

TRAFFIC IMPACT ANALYSIS

FOR

QUARRY ROW SUBDIVISION

Rocklin, California

Prepared For:

TLA ENGINEERING & PLANNING

1504 Eureka Road, Suite 110

Roseville, CA 95661

Prepared By:

KD Anderson & Associates, Inc.

3853 Taylor Road, Suite G

Loomis, CA 95650

(916) 660-1555

January 16, 2017

Job No. 7571-01

Quarry Row Subdivision.rpt

KD Anderson & Associates, Inc.

Transportation Engineers

**TRAFFIC IMPACT ANALYSIS FOR
QUARRY ROW SUBDIVISION**
Rocklin, California

TABLE OF CONTENTS

INTRODUCTION.....	1
Project Description	1
EXISTING SETTING	4
Study Area Circulation System - Roads	4
Study Area Circulation System – Intersections	5
Standard of Significance: Levels of Service Methodology	6
Existing Traffic Volumes/Levels of Service	8
Transit Facilities	10
Pedestrian Facilities	11
Bicycle Facilities	11
REGULATORY SETTING	13
City of Rocklin General Plan Circulation Element	13
Policies for Transportation System.....	13
Policies for City and Regional Street System.....	13
Special Street Improvement Policies	15
City of Rocklin Capital Improvement Program.....	16
PROJECT IMPACTS	17
Project Characteristics	17
Existing Plus Project Traffic Conditions and Levels of Service	19
Project Impacts to Alternative Transportation Modes.....	23
Safety Issues	23
EXISTING PLUS APPROVED PROJECTS BASELINE IMPACTS	25
Existing Plus Approved Projects (EPAP) Conditions	25
LONG TERM CUMULATIVE CONDITIONS	31
Background Information.....	31
Cumulative Traffic Volumes and Levels of Service	32
APPENDIX.....	36

January 16, 2017

KDA

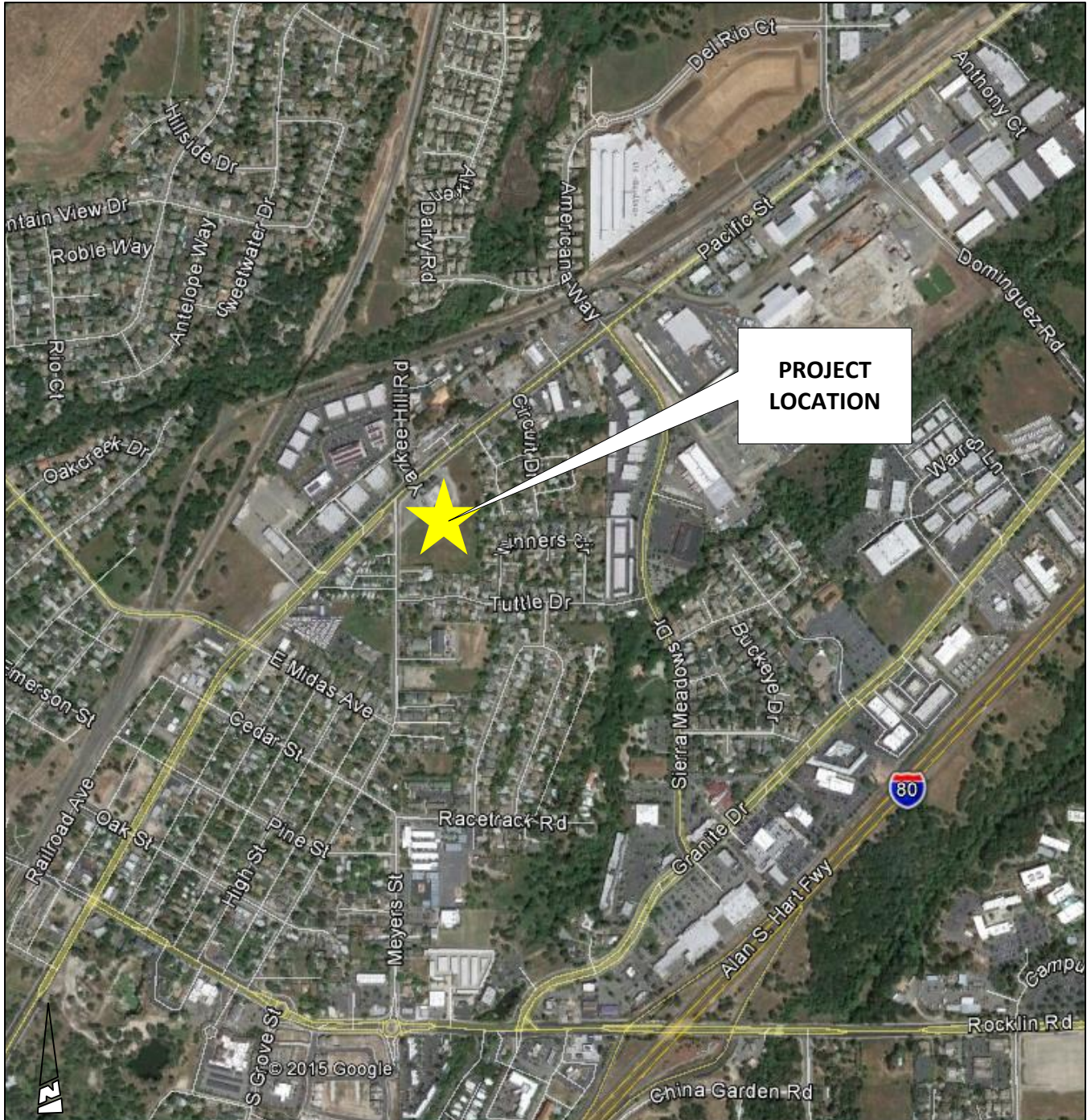
**TRAFFIC IMPACT ANALYSIS FOR
QUARRY ROW SUBDIVISION**
Rocklin, California

INTRODUCTION

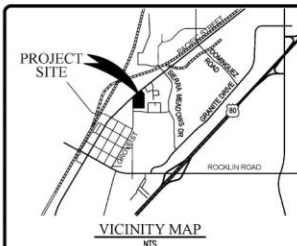
This report documents **KD Anderson & Associates'** analysis of the traffic impacts associated with developing the **Quarry Row Subdivision** in the City of Rocklin, California. This assessment of traffic impacts has been required by the City of Rocklin, and per City staff direction addresses project impacts within the context of all transportation modes. The analysis addresses both current and future background conditions at key intersections providing access to the site and assesses traffic impacts based on adopted General Plan standards for significance. The analysis also describes the project's impact to pedestrian, bicycle and transit facilities.

Project Description

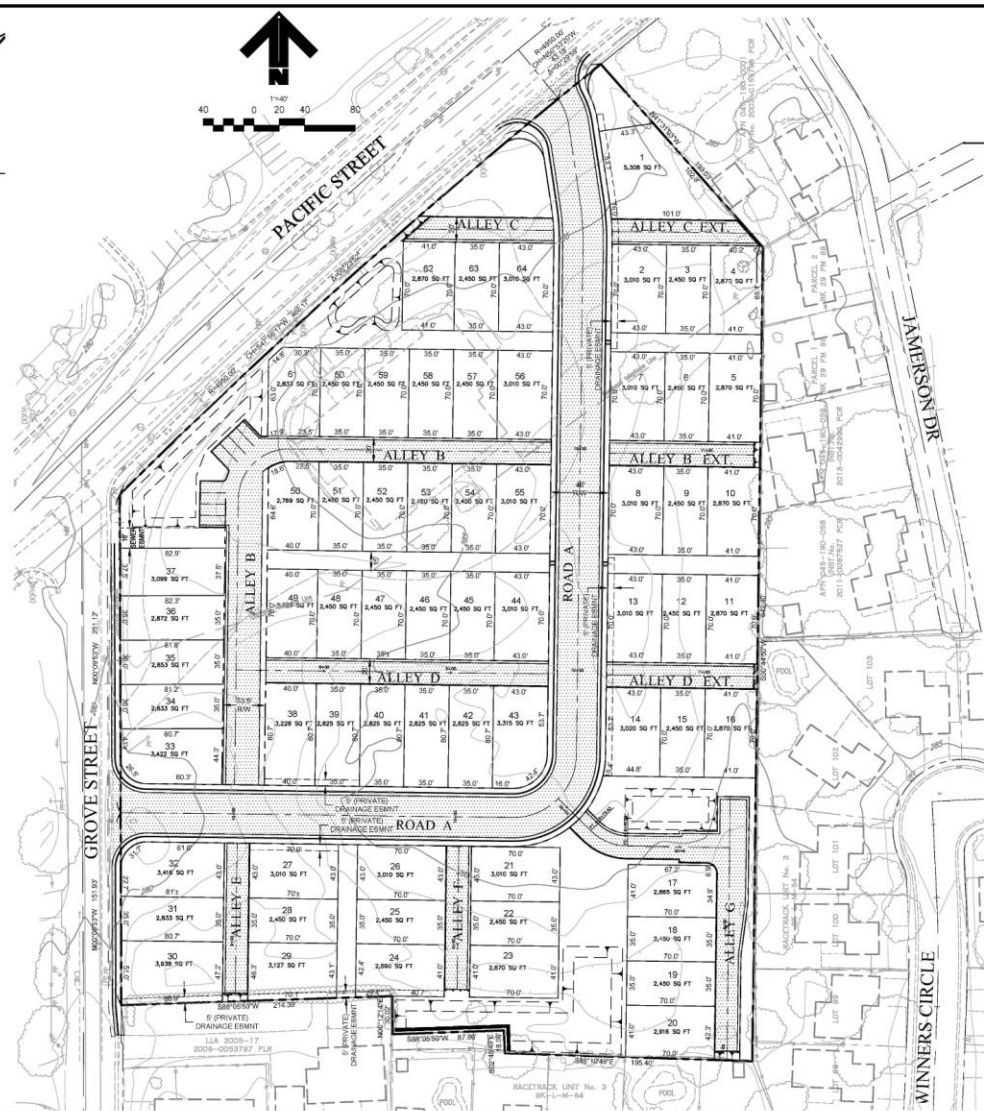
The Quarry Row Subdivision is a 64 unit single family residential development that will be located on the southeast corner of the intersection of Pacific Street and Grove Street, as noted in Figure 1 and Figure 2. The site currently has C-2 zoning and is designated Mixed Use and High Density Residential in the Rocklin General Plan, and the proposed GPA is re-designating the site for single family development (i.e., MDR). Access to the site is proposed at an intersection on Pacific Street opposite the entrance to the Train Depot Commercial Center and on Grove Street south of the Pacific Street intersection, as noted in Figure 2. The existing median opening on Pacific Street would be modified to create a westbound left turn lane to serve the project, and outbound left turns onto Pacific Street will be prohibited at that location.



VICINITY MAP



- LEGEND**
- PROJECT BOUNDARY LINE
 - - - ADJACENT EXISTING LOT LINES
 - - - PROPOSED LOT LINES
 - - - R/W - EXISTING
 - - - R/W - PROPOSED
 - - - EASEMENT



QUARRY ROW TENTATIVE MAP LOTING PLAN ROCKLIN, CALIFORNIA

JANUARY 2017
SHEET 1 OF 5

- SHEET INDEX**
- SHEET 1 TENTATIVE MAP-LOTING PLAN
 - SHEET 2 PRELIMINARY GRADING AND DRAINAGE PLAN
 - SHEET 3 PRELIMINARY STORMWATER RUNOFF MANAGEMENT PLAN
 - SHEET 4 PRELIMINARY UTILITY PLAN
 - SHEET 5 TYPICAL STREET AND GRADING SECTIONS AND DETAILS

BENCHMARK

HORIZONTAL DATUM: THE BEARING S59°17'18"W AS ESTABLISHED ON THAT CERTAIN RECORD OF SURVEY RECORDED IN BOOK 18 OF SURVEYS, AT PAGE 114, PLACER COUNTY RECORDS IS THE BASIS OF ALL BEARINGS SHOWN HEREON.

VERTICAL DATUM:

OWNERS / DEVELOPER

OWNER: THE IRENE ANN COKER REVOCABLE LIVING TRUST
IRENE ANN COKER, TRUSTEE
4651 GROVE STREET
ROCKLIN, CA 95677

DEVELOPER: LOWELL DEVELOPMENT, INC.
P.O. BOX 1200 LOMAS, CA 9565
PHONE: (916) 660-1720

ENGINEER

TLA ENGINEERING & PLANNING, INC.
1504 EUREKA ROAD, SUITE 110
ROSEVILLE, CA 95661
PHONE: (916) 786-0685
FAX: (916) 786-0529

DATE OF SURVEY

06/16/2015

LOT SIZE (SQUARE FEET)

MIN: 2,450 MAX: 5,308 AVG: 2,831
MIN WIDTH: 35.0'
MIN DEPTH: 70.0'

ACREAGE* TOTAL LOTS

6.134 64
*DOES NOT INCLUDE R/W

- UTILITY AND SERVICE PROVIDERS:**
- WATER: PLACER COUNTY WATER AGENCY
 - SEWER: SOUTH PLACER MUNICIPAL UTILITY DISTRICT
 - GAS & ELECTRIC: PACIFIC GAS & ELECTRIC
 - TELEPHONE: AT&T
 - CABLE TV: WAVE BROADBAND
 - SCHOOL DISTRICT: ROCKLIN UNIFIED SCHOOL DISTRICT
 - STREET MAINTENANCE: CITY OF ROCKLIN
 - FIRE PROTECTION: CITY OF ROCKLIN FIRE DEPARTMENT
 - POLICE PROTECTION: CITY OF ROCKLIN POLICE DEPARTMENT
 - STORM DRAINAGE: CITY OF ROCKLIN
 - SOLID WASTE: AUBURN PLACER DISPOSAL SERVICE



EXISTING SETTING

This report section describes the facilities that are available today serving vehicular, pedestrian and bicycle traffic and transit users in Rocklin, as well as General Plan policies that guide consideration of traffic impacts.

Study Area Circulation System - Roads

Regionally, the Quarry Row Subdivision will be served by major city streets that link the site with important state highways. Interstate 80 (I-80) connects Rocklin with the balance of Placer County and the Sacramento Metropolitan area. In the area of the proposed project, access to state highways occurs at a grade separated interchanges on Rocklin Road roughly one mile south of the site and on Sierra College Blvd roughly 1 mile to the east. Community-wide circulation is provided via Pacific Street, which roughly parallels Interstate 80 through the community.

The text which follows provides additional detail regarding the streets included in the study area.

Pacific Street is a four lane / two lane east-west street that runs parallel to Interstate 80 through Rocklin and links Taylor Road in the Town of Loomis in the east with the Atlantic Street interchange on Interstate 80 in the west. Pacific Street has four lanes west of the Americana Way intersection and transitions to a two lane road between Americana Way and Delmar Avenue. A continuous two way left turn lane exists on Pacific Street from a point east of Anthony Court to Sierra Meadows Drive. Raised center medians exist in the area west of Sierra Meadows Drive. The Rocklin General Plan Circulation Element classifies Pacific Street as an Arterial Street. On-street parking is not permitted, and the speed limit on Pacific Street is posted at 40 mph in the area of the project.

Traffic volume information collected for the General Plan EIR indicated that Pacific Street carries an Average Daily Traffic (ADT) volume of 15,000 vehicles per day in the area between Rocklin Road and Midas Avenue, with the volume decreasing to 14,300 ADT between Grove Street and Sierra Meadows Drive, and 12,800 ADT between Sierra Meadows Drive and Del Mar Avenue.

Midas Avenue is a two-lane street which links the established residential areas around the project with Pacific Street to the south and to Whitney Blvd to the west. East Midas Avenue (i.e., east of Pacific Street) is designated a Collector in the General Plan. On street parking is permitted along East Midas Avenue, and the posted speed limit is 30 mph.

Daily traffic counts conducted in 2013 indicated that the volume of traffic on Midas Avenue varied along its length. West of Pacific Street the observed volumes in the area from Whitney Blvd to Argonaut Avenue ranged from 4,290 to 4,400 ADT. The volume was higher south of Argonaut Avenue, with 9,225 ADT counted between Argonaut Avenue and 5th Street and 8,765 ADT identified between 5th Street and Pacific Street. The daily volume on E. Midas Avenue adjoining the project is estimated to be 1,000 vehicles per day based on the peak hour volume.

Grove Street is a two lane street that connects Pacific Street with Rocklin Road and provides access to the established residential areas in central Rocklin. Grove Street begins at an

intersection on Pacific Street roughly opposite Yankee Hill Road and continues south for a quarter mile to E. Midas Avenue. At that point Grove Street turns to the west and extends for another 2,000 feet to an intersection on Pacific Street. The daily traffic volume on Grove Street adjoining the project is estimated to be 1,000 vehicles per day based on the observed peak hour volumes.

The Rocklin General Plan identifies Grove Street as a Collector Street. In the immediate area of the project Grove Street is a two lane street that is 24-26 feet wide. Sidewalks exist on the east side of Grove Street from Pacific Street to Rocklin Road and on the west side from E. Midas Avenue to Rocklin Road. The speed limit on Grove Street is 25 mph. Grove Street has bicycle lanes in the area of E. Midas Avenue.

Cedar Street - Meyers Street are two lane local streets that connect Grove Street with the portion of Rocklin Road near Interstate 80. Meyers Street also provides access to Rocklin Elementary School. Cedar Street extends for 300 feet east of Grove Street and Meyers Street extends south from that point for 1,500 feet to a new roundabout intersection on Rocklin Road.

Yankee Hill Road is a two-lane local street that serves the business park – office area north of Pacific Street. Yankee Hill Road extends for 700 feet to its terminus near the UPRR.

Americana Way is a local street that extends north from Pacific Street to serve the existing residential neighborhood east of the UPRR's eastbound line. Americana Way intersects Pacific Street at a signalized intersection and crosses the westbound UPRR line immediately north of the intersection. North of the crossing, Americana Way is a two lane street. Sidewalks exist on both sides of the street, on-street parking is permitted, and residential driveways are prevalent in this area. The posted speed limit on Americana Way is 25 mph.

Traffic counts conducted in 2013 indicated that Americana Way carried 1,830 vehicles per day between Pacific Street and Independence Drive and 315 vehicles per day north of Independence Drive.

Sierra Meadows Drive is the southerly extension of Americana Way, and the road continues to an intersection on Granite Drive. The Rocklin General Plan designates Sierra Meadows Drive as a Collector street, and class II bike lanes are provided. On-street parking is permitted on some portions of Sierra Meadows Drive but not on others. Based on the peak hour traffic volumes observed on the street, the daily volume on Sierra Meadows Drive south of Pacific Street is estimated to be 4,000 vehicles per day based on interpolation of the peak hour counts used for this study.

Study Area Circulation System - Intersections

The quality of traffic flow in urban areas is often governed by the operation of key intersections. The following intersections have been identified for evaluation in this study in consultation with City of Rocklin staff.

The **Midas Avenue / Pacific Street intersection** is controlled by an actuated traffic signal. Separate left turn lanes are provided on each approach. Separate right turn lanes are available on

both Midas Avenue approaches and on westbound Pacific Street, and the southbound Midas Avenue approach is “free” due to a raised median. The Midas Avenue legs operate as “split” phases. The westbound Pacific Street right turn is operated as a “overlap” phase with the southbound left turn on Midas Avenue. There are crosswalks across each leg of the intersection and a street light on each corner.

The **Pacific Street / Grove Street intersection** is a “tee” intersection controlled by a stop sign on the Grove Street approach. A continuous Two-Way Left Turn lane on Pacific Street begins about 125 feet west of the intersection and continues east through the Yankee Hill Road intersection. The Grove Street approach to Pacific Street is on a thirty degree angle and is a single lane.

The **Pacific Street / Yankee Hill Road intersection** is 165 feet east of Grove Street measured centerline to centerline. This “tee” intersection is controlled by a stop sign on the Yankee Hill Road approach, and that approach has a separate right turn lane. A private drive exists opposite the intersection, and while its movements have been included in the existing LOS analysis the driveway will be eliminated with the project.

The project will take access opposite the **Pacific Street / Train Depot Commercial Center intersection**. Today this intersection is a “tee” controlled by a stop sign on the private Train Depot Commercial Center exit. A short (70 feet long) eastbound left turn lane is available on Pacific Street.

The **Pacific Street / Americana Way / Sierra Meadows Drive intersection** is controlled by a traffic signal. Each approach features a separate left turn lane. Crosswalks are striped on all four legs, and street lights are present.

The **Grove Street / Cedar Street intersection** is controlled by an all-way stop. Each approach has a single lane, and school zone crosswalks are striped across each leg of the intersection.

The **Rocklin Road / Meyers Street intersection** is controlled by a multi-lane roundabout. There are two circulating lanes through the intersection, and the Meyers Street leg has single inbound and outbound lanes.

Standards of Significance: Levels of Service - Methodology

Levels of Service were calculated at study area intersections in order to assess the quality of existing traffic conditions and to provide a basis for analyzing project impacts. "Level of Service" is a qualitative measure of traffic operating conditions whereby a letter grade "A" through "F", corresponding to progressively worsening operating conditions, is assigned to an intersection or roadway segment.

Analysis Methodology for Intersections. The City of Rocklin utilizes a modified version of the *Interim Materials on Highway Capacity – Circular 212* (Transportation Research Board, 1980) critical movement method to determine Levels of Service at signalized intersections. Modified capacities which are approximately 5 percent higher than the published Circular 212 capacities are employed. This methodology determines the Level of Service by comparing the volume-to-

capacity (v/c) ratio of critical intersection movements to the thresholds shown in Table 1. Un-signalized intersections are analyzed using the methodology described *2000 Highway Capacity Manual* (HCM). HCM techniques base Level of Service on the length of delays experienced by motorists waiting at stop signs. Delay values can be reported as an average value for the overall operation of the intersection in the case of all-way stop controls or for each movement where motorists are required to yield the right of way to other traffic, in the case of side street stops. The City of Rocklin bases evaluation of un-signalized LOS on the overall average delay.

The Level of Service at roundabout intersections was calculated using SIDRA 6.1 software which yields delays that are evaluated based on HCM LOS thresholds for un-signalized intersections.

Table 1 presents general characteristics associated with each Level of Service grade.

**TABLE 1
LEVEL OF SERVICE DEFINITIONS**

Level of Service	Signalized Intersection	Un-signalized Intersections and Roundabouts	Roadway (Daily)
"A"	Uncongested operations, all queues clear in a single-signal cycle. V/C < 0.60	Little or no delay. Ave Delay ≤ 10 sec/veh	Completely free flow.
"B"	Uncongested operations, all queues clear in a single cycle. V/C > 0.61 and < 0.70	Short traffic delays. Delay > 10 sec/veh and ≤ 15 sec/veh	Free flow, presence of other vehicles noticeable.
"C"	Light congestion, occasional backups on critical approaches. V/C > 0.71 and < 0.80	Average traffic delays. Delay > 15 sec/veh and ≤ 25 sec/veh	Ability to maneuver and select operating speed affected.
"D"	Significant congestions of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. V/C > 0.81 and < 0.90	Long traffic delays. Delay > 25 sec/veh and ≤ 35 sec/veh	Unstable flow, speeds and ability to maneuver restricted.
"E"	Severe congestion with some long standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). V/C > 0.91 and < 1.00	Very long traffic delays, failure, extreme congestion. Delay > 35 sec/veh and ≤ 50 sec/veh	At or near capacity, flow quite unstable.
"F"	Total breakdown, stop-and-go operation. V/C > 1.01	Intersection often blocked by external causes. Delay > 50 sec/veh	Forced flow, breakdown.
Sources: 2000 <u>Highway Capacity Manual</u> , and Transportation Research Board (TRB) Special Report 209.			

At intersections, Level of Service calculations can reflect average conditions occurring over the breadth of the hour or can be indicative of conditions occurring during the highest volume 15 minute period within that hour. The choice of perspective is made by local agencies as part of their development of standards of significance. Based on the assumptions made for the General Plan EIR, this analysis addresses average conditions occurring over the breadth of the peak hour.

Traffic Signal Warrants. The extent to which a traffic signal may be justified is determined based on many factors. From the standpoint of traffic impact analysis, signal warrant criteria contained in the *California Manual of Uniform Traffic Control Devices (CMUTCD)* are employed in order to assess the relative impact of the additional traffic accompanying a development proposal. For this analysis, Warrant 3 (Peak Hour Traffic) has been employed. Variation in warrant requirements occurs based on the design speed of the road (i.e., > 40 mph) and on the location of the intersection (i.e., rural versus urban locations). In this case, urban criteria have been employed. It is important to note that other warrants addressing factors such as pedestrian activity and collision history should be considered before a decision is made to install a traffic signal.

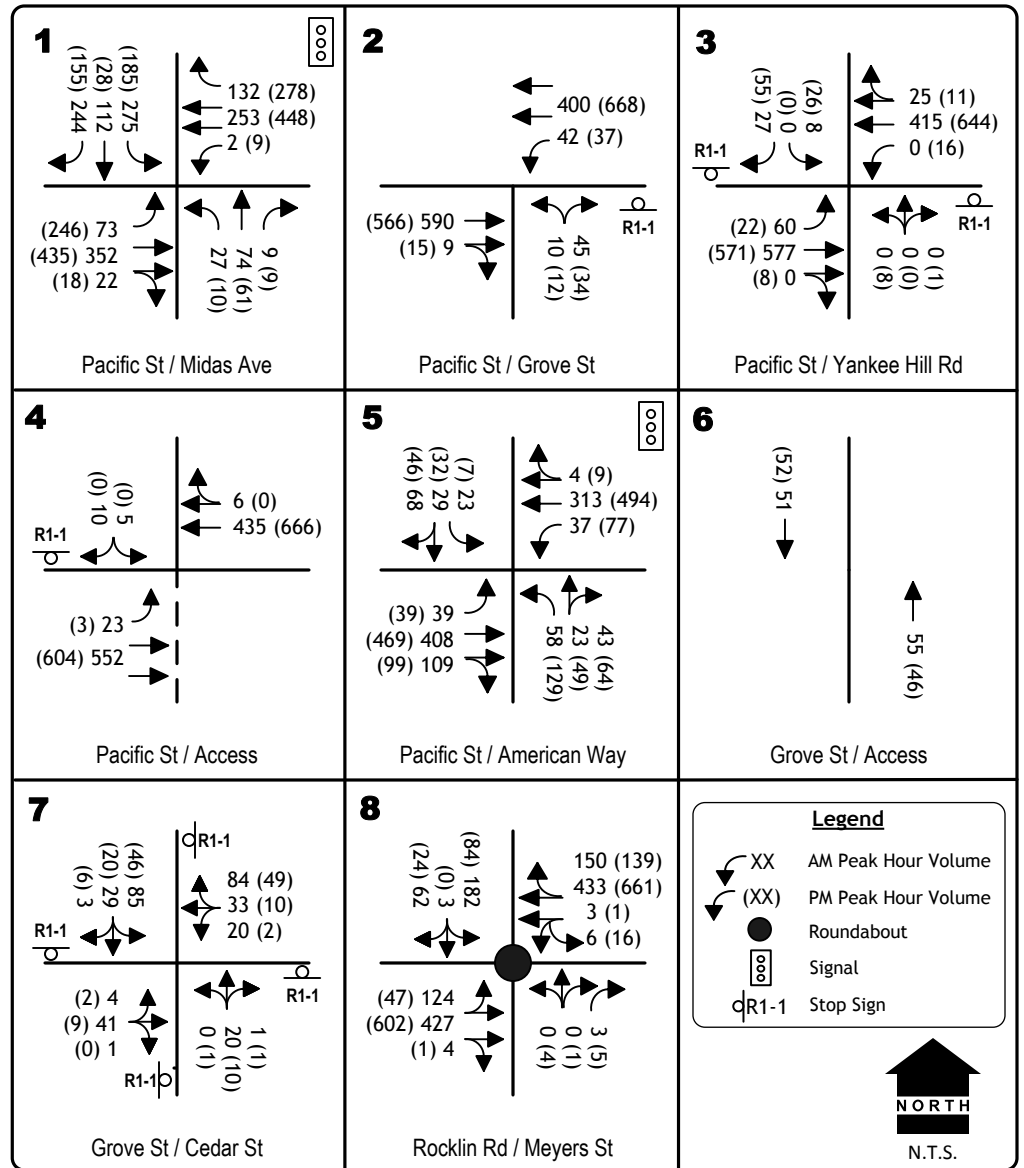
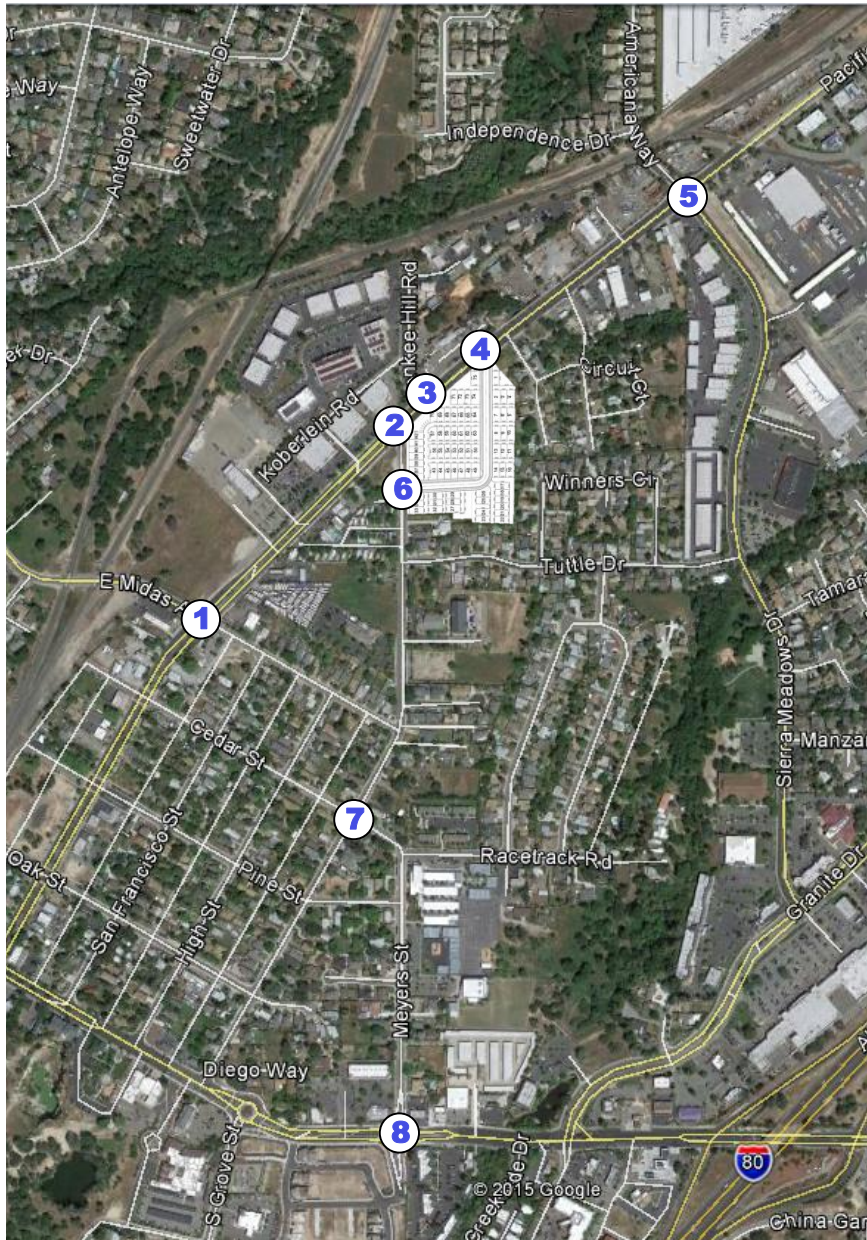
Standards of Significance. Local jurisdictions adopt Standards of Significance for determining environmental impacts relating to traffic, and in this study area the standards of the City of Rocklin apply. As indicated in the REGULATORY Setting section, the General Plan notes that Level of Service C is the minimum standard but that a reduced LOS may be accepted during peak periods under identified circumstances.

Based on the City's significance threshold, if an intersection is already operating at an unsatisfactory Level of Service, an increase of 5 percent (i.e., an addition of 0.05) to the v/c ratio at a signalized intersection would be considered a measureable worsening of intersection operations and therefore would constitute a significant project impact. If an un-signalized intersection is already operating at an unsatisfactory Level of Service (i.e., LOS D or worse), or is projected to operate at an unsatisfactory level without the project in the future, then the addition of more than 5% of the total traffic at an intersection would be a significant project impact.

Under City policy Level of Service is a significant criteria in the p.m. peak hour only, and conditions occurring during the a.m. peak hour are presented herein for informational purposes.

Existing Traffic Volumes / Levels of Service

Traffic Volume Counts. New a.m. and p.m. traffic counts were made for this study in May 2015 while Rocklin area schools were in session to supplement recent data collected for other traffic studies, including the City of Rocklin's pending Circulation Element Update. Figure 3 illustrates the intersection turning movement count data recorded for each count period. This figure also notes the existing geometric layout of each intersection and the location of traffic controls. This data has been used to determine the operating Level of Service at each intersection.



EXISTING TRAFFIC VOLUMES
AND LANE CONFIGURATIONS

Intersection Level of Service. Table 2 identifies current intersection Levels of Service at the two study locations. As shown, the overall Level of Service at each location meets the City’s LOS C goal.

**TABLE 2
EXISTING INTERSECTION LEVEL OF SERVICE**

Intersection	Control	Time Period					
		AM Peak Hour (7:00 to 9:00 a.m.)			PM Peak Hour (4:00 to 6:00 p.m.)		
		LOS	V / C	Ave Delay (sec/veh)	LOS	V / C	Ave Delay (sec/veh)
Pacific Street / Midas Avenue	Signal	A	0.378	-	A	0.494	-
Pacific Street / Grove Street (overall)	NB Stop	(A)	-	(0.9)	(A)	-	(0.7)
Northbound left+right turn		B		11.5	B		11.9
Pacific Street / Yankee Hill Road (overall)	SB Stop	(A)	-	(0.8)	(A)	-	(1.1)
SB left+right turn		B		10.7	C		16.4
Pacific Street / Train Depot Comm (overall)	SB Stop	(A)	-	(0.4)	(A)	-	(0.0)
SB left+right turn		B		11.8	A		(8.9)
Pacific Street / Americana Way / Sierra Meadows Drive	Signal	A	0.311	-	A	0.392	-
Grove Street / Cedar Street	All-Way Stop	A	-	7.8	A	-	7.2
Rocklin Road / Meyers Street	roundabout	A	-	7.3	A	-	7.4
Bold indicates conditions in excess of adopted minimum LOS standard							
Note: (Overall LOS) is the significance criteria at un-signalized intersections controlled by side street stop signs.							

Transit Facilities

Bus Service. Rocklin is generally served by four Placer County Transit (PCT) bus routes: the Auburn Light Rail Express route, the Lincoln to Galleria to Sierra College route, the Taylor Road shuttle, and the Placer Commuter Express. PCT is a fixed-route scheduled transit system operated by Placer County. PCT principally serves the I-80 corridor area between Alta and Roseville, the State Route 65 corridor area into Lincoln, and the Highway 49 corridor. Some of the routes are “deviated.” A deviated route means that the buses generally travel on a main route

(e.g., I-80) but can deviate from that route up to a certain distance (three-quarters of a mile in the case of PCT) to serve the specific needs of transit patrons.

There are currently 15 bus runs a day in each direction on PCT's Auburn-Light Rail Express route between Auburn and Sacramento Regional Transit's Watt/I-80 light rail station. This route provides service to Sierra College and the Roseville Galleria shopping center. It connects with Roseville Transit and RT buses at Auburn Boulevard near I-80. PCT's Lincoln to Sierra College route has 14 runs a day in each direction and passes the project site via Sierra Meadows Drive and Pacific Street. The Taylor Road shuttle is a deviated route that connects Auburn and Sierra College with seven runs a day in each direction, although service frequency on this route may be increasing. Placer Commuter Express is a commuter bus service traveling from Rocklin Road and Bush Street in central Rocklin to downtown Sacramento with three morning and three afternoon trips.

In addition to regular bus service, PCT also provides paratransit services for patrons with more challenging transportation needs. Such services include a dial-a-ride program in the Rocklin/Loomis area and in Granite Bay. Dial-a-ride also serves the portion of Roseville along the State Route 65 corridor adjacent to Rocklin.

Rail Service. The Capitol Corridor Intercity Train Service provides passenger rail service between Auburn and San Jose. There are three stations in Placer County: Auburn, Rocklin, and Roseville. There are currently nine runs per day in each direction, but only one run in each direction from Auburn to Oakland that serves Rocklin. There are four runs in each direction from Sacramento to Oakland and four runs in each direction from Sacramento to San Jose. Amtrak provides bus connections from Rocklin to the Sacramento Amtrak Station to connect to these additional Capitol Corridor runs. The Rocklin Multimodal Train Station is a permanent building for rail users located along the Union Pacific Railroad track at the Rocklin Road crossing.

Pedestrian Facilities

Sidewalks are available along streets throughout Rocklin, including those in the immediate vicinity of the proposed project. Sidewalks exist on both sides of Pacific Street, Americana Way, Del Rio Court and Delmar Avenue. Sidewalks exist on both sides of Pacific Street in the area west of Americana Way and on the south side of the street east of that intersection to Anthony Court. Sidewalks exist on the east side of Grove Street from Pacific Street to Rocklin Road and on the west side from E. Midas Avenue to Rocklin Road.

Bicycle Facilities

Bikeways are defined by the State of California Street and Highways Code as follows:

- Class I bikeways provide a completely separated right-of-way designated for the exclusive use of bicycles and pedestrians with cross-flows by motorists minimized (also called a bike path or trail).

- Class II bikeways provide a restricted right-of-way designated for exclusive or semi exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with vehicle parking and cross-flows by pedestrians and motorists permitted (also called a bike lane).
- Class III bikeways provide a right-of-way designated by signs or permanent markings and shared with pedestrians or motorists (also called a bike route).

The City of Rocklin's General Plan includes a Bikeway Diagram, which specifies a number of existing and proposed bike lanes and bike routes. Class II on-street bike lanes exist on a number of roadways in the area of the proposed project, including Pacific Street west of Americana Way and on Sierra Meadows Drive. Americana Way is a class III bikeway. Grove Street has Class II from E. Midas Avenue to Pacific Street, Cedar Street has Class II from Pacific Street to Meyers Street, and Meyers Street has Class II from Racetrack Road to Rocklin Road.

REGULATORY SETTING

City of Rocklin General Plan Circulation Element

The Circulation Element of the City of Rocklin's General Plan has, as its key goal, "To create a balanced and coordinated transportation system which utilizes all transportation modes efficiently and promotes sound land use. A complete list of the General Plan goals and policies can be found in the Circulation Element of the General Plan, and specific policies that are relevant to this project are noted below. Policy C-34 deals with the extension of Dominguez Avenue across Interstate 80, which has an effect on future traffic conditions in the study area.

Policies for Transportation System

C-1 Provide for a circulation pattern for regional, community, and neighborhood traffic needs.

C-2 Coordinate land use and transportation planning to support transit services, NEV facilities and non-motorized transportation.

Policies for City and Regional Street System

C-7 Monitor traffic on City streets to determine improvements needed to maintain an acceptable Level of Service.

C-8 Update the Capital Improvement Program (CIP) and traffic impact fees at least every five years, or as determined necessary with the approval of major new developments or major general plan amendments not considered in the adopted Capital Improvement Program.

C-9 Provide for an annual inflationary adjustment to the City's traffic impact fee to ensure that the fee is adequate for the future construction of roads.

C-10 A. Maintain a minimum traffic Level of Service "C" for all signalized intersections during the p.m. peak hour on an average weekday, except in the circumstances described in C-10.B and C. below.

B. Recognizing that some signalized intersections within the City serve and are impacted by development located in adjacent jurisdictions, and that these impacts are outside the control of the City, a development project which is determined to result in a Level of Service worse than "C" may be approved, if the approving body finds (1) the diminished level of service is an interim situation which will be alleviated by the implementation of planned improvements or (2) based on the specific circumstances described in Section C. below, there are no feasible street improvements that will improve the Level of Service to "C" or better as set forward in the Action Plan for the Circulation Element.

C. All development in another jurisdiction outside of Rocklin's control which creates traffic impacts in Rocklin should be required to construct all mitigation necessary in

order to maintain a LOS C in Rocklin unless the mitigation is determined to be infeasible by the Rocklin City Council. The standard for determining the feasibility of the mitigation would be whether or not the improvements create unusual economic, legal, social, technological, physical or other similar burdens and considerations.

C-11 Continue to participate with adjacent jurisdictions toward the completion and improvement of streets that extend into other communities through individual cooperation and/or use of the Placer County Transportation Planning Agency (PCTPA), joint powers authorities, and similar entities.

C-12 Encourage improvements to the existing Federal Interstate and State highway system, and the addition of new routes that would benefit the City of Rocklin.

C-13 Consider a variety of funding mechanisms, either independently or with other government agencies, to fund needed regional improvements.

C-14 Prohibit residential driveways along collector or arterial streets within newly developing residential areas. This policy does not apply to multi-family residential uses, or where past decisions have created existing lots with residential frontages on collector or arterial streets.

C-15 Reduce the potential for the use of local residential streets as shortcuts for through traffic on streets that are not improved to full City standards.

C-16 Provide each new elementary school site with a minimum of two full street frontages.

C-17 Keep truck traffic away from residential areas and streets not structurally designed for truck traffic by designating truck routes.

C-18 Designate truck routes that can be used for the hauling of hazardous materials.

C-19 Maintain existing streets in a safe condition and require that new streets be built to City standards.

C-20 Maintain street design standards for arterials, collectors and local streets.

C-21 Apply appropriate street design standards for private streets.

C-22 Interconnect traffic signals and/or consider the use of roundabouts where financially feasible and warranted to provide flexibility in controlling traffic movements at intersections.

C-23 Require street designs where appropriate to connect neighborhoods. These connections allow for vehicular and pedestrian use and for the efficient movement of service and emergency vehicles.

C-24 Require landscaping and tree planting along major new streets, properties abutting highways/freeways and along existing streets as appropriate.

C-25 Minimize the impact of road construction on the natural terrain and the character of existing neighborhoods.

C-26 Minimize the impact of road construction on creek corridors and related floodplain and riparian areas.

C-27 Design and phase construction of road improvements to minimize disruption to local residents and traffic, to the extent feasible.

C-28 Design new street alignments to minimize the number of creek crossings and adverse impacts to existing wildlife habitats.

C-29 Conduct a comprehensive inventory of the vegetative structure of riparian corridors prior to specific siting of new road alignments and creek crossings. This inventory will be used as a factor in the selection of an alignment which minimizes impacts to mature riparian vegetation, while still meeting the alignment or access and engineering requirements of siting the alignment or crossing.

C-30 Restore streambed and bank contours as near as possible to pre-project conditions following construction of creek crossings.

C-31 Design road improvements and new road alignments to avoid or minimize disturbance to identified cultural resources, where feasible.

Special Street Improvement Policies

C-32 Restrict vehicular access to emergency vehicles only from the Clover Valley Community Area onto the existing portions of Clover Valley Road and Rawhide Road within the Mission Hills-Clover Valley Community Area to minimize traffic volume increases on Midas Avenue.

C-33 Seek improvement to existing railroad crossings and construction of new grade separated crossings or undercrossings where appropriate and feasible.

C-34 Provide for the extension of Dominguez Road over I-80 as a future improvement to relieve the Sierra College Boulevard/I-80 and Rocklin Road/I-80 interchanges and create access to the southeast quadrant of the Sierra College Boulevard/I-80 interchange.

C-35 Increase traffic capacity at Rocklin Road and I-80, as traffic conditions require, by widening, overcrossings, or other design features, to allow for more efficient traffic movement and pedestrian and bike facilities.

C-36 Develop a new east/west road connection between State Route 65 and Sierra College Boulevard. The road shall traverse the Northwest Rocklin area, connect to Park Drive in the northern portion of Whitney Oaks, and extend from Park Drive through Clover Valley to intersect with Sierra College Boulevard.

C-37 Develop a new north/south road connection between Sunset Boulevard and the new east/west road connection described in Policy C-36.

C-38 Provide primary vehicular access to future development within the Parcel K planning area of the North West Rocklin General Development Plan by at least two points of access. The access points shall consist of one street that intersects with Wyckford Boulevard and another that connects to the extension of Kali Place. These facilities shall be open non-gated public streets.

C-39 Prohibit extension of Wyckford Boulevard north of Parcel K into the Whitney Ranch / Sunset Ranchos Planning Area.

C-40 Provide for the connection of Woodside Drive and Ruhkala Road in the Civic Center area.

C-41 Create a Civic Center street/drive network south of Rocklin Road that provides access to Pacific Street and South Grove Street.

C-42 Improve and extend Railroad Avenue between Farron Street and Midas Avenue to provide an alternative north/south route to Pacific Street.

C-43 Minimize the need to sever existing developed parcels for new roads designed to serve the Southeast Rocklin area.

C-44 Prohibit an easterly extension of Greenbrae Road that would connect with Southside Ranch Road.

C-45 Extend Monument Springs Drive southerly across Secret Ravine Creek to developing areas south of Greenbrae Road.

C-46 Sever Aguilar Road at a time specified by the City of Rocklin. The severing shall occur at or near the Aguilar tributary crossing to preclude through traffic.

C-47 Design road improvements and new alignments to avoid or minimize encroachments into existing yards on Aguilar Road, Greenbrae Road and Foothills Road by minimizing the use of standard curb, gutter and sidewalks, where appropriate.

C-48 Acknowledge that new taxes, fees, or assessments to finance the severing of Aguilar Road and the Monument Springs Bridge/extension identified in the policies above shall not be levied upon fully developed parcels that cannot be further subdivided.

C-49 Encourage use of a free span bridge design over Secret Ravine Creek as the environmentally preferred option whenever feasible, to minimize the fragmenting effects of any bridge crossing on riparian habitat. Pre-cast concrete bridge joists should be used, whenever possible, to avoid prolonged construction and reduce construction disturbances in riparian corridors.

City of Rocklin Capital Improvement Program

The City's Capital Improvement Program (CIP) identifies roadway and intersection improvements for City-based monitoring of traffic conditions in Rocklin and maintenance of the City's existing LOS standard. The current CIP was updated in 2007 and has a horizon year of 2025.

PROJECT IMPACTS

The proposed project is a 64 unit single family residential subdivision. The proposed use would be consistent with a new MDR designation, and would replace uses under the current Mixed Use and High Density Residential designation. The property was designated for Retail Commercial uses at the time that the City’s General Plan EIR analysis was conducted.

Project Characteristics

The characteristics of the project are described in terms of its *Trip Generation* and its *Trip Distribution*.

Trip Generation. The amount of new traffic associated with development projects is typically forecast using information developed from recognized national sources. The Institute of Transportation Engineers (ITE) publication *Trip Generation, 9th Edition* is a source recognized by the City of Rocklin and Caltrans, and applicable average trip generation rates for residential development are presented in Table 3. For the purposes of comparison, Table 3 also introduces the trip generation rates that are applicable to the Retail Commercial uses that could have been developed on the site under the land use designation that existed at the time of the City’s General Plan EIR analysis.

**TABLE 3
TRIP GENERATION RATES**

Description	ITE Code	Unit	Trips per Unit						
			Daily	AM Peak Hour			PM Peak Hour		
				in	out	Total	In	Out	Total
<i>Prior Retail Commercial Designations</i>									
Retail	820	ksf	35.0	62%	38%	0.96	48%	52%	2.60
<i>Proposed Project</i>									
Single Family Residence	210	Dwelling	9.52	25%	75%	0.75	63%	37%	1.00
Daily rate from Rocklin Traffic Model. Peak hour rates are average for Shopping Center less 30% pass-by in PM peak hour									

Trip generation rates are available for conventional single family residential development. Data gathered at single family residential projects throughout the United States suggests that during peak commute hours each residential unit could generate 0.75 to 1.00 vehicle trips. As shown, the proposed project could generate 609 daily trip ends (½ inbound and ½ outbound), with 48 trips generated in the a.m. peak hour and 64 trips occurring in the p.m. peak hour.

**TABLE 4
TRIP GENERATION COMPARISON**

Description	Quantity	Trips						
		Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
<i>Prior Retail Commercial Designation</i>								
Retail	68 ksf	2,380	40	25	65	85	92	177
<i>Proposed Project</i>								
Single Family Res	64 dwellings	609	12	36	48	41	23	64
Net Difference		<1,771>	<28>	11	<17>	<44>	<69>	<113>
<ul style="list-style-type: none"> Assumes 0.25 FAR on the project site 								

The previous General Plan designation could result in retail uses that would generate 2,380 daily trips, with 65 trips expected during the a.m. peak hour and 177 trips generated in the p.m. peak hour.

Thus, development of the project as proposed would reduce the site’s trip generation by 1,771 daily trips, with 17 less trips in the a.m. peak hour and 113 fewer trips during the p.m. peak hour.

Vehicle Trip Distribution. Having determined the number of vehicle trips that are expected to be generated by the project, it is necessary to identify the directional distribution of project-generated traffic. For residences, the general location of employment, shopping, social services and entertainment are the primary indicators of the regional trip distribution. These factors affect the distribution of trips generated by existing residential development in this area of Rocklin, and current travel patterns can be used to identify the project’s trip distribution. In addition, the City of Rocklin regional travel demand forecasting model’s “select zone” utility can be employed to identify the origins-destinations of trips generated by residences in the study area.

Table 5 identifies the local area assumptions made for this study. As indicated, the distribution pattern will vary slightly over the course of the day, primarily due to school traffic in the a.m. peak hour.

**TABLE 5
REGIONAL TRIP DISTRIBUTION ASSUMPTIONS**

Direction	Route	Share of Total		
		Daily	AM Peak Hour	PM Peak Hour
North	Midas Avenue	12%	20%	12%
West	Pacific Street beyond Midas Avenue	30%	27%	30%
East	Pacific Street beyond Sierra Meadows Drive	31%	21%	31%
	Sierra Meadows-Tuttle Drive	4%	0%	4%
South	Grove Street	4%	5%	4%
	Meyers Street	19%	27%	19%
Total		100%	100%	100%

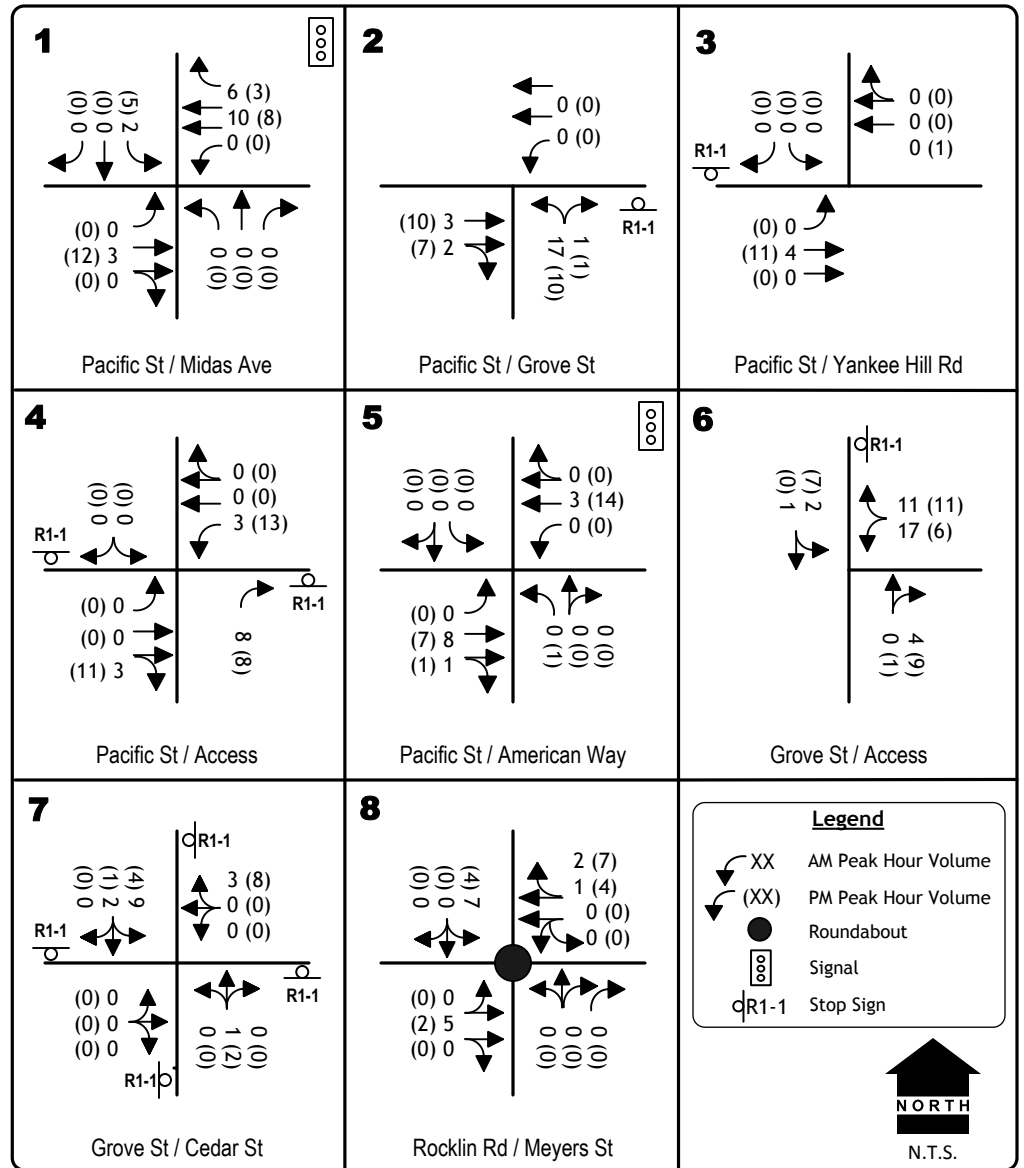
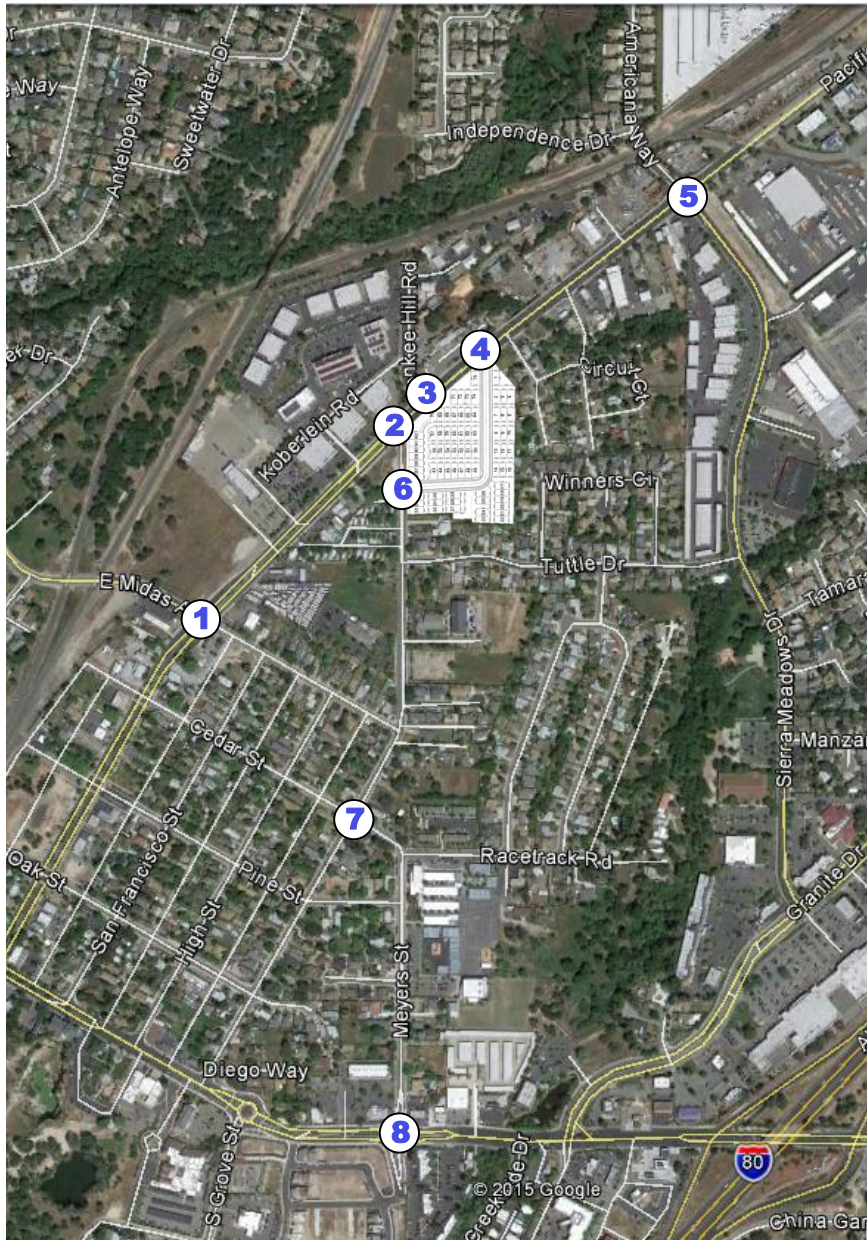
Trip Assignment. Project trips were assigned to the local street system based on the regional distribution assumptions identified above. Figure 4 identifies the assignment of project trips through the study intersections and at the project’s access intersections. As shown, the project’s trips will be split equally between the two access points.

Existing Plus Project Traffic Conditions and Levels of Service

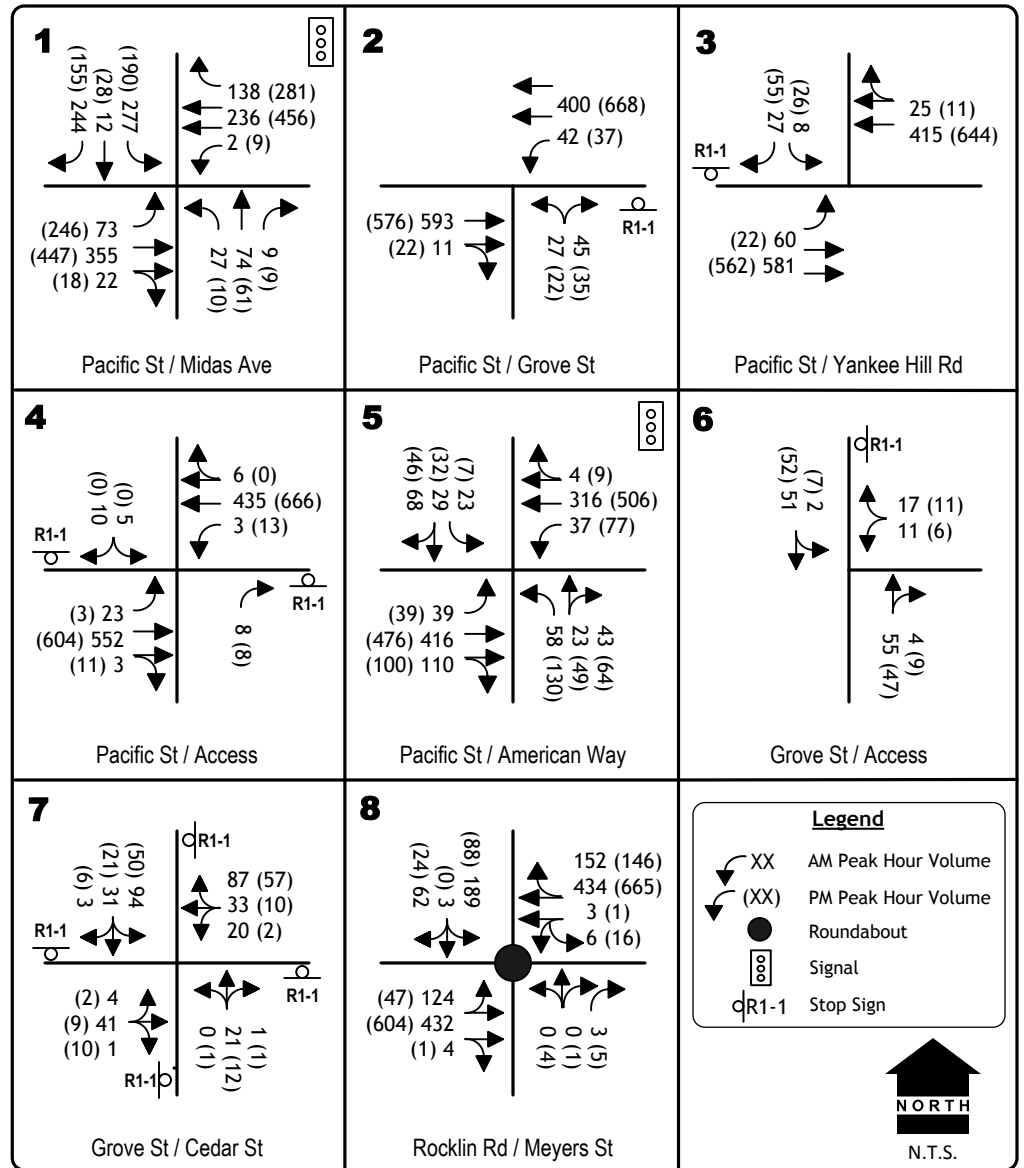
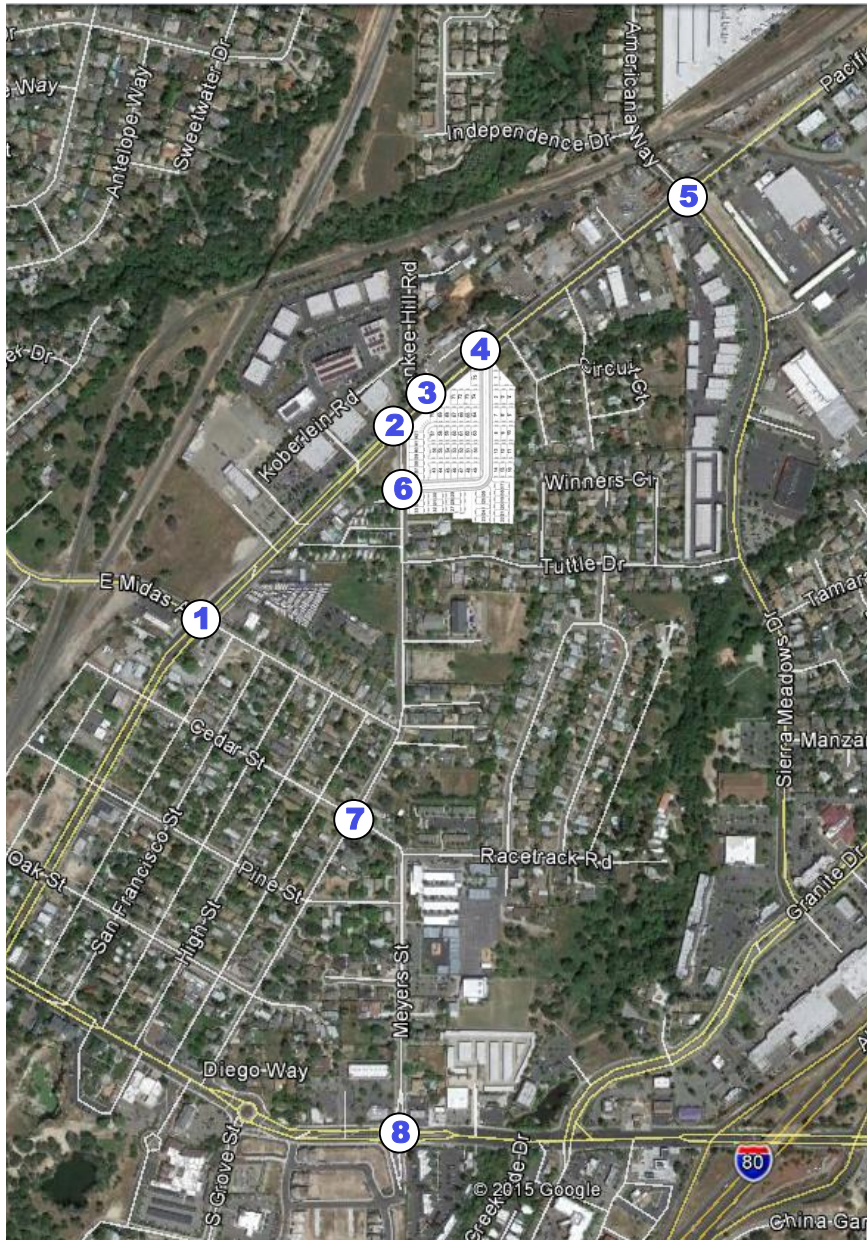
Figure 5 superimposes project trips onto the current background traffic volumes to create the “Existing plus Project” condition. Subsequent tables compare the “Existing” and “Existing plus Project” Levels of Service.

Project Traffic Impacts to Level of Service at Intersections. As shown in Table 6, because the amount of traffic associated with the project is relatively small, the addition of project traffic would not appreciably increase the length of delays occurring at study intersections, and the project does not result in any change to the peak hour Level of Service at any location. Levels of Service at each intersection will remain LOS A, which is within the adopted minimum standard (i.e., LOS C or better). Thus the project’s impact isn’t significant measured in terms of intersection Level of Service.

At the Pacific Street / Yankee Hill Road intersection development of the project will eliminate traffic using the existing driveway opposite Yankee Hill Road. As noted in Table 6 eliminating this traffic will improve the operation of the intersection, and the delays experienced by traffic on Yankee Hill Road will be less with the project than without it. This effect also occurs under EPAP and long term cumulative conditions.



PROJECT ONLY TRAFFIC VOLUMES
AND LANE CONFIGURATIONS



**EXISTING PLUS PROJECT
TRAFFIC VOLUMES AND LANE CONFIGURATIONS**

**TABLE 6
EXISTING PLUS PROJECT PEAK HOUR INTERSECTION LEVELS OF SERVICE**

Intersection	Control	Time Period											
		AM Peak Hour (7:00 to 9:00 a.m.)						PM Peak Hour (4:00 to 6:00 p.m.)					
		Existing			Existing Plus Project			Existing			Existing Plus Project		
		LOS	V / C	Average Delay (sec/veh)	LOS	V / C	Average Delay (sec/veh)	LOS	V / C	Average Delay (sec/veh)	LOS	V / C	Average Delay (sec/veh)
Pacific Street / Midas Avenue	Signal	A	0.378	-	A	0.383	-	A	0.494	-	A	0.500	-
Pacific Street / Grove Street (overall)	NB Stop	(A)	-	(0.9)	(A)	-	(1.2)	(A)	-	(0.7)	(A)	-	(0.8)
Northbound left+right turn		B		11.5	B		12.7	B		11.9	B		12.9
Pacific Street / Yankee Hill Road (overall)	SB Stop	(A)	-	(0.8)	(A)	-	(0.8)	(A)	-	(1.1)	(A)	-	(0.9)
SB left+right turn		B		10.7	B		10.7	C		16.4	C		12.4
Pacific Street / Train Depot Comm (overall)	SB/NB stop	(A)		(0.4)	(A)		(0.5)	(A)		(0.0)	(A)		(0.2)
SB left+right turn		B	-	11.8	B	-	12.5	A	-	8.9	A	-	8.9
NB right turn		-		-		B		10.1	-		B		10.3
Pacific Street / Americana Way / Sierra Meadows Drive	Signal	A	0.311	-	A	0.314	-	A	0.392	-	A	0.395	-
Grove Street / Access (overall)	WB Stop	-	-	-	(A)	-	(1.9)	-	-	-	(A)	-	(1.5)
WB left+right turn					A		8.9				A		8.8
Grove Street / Cedar Street	All-Way Stop	A	-	7.8	A	-	7.9	A	-	7.2	A	-	7.3
Rocklin Road / Meyers Street	roundabout	A	-	7.3	A	-	7.7	A	-	7.4	A	-	7.4

Bold indicates conditions in excess of adopted minimum LOS standard. Note: Only PM Peak Hour is significant. (Overall LOS) is the significance criteria at unsignalized intersections controlled by side street stop signs.

Project Impacts to Alternative Transportation Modes

Development of the project may incrementally contribute to the demand for facilities to serve pedestrians, cyclists and transit riders in this area of Rocklin.

Pedestrian Impacts. Some of the project's residents may elect to walk to and from the site to attractions within a reasonable distance of the site, including commercial areas along Pacific Street and Sierra Meadows Drive. As noted earlier, sidewalks already exist on Grove Street near the project and along the south side of Pacific Street from Anthony Court to west of Sierra Meadows Drive. The project will make standard frontage improvements along Grove Street, and the new streets constructed in the subdivision will have sidewalk on one side. Because sidewalks already exist to connect the project with probable attractions and will be provided within the project, the project's impact to pedestrian travel is not significant and no additional improvements are required.

Bicycle Impacts. As with any residential development, the project may generate bicyclist who elect to use that transportation mode to reach area schools and retail or social destinations. As noted earlier, class II bike lanes already exist on Pacific Street west of Americana Way and on Grove Street south of the project.

While cycling may be a choice of some residents, due to the limited size of the project (i.e., 75 dwelling units) the number of cyclists associated with this project is not likely to create an appreciable safety impact on the streets that provide access to the project. Those residents who may choose to ride to the site would be expected to make use of designated bike lanes and would safely share the right of way with other vehicular traffic on designated bike routes. Because adequate facilities are available, the project's impact to bicycle circulation is not significant and no additional improvements are required.

Transit Impacts. Some project residents may take advantage of the regular Placer Transit bus service and Amtrak Capital Corridor trains that are already available in Rocklin. As noted earlier, PCT's Lincoln to Sierra College route has 14 runs a day in each direction and passes near the project site via Sierra Meadows Drive and Pacific Street. Because the number of additional riders created by this project is not appreciable, the project's impact is not significant and no additional transit improvements are needed.

Safety Issues

Project impacts relating to safety issues relating to vehicular traffic were assessed.

Left Turn Lanes on Pacific Street. The existing striping configuration along Pacific Street combines dedicated left turn pockets and continuous Two Way Left Turn (TWLT) lanes. The distance between existing intersections is relatively short, particularly in the area between Grove Street and Yankee Hill Road. In that area westbound and eastbound left turns can sometimes occupy the same space as they decelerate.

The project will add traffic to Pacific Street in the area of the back-to-back Grove Street / Yankee Hill Road intersections. However, because the project proposes inbound westbound left turns at its Pacific Street access and does not allow outbound left turns onto westbound Pacific Street, it will not increase the number of conflicting eastbound-westbound left turns in the area between the two intersections.

Creating a westbound left turn lane for the project access will require modifying the existing raised landscaped median on Pacific Street. The median east of the Train Depot Commercial Center's opening is about 110 feet long. The practical design solution will be to eliminate that median altogether and to stripe a short left turn into the project that then extends to the existing TWLT lane further east. This treatment will perpetuate access to Jamerson Drive, a local street located about 100 feet east of the project.

BASELINE (EXISTING PLUS APPROVED PROJECTS) IMPACTS

The “Baseline” traffic impacts of the Quarry Row Subdivision have been considered within the context of traffic conditions in this area of Rocklin assuming occupancy of other approved but as yet unconstructed projects under an “Existing Plus Approved Projects” (EPAP) condition.

Existing Plus Approved Projects (EPAP) Conditions

Land Use Assumptions. The City of Rocklin maintains a list of development proposals and tracks their completion status. This list of development proposals is updated periodically by the City of Rocklin to reflect both ongoing development activity as well as proposed changes to previously approved projects. Projects are periodically removed from the City’s list if development proposals where approved entitlements have lapsed or have been withdrawn.

For purposes of this analysis and to ensure that the baseline for traffic analysis purposes includes existing and approved development at the study date, in February 2014 City of Rocklin staff evaluated recent development history in the project area to identify any additional approved development that should be assumed to be completed, to quantify the level of development that has occurred where projects have proceeded in phases (such as the Rocklin Crossings and Rocklin Commons projects) and to identify those previously approved projects that have lapsed or have been withdrawn by the project proponent.

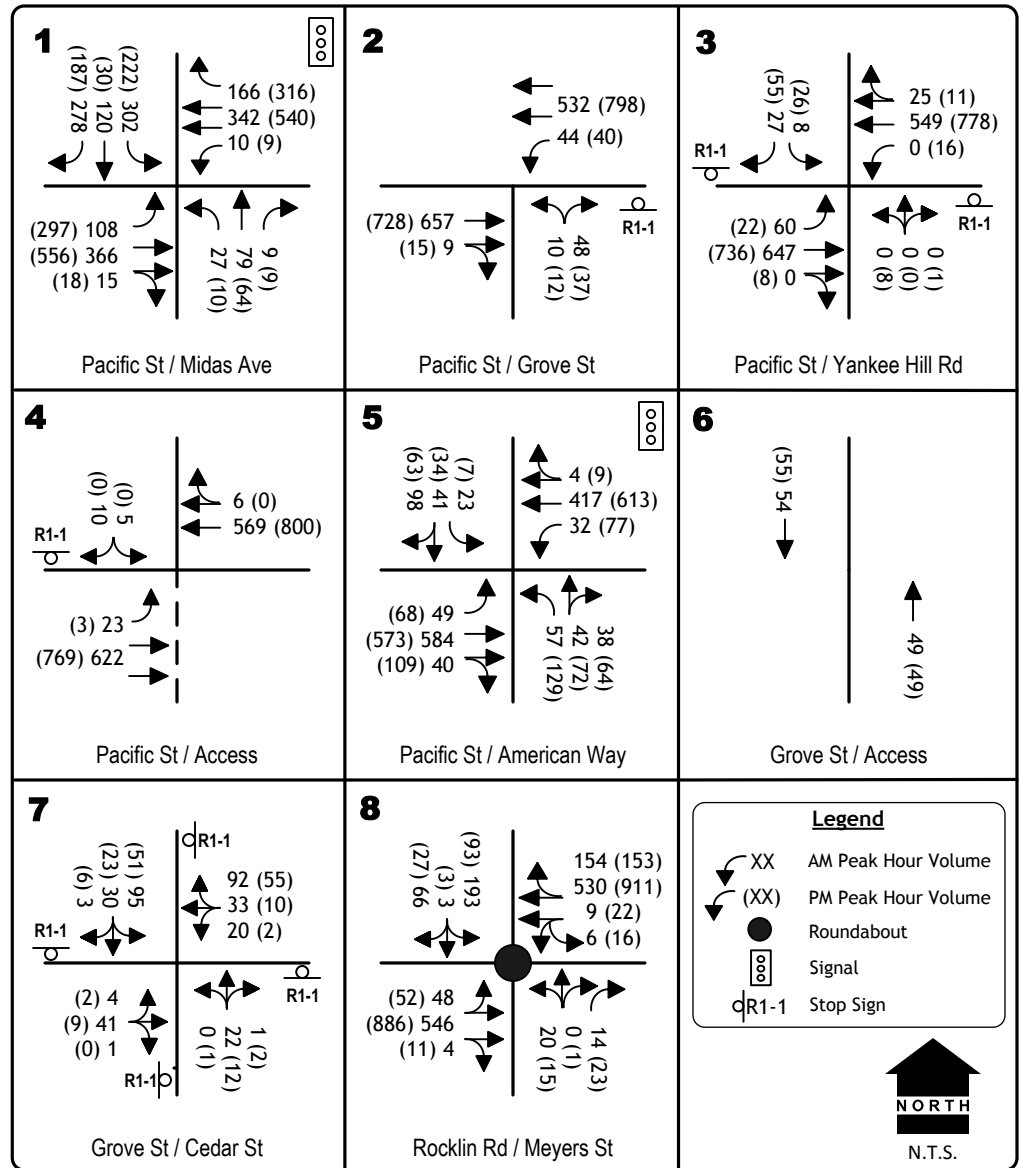
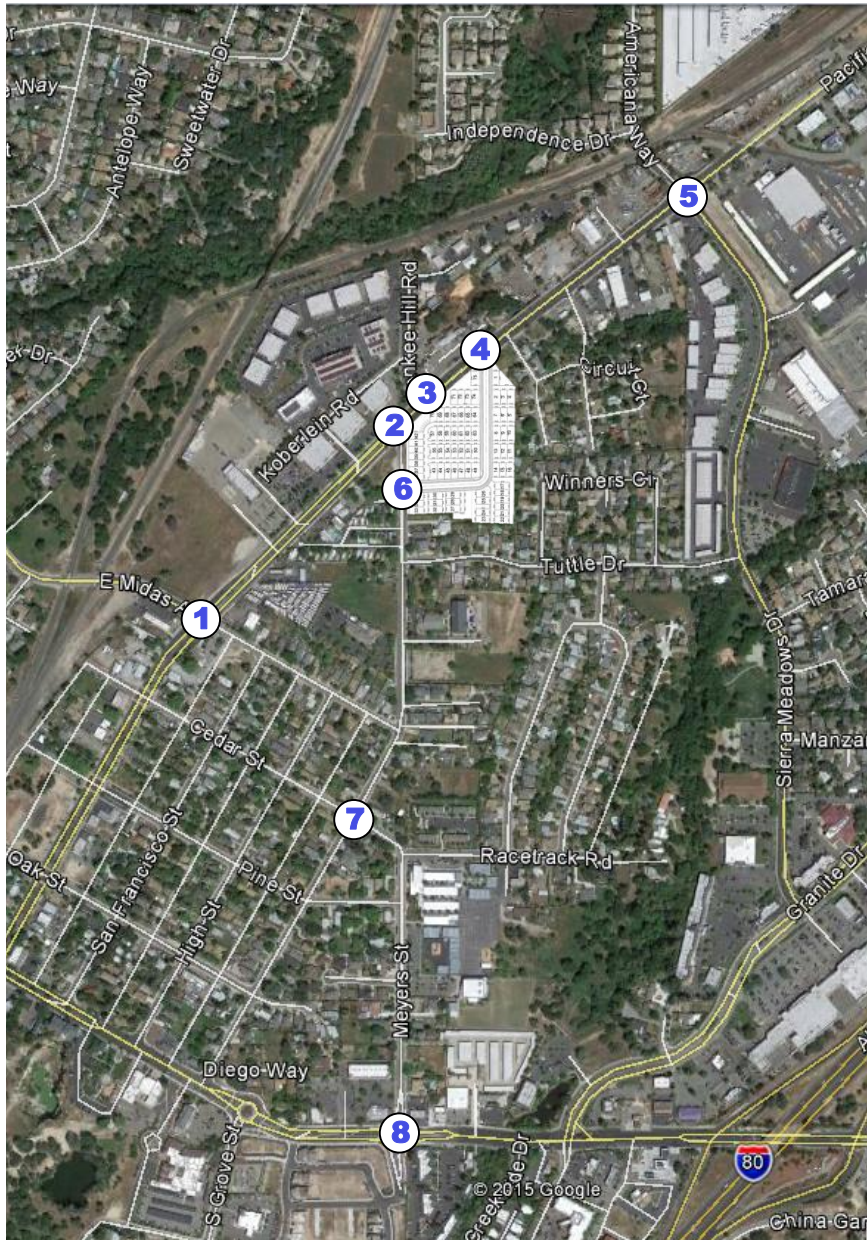
Table 7 presents the list of approved but not constructed projects in the vicinity of the eastern portion of the project, as well as their estimated a.m. and p.m. peak hour trip generation. As shown, the number of new a.m. peak hour trips anticipated from approved / pending development totals 1,714 while 2,699 trips are forecast in the p.m. peak hour. The p.m. forecast is greater since many of the identified projects are retail uses that are often closed during the a.m. peak hour.

**TABLE 7
APPROVED / PENDING BUT UNBUILT PROJECTS AND THEIR TRIP GENERATION**

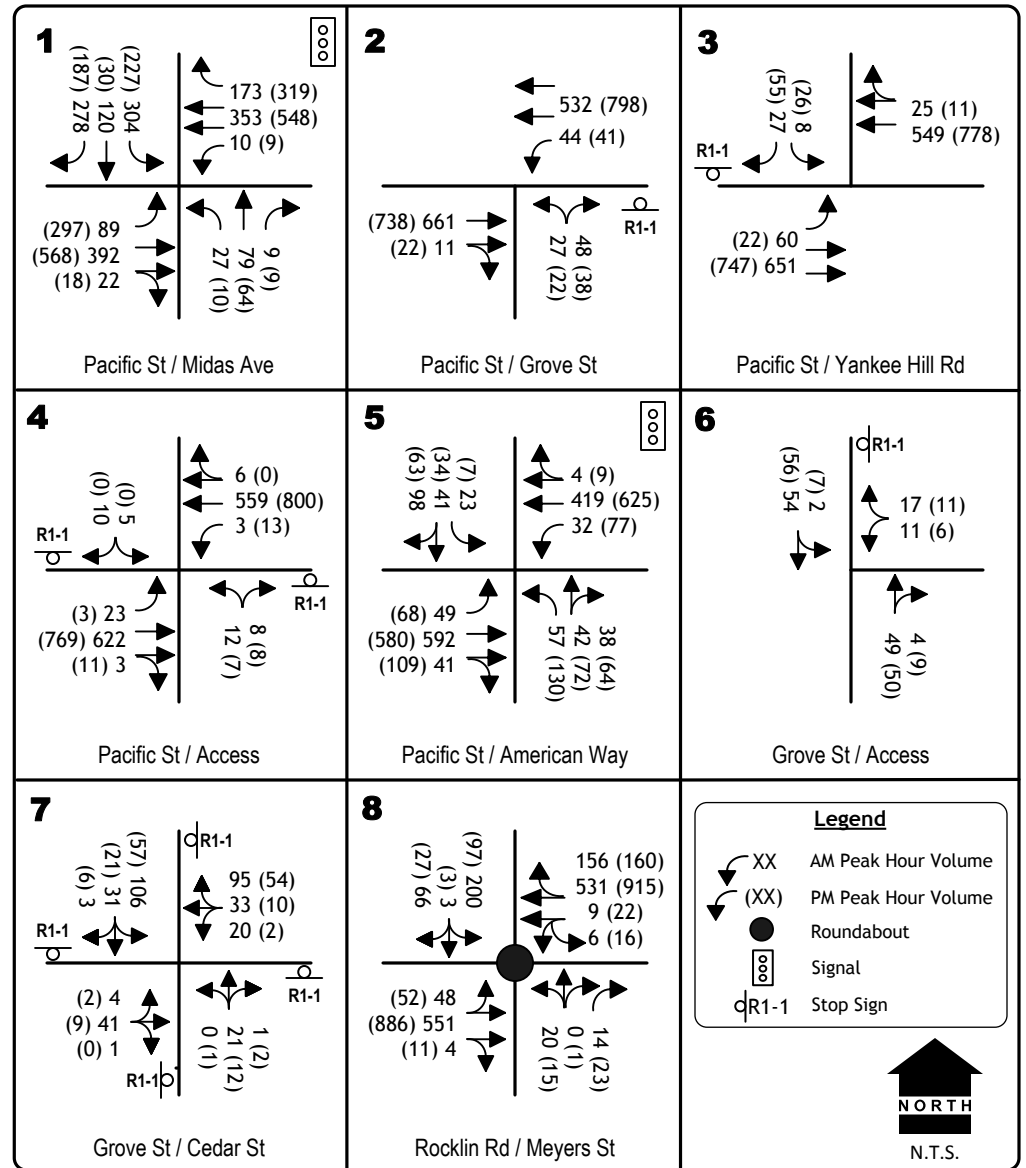
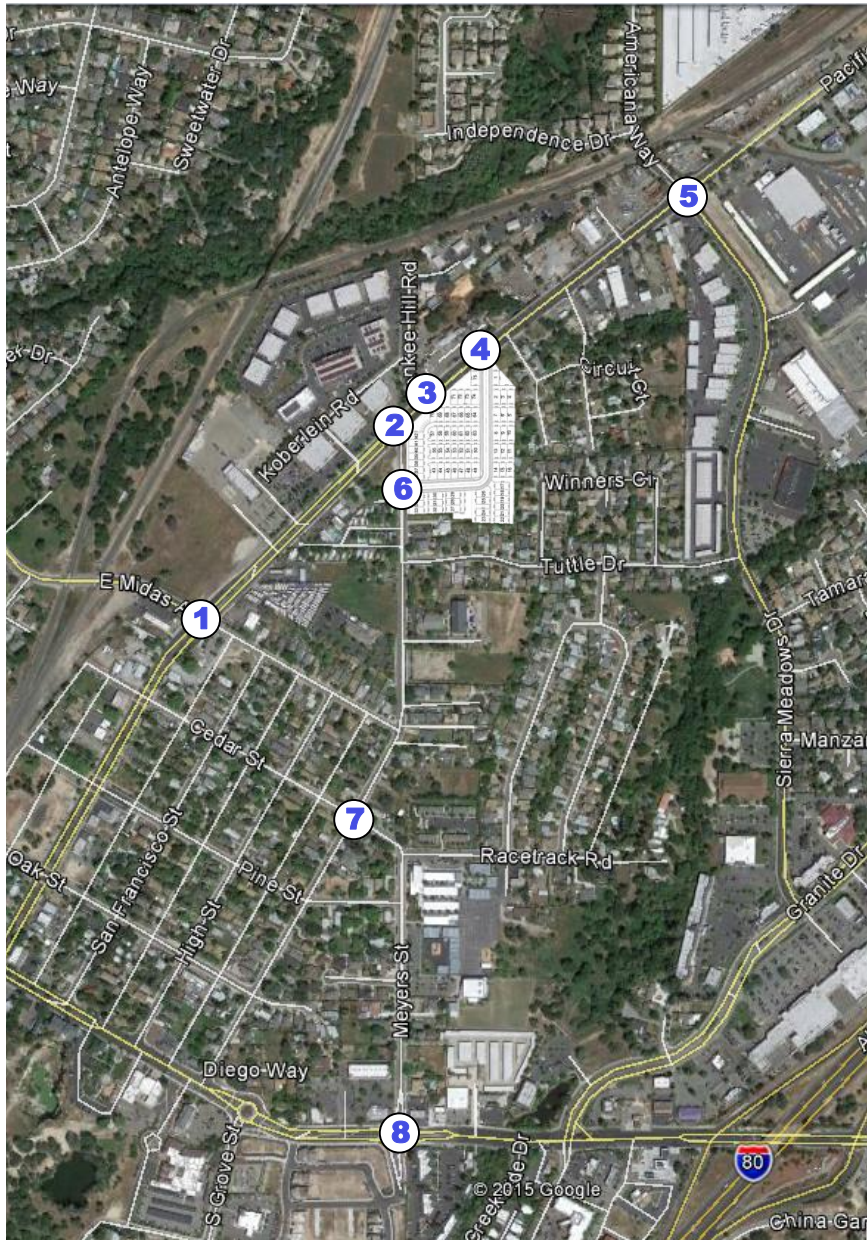
Description	Land Use	Size		AM Peak Hour			PM Peak Hour Trips		
		Quantity	Unit	In	Out	Total	In	Out	Total
Avalon Subdivision ⁽¹⁾	Single Family Housing	79	du	15	44	59	50	29	79
Brighton Subdivision ⁽¹⁾	Single Family Housing	75	du	14	42	56	47	28	75
Garnet Creek	Single Family Housing & Multiple Family Housing	340	du	41	152	193	155	86	241
Granite Dominguez Subdivision	Single Family Housing	71	du	13	40	53	45	26	71
Los Cerros Subdivision	Single Family Housing	115	du	22	64	86	74	41	115
Grove Street Subdivision	Single Family Housing	7	du	1	4	5	4	3	7
Croftwood, Unit 1 / Rocklin 60	Single Family Housing	156 ⁽⁵⁾	du	30	87	117	101	59	160
Granite Terrace	Single Family	42	du	8	24	32	27	15	42
ZL Rocklin	Retail / Multi-Family	140	du	24	62	86	75	55	130
Granite Marketplace (Lowes)	Home Improvement	138	ksf	105	80	185	115	130	245
Rocklin Crossings ⁽²⁾	Home Improvement, Discount Superstore	97.8	ksf	46	29	75	175	182	357
Rocklin Commons ⁽³⁾	Discount Superstore	49.3	ksf	24	15	39	82	88	170
The Center at Secret Ravine ⁽⁴⁾	Retail Commercial	18.6	ksf	12	6	18	22	28	50
Parklands Subdivision ⁽¹⁾	Single Family Housing	142	du	27	80	107	94	63	157
Clover Valley	Residential	558	du	106	313	419	377	186	563
Winding Lane Estates	Single Family Residential	27	du	5	15	20	18	9	27
Rocklin Audi	Auto Dealership	34	ksf	49	16	65	35	53	89
Sierra Gateway Apartments	Multiple Family Residential	195	du	39	60	99	78	42	121
Total				581	1133	1714	1574	1123	2699
⁽¹⁾ Under Construction and partially occupied ⁽²⁾ 543,500 sf approved, in April 2016 a total of 97,800 sf remained to be occupied ⁽³⁾ 410,942 sf approved, in April 2016 a total of 47,300 sf remained to be occupied ⁽⁴⁾ 26,600 sf approved, in April 2016 4,000 sf occupied (Shell Station) ⁽⁵⁾ 156 du vacant or under construction in November 2015									

Background Traffic Volume Forecasts. Not every approved project will add traffic to the study intersections, but the volume of traffic on Rocklin Road and on Pacific Street will increase. Figure 6 presents Baseline (EPAP) traffic volumes in the study area without the proposed project. Figure 7 presents Baseline Plus Project volumes.

EPAP Intersection Levels of Service. Table 8 compares Existing Plus Approved Projects Levels of Service with and without the Quarry Row Subdivision. As shown, the City of Rocklin's minimum LOS C standard will be maintained at study intersections. Thus, the project's traffic impacts are not significant based on operating Level of Service.



EXISTING PLUS APPROVED PROJECTS (EPAP)
TRAFFIC VOLUMES AND LANE CONFIGURATIONS



**EPAP PLUS PROJECT
TRAFFIC VOLUMES AND LANE CONFIGURATIONS**

**TABLE 8
EXISTING PLUS APPROVED PROJECTS PLUS PROJECT PEAK HOUR INTERSECTION LEVELS OF SERVICE**

Intersection	Control	Time Period											
		AM Peak Hour (7:00 to 9:00 a.m.)						PM Peak Hour (4:00 to 6:00 p.m.)					
		Existing Plus Approved Projects			EPAP Plus Project			Existing Plus Approved Projects			EPAP Plus Project		
		LOS	V / C	Average Delay (sec/veh)	LOS	V / C	Average Delay (sec/veh)	LOS	V / C	Average Delay (sec/veh)	LOS	V / C	Average Delay (sec/veh)
Pacific Street / Midas Avenue	Signal	A	0.442	-	A	0.447	-	A	0.588		A	0.594	-
Pacific Street / Grove Street (overall)	NB Stop	(A)	-	(0.8)	(A)	-	(1.1)	(A)	-	(0.6)	(A)	-	(0.8)
Northbound left+right turn		B		12.0	B		13.5	B		13.1	B		14.5
Pacific Street / Yankee Hill Road (overall)	SB Stop	(A)	-	(0.7)	(A)	-	(0.7)	(A)	-	(1.0)	(A)	-	(0.8)
SB left+right turn		B		11.4	B		11.4	C		19.6	C		13.7
Pacific Street / Train Depot Comm (overall)	NB/SB stop	(A)	-	(0.3)	(A)	-	(0.7)	(A)	-	(0.0)	(A)	-	(0.1)
SB left+right turn		B		13.2	B		14.4	-		9.4	A		9.4
NB right turn		-		-		C		10.3	-		-	C	
Pacific Street / Americana Way / Sierra Meadows Drive	Signal	A	0.372		A	0.376		A	0.444		A	0.447	-
Grove Street / Access (overall)	WB Stop	-	-	-	(A)	-	(1.9)	-	-	-	(A)	-	(1.5)
WB left+right turn		A			A		8.9				A		8.8
Grove Street / Cedar Street	All-Way Stop	A	-	7.9	A	-	8.0	A	-	7.3	A	-	7.3
Rocklin Road / Meyers Street	Roundabout	A	-	7.7	A	-	7.8	B	-	10.0	B	-	10.1

Bold indicates conditions in excess of adopted minimum LOS standard. Note: Only PM Peak Hour is significant. (Overall LOS) is the significance criteria at unsignalized intersections controlled by side street stop signs.

LONG TERM CUMULATIVE CONDITIONS

This report section addresses long term traffic conditions based on the City of Rocklin's General Plan traffic model.

Background Information

Basis for Long Term Projections. The travel demand forecasting model used for the City of Rocklin General Plan Update EIR is the basis for the long term cumulative traffic volume forecasts used for this analysis, and the technical approach employed to use model results to create intersection turning movements for study area intersections mimics the approach used for the GPU EIR.

The traffic model was run for a cumulative scenario that assumes the project as proposed. The project's residential land use was substituted for the retail use assumed in the traffic model, and new traffic model runs were made. The new a.m. and p.m. forecasts were compared to the model's baseline year forecasts, and the net difference in volume was determined. Existing and adjusted cumulative traffic volumes were compared to identify equivalent growth rates for intersection approaches for use in creating intersection turning movement volumes. To create peak hour intersection turning movements, the segment growth factors were applied to observed peak hour volumes and the results were balanced to best approximate conditions on each leg using the methodologies contained in the Transportation Research Board's (TRB's) NCHRP Report 255, *Highway Traffic Data for Urbanized Area Project Planning and Design*. This approach reflects the fact that the development of various land uses may affect current travel patterns while adding new traffic, while new roadways may provide alternative routes for existing traffic.

Land Use Assumptions. The General Plan travel demand forecasting model acknowledged development on the project site in a large traffic analysis zone (TAZ). Future retail uses is the primary land use change included in this TAZ. At a standard floor area ratio, the site could accommodate roughly 68,000 sf of retail space. This use was replaced by 64 dwellings. For this analysis, a "No Project" condition was created by subtracting the project trip assignment previously identified.

Circulation System Assumptions. The traffic volume forecasts made of this analysis continue to include those city-wide circulation system improvements incorporated into the General Plan traffic model. The cumulative analysis assumes the improvements to the Pacific Street identified in the General Plan EIR (i.e., four lanes on Pacific Street from Dominguez Road to the Loomis Town limits.)

Cumulative Traffic Volumes and Levels of Service

Traffic Volume Forecasts. Figure 8 presents the background Cumulative No Project volumes, and Figure 9 presents the Cumulative Plus Project forecasts.

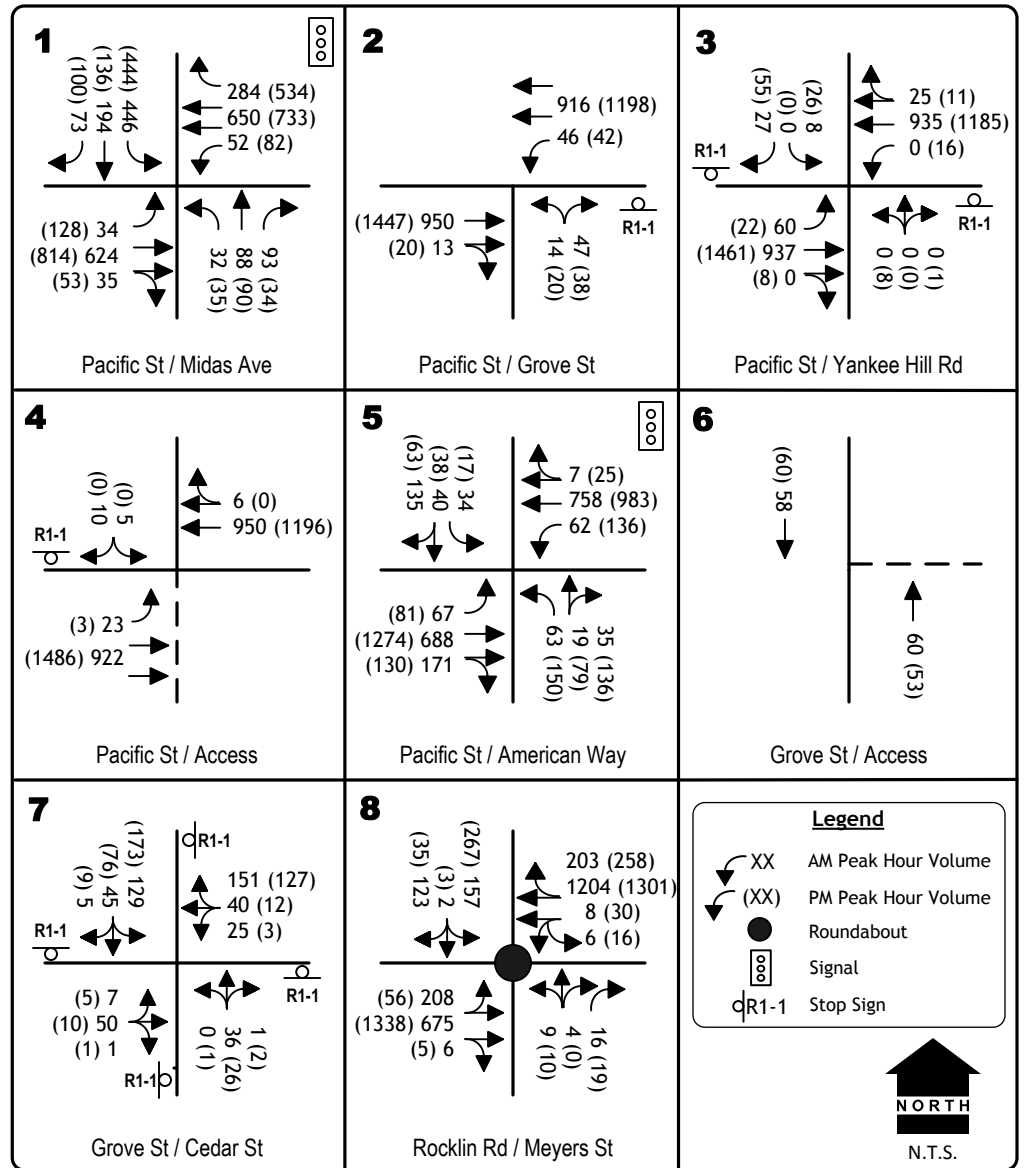
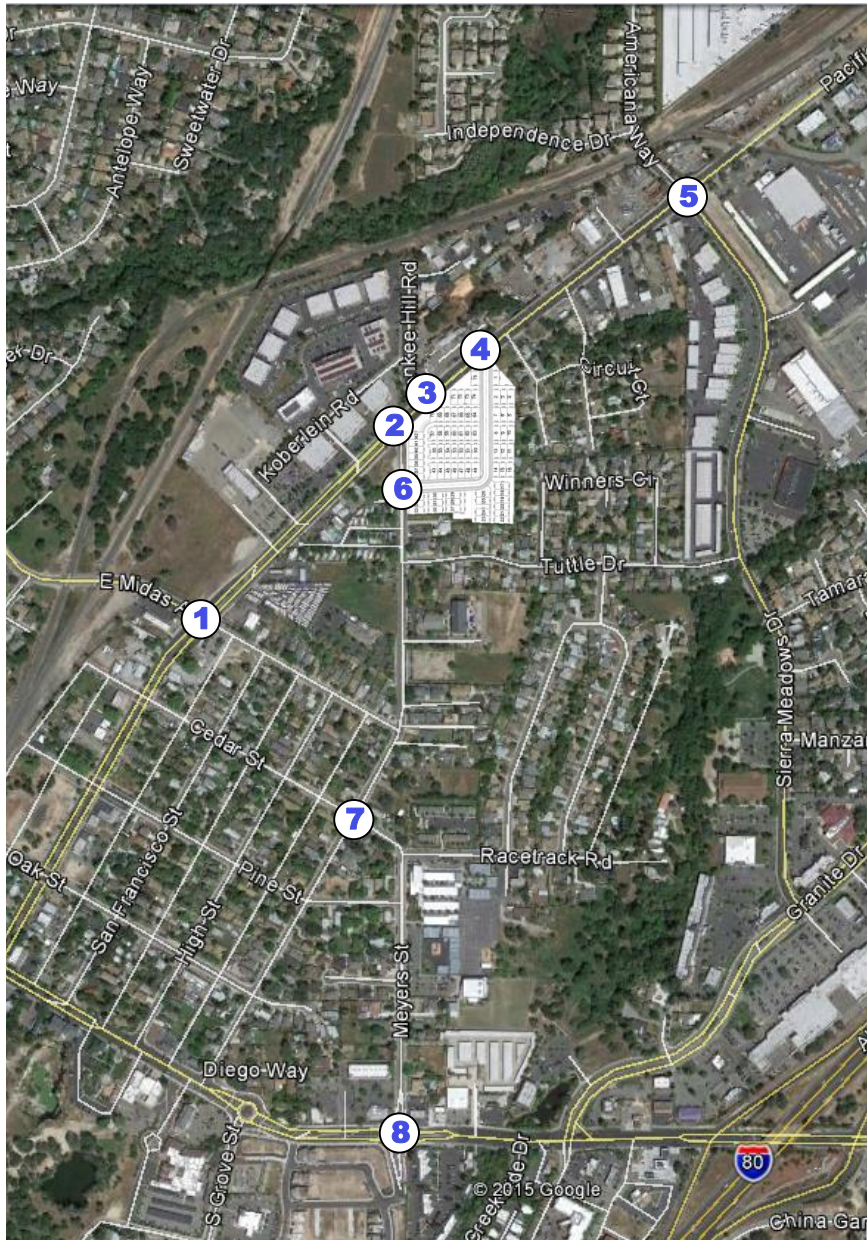
Cumulative Level of Service. Table 9 compares cumulative a.m. and p.m. peak hour Levels of Service at study intersections with and without the proposed project. As indicated, all intersections will operate with Levels of Service that satisfy the City of Rocklin's minimum LOS C standard with completion of the project.

As the volume of traffic on Pacific Street increases in the future, the delays experienced by motorists waiting to turn onto the street at stop controlled intersections will become longer. Motorists at the Grove Street intersection will experience delays that are indicative of LOS D with and without the project. Motorists exiting the Train Depot Commercial Center will experience delays that indicate LOS D in the morning peak hour if the project is developed. In these cases the adequacy of traffic conditions is predicted on the overall Level of Service, which remains LOS A at each intersection. The City's minimum standard is maintained, and the project's traffic impact is not significant at these locations.

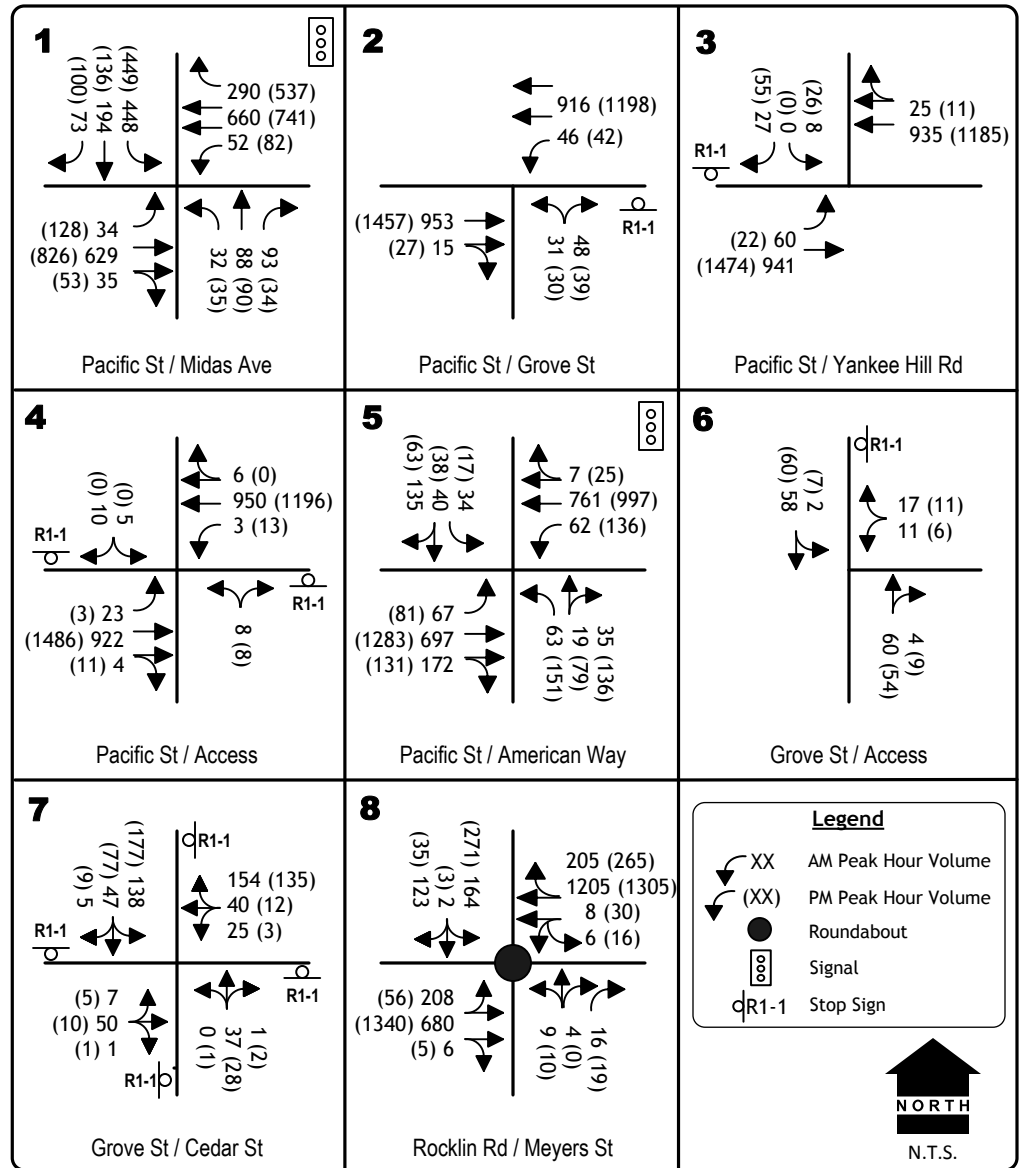
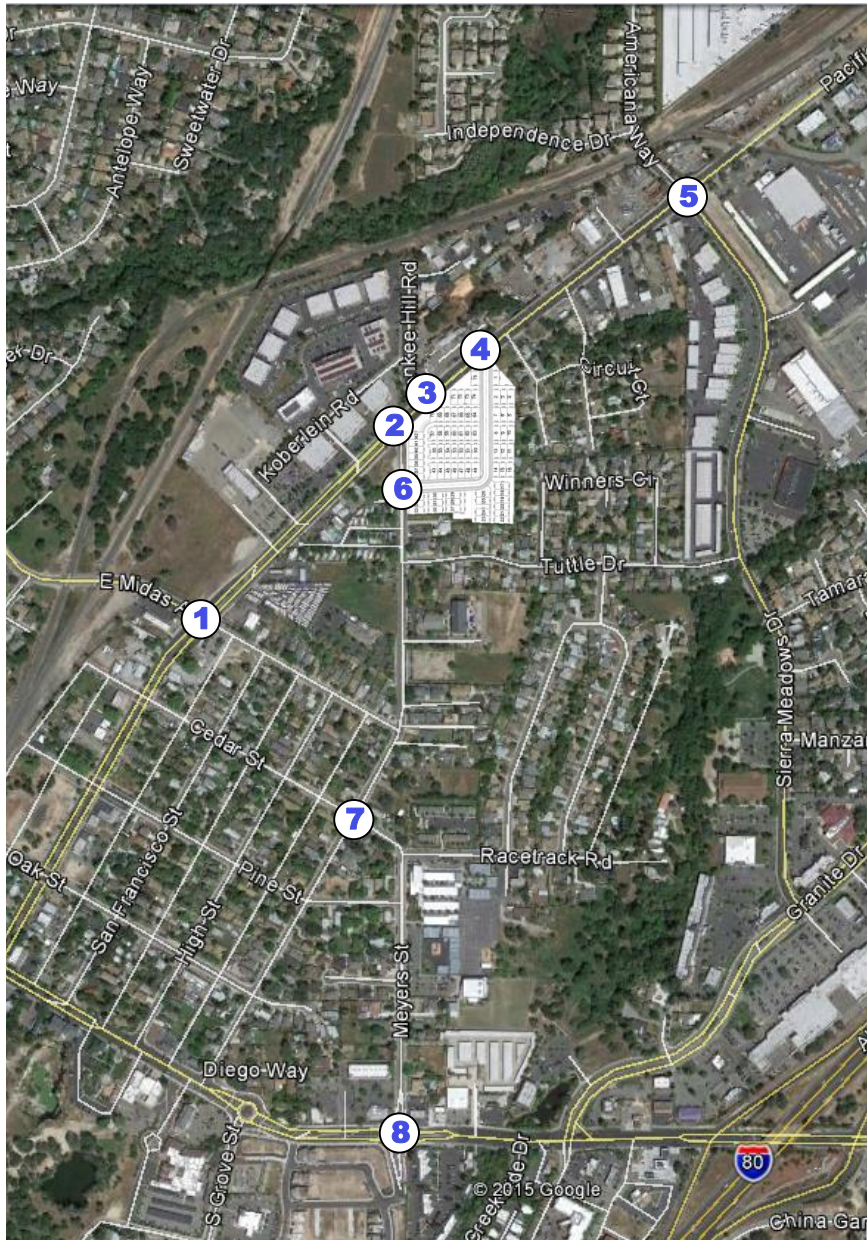
**TABLE 9
CUMULATIVE PLUS PROJECT
PEAK HOUR INTERSECTION LEVELS OF SERVICE**

Intersection	Control	Time Period											
		AM Peak Hour (7:00 to 9:00 a.m.)						PM Peak Hour (4:00 to 6:00 p.m.)					
		Cumulative No Project			Cumulative with Project			Cumulative No Project			Cumulative Plus Project		
		LOS	V / C	Average Delay (sec/veh)	LOS	V / C	Average Delay (sec/veh)	LOS	V / C	Average Delay (sec/veh)	LOS	V / C	Average Delay (sec/veh)
Pacific Street / Midas Avenue	Signal	B	0.635	-	B	0.637	-	C	0.724		C	0.731	-
Pacific Street / Grove Street (overall)	NB Stop	(A)	-	(0.7)	(A)	-	(1.0)	(A)	-	(0.8)	(A)	-	(1.0)
Northbound left+right turn		C		15.4	C		18.3	D		26.6	D		32.0
Pacific Street / Yankee Hill Road (overall)	SB Stop	(A)	-	(0.6)	(A)	-	(0.6)	(A)	-	(1.0)	(A)	-	(0.7)
SB left+right turn		B		14.3	B		14.3	C		23.4	C		19.7
Pacific Street / Train Depot Comm (overall)	NB/SB stop	(A)	-	(0.3)	(A)	-	(0.4)	(A)	-	(0.0)	(A)	-	(0.1)
SB left+right turn		C		20.7	D		25.1	B		11.2	B		11.2
NB left+right turn		-		-	B		11.7	-		-	C		15.4
Pacific Street / Americana Way / Sierra Meadows Drive	Signal	A	0.503	-	A	0.507	-	C	0.752	-	C	0.755	-
Grove Street / Access (overall)	WB Stop	-	-	-	(A)	-	(1.7)	-	-	-	(A)	-	(1.4)
WB left+right turn		A		8.9	A		8.9				A		8.9
Grove Street / Cedar Street	All-Way Stop	A	-	8.6	A	-	8.7	A	-	8.8	A	-	8.8
Rocklin Road / Meyers Street	roundabout	C	-	18.5	C	-	19.0	c	-	22.0	C	-	22.5

Bold indicates conditions in excess of adopted minimum LOS standard. Note: Only PM Peak Hour is significant. (Overall LOS) is the significance criteria at un-signalized intersections controlled by side street stop signs.



CUMULATIVE WITHOUT PROJECT
TRAFFIC VOLUMES AND LANE CONFIGURATIONS



**CUMULATIVE PLUS PROJECT
TRAFFIC VOLUMES AND LANE CONFIGURATIONS**

**APPENDIX
(Under Separate Cover)**

*Traffic Counts
Level of Service Worksheets*