4.10 TRANSPORTATION AND CIRCULATION

PURPOSE

The section discusses the potential impacts to traffic and circulation as a result of the implementation of the proposed Via Princessa East Extension, which includes regional traffic growth pursuant to the City's buildout for the Santa Clarita Valley. Upon completion of the proposed project, safety and hazardous impacts would be less than significant. All traffic related impacts to intersections and roadways within the project study area would be mitigated to less than significant impacts with implementation of the proposed project. Potential cumulative transportation and circulation impacts, including potential impacts to roadway segments and project area intersections, would result in less than significant impacts with implementation of the proposed project.

This section of the EIR summarizes the findings of the *Via Princessa Extension Traffic Analysis* prepared by Austin-Foust Associates, Inc., in April 2011. The traffic analysis is provided in **Appendix 4.10** of this EIR.

INTRODUCTION

The traffic impacts analysis presented in this section is based upon the traffic technical report prepared for the proposed Via Princessa project by Austin-Foust Associates, Inc., (AFA), entitled *Via Princessa Extension Traffic Analysis* (April 2011) (TA). A copy of the TA is included in its entirety in **Appendix 4.10** of this EIR.

The following provides an overview of the methodology utilized to conduct the impacts analysis presented in this section.

Definitions

The following definitions are provided for certain terms used throughout this section 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 (Metro) 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 and freeway segments.
Peak Hour	This refers to the hour during the AM peak period (typically 7:00 AM to 9:00 AM) or the PM peak period (typically 3:00 PM to 6:00 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; each trip has two tripends.
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 1-hour period, typically the AM or PM peak hour.

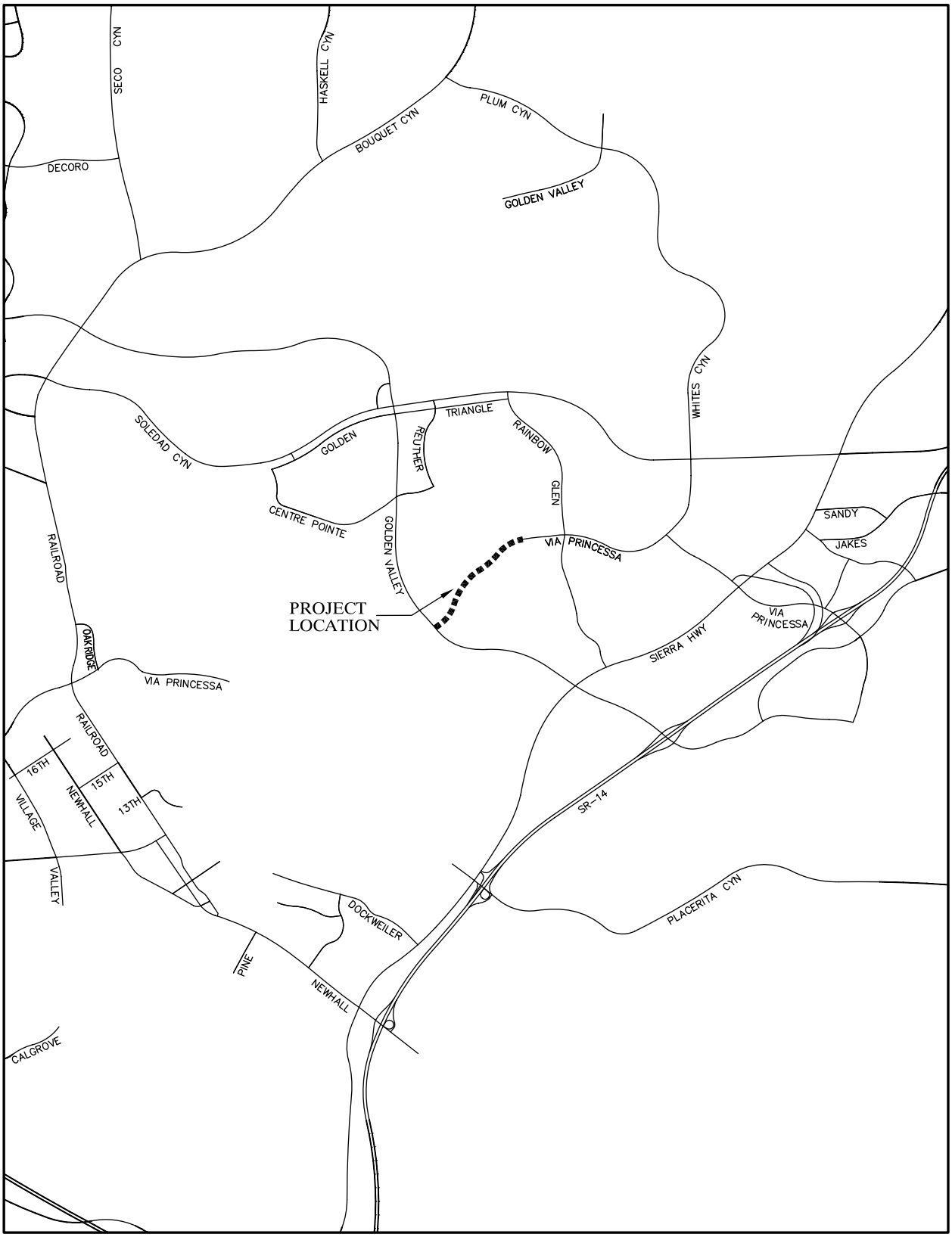
Project Study Area

The project study area, illustrated in **Figure 4.10-1**, **Project Study Area**, includes the roadways and intersections near the project site and those locations where project-distributed traffic could be reasonably expected to cause a significant impact.

Methodology

The traffic forecasts used in this analysis have been prepared using data from the Santa Clarita Valley Consolidated Traffic Model (SCVCTM). The SCVCTM was developed jointly by the City of Santa Clarita Department of Public Works and the County of Los Angeles Department of Public Works and is the primary tool used for forecasting traffic volumes for the Santa Clarita Valley. The SCVCTM has the ability to provide traffic volume forecasts for a long-range setting, which represents buildout conditions (generally considered as year 2035 or later), as well as an interim year (approximately 10 to 15 years from the present). For this analysis, the SCVCTM Interim Year setting is used to provide a comparison of conditions with and without the project. As noted above, the SCVCTM Long-Range Buildout forecasts based on the proposed OVOV plan are also provided to illustrate the ultimate traffic conditions in the area.

The Via Princessa East Extension will be one of the primary east-west arterials through the City of Santa Clarita. The project addressed in this analysis consists of the portion of Via Princessa between Golden Valley Road and Rainbow Glen Drive to the east. A future project would construct the final gap closure segment between Golden Valley Road and Claiborne Lane to the west.



Legend:

▬▬▬ Proposed Project Roadway Extension

NOT TO SCALE

SOURCE: Austin-Foust Associates, Inc., Via Princessa Extension Traffic Analysis – May 2011

FIGURE **4.10-1**

Project Study Area

The project is about 1.2 miles in length and the proposed roadway is designated as a Major Arterial Highway per the City of Santa Clarita's Master Highway Plan. The project includes the construction of a new roadway segment between Golden Valley Road and the existing roadway terminus near Sheldon Avenue, the completion of the existing section of Via Princessa between Sheldon Avenue and Rainbow Glen Drive (currently constructed as a half section) by constructing the south side of the roadway, and the re-striping of the existing section of Via Princessa between Sheldon Avenue and Rainbow Glen Drive to add additional vehicle lanes.

The new roadway construction between Golden Valley Road and the existing roadway terminus near Sheldon Avenue would be a six-lane facility with a raised landscaped median, a parkway/sidewalk on each side and a two-way bike path along the south side. The vehicle lanes adjacent to the median would be 12 feet wide, the middle lanes 11 feet wide, and the lanes adjacent to the curb would be 12 feet wide. The typical right-of-way width for this section would be 116 feet.

The portion of Via Princessa between Sheldon Avenue and Rainbow Glen Drive that is currently constructed as a half section would be completed by constructing the south side of the roadway. In this section, the roadway would be constructed to a typical right-of-way width of 104 feet, consistent with the original design for this section.

Impacts Analysis Scenario

The traffic impacts of the proposed project were evaluated based on the Interim Year scenario, approximately 10 to 15 years from 2010, consistent with the established guidelines of the City of Santa Clarita. The Interim Year scenario evaluates project area conditions with and without the proposed project.

For this analysis, Interim Year With Project traffic forecasts are based on the proposed extension of Via Princessa east of Golden Valley Road. The Interim Year Without Project forecasts are based on the existing configuration of Via Princessa (no extension). Interim Year traffic forecasts represent a comprehensive cumulative setting that includes the proposed and approved future development projects within the Santa Clarita area.

Cumulative Conditions

The cumulative traffic impacts of the proposed project were evaluated based on the Long Range Buildout scenario. The Long Range Buildout scenario for the proposed project represents part of a long-range improvement that ultimately proposes the gap closure of Via Princessa through the center of the Santa Clarita Valley. Long-Range Buildout conditions are included in this analysis to illustrate the ultimate

traffic conditions when Via Princessa is extended west of Golden Valley Road to close the final gap in the roadway. Long Range Buildout conditions are based on the new General Plan.

Levels of Service Descriptions

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 Transportation Research Board, National Research Council's *Highway Capacity Manual* (HCM 2000), six grades are used to denote the various LOS and are denoted as A through F. **Table 4.10-1, Level of Service of Arterial Roads**, describes the six grades of LOS for arterial roadways. Please refer to **Significance Threshold Criteria**, for the specific methods of calculating the LOS for arterial roads in the project study area.

Table 4.10-1
Level of Service of Arterial Roads[1]

LOS	Description
A	LOS 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.
B	LOS 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.
C	LOS 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.
D	LOS 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.
E	LOS E is 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.
F	LOS F is 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.

Source: Highway Capacity Manual 2000, Transportation Research Board, National Research Council.

[1] *The average travel speed along an urban street is the determinant of the operating LOS. The travel speed along a segment, section, or entire length of an urban street is dependent on the running speed between signalized intersections and the amount of control delay incurred at signalized intersections. The following general statements characterize LOS along urban streets and show the relationship to free flow speeds (FFS).*

EXISTING CONDITIONS

Roadway System

The existing roadway network in the project study area is shown on **Figure 4.10-1**. Regional access to the site in the north/south direction is provided via SR-14 and Sierra Highway, located south of the project Site. Regional access to the site also is provided via Soledad Canyon Road, which is located to the north of the project site and runs in an east/west direction. Other primary roads in the area include Golden Valley Road, which is perpendicular to the westerly boundary of the project, Rainbow Glen Drive, which passes east of the site, and Whites Canyon Road, which connects to Via Princessa east of the project site.

Via Princessa

The existing segment of Via Princessa from approximately 400 feet west of Rainbow Glen Drive to Canyon Terrace Way (just west of the intersection with Whites Canyon Road) is constructed with a typical right-of-way width of 80 feet, which allows for a total of four vehicles lanes, two lanes in each direction, and a painted median.

Immediately west of this, a short segment of Via Princessa (approximately 270 feet) is constructed as a half-street section based on an ultimate right-of-way width of 104 feet, which would allow for a total of six vehicles lanes and a raised median at ultimate buildout.

From the end of that segment to the current roadway terminus (approximately 525 feet), the roadway is constructed based on a typical right-of-way width of 100 feet, which would allow for a total of six vehicles lanes and a raised median.[1]

Existing Traffic Volumes and Levels of Service

Existing conditions (2010) average daily traffic (ADT) volume counts have been provided by the City of Santa Clarita from multiple permanent counts stations located within the project study area. Those counts have been augmented by additional 24-hour machine counts collected specifically for the TA in July 2010. Detailed intersection turning movement counts were also collected in November 2010 during the critical AM and PM peak periods for intersections along the Via Princessa corridor, as identified on **Figure 4.10-2, Existing Intersection Lanes and Peak Hour Volumes**.

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1 Right-of-Way source is the Road Alignment for Via Princessa East street plan by Sikand Engineering, October 2009.

Figure 4.10-3, Existing ADT Volumes (000s), identifies the existing (2010) ADT volumes in the vicinity of the project. Approximately 8,000 ADTs currently utilize Via Princessa between Whites Canyon Road and Rainbow Glen Drive.

ADT volume to capacity (v/c) ratios have been calculated for existing (2010) conditions, as shown in **Table 4.10-2, Average Daily Traffic V/C and LOS - Existing 2010 Conditions**, which summarizes the v/c and LOS for each roadway within the study area. Roadways adjacent to the project location generally operate at LOS A and LOS B (e.g., Via Princessa, Rainbow Glen Drive, Isabella Parkway, and Golden Valley Road). Other heavily traveled arterials are operating at LOS E (e.g., Bouquet Canyon Road and Railroad Avenue); however, none are currently shown at LOS F.

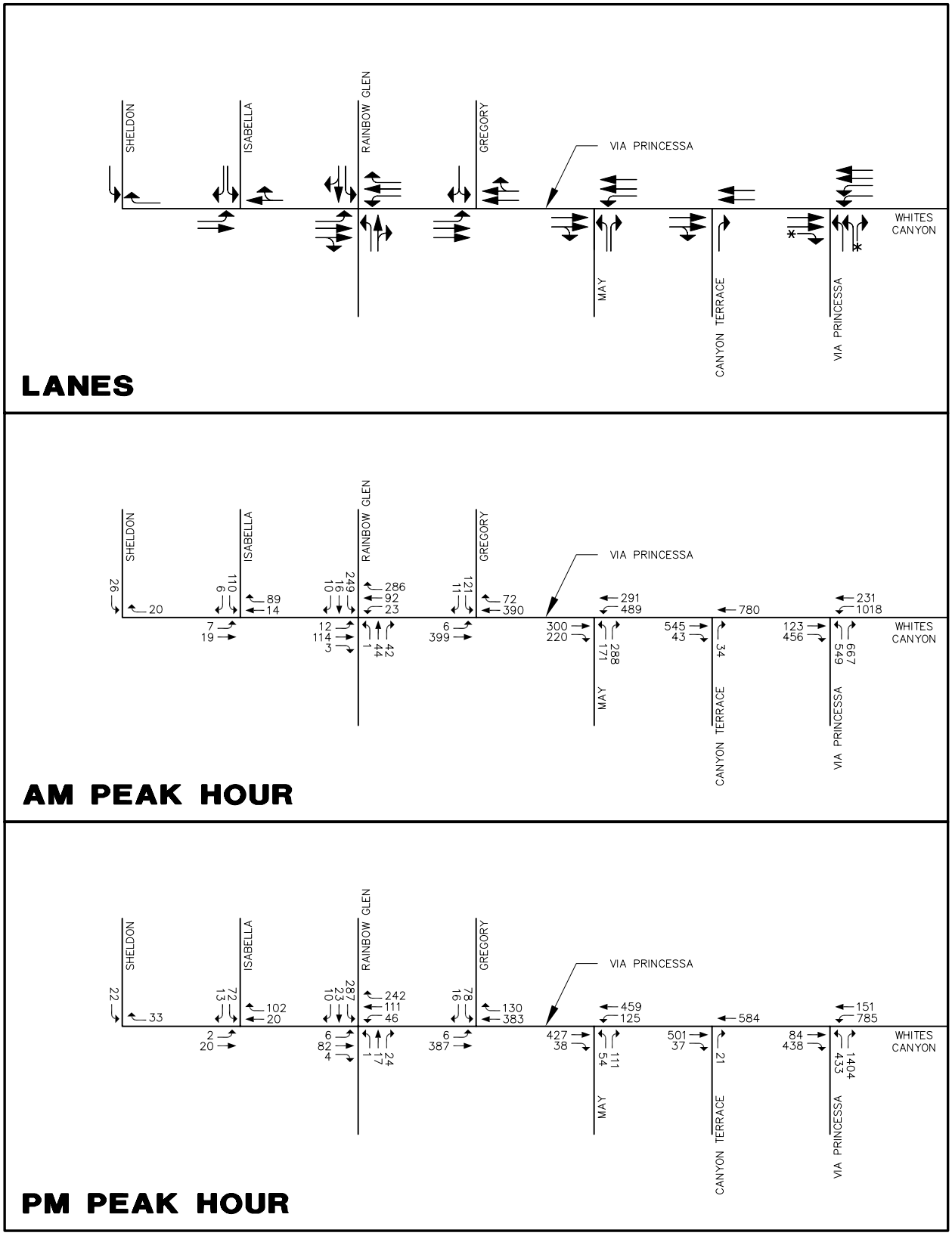
Existing intersection ICU values for signalized intersections near the project are summarized in **Table 4.10-3, ICU and LOS Summary – Existing 2010 Conditions**. **Table 4.10-4, Intersection Delay and LOS Summary – Existing 2010 Conditions**, summarizes the average vehicle delay and the corresponding LOS for existing intersections along Via Princessa in the vicinity of the project. **Figure 4.10-4, Intersection Location Map**, identifies the intersections near the project site. The delay analysis shows that each intersection along the Via Princessa corridor currently operates at LOS C or better.

Transit System

Santa Clarita Transit provides fixed route transit bus service throughout the City and in adjacent unincorporated areas. The system encompasses eight local-serving routes as well as four "Station Link" routes that serve the Santa Clarita Metrolink station. Commuter express bus service to Los Angeles employment destinations is also provided. Routes 1, 2, 5, and 6 operate in the vicinity of the project site. Currently, no bus stops exist within 0.25 mile of the project site. The closest existing stop (Route 5/6) is at the Aquatics Center near the intersection of Golden Valley Road and Centre Pointe Parkway. Routes 1, 2, and 5 stop at the Sierra Highway/Soledad Canyon Road intersection.

Bicycle/Pedestrian System

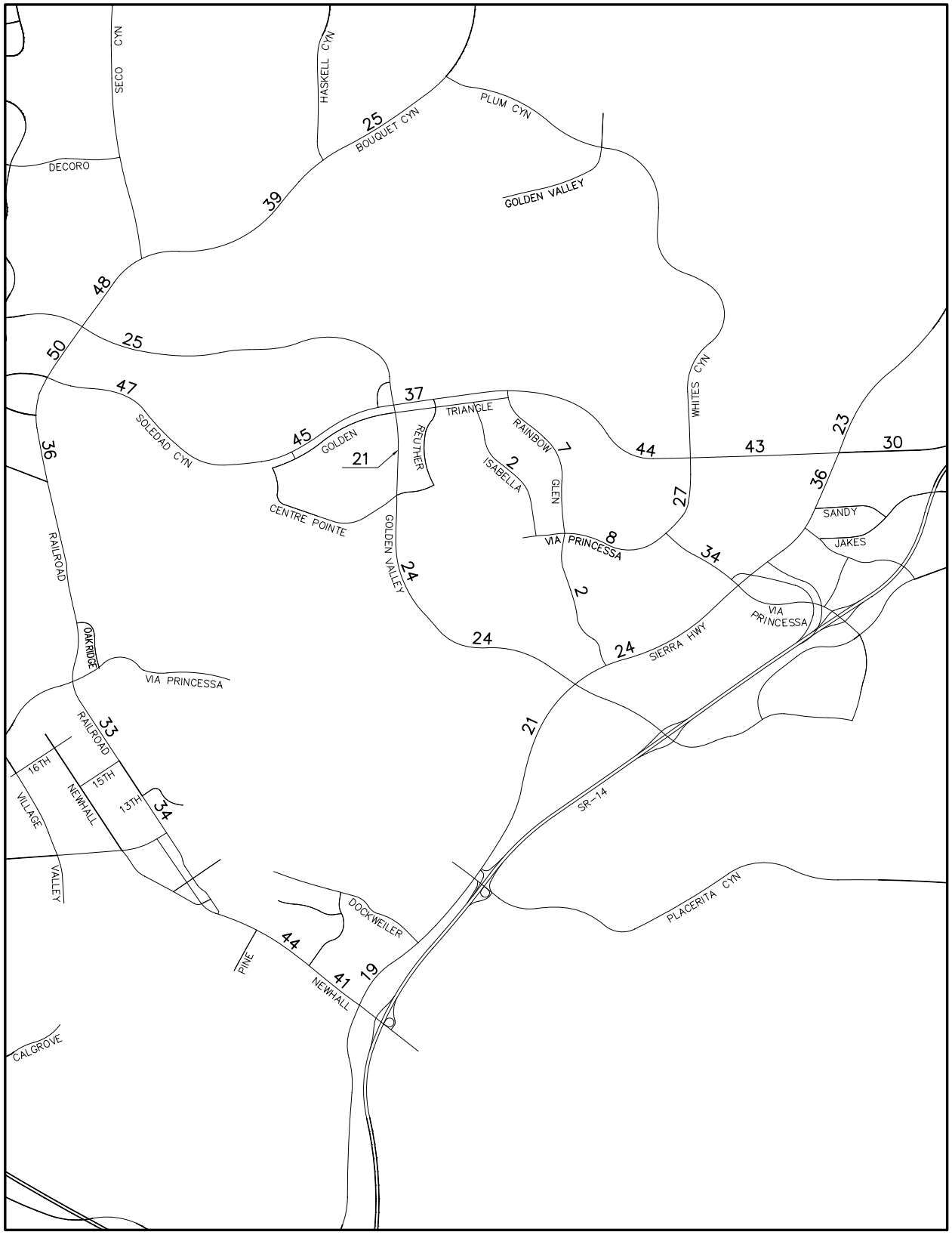
The City of Santa Clarita is an active promoter of non-motorized transportation modes, as is evidenced by its adoption in June 2008 of a Non-Motorized Transportation Plan. Bicycle and pedestrian facilities are part of the existing transportation environment and continue to play a key role in future development.



SOURCE: Austin-Foust Associates, Inc., Via Princessa Extension Traffic Analysis – May 2011

FIGURE **4.10-2**

Existing Intersection Lanes and Peak Hour Volumes



Legend:

XX Average Daily Traffic Counts

NOT TO SCALE

SOURCE: Austin-Foust Associates, Inc., Via Princessa Extension Traffic Analysis – May 2011

FIGURE **4.10-3**

Existing ADT Volumes (000s)

Table 4.10-2
Average Daily Traffic V/C and LOS - Existing 2010 Conditions

			Long-Range Buildout		
Roadway Segment	**Lanes**	**Capacity**	**Volume**	**V/C**	**LOS**
55 Newhall Ranch e/o Bouquet Cyn	4	36,000	25,000	.69	B
76 Bouquet Cyn e/o Haskell Cyn	4	36,000	25,000	.69	B
77 Bouquet Cyn w/o Haskell Cyn	5	45,000	39,000	.87	D
78 Bouquet Cyn w/o Seco Cyn	8	72,000	48,000	.67	B
79 Bouquet Cyn s/o Newhall Ranch	8	72,000	50,000	.69	B
80 Bouquet Cyn n/o Magic Mtn	4	36,000	36,000	1.00	E
82 Railroad s/o Oak Ridge	4	36,000	33,000	.92	E
84 Railroad n/o Lyons Cyn	4	36,000	34,000	.94	E
101 Soledad Cyn e/o Bouquet Cyn	6	54,000	47,000	.87	D
111 Newhall n/o Valle Del Oro	6	54,000	44,000	.81	D
143 Soledad Cyn w/o Golden Valley	6	54,000	45,000	.83	D
144 Soledad Cyn w/o Whites Cyn	6	54,000	44,000	.81	D
145 Soledad Cyn e/o Whites Cyn	6	54,000	43,000	.80	C
146 Soledad Cyn e/o Sierra Hwy	6	54,000	30,000	.56	A
150 Whites Cyn s/o Soledad Cyn	6	54,000	27,000	.50	A
152 Via Princessa e/o Rainbow Glen	4	36,000	8,000	.22	A
153 Via Princess s/o Whites Cyn	6	54,000	34,000	.63	B
156 Golden Valley n/o Sierra Hwy	4	36,000	24,000	.67	B
158 Sierra Hwy n/o Newhall	4	36,000	19,000	.53	A
160 Sierra Hwy s/o Golden Valley	4	36,000	21,000	.58	A
161 Sierra Hwy s/o Via Princesssa	4	36,000	24,000	.67	B
162 Sierra Hwy s/o Soledad Cyn	6	54,000	36,000	.67	B
163 Sierra Hwy n/o Soledad Cyn	4	36,000	23,000	.64	B
198 Golden Valley s/o Soledad Cyn	4	36,000	21,000	.58	A
199 Golden Valley s/o Centre Pointe	4	36,000	24,000	.67	B
226 Soledad Cyn e/o Golden Valley	6	54,000	37,000	.69	B
229 Rainbow Glen n/o Via Princessa	2	18,000	7,000	.39	A
288 Newhall n/o Sierra Hwy	6	54,000	41,000	.76	C
364 Rainbow Glen s/o Via Princessa	2	15,000	2,000	.13	A
365 Isabella n/o Via Princessa	2	15,000	2,000	.13	A

Level of service ranges: 0.00–0.60 = A 0.61–0.70 = B 0.71–0.80 = C 0.81–0.90 = D 0.91–1.00 = E Above 1.00 = F
Abbreviations: e/o = east of; w/o = west of; s/o = south of; and n/o = north of.
Source: Austin-Foust Associates, Inc., Via Princessa Extension Traffic Analysis, April 2011.

Table 4.10-3
ICU and LOS Summary – Existing 2010 Conditions

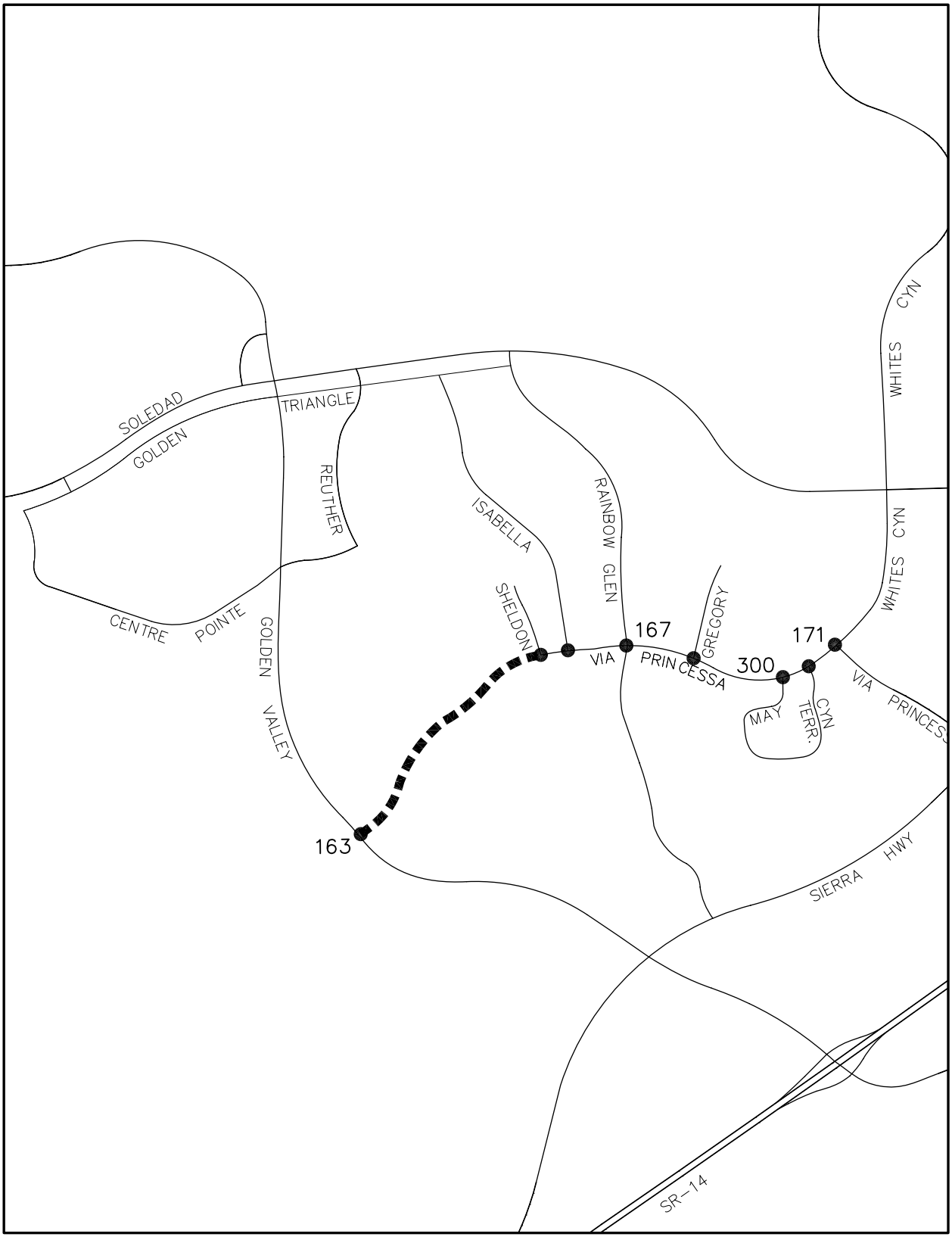
Intersection	AM Peak Hour ICU	AM Peak Hour LOS	PM Peak Hour ICU	PM Peak Hour LOS
167. Rainbow Glen & Via Princessa	.35	A	.34	A
171. Whites Cyn & Via Princessa	.59	A	.46	A
300. May Way & Via Princessa	.63	B	.33	A

Level of service ranges: 0.00–0.60 = A 0.61–0.70 = B 0.71–0.80 = C 0.81–0.90 = D 0.91–1.00 = E Above 1.00 = F
Source: Austin-Foust Associates, Inc., Via Princessa Extension Traffic Analysis, April 2011.

Table 4.10-4
Intersection Delay and LOS Summary – Existing 2010 Conditions

Intersection	Control Type	AM Peak Hour Delay	AM Peak Hour LOS	PM Peak Hour Delay	PM Peak Hour LOS
Sheldon Ave & Via Princessa	Side Street Stop	0.0	A	0.0	A
Isabella & Via Princessa	Side Street Stop	9.6	A	9.3	A
Rainbow Glen & Via Princessa	All-Way Stop	11.5	B	13.2	B
Gregory & Via Princessa	Side Street Stop	19.1	C	18.4	C
May Way & Via Princessa	Signal	16.8	B	10.7	B
Canyon Terrace & Via Princessa	Side Street Stop	10.6	B	9.2	A
Whites Cyn & Via Princessa	Signal	16.6	B	15.1	B

Notes:
Delay = Average Control Delay (sec/veh)
The indicated delay for Side Street Stop control represents the average vehicle delay for the worst-case movement.
The indicated delay for All-Way Stop control and Signal control represents the average vehicle delay for the intersection.
[1] No conflicting movements for existing conditions.
Source: Austin-Foust Associates, Inc., Via Princessa Extension Traffic Analysis, April 2011.



Legend:

- ● Intersection Location
- xxx Signal (Exist and Future)
- ▬ ▬ ▬ Project Location

NOT TO SCALE

SOURCE: Austin-Foust Associates, Inc., Via Princessa Extension Traffic Analysis – May 2011

FIGURE **4.10-4**

Intersection Location Map

The following describes the different classifications of bicycle facilities:

- Class I Bike Path – an exclusive, two-way path for bicycles that is completely separated from a street or highway.
- Class II Bicycle Lane – signed and striped one-way lanes on streets or highways, typically at the edge of the pavement. Bike lanes provide a demarcated space for bicyclists within the roadway right-of-way.
- Class III Bike Route – bicycles share the right-of-way with vehicles; the routes may be signed, but they are not exclusively striped for use by cyclists.

The Santa Clara River Trail Class I bike path begins at Lost Canyon Road, south of Soledad Canyon Road, and parallels the Santa Clara River westerly to Whites Canyon Road and beyond. Class I paths are also provided along segments of Soledad Canyon Road, Golden Valley Road, and Sand Canyon Road. Class II bicycle lanes are present on Soledad Canyon Road west of Sand Canyon Road.

Santa Clarita's existing pedestrian network is comprised of sidewalks, paseos, and multi-use trails. Within the immediate project vicinity, pedestrian facilities are limited to sidewalks on portions of streets and crosswalks at intersections.

REGULATORY SETTING

City

2006 Transportation Development Plan

The City of Santa Clarita Transit's 2006 Transportation Development Plan (TDP) outlines a 58 percent expansion of transit services in the Santa Clarita Valley over the next several years. The TDP identifies major employers and other activity centers that are served by transit, including Six Flags Magic Mountain, Henry Mayo Newhall Memorial Hospital, the Valencia Industrial Center, the Valencia Commerce Center, and the Valencia Town Center. The plan also identifies employers and destinations that are not yet served. According to the plan, transit service is desirable at locations where very large employers or clusters of employment operate, or at locations that attract large numbers of visitors, students, children, the elderly, or the disabled. Under the proposed expansion of services, planned transit improvements include automated vehicle location equipment, passenger information systems, and automated ridership count equipment. Signage would be posted throughout the community to highlight bus arrival and departure times, which would also be accessible through personal computers and hand held computer devices.

A significant need identified in the TDP is improving the accessibility, convenience, and safety for bus stops. Some existing stops have no paved waiting areas for transit riders to stand while waiting for the bus, causing them to stand on unpaved shoulders of busy streets, or in landscaped areas where sprinklers spray intermittently. The TDP recommends retrofitting bus waiting areas to provide pavement and connections to walkways, and ensuring that new development provides or contributes to adequate transit stop facilities as a condition of approval, where appropriate.

Additionally, the TDP identifies a need for development of a major (500+ spaces) park-and-ride lot at the intersection of Newhall Avenue and Sierra Highway. In addition to improving service at that location, a larger lot would increase parking capacity at the Newhall and Santa Clarita Metrolink Stations by diverting some bus riders from parking at the Metrolink stations. A second park-and-ride lot was approved in October 2011 near the McBean Transfer Station, in accordance with the plan. Funding sources for these improvements are being evaluated. The TDP also recommends the development of a permanent Metrolink station with transfer facilities to accommodate bus service, and increased park-and-ride spaces, and identifies a need for a future fourth station on the east side of the Santa Clarita Valley.

2008 Non-Motorized Transportation Plan

The City of Santa Clarita initiated preparation of a Non-Motorized Transportation Plan in 2006, with the general goal of reducing the number and length of vehicle trips through promotion of walking and biking as alternate modes of transportation. In undertaking a plan to increase non-motorized transportation, the City identified quality of life benefits such as reduced noise from traffic, better air quality, reduced fuel costs, and less time spent in traffic congestion. The City found that generally people are willing to walk to destinations within 0.25 mile, and bike to destinations within 0.5 mile. Other studies have found that people routinely walk 0.5 mile to access rail transit and surveys of bicycle commuters indicate that average bicycle commute distance can vary from approximately 4.5 miles to 7.5 miles.

The City's Non-Motorized Transportation Plan was adopted in June 2008. The Plan developed connected, safe, and convenient routes for cyclists and pedestrians. Policies and programs in the plan were designed to identify and prioritize bikeway needs; provide a plan for needed facilities and services; contribute to the quality of life through trail development; improve safety for cyclists and pedestrians; identify land use patterns that promote walking and cycling; improve access to transit; maximize funding opportunities for trails; and provide educational and incentive programs. The Non-Motorized Transportation Plan identified a need to accommodate on-street bicyclists through designation of bike lanes on arterials, wide curb lanes, loop detectors at signals, direct commuter routes, and protected intersection crossing locations. In addition, connections between residential areas and bikeways are needed to facilitate increased bicycle use for both recreational and commuting purposes. The

Non-Motorized Transportation Plan identified the various needs for pedestrians, including sufficient crossing time at signalized intersection, visibility at crossings, continuity of walkways, adequate walkway width, removing obstructions in the walkway, and providing buffer or separation from travel lanes. The Plan also included a Safe Routes to Schools Program for three elementary schools.

County

Congestion Management Program

The CMP was enacted by the California Legislature in 1989 to improve traffic congestion in urban areas. The program became effective with the passage of Proposition 111 in 1990, which also increased the State gas tax. Funds generated by Proposition 111 are available to cities and counties for regional road improvements, provided these agencies are in compliance with CMP requirements. The intent of the legislation was to link transportation, land use, and air quality decisions by addressing the impact of local growth on the regional transportation system. State statute requires that a congestion management program be developed, adopted, and updated biennially for every county that includes an urbanized area, which shall include every city and county government within that county. Therefore, the City of Santa Clarita and County of Los Angeles must comply with CMP requirements in developing a circulation plan for the Santa Clarita Valley.

Under this legislation, regional agencies are designated within each county to prepare and administer the CMP for agencies within that county. Each local planning agency included in the CMP has the following responsibilities:

- Assisting in monitoring the roadways designated within the CMP system
- Adopting and implementing a trip reduction and travel demand ordinance
- Analyzing the impacts of local land use decisions on the regional transportation system
- Preparing annual deficiency plans for portions of the CMP system where LOS standards are not maintained

Los Angeles County Metropolitan Transportation Authority (Metro) is the CMP agency for Los Angeles County. Metro has the responsibility to review compliance with the CMP by agencies under its jurisdiction. For any agency out of compliance, after receiving notice and after a correction period, a portion of state gas tax funds may be withheld if compliance is not achieved. In addition, compliance with the CMP is necessary to preserve eligibility for state and federal funding of transportation projects.

Metro adopted the County's first CMP in 1992, and completed its most recent update in 2004. The statute requires that all state highways and principal arterials be included within the CMP roadway system. Within the Santa Clarita Valley, the following roadways are designated as CMP roadways:

- I-5 Freeway
- SR-14 Freeway
- Sierra Highway from Newhall Avenue (formerly San Fernando Road) to SR-14 at Red Rover Mine Road
- Magic Mountain Parkway from I-5 to Railroad Avenue (formerly San Fernando Road)
- Railroad Avenue/Newhall Avenue (formerly San Fernando Road) from Magic Mountain Parkway to SR-14
- SR-126 west of the I-5 freeway

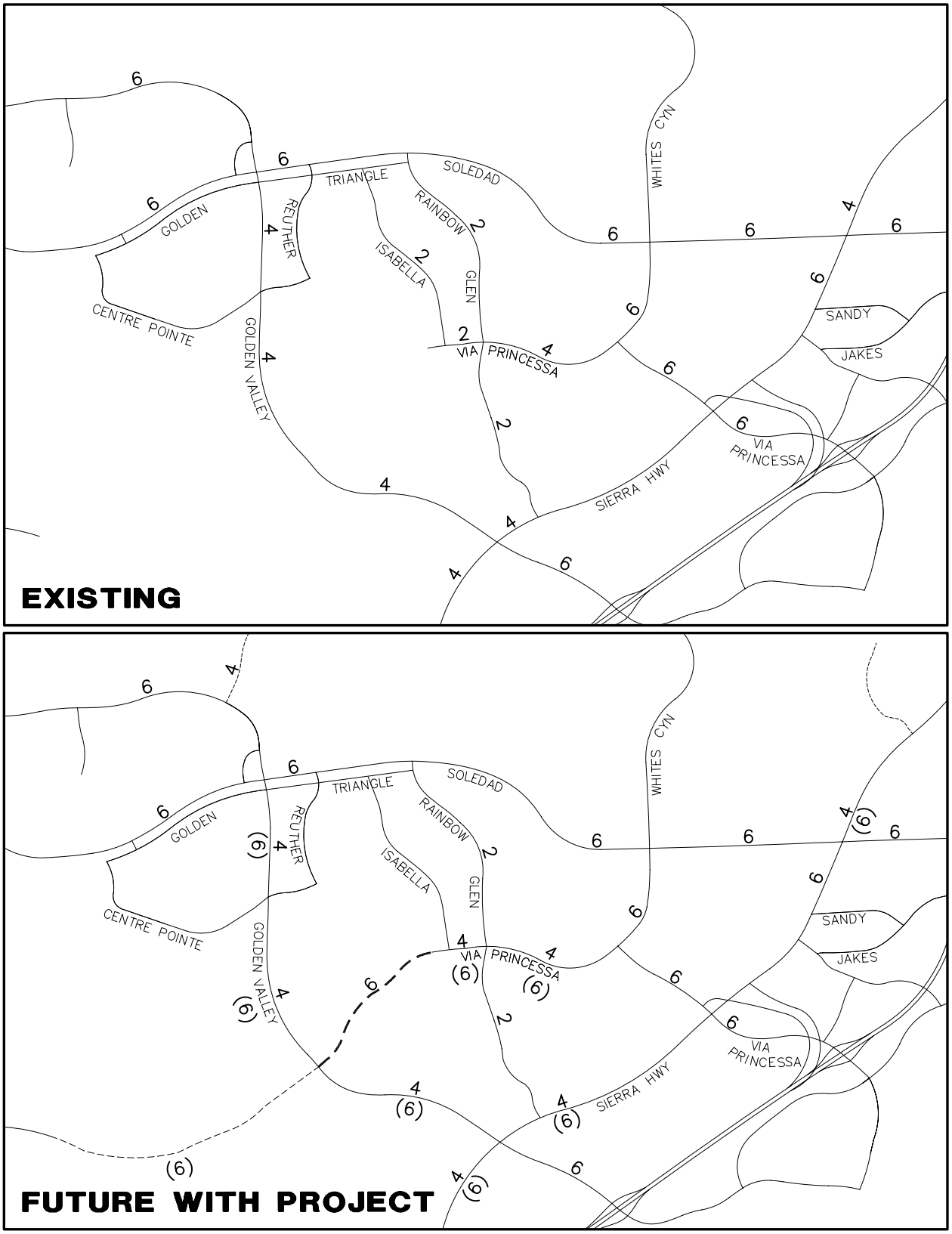
The 2004 CMP noted that both the I-5 and SR-14 freeways within the Santa Clarita Valley demonstrate traditional commute patterns, with congestion flowing into Los Angeles and the San Fernando Valley in the morning and a reverse flow in the afternoon. Various strategies are available to local jurisdictions to mitigate CMP traffic impacts, including constructing new roadway improvements, managing traffic flow through signal improvements and trip reduction measures, and land use strategies such as locating higher density uses in proximity to public transit.

Metro Bicycle Transportation Strategic Plan

The Metro Board adopted the Metro Bicycle Transportation Strategic Plan in 2006 to promote bicycle use throughout Los Angeles County. The Plan's vision is to make cycling a viable travel choice by promoting links between bicycle facilities and the transit network. The plan identifies four "bike-transit" hubs within the Santa Clarita Valley: the three Metrolink commuter rail stations, and the McBean Transfer Station. The Metro Bicycle Transportation Strategic Plan evaluated gaps in the inter-jurisdictional bikeway network connecting cities and unincorporated areas to destinations and transit stops. Within the Santa Clarita Valley, four gaps in the inter-jurisdictional bikeway network were identified with the Old Road, SR-126, Castaic/San Francisquito Creek, and Sierra Highway corridors.

Proposed Project Improvements

As shown in **Figure 4.10-5, Existing and Future Roadway Improvements**, the proposed extension would expand Via Princessa to six lanes with a raised median except in the vicinity of Rainbow Glen Drive, where the existing right-of-way limits the roadway to four lanes with a painted median.



Legend:

X	Lanes (Two-way) - Interim Year
(Y)	Ultimate Lanes (Two-way) - General Plan
— — —	Proposed Project Roadway Extension
- - - - - -	Future GP Roadway

NOT TO SCALE

SOURCE: Austin-Foust Associates, Inc., Via Princessa Extension Traffic Analysis – May 2011

FIGURE **4.10-5**

Existing and Future Roadway Improvements

The project is about 1.2 miles in length and the proposed roadway is designated as a Major Arterial Highway per the City of Santa Clarita's Master Highway Plan. The new roadway construction between Golden Valley Road and the existing roadway terminus near Sheldon Avenue would be a six-lane facility with a raised landscaped median, a parkway/sidewalk on each side and a two-way bike path (Class I) along the south side. The vehicle lanes adjacent to the median would be 12 feet in width, the middle lanes 11 feet in width, and the lanes adjacent to the curb would be 12 feet in width. The typical right-of-way width for this section is 116 feet.

A portion of the existing segment of Via Princessa between Sheldon Avenue and Rainbow Glenn Drive that is currently constructed as a half section would be completed by constructing the south side of the roadway. In this section, the roadway would be constructed to a typical right-of-way width of 104 feet, consistent with the original design for this roadway section.

PROJECT IMPACTS

Significance Threshold Criteria

In order to assist in determining whether a project will have a significant effect on the environment, the *State CEQA Guidelines*, Appendix G, identifies criteria for conditions that may be deemed to constitute a significant or potentially significant impact relative to transportation/traffic.

The City's Environmental Guidelines as essentially the same criteria as Appendix G, however; where different, City text is noted in [brackets]. According to Appendix G, potentially significant impacts on transportation and circulation would occur if the proposed project would:

- conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;

- conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the County congestion management agency for designated roads or highways;

- result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;

- substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);

- result in inadequate emergency access;

- result in inadequate parking capacity (generate a parking demand that exceeds municipal code–required parking capacity); or
- conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities (cause a hazard or barrier for pedestrians or bicyclists).

Recent revisions to the *State CEQA Guidelines*, Appendix G, have removed from the above criteria the inquiry as to whether a project would result in inadequate parking capacity. Notwithstanding, the analysis presented herein considers the proposed projects impacts relative to construction parking capacity.

Additionally, based on policies contained in the City of Santa Clarita Local *CEQA Guidelines* (2005), the following thresholds should be used for determining the significance of impacts related to traffic and access:

Roadway System[2]

Impacts to the roadway system are considered significant if the proposed project would:

a. Worsen an intersection maintained by the City of Santa Clarita from LOS D or better to LOS E or F.

b. Cause the following increase in delay at an intersection maintained by the City of Santa Clarita that operates (with the project) at LOS D or worse:

   - LOS D with the project: more than 4-second increase in delay is significant.
   - LOS E or F with the project: more than 2-second increase in delay is significant.

c. Cause the following increase in volume-to-capacity (v/c) ratio under cumulative conditions on a roadway in the City of Santa Clarita:

   - LOS D with the project: more than 0.02 increase in v/c ratio is significant.
   - LOS E or F with the project: more than 0.01 increase in v/c ratio is significant.

d. Cause a facility maintained by Caltrans to worsen from LOS E or better to LOS F.

e. Exacerbate LOS F operations on a facility maintained by Caltrans, causing the traffic demand to increase by 2 percent of capacity or more.[3]

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2 Delay thresholds for impacts under LOS D or worse conditions calculated by converting the City's v/c ratio threshold into a corresponding delay threshold based on HCM delay range for given LOS category.

3 Based on the Congestion Management Program threshold of increased traffic demand by two percent of capacity.

f. Cause an intersection or two-lane roadway maintained by Los Angeles County to be significantly impacted in accordance with analysis procedures and thresholds set forth by the County.

Transit System

Impacts to the transit system are considered significant if the proposed project would:

a. Interfere with existing or planned transit system service or facilities.

b. Cause an inconsistency with a policy related to transit in the City's Transportation Development Plan (adopted in 2006).

Bicycle/Pedestrian System

Impacts to the bicycle and pedestrian system are considered significant if the proposed project would:

a. Eliminate or adversely affect an existing bikeway or pedestrian facility in a way that would discourage its use.

b. Cause an inconsistency with a relevant policy in the City's Non-Motorized Transportation Plan (adopted in 2008).

Congestion Management Program

Impacts to CMP facilities are considered significant if the proposed project would increase the traffic demand by 2 percent of capacity at a CMP intersection or freeway facility, thereby resulting in or exacerbating LOS F conditions.

Impact Methodology

Level of service (LOS) analysis was carried out for intersections using the intersection capacity utilization (ICU) procedure in accordance with the City of Santa Clarita traffic study guidelines. An intersection operational analysis was also conducted for the Via Princessa corridor using the delay-based methodology of the Highway Capacity Manual and the Synchro micro-simulation analysis model. In addition, roadway link analysis is provided based on volume to capacity (v/c) ratios consistent with the OVOV traffic analysis.

The performance criteria used for evaluating volumes and capacities in the study area is based on average daily traffic (ADT) and peak hour intersection volumes. ADT is a useful measure to show general levels of traffic on a facility. In addition, using peak hour intersection turn movement volumes and the intersection lane geometry, ICU values are calculated for each of the AM and PM peak hours for

intersections in the immediate vicinity of the proposed project. The ICUs represent volume/capacity (v/c) ratios for these periods, and thereby provide a suitable measure of system performance.

The performance criteria used for evaluating LOS for the study area roadways is based on the methodology used in the OVOV traffic study. ADT v/c ratios and LOS are calculated using the criteria outlined in **Table 4.10-5, Arterial Roadway Performance Criteria**. The City strives to maintain LOS D or better on arterial roads to the extent feasible given right-of-way and physical constraints, while recognizing that in higher density urban areas there is generally a tradeoff between vehicle LOS and other factors such as pedestrian mobility, and that LOS E is acceptable in those types of urban settings.

Table 4.10-5
Arterial Roadway Performance Criteria

V/C Calculation Methodology		
Level of service to be based on average daily traffic (ADT) values calculated using the following assumptions:		
General Plan Designation	**Lanes**	**Capacity**
Major Arterial Highway:	8	72,000
Major Arterial Highway:	6	54,000
Secondary Arterial Highway:	4	36,000
Limited Secondary Arterial Highway:	2	18,000
Collector:	2	15,000

*Source: Austin-Foust Associates, Inc., Via Princessa Extension Traffic Analysis, April 2011 (**Appendix 4.10**)*
Abbreviations: ICU – Intersection Capacity Utilization; v/c – Volume/Capacity Ratio

Table 4.10-6
Arterial Intersection Performance Criteria – ICU Method

ICU Calculation Methodology	
Level of service to be based on peak hour intersection capacity utilization (ICU) values calculated using the following assumptions:	
Saturation Flow Rate:	1,750 vehicles/hour/lane
Clearance Interval:	.10
Performance Targets	
LOS D or existing LOS, whichever is greater	

Abbreviations:
LOS – Level of Service
ICU – Intersection Capacity Utilization
*Source: Austin-Foust Associates, Inc. Via Princessa Extension Traffic Analysis (April 2011) (see **Appendix 4.10**)*

Table 4.10-7
Arterial/Local Intersection Performance Criteria – HCM Method

HCM Calculation Methodology		
Level of service to be based on average vehicle delay (sec/veh) values calculated using the delay based methodology outlined in the Highway Capacity Manual.		
Performance Targets		
LOS D or existing LOS, whichever is greater		
Impact Thresholds		
Not applicable. See **Table 4.10-6**, for intersection impact criteria based on ICU methodology.		
Level of Service (LOS)		
LOS ranges for Average Vehicle Delay (sec/veh) are as follows:		
LOS	**Un-signalized Intersection Control Delay per Vehicle (sec/veh)**	**Signalized Intersection Control Delay per Vehicle (sec/veh)**
A	0.0 – 10.0	0.0 – 10.0
B	10.1 – 15.0	10.1 – 20.0
C	15.1 – 25.0	20.1 – 35.0
D	25.1 – 35.0	35.1 – 55.0
E	35.1 – 50.0	55.1 – 80.0
F	Above 50.0	Above 80.0

Abbreviations:
LOS – Level of Service
ICU – Intersection Capacity Utilization
*Source: Austin-Foust Associates, Inc. Via Princessa Extension Traffic Analysis (April 2011) (see **Appendix 4.10**)*

The performance criteria used for evaluating LOS for the study area intersections is based on the methodology outlined in the City's traffic study guidelines, as summarized in **Table 4.10-6, Arterial Intersection Performance Criteria – ICU Method**. The City generally attempts to maintain LOS "D" (ICU less than 0.91) or better during the peak hour. **Table 4.10-7, Arterial/Local Intersection Performance Criteria – HCM Method**, presents the intersection LOS criteria based on the Highway Capacity Manual delay methodology. The delay based LOS is applied to non-signalized intersections as well as signalized intersections for the purpose of evaluating corridor performance.

Impact Analysis

Impact Threshold 4.10-1 **Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit**

Construction

Traffic conditions in the project area during construction activities would be disrupted on a short-term basis, primarily due to the hauling of equipment and materials on and off site. It is estimated that the construction period for the extension of Via Princessa would be three years. Heavy construction equipment such as bulldozers and large loaders would be moved on site prior to ground-moving activities and remain on site or nearby the site until after completion. The movement of construction vehicles and equipment onto and off of the site would need to be scheduled in order to avoid the peak hour traffic periods on the adjacent street network. In addition, construction employees would be traveling to and from the site on a daily basis during the construction period. Potential conflicts could arise between construction equipment and workers to the project site.

In order to minimize potential conflicts between construction activity and through traffic, implementation of **Mitigation Measure MM 4.10-1** would require development of a construction traffic control plan for use during construction activity. The plan would identify all traffic control measures, signs, and delineators to be implemented by the construction contractor during the duration of demolition and construction activity and shall comply with the provisions in accordance with the California Manual on Uniform Traffic Control Devices.[4]

With the implementation of a construction traffic control plan, potential construction impacts would be reduced to less than significant.

4 California Department of Transportation, *California Manual on Uniform Traffic Control Devices*, 2006.

Operation

The following impact analysis is discussed under the two scenarios identified below:

- Interim Year Without Project conditions, which would occur 10 to 15 years from the year 2010, when compared to Existing Conditions
- Interim Year With Project conditions when compared to Interim Year Without Project conditions

Each scenario analyzed is divided into three performance standards:

a. ADT v/c and LOS

b. ICU and LOS

c. Intersection Delay and LOS

Interim Year without Project

As shown on **Figure 4.10-6**, **Interim Year ADT Volumes (000s) – Without Project,** ADT volumes would remain unchanged or would increase from 2,000 to 31,000 ADTs above existing conditions. **Figure 4.10-7, Interim Year Intersection Lanes & Peak Hour Volumes – Without Project**, shows the corresponding peak hour volumes for the Interim Year.

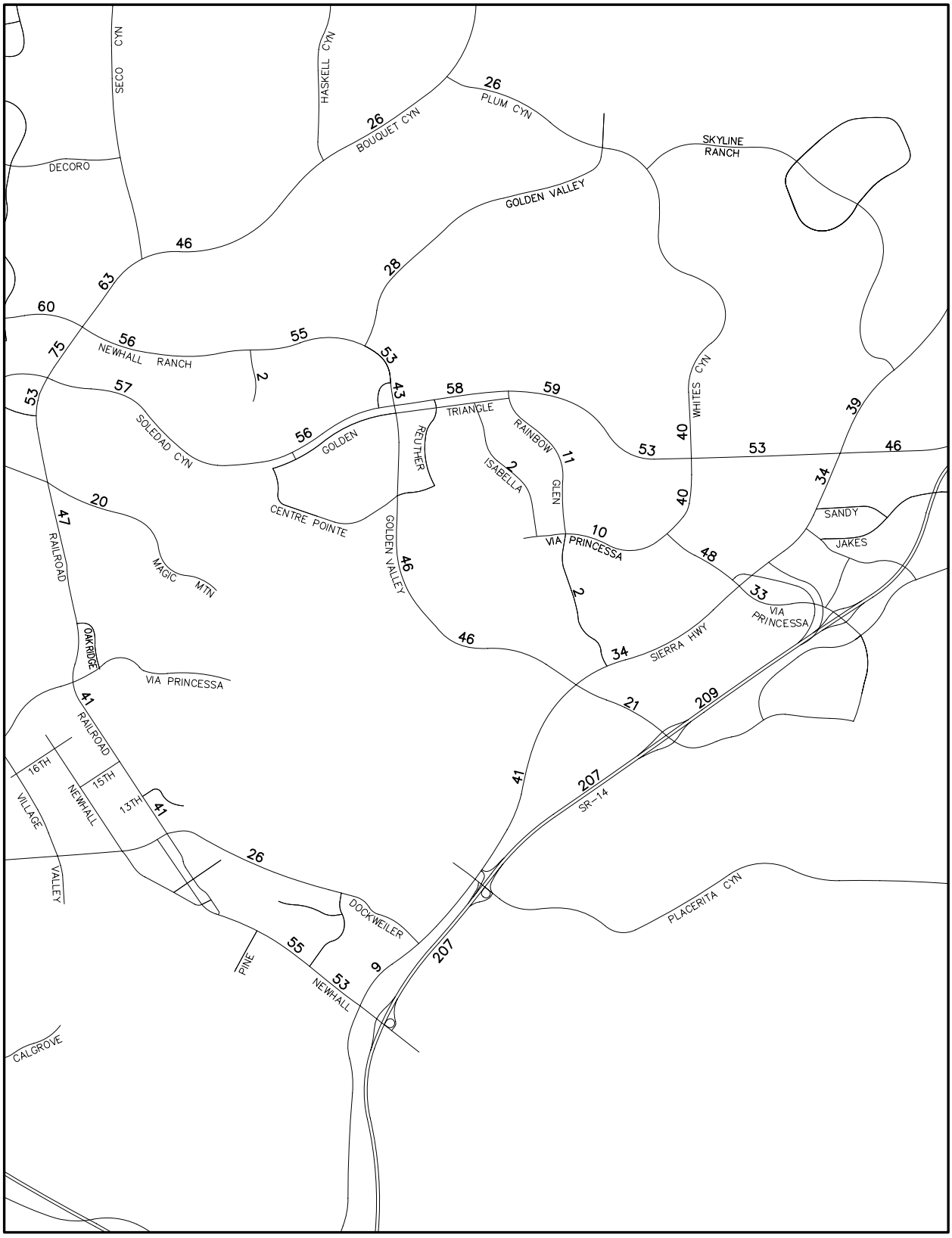
Average Daily Traffic V/C and LOS Analysis

As identified in **Table 4.10-8, Average Daily Traffic V/C and LOS - Interim Year without Project**, three roadway segments would exceed acceptable performance standards of LOS E under Interim Year conditions. As described above in the **Existing Conditions** discussion, no roadway segments analyzed currently exceeds the acceptable performance standard of LOS E. Therefore, future traffic volumes of three roadway segments would continue to operate at an unacceptable LOS at interim year conditions.

Table 4.10-8
Average Daily Traffic V/C and LOS - Interim Year without Project

Roadway Segment	Lanes	Capacity	Volume	V/C	LOS
144 Soledad Cyn w/o Whites Cyn	6	54,000	53,000	.98	E
145 Soledad Cyn e/o Whites Cyn	6	54,000	53,000	.98	E
150 Whites Cyn s/o Soledad Cyn	6	54,000	40,000	.74	C
151 Via Princessa e/o Golden Valley	6	54,000	n/a	n/a	n/a
152 Via Princessa e/o Rainbow Glen	4	36,000	10,000	.28	A
153 Via Princessa s/o Whites Cyn	6	54,000	48,000	.89	D
156 Golden Valley s/o Via Princessa	4	36,000	46,000	1.28	**F**
160 Sierra Hwy s/o Golden Valley	4	36,000	41,000	1.14	**F**
161 Sierra Hwy n/o Golden Valley	4	36,000	34,000	.94	E
162 Sierra Hwy s/o Soledad Cyn	6	54,000	34,000	.63	B
199 Golden Valley s/o Center Pointe	4	36,000	46,000	1.28	**F**
229 Rainbow Glen n/o Via Princessa	2	18,000	11,000	.61	B
364 Rainbow Glen s/o Via Princessa	2	15,000	2,000	.13	A
365 Isabella n/o Via Princessa	2	15,000	2,000	.13	A

*LOS in **Bold** exceeds performance criteria of LOS E.*
Table includes locations measurably affected by the project as well as roadway segments in the immediate vicinity of the project.
Level of service ranges: 0.00–0.60 = A 0.61–0.70 = B 0.71–0.80 = C 0.81–0.90 = D 0.91–1.00 = E Above 1.00 = F
Source: Austin-Foust Associates, Inc., Via Princessa Extension Traffic Analysis, April 2011.



Legend:

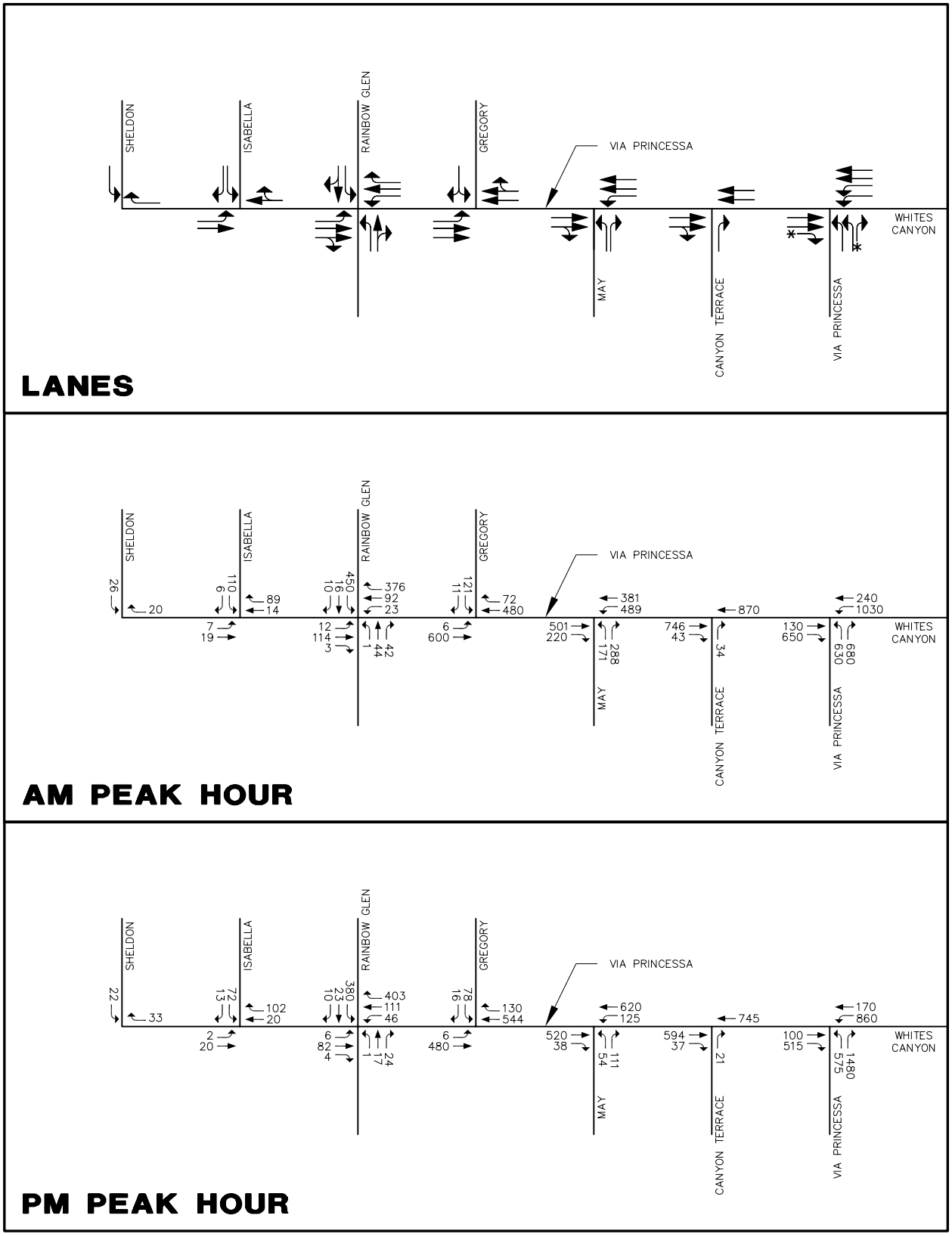
XX Average Daily Traffic

NOT TO SCALE

SOURCE: Austin-Foust Associates, Inc., Via Princessa Extension Traffic Analysis – May 2011

FIGURE **4.10-6**

Interim Year ADT Volumes (000s) – Without Project



Legend:

*→ Free Right Turn

NOT TO SCALE

SOURCE: Austin-Foust Associates, Inc., Via Princessa Extension Traffic Analysis – May 2011

FIGURE **4.10-7**

Interim Year Intersection Lanes and Peak Hour Volumes – Without Project

ICU and LOS Analysis

Figure 4.10-4 identifies the three intersections that would be directly impacted with or without the extension of Via Princessa. Under the Interim Year No project conditions, all three intersections would operate at acceptable LOS, as shown in **Table 4.10-9, Intersection ICU and LOS Summary – Interim No Project Conditions** below.

Table 4.10-9
Intersection ICU and LOS Summary – Interim No Project Conditions

	AM Peak Hour		PM Peak Hour	
Intersection	**ICU**	**LOS**	**ICU**	**LOS**
163. Golden Valley & Via Princessa	n/a	n/a	n/a	n/a
167. Rainbow Glen & Via Princessa	.47	A	.40	A
171. Whites Cyn & Via Princessa	.61	B	.54	A
300. May Way & Via Princessa	.69	B	.36	A

n/a – Not Applicable
Level of service ranges: 0.00–0.60 = A 0.61–0.70 = B 0.71–0.80 = C 0.81–0.90 = D 0.91–1.00 = E Above 1.00 = F
Source: Austin-Foust Associates, Inc., Via Princessa Extension Traffic Analysis, April 2011.

Intersection Delay and LOS Analysis

Existing intersection delay and level of service for intersections identified in **Figure 4.10-4** operate at acceptable performance standards. As identified below in **Table 4.10-10, Interim Year No Project Conditions – Intersection Delay and LOS Summary**, the seven intersections analyzed operate at acceptable levels of service for the Interim Year No Project conditions.

Table 4.10-10
Interim Year No Project Conditions – Intersection Delay and LOS Summary

Intersection	Control Type	AM Peak Hour Delay	AM Peak Hour LOS	PM Peak Hour Delay	PM Peak Hour LOS
Sheldon Ave & Via Princessa	Side Street Stop	0.0[1]	A	0.0[1]	A
Isabella & Via Princessa	Side Street Stop	9.6	A	9.3	A
Rainbow Glen & Via Princessa	All-Way Stop	33.4	D	27.7	D
Gregory & Via Princessa	Side Street Stop	28.0	D	23.4	C
May Way & Via Princessa	Signal	22.3	C	8.4	A
Canyon Terrace & Via Princessa	Side Street Stop	9.1	A	9.4	A
Whites Cyn & Via Princessa	Signal	16.7	B	19.1	B

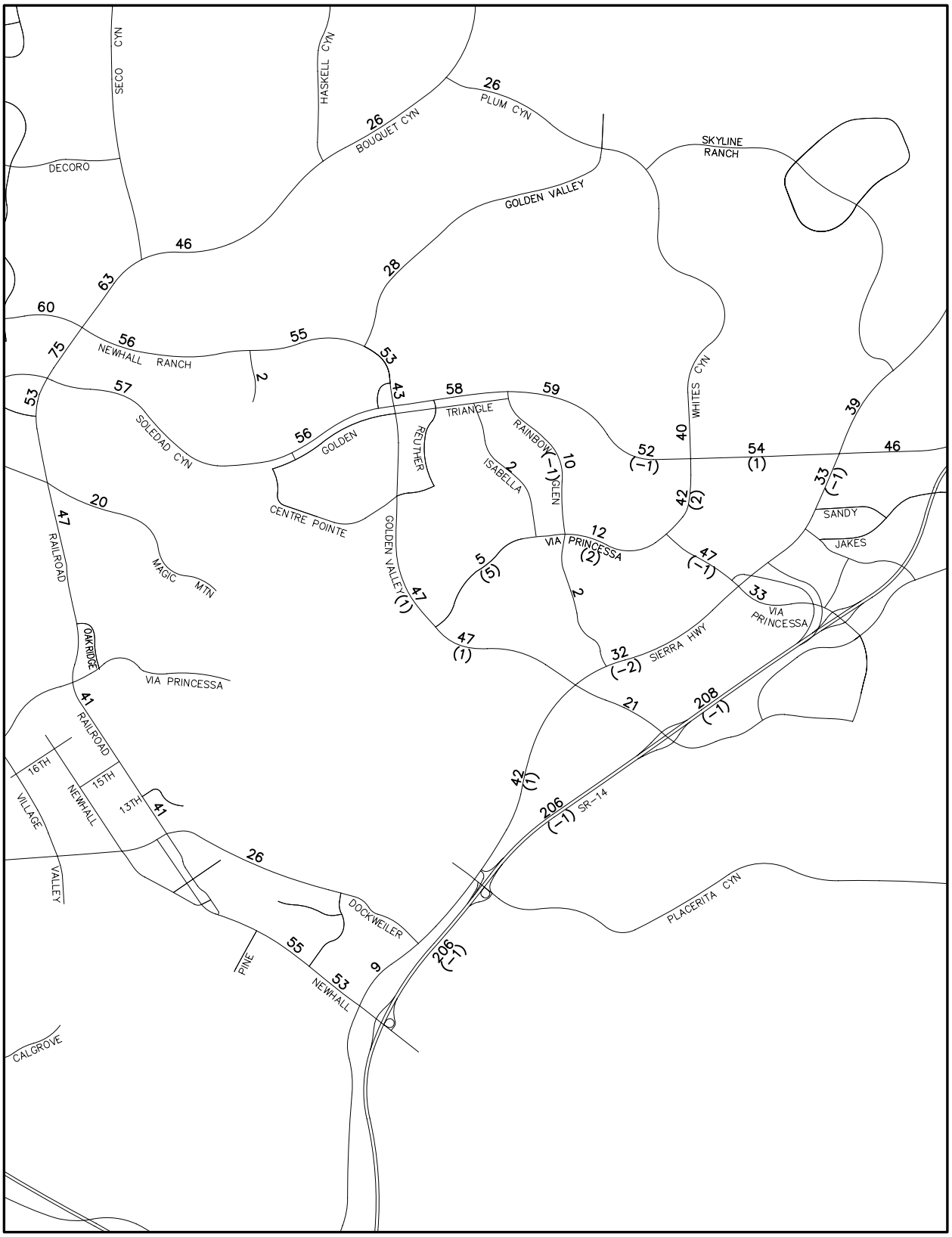
Unsignalized Level of service ranges: 0.00–10.0 = A 10.1–15.0 = B 15.1–25.0 = C 25.1–35.0 = D 35.1–50.0 = E Above 50.0 = F
Signalized level of service ranges: 0.00–10.0 = A 10.1–20.0 = B 20.1–35.0 = C 35.1–55.0 = D 55.1–80.0 = E Above 80.0 = F
Notes:
Delay = Average Control Delay (sec/veh)
The indicated delay for Side Street Stop control represents the average vehicle delay for the worst-case movement.
The indicated delay for All-Way Stop control and Signal control represents the average vehicle delay for the intersection.
The indicated delay for the Sheldon Via Princessa and the Isabella/Via Princessa intersections are based on full side street access.
[1] *No conflicting movements.*
Source: Austin-Foust Associates, Inc., Via Princessa Extension Traffic Analysis, April 2011.

Interim Year with Project

Figure 4.10-8, Interim Year ADT Volumes (000s) – With Project, identifies ADT volumes, as well as the change in traffic volume, associated with the extension of Via Princessa. **Figure 4.10-9, Interim Year Peak Hour Volumes – With Project**, shows the corresponding peak hour volumes for Interim Year with Project conditions.

The extension of Via Princessa would be anticipated to carry approximately 5,000 ADT in the Interim Year. Golden Valley Road would be forecast to gain approximately 1,000 ADT in the vicinity of the extension.

There would be an increase of 2,000 ADT, as a result of the proposed project, along Via Princessa east of Rainbow Glen Drive, and a decrease of 1,000 ADT along Rainbow Glen Drive north of Via Princessa. No measurable change in ADT volumes would occur along Isabella Parkway north of Via Princessa. The peak hour volumes shown in **Figures 4.10-7** and **4.10-9** indicate a change in traffic patterns, which result in a net change in traffic volume to the previously mentioned roadway segments.



Legend:

XX — Average Daily Traffic

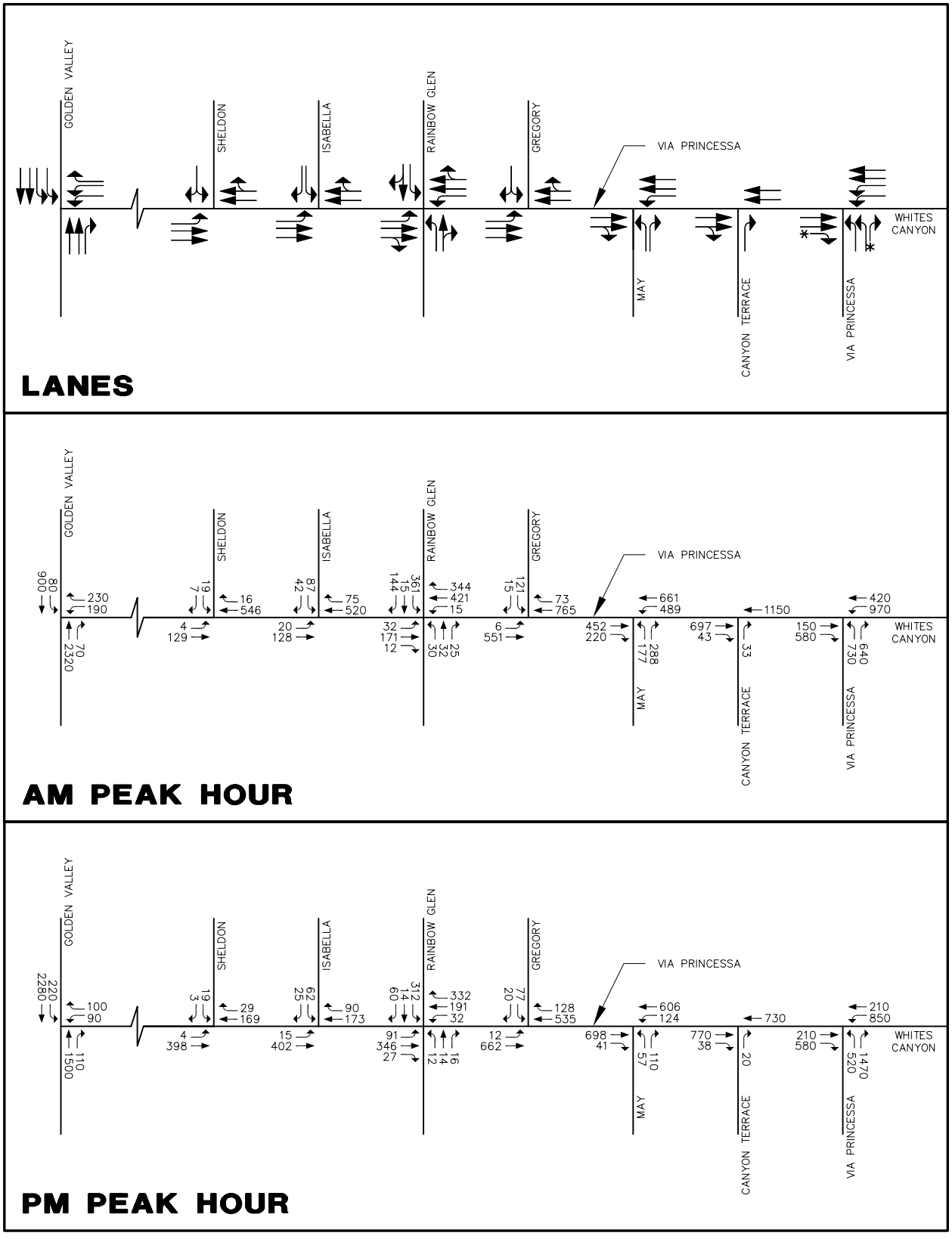
(X) — Difference from No Build

NOT TO SCALE

SOURCE: Austin-Foust Associates, Inc., Via Princessa Extension Traffic Analysis – May 2011

FIGURE **4.10-8**

Interim Year ADT Volumes (000s) – With Project



SOURCE: Austin-Foust Associates, Inc., Via Princessa Extension Traffic Analysis – May 2011

FIGURE **4.10-9**

Interim Year Peak Hour Volumes – With Project

Average Daily Traffic V/C and LOS Analysis

Table 4.10-11, Average Daily Traffic V/C and LOS – Interim Year With Project, summarizes the v/c and LOS for each roadway within the study area that is measurably affected by the extension (as shown on **Figure 4.10-8** for affected locations), along with nonaffected segments in the immediate vicinity of the project. **Table 4.10-11** shows that the project segment is forecast to operate at LOS A for Interim Year conditions, and that no segment becomes deficient due to the implementation of the project.

As identified in **Table 4.10-8** and **Table 4.10-11**, Golden Valley Road (between Centre Pointe Parkway and Sierra Highway) would exceed the typical daily capacity of a four-lane roadway under either Interim Year With or Without Project conditions. The existing segment of Sierra Highway between Golden Valley Road and Placerita Canyon Road would also exceed the typical daily capacity of a four-lane roadway. Consequently, the segments of Golden Valley Road and Sierra Highway must be improved to their planned ultimate six-lane configuration within the Interim Year horizon period, as identified by **Mitigation Measure MM 4.10-2**, to mitigate roadway impacts to less than significant.

Table 4.10-11
Average Daily Traffic V/C and LOS - Interim Year With Project

Roadway Segment	Lanes	Capacity	Volume	V/C	LOS
144 Soledad Cyn w/o Whites Cyn	6	54,000	52,000	.96	E
145 Soledad Cyn e/o Whites Cyn	6	54,000	54,000	1.00	E
150 Whites Cyn s/o Soledad Cyn	6	54,000	42,000	.78	C
151 Via Princessa e/o Golden Valley	6	54,000	5,000	.09	A
152 Via Princessa e/o Rainbow Glen	4	36,000	12,000	.33	A
153 Via Princessa s/o Whites Cyn	6	54,000	47,000	.87	D
156 Golden Valley s/o Via Princessa	4	36,000	47,000	1.31	**F**
160 Sierra Hwy s/o Golden Valley	4	36,000	42,000	1.17	**F**
161 Sierra Hwy n/o Golden Valley	4	36,000	32,000	.89	D
162 Sierra Hwy s/o Soledad Cyn	6	54,000	33,000	.61	B
199 Golden Valley s/o Center Pointe	4	36,000	47,000	1.31	**F**
229 Rainbow Glen n/o Via Princessa	2	18,000	10,000	.56	A
364 Rainbow Glen s/o Via Princessa	2	18,000	2,000	.13	A
365 Isabella n/o Via Princessa	2	15,000	2,000	.13	A

*LOS in **Bold** exceeds performance criteria of LOS E.*
Table includes locations measurably affected by the project as well as roadway segments in the immediate vicinity of the project.
Level of service ranges: 0.00–0.60 = A 0.61–0.70 = B 0.71–0.80 = C 0.81–0.90 = D 0.91–1.00 = E Above 1.00 = F
Source: Austin-Foust Associates, Inc., Via Princessa Extension Traffic Analysis, April 2011.

During the AM peak hour, traffic volumes on Rainbow Glen Drive (north of Via Princessa) would increase by approximately 20 vehicles per hour (vph). Traffic volumes on Via Princessa (east of Rainbow Glen Drive) would increase by approximately 240 vph. During the PM peak hour, traffic volumes on Rainbow Glen Drive would decrease by a total of 16 vph. Traffic volumes on Via Princessa would increase by approximately 183 vph.

The extension of Via Princessa would reduce the southbound left-turn volume while increasing the southbound right-turn volume at the Via Princessa/Isabella Parkway intersection. In addition, the number of westbound right-turns would decrease, while the eastbound left-turns would increase.

The estimated net change to peak hour traffic volumes on Isabella Parkway would increase approximately 12 vph during the AM peak hour, with an estimated increase of 3 vph during the PM peak hour. As with Rainbow Glen Drive, the change to traffic volumes that are forecast during peak hour conditions would not translate to a discernible net change to ADT volumes.[5]

ICU and LOS Analysis

The peak hour intersection levels of service were calculated for both the Interim Year No Project and With Project scenarios for the key intersections along Via Princessa (shown in **Figure 4.10-4**). The ICU values are shown in **Table 4.10-12, Intersection ICU and LOS Summary – Interim Year With Project Conditions**. As can be seen, each of the intersections affected by the proposed project would operate at acceptable levels of service. In addition, the intersection of Rainbow Glen Drive and Via Princessa and at the future intersection of Via Princessa and Golden Valley Road would meet the criteria for a signal warrant. Therefore, **Mitigation Measures MM 4.10-3** and **MM 4.10-4** shall be implemented, which would require the installation of traffic signals at the Via Princessa/Rainbow Glen Drive and Via Princessa/Golden Valley Road intersections.

Intersection Delay and LOS Analysis

Level of service is based on average vehicle delay (sec/veh) values calculated using the delay based methodology outlined in the Highway Capacity Manual.

Table 4.10-13, Intersection Delay and LOS Summary – Interim Year With Project Conditions, summarizes the average vehicle delay and the corresponding LOS for existing intersections along Via Princessa in the vicinity of the project. As shown, each intersection would forecast to operate at LOS C or better for conditions with the project, with the exception of Gregory Lane. Gregory Lane street delay would increase from LOS D conditions without the project to LOS E conditions with the project. The

5 Rounded to the nearest 1,000 by standard practice.

indicated delay for the Sheldon/Via Princessa and the Isabella/Via Princessa intersections are based on full access to the side street.

Table 4.10-12
Intersection ICU and LOS Summary - Interim Year With Project Conditions

Intersection	AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS
163. Golden Valley & Via Princessa	.89	D	.78	C
167. Rainbow Glen & Via Princessa	.58	A	.46	A
171. Whites Cyn & Via Princessa	.63	B	.55	A
300. May Way & Via Princessa	.67	B	.41	A

Level of service ranges: 0.00–0.60 = A 0.61–0.70 = B 0.71–0.80 = C 0.81–0.90 = D 0.91–1.00 = E Above 1.00 = F
Source: Austin-Foust Associates, Inc., Via Princessa Extension Traffic Analysis, April 2011.

Table 4.10-13
Intersection Delay and LOS Summary - Interim Year With Project Conditions

Intersection	Control Type	AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
Sheldon Ave & Via Princessa	Side Street Stop	14.2	B	11.7	B
Isabella & Via Princessa	Side Street Stop	16.4	C	12.2	B
Rainbow Glen & Via Princessa	Signal[1]	22.4	C	18.2	B
Gregory & Via Princessa	Side Street Stop	50.0	E	27.5	D
May Way & Via Princessa	Signal	19.4	B	12.3	B
Canyon Terrace & Via Princessa	Side Street Stop	9.3	A	9.1	A
Whites Cyn & Via Princessa	Signal	18.1	B	21.6	C

Unsignalized Level of service ranges: 0.00–10.0 = A 10.1–15.0 = B 15.1–25.0 = C 25.1–35.0 = D 35.1–50.0 = E Above 50.0 = F
Signalized level of service ranges: 0.00–10.0 = A 10.1–20.0 = B 20.1–35.0 = C 35.1–55.0 = D 55.1–80.0 = E Above 80.0 = F
Notes:
Delay = Average Control Delay (sec/veh)
The indicated delay for Side Street Stop control represents the average vehicle delay for the worst-case movement.
The indicated delay for All-Way Stop control and Signal control represents the average vehicle delay for the intersection.
The indicated delay for the Sheldon/Via Princessa and the Isabella/Via Princessa intersections are based on full side street access.
[1] Traffic signal is warranted
Source: Austin-Foust Associates, Inc., Via Princessa Extension Traffic Analysis, April 2011.

Additional through traffic on Via Princessa, as a result of the proposed project, would forecast to increase side street delay for Gregory Lane from LOS D conditions to LOS E conditions during the AM peak hour. While the City does not have an established threshold of significance related to side street delay, LOS E levels of delay would generally be considered a significant impact.

The traffic study (found in **Appendix 4.10**) analyzed intersection delay for Gregory Lane, which indicated a LOS E for side street delay as a result of vehicles attempting a left-turn from Gregory Lane to eastbound Via Princessa. When left-turning vehicles execute a right-turn movement onto Via Princessa, followed by a U-turn to eastbound Via Princessa, would be facilitated by the traffic signal at the Rainbow Glen/Via Princessa intersection, side street delay at Gregory Way decreases to LOS B conditions. The combined delay of the right-turn movement and the subsequent U-turn movement would be 32.8 seconds (12.3 seconds plus 20.5 seconds), which would be equivalent to a LOS C (based on signal control). As such, the implementation of **Mitigation Measure MM 4.10-3** would require the installation of a traffic signal at the Rainbow Glen/Via Princessa intersection thus mitigating the potential side street delay impact for Gregory Lane. Furthermore, another option to the Gregory Lane left-turn movement would be to utilize Gilbert Drive to access Rainbow Glen Drive to Via Princessa.[6]

As noted in **Mitigation Measure MM 4.10-3**, a traffic signal would be installed at the Rainbow Glen/Via Princessa intersection based on the peak hour volumes for project conditions. The installation of a traffic signal at this location would also have the secondary effect of mitigating the project's impact at Gregory Lane.

Modified Side Street Access

The Via Princessa intersections with Sheldon Avenue and Isabella Parkway are being considered for access modification to prohibit side-street vehicles from making left-turns onto Via Princessa. To compensate for the elimination of the left-turn movement, mid-block U-turn locations would be placed just west of each of these intersections. As such, the standard left-turn movement from the side street would instead be accomplished by a right-turn from the side street, followed by a mid-block U-turn at a median break just west of the intersection.

As identified below under **Cumulative Impacts**; the two intersections are forecast to experience significant levels of delay for side-street vehicles when left-turns are allowed. **Table 4.10-14, Intersection Delay and LOS Summary – Interim Year Modified Access Scenario**, compares side street vehicle delay between scenarios based on full-access and limited access for Interim Year conditions. As shown in **Table 4.10-14**, modified access under the Interim Year scenario reduces delay for the side street, but does

6 This option would be convenient for residents located in the northerly portion of the neighborhood.

add additional delay due to the U-turn movement. For Interim Year conditions, the modified access scenario adds approximately 3.1 to 5.9 seconds of additional delay for vehicles making the right-turn/U-turn movement in comparison to the full access scenario.[7]

Table 4.10-14
Intersection Delay and LOS Summary – Interim Year Modified Access Scenario

		With Project (Full Access)				With Project (Limited Access)			
	Control	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersection	Type	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Westerly U-Turn Location	Yield	n/a	n/a	n/a	n/a	7.5	A	8.3	A
Sheldon & Via Princessa	Side Street Stop	14.2	B	11.7	B	10.4	B	9.0	A
Easterly U-Turn Location	Yield	n/a	n/a	n/a	n/a	7.7	A	8.5	A
Isabella & Via Princessa	Side Street Stop	16.4	C	12.2	B	11.8	B	9.6	A

Unsignalized Level of service ranges: 0.00–10.0 = A 10.1–15.0 = B 15.1–25.0 = C 25.1–35.0 = D 35.1–50.0 = E Above 50.0 = F
Notes:
Delay = Average Control Delay (sec/veh)
The indicated delay for Side Street Stop control represents the average vehicle delay for the worst-case movement.
The indicated delay for U-Turn yield control represents the average vehicle delay for the U-Turn movement.
Modified access refers to left-turns prohibited from side street turn movements. The left-turn maneuver is achieved by a right-turn from the side street, followed by a mid-block U-turn at a median break just west of the intersection.

The traffic volume forecasts produced by the City's traffic demand model would indicate that traffic volumes on the existing local roadways are not anticipated to increase due to the proposed project by an amount that would result in the need for the implementation of traffic calming measures. However, with the roadway extension in place and after the new traffic patterns have been established, Rainbow Glen Drive and Isabella Parkway should be reevaluated for the purpose of determining if traffic calming measures are needed. Therefore, **Mitigation Measure MM 4.10-5**, which states that the City's traffic engineer would evaluate future traffic patterns around Rainbow Glen Drive and Isabella Parkway to determine if traffic calming measures would be needed, shall be implemented.

7 PM Peak Hour Delay at Isabella with Full Access = 12.2 seconds/vehicle. PM Peak Hour Delay at Isabella with Modified Access = 9.6 sec/veh (right-turn) + 8.5 sec/veh (U-turn) = 18.1 sec/veh. Net increase in Delay with Modified Access = 18.1 sec/veh – 12.2 sec/veh = 5.9 sec/veh.

Mitigation Measures

The following mitigation measures shall be implemented:

Construction

MM 4.10-1 The City shall develop and implement a construction traffic control plan (CTCP) prior to the start of construction. The CTCP shall be completed by the City Engineer. Specific measures described in the CTCP shall conform to the Caltrans Manual on Uniform Traffic Control Devices (MUTCD) manual. Specific measures described in the MUTCD that are typically used in the CTCP are summarized below:

- All traffic control measures, construction signs, delineators, etc., and their use during the construction phase of this project shall conform to the provisions set forth in the State of California, Department of Transportation, Manual of Traffic Controls, January 1992.
- Prior to approval of final site design plans, the applicant shall coordinate with Metro to obtain input of a final CTCP.
- In areas where traffic control necessitates, the contractor shall provide, post, and maintain "No Parking" and "No Stopping" signs, as directed by the Director of Public Works.
- The location of all signs shall be determined in the field by the City Engineer in conjunction with the contractor.
- No travel lane shall be less than 10 feet wide.
- Delineators shall be spaced at 50 feet maximum, or as noted on the final CTCP.
- Construction personnel shall have a designated place for parking, as identified in the final CTCP.
- All traffic signal facilities shall be protected during construction or relocation.
- "Construction Ahead" and appurtenant signs are to be placed 1,000 feet in advance of all approaches to the project area, for the duration of construction.
- Private driveway closures shall be limited to the times of the day that construction is in progress.
- Cross street closures shall be limited to the times of the day that construction is in process.

Operation

MM 4.10-2 The City of Santa Clarita shall improve segments of Golden Valley Road (between Soledad Canyon Road and Sierra Highway) and Via Princessa (between Whites Canyon Road and Sierra Highway) to their planned ultimate six-lane configuration within the Interim Year horizon period, as funding becomes available.

MM 4.10-3 Prior to the completion of construction of the proposed project, the City of Santa Clarita shall install a traffic signal at the Rainbow Glen Drive/Via Princessa intersection.

MM 4.10-4 Prior to the completion of construction of the proposed project, the City of Santa Clarita shall install a traffic signal at the Via Princessa and Golden Valley Road intersection.

MM 4.10-5 One year after completion of the Via Princessa Roadway extension, the City's traffic engineer shall evaluate future traffic patterns around Rainbow Glen Drive and Isabella Parkway through standard City practices, including but not limited to plan checks and the collection of future traffic data to determine if traffic calming measures would be needed.

Residual Impacts

Construction

These controls are expected to adequately reduce any potentially significant impacts resulting from disruptions of traffic and access during the construction period to a level below significant.

Operation

With the planned improvement of Golden Valley Road and Via Princessa, the proposed project would operate at acceptable levels of service and would therefore have less than significant impacts.

Impact Threshold 4.10-2 Exceed, either individually or cumulatively, a level of service standard established by the County Congestion Management Agency for designated roads or highways

The proposed project is located within the City of Santa Clarita and would therefore be under the jurisdiction of Metro. Metro is the Los Angeles County regulatory agency that implements the CMP. The nearest CMP roadway segment to the project site is Sierra Highway north/south of Golden Valley Road. The CMP methodology states that a significant impact would occur at CMP intersections where the proposed project would add 50 or more trips during either the AM or PM weekday peak hours and when

the proposed project increases traffic demand at the CMP monitoring location by 2 percent of capacity (v/c ≥ 0.02), causing or worsening LOS F.

Under Interim Year (approximately 10 to 15 years from the present) conditions, the proposed project has a measurable impact on two roadways, Golden Valley Road and Sierra Highway, that are forecast to exceed their acceptable LOS for daily traffic volumes. The specific impacted segments are as follows:

- Golden Valley Road between Centre Pointe Parkway and Via Princessa
- Golden Valley Road between Via Princessa and Sierra Highway
- Sierra Highway between Golden Valley Road and Placerita Canyon Road

Each of the above roadways are forecast to operate at LOS F based on total daily traffic volumes given the roadway's existing four-lane configuration. In each case, LOS F conditions are forecast with or without the proposed project; however the proposed project is forecast to worsen conditions by increasing daily traffic volumes by approximately 1,000 ADT. Roadway modifications to address the forecast deficiency consist of upgrading each roadway to its planned six-lane configuration, as identified in the City's General Plan Circulation Element. **Table 4.10-15, Average Daily Trips Volume to Capacity and LOS – Interim Year with Future Roadway Configuration**, summarizes the traffic volumes and LOS for each segment, with and without the project, and with the future roadway modifications.

Table 4.10-15
Average Daily Trips Volume to Capacity and LOS – Interim Year with Future Roadway Configuration

	Interim Year with Existing Roadway Lanes							Interim Year with Project with Future Lanes		
		Without Project			With Project					
Segment	Existing Lanes	Volume	V/C	LOS	Volume	V/C	LOS	Lanes	V/C	LOS
Golden Valley s/o Centre Pointe	4	46,000	1.28	F	47,000	1.31	F	6	.87	D
Golden Valley s/o Via Princessa	4	46,000	1.28	F	47,000	1.31	F	6	.87	D
Sierra Hwy s/o Golden Valley	4	41,000	1.14	F	42,000	1.17	F	6	.78	C

Note:
4-Lane Roadway Capacity = 36,000 ADT
6-Lane Roadway Capacity = 54,000 ADT
See Table 4.10-2 for capacity and LOS criteria.

As shown in the **Table 4.10-15**, above, upgrading each roadway segment to its planned six-lane configuration, as identified in the City's General Plan Circulation Element, would mitigate potential impacts to Golden Valley Road and Sierra Highway as a result of the proposed project.

Mitigation Measures

No mitigation measures are required.

Residual Impacts

Potential impacts to CMP roadways would be less than significant.

Impact Threshold 4.10-3 Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks

The nearest public or private airport to the project site would be Whiteman Airport located approximately 10.5 miles to the south. Therefore, the project site is not located in the vicinity of an airport and would not have any effect on air traffic patterns.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impact would occur.

Impact Threshold 4.10-4 Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)

No measurable change in ADT volumes, as a result of the proposed project, would occur along Via Princessa east of Rainbow Glen Drive, and along Rainbow Glen Drive and Isabella Parkway north of Via Princessa. The peak hour volumes shown in **Figures 4.10-7** and **4.10-9** indicate a change in traffic patterns which result in minor net changes in traffic volumes to the previously mentioned roadway segments.

The extension of Via Princessa would reduce the southbound left-turn volume while increasing the southbound right-turn volume at the Via Princessa/Rainbow Glen Drive intersection. Likewise, a decrease would occur for the westbound right-turn volume while an increase would occur to the westbound through volume. In general, the amount of new traffic added to these Via Princessa, Rainbow

Glen Drive, and Isabella Parkway would be offset by a similar reduction in traffic as a result of the proposed project.

The traffic analysis determined that changes in traffic patterns due to the proposed project would result in minor net changes in traffic volumes to these three existing roadway segments. Increases to one direction of travel, or to one intersection turning movement, are largely offset by decreases in the opposing direction.

The effect of the Via Princessa extension on the roadways noted above was determined using the City's traffic demand model, which due to the level of detail provided by the zone structure and network coding, has certain limitations that affect the level of change that can be discerned on the roadway network. As such, a quantification of the change in traffic volumes at the local street level is beyond the capabilities of the model. What the results of the traffic analysis do indicate, is that the potential impact of the project on the three existing roadway segments discussed above is not anticipated to be significant enough to cause the need for traffic calming measures for those streets and would not increase design features or hazards.

However, with the roadway extension in place and after the resulting new traffic patterns have been established, these three existing roadway segments should be reevaluated and traffic calming measures investigated, as discussed below under **Cumulative Impacts**.

Mitigation Measures

No mitigation measures are required.

Residual Impacts

Impacts would be less than significant.

Impact Threshold 4.10-5 Result in inadequate emergency access

The proposed project is considered an infrastructure improvement project. It would extend Via Princessa from Sheldon Avenue to Golden Valley Road. The proposed project would provide an additional roadway access for the residential neighborhoods near Rainbow Glen Drive and Via Princessa, which would improve emergency roadway access. Regional access to the project area is provided by SR-14 and Sierra Highway to the south of the site. As a result, the proposed project would redistribute traffic volumes throughout the project study area and would provide for additional east-west emergency evacuation route for the local community.

Mitigation Measures

No mitigation measures are required.

Residual Impacts

Impacts would be less than significant.

Impact Threshold 4.10-6 Result in inadequate parking capacity

Discussion

As described in **Section 2.0, Project Description**, the proposed project would extend Via Princessa from Sheldon Avenue to Golden Valley Road upon completion and operation of the six-lane roadway. Construction of the proposed project would generate temporary demand for parking for construction employees. As identified in the construction traffic control plan in mitigation measure **MM 4.10-1**, temporary construction personnel parking would be designated upon final approval by the City Engineer, to minimize parking impacts on the surrounding commercial and residential land uses.

The operation of the proposed project would not generate new demand for parking as it is a roadway improvement project.

Mitigation Measures

Mitigation Measure MM 4.10-1 shall be implemented.

Residual Impacts

Impacts would be less than significant.

Impact Threshold 4.10-7 Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Public Transit

The proposed project would extend Via Princessa west from Sheldon Avenue to Golden Valley Road. As identified under the Existing Conditions discussion, the nearest bus stop is located over 0.25 mile to the north at the Aquatics Center. The proposed project would not impact any bus transit operations or bus stops. The extension of Via Princessa would provide an opportunity for additional east/west bus transit routes within the City. As a result, impacts would be beneficial to future public transit routes.

Bicycles

The project area is depicted in the City of Santa Clarita Non-Motorized Transportation Plan to include a Class I bike path along the south side of the proposed project roadway. The Class I bike path would provide a link to the existing Class I bike path along the west side of Golden Valley Road. The Class I bike path would also link to the planned future Class I bike path along the future extension of Via Princessa west of Golden Valley Road. The project's Class I bike path would improve access to the City's existing and planned bicycle network for the residents in the project vicinity and provides a new travel option for east-west bicycle trips.

Pedestrians

The proposed project would provide sidewalks along both the north and south sides of the roadway and would connect to the existing sidewalks at the current terminus Via Princessa. The proposed project also closes an existing gap of sidewalk on the south side of Via Princessa between Sheldon Avenue and Rainbow Glen Drive, which results in a continuous section of sidewalk between Rainbow Glenn Drive and Golden Valley Road. At the point where the project intersects with Golden Valley Road, there currently are not sidewalks on the east or west side of Golden Valley Road and, as such, pedestrian connectivity to the north and south would initially be limited. However, sidewalks are planned as part of a future widening of Golden Valley Road as well as the future extension of Via Princessa west of Golden Valley Road, resulting in complete pedestrian connectivity in all four directions.

Mitigation Measures

No mitigation measures are required.

Residual Impacts

Impacts would be beneficial because of the provision of sidewalks and bike lanes and the opportunity of transit to access the project area.

CUMULATIVE IMPACTS

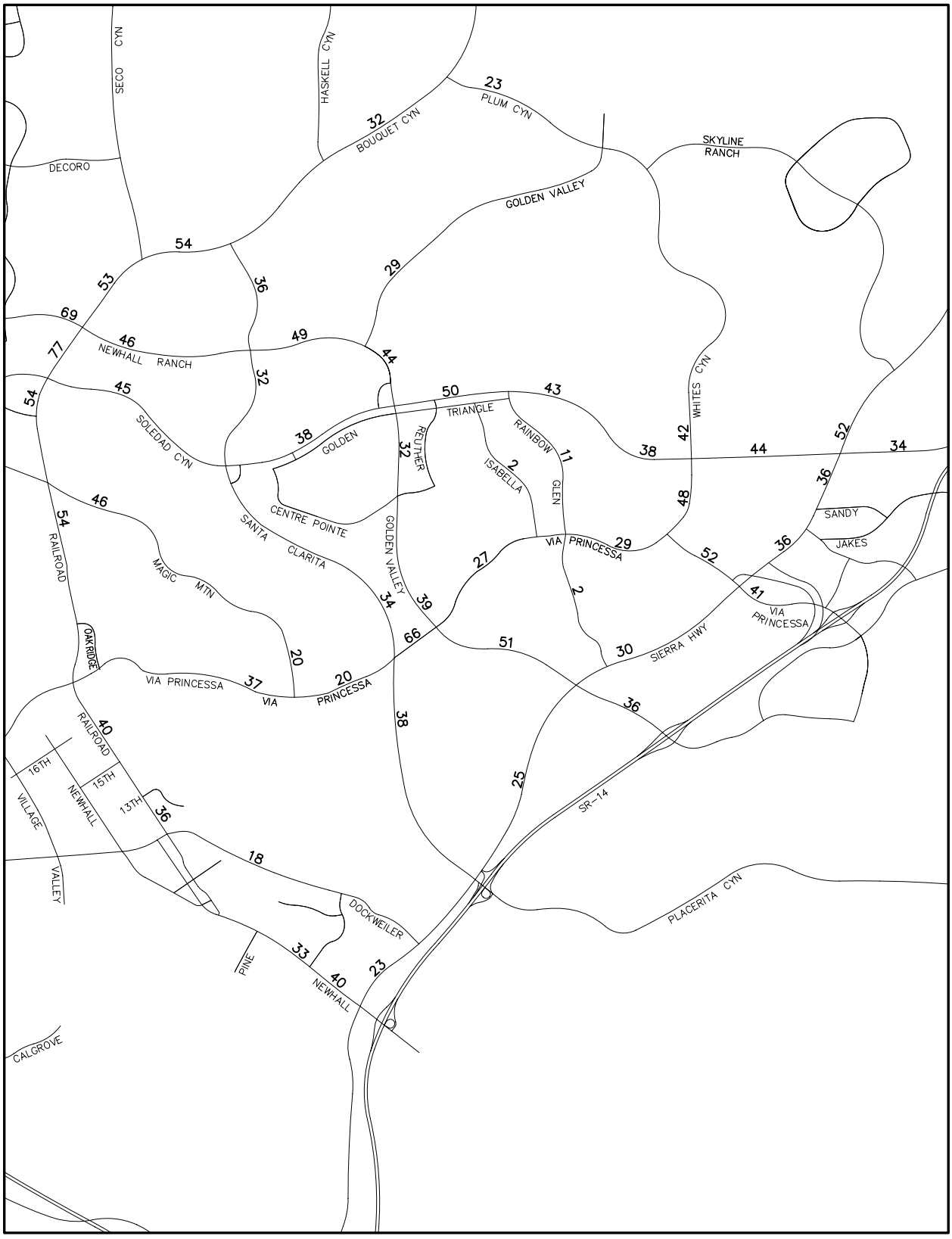
The General Plan buildout scenario, which included cumulative development within the City through the horizon year of 2030, was used to analyze cumulative impacts. The section of Via Princessa between Golden Valley Road and May Way has been evaluated as a six-lane major highway. **Figure 4.10-10, Long Range Buildout ADT Volumes (000s) – With Project**, shows the Long-Range Buildout ADT volumes, and **Figure 4.10-11, Long Range Buildout Peak Hour Volumes – With Project**, shows the corresponding peak hour volumes. **Figure 4.10-10** shows that the extension of Via Princessa is anticipated to carry approximately 27,000 ADT for buildout conditions. **Table 4.10-16, Average Daily Traffic V/C and LOS – Long Range Buildout Conditions**, summarizes the v/c and LOS for each roadway within the study area that is measurably affected by the extension. The summary shows that the proposed project is forecast to operate at LOS A for Long-Range Buildout conditions based on the roadway's General Plan designation as a six-lane major highway. In the event that Via Princessa is operated as a four-lane roadway the level of service would be LOS C. The future segment of Via Princessa west of Golden Valley Road is shown to exceed the capacity of a six lane major highway due to forecast volumes of 66,000 ADT, as identified in the General Plan, and is not due to the proposed project. This would result in an unacceptable level of service and a potentially significant cumulative impact. However, as this is a future roadway, the deficiency could be eliminated by constructing Via Princessa west of Golden Valley Road with additional capacity, such as with additional through lanes or augmented capacity.

The peak hour intersection levels of service were calculated for Long-Range Buildout conditions for the key intersections along Via Princessa (shown on **Figure 4.10-4**). The ICU values calculated are shown in **Table 4.10-17, ICU and LOS Summary – Long Range Buildout Conditions.** As can be seen, each of the signalized intersections affected by the roadway extension shows acceptable LOS. ICU ratios for the Via Princessa intersections at Rainbow Glen and at May Way have been calculated based on intersection lanes that are consistent with a four-lane configuration of Via Princessa, demonstrating that Via Princessa can remain as a four-lane roadway at those locations while still providing LOS C.

Table 4.10-16
Average Daily Traffic V/C and LOS - Long-Range Buildout Conditions

Roadway Segment	Lanes	Capacity	Volume	V/C	LOS
144 Soledad Cyn w/o Whites Cyn	6	54,000	38,000	.70	B
145 Soledad Cyn e/o Whites Cyn	6	54,000	44,000	.81	D
150 Whites Cyn s/o Soledad Cyn	6	54,000	48,000	.89	D
151 Via Princessa e/o Golden Valley	6	54,000	27,000	.50	A
	(4)	(36,000)		(.75)	(C)
152 Via Princessa e/o Rainbow Glen	6	36,000	29,000	.54	A
	(4)	(36,000)		(.81)	(D)
153 Via Princessa s/o Whites Cyn	6	54,000	52,000	.96	E
156 Golden Valley s/o Via Princessa	6	54,000	51,000	.94	E
160 Sierra Hwy s/o Golden Valley	6	54,000	25,000	.46	A
161 Sierra Hwy n/o Golden Valley	6	54,000	30,000	.56	A
162 Sierra Hwy s/o Soledad Cyn	6	54,000	36,000	.67	B
199 Golden Valley s/o Centre Pointe	6	54,000	39,000	.72	C
229 Rainbow Glen n/o Via Princessa	2	18,000	11,000	.61	B
364 Rainbow Glen s/o Via Princessa	2	15,000	2,000	.13	A
365 Isabella n/o Via Princessa	2	15,000	2,000	.13	A

*LOS in **Bold** exceeds performance criteria of LOS E.*
Lanes are per the City's General Plan Circulation Element Highway Plan.
Values in parentheses indicate conditions based on a 4-Lane Via Princessa.
Table includes locations measurably affected by the project as well as roadway segments in the immediate vicinity of the project.
Level of service ranges: 0.00–0.60 = A 0.61–0.70 = B 0.71–0.80 = C 0.81–0.90 = D 0.91–1.00 = E Above 1.00 = F
Source: Austin-Foust Associates, Inc., Via Princessa Extension Traffic Analysis, April 2011.



Legend:

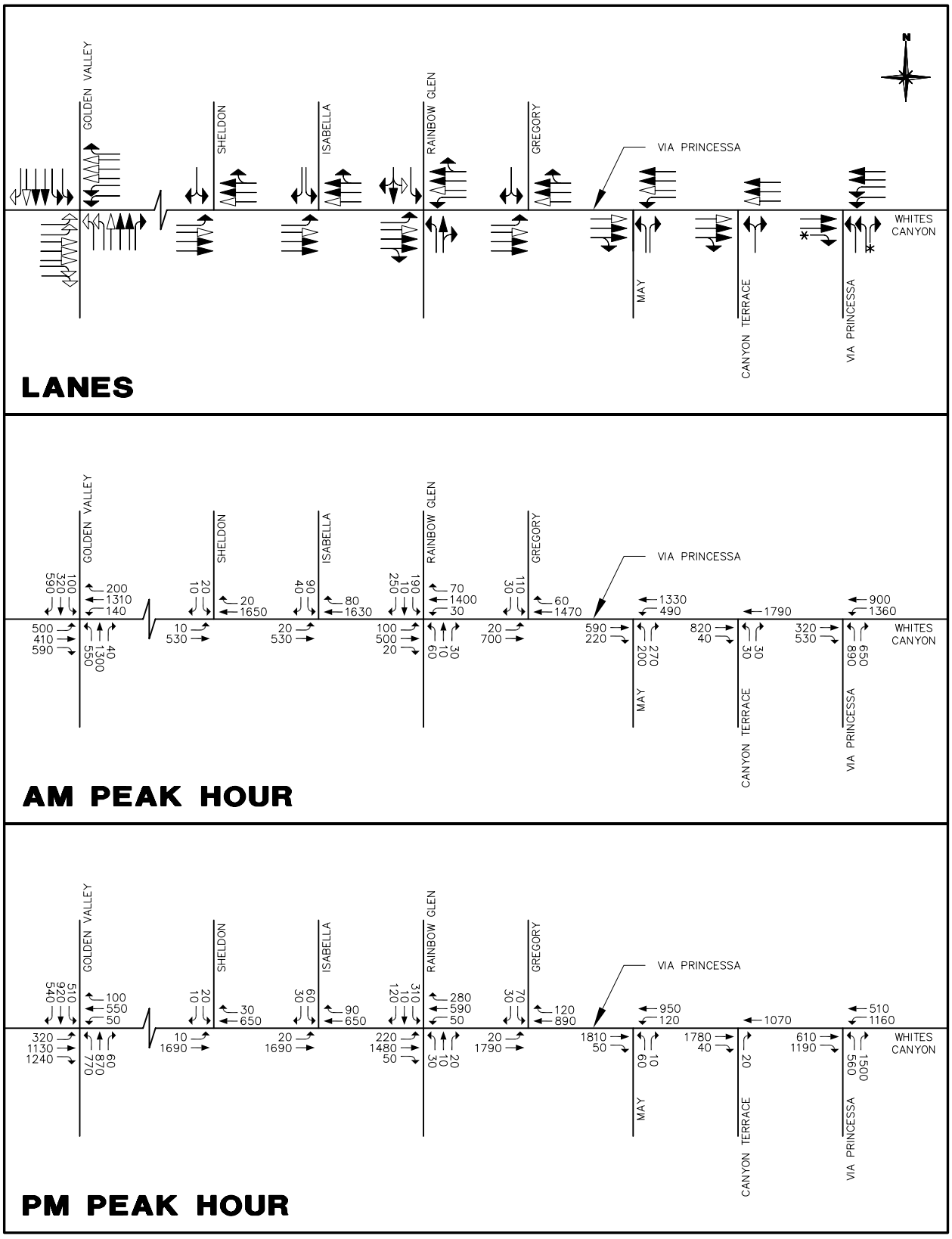
XX Average Daily Traffic Counts

NOT TO SCALE

SOURCE: Austin-Foust Associates, Inc., Via Princessa Extension Traffic Analysis – May 2011

FIGURE **4.10-10**

Long Range Buildout ADT Volumes (000s) – With Project



SOURCE: Austin-Foust Associates, Inc., Via Princessa Extension Traffic Analysis – May 2011

FIGURE **4.10-11**

Long Range Buildout Peak Hour Volumes – With Project

Table 4.10-17
Long Range Buildout Conditions - ICU and LOS Summary

Intersection	AM Peak Hour ICU	AM Peak Hour LOS	PM Peak Hour ICU	PM Peak Hour LOS
163. Golden Valley & Via Princessa	.88	D	.76	C
167. Rainbow Glen & Via Princessa	.76	C	.64	C
171. Whites Cyn & Via Princessa	.83	D	.76	C
300. May Way & Via Princessa	.72	C	.73	C

Intersection analysis is based on a 4-lane configuration for Via Princessa.
Level of service ranges: 0.00–0.60 = A 0.61–0.70 = B 0.71–0.80 = C 0.81–0.90 = D 0.91–1.00 = E Above 1.00 = F
Source: Austin-Foust Associates, Inc., Via Princessa Extension Traffic Analysis, April 2011.

Table 4.10-18, Intersection Delay and LOS Summary – Long Range Buildout Conditions, summarizes the average vehicle delay and the corresponding LOS for existing intersections along Via Princessa in the vicinity of the project. The signalized intersections and the Canyon Terrace/Via Princessa intersection are forecast to operate at LOS D or better for conditions with the proposed project.

Table 4.10-18
Intersection Delay and LOS Summary - Long Range Buildout Conditions

Intersection	Control Type	AM Peak Hour Delay	AM Peak Hour LOS	PM Peak Hour Delay	PM Peak Hour LOS
Sheldon Ave & Via Princessa	Side Street Stop	**134.2**	**F**	**47.7**	**E**
Isabella & Via Princessa	Side Street Stop	**476.4**	**F**	**73.7**	**F**
Rainbow Glen & Via Princessa	Signal[1]	30.2	C	36.0	D
Via Princessa & Gregory	Side Street Stop	**258.7**	**F**	23.2	C
May Way & Via Princessa	Signal	23.6	C	21.1	C
Canyon Terrace & Via Princessa	Side Street Stop	9.2	A	13.4	B
Whites Cyn & Via Princessa	Signal	33.1	C	27.3	C

Unsignalized Level of service ranges: 0.00–10.0 = A 10.1–15.0 = B 15.1–25.0 = C 25.1–35.0 = D 35.1–50.0 = E Above 50.0 = F
Signalized level of service ranges: 0.00–10.0 = A 10.1–20.0 = B 20.1–35.0 = C 35.1–55.0 = D 55.1–80.0 = E Above 80.0 = F
Notes:
Delay = Average Control Delay (sec/veh)
The indicated delay for Side Street Stop control represents the average vehicle delay for the worst-case movement.
The indicated delay for 4-Way Stop control and Signal control represents the average vehicle delay for the intersection.
Intersection analysis is based on a 4-lane configuration for Via Princessa.
The indicated delay for the Sheldon/Via Princessa and the Isabella/Via Princessa intersections are based on full side street access.
[1] Traffic signal is warranted
Source: Austin-Foust Associates, Inc., Via Princessa Extension Traffic Analysis, April 2011.

As discussed above under **Project Impacts**, the intersection delay for Gregory Lane is significant for vehicles attempting a left-turn from Gregory Lane to eastbound Via Princessa. This delay would be avoided by substituting a right-turn onto Via Princessa, followed by a U-turn at the traffic signal recommended to be installed at the Rainbow Glen/Via Princessa intersection. The cumulative delay of the right-turn movement and the subsequent U-turn movement would be 26.2 seconds (10.8 seconds plus 15.4 seconds), which would be equivalent to a LOS C (based on signal control). As such, the implementation of **Mitigation Measure MM 4.10-3** would require the installation of a traffic signal at the Rainbow Glen/Via Princessa intersection thus mitigating the potential side street delay impact for Gregory Lane. Furthermore, another option to the Gregory Lane left-turn movement would be to utilize Gilbert Drive to access Rainbow Glen Drive to Via Princessa.[8]

As shown above in **Table 4.10-18**, with full access, left-turns from the side streets would experience delay that would result in LOS F conditions (i.e., 476.4 seconds for Isabella Street) on average. Therefore, the analysis of the two intersections is based on prohibiting left-turns from the side street to eastbound Via Princessa. In conjunction with the left-turn prohibition, mid-block U-turn pockets would be provided just west of the intersections to allow access to eastbound Via Princessa. By providing the modified access, right turns would be delayed by a maximum of 19.6 seconds on average, and the combination of right turns/U turns would be delayed by a maximum of 28.4 seconds, on average. Thus, the intersections for Isabella Parkway/Via Princessa and Sheldon Avenue/Via Princessa would result in an acceptable LOS for both AM and PM Peak Hours.

Modified Side Street Access

Table 4.10-19, Intersection Delay and LOS Summary – Long Range Buildout Modified Access Scenario, compares side street vehicle delay between scenarios based on full-access and limited access for Long-Range Buildout conditions. However, each of the intersections west of Rainbow Glen Drive (i.e., Sheldon Avenue and Isabella Parkway), as well as the Gregory Lane intersection east of Rainbow Glen Drive, are shown to experience significant side street delay due to the increase in through traffic on Via Princessa. Side street delays for those two intersections are shown to range from an average of 47.4 sec/veh (LOS E) to a high of 476.4 sec/veh (LOS F). While the City does not have an established threshold of significance related to side street delay, LOS E or F levels of delay would generally be considered a significant impact.

The indicated delay for the Sheldon/Via Princessa and the Isabella/Via Princessa intersections are based on full access to the side street. As a result, potential cumulative impacts at these intersections are

8 This option would be convenient for residents located in the northerly portion of the neighborhood.

considered potentially significant. By providing the modified access, right turns would be delayed by a maximum of 19.6 seconds on average, and the combination of right turns/U turns would be delayed by a maximum of 28.4 seconds, on average, which is effectively equivalent to a LOS of C (based on signal control). Implementation of the modified access scenario would result in less than significant cumulative impacts at the intersections along Via Princessa at Sheldon Avenue and Isabella Parkway.

Table 4.10-19
Intersection Delay and LOS Summary – Long Range Buildout Modified Access Scenario

		With Project (Full Access)				With Project (Limited Access)			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersection	Control Type	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Westerly U-Turn Location	Yield	n/a	n/a	n/a	n/a	8.7	A	16.9	C
Sheldon & Via Princessa	Side Street Stop	**134.2**	**F**	**47.4**	**E**	19.6	C	11.1	B
Easterly U-Turn Location	Yield	n/a	n/a	n/a	n/a	9.1	A	19.0	C
Isabella & Via Princessa	Side Street Stop	**476.4**	**F**	**73.7**	**F**	12.9	B	9.4	A

Unsignalized Level of service ranges: 0.00–10.0 = A 10.1–15.0 = B 15.1–25.0 = C 25.1–35.0 = D 35.1–50.0 = E Above 50.0 = F
Notes:
Delay = Average Control Delay (sec/veh)
The indicated delay for Side Street Stop control represents the average vehicle delay for the worst-case movement.
The indicated delay for U-Turn yield control represents the average vehicle delay for the U-Turn movement.
Modified access refers to left-turns prohibited from side street turn movements. The left-turn maneuver is achieved by a right-turn from the side street, followed by a mid-block U-turn at a median break just west of the intersection.

CMP Analysis

Under Long-Range Buildout conditions, the following roadway segment has been identified as exceeding the capacity of the roadway based on the roadway's General Plan Circulation Element designation:

- Via Princessa (Future) between Magic Mountain Parkway (Future) and Golden Valley Road

As with the roadway segments identified under Interim Year conditions, this roadway segment is forecast to exceed capacity for conditions both with and without the proposed project. As such, the deficiency would not be caused by the proposed project, and as this is a future roadway, the deficiency could be eliminated by constructing that segment with additional capacity, such as with additional through lanes or augmented intersection capacity.

Cumulative Mitigation

Implementation of the modified access scenario presented above would result in less than significant cumulative impacts.

UNAVOIDABLE SIGNIFICANT IMPACTS

No unavoidable significant transportation and circulation impacts would result with implementation of the proposed project along all other roadway segments and at project area intersections.