generated by the project are distributed north of the project site via The Old Road, and the remaining 25 percent are distributed to the south. Approximately 26 percent are distributed north on the I-5 freeway via the Pico Canyon Road interchange and approximately 22 percent are distributed south on the I-5 freeway via the Calgrove Boulevard interchange. On the arterial highways, approximately 20 percent are distributed east on Lyons Canyon Road and approximately 19 percent are distributed on The Old Road north of Pico Canyon Road.

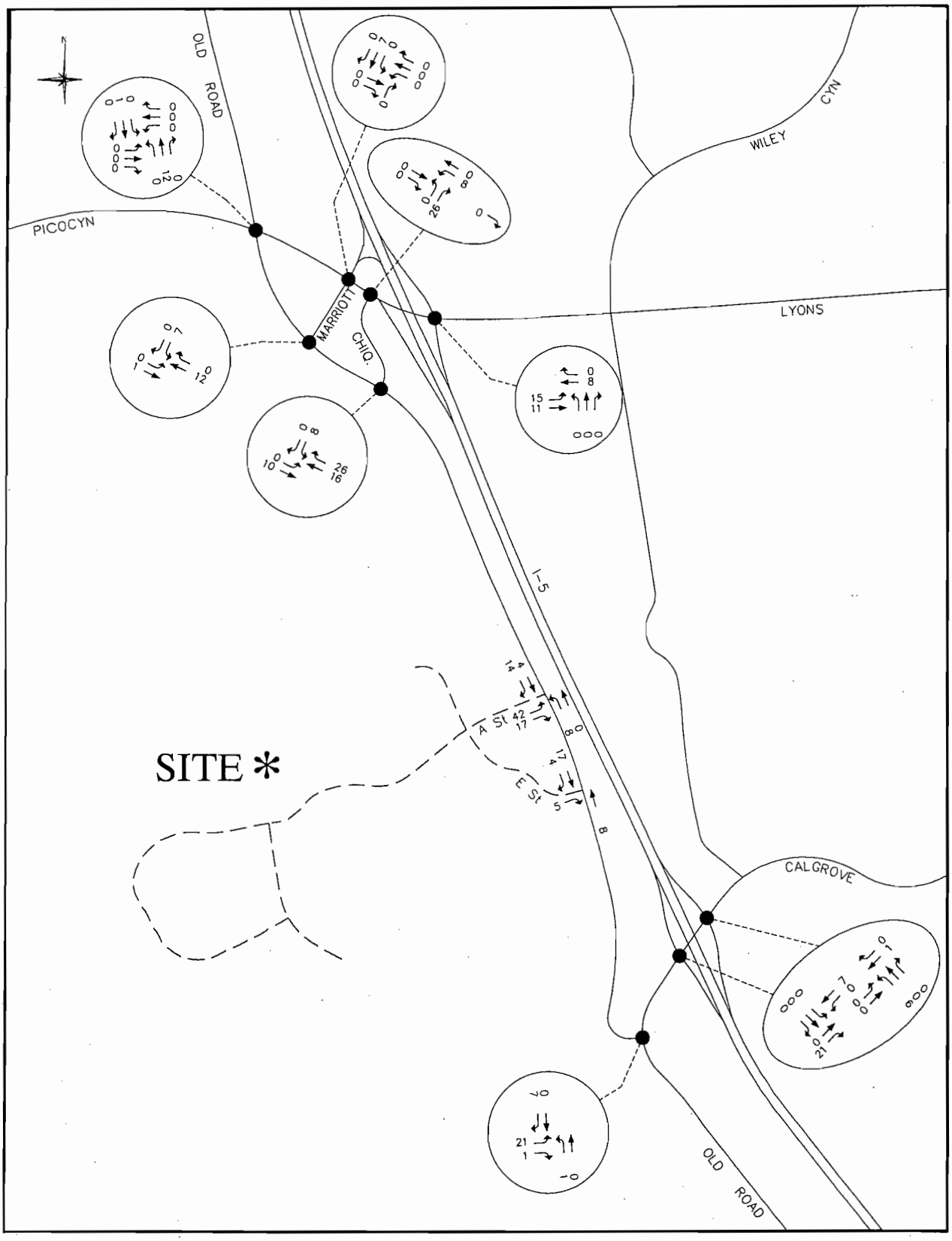


Legend

XX ADT Volume

Figure 3-2

AVERAGE DAILY TRAFFIC VOLUMES
- PROJECT ONLY
- PROJECT DISTRIBUTION PERCENTAGES

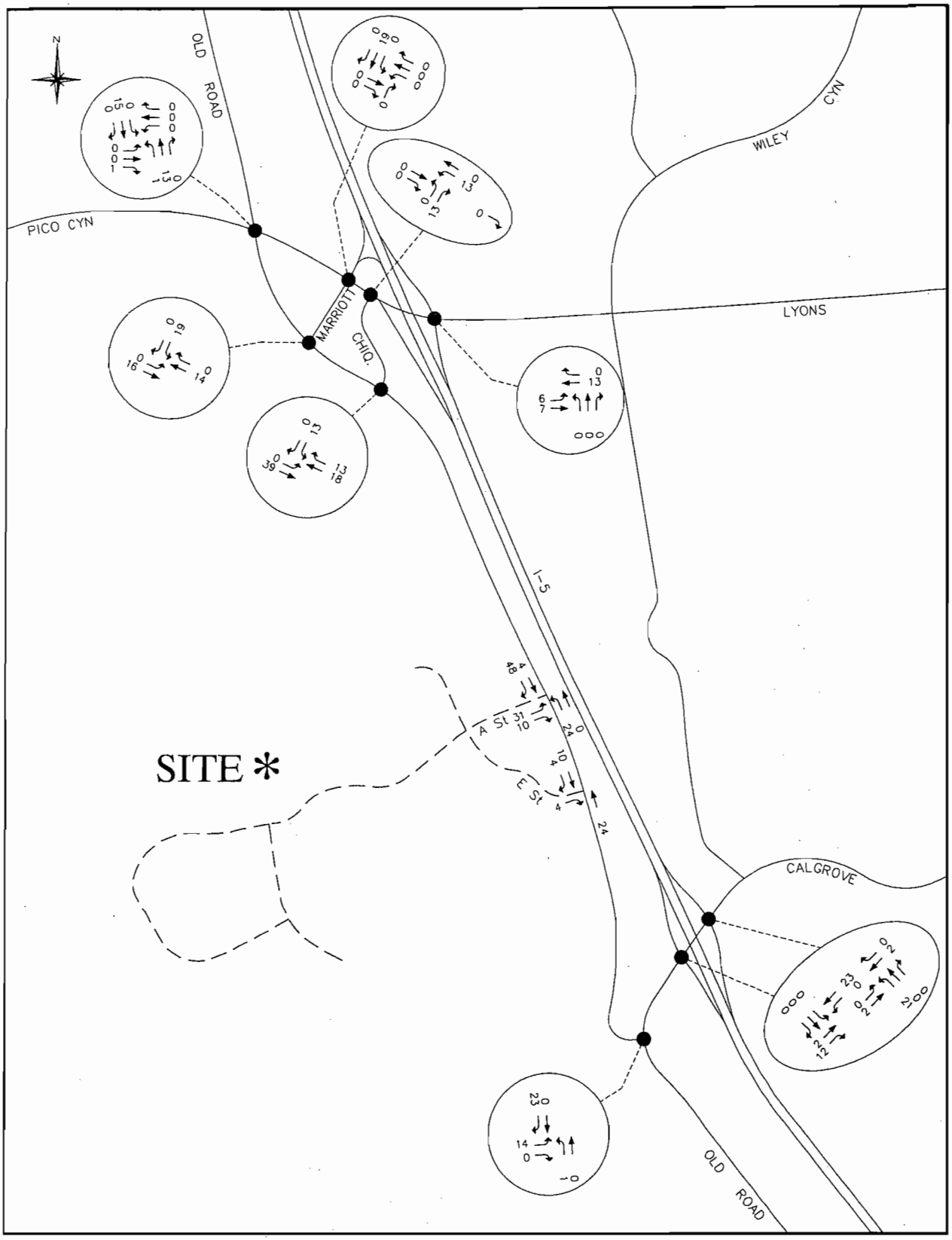


Legend

←xxx Intersection Volume

Figure 3-3

AM PEAK HOUR TURNING MOVEMENT VOLUMES - PROJECT ONLY



Legend

←xxx Intersection Volume

Figure 3-4

PM PEAK HOUR TURNING MOVEMENT VOLUMES - PROJECT ONLY

4.0 IMPACT ANALYSIS

This chapter addresses the traffic impacts of the proposed project. Traffic conditions with and without the proposed project are described in the following sections. Project impacts are identified using the criteria outlined in Chapter 1.0.

4.1 PROJECT-ONLY ANALYSIS

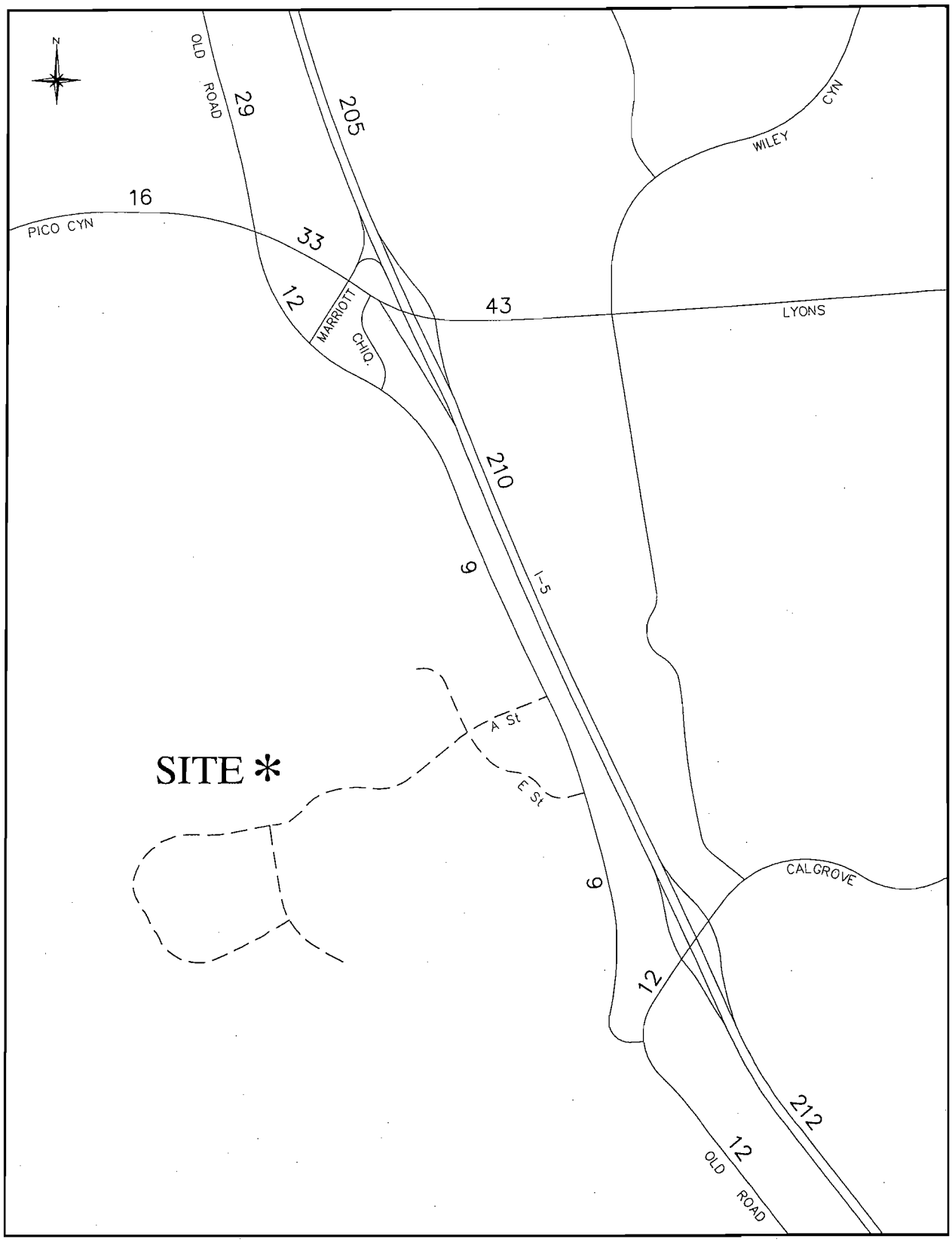
Future conditions, with and without the project generated traffic, are based on the existing conditions plus ambient growth setting described in Section 1.3. This setting forms the basis for identifying the potential project-only impacts of the proposed project.

4.1.1 Existing plus Ambient Growth Conditions

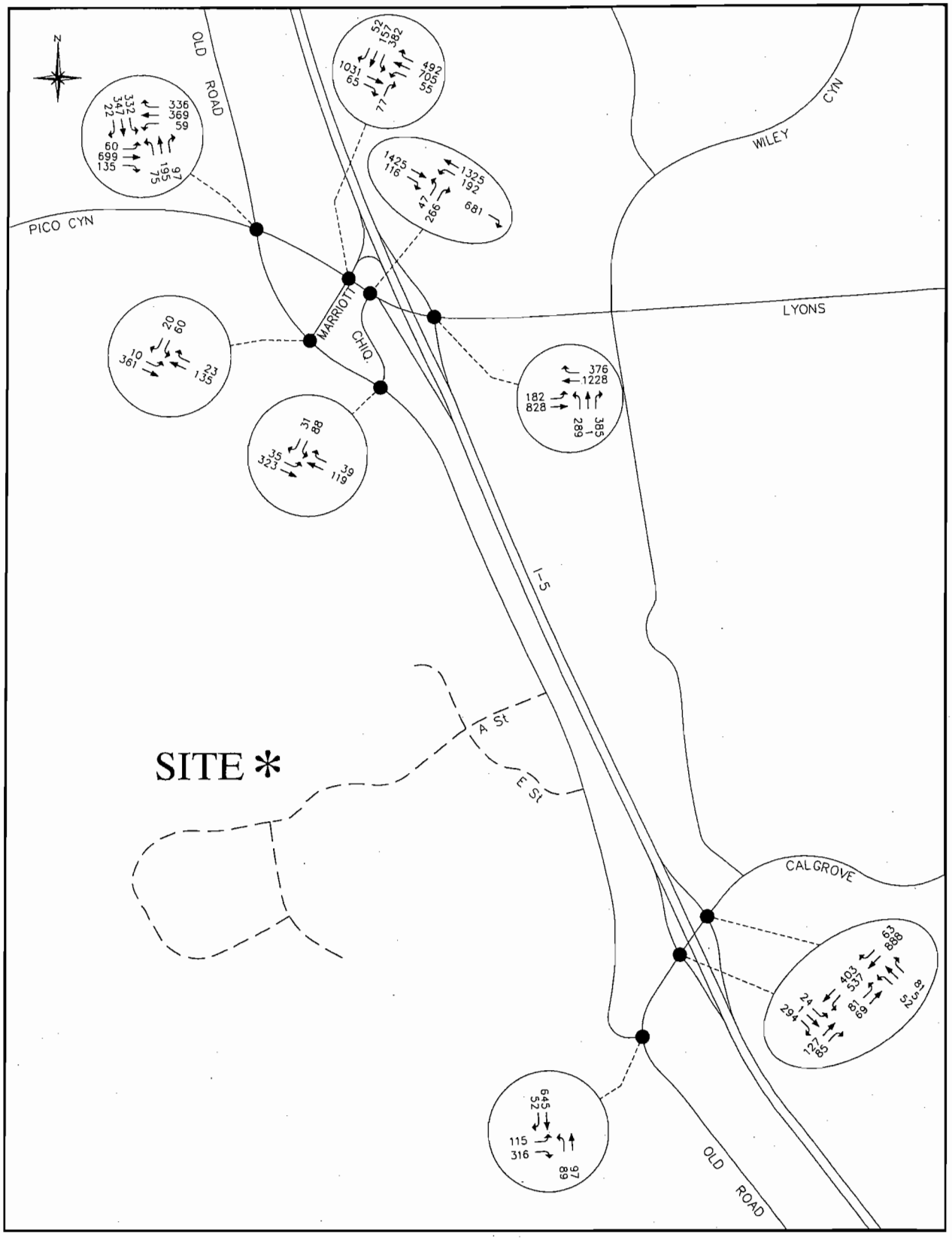
Since occupancy of the project site is anticipated in 2007 to 2008, a 2008 horizon year is utilized for analysis purposes to determine project-only impacts. To derive 2008 conditions, County staff has specified a 3.8 percent per year growth rate for this portion of Los Angeles County. When applied to the 2004 traffic counts shown previously in Chapter 2.0, this annual growth rate results in 15.2 percent of total growth between 2004 and 2008.

ADT volumes for existing plus ambient growth conditions are shown in Figure 4-1. The corresponding peak hour turning movement volumes for the intersections in the study area are illustrated in Figures 4-2 and 4-3 for the AM and PM peak hours, respectively. When traffic from the proposed project is added to these volumes, the ADT volumes illustrated in Figure 4-4 are the result. The corresponding peak hour turning movement volumes for conditions with the project traffic are illustrated in Figures 4-5 and 4-6 for the AM and PM peak hours, respectively.

Peak hour ICU values can be found in Table 4-1 which provides a comparison between existing plus ambient growth conditions with and without the project traffic. The table shows that no intersections experience a significant impact due to the project-generated traffic (see Table 1-2 for significant impact criteria).



Legend	Figure 4-1
XX ADT Volume (000s)	AVERAGE DAILY TRAFFIC VOLUMES - EXISTING COUNTS PLUS AMBIENT GROWTH (WITHOUT PROJECT)

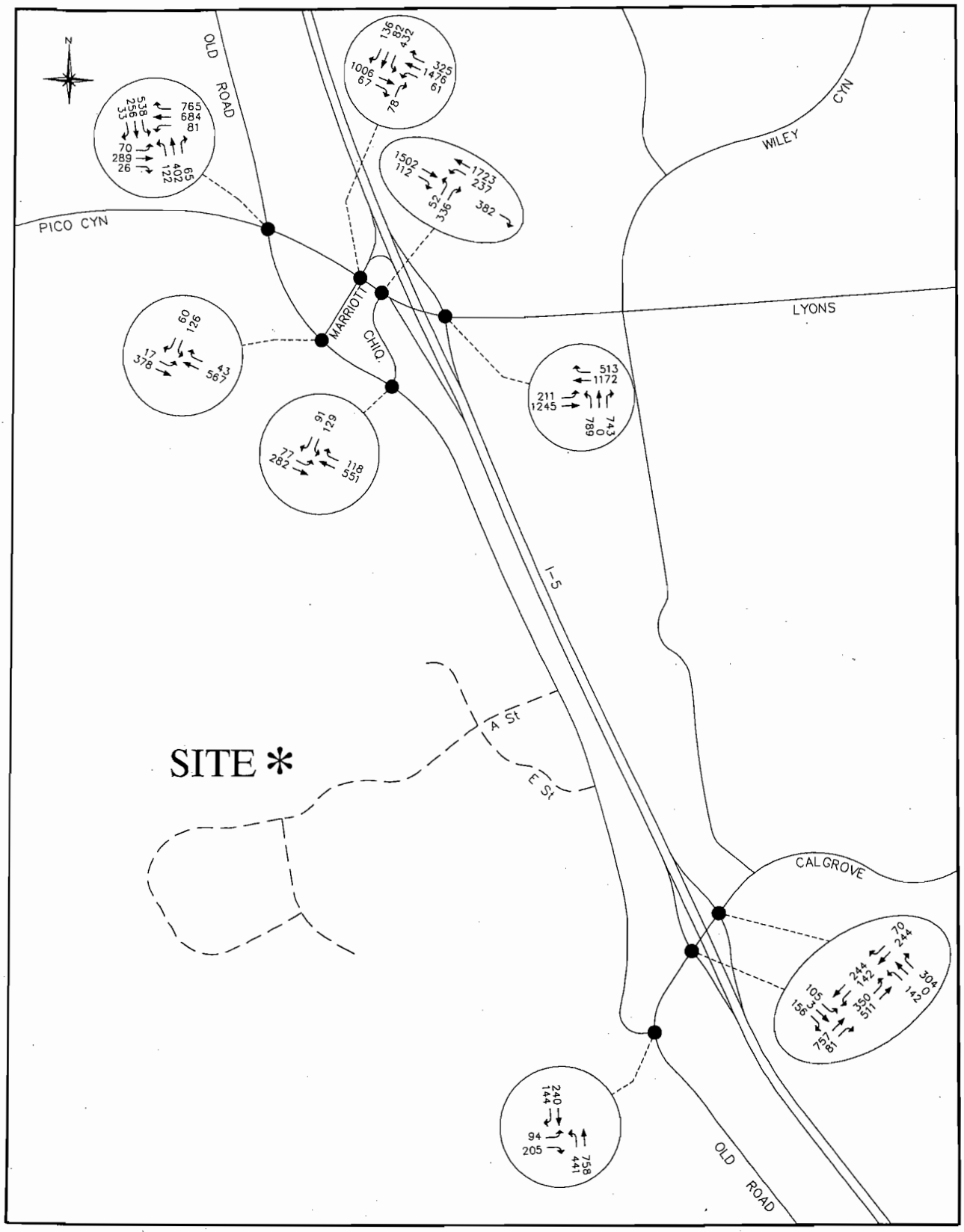


Legend

←xxx Intersection Volume

Figure 4-2

AM PEAK HOUR TURNING MOVEMENT VOLUMES - EXISTING COUNTS PLUS AMBIENT GROWTH (WITHOUT PROJECT)

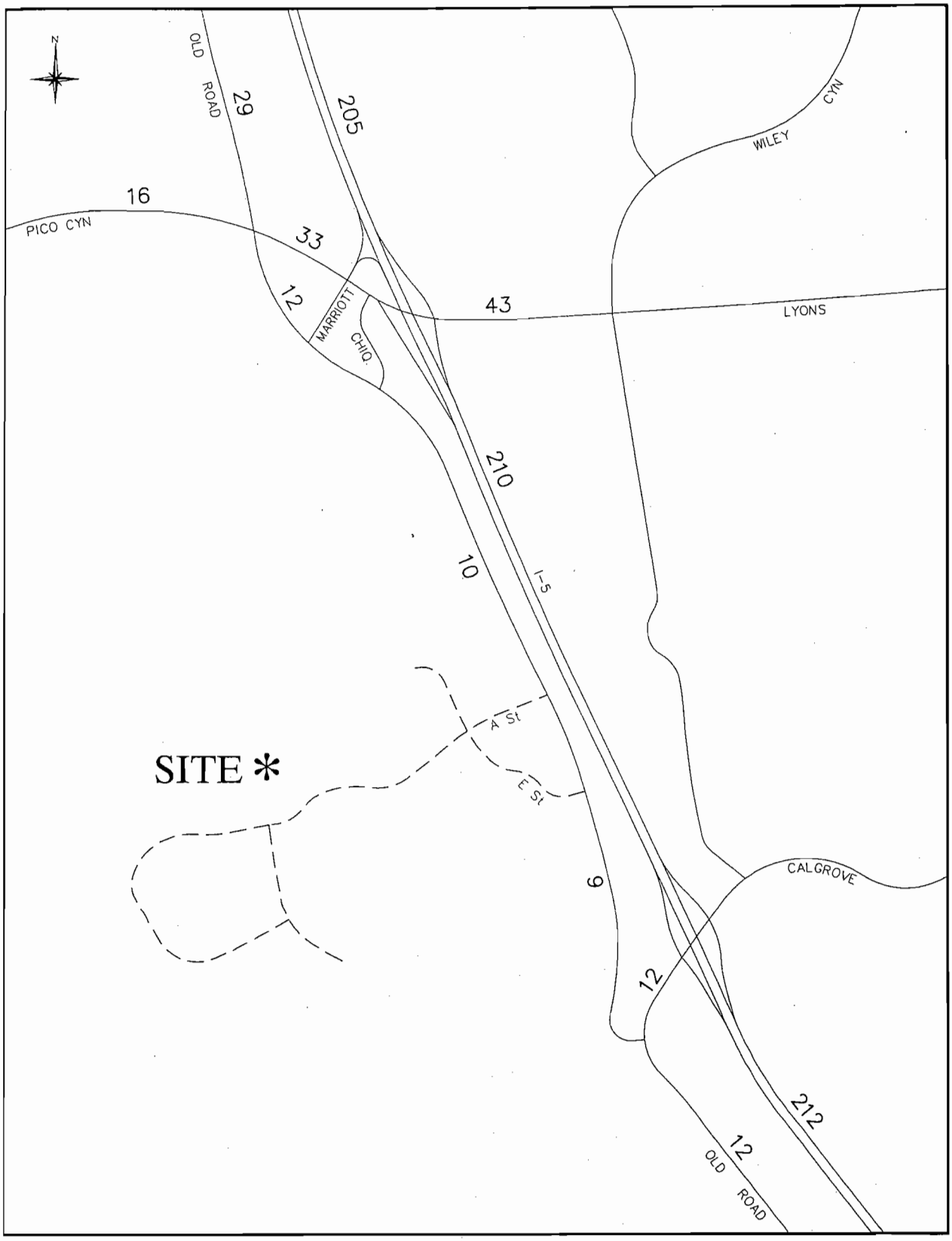


Legend

←xxx Intersection Volume

Figure 4-3

PM PEAK HOUR TURNING MOVEMENT VOLUMES - EXISTING COUNTS PLUS AMBIENT GROWTH (WITHOUT PROJECT)

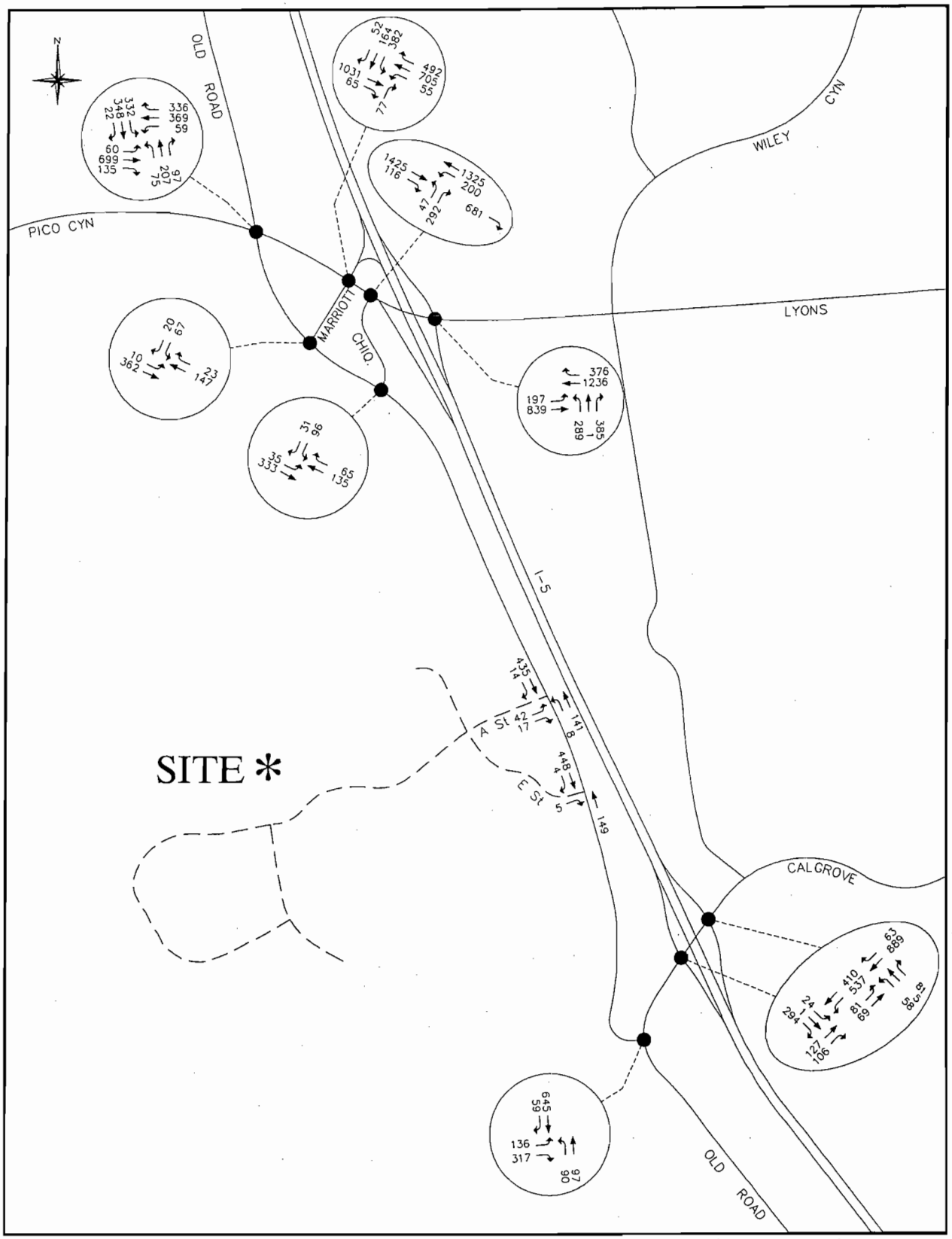


Legend

XX ADT Volume (000s)

Figure 4-4

AVERAGE DAILY TRAFFIC VOLUMES
- EXISTING COUNTS PLUS AMBIENT GROWTH
PLUS PROJECT

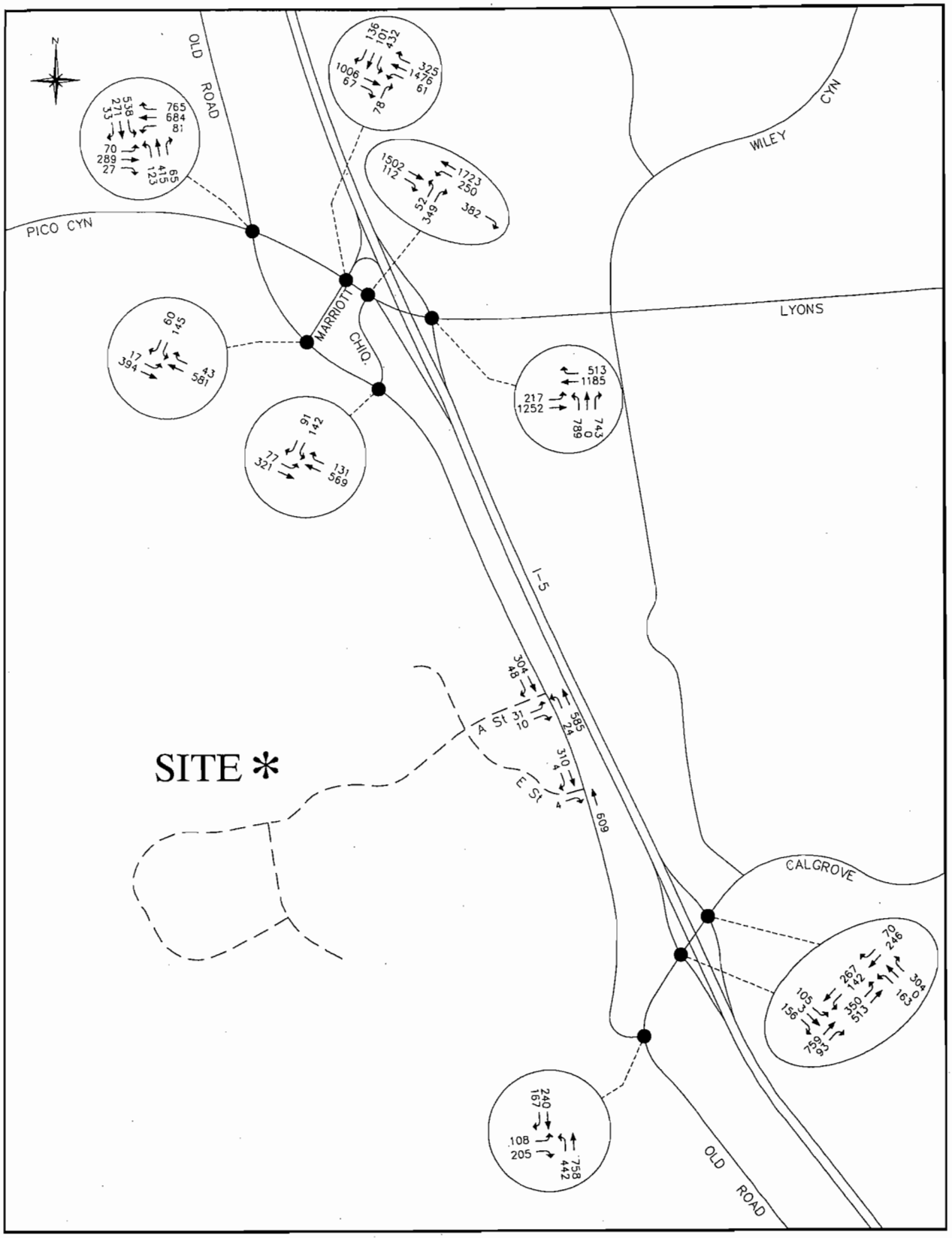


Legend

←xxx Intersection Volume

Figure 4-5

AM PEAK HOUR TURNING MOVEMENT VOLUMES - EXISTING COUNTS PLUS AMBIENT GROWTH PLUS PROJECT



Legend

←xxx Intersection Volume

Figure 4-6

PM PEAK HOUR TURNING MOVEMENT VOLUMES - EXISTING COUNTS PLUS AMBIENT GROWTH PLUS PROJECT

Table 4-1

ICU AND LOS SUMMARY – EXISTING PLUS AMBIENT CONDITIONS

Intersection	Existing plus Ambient without Project				Existing plus Ambient with Project				Increase	
	AM		PM		AM		PM		AM	PM
Freeway On/Off Ramp Intersections										
16. I-5 SB/Marriott & Pico Cyn Rd	.67	B	.72	C	.67	B	.73	C	.00	.01
17. I-5 NB Ramps & Lyons Ave	.59	A	.77	C	.60	A	.77	C	.01	.00
18. I-5 SB Ramps & Calgrove Blvd[1]	.59	A	.78	C	.61	B	.79	C	.02	.01
19. I-5 NB Ramps & Calgrove Blvd[1]	.72	C	.58	A	.73	C	.58	A	.01	.00
County Intersections										
1. The Old Rd & "A" Street[2]	--	--	--	--	.28	A	.30	A	--	--
21. Calgrove Blvd & The Old Rd[1]	.53	A	.63	B	.53	A	.64	B	.00	.01
29. The Old Rd & Pico Cyn Rd	.63	B	.69	B	.63	B	.69	B	.00	.00
324. Chiquella Ln & Pico Cyn Rd	.57	A	.62	B	.58	A	.63	B	.01	.01
325. Marriott Wy & The Old Rd[1]	.38	A	.61	B	.38	A	.63	B	.00	.02
326. Chiquella Ln & The Old Rd[1]	.37	A	.71	C	.39	A	.74	C	.02	.03

[1]Unsignalized, stop-sign control
[2]Project Access Location

Level of service ranges: .00 - .60 A .61 - .70 B .71 - .80 C .81 - .90 D .91 – 1.00 E Above 1.00 F

4.2 CUMULATIVE ANALYSIS

The cumulative traffic conditions are based on the Interim Year setting described in Section 2.2. This setting forms the basis for identifying the potential cumulative traffic impacts of the proposed project together with other planned and pending development projects.

4.2.1 Existing plus Ambient Growth plus Project plus Related Project Conditions

Interim Year ADT volumes within the study area are shown in Figure 4-7. These traffic volumes represent existing plus ambient growth plus project plus related project conditions, as noted previously. The Interim Year peak hour turning movement volumes for the intersections in the study area are illustrated in Figures 4-8 and 4-9 for the AM and PM peak hours, respectively.

Peak hour ICU values for Interim Year conditions can be found in Table 4-2 which provides a comparison between existing plus ambient growth (no project) conditions and Interim Year with-project conditions. The table shows that several intersections experience a significant impact due to the cumulative impact of project and related project traffic (see Table 1-2 for significant impact criteria). The following intersections are those significantly impacted:

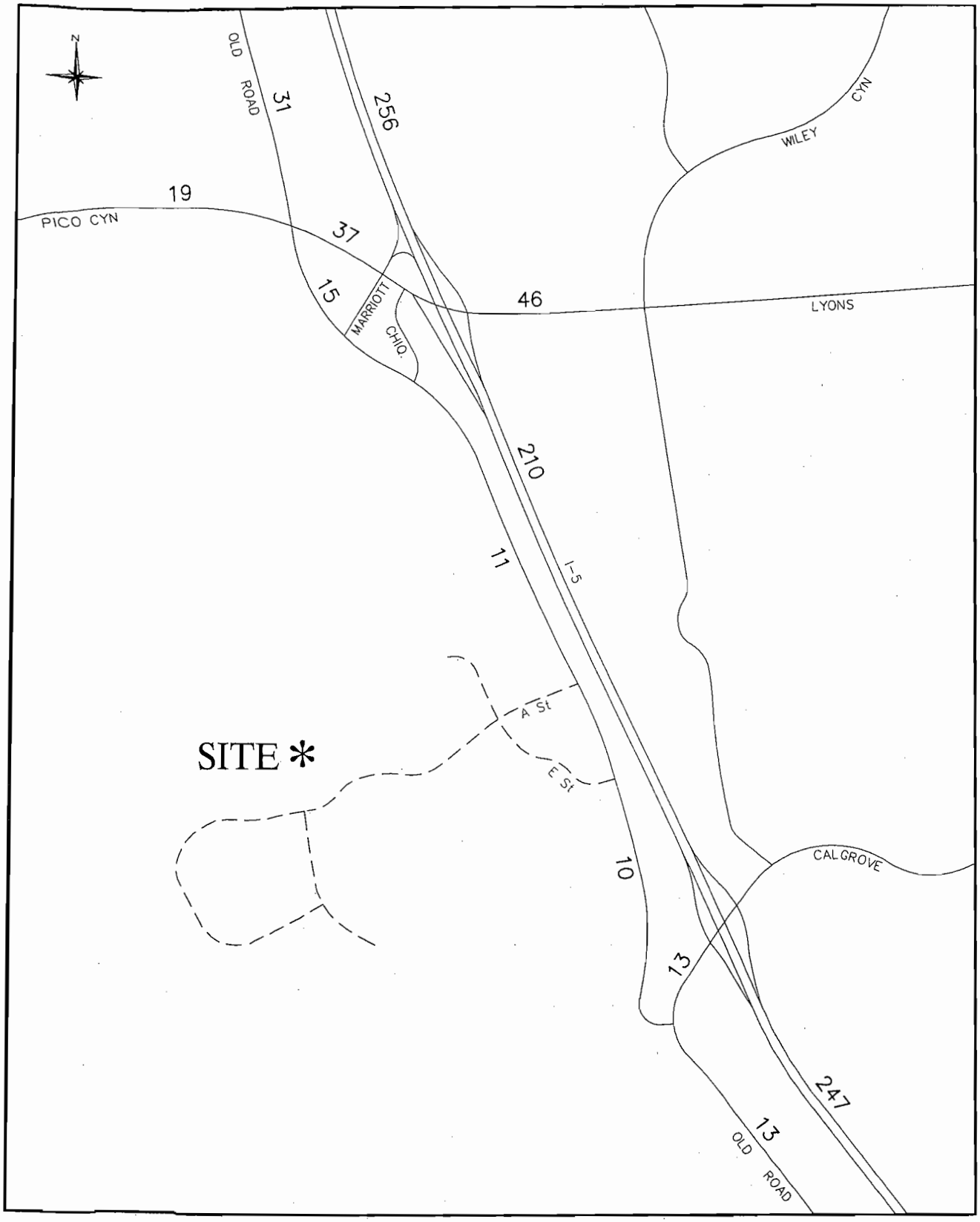
Freeway Ramp Intersections

16. I-5 SB Ramps/Marriott & Pico Cyn Rd – LOS C (PM Peak Hour)
17. I-5 NB Ramps & Lyons Ave – LOS D (PM Peak Hour)
18. I-5 SB Ramps & Calgrove Blvd – LOS D (PM Peak Hour)

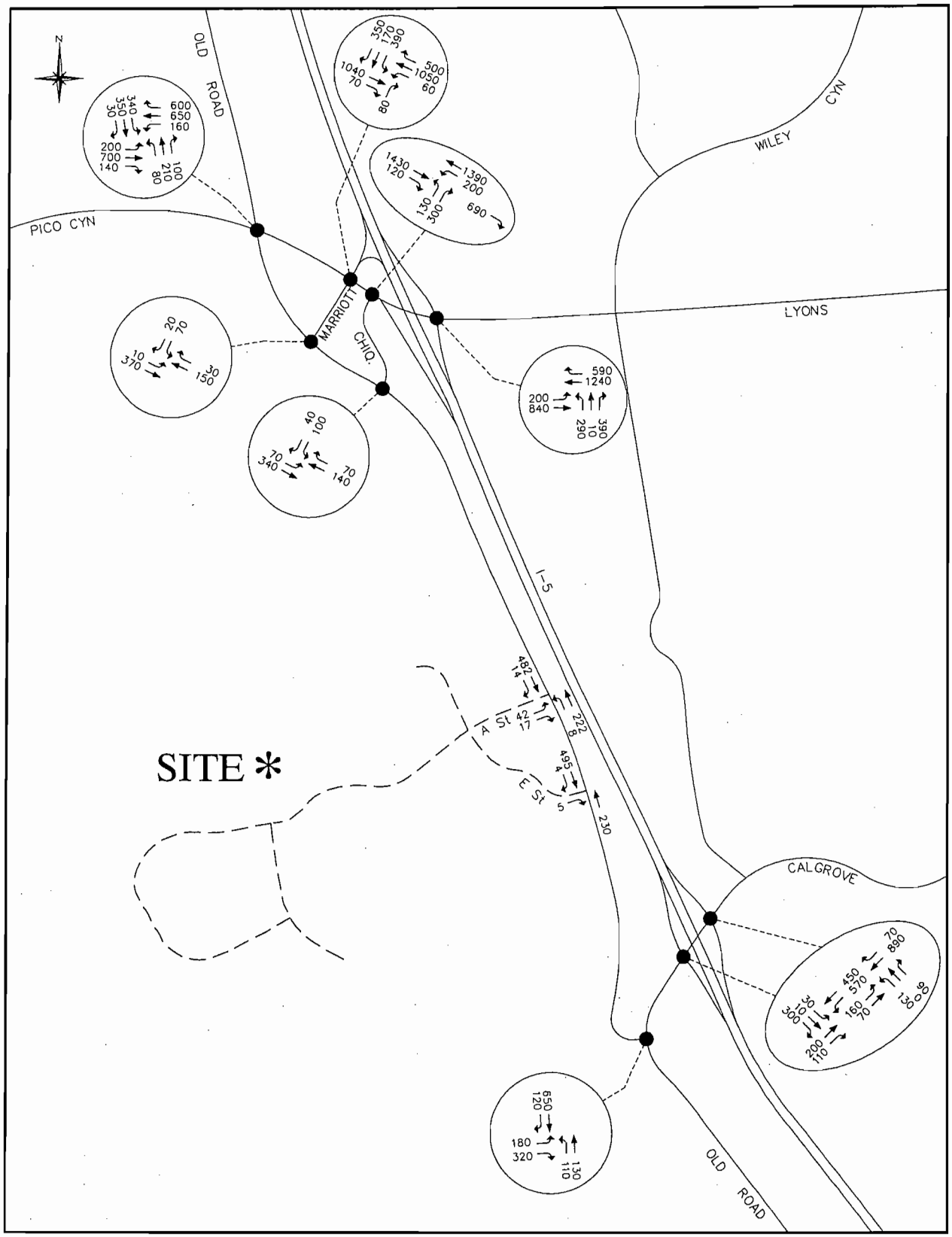
County Intersections

29. The Old Rd & Pico Cyn Rd – LOS C (PM Peak Hour)
326. Chiquella & The Old Rd – LOS C (PM Peak Hour)

Mitigation that addresses the identified impacts is provided in Section 4.7.



Legend	Figure 4-7
XX ADT Volume (000s)	AVERAGE DAILY TRAFFIC VOLUMES - EXISTING COUNTS PLUS AMBIENT GROWTH PLUS PROJECT PLUS RELATED PROJECTS

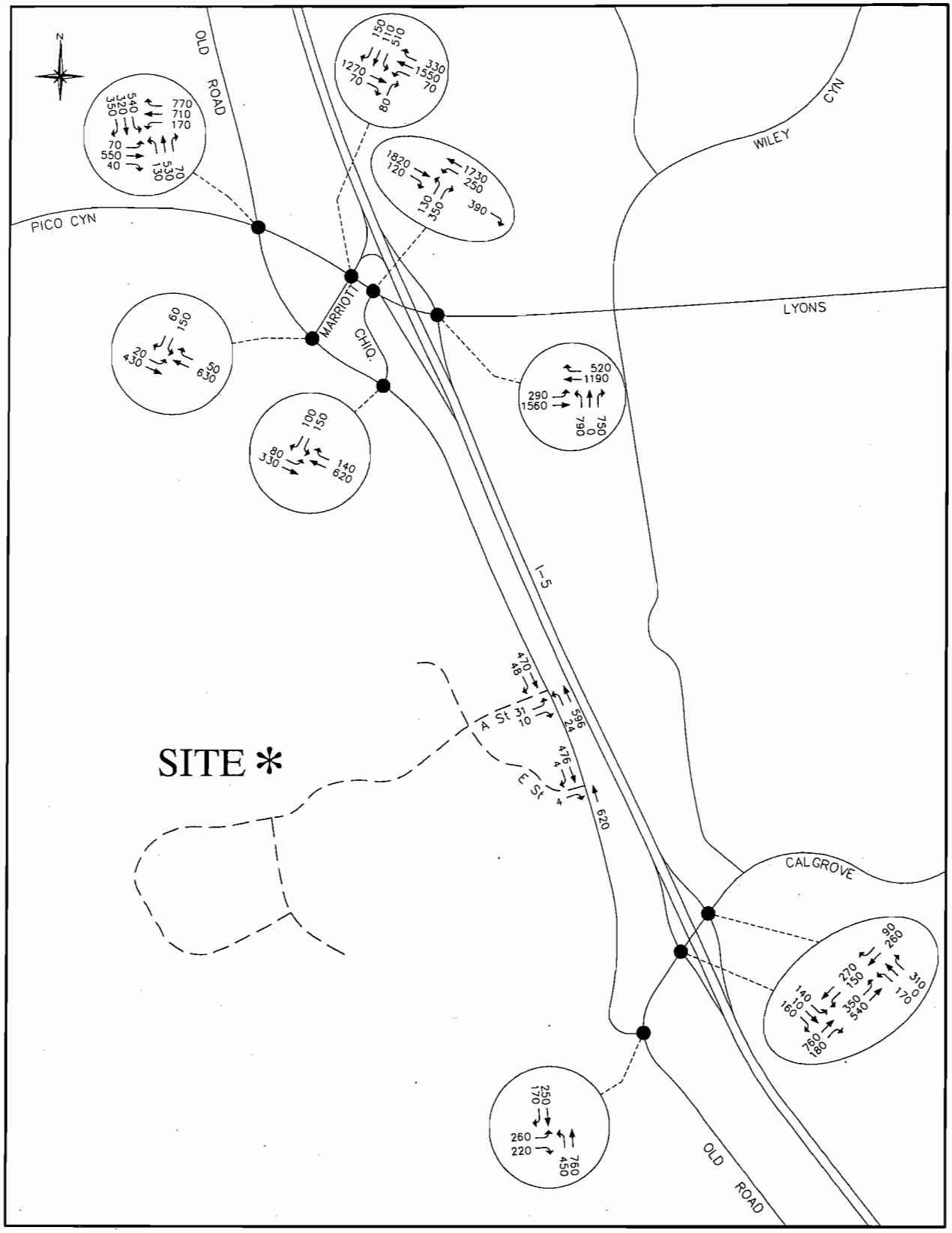


Legend

←xxx Intersection Volume

Figure 4-8

AM PEAK HOUR TURNING MOVEMENT VOLUMES - EXISTING COUNTS PLUS AMBIENT GROWTH PLUS PROJECT PLUS RELATED PROJECTS



Legend

←xxx Intersection Volume

Figure 4-9

PM PEAK HOUR TURNING MOVEMENT VOLUMES - EXISTING COUNTS PLUS AMBIENT GROWTH PLUS PROJECT PLUS RELATED PROJECTS

Table 4-2

ICU AND LOS SUMMARY – CUMULATIVE CONDITIONS

Intersection	Existing plus Ambient without Project				Existing plus Ambient plus Project & Related Projects				Increase	
	AM		PM		AM		PM		AM	PM
Freeway On/Off Ramp Intersections										
16. I-5 SB/Marriott & Pico Cyn Rd	.67	B	.72	C	.68	B	.77	C	.01	.05*
17. I-5 NB Ramps & Lyons Ave[4]	.59 (.65)	A (B)	.77 (.81)	C (D)	.65	B	.83	D	.06 (.00)	.06 (.02*)
18. I-5 SB Ramps & Calgrove Blvd[1]	.59	A	.78	C	.68	B	.87	D	.09	.09*
19. I-5 NB Ramps & Calgrove Blvd[1,4]	.72 (.81)	C (D)	.58 (.61)	A (B)	.81	D	.61	B	.10 (.00)	.02 (.00)
County Intersections										
1. The Old Rd & "A" Street[3]	--	--	--	--	.30	A	.31	A	--	--
21. Calgrove Blvd & The Old Rd[1]	.53	A	.63	B	.56	A	.74	C	.03	.11
29. The Old Rd & Pico Cyn Rd	.63	B	.69	B	.70	B	.76	C	.07	.07*
324. Chiquella Ln & Pico Cyn Rd	.57	A	.62	B	.63	B	.74	C	.06	.12
325. Marriott Wy & The Old Rd[1]	.38	A	.61	B	.40	A	.67	B	.02	.06
326. Chiquella Ln & The Old Rd[1]	.37	A	.71	C	.40	A	.79	C	.03	.08*

*Significant Impact

Values in parentheses represent an "Existing plus Ambient plus Related Projects" scenario for intersections within the City of Santa Clarita.

[1]Unsignalized, stop-sign control
[2]Unsignalized, no conflicting movements
[3]Project Access Location
[4]City of Santa Clarita Location

Level of service ranges: .00 - .60 A .61 - .70 B .71 - .80 C .81 - .90 D .91 – 1.00 E Above 1.00 F

4.3 TRAFFIC SIGNAL WARRANTS

Two of the significantly impacted study locations are currently stop sign controlled intersections. Table 4-3 summarizes peak hour traffic volumes for these locations and for the proposed site access intersection. These locations are then evaluated using the Caltrans peak hour traffic volume signal warrant, as illustrated in Figure 4-10.

The following significantly impacted locations meet the peak hour volume warrant for existing plus ambient growth plus project conditions:

- I-5 SB Ramps & Calgrove Blvd
- Chiquella Lane & The Old Road

No additional locations meet the peak hour volume warrant when related projects are included.

4.4 CONGESTION MANAGEMENT PLAN ANALYSIS

The Los Angeles County Congestion Management Program (CMP) (see Reference 9 in Section 1.6) requires that a proposed development address two major subject areas with respect to traffic impacts. These are the project's impacts on the CMP highway system and on the local and regional transit systems.

According to the CMP guidelines, the geographical area examined in a CMP traffic impact analysis (TIA) consists of the CMP monitoring locations that meet the following criteria:

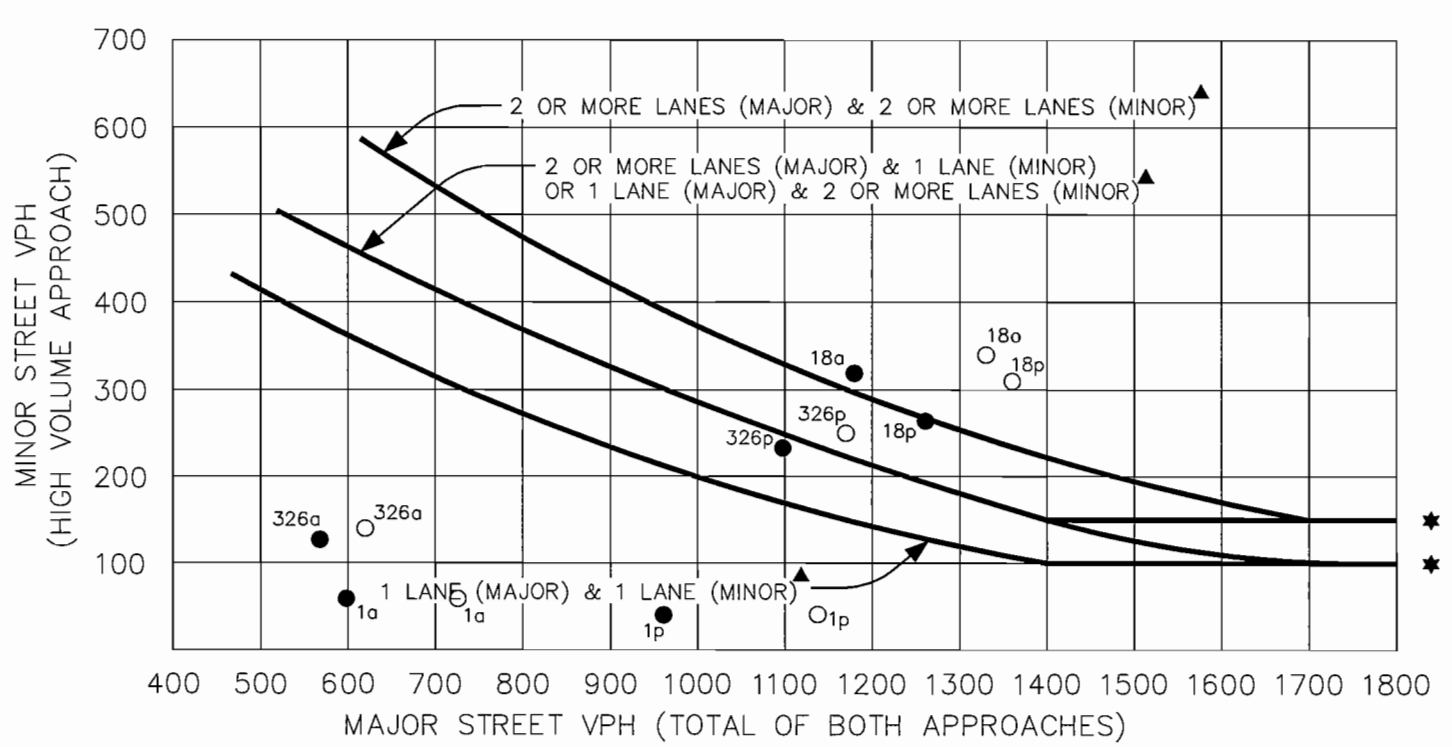
1. CMP intersections where the proposed project will add 50 or more trips during the AM or PM weekday peak hours (of adjacent street traffic).
2. Mainline freeway monitoring locations where the project will add 150 or more trips, in either direction, during either the AM or PM weekday peak hours.

Table 4-3

TRAFFIC SIGNAL VOLUME WARRANT SUMMARY

Intersection		Existing plus Ambient plus Project		Existing plus Ambient plus Project & Related Proj.	
		AM	PM	AM	PM
1. The Old Rd & "A" Street					
Major Approach	Total of Both Approaches	598	961	726	1,138
Minor Approach	Highest Volume	59	41	59	41
Satisfies Warrant?		No	No	No	No
18. I-5 SB Ramps & Calgrove Blvd					
Major Approach	Total of Both Approaches	1,180	1,261	1,330	1,360
Minor Approach	Highest Volume	319	264	340	310
Satisfies Warrant?		Yes	Yes	Yes	Yes
326. Chiquella Ln & The Old Rd					
Major Approach	Total of Both Approaches	568	1,098	620	1,170
Minor Approach	Highest Volume	127	233	140	250
Satisfies Warrant?		No	Yes	No	Yes

Analysis based on Caltrans Peak Hour Urban Warrant



▲ NOTE: THESE CURVES ARE RECOMMENDED FOR USE IN AREAS OF URBAN CLASSIFICATION (i.e. POSTED SPEED LIMIT ON THE MAJOR STREET IS 70 km/h or 35 MPH OR LESS).

✸ NOTE: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES, AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

Legend

● Project Only Conditions
○ Cumulative Conditions

Figure 4-10

PEAK HOUR SIGNAL VOLUME WARRANT

In the vicinity of the project site, CMP monitoring locations include the intersection of Lyons Avenue and San Fernando Road and the segment of I-5 between Calgrove Boulevard and SR-14. Neither of these monitoring locations meets the criteria for analysis noted above.

Another component of the CMP transportation impact analysis is a review of transit impacts. This review includes evidence that transit operators received the Notice of Preparation (included in the project EIR), identification of existing transit services near the project (see Section 2.1.3), estimation of the number of project trips assigned to transit, information on facilities and/or programs that will encourage public transit use, and an analysis of project impacts on transit service.

The proposed project is forecast to generate 1,261 ADT. The conversion to person trips is accomplished by using the CMP guidelines (multiplying the ADT by a factor of 1.4) which results in a total of 1,765 average daily person trips. Since the project site is over one mile from the nearest existing fixed route transit service, the CMP guidelines estimate that no transit trips would ordinarily be generated by the project. However, a fixed route bus line is anticipated to be added to The Old Road in the future. Using the CMP designated factor of 3.5 percent results in 62 total person transit trips to be generated by the project each day.

Transit trips to be generated by the project will also include City provided bus service to the public high school and Dial-a-Ride service for the senior housing.

4.5 STATE HIGHWAYS

The project is located just west of the I-5 freeway, between the Calgrove Boulevard and Lyons Avenue interchanges. In the vicinity of the project, I-5 is an eight-lane freeway under the jurisdiction of Caltrans and will provide regional transportation for residents of the site.

Table 4-4 summarizes the volume of project traffic forecast to use the freeway facilities in the vicinity of the project site, based on the project distribution presented in Chapter 3.0. The table shows a maximum project volume of 21 vph on the mainline and ramps.

Table 4-4

PROJECT VOLUMES ON STATE HIGHWAYS

	AM Peak Hour		PM Peak Hour	
	NB	SB	NB	SB
Mainline Locations				
I-5 North of Pico/Lyons	15	7	6	19
I-5 North of SR-14[1]	6	21	21	12
I-5 South of SR-14	6	20	20	8
SR-14 North of I-5[1]	1	0	4	1
Ramp Locations				
I-5 On Ramps at Calgrove	0	21	0	12
I-5 Off Ramps at Calgrove	6	0	21	0
I-5 On Ramps at Pico/Lyons	15	0	6	0
I-5 Off Ramps at Pico/Lyons	0	7	0	19

[1]CMP monitoring location (see Section 4.4)

The cumulative impact analysis presented in Section 4.2 shows cumulative impacts at the Calgrove Boulevard and Pico Canyon Road/Lyons Avenue interchanges. A traffic signal has also been shown to meet volume warrants at the currently un-signalized Calgrove Boulevard/Southbound Ramp interchange location. Mitigation measures and project shares are provided in the subsequent sections of this Chapter.

A mainline freeway analysis, which as been prepared in accordance with the adopted Los Angeles County CMP, shows how the proposed project does not have a significant impact to the I-5 freeway mainline (see Section 4.4).

Vehicular speeds for the mainline segments of the I-5 freeway within the study area frequently drop below 50 mph during the peak hours in the peak travel direction, which in the AM peak period is southbound and in the PM peak period is northbound. Caltrans has prepared a Project Study Report (PSR) for I-5 north of SR-14 to add one truck lane and one high occupancy vehicle (HOV) lane in each direction in order to alleviate the deficiencies noted above. The Transportation Concept Report (TCR) for this section of I-5 identifies ultimate improvements consisting of two truck lanes and two HOV lanes in each direction.

4.6 FAIR-SHARE CALCULATIONS

The project's share of the projected increase in traffic volume is calculated for each of the cumulative impact locations identified in Section 4.2. Table 4-5 shows the project's share based on the County's share formula, which takes into account project traffic and related project traffic. The project's share ranges from 3.3 percent to 48.3 percent at the significantly impacted locations.

Table 4-5

PROJECT'S SHARE OF CUMULATIVE TRAFFIC – COUNTY FORMULA

Location	(A) Project Traffic		(B) Related Project Traffic		(A)/[(A)+(B)] Project Share[1]
	AM	PM	AM	PM	
16. I-5 SB/Marriott & Pico Cyn Rd	7	19	687	458	4.0%
17. I-5 NB Ramps & Lyons Ave	34	26	237	401	12.5%
18. I-5 SB Ramps & Calgrove Blvd	28	37	171	145	20.3%
29. The Old Rd & Pico Cyn Rd	13	30	821	889	3.3%
326. Chiquella Ln & The Old Rd	60	83	65	89	48.3%

[1]Maximum share (AM or PM)

For the intersections under joint County and Caltrans jurisdiction, the Caltrans guidelines state that shares are to be calculated based on the traffic volumes associated with General Plan Buildout, or the furthest future model date feasible. For the Santa Clarita Valley, the SCVCTM provides long-range cumulative forecasts for the 2030 horizon and these forecasts are based on buildout of the City and County General Plans and include pending General Plan amendments. Table 4-6 shows the project's share based on the Caltrans share formula, which results in shares ranging from 1.2 percent to 5.0 percent at the significantly impacted locations.

Table 4-6

PROJECT'S SHARE OF CUMULATIVE TRAFFIC – CALTRANS FORMULA

	AM Peak Hour					PM Peak Hour				
Location	**(T) Project**	**Existing**	**(T_E) Existing + Approved**	**(T_B) Long-Range Buildout**	**(P) Project Share**	**(T) Project**	**Existing**	**(T_E) Existing + Approved**	**(T_B) Long-Range Buildout**	**(P) Project Share**
Northbound										
16. I-5 SB Ramp & Pico Cyn Rd	7	2,618	2,749	3,760	0.7%	19	3,179	3,338	4,990	1.2%
17. I-5 NB Ramps & Lyons Ave	34	2,855	2,998	3,680	5.0%	26	4,056	4,259	5,410	2.3%
18. I-5 SB Ramps & Calgrove Blvd	28	1,277	1,341	2,570	2.3%	37	1,291	1,356	2,830	2.5%

Sources:
Share Formula - Caltrans traffic study guidelines (see Reference 8 in Section 1.7)
Existing + Approved Volumes – Estimated as existing traffic plus 5%
Long-range Buildout Volumes – SCVCTM Long-range Cumulative Version 4.1

4.7 MITIGATION

Mitigation measures can generally be classified into two categories, measures related directly to project site access, and measures related to off-site locations. Project site mitigation is summarized in Table 4-7.

Table 4-7

PROJECT MITIGATION – ON SITE

Location	Mitigation
Roadway Improvements	
The Old Road	Adjacent to the project site the Old Road will be improved to its ultimate width to include four travel lanes and a center turn-lane/median.
Intersection Improvements	
1. The Old Road & A Street	Northbound: 1 Left-turn Lane, 2 Through Lanes Southbound: 1 Through Lane, 1 Shared Through/Right-turn Lane Eastbound: 1 Left-turn Lane, 1 Right-turn Lane
1. The Old Road & E Street	Northbound: 2 Through Lanes (left-turns prohibited) Southbound: 1 Through Lane, 1 Shared Through/Right-turn Lane Eastbound: 1 Right-turn Lane (left-turns prohibited)

The previous sections identified the off-site intersections that are significantly impacted by the proposed project and cumulative traffic. Mitigation measures that address these impacts are listed in Table 4-8, and are shown graphically in Figure 4-11.

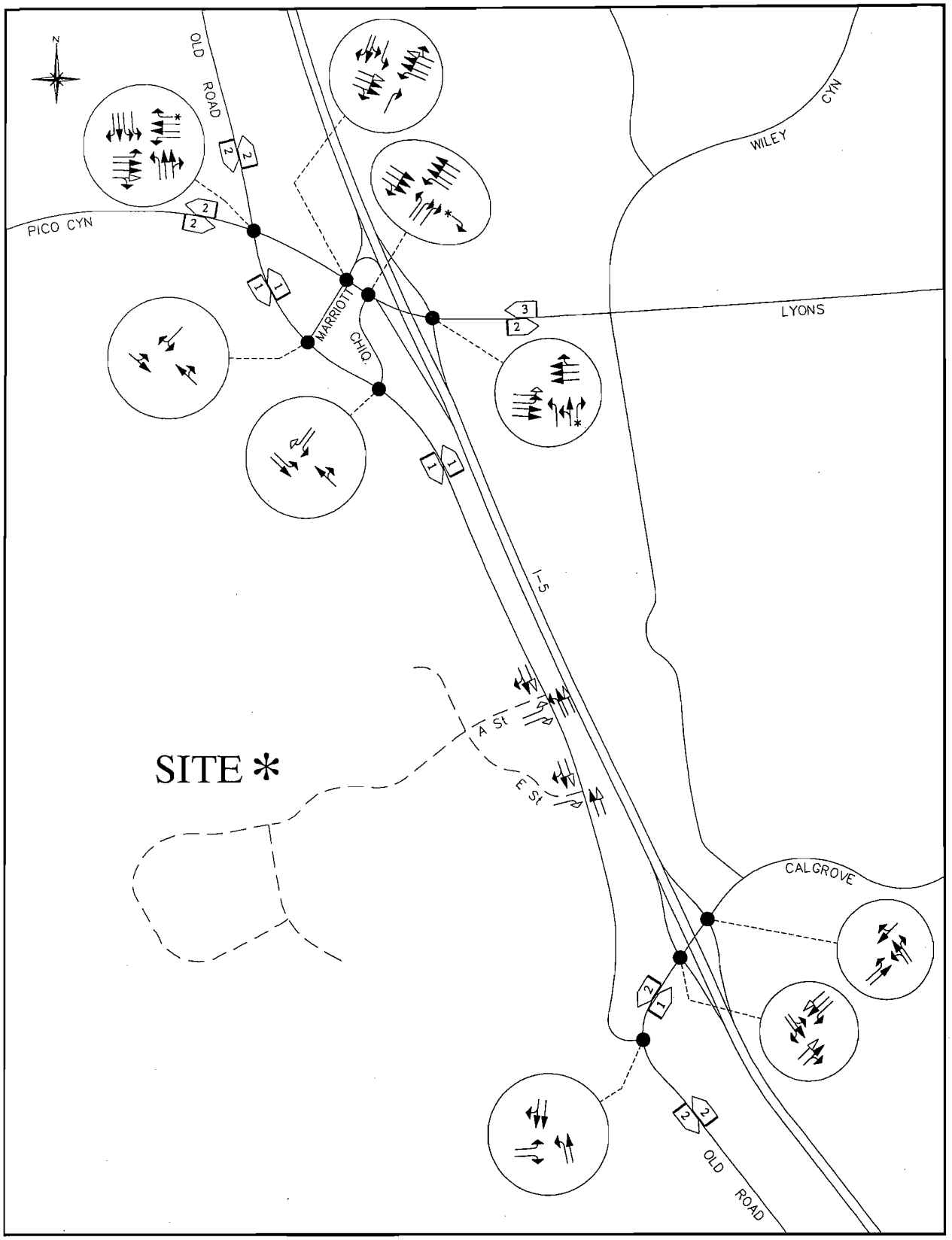
Table 4-9 summarizes the resulting ICUs and LOS with the listed mitigation.

Table 4-8

CUMULATIVE MITIGATION - OFF-SITE

Intersection	Mitigation
16. I-5 SB Ramps/Marriott & Pico Cyn Rd	Add 3rd Eastbound Through Lane, and Convert Westbound Right-turn Lane to Shared Westbound Through/Right-turn Lane (striping) Project Share – 4.0%
17. I-5 NB Ramps & Lyons Ave	Add 2nd Eastbound Left-turn Lane (striping) Project Share – 100%[1]
18. I-5 SB Ramps & Calgrove Blvd	Add 2nd Eastbound Through Lane, and Add 2nd Westbound Through Lane (striping) Install Traffic Signal Project Share – 20.3%
29. The Old Road & Pico Cyn Rd	Convert Eastbound Right-turn Lane to Shared Eastbound Through/Right-turn Lane (striping) Project Share – 3.3%
326. Chiquella Lane & The Old Road	Add Southbound Right-turn Lane (striping) Install Traffic Signal Project Share – 48.3%

[1]At City of Santa Clarita intersections, the improvements are to mitigate the project's direct impact and become the project's responsibility to implement.



Legend

- Mitigation Lane
- Free-flow Right-turn Lane
- X Mid-block Lanes (each direction)

Figure 4-11

ROADWAY NETWORK WITH MITIGATION

Table 4-9

ICU AND LOS SUMMARY – WITH PROJECT AND MITIGATION

Intersection	Existing plus Ambient without Project				Existing plus Ambient plus Project & Related Projects with Mitigation				Net Change	
	AM		PM		AM		PM		AM	PM
Freeway On/Off Ramp Intersections										
16. I-5 SB/Marriott & Pico Cyn Rd	.67	B	.72	C	.64	B	.68	C	-.03	-.04
17. I-5 NB Ramps & Lyons Ave	.59 (.65)	A (B)	.77 (.81)	C (D)	.60	A	.78	C	.01 (-.05)	.01 (-.03)
18. I-5 SB Ramps & Calgrove Blvd[1]	.59	A	.78	C	.59	B	.57	D	.00	-.21
County Intersections										
29. The Old Rd & Pico Cyn Rd	.63	B	.69	B	.70	B	.74	C	.07	.05
326. Chiquella Ln & The Old Rd[1]	.37	A	.71	C	.37	A	.72	C	.00	.01

Values in parenthesis represent "Existing plus Ambient plus Related Projects" for intersections within the City of Santa Clarita.

Level of service ranges:

.00 - .60	A	.81 - .90	D
.61 - .70	B	.91 – 1.00	E
.71 - .80	C	Above 1.00	F

APPENDIX A
INTERSECTION CAPACITY UTILIZATION WORKSHEETS

Peak hour intersection volume/capacity ratios are calculated by means of intersection capacity utilization (ICU) values. ICU calculations were performed for the intersections shown in Figure A-1.

The procedure is based on the critical movement methodology, and shows the amount of capacity utilized by each critical move. A "de-facto" right-turn lane is used in the ICU calculation for cases where a curb lane is wide enough to separately serve both through and right-turn traffic (typically with a width of 19 feet from curb to outside of through-lane with parking prohibited during peak periods). Such lanes are treated the same as striped right-turn lanes during the ICU calculations, but they are denoted on the ICU calculation worksheets using the letter "d" in place of a numerical entry for right-turn lanes.

The methodology also incorporates a check for right-turn capacity utilization. Both right-turn-on-green (RTOG) and right-turn-on-red (RTOR) capacity availability are calculated and checked against the total right-turn capacity need. If insufficient capacity is available, then an adjustment is made to the total capacity utilization value. The following example shows how this adjustment is made.

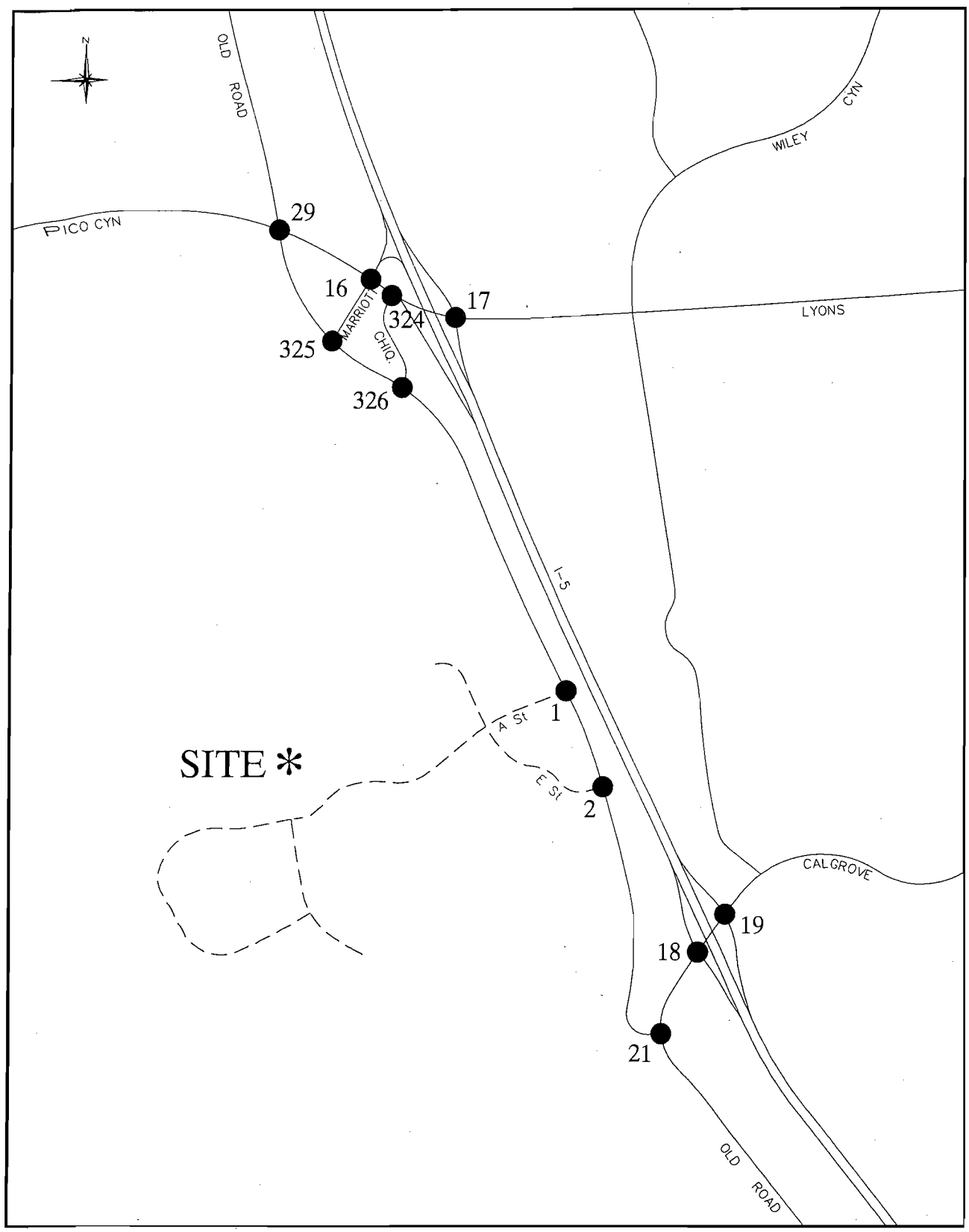
Example of Right-turn Capacity Utilization For Northbound Right

1. Right-Turn-On-Green (RTOG)

If NBT is critical move, then:
RTOG = V/C (NBT)
Otherwise,
RTOG = V/C (NBL) + V/C (SBT) - V/C (SBL)

2. Right-Turn-On-Red (RTOR)

If WBL is critical move, then:
RTOR = V/C (WBL)
Otherwise,
RTOR = V/C (EBL) + V/C (WBT) - V/C (EBT)



Legend

● Study Area Intersection

Figure A-1

INTERSECTION STUDY LOCATIONS

3. Right-Turn Overlap Adjustment

If the northbound right is assumed to overlap with the adjacent westbound left, adjustments to the RTOG and RTOR values are made as follows:

RTOG = RTOG + V/C (WBL)
RTOR = RTOR - V/C (WBL)

4. Total Right-Turn Capacity (RTC) Availability For NBR

RTC = RTOG + factor x RTOR
Where factor = RTOR saturation flow factor (typically 75%)

5. Right-turn Adjustment for ICU Calculation

Right-turn adjustment is then as follows: Additional ICU = V/C (NBR) - RTC

A zero or negative value indicates that adequate capacity is available and no adjustment is necessary. A positive value indicates that the available RTOR and RTOG capacity does not adequately accommodate the right-turn V/C, therefore the right-turn is essentially considered to be a critical movement. In such cases, the right-turn adjustment is noted on the ICU worksheet and it is included in the total capacity utilization value. When it is determined that a right-turn adjustment is required for more than one right-turn movement, the word "multi" is printed on the worksheet instead of an actual right-turn movement reference, and the right-turn adjustments are cumulatively added to the total capacity utilization value. In such cases, further operational evaluation is typically carried out to determine if under actual operational conditions, the critical right-turns would operate simultaneously, and therefore a right-turn adjustment credit should be applied.

Shared Lane V/C Methodology

For intersection approaches where shared usage of a lane is permitted by more than one turn movement (e.g., left/through, through/right, left/through/right), the individual turn volumes are evaluated to determine whether dedication of the shared lane is warranted to any one given turn movement. The following example demonstrates how this evaluation is carried out:

Example of Shared Lane Utilization for Shared Left/Through Lane

1. Average Lane Volume (ALV)

$$ALV = \frac{\text{Left-Turn Volume + Through Volume}}{\text{Total Left + Through Approach Lanes (including shared lane)}}.$$

2. ALV for Each Approach

$$ALV\ (Left) = \frac{\text{Left-Turn Volume}}{\text{Left Approach Lanes (including shared lane)}}.$$

$$ALV\ (Through) = \frac{\text{Through Volume}}{\text{Through Approach Lanes (including shared lane)}}.$$

3. Lane Dedication is Warranted

If ALV (Left) is greater than ALV then full dedication of the shared lane to the left-turn approach is warranted. Left-turn and through V/C ratios for this case are calculated as follows:

$$V/C\ (Left) = \frac{\text{Left-Turn Volume}}{\text{Left Approach Capacity (including shared lane)}}.$$

$$V/C\ (Through) = \frac{\text{Through Volume}}{\text{Through Approach Capacity (excluding shared lane)}}.$$

Similarly, if ALV (Through) is greater than ALV then full dedication to the through approach is warranted, and left-turn and through V/C ratios are calculated as follows:

$$V/C\ (Left) = \frac{\text{Left-Turn Volume}}{\text{Left Approach Capacity (excluding shared lane)}}.$$

$$V/C\ (Through) = \frac{\text{Through Volume}}{\text{Through Approach Capacity (including shared lane)}}.$$

4. Lane Dedication is not Warranted

If ALV (Left) and ALV (Through) are both less than ALV, the left/through lane is assumed to be truly shared and each left, left/through or through approach lane carries an evenly distributed volume of traffic equal to ALV. A combined left/through V/C ratio is calculated as follows:

$$\text{V/C (Left/Through)} = \frac{\text{Left-Turn Volume + Through Volume}}{\text{Total Left + Through Approach Capacity (including shared lane)}}.$$

This V/C (Left/Through) ratio is assigned as the V/C (Through) ratio for the critical movement analysis and ICU summary listing.

If split phasing has not been designated for this approach, the relative proportion of V/C (Through) that is attributed to the left-turn volume is estimated as follows:

If approach has more than one left-turn (including shared lane), then:

$$\text{V/C (Left)} = \text{V/C (Through)}$$

If approach has only one left-turn lane (shared lane), then:

$$\text{V/C (Left)} = \frac{\text{Left-Turn Volume}}{\text{Single Approach Lane Capacity}}.$$

If this left-turn movement is determined to be a critical movement, the V/C (Left) value is posted in brackets on the ICU summary printout.

These same steps are carried out for shared through/right lanes. If full dedication of a shared through/right lane to the right-turn movement is warranted, the right-turn V/C value calculated in step three is checked against the RTOR and RTOG capacity availability if the option to include right-turns in the V/C ratio calculations is selected. If the V/C value that is determined using the shared lane methodology described here is reduced due to RTOR and RTOG capacity availability, the V/C value for the through/right lanes is posted in brackets.

When an approach contains more than one shared lane (e.g., left/through and through/right), steps one and two listed above are carried out for the three turn movements combined. Step four is carried out if dedication is not warranted for either of the shared lanes. If dedication of one of the shared lanes is warranted to one movement or another, step three is carried out for the two movements involved, and then steps one through four are repeated for the two movements involved in the other shared lane.

1. Old Road & Project A Street

Existing (2004) Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	1	1600	122	.08	508	.32*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1	1600	374	.23*	260	.16
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval			.10*		.10*	
TOTAL CAPACITY UTILIZATION			.33		.42	

Existing plus Ambient (2008) w/out Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	1	1600	141	.09	585	.37*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1	1600	431	.27*	300	.19
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval			.10*		.10*	
TOTAL CAPACITY UTILIZATION			.37		.47	

Existing plus Ambient (2008) with Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	8	.01*	24	.02
NBT	2	3200	141	.04	585	.18*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3200	435	.14*	304	.11
SBR	0	0	14		48	
EBL	1	1600	42	.03*	31	.02*
EBT	0	0	0		0	
EBR	1	1600	17	.01	10	.01
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval			.10*		.10*	
TOTAL CAPACITY UTILIZATION			.28		.30	

Exist + Ambient + Proj + Related (Interim Year)

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	8	.01*	24	.02
NBT	2	3200	222	.07	596	.19*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3200	482	.16*	470	.16
SBR	0	0	14		48	
EBL	1	1600	42	.03*	31	.02*
EBT	0	0	0		0	
EBR	1	1600	17	.01	10	.01
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval			.10*		.10*	
TOTAL CAPACITY UTILIZATION			.30		.31	

2. Old Road & Project E Street

Existing (2004) Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	1	1600	122	.08	508	.32*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1	1600	374	.23*	260	.16
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.33		.42

Existing plus Ambient (2008) w/out Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	1	1600	141	.09	585	.37*
N8R	0	0	0		0	
SBL	0	0	0		0	
SBT	1	1600	431	.27*	300	.19
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.37		.47

Existing plus Ambient (2008) with Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	2	3200	149	.05	609	.19*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3200	448	.14*	310	.10
SBR	0	0	4		4	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	1	1600	5	.00	4	.00
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.24		.29

Exist + Ambient + Proj + Related (Interim Year)

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	2	3200	230	.07	620	.19*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3200	495	.16*	476	.15
SBR	0	0	4		4	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	1	1600	5	.00	4	.00
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.26		.29

16. I-5 SB/Marriott & Pico/Lyons

Existing (2004) Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	1	1600	67	.04	68	.04
SBL	1.5		332		375	
SBT	0.5	3200	136	.15*	71	.14*
SBR	1	1600	45	.03	118	.07
EBL	0	0	0		0	
EBT	2	3200	895	.30*	873	.29
EBR	0	0	56		58	
WBL	1	1600	48	.03*	53	.03
WBT	2	3200	612	.19	1281	.40*
WBR	1	1600	427	.27	282	.18
Right Turn Adjustment			NBR	.02*		
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.60		.64

Existing plus Ambient (2008) w/out Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	1	1600	77	.05	78	.05
SBL	1.5		382		432	
SBT	0.5	3200	157	.17*	82	.16*
SBR	1	1600	52	.03	136	.09
EBL	0	0	0		0	
EBT	2	3200	1031	.34*	1006	.34
EBR	0	0	65		67	
WBL	1	1600	55	.03*	61	.04
WBT	2	3200	705	.22	1476	.46*
WBR	1	1600	492	.31	325	.20
Right Turn Adjustment			NBR	.03*		
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.67		.72

Existing plus Ambient (2008) with Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	1	1600	77	.05	78	.05
SBL	1.5		382		432	
SBT	0.5	3200	164	.17*	101	.17*
SBR	1	1600	52	.03	136	.09
EBL	0	0	0		0	
EBT	2	3200	1031	.34*	1006	.34
EBR	0	0	65		67	
WBL	1	1600	55	.03*	61	.04
WBT	2	3200	705	.22	1476	.46*
WBR	1	1600	492	.31	325	.20
Right Turn Adjustment			NBR	.03*		
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.67		.73

Exist + Ambient + Proj + Related (Interim Year)

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	1	1600	80	.05	80	.05
SBL	1.5		390		510	
SBT	0.5	3200	170	.18*	110	.19*
SBR	1	1600	350	.22	150	.09
EBL	0	0	0		0	
EBT	2	3200	1040	.35*	1270	.42
EBR	0	0	70		70	
WBL	1	1600	60	.04*	70	.04
WBT	2	3200	1050	.33	1550	.48*
WBR	1	1600	500	.31	330	.21
Right Turn Adjustment			NBR	.01*		
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.68		.77

16. I-5 SB/Marriott & Pico/Lyons

Exist + Ambient + Proj + Related w/Mitigation

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	1	1600	80	.05	80	.05
SBL	1.5		390		510	
SBT	0.5	3200	170	.18*	110	.19*
SBR	1	1600	350	.22	150	.09
EBL	0	0	0		0	
EBT	3	4800	1040	.23	1270	.28
EBR	0	0	70		70	
WBL	1	1600	60	.04	70	.04
WBT	3	4800	1050	.32*	1550	.39*
WBR	0	0	500		330	
Right Turn Adjustment			SBR	.04*		
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.64		.68

17. I-5 NB On/Off & Lyons Ave

Existing (2004) Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1.5		251	{.07}*	685	{.20}*
NBT	0.5	3500	1	.07	0	.20
NBR	f		334		645	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1750	158	.09*	183	.10*
EBT	2	3500	719	.21	1081	.31
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	5250	1066	.27*	1017	.28*
WBR	0	0	326		445	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.53		.68

Existing plus Ambient (2008) w/out Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1.5		289	{.08}*	789	{.23}*
NBT	0.5	3500	1	.08	0	.23
NBR	f		385		743	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1750	182	.10*	211	.12*
EBT	2	3500	828	.24	1245	.36
EBR	0	0	0		0	
W8L	0	0	0		0	
WBT	3	5250	1228	.31*	1172	.32*
WBR	0	0	376		513	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.59		.77

Existing plus Ambient (2008) with Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1.5		289	{.08}*	789	{.23}*
NBT	0.5	3500	1	.08	0	.23
NBR	f		385		743	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1750	197	.11*	217	.12*
EBT	2	3500	839	.24	1252	.36
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	5250	1236	.31*	1185	.32*
WBR	0	0	376		513	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.60		.77

Exist + Ambient +Related (Interim Year no Proj)

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1.5		290	{.09}*	790	{.23}*
NBT	0.5	3500	10	.09	0	.23
NBR	f		390		750	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1750	185	.11*	284	.16*
EBT	2	3500	829	.24	1553	.44
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	5250	1232	.35*	1177	.32*
WBR	0	0	590		520	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.65		.81

17. I-5 NB On/Off & Lyons Ave

Exist + Ambient + Related + Proj (Interim Year)

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1.5		290	{.09}*	790	{.23}*
NBT	0.5	3500	10	.09	0	.23
NBR	f		390		750	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1750	200	.11*	290	.17*
EBT	2	3500	840	.24	1560	.45
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	5250	1240	.35*	1190	.33*
WBR	0	0	590		520	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.65		.83

Exist + Ambient + Related + Proj w/Mitigation

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1.5		290	{.09}*	790	{.23}*
NBT	0.5	3500	10	.09	0	.23
NBR	f		390		750	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	2	3500	200	.06*	290	.08
EBT	2	3500	840	.24	1560	.45*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	5250	1240	.35*	1190	.33
WBR	0	0	590		520	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.60		.78

18. I-5 SB Ramps & Calgrove

Existing (2004) Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0.5		21		91	
SBT	0.5	1600	1	.01*	3	.06*
SBR	1	1600	255	.16	135	.08
EBL	0	0	0		0	
EBT	1	1600	110	.12*	657	.45*
EBR	0	0	74		70	
WBL	1	1600	466	.29*	123	.08*
WBT	1	1600	350	.22	212	.13
WBR	0	0	0		0	
Right Turn Adjustment			SBR	.01*		
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.53		.69

Existing plus Ambient (2008) w/out Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0.5		24		105	
SBT	0.5	1600	1	.02*	3	.07*
SBR	1	1600	294	.18	156	.10
EBL	0	0	0		0	
EBT	1	1600	127	.13*	757	.52*
EBR	0	0	85		81	
WBL	1	1600	537	.34*	142	.09*
WBT	1	1600	403	.25	244	.15
WBR	0	0	0		0	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.59		.78

Existing plus Ambient (2008) with Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0.5		24		105	
SBT	0.5	1600	1	.02*	3	.07*
SBR	1	1600	294	.18	156	.10
EBL	0	0	0		0	
EBT	1	1600	127	.15*	759	.53*
EBR	0	0	106		93	
WBL	1	1600	537	.34*	142	.09*
WBT	1	1600	410	.26	267	.17
WBR	0	0	0		0	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.61		.79

Exist + Ambient + Proj + Related (Interim Year)

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0.5		30		140	
SBT	0.5	1600	10	.03*	10	.09*
SBR	1	1600	300	.19	160	.10
EBL	0	0	0		0	
EBT	1	1600	200	.19*	760	.59*
EBR	0	0	110		180	
WBL	1	1600	570	.36*	150	.09*
WBT	1	1600	450	.28	270	.17
WBR	0	0	0		0	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.68		.87

18. I-5 SB Ramps & Calgrove

Exist + Ambient + Proj + Related w/Mitigation

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0.5		30		140	
SBT	0.5	1600	10	.03*	10	.09*
SBR	1	1600	300	.19	160	.10
EBL	0	0	0		0	
EBT	2	3200	200	.10*	760	.29*
EBR	0	0	110		180	
WBL	1	1600	570	.36*	150	.09*
WBT	2	3200	450	.14	270	.08
WBR	0	0	0		0	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.59		.57

19. I-5 NB Ramps & Calgrove

Existing (2004) Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0.5		45	{.03}*	123	{.07}*
NBT	0.5	1750	4	.03	0	.07
NBR	1	1750	70	.04	264	.15
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1750	70	.04*	304	.17*
EBT	1	1750	60	.03	444	.25
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1750	771	.47*	212	.16*
WBR	0	0	55		61	
Right Turn Adjustment					NBR	.02*
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.64		.52

Existing plus Ambient (2008) w/out Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0.5		52	{.03}*	142	{.08}*
NBT	0.5	1750	5	.03	0	.08
NBR	1	1750	81	.05	304	.17
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1750	81	.05*	350	.20*
EBT	1	1750	69	.04	511	.29
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1750	888	.54*	244	.18*
WBR	0	0	63		70	
Right Turn Adjustment					NBR	.02*
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.72		.58

Existing plus Ambient (2008) with Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0.5		58		163	{.09}*
NBT	0.5	1750	5	.04*	0	.09
NBR	1	1750	81	.05	304	.17
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1750	81	.05*	350	.20*
EBT	1	1750	69	.04	513	.29
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1750	889	.54*	246	.18*
WBR	0	0	63		70	
Right Turn Adjustment					NBR	.01*
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.73		.58

Exist + Ambient +Related (Interim Year no Proj)

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0.5		124	{.07}*	149	{.09}*
NBT	0.5	1750	0	.07	0	.09
NBR	1	1750	90	.05	310	.18
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1750	160	.09*	350	.20*
EBT	1	1750	70	.04	538	.31
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1750	889	.55*	258	.20*
WBR	0	0	70		90	
Right Turn Adjustment					NBR	.02*
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.81		.61

19. I-5 NB Ramps & Calgrove

Exist + Ambient + Related + Proj (Interim Year)

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0.5		130	{.07}*	170	{.10}*
NBT	0.5	1750	0	.07	0	.10
NBR	1	1750	90	.05	310	.18
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1750	160	.09*	350	.20*
EBT	1	1750	70	.04	540	.31
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1750	890	.55*	260	.20*
WBR	0	0	70		90	
Right Turn Adjustment					NBR	.01*
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.81		.61

20 . I-5 SB On Ramp & Pico/Lyons

Existing (2004) Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NB L	0	0	0		0	
NB T	0	0	0		0	
NB R	0	0	0		0	
SB L	0	0	0		0	
SB T	0	0	0		0	
SB R	0	0	0		0	
EB L	0	0	0		0	
EB T	2	3200	877	.27	1264	.40*
EB R	1	1600	591	.37	332	.21
WB L	0	0	0		0	
WB T	3	4800	1317	.27*	1702	.35
WB R	0	0	0		0	
Right Turn Adjustment			EBR	.10*		
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.47		.50

Existing plus Ambient (2008) w/out Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	1010	.32	1456	.46*
EBR	1	1600	681	.43	382	.24
WBL	0	0	0		0	
WBT	3	4800	1517	.32*	1961	.41
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.11*		
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.53		.56

Existing plus Ambient (2008) with Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	1036	.32	1469	.46*
EBR	1	1600	681	.43	382	.24
WBL	0	0	0		0	
WBT	3	4800	1525	.32*	1974	.41
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.11*		
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.53		.56

Exist + Ambient + Proj + Related (Interim Year)

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	1040	.33	1860	.58*
EBR	1	1600	690	.43	390	.24
WBL	0	0	0		0	
WBT	3	4800	1560	.33*	1990	.41
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.10*		
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.53		.68

326. Chiquella & The Old Rd

Existing (2004) Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	76		112	
SBT	1	1600	0	.06*	0	.12*
SBR	0	0	27		79	
EBL	1	1600	30	.02	67	.04*
EBT	1	1600	280	.18*	245	.15
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	103	.09	478	.36*
WBR	0	0	34		102	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.34		.62

Existing plus Ambient (2008) w/out Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	88		129	
SBT	1	1600	0	.07*	0	.14*
SBR	0	0	31		91	
EBL	1	1600	35	.02	77	.05*
EBT	1	1600	323	.20*	282	.18
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	119	.10	551	.42*
WBR	0	0	39		118	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.37		.71

Existing plus Ambient (2008) with Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	96		142	
SBT	1	1600	0	.08*	0	.15*
SBR	0	0	31		91	
EBL	1	1600	35	.02	77	.05*
EBT	1	1600	333	.21*	321	.20
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	135	.13	569	.44*
WBR	0	0	65		131	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.39		.74

Exist + Ambient + Proj + Related (Interim Year)

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	100		150	
SBT	1	1600	0	.09*	0	.16*
SBR	0	0	40		100	
EBL	1	1600	70	.04	80	.05*
EBT	1	1600	340	.21*	330	.21
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	140	.13	620	.48*
WBR	0	0	70		140	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.40		.79

326. Chiquella & The Old Rd

Exist + Ambient + Proj + Related w/Mitigation

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	100	.06*	150	.09*
SBT	0	0	0		0	
SBR	1	1600	40	.03	100	.06
EBL	1	1600	70	.04	80	.05*
EBT	1	1600	340	.21*	330	.21
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	140	.13	620	.48*
WBR	0	0	70		140	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.37		.72

APPENDIX B
TRAFFIC COUNT DATA SHEETS

TRAFFIC DATA SERVICES, INC
SUMMARY OF VEHICULAR TURNING MOVEMENTS

N/S ST : I-5 SB ON/OFF RAMPS/MARRIOTT WY
E/W ST: PICO CANYON RD/LYONS AVE
CITY: SANTA CLARITA

FILENAME: 0340207
DATE: 3/15/04
DAY: MONDAY

PERIOD BEGINS	NORTHBOUND NL	NT	NR	SOUTHBOUND SL	ST	SR	EASTBOUND EL	ET	ER	WESTBOUND WL	WT	WR	Total
LANES:			1	1.5	0.5	1		2	0	1	2	1	
7:00 AM			10	43	23	6		212	9	4	134	121	562
15 AM			10	46	26	6		219	14	11	118	100	550
30 AM			24	68	41	5		243	15	7	125	104	632
45 AM			17	95	50	13		223	16	9	185	107	715
8:00 AM			11	91	29	14		229	13	17	158	114	676
15 AM			15	78	16	13		200	12	15	144	102	595
30 AM			18	64	17	15		218	4	10	140	107	593
45 AM			21	91	24	22		207	18	10	172	75	640
PEAK HOUR BEGINS AT: 730 AM													
VOLUMES =	0	0	67	332	136	45	0	895	56	48	612	427	2618

FILENAME: 0340207P
DATE: 3/15/04
DAY: MONDAY

PERIOD BEGINS	NORTHBOUND NL	NT	NR	SOUTHBOUND SL	ST	SR	EASTBOUND EL	ET	ER	WESTBOUND WL	WT	WR	Total
4:00 PM			16	101	20	20		260	18	14	333	74	856
15 PM			26	87	24	26		204	11	11	251	65	705
30 PM			25	80	18	26		206	15	13	323	65	771
45 PM			12	93	15	34		207	14	11	289	55	730
5:00 PM			20	85	11	15		236	11	12	331	74	795
15 PM			16	106	23	29		211	13	16	326	67	807
30 PM			20	91	22	40		219	20	14	335	86	847
45 PM			20	72	16	39		182	6	8	290	39	672
PEAK HOUR BEGINS AT: 1645 PM													
VOLUMES =	0	0	68	375	71	118	0	873	58	53	1281	282	3179

COMMENTS:

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TRAFFIC DATA SERVICES, INC
SUMMARY OF VEHICULAR TURNING MOVEMENTS

N/S ST: I-5 NB ON/OFF RAMPS
E/W ST: LYONS AVE
CITY: SANTA CLARITA

FILENAME: 0340209
DATE: 3/15/04
DAY: MONDAY

PERIOD BEGINS	NORTHBOUND NL	NT	NR	SOUTHBOUND SL	ST	SR	EASTBOUND EL	ET	ER	WESTBOUND WL	WT	WR	Total
LANES:	1.5	0.5	1				1	2			3	0	
7:00 AM	55	0	46				24	122			271	74	592
15 AM	54	0	66				29	149			170	59	527
30 AM	49	0	68				31	176			245	67	636
45 AM	71	0	91				45	169			265	93	734
8:00 AM	63	1	77				43	181			272	81	718
15 AM	68	0	98				39	193			284	85	767
30 AM	56	0	90				47	133			206	49	581
45 AM	89	0	107				33	210			243	71	753
PEAK HOUR BEGINS AT: 730 AM													
VOLUMES =	251	1	334	0	0	0	158	719	0	0	1066	326	2855

FILENAME: 0340209P
DATE: 3/15/04
DAY: MONDAY

PERIOD BEGINS	NORTHBOUND NL	NT	NR	SOUTHBOUND SL	ST	SR	EASTBOUND EL	ET	ER	WESTBOUND WL	WT	WR	Total
4:00 PM	149	0	158				53	222			270	104	956
15 PM	153	0	130				33	223			200	117	856
30 PM	168	0	178				43	226			249	114	978
45 PM	176	0	156				46	229			215	101	923
5:00 PM	164	0	169				50	241			274	118	1016
15 PM	145	0	170				48	279			252	102	996
30 PM	170	0	141				43	223			256	110	943
45 PM	206	0	165				42	200			235	115	963
PEAK HOUR BEGINS AT: 1700 PM													
VOLUMES =	685	0	645	0	0	0	183	943	0	0	1017	445	3918

COMMENTS:

TRAFFIC DATA SERVICES, INC
SUMMARY OF VEHICULAR TURNING MOVEMENTS

N/S ST: I-5 SB ON/OFF RAMPS
E/W ST: CALGROVE BLVD
CITY: SANTA CLARITA

FILENAME: 0440507
DATE: 4/07/04
DAY: WEDNESDAY

PERIOD	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
BEGINS	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	Total
LANES:				0.5	0.5	1		1	0	1	1		
7:00 AM				6	1	73		25	14	105	106		330
15 AM				5	0	82		35	15	168	136		441
30 AM				4	0	55		17	14	94	78		262
45 AM				6	0	45		33	8	99	76		267
8:00 AM				11	0	34		23	16	82	72		238
15 AM				17	1	29		17	32	106	61		263
30 AM				15	0	33		25	29	70	54		226
45 AM				22	0	18		33	35	54	56		218
PEAK HOUR BEGINS AT: 700 AM													
VOLUMES =	0	0	0	21	1	255	0	110	51	466	396	0	1300

FILENAME: 0440507P
DATE: 4/06/04
DAY: TUESDAY

PERIOD	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
BEGINS	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	Total
4:00 PM				21	0	16		135	8	16	36		232
15 PM				12	0	44		110	13	15	41		235
30 PM				20	0	25		125	12	32	42		256
45 PM				22	0	59		161	8	29	67		346
5:00 PM				24	0	20		160	21	40	42		307
15 PM				24	1	37		161	14	26	49		312
30 PM				21	2	19		175	27	28	54		326
45 PM				28	0	5		151	9	30	42		265
PEAK HOUR BEGINS AT: 1645 PM													
VOLUMES =	0	0	0	91	3	135	0	657	70	123	212	0	1291

COMMENTS:

TRAFFIC DATA SERVICES, INC

SUMMARY OF VEHICULAR TURNING MOVEMENTS

N/S ST: I-5 NB ON/OFF RAMPS
E/W ST: CALGROVE BLVD
CITY: SANTA CLARITA

FILENAME: 0440506
DATE: 4/07/04
DAY: WEDNESDAY

PERIOD BEGINS	NORTHBOUND NL	NT	NR	SOUTHBOUND SL	ST	SR	EASTBOUND EL	ET	ER	WESTBOUND WL	WT	WR	Total
LANES:	0.5	0.5	1				1	1			1	0	
7:00 AM	5	0	10				10	18			204	15	262
15 AM	10	2	15				20	14			249	7	317
30 AM	18	1	24				17	16			160	11	247
45 AM	12	1	21				23	12			158	22	249
8:00 AM	19	0	14				15	26			154	7	235
15 AM	16	2	17				7	29			122	16	209
30 AM	21	0	14				8	24			92	13	172
45 AM	27	0	15				13	39			84	12	190
PEAK HOUR BEGINS AT: 700 AM													
VOLUMES =	45	4	70	0	0	0	70	60	0	0	771	55	1075

FILENAME: 0440506P
DATE: 4/05/04
DAY: MONDAY

PERIOD BEGINS	NORTHBOUND NL	NT	NR	SOUTHBOUND SL	ST	SR	EASTBOUND EL	ET	ER	WESTBOUND WL	WT	WR	Total
4:00 PM	21	0	42				64	78			50	14	269
15 PM	18	1	50				43	68			42	10	232
30 PM	21	0	50				45	70			49	9	244
45 PM	20	1	52				46	72			51	12	254
5:00 PM	23	0	58				59	76			49	14	279
15 PM	30	0	64				67	79			51	16	307
30 PM	34	0	69				85	84			53	15	340
45 PM	36	0	73				93	85			52	16	355
PEAK HOUR BEGINS AT: 1700 PM													
VOLUMES =	123	0	264	0	0	0	304	324	0	0	205	61	1281

COMMENTS:

TRAFFIC DATA SERVICES, INC
SUMMARY OF VEHICULAR TURNING MOVEMENTS

N/S ST: I-5 SB ON RAMP
E/W ST: PICO CANYON RD/LYONS AVE
CITY: SANTA CLARITA

FILENAME: 0340208
DATE: 3/18/04
DAY: THURSDAY

PERIOD	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
BEGINS	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	Total
LANES:								2	1		3		
7:00 AM								138	152		256		546
15 AM								175	138		239		552
30 AM								241	175		261		677
45 AM								257	121		331		709
8:00 AM								211	140		355		706
15 AM								225	155		344		724
30 AM								187	132		314		633
45 AM								195	106		307		608
PEAK HOUR BEGINS AT: 730 AM													
VOLUMES =	0	0	0	0	0	0	0	934	591	0	1291	0	2816

FILENAME: 0340208P
DATE: 3/15/04
DAY: MONDAY

PERIOD	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
BEGINS	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	Total
4:00 PM								333	88		448		869
15 PM								311	98		456		865
30 PM								239	96		411		746
45 PM								312	77		371		760
5:00 PM								331	79		513		923
15 PM								337	84		434		855
30 PM								315	93		464		872
45 PM								294	76		432		802
PEAK HOUR BEGINS AT: 1700 PM													
VOLUMES =	0	0	0	0	0	0	0	1277	332	0	1843	0	3452

COMMENTS:

TRAFFIC DATA SERVICES, INC
SUMMARY OF VEHICULAR TURNING MOVEMENTS

N/S ST: CALGROVE BLVD
E/W ST: THE OLD RD
CITY: SANTA CLARITA

FILENAME: 0440508
DATE: 4/05/04
DAY: MONDAY

PERIOD BEGINS	NORTHBOUND NL	NT	NR	SOUTHBOUND SL	ST	SR	EASTBOUND EL	ET	ER	WESTBOUND WL	WT	WR	Total
LANES:	1	1			2	0	1		1				
7:00 AM	14	19			144	6	26		71				280
15 AM	21	22			123	10	25		70				271
30 AM	22	23			115	14	26		71				271
45 AM	20	20			93	15	23		62				233
8:00 AM	18	22			74	16	20		55				205
15 AM	16	24			66	14	16		51				187
30 AM	14	28			52	13	14		49				170
45 AM	14	27			49	12	16		48				166
PEAK HOUR BEGINS AT: 700 AM													
VOLUMES =	77	84	0	0	475	45	100	0	274	0	0	0	1055

FILENAME: 0440508P
DATE: 4/06/04
DAY: TUESDAY

PERIOD BEGINS	NORTHBOUND NL	NT	NR	SOUTHBOUND SL	ST	SR	EASTBOUND EL	ET	ER	WESTBOUND WL	WT	WR	Total
4:00 PM	62	122			37	19	26		41				307
15 PM	70	106			67	27	16		40				326
30 PM	79	121			45	27	14		47				333
45 PM	123	200			87	47	21		63				541
5:00 PM	65	131			35	16	11		38				296
15 PM	110	163			67	30	24		40				434
30 PM	85	164			19	32	26		37				363
45 PM	94	159			32	25	18		31				359
PEAK HOUR BEGINS AT: 1645 PM													
VOLUMES =	383	658	0	0	208	125	82	0	178	0	0	0	1634

COMMENTS:

TRAFFIC DATA SERVICES, INC

SUMMARY OF VEHICULAR TURNING MOVEMENTS

N/S ST : THE OLD RD
E/W ST: PICO CANYON RD
CITY: SANTA CLARITA

FILENAME: 0340206
DATE: 3/15/04
DAY: MONDAY

PERIOD BEGINS	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			Total
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
LANES:	1	2	0	2	1	1	1	2	1	1	2	1	
7:00 AM	3	25	10	77	143	2	7	162	31	13	53	79	605
15 AM	8	22	21	75	136	2	5	141	21	5	44	61	541
30 AM	13	47	24	77	68	5	11	148	20	13	52	54	532
45 AM	19	47	17	65	83	2	13	165	32	12	103	76	634
8:00 AM	22	37	18	78	81	6	14	153	41	14	92	79	635
15 AM	11	38	25	68	69	6	14	141	24	12	73	83	564
30 AM	8	46	17	73	36	4	5	128	14	10	60	85	486
45 AM	9	31	25	80	46	2	8	125	13	13	61	118	531
PEAK HOUR BEGINS AT: 730 AM													
VOLUMES =	65	169	84	288	301	19	52	607	117	51	320	292	2365

FILENAME: 0340206P
DATE: 3/11/04
DAY: THURSDAY

PERIOD BEGINS	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			Total
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
4:00 PM	18	48	13	95	40	10	11	59	15	13	116	193	631
15 PM	18	49	14	85	33	8	18	61	9	7	132	154	588
30 PM	24	60	12	109	40	7	16	52	4	12	125	160	621
45 PM	33	66	14	121	59	10	16	48	5	14	126	181	693
5:00 PM	27	116	16	149	76	8	18	79	5	19	171	196	880
15 PM	22	59	14	81	38	5	11	63	7	19	126	106	551
30 PM	24	108	12	116	49	6	16	61	6	18	171	181	768
45 PM	21	97	11	104	42	5	14	60	5	17	152	161	689
PEAK HOUR BEGINS AT: 1645 PM													
VOLUMES =	106	349	56	467	222	29	61	251	23	70	594	664	2892

COMMENTS:

TRAFFIC DATA SERVICES, INC

SUMMARY OF VEHICULAR TURNING MOVEMENTS

N/S ST: CHIQUELLA LN
E/W ST: PICO CANYON RD
CITY: SANTA CLARITA

FILENAME: 0440509
DATE: 4/05/04
DAY: MONDAY

PERIOD	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
BEGINS	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	Total
LANES:	1	0	2	0	0	0	0	3	0	1	3	0	
7:00AM	9	0	43	0	0	0	2	204	24	28	156	4	470
15AM	3	0	42	0	0	0	1	128	20	26	134	3	357
30AM	1	0	44	0	1	0	0	203	14	33	186	4	486
45AM	8	2	52	0	0	0	0	235	24	40	203	2	566
8:00AM	10	3	61	0	0	1	4	207	25	49	218	5	583
15AM	8	0	47	0	0	0	1	209	24	34	195	0	518
30AM	9	1	56	0	0	3	1	204	32	43	202	1	552
45AM	10	0	67	0	0	1	0	268	20	41	207	3	617
PEAK HOUR BEGINS AT: 800 AM													
VOLUMES =	37	4	231	0	0	5 0	6	888	101	167	822	9	2270

FILENAME: 0440509P
DATE: 4/05/04
DAY: MONDAY

PERIOD	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
BEGINS	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	Total
4:00 PM	12	2	81	0	0	0	4	321	21	46	363	3	853
15 PM	7	0	46	0	0	1	1	287	19	39	284	4	688
30 PM	6	1	66	0	0	0	1	296	23	48	393	5	839
45 PM	5	2	69	0	0	2	0	309	27	38	315	5	772
5:00 PM	10	0	83	1	0	2	1	318	26	42	413	3	899
15 PM	15	0	63	0	0	0	1	333	22	52	339	2	827
30 PM	13	0	77	0	0	2	2	344	22	74	377	4	915
45 PM	14	0	66	0	0	1	2	235	26	57	319	3	723
PEAK HOUR BEGINS AT: 1645 PM													
VOLUMES =	43	2	292	1 0	0	6 0	4	1304	97	206	1444	14	3413

COMMENTS:

TRAFFIC DATA SERVICES, INC
SUMMARY OF VEHICULAR TURNING MOVEMENTS

N/S ST: MARRIOTT WY
E/W ST: THE OLD RD
CITY: SANTA CLARITA

FILENAME: 0440510
DATE: 4/05/04
DAY: MONDAY

PERIOD BEGINS	NORTHBOUND NL	NT	NR	SOUTHBOUND SL	ST	SR	EASTBOUND EL	ET	ER	WESTBOUND WL	WT	WR	Total
LANES:				0	1	0	0	1			1	0	
7:00 AM				6		3	1	79			31	1	121
15 AM				7		3	1	87			26	6	130
30 AM				11		6	1	75			31	5	129
45 AM				13		3	3	83			28	4	134
8:00 AM				17		6	1	75			24	5	128
15 AM				11		2	4	80			34	6	137
30 AM				14		1	3	61			35	3	117
45 AM				17		3	5	59			46	3	133
PEAK HOUR BEGINS AT: 730 AM													
VOLUMES =	0	0	0	52	0	17	9	313	0	0	117	20	528

FILENAME: 0440510P
DATE: 4/05/04
DAY: MONDAY

PERIOD BEGINS	NORTHBOUND NL	NT	NR	SOUTHBOUND SL	ST	SR	EASTBOUND EL	ET	ER	WESTBOUND WL	WT	WR	Total
4:00 PM				14		10	6	66			101	10	207
15 PM				18		15	3	82			79	4	201
30 PM				27		16	4	70			107	9	233
45 PM				37		17	4	93			157	12	320
5:00 PM				18		9	4	91			118	4	244
15 PM				27		10	3	74			110	12	236
30 PM				15		7	3	60			92	6	183
45 PM				18		10	2	72			101	5	208
PEAK HOUR BEGINS AT: 1630 PM													
VOLUMES =	0	0	0	109	0	52	15	328	0	0	492	37	1033

COMMENTS:

TRAFFIC DATA SERVICES, INC
SUMMARY OF VEHICULAR TURNING MOVEMENTS

N/S ST: CHIQUELLA LN
E/W ST: THE OLD RD
CITY: SANTA CLARITA

FILENAME: 0440511
DATE: 4/05/04
DAY: MONDAY

PERIOD BEGINS	NORTHBOUND NL	NT	NR	SOUTHBOUND SL	ST	SR	EASTBOUND EL	ET	ER	WESTBOUND WL	WT	WR	Total
LANES:				0	1	0	1	1			1	0	
7:00 AM				18		6	11	98			28	6	167
15 AM				4		1	3	55			9	4	76
30 AM				16		5	6	70			34	12	143
45 AM				15		2	4	61			18	4	104
8:00 AM				29		8	15	79			29	7	167
15 AM				16		12	5	70			22	11	136
30 AM				9		7	8	45			23	3	95
45 AM				23		10	14	64			24	14	149
PEAK HOUR BEGINS AT: 730 AM													
VOLUMES =	0	0	0	76	0	27	30	280	0	0	103	34	550

FILENAME: 0440511P
DATE: 4/05/04
DAY: MONDAY

PERIOD BEGINS	NORTHBOUND NL	NT	NR	SOUTHBOUND SL	ST	SR	EASTBOUND EL	ET	ER	WESTBOUND WL	WT	WR	Total
4:00 PM				26		12	15	62			98	23	236
15 PM				33		20	10	71			68	14	216
30 PM				30		11	15	63			97	21	237
45 PM				26		19	19	68			103	15	250
5:00 PM				27		20	15	73			131	34	300
15 PM				25		19	17	56			125	21	263
30 PM				34		21	16	48			119	32	270
45 PM				30		19	7	59			103	21	239
PEAK HOUR BEGINS AT: 1645 PM													
VOLUMES =	0	0	0	112	0	79	67	245	0	0	478	102	1083

COMMENTS: