

APPENDIX H: TRAFFIC

TRAFFIC IMPACT ANALYSIS

FOR

QUARRY ROW SUBDIVISION

Rocklin, California

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Quarry Row Subdivision.rpt

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Transportation Engineers

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

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January 16, 2017

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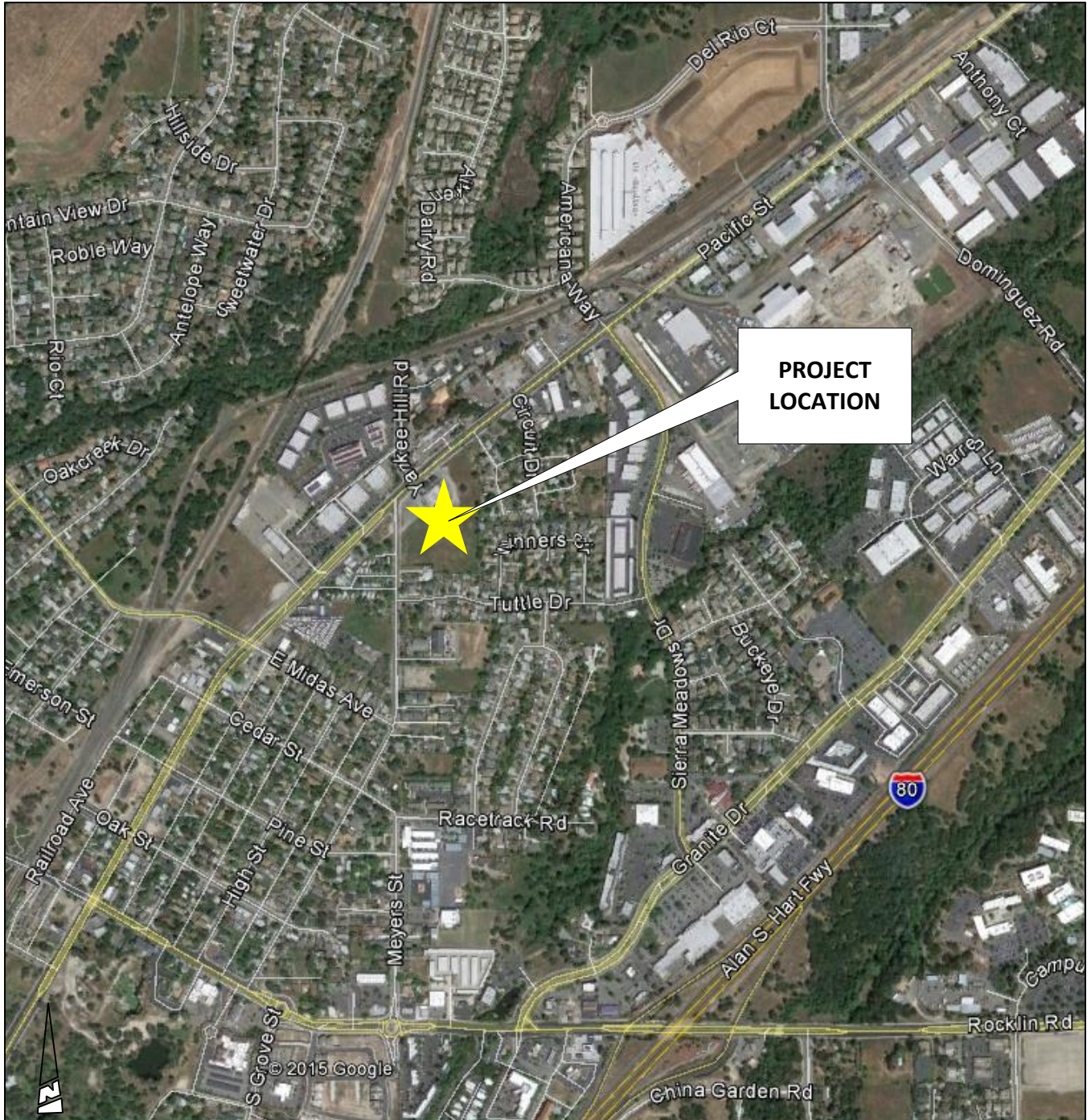
**TRAFFIC IMPACT ANALYSIS FOR
QUARRY ROW SUBDIVISION**
Rocklin, California

INTRODUCTION

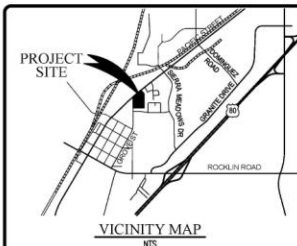
This report documents **KD Anderson & Associates'** analysis of the traffic impacts associated with developing the **Quarry Row Subdivision** in the City of Rocklin, California. This assessment of traffic impacts has been required by the City of Rocklin, and per City staff direction addresses project 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

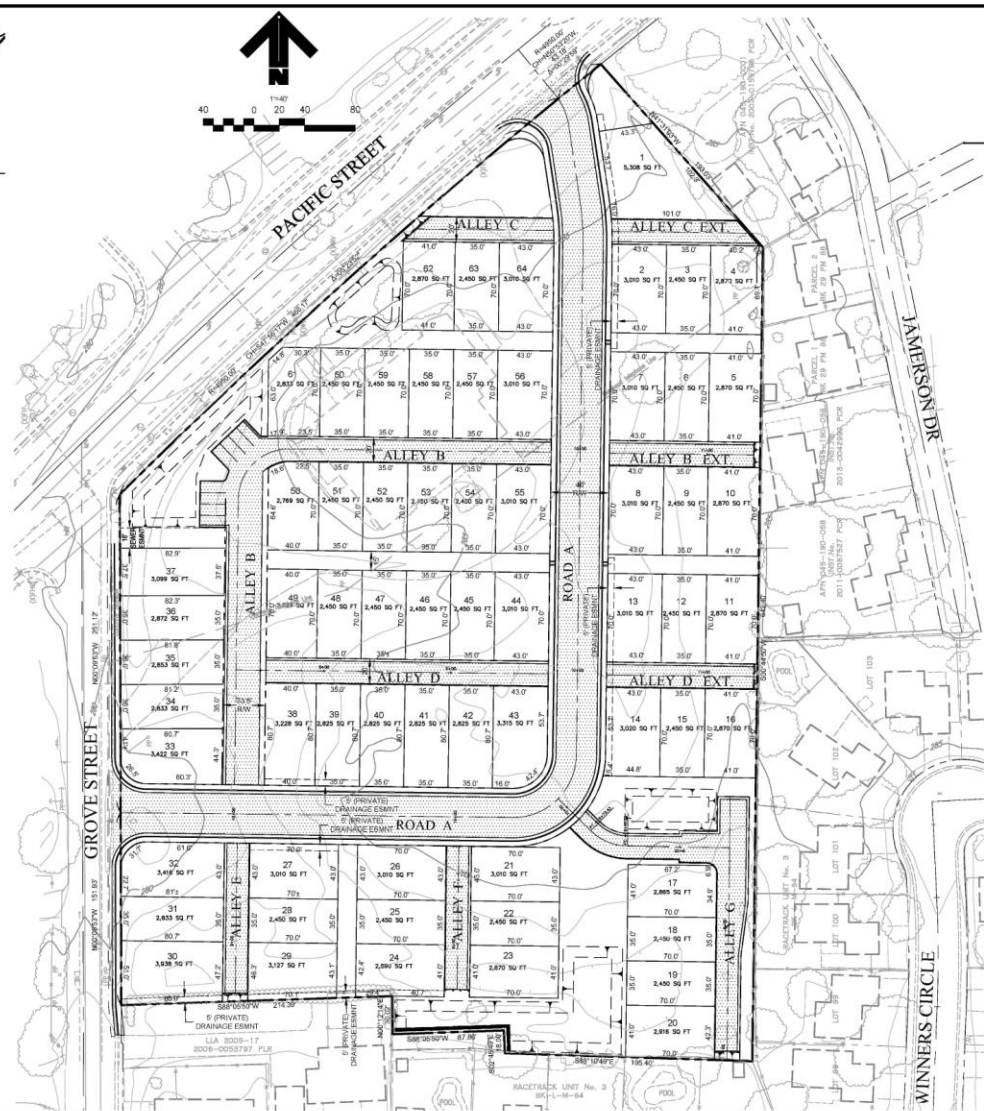
The Quarry Row Subdivision is a 64 unit single family residential development that will be located on the southeast corner of the intersection of Pacific Street and Grove Street, as noted in Figure 1 and Figure 2. The site currently has C-2 zoning and is designated Mixed Use and High Density Residential 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 95665
 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 Highway Capacity Manual, 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.

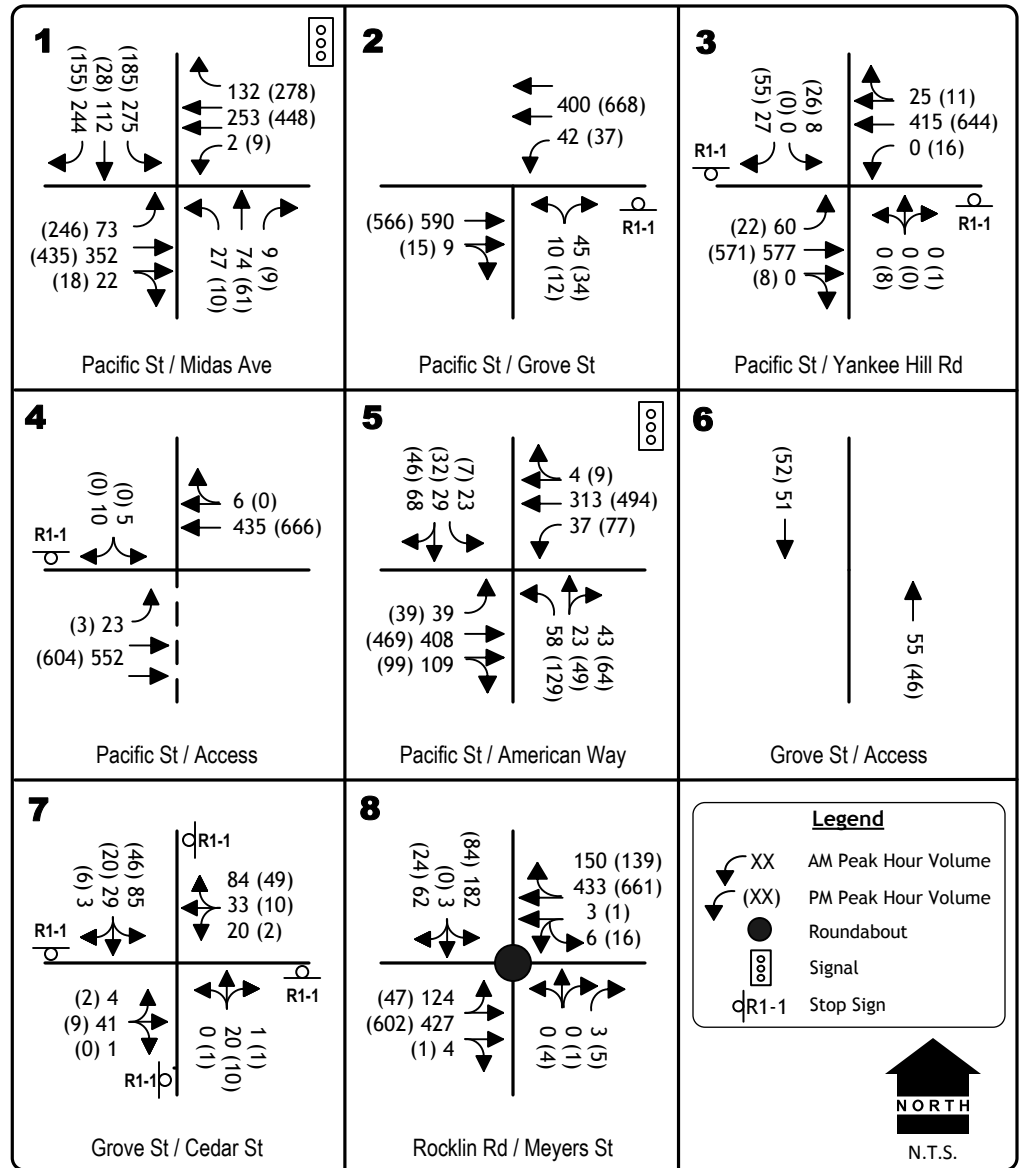
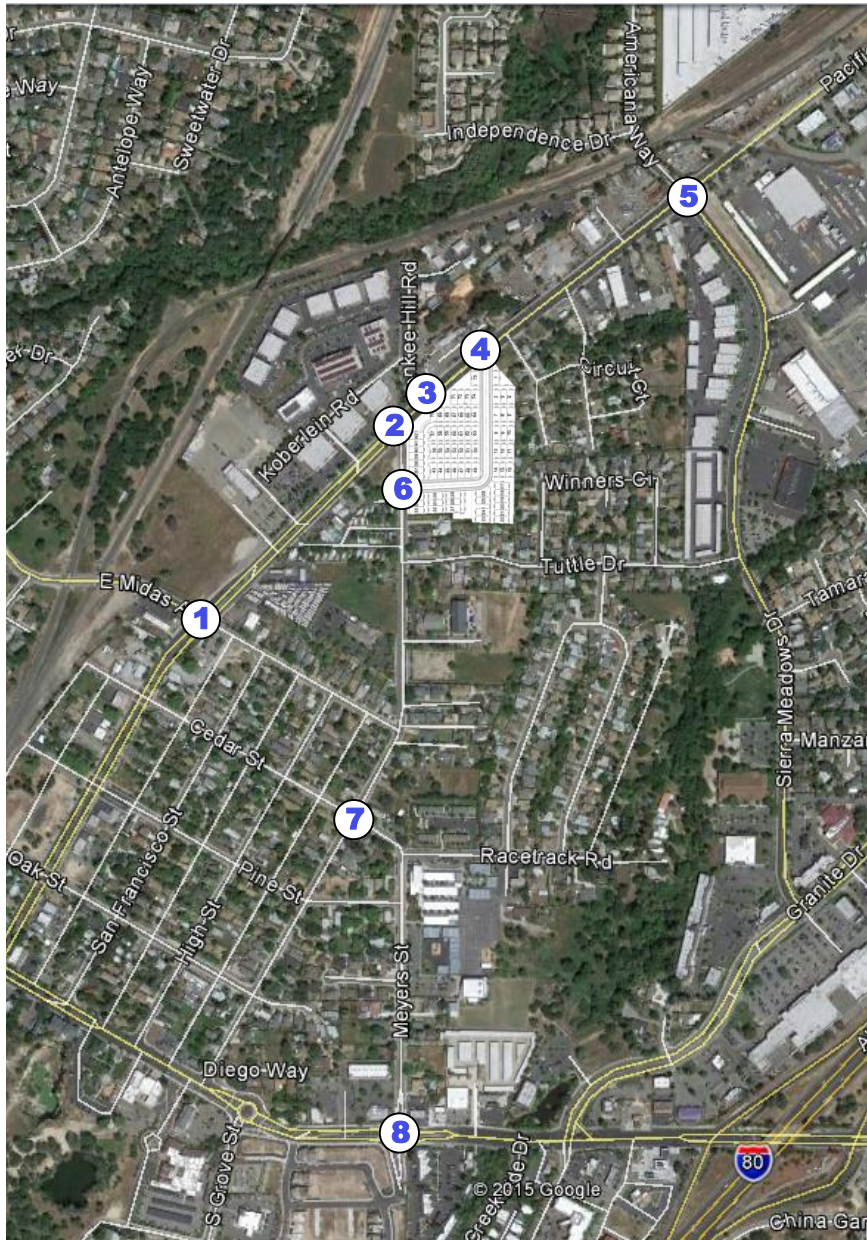
Standards of Significance. Local jurisdictions adopt Standards of Significance for determining environmental impacts relating to traffic, and in this study area the standards of the City of Rocklin apply. As indicated in the REGULATORY Setting section, the General Plan notes that Level of Service C is 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
<p>Bold indicates conditions in excess of adopted minimum LOS standard</p> <p>Note: (Overall LOS) is the significance criteria at un-signalized intersections controlled by side street stop signs.</p>							

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%

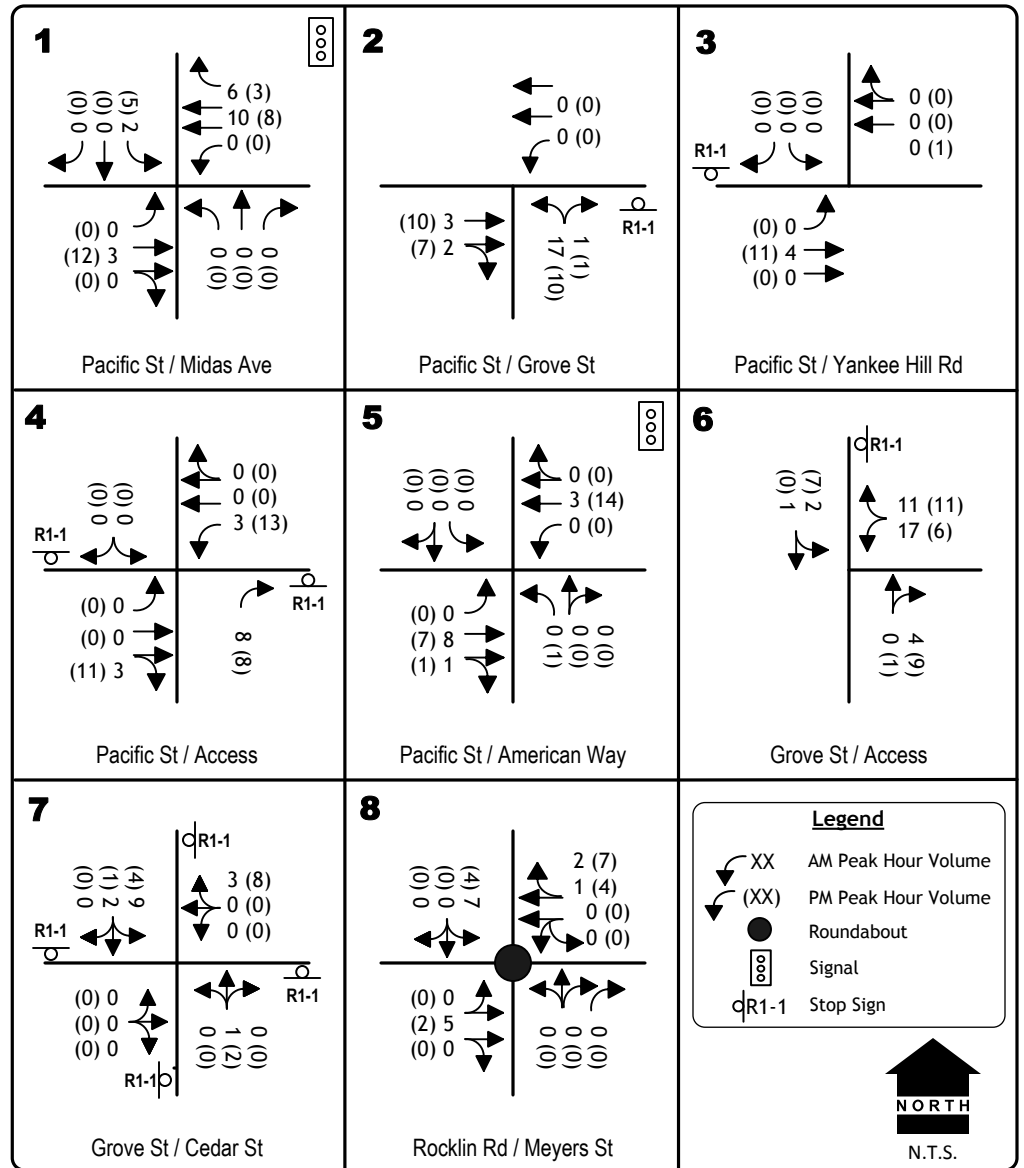
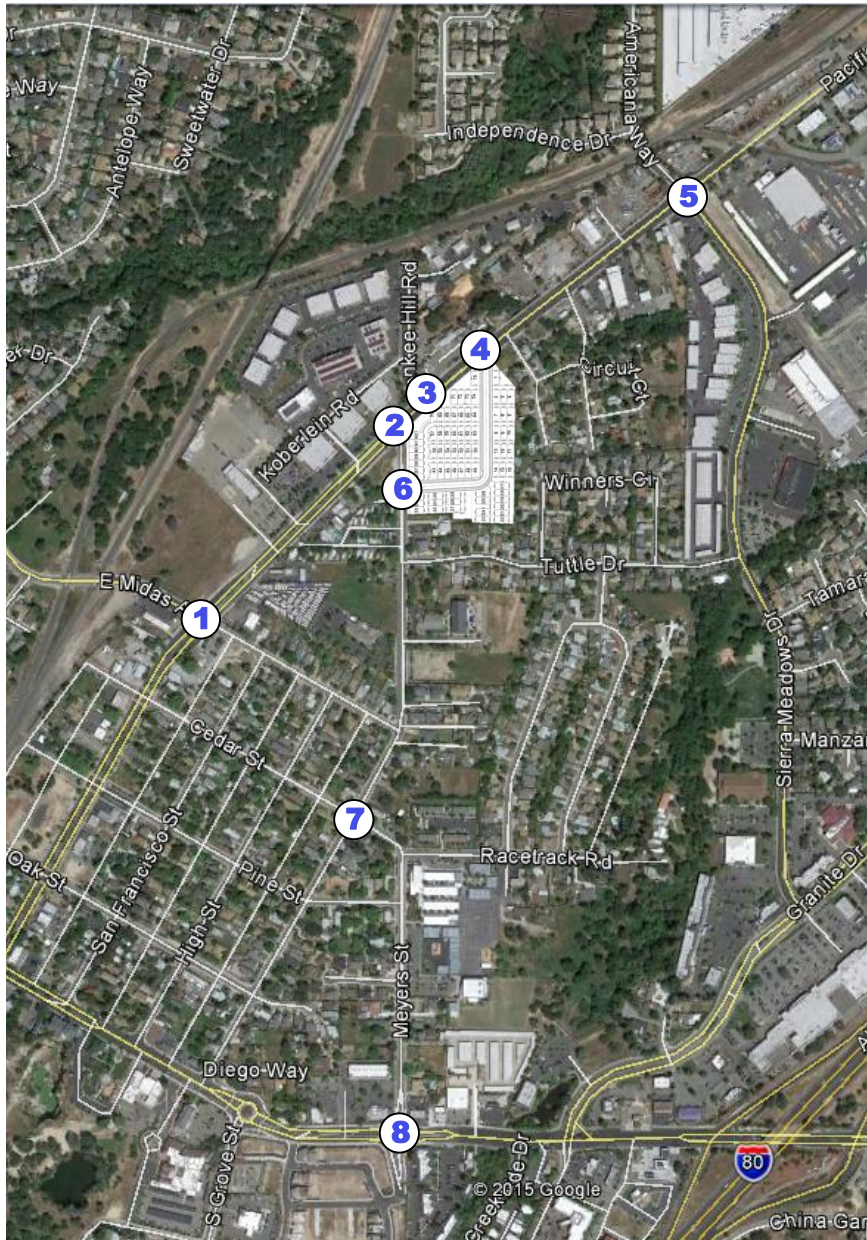
Trip Assignment. Project trips were assigned to the local street system based on the regional distribution assumptions identified above. Figure 4 identifies the assignment of project trips through the study intersections and at the project’s access intersections. As shown, the project’s trips will be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

Existing Plus Project Traffic Conditions and Levels of Service

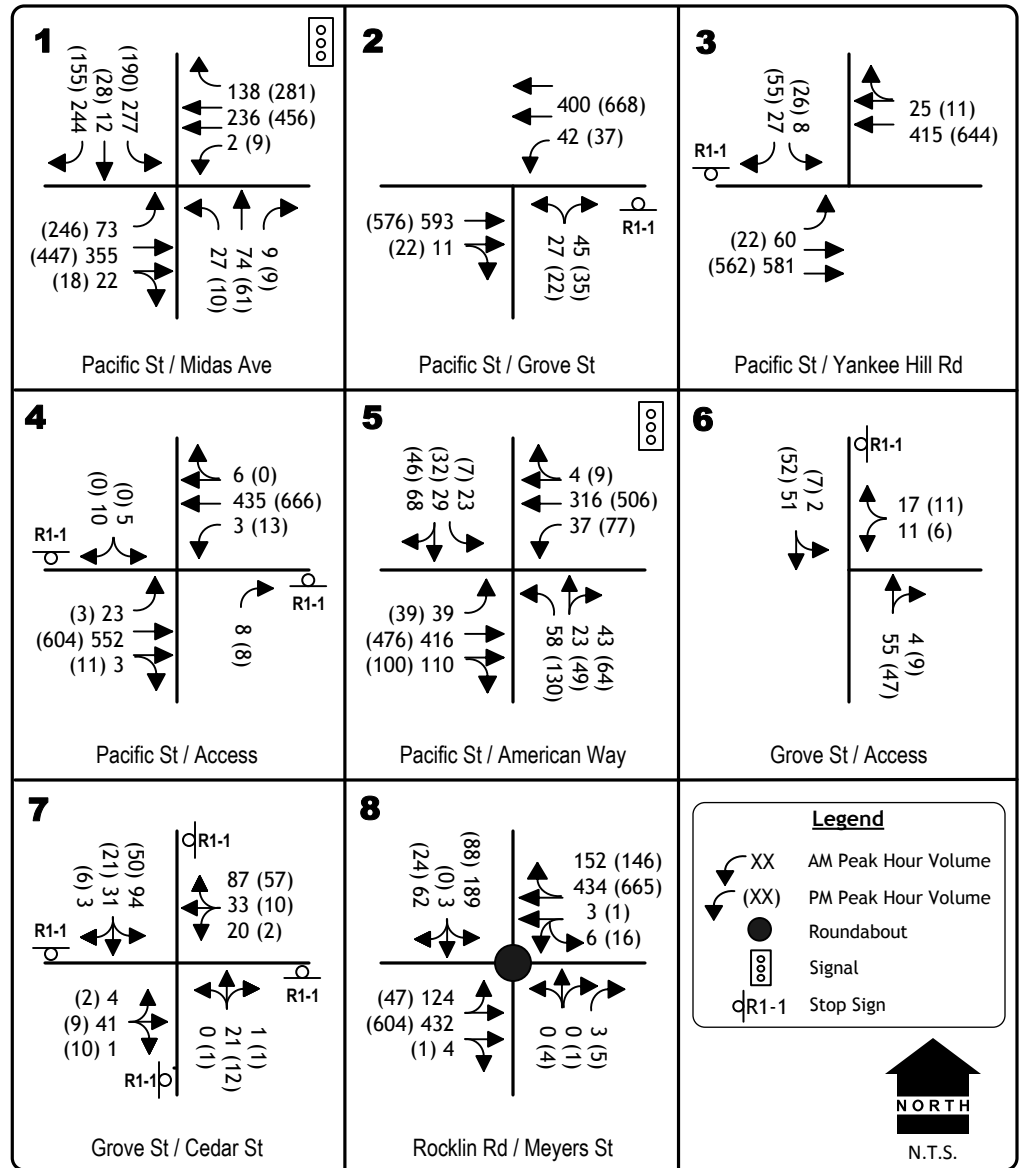
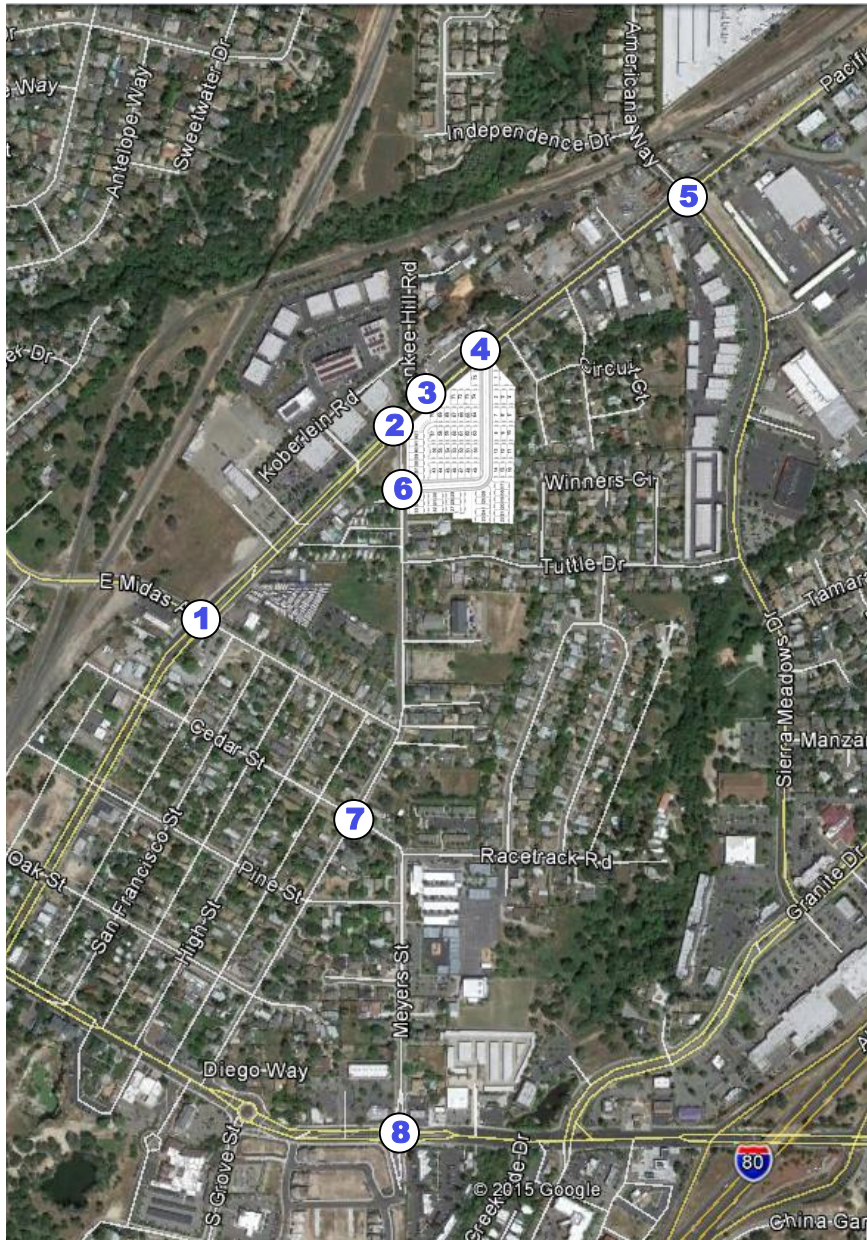
Figure 5 superimposes project trips onto the current background traffic volumes to create the “Existing plus Project” condition. Subsequent tables compare the “Existing” and “Existing plus Project” Levels of Service.

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.

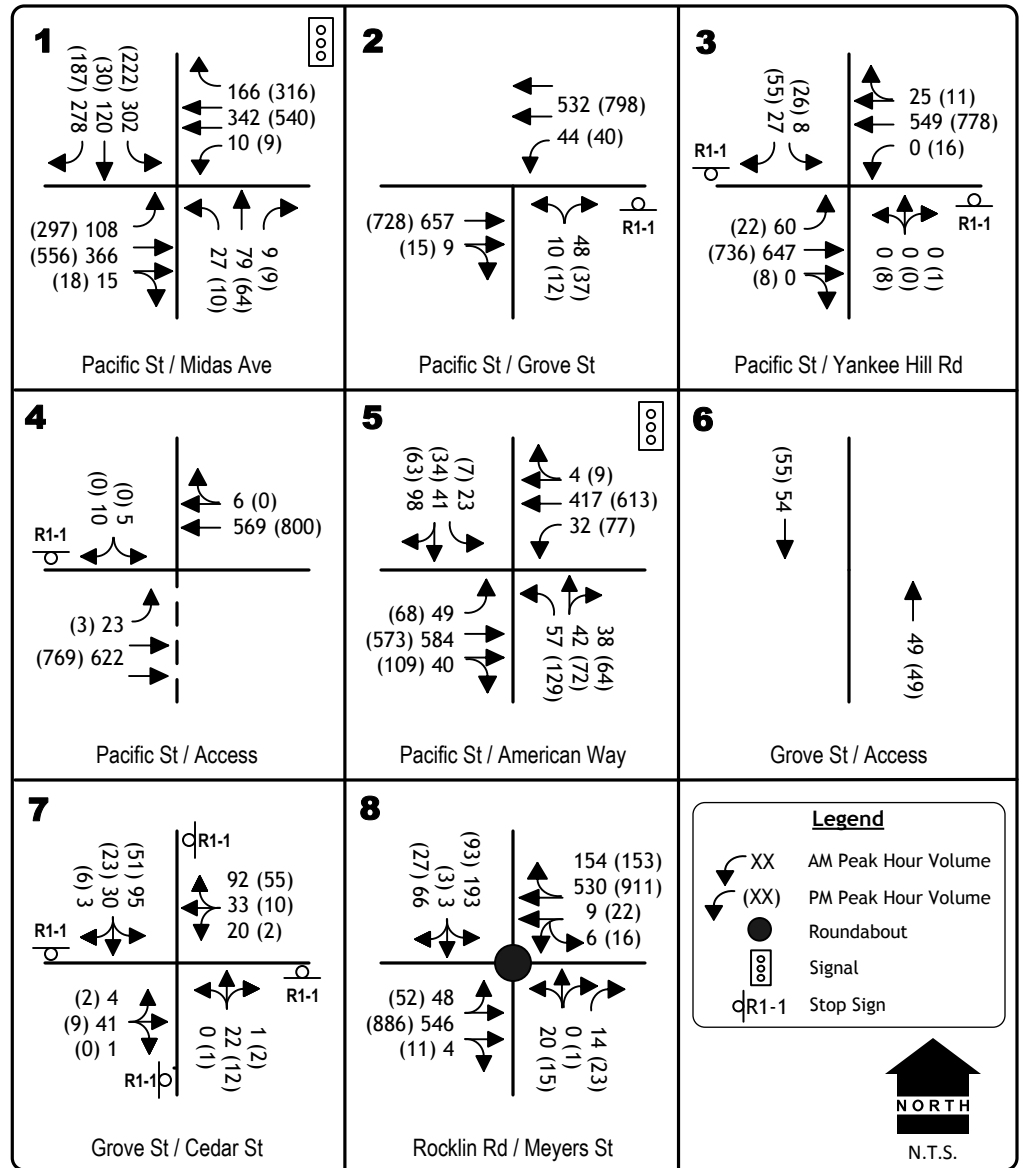
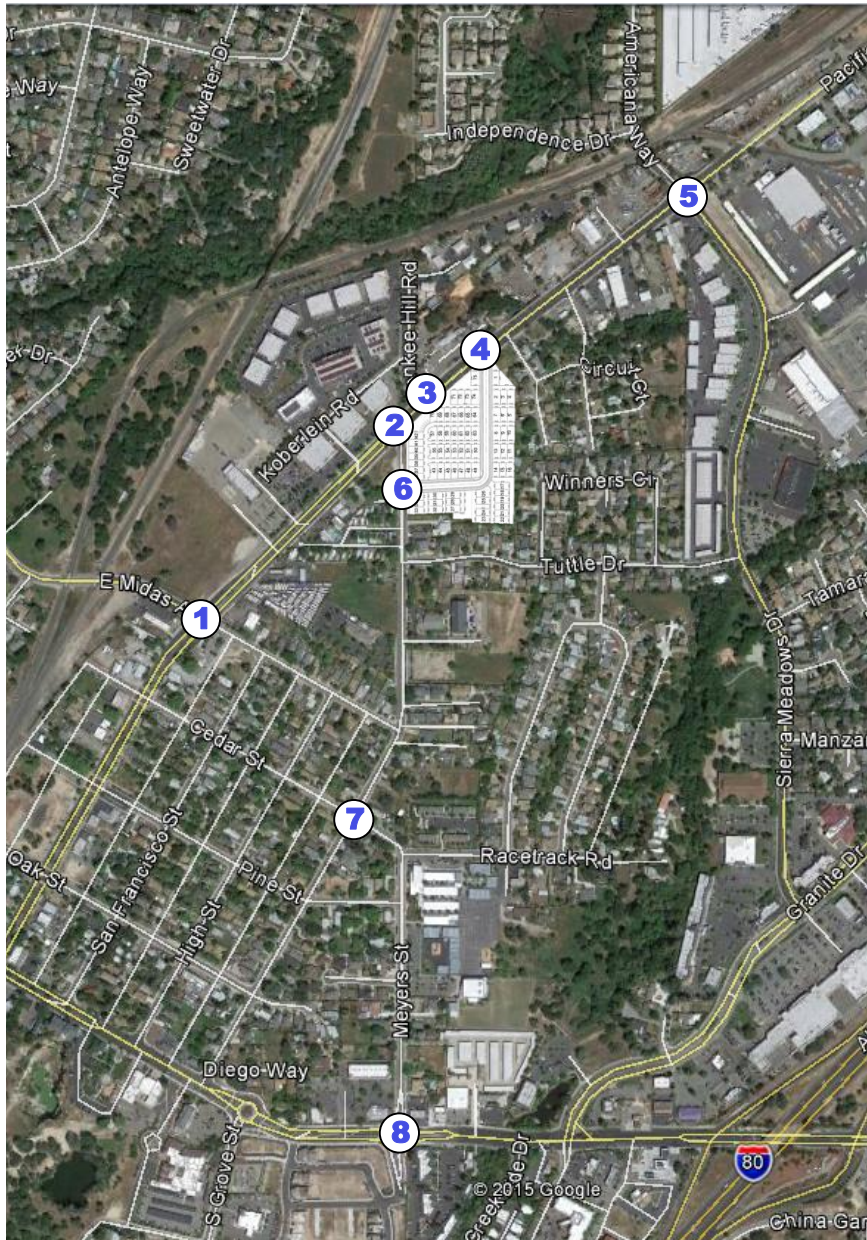
Table 7 presents the list of approved but not constructed projects in the vicinity of the eastern portion of the project, as well as their estimated a.m. and p.m. peak hour trip generation. As shown, the number of new a.m. peak hour trips anticipated from approved / pending development totals 1,714 while 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**

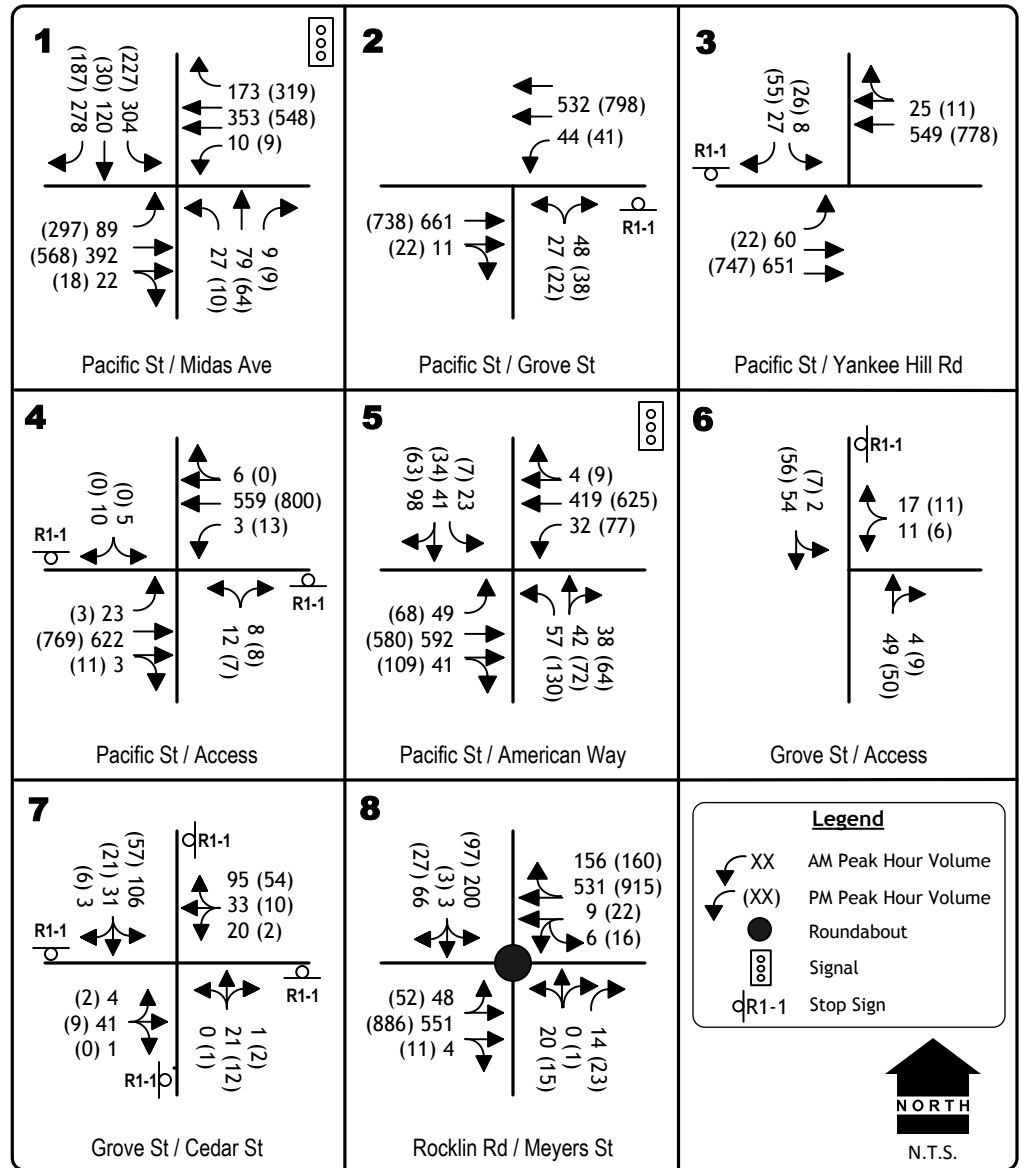
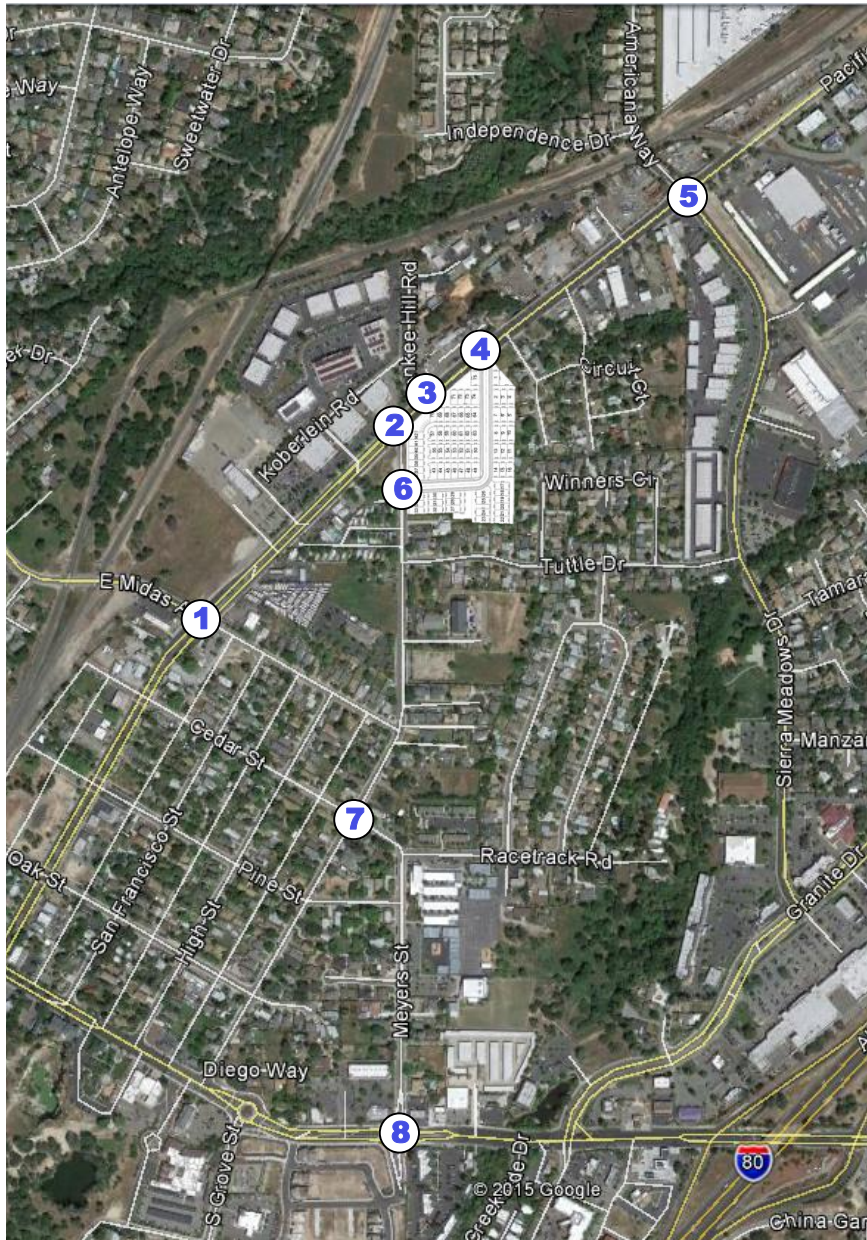
Description	Land Use	Size		AM Peak Hour			PM Peak Hour Trips		
		Quantity	Unit	In	Out	Total	In	Out	Total
Avalon Subdivision ⁽¹⁾	Single Family Housing	79	du	15	44	59	50	29	79
Brighton Subdivision ⁽¹⁾	Single Family Housing	75	du	14	42	56	47	28	75
Garnet Creek	Single Family Housing & Multiple Family Housing	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.

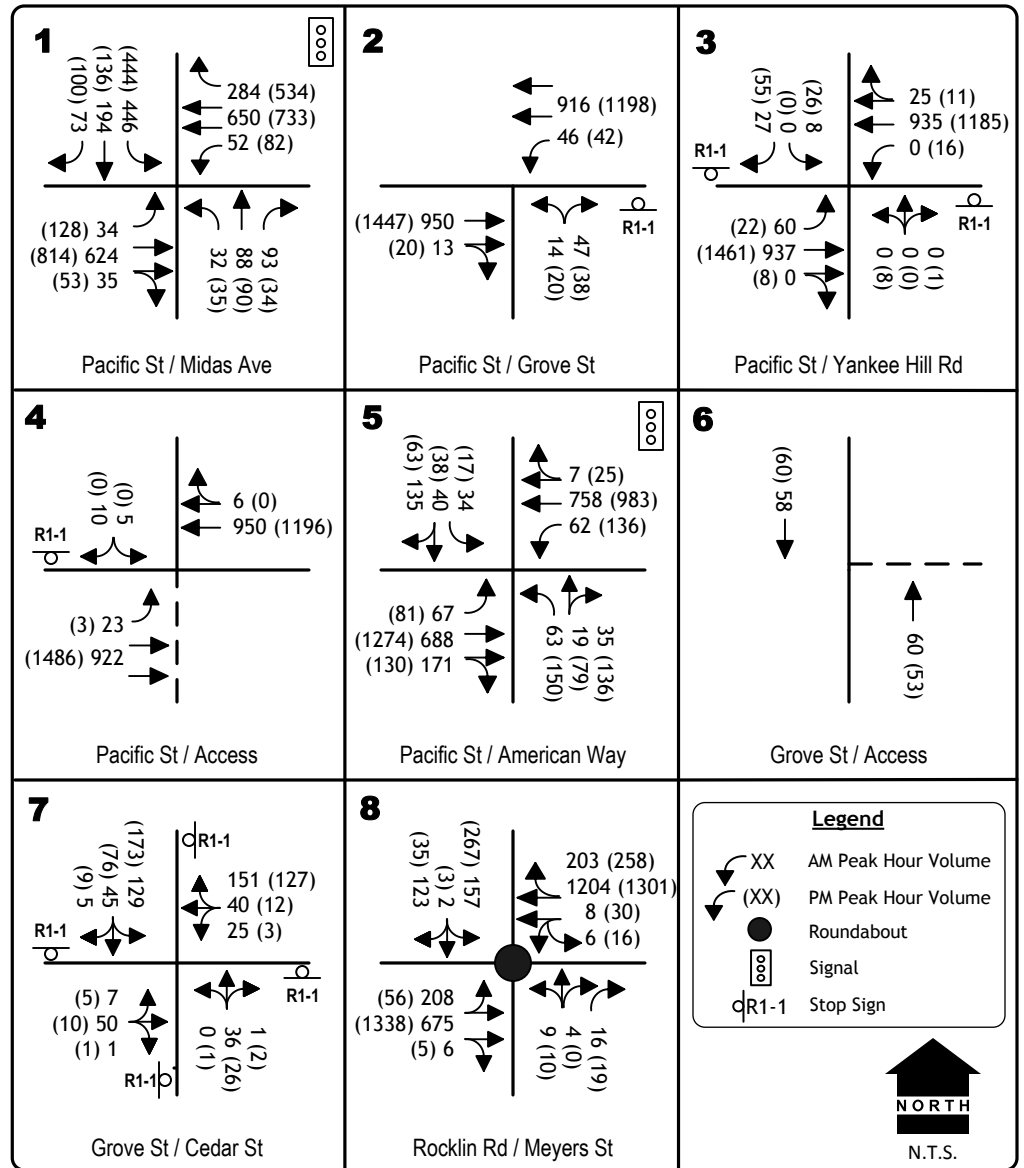
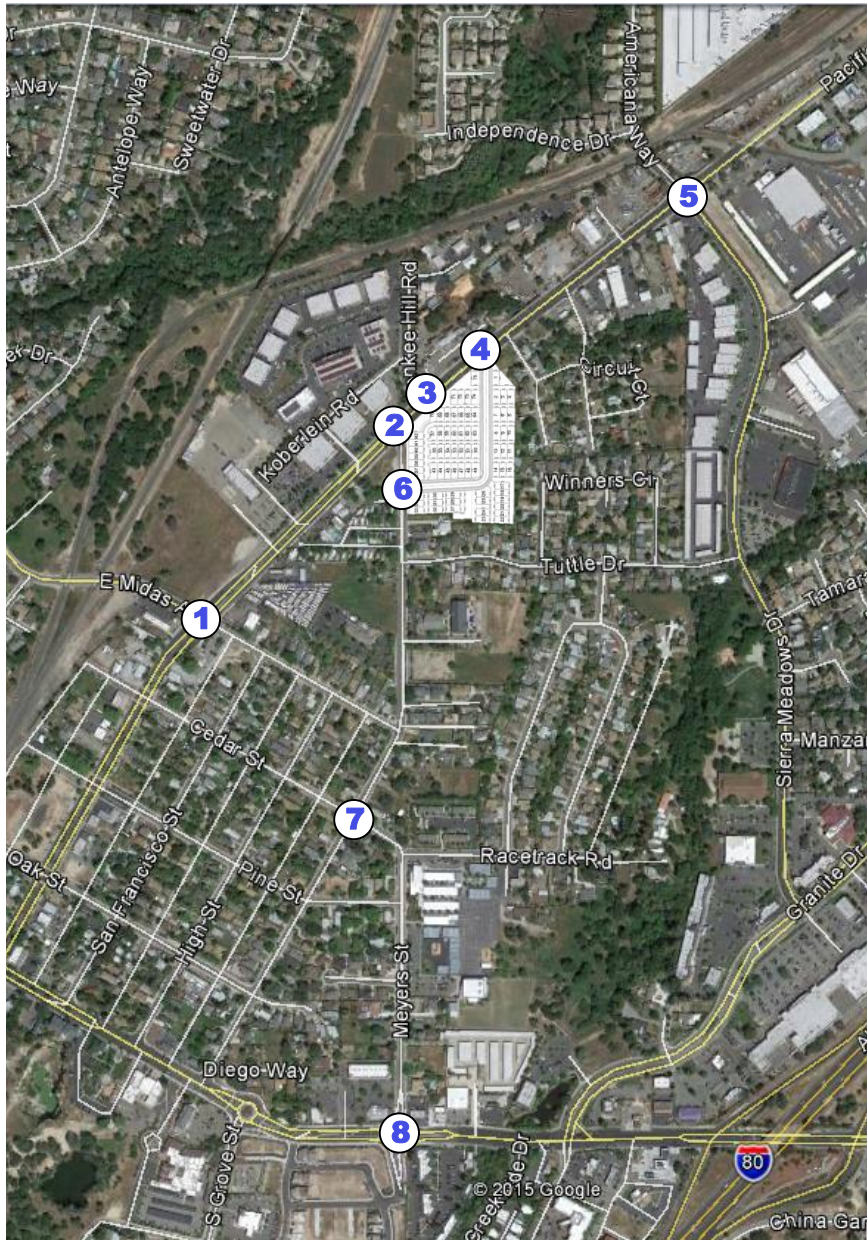
Cumulative Level of Service. Table 9 compares cumulative a.m. and p.m. peak hour Levels of Service at study intersections with and without the proposed project. As indicated, all intersections will operate with Levels of Service that satisfy the City of Rocklin's minimum LOS C standard with completion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

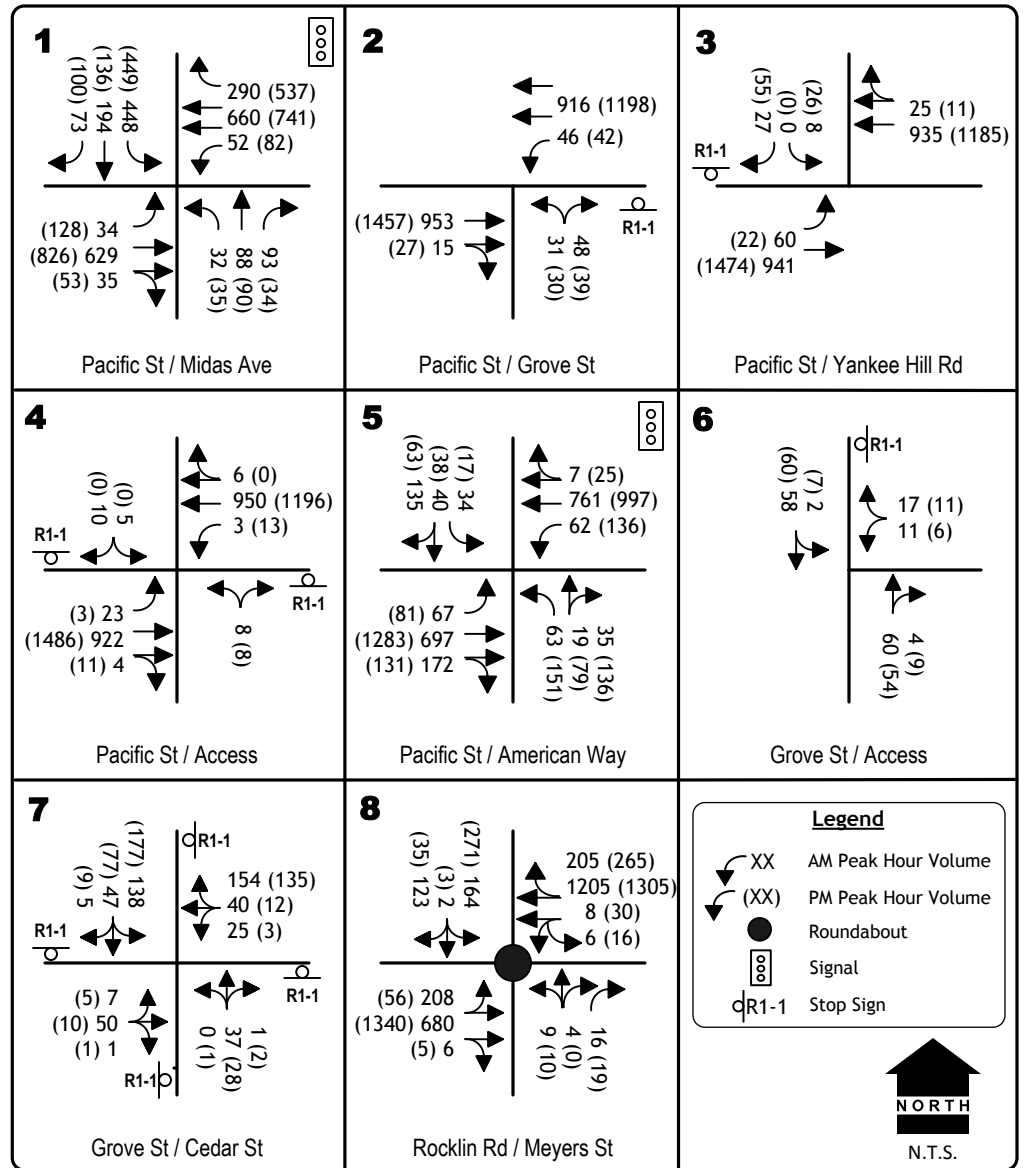
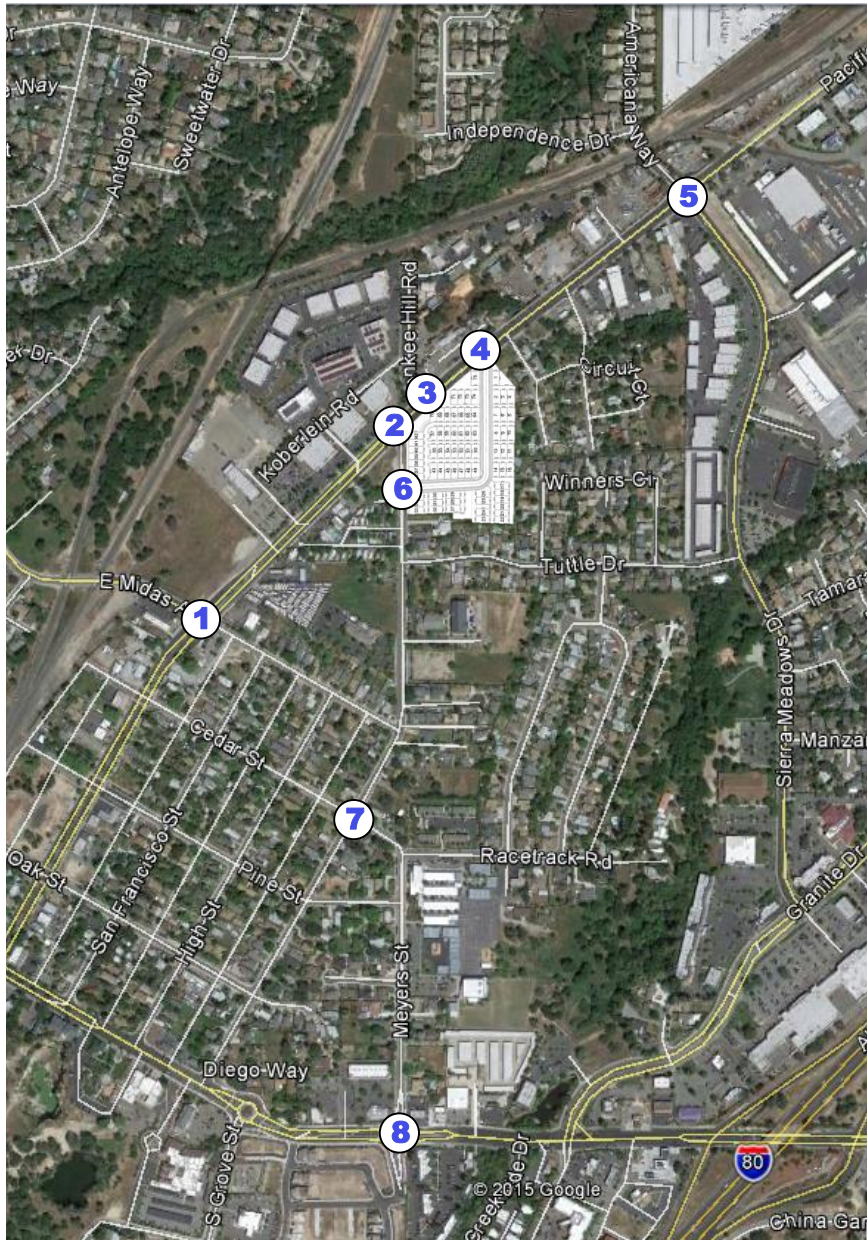
**TABLE 9
CUMULATIVE PLUS PROJECT
PEAK HOUR INTERSECTION LEVELS OF SERVICE**

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
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**

TECHNICAL APPENDIX

FOR

QUARRY ROW SUBDIVISION TRAFFIC IMPACT ANALYSIS

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

KD Anderson & Associates, Inc.

Transportation Engineers

ALL TRAFFIC DATA

7571-01

City of Rocklin
All Vehicles on Unshifted
Nothing on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7484-001A Yankee Hill Road-Pacific Street.ppd
Date : 5/27/2015

Unshifted Count = All Vehicles

START TIME	Yankee Hill Road Southbound					Pacific Street Westbound					Driveway Northbound					Pacific Street Eastbound					Total	Uturn Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
07:00	3	0	3	0	6	0	56	7	0	63	0	0	0	0	0	11	84	0	0	95	164	0
07:15	1	0	3	0	4	0	89	3	0	92	0	0	0	0	0	12	123	0	0	135	231	0
07:30	2	0	7	0	9	0	97	6	0	103	0	0	0	0	0	13	145	0	0	158	270	0
07:45	2	0	11	0	13	0	112	10	0	122	0	0	0	0	0	16	150	0	0	166	301	0
Total	8	0	24	0	32	0	354	26	0	380	0	0	0	0	0	52	502	0	0	554	966	0
08:00	3	0	5	0	8	0	103	3	0	106	0	0	0	0	0	16	127	0	0	143	257	0
08:15	1	0	4	0	5	0	103	6	0	109	0	0	0	0	0	15	155	0	0	170	284	0
08:30	3	0	0	0	3	1	111	7	0	119	0	0	0	0	0	14	132	0	0	146	268	0
08:45	1	0	1	0	2	0	106	3	0	109	0	0	0	0	0	7	99	0	0	106	217	0
Total	8	0	10	0	18	1	423	19	0	443	0	0	0	0	0	52	513	0	0	565	1026	0
16:00	5	0	12	0	17	6	131	4	0	141	4	0	0	0	4	8	137	1	0	146	308	0
16:15	7	0	20	0	27	0	151	1	0	152	0	0	0	0	0	5	130	1	0	136	315	0
16:30	4	0	13	0	17	1	156	1	0	158	0	0	0	0	0	3	154	0	0	157	332	0
16:45	7	0	10	0	17	3	131	4	0	138	0	0	0	0	0	9	123	3	0	135	290	0
Total	23	0	55	0	78	10	569	10	0	589	4	0	0	0	4	25	544	5	0	574	1245	0
17:00	9	0	20	0	29	10	162	2	0	174	4	0	0	0	4	8	150	1	0	159	366	0
17:15	6	0	12	0	18	2	195	4	0	201	4	0	1	0	5	2	144	4	0	150	374	0
17:30	7	0	10	0	17	0	145	2	0	147	1	0	2	0	3	0	147	1	0	148	315	0
17:45	1	0	8	0	9	1	114	0	0	115	3	0	2	0	5	6	121	3	0	130	259	0
Total	23	0	50	0	73	13	616	8	0	637	12	0	5	0	17	16	562	9	0	587	1314	0
Grand Total	62	0	139	0	201	24	1962	63	0	2049	16	0	5	0	21	145	2121	14	0	2280	4551	0
Apprch %	30.8%	0.0%	69.2%	0.0%		1.2%	95.8%	3.1%	0.0%		76.2%	0.0%	23.8%	0.0%		6.4%	93.0%	0.6%	0.0%			
Total %	1.4%	0.0%	3.1%	0.0%	4.4%	0.5%	43.1%	1.4%	0.0%	45.0%	0.4%	0.0%	0.1%	0.0%	0.5%	3.2%	46.6%	0.3%	0.0%	50.1%	100.0%	

AM PEAK HOUR	Yankee Hill Road Southbound					Pacific Street Westbound					Driveway Northbound					Pacific Street Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
07:30	2	0	7	0	9	0	97	6	0	103	0	0	0	0	0	13	145	0	0	158	270
07:45	2	0	11	0	13	0	112	10	0	122	0	0	0	0	0	16	150	0	0	166	301
08:00	3	0	5	0	8	0	103	3	0	106	0	0	0	0	0	16	127	0	0	143	257
08:15	1	0	4	0	5	0	103	6	0	109	0	0	0	0	0	15	155	0	0	170	284
Total Volume	8	0	27	0	35	0	415	25	0	440	0	0	0	0	0	60	577	0	0	637	1112
% App Total	22.9%	0.0%	77.1%	0.0%		0.0%	94.3%	5.7%	0.0%		0.0%	0.0%	0.0%	0.0%		9.4%	90.6%	0.0%	0.0%		
PHF	.667	.000	.614	.000	.673	.000	.926	.625	.000	.902	.000	.000	.000	.000	.000	.938	.931	.000	.000	.937	.924

PM PEAK HOUR	Yankee Hill Road Southbound					Pacific Street Westbound					Driveway Northbound					Pacific Street Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	4	0	13	0	17	1	156	1	0	158	0	0	0	0	0	3	154	0	0	157	332
16:45	7	0	10	0	17	3	131	4	0	138	0	0	0	0	0	9	123	3	0	135	290
17:00	9	0	20	0	29	10	162	2	0	174	4	0	0	0	4	8	150	1	0	159	366
17:15	6	0	12	0	18	2	195	4	0	201	4	0	1	0	5	2	144	4	0	150	374
Total Volume	26	0	55	0	81	16	644	11	0	671	8	0	1	0	9	22	571	8	0	601	1362
% App Total	32.1%	0.0%	67.9%	0.0%		2.4%	96.0%	1.6%	0.0%		88.9%	0.0%	11.1%	0.0%		3.7%	95.0%	1.3%	0.0%		
PHF	.722	.000	.688	.000	.698	.400	.826	.688	.000	.835	.500	.000	.250	.000	.450	.611	.927	.500	.000	.945	.910

ALL TRAFFIC DATA

7571-01

City of Rocklin
 All Vehicles on Unshifted
 Nothing on Bank 1
 Nothing on Bank 2

(916) 771-8700

orders@atdtraffic.com

File Name : 15-7484-001B Grove Street-Pacific Street.ppd

Date : 5/27/2015

Unshifted Count = All Vehicles

START TIME	Southbound					Pacific Street Westbound					Grove Street Northbound					Pacific Street Eastbound					Total	Utum Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
07:00	0	0	0	0	0	5	61	0	0	66	2	0	7	0	9	0	88	1	0	89	164	0
07:15	0	0	0	0	0	4	88	0	0	92	0	0	7	0	7	0	129	4	0	133	232	0
07:30	0	0	0	0	0	9	94	0	0	103	1	0	7	0	8	0	151	1	0	152	263	0
07:45	0	0	0	0	0	6	118	0	0	124	2	0	7	0	9	0	157	1	0	158	291	0
Total	0	0	0	0	0	24	361	0	0	385	5	0	28	0	33	0	525	7	0	532	950	0
08:00	0	0	0	0	0	12	96	0	0	108	3	0	16	0	19	0	128	3	0	131	258	0
08:15	0	0	0	0	0	15	92	0	0	107	4	0	15	0	19	0	154	4	0	158	284	0
08:30	0	0	0	0	0	2	108	0	0	110	3	0	7	0	10	0	136	2	0	138	258	0
08:45	0	0	0	0	0	7	101	0	0	108	2	0	2	0	4	0	105	2	0	107	219	0
Total	0	0	0	0	0	36	397	0	0	433	12	0	40	0	52	0	523	11	0	534	1019	0
16:00	0	0	0	0	0	4	140	0	0	144	1	0	8	0	9	0	137	7	0	144	297	0
16:15	0	0	0	0	0	7	167	0	0	174	2	0	5	0	7	0	132	6	0	138	319	0
16:30	0	0	0	0	0	10	157	0	0	167	0	0	12	0	12	0	145	2	0	147	326	0
16:45	0	0	0	0	0	8	135	0	0	143	5	0	4	0	9	0	132	2	0	134	286	0
Total	0	0	0	0	0	29	599	0	0	628	8	0	29	0	37	0	546	17	0	563	1228	0
17:00	0	0	0	0	0	11	175	0	0	186	1	0	11	0	12	0	147	5	0	152	350	0
17:15	0	0	0	0	0	8	201	0	0	209	6	0	7	0	13	0	142	6	0	148	370	0
17:30	0	0	0	0	0	7	151	0	0	158	3	0	4	0	7	0	144	1	0	145	310	0
17:45	0	0	0	0	0	8	114	0	0	122	2	0	5	0	7	0	128	5	0	133	262	0
Total	0	0	0	0	0	34	641	0	0	675	12	0	27	0	39	0	561	17	0	578	1292	0
Grand Total	0	0	0	0	0	123	1998	0	0	2121	37	0	124	0	161	0	2155	52	0	2207	4489	0
Apprch %	0.0%	0.0%	0.0%	0.0%		5.8%	94.2%	0.0%	0.0%		23.0%	0.0%	77.0%	0.0%		0.0%	97.6%	2.4%	0.0%			
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	2.7%	44.5%	0.0%	0.0%	47.2%	0.8%	0.0%	2.8%	0.0%	3.6%	0.0%	48.0%	1.2%	0.0%	49.2%	100.0%	

AM PEAK HOUR	Southbound					Pacific Street Westbound					Grove Street Northbound					Pacific Street Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
07:30	0	0	0	0	0	9	94	0	0	103	1	0	7	0	8	0	151	1	0	152	263
07:45	0	0	0	0	0	6	118	0	0	124	2	0	7	0	9	0	157	1	0	158	291
08:00	0	0	0	0	0	12	96	0	0	108	3	0	16	0	19	0	128	3	0	131	258
08:15	0	0	0	0	0	15	92	0	0	107	4	0	15	0	19	0	154	4	0	158	284
Total Volume	0	0	0	0	0	42	400	0	0	442	10	0	45	0	55	0	590	9	0	599	1096
% App Total	0.0%	0.0%	0.0%	0.0%		9.5%	90.5%	0.0%	0.0%		18.2%	0.0%	81.8%	0.0%		0.0%	98.5%	1.5%	0.0%		
PHF	.000	.000	.000	.000	.000	.700	.847	.000	.000	.891	.625	.000	.703	.000	.724	.000	.939	.563	.000	.948	.942

PM PEAK HOUR	Southbound					Pacific Street Westbound					Grove Street Northbound					Pacific Street Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	0	0	0	0	0	10	157	0	0	167	0	0	12	0	12	0	145	2	0	147	326
16:45	0	0	0	0	0	8	135	0	0	143	5	0	4	0	9	0	132	2	0	134	286
17:00	0	0	0	0	0	11	175	0	0	186	1	0	11	0	12	0	147	5	0	152	350
17:15	0	0	0	0	0	8	201	0	0	209	6	0	7	0	13	0	142	6	0	148	370
Total Volume	0	0	0	0	0	37	668	0	0	705	12	0	34	0	46	0	566	15	0	581	1332
% App Total	0.0%	0.0%	0.0%	0.0%		5.2%	94.8%	0.0%	0.0%		26.1%	0.0%	73.9%	0.0%		0.0%	97.4%	2.6%	0.0%		
PHF	.000	.000	.000	.000	.000	.841	.831	.000	.000	.843	.500	.000	.708	.000	.885	.000	.963	.625	.000	.956	.900

ALL TRAFFIC DATA

7571-01

City of Rocklin
 All Vehicles on Unshifted
 Nothing on Bank 1
 Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7484-002 Retail Access Driveway-Pacific Street.ppd
 Date : 5/27/2015

Unshifted Count = All Vehicles

START TIME	Retail Access Driveway Southbound					Pacific Street Westbound					Northbound					Pacific Street Eastbound					Total	Utum Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
07:00	0	0	0	0	0	0	63	1	0	64	0	0	0	0	0	0	86	0	0	86	150	0
07:15	1	0	0	0	1	0	90	0	0	90	0	0	0	0	0	1	124	0	0	125	216	0
07:30	0	0	0	0	0	0	103	1	0	104	0	0	0	0	0	1	144	0	0	145	249	0
07:45	1	0	0	0	1	0	122	1	0	123	0	0	0	0	0	3	153	0	1	157	281	1
Total	2	0	0	0	2	0	378	3	0	381	0	0	0	0	0	5	507	0	1	513	896	1
08:00	0	0	0	0	0	0	100	0	0	100	0	0	0	0	0	1	123	0	0	124	224	0
08:15	0	0	1	0	1	0	108	1	0	109	0	0	0	0	0	10	144	0	0	154	264	0
08:30	4	0	9	0	13	0	105	4	0	109	0	0	0	0	0	9	132	0	0	141	263	0
08:45	1	0	0	0	1	0	106	0	0	106	0	0	0	0	0	6	92	0	0	98	205	0
Total	5	0	10	0	15	0	419	5	0	424	0	0	0	0	0	26	491	0	0	517	956	0
16:00	0	0	0	0	0	0	136	2	0	138	0	0	0	0	0	1	145	0	0	146	284	0
16:15	0	0	0	0	0	0	154	1	0	155	0	0	0	0	0	1	140	0	1	142	297	1
16:30	0	0	0	0	0	0	149	0	0	149	0	0	0	0	0	0	149	0	1	150	299	1
16:45	0	0	0	0	0	0	144	0	0	144	0	0	0	0	0	0	128	0	0	128	272	0
Total	0	0	0	0	0	0	583	3	0	586	0	0	0	0	0	2	562	0	2	566	1152	2
17:00	0	0	0	0	0	0	172	0	0	172	0	0	0	0	0	1	165	0	1	167	339	1
17:15	0	0	0	0	0	0	201	0	0	201	0	0	0	0	0	0	162	0	0	162	363	0
17:30	0	0	0	0	0	0	144	0	0	144	0	0	0	0	0	0	145	0	2	147	291	2
17:45	0	0	1	0	1	0	113	0	0	113	0	0	0	0	0	1	120	0	1	122	236	1
Total	0	0	1	0	1	0	630	0	0	630	0	0	0	0	0	2	592	0	4	598	1229	4
Grand Total	7	0	11	0	18	0	2010	11	0	2021	0	0	0	0	0	35	2152	0	7	2194	4233	7
Apprch %	38.9%	0.0%	61.1%	0.0%		0.0%	99.5%	0.5%	0.0%		0.0%	0.0%	0.0%	0.0%		1.6%	98.1%	0.0%	0.3%			
Total %	0.2%	0.0%	0.3%	0.0%	0.4%	0.0%	47.5%	0.3%	0.0%	47.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	50.8%	0.0%	0.2%	51.8%	100.0%	

AM PEAK HOUR	Retail Access Driveway Southbound					Pacific Street Westbound					Northbound					Pacific Street Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
07:45	1	0	0	0	1	0	122	1	0	123	0	0	0	0	0	3	153	0	1	157	281
08:00	0	0	0	0	0	0	100	0	0	100	0	0	0	0	0	1	123	0	0	124	224
08:15	0	0	1	0	1	0	108	1	0	109	0	0	0	0	0	10	144	0	0	154	264
08:30	4	0	9	0	13	0	105	4	0	109	0	0	0	0	0	9	132	0	0	141	263
Total Volume	5	0	10	0	15	0	435	6	0	441	0	0	0	0	0	23	552	0	1	576	1032
% App Total	33.3%	0.0%	66.7%	0.0%		0.0%	98.6%	1.4%	0.0%		0.0%	0.0%	0.0%	0.0%		4.0%	95.8%	0.0%	0.2%		
PHF	.313	.000	.278	.000	.288	.000	.891	.375	.000	.896	.000	.000	.000	.000	.000	.575	.902	.000	.250	.917	.918

PM PEAK HOUR	Retail Access Driveway Southbound					Pacific Street Westbound					Northbound					Pacific Street Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	0	0	0	0	0	0	149	0	0	149	0	0	0	0	0	0	149	0	1	150	299
16:45	0	0	0	0	0	0	144	0	0	144	0	0	0	0	0	0	128	0	0	128	272
17:00	0	0	0	0	0	0	172	0	0	172	0	0	0	0	0	1	165	0	1	167	339
17:15	0	0	0	0	0	0	201	0	0	201	0	0	0	0	0	0	162	0	0	162	363
Total Volume	0	0	0	0	0	0	666	0	0	666	0	0	0	0	0	1	604	0	2	607	1273
% App Total	0.0%	0.0%	0.0%	0.0%		0.0%	100.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.2%	99.5%	0.0%	0.3%		
PHF	.000	.000	.000	.000	.000	.000	.828	.000	.000	.828	.000	.000	.000	.000	.000	.250	.915	.000	.500	.909	.877

ALL TRAFFIC DATA

7571-01

City of Rocklin
 All Vehicles on Unshifted
 Nothing on Bank 1
 Nothing on Bank 2

(916) 771-8700

orders@atdtraffic.com

File Name : 15-7484-003 Sierra Meadows Drive-Pacific Street.ppd

Date : 5/27/2015

Unshifted Count = All Vehicles

START TIME	Sierra Meadows Drive Southbound					Pacific Street Westbound					Sierra Meadows Drive Northbound					Pacific Street Eastbound					Total	Uturn Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
07:00	3	7	8	0	18	6	48	1	0	55	13	3	11	0	27	1	79	11	0	91	191	0
07:15	5	6	19	0	30	5	70	1	0	76	8	7	11	0	26	3	102	19	0	124	256	0
07:30	6	9	9	0	24	3	89	3	0	95	5	6	6	0	17	5	118	20	0	143	279	0
07:45	8	3	17	0	28	7	96	1	0	104	14	1	15	0	30	4	123	28	1	156	318	1
Total	22	25	53	0	100	21	303	6	0	330	40	17	43	0	100	13	422	78	1	514	1044	1
08:00	8	11	18	0	37	11	65	1	0	77	12	8	10	0	30	10	79	29	1	119	263	1
08:15	4	12	21	0	37	8	69	1	0	78	19	6	10	0	35	13	97	32	0	142	292	0
08:30	3	3	12	0	18	11	83	1	0	95	13	8	8	0	29	10	109	20	0	139	281	0
08:45	2	5	9	0	16	11	70	2	0	83	25	5	26	0	56	4	57	30	3	94	249	3
Total	17	31	60	0	108	41	287	5	0	333	69	27	54	0	150	37	342	111	4	494	1085	4
16:00	3	4	7	0	14	24	107	5	0	136	27	6	9	0	42	10	107	42	1	160	352	1
16:15	5	6	13	0	24	10	113	3	0	126	26	8	12	0	46	9	114	19	0	142	338	0
16:30	0	6	13	0	19	19	111	2	0	132	30	11	22	0	63	9	119	20	1	149	363	1
16:45	0	9	9	0	18	11	104	2	0	117	23	10	16	0	49	9	100	17	0	126	310	0
Total	8	25	42	0	75	64	435	12	0	511	106	35	59	0	200	37	440	98	2	577	1363	2
17:00	3	9	12	0	24	17	139	4	0	160	33	18	14	0	65	6	127	34	1	168	417	1
17:15	4	8	12	0	24	30	140	1	0	171	43	10	12	0	65	12	123	28	1	164	424	1
17:30	4	2	13	0	19	11	111	4	1	127	30	9	12	0	51	4	118	23	0	145	342	1
17:45	3	6	7	0	16	10	94	7	0	111	19	13	14	0	46	11	95	18	1	125	298	1
Total	14	25	44	0	83	68	484	16	1	569	125	50	52	0	227	33	463	103	3	602	1481	4
Grand Total	61	106	199	0	366	194	1509	39	1	1743	340	129	208	0	677	120	1667	390	10	2187	4973	11
Apprch %	16.7%	29.0%	54.4%	0.0%		11.1%	86.6%	2.2%	0.1%		50.2%	19.1%	30.7%	0.0%		5.5%	76.2%	17.8%	0.5%			
Total %	1.2%	2.1%	4.0%	0.0%	7.4%	3.9%	30.3%	0.8%	0.0%	35.0%	6.8%	2.6%	4.2%	0.0%	13.6%	2.4%	33.5%	7.8%	0.2%	44.0%	100.0%	

AM PEAK HOUR	Sierra Meadows Drive Southbound					Pacific Street Westbound					Sierra Meadows Drive Northbound					Pacific Street Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
07:45	8	3	17	0	28	7	96	1	0	104	14	1	15	0	30	4	123	28	1	156	318
08:00	8	11	18	0	37	11	65	1	0	77	12	8	10	0	30	10	79	29	1	119	263
08:15	4	12	21	0	37	8	69	1	0	78	19	6	10	0	35	13	97	32	0	142	292
08:30	3	3	12	0	18	11	83	1	0	95	13	8	8	0	29	10	109	20	0	139	281
Total Volume	23	29	68	0	120	37	313	4	0	354	58	23	43	0	124	37	408	109	2	556	1154
% App Total	19.2%	24.2%	56.7%	0.0%		10.5%	88.4%	1.1%	0.0%		46.8%	18.5%	34.7%	0.0%		6.7%	73.4%	19.6%	0.4%		
PHF	.719	.604	.810	.000	.811	.841	.815	1.000	.000	.851	.763	.719	.717	.000	.886	.712	.829	.852	.500	.891	.907

PM PEAK HOUR	Sierra Meadows Drive Southbound					Pacific Street Westbound					Sierra Meadows Drive Northbound					Pacific Street Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	0	6	13	0	19	19	111	2	0	132	30	11	22	0	63	9	119	20	1	149	363
16:45	0	9	9	0	18	11	104	2	0	117	23	10	16	0	49	9	100	17	0	126	310
17:00	3	9	12	0	24	17	139	4	0	160	33	18	14	0	65	6	127	34	1	168	417
17:15	4	8	12	0	24	30	140	1	0	171	43	10	12	0	65	12	123	28	1	164	424
Total Volume	7	32	46	0	85	77	494	9	0	580	129	49	64	0	242	36	469	99	3	607	1514
% App Total	8.2%	37.6%	54.1%	0.0%		13.3%	85.2%	1.6%	0.0%		53.3%	20.2%	26.4%	0.0%		5.9%	77.3%	16.3%	0.5%		
PHF	.438	.889	.885	.000	.885	.642	.882	.563	.000	.848	.750	.681	.727	.000	.931	.750	.923	.728	.750	.903	.893

ALL TRAFFIC DATA

7571-01

City of Rocklin
All Vehicles on Unshifted
Nothing on Bank 1
Nothing on Bank 2

(916) 771-8700

orders@atdtraffic.com

File Name : 15-7484-004 Grove Street-Cedar Street.ppd

Date : 5/27/2015

Unshifted Count = All Vehicles

START TIME	Grove Street Southbound					Cedar Street Westbound					Grove Street Northbound					Cedar Street Eastbound					Total	Uturn Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
07:00	13	5	0	0	18	2	1	7	0	10	0	1	0	0	1	0	1	0	0	1	30	0
07:15	8	2	0	0	10	0	1	9	0	10	0	2	0	0	2	0	4	0	0	4	26	0
07:30	4	7	1	0	12	0	2	7	0	9	0	3	0	0	3	3	3	0	0	6	30	0
07:45	17	6	0	0	23	5	4	8	0	17	0	5	0	0	5	0	7	0	0	7	52	0
Total	42	20	1	0	63	7	8	31	0	46	0	11	0	0	11	3	15	0	0	18	138	0
08:00	34	8	0	0	42	8	15	35	0	58	0	3	1	0	4	1	22	1	0	24	128	0
08:15	30	8	2	0	40	7	12	34	0	53	0	9	0	0	9	0	9	0	0	9	111	0
08:30	2	2	0	0	4	2	2	9	0	13	0	4	0	0	4	0	0	1	0	1	22	0
08:45	6	6	2	0	14	0	1	4	0	5	0	3	0	0	3	0	1	0	0	1	23	0
Total	72	24	4	0	100	17	30	82	0	129	0	19	1	0	20	1	32	2	0	35	284	0
16:00	8	6	0	0	14	1	1	17	0	19	0	2	0	0	2	1	1	0	0	2	37	0
16:15	11	3	1	0	15	2	6	9	0	17	0	4	0	0	4	0	4	1	0	5	41	0
16:30	5	1	1	0	7	1	7	7	0	15	0	5	0	0	5	1	2	0	0	3	30	0
16:45	6	5	3	0	14	0	4	9	1	14	0	3	1	0	4	0	2	0	0	2	34	1
Total	30	15	5	0	50	4	18	42	1	65	0	14	1	0	15	2	9	1	0	12	142	1
17:00	19	2	1	0	22	0	1	19	0	20	0	1	0	0	1	1	2	0	0	3	46	0
17:15	11	8	1	0	20	1	2	7	0	10	1	4	0	0	5	0	2	0	0	2	37	0
17:30	10	5	1	0	16	0	3	14	0	17	0	2	0	0	2	1	3	0	0	4	39	0
17:45	3	8	4	0	15	0	3	5	0	8	0	5	0	0	5	0	3	0	0	3	31	0
Total	43	23	7	0	73	1	9	45	0	55	1	12	0	0	13	2	10	0	0	12	153	0
Grand Total	187	82	17	0	286	29	65	200	1	295	1	56	2	0	59	8	66	3	0	77	717	1
Apprch %	65.4%	28.7%	5.9%	0.0%		9.8%	22.0%	67.8%	0.3%		1.7%	94.9%	3.4%	0.0%		10.4%	85.7%	3.9%	0.0%			
Total %	26.1%	11.4%	2.4%	0.0%	39.9%	4.0%	9.1%	27.9%	0.1%	41.1%	0.1%	7.8%	0.3%	0.0%	8.2%	1.1%	9.2%	0.4%	0.0%	10.7%	100.0%	

AM PEAK HOUR	Grove Street Southbound					Cedar Street Westbound					Grove Street Northbound					Cedar Street Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
07:30	4	7	1	0	12	0	2	7	0	9	0	3	0	0	3	3	3	0	0	6	30
07:45	17	6	0	0	23	5	4	8	0	17	0	5	0	0	5	0	7	0	0	7	52
08:00	34	8	0	0	42	8	15	35	0	58	0	3	1	0	4	1	22	1	0	24	128
08:15	30	8	2	0	40	7	12	34	0	53	0	9	0	0	9	0	9	0	0	9	111
Total Volume	85	29	3	0	117	20	33	84	0	137	0	20	1	0	21	4	41	1	0	46	321
% App Total	72.6%	24.8%	2.6%	0.0%		14.6%	24.1%	61.3%	0.0%		0.0%	95.2%	4.8%	0.0%		8.7%	89.1%	2.2%	0.0%		
PHF	.625	.906	.375	.000	.696	.625	.550	.600	.000	.591	.000	.556	.250	.000	.583	.333	.466	.250	.000	.479	.627

PM PEAK HOUR	Grove Street Southbound					Cedar Street Westbound					Grove Street Northbound					Cedar Street Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	6	5	3	0	14	0	4	9	1	14	0	3	1	0	4	0	2	0	0	2	34
17:00	19	2	1	0	22	0	1	19	0	20	0	1	0	0	1	1	2	0	0	3	46
17:15	11	8	1	0	20	1	2	7	0	10	1	4	0	0	5	0	2	0	0	2	37
17:30	10	5	1	0	16	0	3	14	0	17	0	2	0	0	2	1	3	0	0	4	39
Total Volume	46	20	6	0	72	1	10	49	1	61	1	10	1	0	12	2	9	0	0	11	156
% App Total	63.9%	27.8%	8.3%	0.0%		1.6%	16.4%	80.3%	1.6%		8.3%	83.3%	8.3%	0.0%		18.2%	81.8%	0.0%	0.0%		
PHF	.605	.625	.500	.000	.818	.250	.625	.645	.250	.763	.250	.625	.250	.000	.600	.500	.750	.000	.000	.688	.848

ALL TRAFFIC DATA

7571-01

City of Rocklin
 All Vehicles on Unshifted
 Nothing on Bank 1
 Nothing on Bank 2

(916) 771-8700

orders@atdtraffic.com

File Name : 15-7484-005 Meyers Street-Rocklin Road.ppd

Date : 5/27/2015

Unshifted Count = All Vehicles

START TIME	Meyers Street Southbound					Rocklin Road Westbound					Meyers Street Northbound					Rocklin Road Eastbound					Total	Uturn Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
07:00	24	0	4	0	28	6	75	8	1	90	0	0	0	0	0	1	77	1	0	79	197	1
07:15	22	0	3	0	25	1	54	16	0	71	1	0	1	0	2	2	79	1	0	82	180	0
07:30	14	0	6	0	20	2	100	25	1	128	0	0	0	0	0	8	110	1	0	119	267	1
07:45	29	0	7	0	36	0	106	39	1	146	0	0	3	0	3	21	123	0	1	145	330	2
Total	89	0	20	0	109	9	335	88	3	435	1	0	4	0	5	32	389	3	1	425	974	4
08:00	78	0	28	0	106	0	103	56	2	161	0	0	0	0	0	59	117	2	0	178	445	2
08:15	61	3	21	0	85	1	124	30	2	157	0	0	0	0	0	35	77	1	0	113	355	2
08:30	18	1	3	0	22	3	101	16	2	122	0	0	0	0	0	1	73	1	0	75	219	2
08:45	15	0	0	0	15	4	129	16	3	152	1	0	0	0	1	1	96	1	0	98	266	3
Total	172	4	52	0	228	8	457	118	9	592	1	0	0	0	1	96	363	5	0	464	1285	9
16:00	21	0	5	0	26	3	140	27	3	173	1	0	2	0	3	7	150	1	1	159	361	4
16:15	21	0	5	0	26	1	163	28	1	193	2	0	2	0	4	5	152	0	1	158	381	2
16:30	20	0	7	0	27	1	163	31	5	200	2	0	1	0	3	3	145	0	1	149	379	6
16:45	16	0	7	0	23	0	161	33	5	199	0	0	1	0	1	4	147	0	1	152	375	6
Total	78	0	24	0	102	5	627	119	14	765	5	0	6	0	11	19	594	1	4	618	1496	18
17:00	23	0	6	0	29	0	151	38	1	190	2	1	2	0	5	20	154	1	0	175	399	1
17:15	25	0	4	0	29	0	186	37	5	228	0	0	1	0	1	18	156	0	0	174	432	5
17:30	25	0	4	0	29	2	159	29	5	195	1	0	1	0	2	6	135	1	0	142	368	5
17:45	15	0	1	0	16	2	172	19	1	194	1	0	2	0	3	7	129	3	0	139	352	1
Total	88	0	15	0	103	4	668	123	12	807	4	1	6	0	11	51	574	5	0	630	1551	12
Grand Total	427	4	111	0	542	26	2087	448	38	2599	11	1	16	0	28	198	1920	14	5	2137	5306	43
Apprch %	78.8%	0.7%	20.5%	0.0%		1.0%	80.3%	17.2%	1.5%		39.3%	3.6%	57.1%	0.0%		9.3%	89.8%	0.7%	0.2%			
Total %	8.0%	0.1%	2.1%	0.0%	10.2%	0.5%	39.3%	8.4%	0.7%	49.0%	0.2%	0.0%	0.3%	0.0%	0.5%	3.7%	36.2%	0.3%	0.1%	40.3%	100.0%	

AM PEAK HOUR	Meyers Street Southbound					Rocklin Road Westbound					Meyers Street Northbound					Rocklin Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
07:30	14	0	6	0	20	2	100	25	1	128	0	0	0	0	0	8	110	1	0	119	267
07:45	29	0	7	0	36	0	106	39	1	146	0	0	3	0	3	21	123	0	1	145	330
08:00	78	0	28	0	106	0	103	56	2	161	0	0	0	0	0	59	117	2	0	178	445
08:15	61	3	21	0	85	1	124	30	2	157	0	0	0	0	0	35	77	1	0	113	355
Total Volume	182	3	62	0	247	3	433	150	6	592	0	0	3	0	3	123	427	4	1	555	1397
% App Total	73.7%	1.2%	25.1%	0.0%		0.5%	73.1%	25.3%	1.0%		0.0%	0.0%	100.0%	0.0%		22.2%	76.9%	0.7%	0.2%		
PHF	.583	.250	.554	.000	.583	.375	.873	.670	.750	.919	.000	.000	.250	.000	.250	.521	.868	.500	.250	.779	.785

PM PEAK HOUR	Meyers Street Southbound					Rocklin Road Westbound					Meyers Street Northbound					Rocklin Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	20	0	7	0	27	1	163	31	5	200	2	0	1	0	3	3	145	0	1	149	379
16:45	16	0	7	0	23	0	161	33	5	199	0	0	1	0	1	4	147	0	1	152	375
17:00	23	0	6	0	29	0	151	38	1	190	2	1	2	0	5	20	154	1	0	175	399
17:15	25	0	4	0	29	0	186	37	5	228	0	0	1	0	1	18	156	0	0	174	432
Total Volume	84	0	24	0	108	1	661	139	16	817	4	1	5	0	10	45	602	1	2	650	1585
% App Total	77.8%	0.0%	22.2%	0.0%		0.1%	80.9%	17.0%	2.0%		40.0%	10.0%	50.0%	0.0%		6.9%	92.6%	0.2%	0.3%		
PHF	.840	.000	.857	.000	.931	.250	.888	.914	.800	.896	.500	.250	.625	.000	.500	.563	.965	.250	.500	.929	.917

EXISTING PLUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Scenario Report

Scenario: EXISTING AM
Command: Default Command
Volume: EX AM
Geometry: EXISTING
Impact Fee: Default Impact Fee
Trip Generation: AM PEAK
Trip Distribution: AM CURRENT
Paths: NO CLOVER
Routes: Default Route
Configuration: Default Configuration

 EXISTING PLUS PROJECT
 7571-01 TLA: QUARRY ROW SUBDIVISION

Trip Generation Report

Forecast for AM PEAK

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
10	QUARRY ROW	64.00	sfr	0.19	0.56	12	36	48	100.0
	Zone 10 Subtotal					12	36	48	100.0
TOTAL						12	36	48	100.0

EXISTING PLUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Trip Distribution Report

Percent Of Trips AM CURRENT

Zone	To Gates									
	3	4	6	7	11	14	15	17	18	19
10	20.0	10.0	8.0	32.0	5.0	5.0	5.0	5.0	5.0	5.0

 EXISTING PLUS PROJECT
 7571-01 TLA: QUARRY ROW SUBDIVISION

Turning Movement Report
 AM PEAK

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#1 Pacific St / Midas Ave													
Base	27	74	9	275	112	244	73	352	22	2	253	132	1575
Added	0	0	0	2	0	0	0	3	0	0	10	6	21
Total	27	74	9	277	112	244	73	355	22	2	263	138	1596
#2 PACIFIC / GROVE													
Base	10	0	45	0	0	0	0	590	9	42	400	0	1096
Added	17	0	0	0	0	0	0	3	2	0	0	0	22
Total	27	0	45	0	0	0	0	593	11	42	400	0	1118
#3 PACIFIC / YANKEE HILL													
Base	0	0	0	8	0	27	60	577	0	0	415	25	1112
Added	0	0	0	0	0	0	0	4	0	0	0	0	4
Total	0	0	0	8	0	27	60	581	0	0	415	25	1116
#4 PACIFIC ACCESS													
Base	0	0	0	5	0	10	23	552	0	0	435	6	1031
Added	0	0	8	0	0	0	0	0	3	3	0	0	14
Total	0	0	8	5	0	10	23	552	3	3	435	6	1045
#5 Pacific St / American Way													
Base	58	23	43	23	29	68	39	408	109	37	313	4	1154
Added	0	0	0	0	0	0	0	8	1	0	3	0	12
Total	58	23	43	23	29	68	39	416	110	37	316	4	1166
#6 GROVE / ACCESS													
Base	0	55	0	0	51	0	0	0	0	0	0	0	106
Added	0	0	4	2	0	0	0	0	0	11	0	17	34
Total	0	55	4	2	51	0	0	0	0	11	0	17	140
#7 GROVE ST / CEDAR ST													
Base	20	33	84	4	41	1	0	20	1	85	29	3	321
Added	0	0	3	0	0	0	0	1	0	9	2	0	15
Total	20	33	87	4	41	1	0	21	1	94	31	3	336
#8 Rocklin Rd / Meyers St													
Base	9	433	150	124	427	4	0	0	3	182	3	62	1397
Added	0	1	2	0	5	0	0	0	0	7	0	0	15
Total	9	434	152	124	432	4	0	0	3	189	3	62	1412
#22 PACIFIC / ROCKLIN ROAD													
Base	327	145	126	39	145	60	23	417	393	139	359	24	2197
Added	0	0	1	0	0	0	0	2	0	3	7	0	13
Total	327	145	127	39	145	60	23	419	393	142	366	24	2210

 EXISTING PLUS PROJECT
 7571-01 TLA: QUARRY ROW SUBDIVISION

 Impact Analysis Report
 Level Of Service

Intersection	Base		Future		Change in
	Del/ LOS	V/ Veh C	Del/ LOS	V/ Veh C	
# 1 Pacific St / Midas Ave	A	xxxxx 0.378	A	xxxxx 0.383	+ 0.005 V/C
# 2 PACIFIC / GROVE	B	11.5 0.065	B	12.7 0.069	+ 1.249 D/V
# 3 PACIFIC / YANKEE HILL	B	10.7 0.054	B	10.7 0.054	+ 0.004 D/V
# 4 PACIFIC ACCESS	B	11.8 0.021	B	12.5 0.021	+ 0.706 D/V
# 5 Pacific St / American Way	A	xxxxx 0.311	A	xxxxx 0.314	+ 0.003 V/C
# 6 GROVE / ACCESS	A	0.0 0.000	A	8.9 0.017	+ 8.879 D/V
# 7 GROVE ST / CEDAR ST	A	7.8 0.155	A	7.9 0.164	+ 0.009 V/C
# 8 Rocklin Rd / Meyers St	A	5.8 0.522	A	5.8 0.525	+ 0.003 V/C
# 22 PACIFIC / ROCKLIN ROAD	B	xxxxx 0.654	B	xxxxx 0.656	+ 0.002 V/C

EXISTING PLUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #1 Pacific St / Midas Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.378
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 37 Level Of Service: A

Table with columns for Approach (North, South, East, West Bound) and Movement (L, T, R). Rows include Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: >> Count Date: 16 Apr 2016 <<

Table showing various volume and adjustment factors for different movements and lanes.

Saturation Flow Module:

Table showing saturation flow rates and adjustments for different lanes.

Capacity Analysis Module:

Table showing capacity analysis metrics like Vol/Sat, Crit Volume, and Crit Moves.

EXISTING PLUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #1 Pacific St / Midas Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.383
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 37 Level Of Service: A

Table with columns: Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Split Phase, Protected), Rights (Include, Ignore, Ovl), Min. Green, Y+R, Lanes.

Volume Module: >> Count Date: 16 Apr 2016 <<
Table with columns: Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, Final Volume.

Saturation Flow Module:
Table with columns: Sat/Lane, Adjustment, Lanes, Final Sat.

Capacity Analysis Module:
Table with columns: Vol/Sat, Crit Volume, Crit Moves.

EXISTING PLUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 PACIFIC / GROVE

Average Delay (sec/veh): 0.9 Worst Case Level Of Service: B[11.5]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, and Lanes.

Volume Module: Table with 13 columns for traffic flow metrics. Rows include Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Critical Gap Module: Table with 13 columns for gap metrics. Rows include Critical Gp and FollowUpTim.

Capacity Module: Table with 13 columns for capacity metrics. Rows include Conflict Vol, Potent Cap., Move Cap., Total Cap, and Volume/Cap.

Level Of Service Module: Table with 13 columns for LOS metrics. Rows include 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

EXISTING PLUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 PACIFIC / GROVE

Average Delay (sec/veh): 1.2 Worst Case Level Of Service: B[12.7]

Table with columns: Approach, Movement, Control, Rights, Lanes. Rows for North Bound, South Bound, East Bound, West Bound.

Volume Module:
Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume

Critical Gap Module:
Critical Gp, FollowUpTim

Capacity Module:
Cnflct Vol, Potent Cap., Move Cap., Total Cap, Volume/Cap

Level Of Service Module:
2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS

Note: Queue reported is the number of cars per lane.

EXISTING PLUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #3 PACIFIC / YANKEE HILL

Average Delay (sec/veh): 0.8 Worst Case Level Of Service: B [10.7]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0	0	1! 0 0	0	1	0 0 1	1	0	1 1 0	1	0	1 1 0

Volume Module:

Base Vol:	0	0	0	8	0	27	60	577	0	0	415	25
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	8	0	27	60	577	0	0	415	25
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	8	0	27	60	577	0	0	415	25
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	8	0	27	60	577	0	0	415	25

Critical Gap Module:

Critical Gp:	7.5	6.5	6.9	6.8	6.5	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx

Capacity Module:

Cnflct Vol:	905	1137	289	836	1125	220	440	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	232	200	708	306	204	784	1116	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	215	190	708	293	193	784	1116	xxxx	xxxxx	xxxx	xxxx	xxxxx
Total Cap:	306	295	xxxxx	414	306	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	0.00	0.00	0.00	0.02	0.00	0.03	0.05	xxxx	xxxx	xxxx	xxxx	xxxx

Level Of Service Module:

2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.1	0.2	xxxx	xxxxx	xxxx	xxxx	xxxxx			
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	9.8	8.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx			
LOS by Move:	*	*	*	*	*	A	A	*	*	*	*	*			
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	0	xxxxx	414	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx			
SharedQueue:	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			
Shrd ConDel:	xxxxx	xxxx	xxxxx	13.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			
Shared LOS:	*	*	*	B	*	*	*	*	*	*	*	*			
ApproachDel:	xxxxxx			10.7			xxxxxx			xxxxxx					
ApproachLOS:	*			B			*			*					

Note: Queue reported is the number of cars per lane.

EXISTING PLUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #3 PACIFIC / YANKEE HILL

Average Delay (sec/veh): 0.8 Worst Case Level Of Service: B[10.7]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, and Lanes.

Volume Module: Table with 12 columns representing different traffic scenarios and 10 rows of volume data including Base Vol, Growth Adj, Initial Bse, etc.

Critical Gap Module: Table with 12 columns and 2 rows showing critical gap and follow-up time values.

Capacity Module: Table with 12 columns and 5 rows showing capacity-related metrics like Cnflct Vol, Potent Cap., Move Cap., etc.

Level Of Service Module: Table with 12 columns and 10 rows showing level of service metrics like 2Way95thQ, Control Del, LOS by Move, etc.

Note: Queue reported is the number of cars per lane.

EXISTING PLUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #4 PACIFIC ACCESS

Average Delay (sec/veh): 0.4 Worst Case Level Of Service: B[11.8]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, and Lanes.

Volume Module: Table with 13 columns for various volume metrics like Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume.

Critical Gap Module: Table with 13 columns for gap metrics like Critical Gp, FollowUpTim.

Capacity Module: Table with 13 columns for capacity metrics like Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Level Of Service Module: Table with 13 columns for LOS metrics like 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.

EXISTING PLUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #4 PACIFIC ACCESS

Average Delay (sec/veh): 0.5 Worst Case Level Of Service: B[12.5]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, and Lanes.

Volume Module: Table with 13 columns for traffic volumes and adjustment factors like Base Vol, Growth Adj, Initial Bse, etc.

Critical Gap Module: Table with 13 columns for critical gap and follow-up time values.

Capacity Module: Table with 13 columns for capacity-related metrics like Conflict Vol, Potent Cap., Move Cap., etc.

Level Of Service Module: Table with 13 columns for LOS metrics like 2Way95thQ, Control Del, LOS by Move, etc.

Note: Queue reported is the number of cars per lane.

EXISTING PLUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #5 Pacific St / American Way

Cycle (sec): 100 Critical Vol./Cap.(X): 0.311
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 33 Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: Table with 12 columns representing different traffic scenarios and 10 rows of volume-related metrics.

Saturation Flow Module: Table with 12 columns and 4 rows showing saturation flow and adjustment factors.

Capacity Analysis Module: Table with 12 columns and 4 rows showing capacity analysis metrics.

EXISTING PLUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #5 Pacific St / American Way

Cycle (sec): 100 Critical Vol./Cap.(X): 0.314
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 33 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	0	1	0	0	1	0	1	1	0	1

Volume Module:

Base Vol:	58	23	43	23	29	68	39	408	109	37	313	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	58	23	43	23	29	68	39	408	109	37	313	4
Added Vol:	0	0	0	0	0	0	0	8	1	0	3	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	58	23	43	23	29	68	39	416	110	37	316	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	58	23	43	23	29	68	39	416	110	37	316	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	58	23	43	23	29	68	39	416	110	37	316	4
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	58	23	43	23	29	68	39	416	110	37	316	4

Saturation Flow Module:

Sat/Lane:	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.35	0.65	1.00	0.30	0.70	1.00	1.58	0.42	1.00	1.98	0.02
Final Sat.:	1450	505	945	1450	434	1016	1450	2294	606	1450	2864	36

Capacity Analysis Module:

Vol/Sat:	0.04	0.05	0.05	0.02	0.07	0.07	0.03	0.18	0.18	0.03	0.11	0.11
Crit Volume:	58			97			263			37		
Crit Moves:	****			****			****			****		

EXISTING PLUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #6 GROVE / ACCESS

Average Delay (sec/veh): 1.9 Worst Case Level Of Service: A[8.9]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, and Lanes.

Volume Module:

Table with 12 columns representing different volume categories and 12 rows of data including Base Vol, Growth Adj, Initial Bse, etc.

Critical Gap Module:

Table with 12 columns for gap metrics and 2 rows of data for Critical Gp and FollowUpTim.

Capacity Module:

Table with 12 columns for capacity metrics and 4 rows of data including Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level Of Service Module:

Table with 12 columns for LOS metrics and 10 rows of data including 2Way95thQ, Control Del, LOS by Move, etc.

Note: Queue reported is the number of cars per lane.

EXISTING PLUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #7 GROVE ST / CEDAR ST

Cycle (sec): 100 Critical Vol./Cap.(X): 0.155
Loss Time (sec): 0 Average Delay (sec/veh): 7.8
Optimal Cycle: 0 Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, and Lanes.

Volume Module: Table with 12 columns representing different traffic movements and 10 rows of adjustment factors like Base Vol, Growth Adj, etc.

Saturation Flow Module: Table with 12 columns and 3 rows showing adjustment factors for lanes and final saturation.

Capacity Analysis Module: Table with 12 columns and 12 rows showing Vol/Sat, Crit Moves, Delay/Veh, etc.

Note: Queue reported is the number of cars per lane.

EXISTING PLUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #7 GROVE ST / CEDAR ST

Cycle (sec): 100 Critical Vol./Cap.(X): 0.164
Loss Time (sec): 0 Average Delay (sec/veh): 7.9
Optimal Cycle: 0 Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, and Lanes.

Volume Module: Table with 13 columns representing different traffic volumes and adjustment factors like Base Vol, Growth Adj, Initial Bse, etc.

Saturation Flow Module: Table with 13 columns showing adjustment factors and saturation flow values for different lanes.

Capacity Analysis Module: Table with 13 columns showing delay, LOS, and other capacity-related metrics for each lane.

Note: Queue reported is the number of cars per lane.

EXISTING PLUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Scenario Report

Scenario: EXISTING PM
Command: Default Command
Volume: EX PM 2013
Geometry: EXISTING
Impact Fee: Default Impact Fee
Trip Generation: PM PEAK
Trip Distribution: CURRENT
Paths: NO CLOVER
Routes: Default Route
Configuration: Default Configuration

EXISTING PLUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Trip Generation Report

Forecast for PM PEAK

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
10	QUARRY ROW	64.00	sfr	0.63	0.37	40	24	64	100.0
	Zone 10 Subtotal					40	24	64	100.0
TOTAL						40	24	64	100.0

EXISTING PLUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Trip Distribution Report

Percent Of Trips CURRENT

Zone	To Gates									
	3	4	6	7	11	14	15	17	18	19
10	25.0	10.0	2.0	26.0	2.0	5.0	10.0	10.0	5.0	5.0

 EXSITING PLUS PROJECT
 7571-01 TLA: QUARRY ROW SUBDIVISION

Turning Movement Report
 PM PEAK

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#1 Pacific St / Midas Ave													
Base	10	61	9	185	28	155	246	435	18	9	448	278	1882
Added	0	0	0	5	0	0	0	12	0	0	8	3	28
Total	10	61	9	190	28	155	246	447	18	9	456	281	1910
#2 PACIFIC / GROVE													
Base	12	0	34	0	0	0	0	566	15	37	668	0	1332
Added	10	0	1	0	0	0	0	10	7	0	0	0	28
Total	22	0	35	0	0	0	0	576	22	37	668	0	1360
#3 PACIFIC / YANKEE HILL													
Base	8	0	1	26	0	55	22	571	8	16	644	11	1362
Added	0	0	0	0	0	0	0	11	0	0	0	0	11
PassBy	-8	0	-1	0	0	0	0	0	-8	-16	0	0	-33
Total	0	0	0	26	0	55	22	582	0	0	644	11	1340
#4 PACIFIC ACCESS													
Base	0	0	0	0	0	0	3	604	0	0	666	0	1273
Added	0	0	8	0	0	0	0	0	11	13	0	0	32
Total	0	0	8	0	0	0	3	604	11	13	666	0	1305
#5 Pacific St / American Way													
Base	129	49	64	7	32	46	39	469	99	77	494	9	1514
Added	1	0	0	0	0	0	0	7	0	0	12	0	20
Total	130	49	64	7	32	46	39	476	99	77	506	9	1534
#6 GROVE / ACCESS													
Base	0	46	0	0	52	0	0	0	0	0	0	0	98
Added	0	1	9	7	0	0	0	0	0	6	0	11	34
Total	0	47	9	7	52	0	0	0	0	6	0	11	132
#7 GROVE ST / CEDAR ST													
Base	2	10	49	2	9	0	1	10	1	46	20	6	156
Added	0	0	8	0	0	0	0	2	0	4	1	0	15
Total	2	10	57	2	9	0	1	12	1	50	21	6	171
#8 Rocklin Rd / Meyers St													
Base	17	661	139	47	602	1	4	1	5	84	0	24	1585
Added	0	4	7	0	2	0	0	0	0	4	0	0	17
Total	17	665	146	47	604	1	4	1	5	88	0	24	1602
#22 PACIFIC / ROCKLIN ROAD													
Base	447	102	157	25	64	33	24	598	435	101	544	20	2550
Added	0	0	3	0	0	0	0	10	1	2	6	0	22
Total	447	102	160	25	64	33	24	608	436	103	550	20	2572

 EXISTING PLUS PROJECT
 7571-01 TLA: QUARRY ROW SUBDIVISION

Impact Analysis Report
 Level Of Service

Intersection	Base		Future		Change in
	LOS	Veh C	LOS	Veh C	
# 1 Pacific St / Midas Ave	A	xxxxx 0.494	A	xxxxx 0.500	+ 0.006 V/C
# 2 PACIFIC / GROVE	B	11.9 0.048	B	12.9 0.061	+ 0.993 D/V
# 3 PACIFIC / YANKEE HILL	C	16.4 0.086	B	12.4 0.082	-4.009 D/V
# 4 PACIFIC ACCESS	A	8.9 0.003	B	10.3 0.014	+ 1.362 D/V
# 5 Pacific St / American Way	A	xxxxx 0.392	A	xxxxx 0.395	+ 0.003 V/C
# 6 GROVE / ACCESS	A	0.0 0.000	A	8.8 0.011	+ 8.811 D/V
# 7 GROVE ST / CEDAR ST	A	7.2 0.085	A	7.3 0.091	+ 0.006 V/C
# 8 Rocklin Rd / Meyers St	A	8.2 0.697	A	8.3 0.707	+ 0.009 V/C
# 22 PACIFIC / ROCKLIN ROAD	B	xxxxx 0.610	B	xxxxx 0.612	+ 0.003 V/C

EXISTING PLUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #1 Pacific St / Midas Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.494
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 45 Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: >> Count Date: 16 Apr 2016 <<
Table with 12 columns representing different traffic movements and 10 rows of adjustment factors.

Saturation Flow Module:
Table with 12 columns representing different traffic movements and 4 rows of saturation flow data.

Capacity Analysis Module:
Table with 12 columns representing different traffic movements and 3 rows of capacity analysis data.

EXISTING PLUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #1 Pacific St / Midas Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.500
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 46 Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: >> Count Date: 16 Apr 2016 <<
Table with 12 columns representing different traffic volumes and adjustment factors.

Saturation Flow Module:
Table with 12 columns representing saturation flow rates and adjustment factors.

Capacity Analysis Module:
Table with 12 columns representing volume/saturation ratios and critical volumes.

EXISTING PLUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 PACIFIC / GROVE

Average Delay (sec/veh): 0.7 Worst Case Level Of Service: B[11.9]

Table with 4 columns: Approach, North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module:
Base Vol: 12 0 34 0 0 0 0 566 15 37 668 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 12 0 34 0 0 0 0 566 15 37 668 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 12 0 34 0 0 0 0 566 15 37 668 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 12 0 34 0 0 0 0 566 15 37 668 0

Critical Gap Module:
Critical Gp: 6.8 6.5 6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx 4.1 xxxx xxxxx
FollowUpTim: 3.5 4.0 3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx 2.2 xxxx xxxxx

Capacity Module:
Cnflct Vol: 982 1316 291 xxxx xxxx xxxxx xxxx xxxx xxxxx 581 xxxx xxxxx
Potent Cap.: 246 157 706 xxxx xxxx xxxxx xxxx xxxx xxxxx 989 xxxx xxxxx
Move Cap.: 239 151 706 xxxx xxxx xxxxx xxxx xxxx xxxxx 989 xxxx xxxxx
Total Cap: 367 272 xxxxx 280 264 xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
Volume/Cap: 0.03 0.00 0.05 xxxx xxxx xxxxx xxxx xxxx xxxxx 0.04 xxxx xxxxx

Level Of Service Module:
2Way95thQ: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx 0.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx 8.8 xxxx xxxxx
LOS by Move: * * * * * * * * * * A * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx 569 xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
SharedQueue:xxxxx 0.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 11.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS: * B * * * * * * * * * * * * *
ApproachDel: 11.9 xxxxxx xxxxxx xxxxxx
ApproachLOS: B * * *

Note: Queue reported is the number of cars per lane.

EXISTING PLUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 PACIFIC / GROVE

Average Delay (sec/veh): 0.8 Worst Case Level Of Service: B[12.9]

Table with columns: Approach, Movement, Control, Rights, Lanes. Rows for North Bound, South Bound, East Bound, West Bound.

Volume Module:

Table with columns: Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume. Rows for North, South, East, West.

Critical Gap Module:

Table with columns: Critical Gap, FollowUpTim. Rows for North, South, East, West.

Capacity Module:

Table with columns: Cnflct Vol, Potent Cap., Move Cap., Total Cap, Volume/Cap. Rows for North, South, East, West.

Level Of Service Module:

Table with columns: 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS. Rows for North, South, East, West.

Note: Queue reported is the number of cars per lane.

EXISTING PLUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #3 PACIFIC / YANKEE HILL

Average Delay (sec/veh): 1.1 Worst Case Level Of Service: C [16.4]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, and Lanes.

Volume Module: Table with 13 columns for traffic volumes and adjustment factors like Base Vol, Growth Adj, Initial Bse, etc.

Critical Gap Module: Table with 13 columns for critical gap and follow-up time values.

Capacity Module: Table with 13 columns for capacity-related metrics like Conflict Vol, Potent Cap., Move Cap., etc.

Level Of Service Module: Table with 13 columns for LOS-related metrics like 2Way95thQ, Control Del, LOS by Move, etc.

Note: Queue reported is the number of cars per lane.

EXISTING PLUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #3 PACIFIC / YANKEE HILL

Average Delay (sec/veh): 0.9 Worst Case Level Of Service: B[12.4]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, and Lanes.

Volume Module: Table with 12 columns for volume metrics (Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume).

Critical Gap Module: Table with 12 columns for gap and follow-up times.

Capacity Module: Table with 12 columns for capacity metrics (Conflict Vol, Potent Cap., Move Cap., Total Cap, Volume/Cap).

Level Of Service Module: Table with 12 columns for LOS metrics (2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS).

Note: Queue reported is the number of cars per lane.

EXISTING PLUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #4 PACIFIC ACCESS

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[8.9]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, and Lanes.

Volume Module: Table with 13 columns for various volume metrics like Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume.

Critical Gap Module: Table with 13 columns for critical gap and follow-up time metrics.

Capacity Module: Table with 13 columns for capacity metrics like Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Level Of Service Module: Table with 13 columns for LOS metrics like 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.

EXISTING PLUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #4 PACIFIC ACCESS

Average Delay (sec/veh): 0.2 Worst Case Level Of Service: B[10.3]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, and Lanes.

Volume Module: Table with 13 columns for various volume metrics like Base Vol, Growth Adj, Initial Bse, etc.

Critical Gap Module: Table with 13 columns for gap metrics like Critical Gp, FollowUpTim, etc.

Capacity Module: Table with 13 columns for capacity metrics like Cnflct Vol, Potent Cap., Move Cap., etc.

Level Of Service Module: Table with 13 columns for LOS metrics like 2Way95thQ, Control Del, LOS by Move, etc.

Note: Queue reported is the number of cars per lane.

EXISTING PLUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #5 Pacific St / American Way

Cycle (sec): 100 Critical Vol./Cap.(X): 0.392
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 37 Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: >> Count Date: 6 Jun 2013 <<
Table with 12 columns for different volume categories and 12 rows for various adjustment factors like Base Vol, Growth Adj, etc.

Saturation Flow Module:
Table with 12 columns for saturation flow and 4 rows for Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module:
Table with 12 columns for capacity analysis and 4 rows for Vol/Sat, Crit Volume, Crit Moves, and asterisks.

EXISTING PLUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #5 Pacific St / American Way

Cycle (sec): 100 Critical Vol./Cap.(X): 0.395
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 38 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	0	1	0	0	1	0	1	1	0	1

Volume Module: >> Count Date: 6 Jun 2013 <<

Base Vol:	129	49	64	7	32	46	39	469	99	77	494	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	129	49	64	7	32	46	39	469	99	77	494	9
Added Vol:	1	0	0	0	0	0	0	7	0	0	12	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	130	49	64	7	32	46	39	476	99	77	506	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	130	49	64	7	32	46	39	476	99	77	506	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	130	49	64	7	32	46	39	476	99	77	506	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	130	49	64	7	32	46	39	476	99	77	506	9

Saturation Flow Module:

Sat/Lane:	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.43	0.57	1.00	0.41	0.59	1.00	1.66	0.34	1.00	1.97	0.03
Final Sat.:	1450	629	821	1450	595	855	1450	2401	499	1450	2849	51

Capacity Analysis Module:

Vol/Sat:	0.09	0.08	0.08	0.00	0.05	0.05	0.03	0.20	0.20	0.05	0.18	0.18
Crit Volume:	130				78			288		77		
Crit Moves:	****				****			****		****		

EXISTING PLUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #6 GROVE / ACCESS

Average Delay (sec/veh): 1.5 Worst Case Level Of Service: A[8.8]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, and Lanes.

Volume Module: Table with 12 columns for traffic movements. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and FinalVolume.

Critical Gap Module: Table with 12 columns for traffic movements. Rows include Critical Gp and FollowUpTim.

Capacity Module: Table with 12 columns for traffic movements. Rows include Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level Of Service Module: Table with 12 columns for traffic movements. Rows include 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

EXISTING PLUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #7 GROVE ST / CEDAR ST

Cycle (sec): 100 Critical Vol./Cap.(X): 0.085
Loss Time (sec): 0 Average Delay (sec/veh): 7.2
Optimal Cycle: 0 Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Stop Sign), Rights (Include), Min. Green (0-0-0), and Lanes (0 0 1! 0 0).

Volume Module: Table with 12 columns representing traffic volumes and adjustment factors (Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, Reduct Vol, Reduced Vol, PCE Adj, MLE Adj, Final Volume).

Saturation Flow Module: Table with 12 columns for adjustment factors and saturation flow values (Adjustment, Lanes, Final Sat.).

Capacity Analysis Module: Table with 12 columns for capacity analysis metrics (Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, LOS by Appr, AllWayAvgQ).

Note: Queue reported is the number of cars per lane.

EXISTING PLUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #7 GROVE ST / CEDAR ST

Cycle (sec): 100 Critical Vol./Cap.(X): 0.091
Loss Time (sec): 0 Average Delay (sec/veh): 7.3
Optimal Cycle: 0 Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, and Lanes.

Volume Module: Table with 12 columns representing different traffic movements and 12 rows of volume-related metrics like Base Vol, Growth Adj, etc.

Saturation Flow Module: Table with 12 columns and 3 rows showing adjustment factors and saturation levels.

Capacity Analysis Module: Table with 12 columns and 12 rows showing delay, LOS, and other performance metrics.

Note: Queue reported is the number of cars per lane.

EXISTING PLUS APPROVED PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Scenario Report

Scenario: EPAP AM
Command: Default Command
Volume: EPAP AM
Geometry: EXISTING
Impact Fee: Default Impact Fee
Trip Generation: AM PEAK
Trip Distribution: AM CURRENT
Paths: NO CLOVER
Routes: Default Route
Configuration: Default Configuration

 EXSITING PLUS APPROVED PROJECT
 7571-01 TLA: QUARRY ROW SUBDIVISION

Trip Generation Report

Forecast for AM PEAK

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	The Summitt	115.00	SFR	0.19	0.56	22	64	86	14.6
	Zone 1 Subtotal					22	64	86	14.6
2	Avalon	79.00	SFR	0.19	0.56	15	44	59	10.0
	Zone 2 Subtotal					15	44	59	10.0
6	PARK PLACE N	76.00	sfr	0.19	0.56	14	43	57	9.6
	Zone 6 Subtotal					14	43	57	9.6
7	PARK PLACE S	66.00	SFR	0.19	0.56	13	37	50	8.5
	Zone 7 Subtotal					13	37	50	8.5
9	BRIGHTON	75.00	SFR	0.19	0.56	14	42	56	9.5
	Zone 9 Subtotal					14	42	56	9.5
12	Granite Terr	0.00	condo	0.13	0.39	0	0	0	0.0
12	Granite Terr	42.00	SFR	0.19	0.56	8	24	32	5.4
	Zone 12 Subtotal					8	24	32	5.4
13	ROCKLIN AUDI	34.00	AUDI	1.44	0.48	49	16	65	11.0
	Zone 13 Subtotal					49	16	65	11.0
14	Granite Domi	71.00	SFR	0.19	0.56	13	40	53	9.0
	Zone 14 Subtotal					13	40	53	9.0
15	Garnet Creek	260.00	MFR	0.11	0.40	29	104	133	22.5
	Zone 15 Subtotal					29	104	133	22.5
TOTAL						177	414	591	100.0

 EXISTING PLUS APPROVED PROJECT
 7571-01 TLA: QUARRY ROW SUBDIVISION

Trip Distribution Report

Percent Of Trips AM CURRENT

Zone	To Gates										
	1	2	3	4	6	7	8	9	10	11	12
1	16.0	11.0	35.0	25.0	12.0	0.0	1.0	0.0	0.0	0.0	0.0
2	10.0	0.0	20.0	5.0	0.0	50.0	0.0	0.0	15.0	0.0	0.0
6	20.0	0.0	24.0	10.0	5.0	2.0	0.0	5.0	2.0	2.0	15.0
7	20.0	0.0	24.0	10.0	5.0	2.0	0.0	5.0	2.0	2.0	15.0
9	1.0	0.0	19.0	10.0	5.0	0.0	0.0	0.0	0.0	5.0	0.0
12	10.0	0.0	20.0	0.0	5.0	45.0	5.0	0.0	10.0	5.0	0.0
13	5.0	0.0	10.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	9.0	0.0	17.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	9.0	0.0	14.0	10.0	0.0	0.0	0.0	0.0	17.0	0.0	0.0

Zone	To Gates				
	13	14	15	17	18
1	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0
6	10.0	5.0	0.0	0.0	0.0
7	10.0	5.0	0.0	0.0	0.0
9	30.0	7.0	10.0	9.0	4.0
12	0.0	0.0	0.0	0.0	0.0
13	0.0	1.0	0.0	0.0	82.0
14	0.0	0.0	0.0	0.0	64.0
15	0.0	0.0	0.0	0.0	50.0

 EXSITING PLUS APPROVED PROJECT
 7571-01 TLA: QUARRY ROW SUBDIVISION

Turning Movement Report
 AM PEAK

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#1 Pacific St / Midas Ave													
Base	27	74	9	282	112	256	81	366	22	10	290	136	1665
Added	0	5	0	20	8	22	8	23	0	0	52	30	168
Total	27	79	9	302	120	278	89	389	22	10	342	166	1833
#2 PACIFIC / GROVE													
Base	10	0	45	0	0	0	0	615	9	42	449	0	1170
Added	0	0	3	0	0	0	0	42	0	2	83	0	130
Total	10	0	48	0	0	0	0	657	9	44	532	0	1300
#3 PACIFIC / YANKEE HILL													
Base	0	0	0	8	0	27	60	602	0	0	464	25	1186
Added	0	0	0	0	0	0	0	45	0	0	85	0	130
Total	0	0	0	8	0	27	60	647	0	0	549	25	1316
#4 PACIFIC ACCESS													
Base	0	0	0	5	0	10	23	577	0	0	484	6	1105
Added	0	0	0	0	0	0	0	45	0	0	85	0	130
Total	0	0	0	5	0	10	23	622	0	0	569	6	1235
#5 Pacific St / American Way													
Base	57	38	38	23	29	68	39	549	40	32	362	4	1279
Added	0	4	0	0	12	30	10	35	0	0	55	0	146
Total	57	42	38	23	41	98	49	584	40	32	417	4	1425
#6 GROVE / ACCESS													
Base	0	46	0	0	52	0	0	0	0	0	0	0	98
Added	0	3	0	0	2	0	0	0	0	0	0	0	5
Total	0	49	0	0	54	0	0	0	0	0	0	0	103
#7 GROVE ST / CEDAR ST													
Base	20	33	84	4	41	1	0	20	1	85	29	3	321
Added	0	0	8	0	0	0	0	2	0	10	1	0	21
Total	20	33	92	4	41	1	0	22	1	95	30	3	342
#8 Rocklin Rd / Meyers St													
Base	9	528	150	47	535	1	0	0	3	182	3	62	1520
Added	6	2	4	1	11	3	20	0	11	11	0	4	73
Total	15	530	154	48	546	4	20	0	14	193	3	66	1593
#22 PACIFIC / ROCKLIN ROAD													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	14	7	4	1	2	0	0	26	7	2	72	2	137
Total	14	7	4	1	2	0	0	26	7	2	72	2	137

 EXSITING PLUS APPROVED PROJECT
 7571-01 TLA: QUARRY ROW SUBDIVISION

 Impact Analysis Report
 Level Of Service

Intersection	Base		Future		Change in
	Del/ LOS	V/ Veh C	Del/ LOS	V/ Veh C	
# 1 Pacific St / Midas Ave	A	xxxxx 0.401	A	xxxxx 0.442	+ 0.041 V/C
# 2 PACIFIC / GROVE	B	11.7 0.066	B	12.0 0.072	+ 0.316 D/V
# 3 PACIFIC / YANKEE HILL	B	10.9 0.056	B	11.4 0.060	+ 0.478 D/V
# 4 PACIFIC ACCESS	B	12.3 0.022	B	13.2 0.023	+ 0.945 D/V
# 5 Pacific St / American Way	A	xxxxx 0.331	A	xxxxx 0.372	+ 0.041 V/C
# 6 GROVE / ACCESS	A	0.0 0.000	A	0.0 0.000	+ 0.000 D/V
# 7 GROVE ST / CEDAR ST	A	7.8 0.155	A	7.9 0.165	+ 0.010 V/C
# 8 Rocklin Rd / Meyers St	A	6.3 0.585	A	6.5 0.601	+ 0.016 V/C
# 22 PACIFIC / ROCKLIN ROAD		xxxxx 0.000	A	xxxxx 0.033	+ 0.033 V/C

EXSITING PLUS APPROVED PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #1 Pacific St / Midas Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.442
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 41 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Ignore			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	0	1	0	1	0	1	1	0	2

Volume Module: >> Count Date: 13 Jan 2017 << adjusted EPAP

Base Vol:	27	74	9	282	112	256	81	366	22	10	290	136
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	27	74	9	282	112	256	81	366	22	10	290	136
Added Vol:	0	5	0	20	8	22	8	23	0	0	52	30
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	27	79	9	302	120	278	89	389	22	10	342	166
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	27	79	9	302	120	0	89	389	22	10	342	166
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	27	79	9	302	120	0	89	389	22	10	342	166
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	27	79	9	302	120	0	89	389	22	10	342	166

Saturation Flow Module:

Sat/Lane:	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.89	0.11	1.00	2.00	1.00
Final Sat.:	1450	1450	1450	1450	1450	1450	1450	2745	155	1450	2900	1450

Capacity Analysis Module:

Vol/Sat:	0.02	0.05	0.01	0.21	0.08	0.00	0.06	0.14	0.14	0.01	0.12	0.11
Crit Volume:	79			302			89			171		
Crit Moves:	****			****			****			****		

EXSITING PLUS APPROVED PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 PACIFIC / GROVE

Average Delay (sec/veh): 0.8 Worst Case Level Of Service: B[12.0]

Table with 4 columns: Approach (North Bound, South Bound, East Bound, West Bound) and 3 rows: Movement, Control, Rights, Lanes.

Volume Module: Table with 13 columns for volume components (Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume) and 4 rows of data.

Critical Gap Module: Table with 13 columns for gap metrics and 2 rows of data.

Capacity Module: Table with 13 columns for capacity metrics and 5 rows of data.

Level Of Service Module: Table with 13 columns for LOS metrics and 10 rows of data.

Note: Queue reported is the number of cars per lane.

EXSITING PLUS APPROVED PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #3 PACIFIC / YANKEE HILL

Average Delay (sec/veh): 0.7 Worst Case Level Of Service: B[11.4]

Table with 4 columns: Approach, North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module:

Table with 13 columns for various volume metrics: Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Critical Gap Module:

Table with 13 columns for critical gap and follow-up time metrics.

Capacity Module:

Table with 13 columns for capacity metrics: Cnflct Vol, Potent Cap., Move Cap., Total Cap, Volume/Cap.

Level Of Service Module:

Table with 13 columns for level of service metrics: 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.

EXISTING PLUS APPROVED PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #4 PACIFIC ACCESS

Average Delay (sec/veh): 0.3 Worst Case Level Of Service: B[13.2]

Table with 4 columns: Approach (North Bound, South Bound, East Bound, West Bound) and 3 rows: Movement (L-T-R), Control (Stop Sign, Uncontrolled), Rights (Include), Lanes (0 0 1! 0 0).

Volume Module: Table with 13 columns (Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume) and 4 rows of data.

Critical Gap Module: Table with 13 columns (Critical Gap, FollowUpTim) and 4 rows of data.

Capacity Module: Table with 13 columns (Cnflct Vol, Potent Cap., Move Cap., Volume/Cap) and 4 rows of data.

Level Of Service Module: Table with 13 columns (2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS) and 4 rows of data.

Note: Queue reported is the number of cars per lane.

 EXSITING PLUS APPROVED PROJECT
 7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
 Circular 212 Planning Method (Future Volume Alternative)

Intersection #5 Pacific St / American Way

Cycle (sec): 100 Critical Vol./Cap. (X): 0.372
 Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
 Optimal Cycle: 36 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	0	1	0	0	1	0	1	1	0	1

Volume Module:

Base Vol:	57	38	38	23	29	68	39	549	40	32	362	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	57	38	38	23	29	68	39	549	40	32	362	4
Added Vol:	0	4	0	0	12	30	10	35	0	0	55	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	57	42	38	23	41	98	49	584	40	32	417	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	57	42	38	23	41	98	49	584	40	32	417	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	57	42	38	23	41	98	49	584	40	32	417	4
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	57	42	38	23	41	98	49	584	40	32	417	4

Saturation Flow Module:

Sat/Lane:	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.52	0.48	1.00	0.29	0.71	1.00	1.87	0.13	1.00	1.98	0.02
Final Sat.:	1450	761	689	1450	428	1022	1450	2714	186	1450	2872	28

Capacity Analysis Module:

Vol/Sat:	0.04	0.06	0.06	0.02	0.10	0.10	0.03	0.22	0.22	0.02	0.15	0.15
Crit Volume:	57			139			312			32		
Crit Moves:	****			****			****			****		

EXSITING PLUS APPROVED PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #7 GROVE ST / CEDAR ST

Cycle (sec): 100 Critical Vol./Cap. (X): 0.165
Loss Time (sec): 0 Average Delay (sec/veh): 7.9
Optimal Cycle: 0 Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, and Lanes.

Volume Module: Table with 13 columns representing different traffic volumes and adjustment factors like Base Vol, Growth Adj, Initial Bse, etc.

Saturation Flow Module: Table with 13 columns showing adjustment factors and final saturation values for each lane.

Capacity Analysis Module: Table with 13 columns showing volume/saturation, delay, and LOS by move for each approach.

Note: Queue reported is the number of cars per lane.

EXISTING PLUS APPROVED PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Scenario Report

Scenario: EPAP PM
Command: Default Command
Volume: EPAP PM
Geometry: EXISTING
Impact Fee: Default Impact Fee
Trip Generation: PM PEAK
Trip Distribution: CURRENT
Paths: NO CLOVER
Routes: Default Route
Configuration: Default Configuration

 EXSITING PLUS APPROVED PROJECT
 7571-01 TLA: QUARRY ROW SUBDIVISION

Trip Generation Report

Forecast for PM PEAK

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	The Summitt	115.00	SFR	0.65	0.36	75	41	116	15.0
	Zone 1 Subtotal					75	41	116	15.0
2	Avalon	79.00	SFR	0.65	0.36	51	28	79	10.2
	Zone 2 Subtotal					51	28	79	10.2
6	PARK PLACE N	76.00	sfr	0.63	0.37	48	28	76	9.8
	Zone 6 Subtotal					48	28	76	9.8
7	PARK PLACE S	66.00	SFR	0.63	0.37	42	24	66	8.5
	Zone 7 Subtotal					42	24	66	8.5
9	BRIGHTON	75.00	SFR	0.63	0.37	47	28	75	9.7
	Zone 9 Subtotal					47	28	75	9.7
12	Granite Terr	0.00	condo	0.40	0.22	0	0	0	0.0
12	Granite Terr	42.00	SFR	0.63	0.37	26	16	42	5.4
	Zone 12 Subtotal					26	16	42	5.4
13	ROCKLIN AUDI	34.00	AUDI	1.05	1.55	36	53	89	11.5
	Zone 13 Subtotal					36	53	89	11.5
14	Granite Domi	71.00	SFR	0.63	0.37	45	26	71	9.2
	Zone 14 Subtotal					45	26	71	9.2
15	Garnet Creek	260.00	MFR	0.40	0.22	104	57	161	20.8
	Zone 15 Subtotal					104	57	161	20.8
TOTAL						474	301	775	100.0

 EXSITING PLUS APPROVED PROJECT
 7571-01 TLA: QUARRY ROW SUBDIVISION

Trip Distribution Report

Percent Of Trips CURRENT

Zone	To Gates										
	1	2	3	4	5	6	7	8	9	10	11
1	9.0	4.0	18.0	11.0	10.0	8.0	8.0	14.0	6.0	0.0	0.0
2	10.0	0.0	20.0	0.0	0.0	0.0	55.0	0.0	0.0	10.0	5.0
6	20.0	0.0	24.0	5.0	0.0	0.0	2.0	0.0	5.0	2.0	2.0
7	20.0	0.0	24.0	5.0	0.0	0.0	2.0	0.0	5.0	2.0	2.0
9	1.0	0.0	19.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	10.0	0.0	20.0	0.0	0.0	0.0	55.0	0.0	0.0	10.0	5.0
13	5.0	0.0	10.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	9.0	0.0	17.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	9.0	0.0	14.0	4.0	0.0	0.0	0.0	0.0	0.0	17.0	0.0

Zone	To Gates							
	12	13	14	15	16	17	18	19
1	0.0	0.0	0.0	0.0	6.0	0.0	0.0	6.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	25.0	10.0	5.0	0.0	0.0	0.0	0.0	0.0
7	25.0	10.0	5.0	0.0	0.0	0.0	0.0	0.0
9	0.0	43.0	7.0	10.0	0.0	9.0	9.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	1.0	0.0	0.0	0.0	82.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	70.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	56.0	0.0

 EXSITING PLUS APPROVED PROJECT
 7571-01 TLA: QUARRY ROW SUBDIVISION

Turning Movement Report
 PM PEAK

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#1 Pacific St / Midas Ave													
Base	10	61	9	206	28	176	277	497	18	9	501	302	2094
Added	0	3	0	16	2	11	20	59	0	0	39	14	164
Total	10	64	9	222	30	187	297	556	18	9	540	316	2258
#2 PACIFIC / GROVE													
Base	12	0	34	0	0	0	0	653	15	37	745	0	1496
Added	0	0	3	0	0	0	0	75	0	3	53	0	134
Total	12	0	37	0	0	0	0	728	15	40	798	0	1630
#3 PACIFIC / YANKEE HILL													
Base	8	0	1	26	0	55	22	658	8	16	721	11	1526
Added	0	0	0	0	0	0	0	78	0	0	57	0	135
Total	8	0	1	26	0	55	22	736	8	16	778	11	1661
#4 PACIFIC ACCESS													
Base	0	0	0	0	0	0	3	691	0	0	743	0	1437
Added	0	0	0	0	0	0	0	78	0	0	57	0	135
Total	0	0	0	0	0	0	3	769	0	0	800	0	1572
#5 Pacific St / American Way													
Base	129	49	64	7	21	46	39	524	109	77	573	9	1647
Added	0	23	0	0	13	17	29	49	0	0	40	0	171
Total	129	72	64	7	34	63	68	573	109	77	613	9	1818
#6 GROVE / ACCESS													
Base	0	46	0	0	52	0	0	0	0	0	0	0	98
Added	0	3	0	0	3	0	0	0	0	0	0	0	6
Total	0	49	0	0	55	0	0	0	0	0	0	0	104
#7 GROVE ST / CEDAR ST													
Base	2	10	49	2	9	0	1	10	1	46	20	6	156
Added	0	0	6	0	0	0	0	2	1	5	3	0	17
Total	2	10	55	2	9	0	1	12	2	51	23	6	173
#8 Rocklin Rd / Meyers St													
Base	17	898	139	47	872	1	4	0	15	84	0	24	2101
Added	21	13	14	5	11	10	11	1	8	9	3	3	109
Total	38	911	153	52	883	11	15	1	23	93	3	27	2210
#22 PACIFIC / ROCKLIN ROAD													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	11	3	9	2	5	0	0	68	17	8	40	1	164
Total	11	3	9	2	5	0	0	68	17	8	40	1	164

 EXSITING PLUS APPROVED PROJECT
 7571-01 TLA: QUARRY ROW SUBDIVISION

Impact Analysis Report
 Level Of Service

Intersection	Base		Future		Change in
	LOS	Del/ Veh C	LOS	Del/ Veh C	
# 1 Pacific St / Midas Ave	A	xxxxx 0.548	A	xxxxx 0.588	+ 0.040 V/C
# 2 PACIFIC / GROVE	B	12.5 0.051	B	13.1 0.059	+ 0.561 D/V
# 3 PACIFIC / YANKEE HILL	C	18.0 0.097	C	19.6 0.107	+ 1.540 D/V
# 4 PACIFIC ACCESS	A	9.2 0.003	A	9.4 0.004	+ 0.213 D/V
# 5 Pacific St / American Way	A	xxxxx 0.407	A	xxxxx 0.444	+ 0.038 V/C
# 6 GROVE / ACCESS	A	0.0 0.000	A	0.0 0.000	+ 0.000 D/V
# 7 GROVE ST / CEDAR ST	A	7.2 0.085	A	7.3 0.094	+ 0.010 V/C
# 8 Rocklin Rd / Meyers St	C	17.7 0.899	C	22.2 0.947	+ 0.048 V/C
# 22 PACIFIC / ROCKLIN ROAD		xxxxx 0.000	A	xxxxx 0.039	+ 0.039 V/C

EXISTING PLUS APPROVED PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #1 Pacific St / Midas Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.588
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 55 Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: >> Count Date: 13 Jan 2017 << adjusted epap

Table with 13 columns representing traffic volume and adjustment factors. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and FinalVolume.

Saturation Flow Module:

Table with 13 columns for saturation flow. Rows include Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module:

Table with 13 columns for capacity analysis. Rows include Vol/Sat, Crit Volume, and Crit Moves.

EXISTING PLUS APPROVED PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 PACIFIC / GROVE

Average Delay (sec/veh): 0.6 Worst Case Level Of Service: B [13.1]

Table with 4 columns: Approach, North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module: Table with 13 columns for various volume metrics like Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Critical Gap Module: Table with 13 columns for gap and follow-up times.

Capacity Module: Table with 13 columns for capacity metrics like Cnflct Vol, Potent Cap., Move Cap., Total Cap, Volume/Cap.

Level Of Service Module: Table with 13 columns for LOS metrics like 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.

EXSITING PLUS APPROVED PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #3 PACIFIC / YANKEE HILL

Average Delay (sec/veh): 1.0 Worst Case Level Of Service: C [19.6]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, and Lanes.

Volume Module: Table with 13 columns for traffic volumes and adjustment factors like Base Vol, Growth Adj, Initial Bse, etc.

Critical Gap Module: Table with 13 columns for critical gap and follow-up times.

Capacity Module: Table with 13 columns for conflict volumes, potential capacity, and volume/capacity ratios.

Level Of Service Module: Table with 13 columns for LOS metrics like 2Way95thQ, Control Del, LOS by Move, etc.

Note: Queue reported is the number of cars per lane.

EXSITING PLUS APPROVED PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #4 PACIFIC ACCESS

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[9.4]

Table with 4 columns: Approach (North Bound, South Bound, East Bound, West Bound) and 3 rows: Movement, Control, Rights, Lanes.

Volume Module: Table with 12 columns for volume metrics (Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume) and 4 rows of data.

Critical Gap Module: Table with 12 columns for gap metrics (Critical Gap, FollowUpTim) and 2 rows of data.

Capacity Module: Table with 12 columns for capacity metrics (Cnflct Vol, Potent Cap., Move Cap., Volume/Cap) and 4 rows of data.

Level Of Service Module: Table with 12 columns for LOS metrics (2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS) and 10 rows of data.

Note: Queue reported is the number of cars per lane.

EXISTING PLUS APPROVED PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #5 Pacific St / American Way

Cycle (sec): 100 Critical Vol./Cap.(X): 0.444
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 41 Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: Table with 12 columns representing different traffic directions and metrics like Base Vol, Growth Adj, Initial Bse, etc.

Saturation Flow Module: Table with 12 columns for Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with 12 columns for Vol/Sat, Crit Volume, and Crit Moves.

EXSITING PLUS APPROVED PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #7 GROVE ST / CEDAR ST

Cycle (sec): 100 Critical Vol./Cap.(X): 0.094
Loss Time (sec): 0 Average Delay (sec/veh): 7.3
Optimal Cycle: 0 Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Stop Sign), Rights (Include), Min. Green, and Lanes.

Volume Module: Table with 13 columns representing different traffic volumes and adjustment factors like Base Vol, Growth Adj, Initial Bse, etc.

Saturation Flow Module: Table with 13 columns showing adjustment factors, lane saturation, and final saturation values.

Capacity Analysis Module: Table with 13 columns showing volume/saturation, delay, LOS, and other performance metrics.

Note: Queue reported is the number of cars per lane.

EPAP PLUS QUARRY ROW
7571-01 TLA: QUARRY ROW SUBDIVISION

Scenario Report

Scenario: EPAP AM
Command: Default Command
Volume: EPAP AM
Geometry: EXISTING
Impact Fee: Default Impact Fee
Trip Generation: AM PEAK
Trip Distribution: AM CURRENT
Paths: NO CLOVER
Routes: Default Route
Configuration: Default Configuration

EPAP PLUS QUARRY ROW
7571-01 TLA: QUARRY ROW SUBDIVISION

Trip Generation Report

Forecast for AM PEAK

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	The Summitt	115.00	SFR	0.19	0.56	22	64	86	13.5
	Zone 1 Subtotal					22	64	86	13.5
2	Avalon	79.00	SFR	0.19	0.56	15	44	59	9.2
	Zone 2 Subtotal					15	44	59	9.2
6	PARK PLACE N	76.00	sfr	0.19	0.56	14	43	57	8.9
	Zone 6 Subtotal					14	43	57	8.9
7	PARK PLACE S	66.00	SFR	0.19	0.56	13	37	50	7.8
	Zone 7 Subtotal					13	37	50	7.8
9	BRIGHTON	75.00	SFR	0.19	0.56	14	42	56	8.8
	Zone 9 Subtotal					14	42	56	8.8
10	QUARRY ROW	64.00	sfr	0.19	0.56	12	36	48	7.5
	Zone 10 Subtotal					12	36	48	7.5
12	Granite Terr	0.00	condo	0.13	0.39	0	0	0	0.0
12	Granite Terr	42.00	SFR	0.19	0.56	8	24	32	5.0
	Zone 12 Subtotal					8	24	32	5.0
13	ROCKLIN AUDI	34.00	AUDI	1.44	0.48	49	16	65	10.2
	Zone 13 Subtotal					49	16	65	10.2
14	Granite Domi	71.00	SFR	0.19	0.56	13	40	53	8.3
	Zone 14 Subtotal					13	40	53	8.3
15	Garnet Creek	260.00	MFR	0.11	0.40	29	104	133	20.8
	Zone 15 Subtotal					29	104	133	20.8
TOTAL						189	450	639	100.0

EPAP PLUS QUARRY ROW
7571-01 TLA: QUARRY ROW SUBDIVISION

Trip Distribution Report

Percent Of Trips AM CURRENT

Zone	To Gates										
	1	2	3	4	6	7	8	9	10	11	12
1	16.0	11.0	35.0	25.0	12.0	0.0	1.0	0.0	0.0	0.0	0.0
2	10.0	0.0	20.0	5.0	0.0	50.0	0.0	0.0	15.0	0.0	0.0
6	20.0	0.0	24.0	10.0	5.0	2.0	0.0	5.0	2.0	2.0	15.0
7	20.0	0.0	24.0	10.0	5.0	2.0	0.0	5.0	2.0	2.0	15.0
9	1.0	0.0	19.0	10.0	5.0	0.0	0.0	0.0	0.0	5.0	0.0
10	0.0	0.0	20.0	10.0	8.0	32.0	0.0	0.0	0.0	5.0	0.0
12	10.0	0.0	20.0	0.0	5.0	45.0	5.0	0.0	10.0	5.0	0.0
13	5.0	0.0	10.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	9.0	0.0	17.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	9.0	0.0	14.0	10.0	0.0	0.0	0.0	0.0	17.0	0.0	0.0

Zone	To Gates					
	13	14	15	17	18	19
1	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0
6	10.0	5.0	0.0	0.0	0.0	0.0
7	10.0	5.0	0.0	0.0	0.0	0.0
9	30.0	7.0	10.0	9.0	4.0	0.0
10	0.0	5.0	5.0	5.0	5.0	5.0
12	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	1.0	0.0	0.0	82.0	0.0
14	0.0	0.0	0.0	0.0	64.0	0.0
15	0.0	0.0	0.0	0.0	50.0	0.0

EPAP PLUS QUARRY ROW
7571-01 TLA: QUARRY ROW SUBDIVISION

Turning Movement Report
AM PEAK

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#1 Pacific St / Midas Ave													
Base	27	74	9	282	112	256	81	366	22	10	290	136	1665
Added	0	5	0	22	8	22	8	26	0	0	63	37	191
Total	27	79	9	304	120	278	89	392	22	10	353	173	1856
#2 PACIFIC / GROVE													
Base	10	0	45	0	0	0	0	615	9	42	449	0	1170
Added	17	0	3	0	0	0	0	46	2	2	83	0	153
Total	27	0	48	0	0	0	0	661	11	44	532	0	1323
#3 PACIFIC / YANKEE HILL													
Base	0	0	0	8	0	27	60	602	0	0	464	25	1186
Added	0	0	0	0	0	0	0	49	0	0	85	0	134
Total	0	0	0	8	0	27	60	651	0	0	549	25	1320
#4 PACIFIC ACCESS													
Base	0	0	0	5	0	10	23	577	0	0	484	6	1105
Added	0	0	8	0	0	0	0	45	3	3	85	0	144
Total	0	0	8	5	0	10	23	622	3	3	569	6	1249
#5 Pacific St / American Way													
Base	57	38	38	23	29	68	39	549	40	32	362	4	1279
Added	0	4	0	0	12	30	10	43	1	0	57	0	157
Total	57	42	38	23	41	98	49	592	41	32	419	4	1436
#6 GROVE / ACCESS													
Base	0	46	0	0	52	0	0	0	0	0	0	0	98
Added	0	3	4	2	2	0	0	0	0	11	0	17	39
Total	0	49	4	2	54	0	0	0	0	11	0	17	137
#7 GROVE ST / CEDAR ST													
Base	20	33	84	4	41	1	0	20	1	85	29	3	321
Added	0	0	11	0	0	0	0	3	0	19	2	0	35
Total	20	33	95	4	41	1	0	23	1	104	31	3	356
#8 Rocklin Rd / Meyers St													
Base	9	528	150	47	535	1	0	0	3	182	3	62	1520
Added	6	3	6	1	16	3	20	0	11	18	0	4	88
Total	15	531	156	48	551	4	20	0	14	200	3	66	1608

EPAP PLUS QUARRY ROW
7571-01 TLA: QUARRY ROW SUBDIVISION

Impact Analysis Report
Level Of Service

Intersection	Base		Future		Change in
	LOS	Veh C	LOS	Veh C	
# 1 Pacific St / Midas Ave	A	xxxxxx 0.401	A	xxxxxx 0.447	+ 0.046 V/C
# 2 PACIFIC / GROVE	B	11.7 0.066	B	13.5 0.078	+ 1.836 D/V
# 3 PACIFIC / YANKEE HILL	B	10.9 0.056	B	11.4 0.060	+ 0.482 D/V
# 4 PACIFIC ACCESS	B	12.3 0.022	B	14.4 0.023	+ 2.065 D/V
# 5 Pacific St / American Way	A	xxxxxx 0.331	A	xxxxxx 0.376	+ 0.044 V/C
# 6 GROVE / ACCESS	A	0.0 0.000	A	8.9 0.017	+ 8.855 D/V
# 7 GROVE ST / CEDAR ST	A	7.8 0.155	A	8.0 0.179	+ 0.023 V/C
# 8 Rocklin Rd / Meyers St	A	6.3 0.585	A	6.6 0.603	+ 0.019 V/C

EPAP PLUS QUARRY ROW
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #1 Pacific St / Midas Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.447
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 41 Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: >> Count Date: 13 Jan 2017 << adjusted EPAP. Table with 13 columns of volume data.

Saturation Flow Module: Table with 13 columns of saturation flow data.

Capacity Analysis Module: Table with 13 columns of capacity analysis data.

EPAP PLUS QUARRY ROW
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 PACIFIC / GROVE

Average Delay (sec/veh): 1.1 Worst Case Level Of Service: B[13.5]

Table with columns: Approach, Movement, Control, Rights, Lanes. Rows for North, South, East, West bounds.

Volume Module:

Table with columns: Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Critical Gap Module:

Table with columns: Critical Gp, FollowUpTim.

Capacity Module:

Table with columns: Cnflct Vol, Potent Cap., Move Cap., Total Cap, Volume/Cap.

Level Of Service Module:

Table with columns: 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.

EPAP PLUS QUARRY ROW
7571-01 TLA: QUARRY ROW SUBDIVISION

Level of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #3 PACIFIC / YANKEE HILL

Average Delay (sec/veh): 0.7 Worst Case Level Of Service: B[11.4]

Table with 4 columns: Approach (North Bound, South Bound, East Bound, West Bound) and 3 rows: Movement (L-T-R), Control (Stop Sign, Uncontrolled), Rights (Include), Lanes (0 0 1! 0 0, 0 1 0 0 1, 1 0 1 1 0, 1 0 1 1 0)

Volume Module:
Base Vol: 0 0 0 8 0 27 60 602 0 0 464 25
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 0 8 0 27 60 602 0 0 464 25
Added Vol: 0 0 0 0 0 0 0 49 0 0 85 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 0 0 8 0 27 60 651 0 0 549 25
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 0 0 0 8 0 27 60 651 0 0 549 25
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 0 0 8 0 27 60 651 0 0 549 25

Critical Gap Module:
Critical Gp: 7.5 6.5 6.9 6.8 6.5 6.9 4.1 xxxx xxxxxx xxxxxx xxxx xxxxxx
FollowUpTim: 3.5 4.0 3.3 3.5 4.0 3.3 2.2 xxxx xxxxxx xxxxxx xxxx xxxxxx

Capacity Module:
Cnflct Vol: 1046 1345 326 1007 1333 287 574 xxxx xxxxxx xxxxxx xxxx xxxxxx
Potent Cap.: 183 150 670 237 153 710 995 xxxx xxxxxx xxxxxx xxxx xxxxxx
Move Cap.: 168 141 670 226 144 710 995 xxxx xxxxxx xxxxxx xxxx xxxxxx
Total Cap: 266 251 xxxxxx 356 263 xxxxxx xxxx xxxx xxxxxx xxxxxx xxxx xxxxxx
Volume/Cap: 0.00 0.00 0.00 0.02 0.00 0.04 0.06 xxxx xxxxxx xxxxxx xxxx xxxxxx

Level of Service Module:
2Way95thQ: xxxx xxxx xxxxxx xxxx xxxx 0.1 0.2 xxxx xxxxxx xxxxxx xxxx xxxxxx
Control Del:xxxxx xxxx xxxxxx xxxxxx xxxx 10.3 8.8 xxxx xxxxxx xxxxxx xxxx xxxxxx
LOS by Move: * * * * * B A * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx 0 xxxxxx 356 xxxx xxxxxx xxxx xxxx xxxxxx xxxxxx xxxx xxxxxx
SharedQueue:xxxxx xxxx xxxxxx 0.1 xxxx xxxxxx xxxxxx xxxx xxxxxx xxxxxx xxxx xxxxxx
Shrd ConDel:xxxxx xxxx xxxxxx 15.3 xxxx xxxxxx xxxxxx xxxx xxxxxx xxxxxx xxxx xxxxxx
Shared LOS: * * * C * * * * * * * * *
ApproachDel: xxxxxx 11.4 xxxxxx xxxxxx
ApproachLOS: * B * *

Note: Queue reported is the number of cars per lane.

EPAP PLUS QUARRY ROW
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #4 PACIFIC ACCESS

Average Delay (sec/veh): 0.4 Worst Case Level Of Service: B[14.4]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, and Lanes.

Volume Module: Table with 12 columns representing different traffic volumes and adjustment factors.

Critical Gap Module: Table with 12 columns showing critical gap and follow-up time values.

Capacity Module: Table with 12 columns showing conflict volume, potential capacity, and volume/capacity ratios.

Level Of Service Module: Table with 12 columns showing level of service, control delay, and approach delay/LOS.

Note: Queue reported is the number of cars per lane.

EPAP PLUS QUARRY ROW
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #5 Pacific St / American Way

Cycle (sec): 100 Critical Vol./Cap.(X): 0.376
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 37 Level Of Service: A

Table with 4 columns: Approach (North Bound, South Bound, East Bound, West Bound) and 3 rows: Movement (L, T, R), Control (Protected), Rights (Include), Min. Green, Y+R, Lanes.

Volume Module:

Table with 12 columns representing different volume metrics and 12 rows of data including Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, FinalVolume.

Saturation Flow Module:

Table with 12 columns representing saturation flow metrics and 4 rows of data including Sat/Lane, Adjustment, Lanes, Final Sat.

Capacity Analysis Module:

Table with 12 columns representing capacity analysis metrics and 3 rows of data including Vol/Sat, Crit Volume, Crit Moves.

EPAP PLUS QUARRY ROW
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #6 GROVE / ACCESS

Average Delay (sec/veh): 1.9 Worst Case Level Of Service: A[8.9]

Table with 4 columns: Approach (North Bound, South Bound, East Bound, West Bound) and 3 rows: Movement (L-T-R), Control (Uncontrolled, Stop Sign), Rights (Include), Lanes (0-1-0).

Volume Module: Table with 12 columns for traffic volumes and 10 rows for various volume adjustments (Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume).

Critical Gap Module: Table with 12 columns for gap values and 2 rows for Critical Gap and FollowUpTim.

Capacity Module: Table with 12 columns for capacity values and 4 rows for Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level Of Service Module: Table with 12 columns for LOS values and 10 rows for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

EPAP PLUS QUARRY ROW
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #7 GROVE ST / CEDAR ST

Cycle (sec): 100 Critical Vol./Cap. (X): 0.179
Loss Time (sec): 0 Average Delay (sec/veh): 8.0
Optimal Cycle: 0 Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Stop Sign), Rights (Include), Min. Green, and Lanes.

Volume Module: Table with 13 columns representing different traffic movements and 13 rows of volume data including Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and FinalVolume.

Saturation Flow Module: Table with 13 columns and 3 rows showing Adjustment, Lanes, and Final Sat. values.

Capacity Analysis Module: Table with 13 columns and 11 rows showing Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, LOS by Appr, and AllWayAvgQ.

Note: Queue reported is the number of cars per lane.

EPAP PLUS QUARRY ROW
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
FHWA Roundabout Method (Future Volume Alternative)

Intersection #8 Rocklin Rd / Meyers St

Average Delay (sec/veh): 6.6 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Yield Sign			Yield Sign			Yield Sign			Yield Sign		
Lanes:	1			1			1			2		

Volume Module:

Base Vol:	9	528	150	47	535	1	0	0	3	182	3	62
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	528	150	47	535	1	0	0	3	182	3	62
Added Vol:	6	3	6	1	16	3	20	0	11	18	0	4
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	531	156	48	551	4	20	0	14	200	3	66
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	15	531	156	48	551	4	20	0	14	200	3	66
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	15	531	156	48	551	4	20	0	14	200	3	66
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	15	531	156	48	551	4	20	0	14	200	3	66

PCE Module:

AutoPCE:	15	531	156	48	551	4	20	0	14	200	3	66
TruckPCE:	0	0	0	0	0	0	0	0	0	0	0	0
ComboPCE:	0	0	0	0	0	0	0	0	0	0	0	0
BicyclePCE:	0	0	0	0	0	0	0	0	0	0	0	0
AdjVolume:	15	531	156	48	551	4	20	0	14	200	3	66

Delay Module: >> Time Period: 0.25 hours <<

CircVolume:	68	218	799	566
MaxVolume:	1163	1082	769	2016
PedVolume:	0	0	0	0
AdjMaxVol:	1163	1082	769	2016
ApproachVol:	702	603	34	269
ApproachV/C:	0.60	0.56	0.04	0.13
ApproachDel:	7.7	7.4	4.9	2.1
ApproachLOS:	A	A	A	A
Queue:	4.3	3.6	0.1	0.5

EPAP PLUS QUARRY ROW
7571-01 TLA: QUARRY ROW SUBDIVISION

Scenario Report

Scenario: EPAP PM
Command: Default Command
Volume: EPAP PM
Geometry: EXISTING
Impact Fee: Default Impact Fee
Trip Generation: PM PEAK
Trip Distribution: CURRENT
Paths: NO CLOVER
Routes: Default Route
Configuration: Default Configuration

EPAP PLUS QUARRY ROW
7571-01 TLA: QUARRY ROW SUBDIVISION

Trip Generation Report

Forecast for PM PEAK

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	The Summitt	115.00	SFR	0.65	0.36	75	41	116	13.8
	Zone 1 Subtotal					75	41	116	13.8
2	Avalon	79.00	SFR	0.65	0.36	51	28	79	9.4
	Zone 2 Subtotal					51	28	79	9.4
6	PARK PLACE N	76.00	sfr	0.63	0.37	48	28	76	9.1
	Zone 6 Subtotal					48	28	76	9.1
7	PARK PLACE S	66.00	SFR	0.63	0.37	42	24	66	7.9
	Zone 7 Subtotal					42	24	66	7.9
9	BRIGHTON	75.00	SFR	0.63	0.37	47	28	75	8.9
	Zone 9 Subtotal					47	28	75	8.9
10	QUARRY ROW	64.00	sfr	0.63	0.37	40	24	64	7.6
	Zone 10 Subtotal					40	24	64	7.6
12	Granite Terr	0.00	condo	0.40	0.22	0	0	0	0.0
12	Granite Terr	42.00	SFR	0.63	0.37	26	16	42	5.0
	Zone 12 Subtotal					26	16	42	5.0
13	ROCKLIN AUDI	34.00	AUDI	1.05	1.55	36	53	89	10.6
	Zone 13 Subtotal					36	53	89	10.6
14	Granite Domi	71.00	SFR	0.63	0.37	45	26	71	8.5
	Zone 14 Subtotal					45	26	71	8.5
15	Garnet Creek	260.00	MFR	0.40	0.22	104	57	161	19.2
	Zone 15 Subtotal					104	57	161	19.2
TOTAL						514	325	839	100.0

EPAP PLUS QUARRY ROW
7571-01 TLA: QUARRY ROW SUBDIVISION

Trip Distribution Report

Percent Of Trips CURRENT

Zone	To Gates										
	1	2	3	4	5	6	7	8	9	10	11
1	9.0	4.0	18.0	11.0	10.0	8.0	8.0	14.0	6.0	0.0	0.0
2	10.0	0.0	20.0	0.0	0.0	0.0	55.0	0.0	0.0	10.0	5.0
6	20.0	0.0	24.0	5.0	0.0	0.0	2.0	0.0	5.0	2.0	2.0
7	20.0	0.0	24.0	5.0	0.0	0.0	2.0	0.0	5.0	2.0	2.0
9	1.0	0.0	19.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	25.0	10.0	0.0	2.0	26.0	0.0	0.0	0.0	2.0
12	10.0	0.0	20.0	0.0	0.0	0.0	55.0	0.0	0.0	10.0	5.0
13	5.0	0.0	10.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	9.0	0.0	17.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	9.0	0.0	14.0	4.0	0.0	0.0	0.0	0.0	0.0	17.0	0.0

Zone	To Gates							
	12	13	14	15	16	17	18	19
1	0.0	0.0	0.0	0.0	6.0	0.0	0.0	6.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	25.0	10.0	5.0	0.0	0.0	0.0	0.0	0.0
7	25.0	10.0	5.0	0.0	0.0	0.0	0.0	0.0
9	0.0	43.0	7.0	10.0	0.0	9.0	9.0	0.0
10	0.0	0.0	5.0	10.0	0.0	10.0	5.0	5.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	1.0	0.0	0.0	0.0	82.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	70.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	56.0	0.0

EPAP PLUS QUARRY ROW
7571-01 TLA: QUARRY ROW SUBDIVISION

Turning Movement Report
PM PEAK

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#1 Pacific St / Midas Ave													
Base	10	61	9	206	28	176	277	497	18	9	501	302	2094
Added	0	3	0	21	2	11	20	71	0	0	47	17	192
Total	10	64	9	227	30	187	297	568	18	9	548	319	2286
#2 PACIFIC / GROVE													
Base	12	0	34	0	0	0	0	653	15	37	745	0	1496
Added	10	0	4	0	0	0	0	85	7	4	53	0	163
Total	22	0	38	0	0	0	0	738	22	41	798	0	1659
#3 PACIFIC / YANKEE HILL													
Base	8	0	1	26	0	55	22	658	8	16	721	11	1526
Added	0	0	0	0	0	0	0	89	0	0	57	0	146
PassBy	-8	0	-1	0	0	0	0	0	-8	-16	0	0	-33
Total	0	0	0	26	0	55	22	747	0	0	778	11	1639
#4 PACIFIC ACCESS													
Base	0	0	0	0	0	0	3	691	0	0	743	0	1437
Added	0	0	8	0	0	0	0	78	11	13	57	0	167
Total	0	0	8	0	0	0	3	769	11	13	800	0	1604
#5 Pacific St / American Way													
Base	129	49	64	7	21	46	39	524	109	77	573	9	1647
Added	1	23	0	0	13	17	29	56	0	0	52	0	191
Total	130	72	64	7	34	63	68	580	109	77	625	9	1838
#6 GROVE / ACCESS													
Base	0	46	0	0	52	0	0	0	0	0	0	0	98
Added	0	3	9	7	3	0	0	0	0	6	0	11	39
Total	0	49	9	7	55	0	0	0	0	6	0	11	137
#7 GROVE ST / CEDAR ST													
Base	2	10	49	2	9	0	1	10	1	46	20	6	156
Added	0	0	14	0	0	0	0	3	1	10	4	0	32
Total	2	10	63	2	9	0	1	13	2	56	24	6	188
#8 Rocklin Rd / Meyers St													
Base	17	898	139	47	872	1	4	0	15	84	0	24	2101
Added	21	17	21	5	13	10	11	1	8	13	3	3	126
Total	38	915	160	52	885	11	15	1	23	97	3	27	2227

 EPAP PLUS QUARRY ROW
 7571-01 TLA: QUARRY ROW SUBDIVISION

 Impact Analysis Report
 Level Of Service

Intersection	Base		Future		Change in
	LOS	Del/ V/ Veh C	LOS	Del/ V/ Veh C	
# 1 Pacific St / Midas Ave	A	xxxxx 0.548	A	xxxxx 0.594	+ 0.047 V/C
# 2 PACIFIC / GROVE	B	12.5 0.051	B	14.5 0.075	+ 1.927 D/V
# 3 PACIFIC / YANKEE HILL	C	18.0 0.097	B	13.7 0.091	-4.363 D/V
# 4 PACIFIC ACCESS	A	9.2 0.003	B	11.0 0.016	+ 1.793 D/V
# 5 Pacific St / American Way	A	xxxxx 0.407	A	xxxxx 0.447	+ 0.041 V/C
# 6 GROVE / ACCESS	A	0.0 0.000	A	8.8 0.011	+ 8.827 D/V
# 7 GROVE ST / CEDAR ST	A	7.2 0.085	A	7.3 0.102	+ 0.018 V/C
# 8 Rocklin Rd / Meyers St	C	17.7 0.899	C	23.2 0.957	+ 0.058 V/C

EPAP PLUS QUARRY ROW
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #1 Pacific St / Midas Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.594
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 56 Level Of Service: A

Table with 4 columns: Approach (North Bound, South Bound, East Bound, West Bound) and Movement (L, T, R). Rows include Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: >> Count Date: 13 Jan 2017 << adjusted epap

Table with 13 columns representing different traffic components and 13 rows of data including Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module:

Table with 13 columns and 4 rows: Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module:

Table with 13 columns and 3 rows: Vol/Sat, Crit Volume, and Crit Moves.

EPAP PLUS QUARRY ROW
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 PACIFIC / GROVE

Average Delay (sec/veh): 0.8 Worst Case Level Of Service: B[14.5]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, and Lanes.

Volume Module: Table with 13 columns for traffic volume metrics like Base Vol, Growth Adj, Initial Bse, etc.

Critical Gap Module: Table with 13 columns for gap and follow-up time metrics.

Capacity Module: Table with 13 columns for capacity metrics like Cnflct Vol, Potent Cap., etc.

Level Of Service Module: Table with 13 columns for LOS metrics like 2Way95thQ, Control Del, etc.

Note: Queue reported is the number of cars per lane.

EPAP PLUS QUARRY ROW
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #3 PACIFIC / YANKEE HILL

Average Delay (sec/veh): 0.8 Worst Case Level Of Service: B[13.7]

Table with columns: Approach, Movement, Control, Rights, Lanes. Rows for North Bound, South Bound, East Bound, West Bound.

Volume Module:
Base Vol: 8 0 1 26 0 55 22 658 8 16 721 11
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 8 0 1 26 0 55 22 658 8 16 721 11
Added Vol: 0 0 0 0 0 0 0 89 0 0 57 0
PasserByVol: -8 0 -1 0 0 0 0 0 -8 -16 0 0
Initial Fut: 0 0 0 26 0 55 22 747 0 0 778 11
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 0 0 0 26 0 55 22 747 0 0 778 11
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 0 0 26 0 55 22 747 0 0 778 11

Critical Gap Module:
Critical Gp: 7.5 6.5 6.9 6.8 6.5 6.9 4.1 xxxx xxxxxx xxxxxx xxxx xxxxxx
FollowUpTim: 3.5 4.0 3.3 3.5 4.0 3.3 2.2 xxxx xxxxxx xxxxxx xxxx xxxxxx

Capacity Module:
Cnflct Vol: 1180 1580 374 1201 1575 395 789 xxxx xxxxxx xxxxxx xxxx xxxxxx
Potent Cap.: 146 108 624 177 109 605 827 xxxx xxxxxx xxxxxx xxxx xxxxxx
Move Cap.: 130 105 624 174 106 605 827 xxxx xxxxxx xxxxxx xxxx xxxxxx
Total Cap: 244 223 xxxxxx 299 229 xxxxxx xxxx xxxx xxxxxx xxxx xxxx xxxxxx
Volume/Cap: 0.00 0.00 0.00 0.09 0.00 0.09 0.03 xxxx xxxxxx xxxxxx xxxx xxxxxx

Level Of Service Module:
2Way95thQ: xxxx xxxx xxxxxx xxxx xxxx 0.3 0.1 xxxx xxxxxx xxxxxx xxxx xxxxxx
Control Del:xxxxxx xxxx xxxxxx xxxxxx xxxx 11.5 9.5 xxxx xxxxxx xxxxxx xxxx xxxxxx
LOS by Move: * * * * * B A * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx 0 xxxxxx 299 xxxx xxxxxx xxxx xxxx xxxxxx xxxx xxxx xxxxxx
SharedQueue:xxxxxx xxxx xxxxxx 0.3 xxxx xxxxxx xxxxxx xxxx xxxxxx xxxxxx xxxx xxxxxx
Shrd ConDel:xxxxxx xxxx xxxxxx 18.2 xxxx xxxxxx xxxxxx xxxx xxxxxx xxxxxx xxxx xxxxxx
Shared LOS: * * * C * * * * * * * *
ApproachDel: xxxxxx 13.7 xxxxxx xxxxxx
ApproachLOS: * B * * *

Note: Queue reported is the number of cars per lane.

EPAP PLUS QUARRY ROW
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #4 PACIFIC ACCESS

Average Delay (sec/veh): 0.1 Worst Case Level Of Service: B[11.0]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, and Lanes.

Volume Module: Table with 12 columns for traffic volumes and adjustment factors (Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume).

Critical Gap Module: Table with 12 columns for critical gap and follow-up time values.

Capacity Module: Table with 12 columns for capacity-related metrics (Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.).

Level Of Service Module: Table with 12 columns for LOS metrics (2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS).

Note: Queue reported is the number of cars per lane.

EPAP PLUS QUARRY ROW
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #5 Pacific St / American Way

Cycle (sec): 100 Critical Vol./Cap.(X): 0.447
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 41 Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module:

Table with 13 columns representing different volume metrics and 13 rows for various adjustment factors like Base Vol, Growth Adj, Initial Bse, etc.

Saturation Flow Module:

Table with 13 columns for saturation flow metrics and 4 rows for Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module:

Table with 13 columns for capacity analysis metrics and 3 rows for Vol/Sat, Crit Volume, and Crit Moves.

EPAP PLUS QUARRY ROW
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #6 GROVE / ACCESS

Average Delay (sec/veh): 1.5 Worst Case Level Of Service: A[8.8]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module:

Table with 12 columns representing different volume metrics like Base Vol, Growth Adj, Initial Bse, etc.

Critical Gap Module:

Table with 12 columns showing critical gap and follow-up time values.

Capacity Module:

Table with 12 columns showing capacity metrics like Conflict Vol, Potent Cap., Move Cap., etc.

Level Of Service Module:

Table with 12 columns showing level of service metrics like 2Way95thQ, Control Del, LOS by Move, etc.

Note: Queue reported is the number of cars per lane.

EPAP PLUS QUARRY ROW
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #7 GROVE ST / CEDAR ST

Cycle (sec): 100 Critical Vol./Cap. (X): 0.102
Loss Time (sec): 0 Average Delay (sec/veh): 7.3
Optimal Cycle: 0 Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, and Lanes.

Volume Module:

Table with 13 columns representing different volume and adjustment factors like Base Vol, Growth Adj, Initial Bse, etc.

Saturation Flow Module:

Table with 13 columns for saturation flow adjustment factors like Adjustment, Lanes, and Final Sat.

Capacity Analysis Module:

Table with 13 columns for capacity analysis metrics like Vol/Sat, Crit Moves, Delay/Veh, etc.

Note: Queue reported is the number of cars per lane.

CUMULATIVE AND CUMULATIVE MINUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Scenario Report

Scenario: 2030 AM
Command: Default Command
Volume: 2030 AM
Geometry: EXISTING
Impact Fee: Default Impact Fee
Trip Generation: GP AM
Trip Distribution: AM CURRENT
Paths: NO CLOVER
Routes: Default Route
Configuration: Default Configuration

 CUMULATIVE AND CUMULATIVE MINUS PROJECT
 7571-01 TLA: QUARRY ROW SUBDIVISION

Trip Generation Report

Forecast for GP AM

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
10	QUARRY ROW	64.00	sfr	-0.19	-0.56	-12	-36	-48	100.0
	Zone 10 Subtotal					-12	-36	-48	100.0
TOTAL						-12	-36	-48	100.0

CUMULATIVE AND CUMULATIVE MINUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Trip Distribution Report

Percent Of Trips AM CURRENT

Zone	To Gates										
	1	2	3	4	6	7	8	9	10	11	12
1	16.0	11.0	35.0	25.0	12.0	0.0	1.0	0.0	0.0	0.0	0.0
2	10.0	0.0	20.0	5.0	0.0	50.0	0.0	0.0	15.0	0.0	0.0
6	20.0	0.0	24.0	10.0	5.0	2.0	0.0	5.0	2.0	2.0	15.0
7	20.0	0.0	24.0	10.0	5.0	2.0	0.0	5.0	2.0	2.0	15.0
9	1.0	0.0	19.0	10.0	5.0	0.0	0.0	0.0	0.0	5.0	0.0
10	0.0	0.0	20.0	10.0	8.0	32.0	0.0	0.0	0.0	5.0	0.0
12	10.0	0.0	20.0	0.0	5.0	45.0	5.0	0.0	10.0	5.0	0.0
13	5.0	0.0	10.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	9.0	0.0	17.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	9.0	0.0	14.0	10.0	0.0	0.0	0.0	0.0	17.0	0.0	0.0

Zone	To Gates					
	13	14	15	17	18	19
1	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0
6	10.0	5.0	0.0	0.0	0.0	0.0
7	10.0	5.0	0.0	0.0	0.0	0.0
9	30.0	7.0	10.0	9.0	4.0	0.0
10	0.0	5.0	5.0	5.0	5.0	5.0
12	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	1.0	0.0	0.0	82.0	0.0
14	0.0	0.0	0.0	0.0	64.0	0.0
15	0.0	0.0	0.0	0.0	50.0	0.0

 CUMULATIVE AND CUMULATIVE MINUS PROJECT
 7571-01 TLA: QUARRY ROW SUBDIVISION

Turning Movement Report
 GP AM

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#1 Pacific St / Midas Ave													
Base	32	88	93	448	194	73	34	627	35	52	660	290	2626
Added	0	0	0	-2	0	0	0	-3	0	0	-10	-6	-21
Total	32	88	93	446	194	73	34	624	35	52	650	284	2605
#2 PACIFIC / GROVE													
Base	31	0	48	0	0	0	0	953	15	46	916	0	2009
Added	-17	0	0	0	0	0	0	-3	-2	0	0	0	-22
Total	14	0	48	0	0	0	0	950	13	46	916	0	1987
#3 PACIFIC / YANKEE HILL													
Base	0	0	0	8	0	27	60	941	0	0	935	25	1996
Added	0	0	0	0	0	0	0	-4	0	0	0	0	-4
Total	0	0	0	8	0	27	60	937	0	0	935	25	1992
#4 PACIFIC ACCESS													
Base	0	0	8	5	0	10	23	922	3	3	950	6	1930
Added	0	0	-8	0	0	0	0	0	-3	-3	0	0	-14
Total	0	0	0	5	0	10	23	922	0	0	950	6	1916
#5 Pacific St / American Way													
Base	63	19	35	34	40	135	67	697	172	62	761	7	2092
Added	0	0	0	0	0	0	0	-8	-1	0	-3	0	-12
Total	63	19	35	34	40	135	67	689	171	62	758	7	2080
#6 GROVE / ACCESS													
Base	0	60	4	2	58	0	0	0	0	11	0	17	152
Added	0	0	-4	-2	0	0	0	0	0	-11	0	-17	-34
Total	0	60	0	0	58	0	0	0	0	0	0	0	118
#7 GROVE ST / CEDAR ST													
Base	25	40	154	7	50	1	0	37	1	138	47	5	505
Added	0	0	-3	0	0	0	0	-1	0	-9	-2	0	-15
Total	25	40	151	7	50	1	0	36	1	129	45	5	490
#8 Rocklin Rd / Meyers St													
Base	14	1205	205	208	680	6	9	4	16	164	2	123	2636
Added	0	-1	-2	0	-5	0	0	0	0	-7	0	0	-15
Total	14	1204	203	208	675	6	9	4	16	157	2	123	2621

 CUMULATIVE AND CUMULATIVE MINUS PROJECT
 7571-01 TLA: QUARRY ROW SUBDIVISION

Impact Analysis Report
 Level Of Service

Intersection	Base		Future		Change in
	LOS	Veh C	LOS	Veh C	
# 1 Pacific St / Midas Ave	B	xxxxx 0.637	B	xxxxx 0.635	-0.002 V/C
# 2 PACIFIC / GROVE	C	18.3 0.136	C	15.4 0.090	-2.957 D/V
# 3 PACIFIC / YANKEE HILL	B	14.3 0.084	B	14.3 0.084	-0.005 D/V
# 4 PACIFIC ACCESS	D	25.1 0.058	C	20.7 0.043	-4.336 D/V
# 5 Pacific St / American Way	A	xxxxx 0.507	A	xxxxx 0.503	-0.003 V/C
# 6 GROVE / ACCESS	A	8.9 0.017	A	0.0 0.000	-8.921 D/V
# 7 GROVE ST / CEDAR ST	A	8.7 0.263	A	8.6 0.257	-0.006 V/C
# 8 Rocklin Rd / Meyers St	F	91.5 1.318	F	91.0 1.315	-0.003 V/C

CUMULATIVE AND CUMULATIVE MINUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #1 Pacific St / Midas Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.637
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 63 Level Of Service: B

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, Min. Green, Y+R, Lanes.

Volume Module:

Table with 13 columns representing different volume metrics. Rows include Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, Final Volume.

Saturation Flow Module:

Table with 13 columns representing saturation flow metrics. Rows include Sat/Lane, Adjustment, Lanes, Final Sat.

Capacity Analysis Module:

Table with 13 columns representing capacity analysis metrics. Rows include Vol/Sat, Crit Volume, Crit Moves.

CUMULATIVE AND CUMULATIVE MINUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #1 Pacific St / Midas Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.635
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 62 Level Of Service: B

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module table with 12 columns representing different traffic flows and 12 rows of volume-related metrics like Base Vol, Growth Adj, Initial Bse, etc.

Saturation Flow Module table with 12 columns and 4 rows showing Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module table with 12 columns and 4 rows showing Vol/Sat, Crit Volume, and Crit Moves.

CUMULATIVE AND CUMULATIVE MINUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 PACIFIC / GROVE

Average Delay (sec/veh): 1.0 Worst Case Level Of Service: C [18.3]

Approach:	North Bound			South Bound			East Bound			West Bound						
Movement:	L	T	R	L	T	R	L	T	R	L	T	R				
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled						
Rights:	Include			Include			Include			Include						
Lanes:	0	0	1	0	0	0	0	0	1	1	0	1	0	2	0	0

Volume Module:

Base Vol:	31	0	48	0	0	0	0	953	15	46	916	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	31	0	48	0	0	0	0	953	15	46	916	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	31	0	48	0	0	0	0	953	15	46	916	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	31	0	48	0	0	0	0	953	15	46	916	0

Critical Gap Module:

Critical Gp:	6.8	6.5	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx

Capacity Module:

Cnflct Vol:	1511	1969	484	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	968	xxxx	xxxxx
Potent Cap.:	111	62	529	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	707	xxxx	xxxxx
Move Cap.:	105	58	529	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	707	xxxx	xxxxx
Total Cap:	228	169	xxxxx	173	158	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	0.14	0.00	0.09	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.07	xxxx	xxxx

Level Of Service Module:

2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.2	xxxx	xxxxx			
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	10.4	xxxx	xxxxx			
LOS by Move:	*	*	*	*	*	*	*	*	*	B	*	*			
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	349	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx			
SharedQueue:	xxxxx	0.9	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			
Shrd ConDel:	xxxxx	18.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			
Shared LOS:	*	C	*	*	*	*	*	*	*	*	*	*			
ApproachDel:	18.3			xxxxxx			xxxxxx			xxxxxx					
ApproachLOS:	C			*			*			*					

Note: Queue reported is the number of cars per lane.

CUMULATIVE AND CUMULATIVE MINUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 PACIFIC / GROVE

Average Delay (sec/veh): 0.7 Worst Case Level Of Service: C[15.4]

Approach:	North Bound			South Bound			East Bound			West Bound										
Movement:	L	T	R	L	T	R	L	T	R	L	T	R								
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled										
Rights:	Include			Include			Include			Include										
Lanes:	0	0	1	0	0	0	0	0	0	0	1	0	1	1	0	1	0	2	0	0

Volume Module:

Base Vol:	31	0	48	0	0	0	0	953	15	46	916	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	31	0	48	0	0	0	0	953	15	46	916	0
Added Vol:	-17	0	0	0	0	0	0	-3	-2	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	14	0	48	0	0	0	0	950	13	46	916	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	14	0	48	0	0	0	0	950	13	46	916	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	14	0	48	0	0	0	0	950	13	46	916	0

Critical Gap Module:

Critical Gp:	6.8	6.5	6.9	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	4.1	xxxx	xxxx
FollowUpTim:	3.5	4.0	3.3	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	2.2	xxxx	xxxx

Capacity Module:

Cnflct Vol:	1507	1965	482	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	963	xxxx	xxxx
Potent Cap.:	112	62	531	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	711	xxxx	xxxx
Move Cap.:	106	58	531	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	711	xxxx	xxxx
Total Cap:	229	170	xxxx	173	159	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Volume/Cap:	0.06	0.00	0.09	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.06	xxxx	xxxx

Level Of Service Module:

2Way95thQ:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.2	xxxx	xxxx			
Control Del:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	10.4	xxxx	xxxx			
LOS by Move:	*	*	*	*	*	*	*	*	*	B	*	*			
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	409	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx			
SharedQueue:	xxxx	0.5	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx			
Shrd ConDel:	xxxx	15.4	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx			
Shared LOS:	*	C	*	*	*	*	*	*	*	*	*	*			
ApproachDel:	15.4			xxxx			xxxx			xxxx					
ApproachLOS:	C			*			*			*					

Note: Queue reported is the number of cars per lane.

CUMULATIVE AND CUMULATIVE MINUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #3 PACIFIC / YANKEE HILL

Average Delay (sec/veh): 0.6 Worst Case Level Of Service: B[14.3]

Approach:	North Bound			South Bound			East Bound			West Bound							
Movement:	L	T	R	L	T	R	L	T	R	L	T	R					
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled							
Rights:	Include			Include			Include			Include							
Lanes:	0	0	1	0	0	0	0	1	0	0	1	0	1	0	1	1	0

Volume Module:

Base Vol:	0	0	0	8	0	27	60	941	0	0	935	25
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	8	0	27	60	941	0	0	935	25
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	8	0	27	60	941	0	0	935	25
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	8	0	27	60	941	0	0	935	25

Critical Gap Module:

Critical Gp:	7.5	6.5	6.9	6.8	6.5	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx

Capacity Module:

Cnflct Vol:	1529	2021	471	1538	2009	480	960	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	80	57	540	106	58	532	712	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	71	53	540	100	54	532	712	xxxx	xxxxx	xxxx	xxxx	xxxxx
Total Cap:	163	149	xxxxx	223	162	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	0.00	0.00	0.00	0.04	0.00	0.05	0.08	xxxx	xxxx	xxxx	xxxx	xxxx

Level Of Service Module:

2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.2	0.3	xxxx	xxxxx	xxxx	xxxx	xxxxx			
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	12.1	10.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx			
LOS by Move:	*	*	*	*	*	B	B	*	*	*	*	*			
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	0	xxxxx	223	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx			
SharedQueue:	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			
Shrd ConDel:	xxxxx	xxxx	xxxxx	21.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			
Shared LOS:	*	*	*	C	*	*	*	*	*	*	*	*			
ApproachDel:	xxxxxx			14.3			xxxxxx			xxxxxx					
ApproachLOS:	*			B			*			*					

Note: Queue reported is the number of cars per lane.

CUMULATIVE AND CUMULATIVE MINUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #3 PACIFIC / YANKEE HILL

Average Delay (sec/veh): 0.6 Worst Case Level Of Service: B[14.3]

Table with columns: Approach, Movement, Control, Rights, Lanes. Rows for North Bound, South Bound, East Bound, West Bound.

Volume Module:

Table with columns: Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Critical Gap Module:

Table with columns: Critical Gap, FollowUpTim.

Capacity Module:

Table with columns: Cnflct Vol, Potent Cap., Move Cap., Total Cap, Volume/Cap.

Level Of Service Module:

Table with columns: 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.

CUMULATIVE AND CUMULATIVE MINUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #4 PACIFIC ACCESS

Average Delay (sec/veh): 0.4 Worst Case Level Of Service: D[25.1]

Table with 4 columns: Approach (North Bound, South Bound, East Bound, West Bound) and 3 rows: Movement (L-T-R), Control (Stop Sign, Uncontrolled), Rights (Include), Lanes (0-1).

Volume Module: Table with 12 columns for volume components (Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume) and 4 columns for approaches (North, South, East, West).

Critical Gap Module: Table with 12 columns for gap components (Critical Gp, FollowUpTim) and 4 columns for approaches (North, South, East, West).

Capacity Module: Table with 12 columns for capacity components (Cnflict Vol, Potent Cap., Move Cap., Volume/Cap) and 4 columns for approaches (North, South, East, West).

Level Of Service Module: Table with 12 columns for LOS components (2Way95thQ, Control Del, LOS by Move, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS) and 4 columns for approaches (North, South, East, West).

Note: Queue reported is the number of cars per lane.

CUMULATIVE AND CUMULATIVE MINUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #4 PACIFIC ACCESS

Average Delay (sec/veh): 0.3 Worst Case Level Of Service: C[20.7]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, and Lanes.

Volume Module: Table with 12 columns representing different traffic movements and 10 rows of volume data including Base Vol, Growth Adj, Initial Bse, etc.

Critical Gap Module: Table with 12 columns and 2 rows showing critical gap and follow-up time values.

Capacity Module: Table with 12 columns and 4 rows showing conflict volume, potent capacity, move capacity, and volume/capacity.

Level Of Service Module: Table with 12 columns and 8 rows showing 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

CUMULATIVE AND CUMULATIVE MINUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report

Circular 212 Planning Method (Base Volume Alternative)

Intersection #5 Pacific St / American Way

Cycle (sec): 100 Critical Vol./Cap. (X): 0.507
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 46 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	0	1	0	0	1	0	1	1	0	1

Volume Module:

Base Vol:	63	19	35	34	40	135	67	697	172	62	761	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	63	19	35	34	40	135	67	697	172	62	761	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	63	19	35	34	40	135	67	697	172	62	761	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	63	19	35	34	40	135	67	697	172	62	761	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	63	19	35	34	40	135	67	697	172	62	761	7

Saturation Flow Module:

Sat/Lane:	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.35	0.65	1.00	0.23	0.77	1.00	1.60	0.40	1.00	1.98	0.02
Final Sat.:	1450	510	940	1450	331	1119	1450	2326	574	1450	2874	26

Capacity Analysis Module:

Vol/Sat:	0.04	0.04	0.04	0.02	0.12	0.12	0.05	0.30	0.30	0.04	0.26	0.26
Crit Volume:	63			175			435			62		
Crit Moves:	****			****			****			****		

CUMULATIVE AND CUMULATIVE MINUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report

Circular 212 Planning Method (Future Volume Alternative)

Intersection #5 Pacific St / American Way

Cycle (sec): 100 Critical Vol./Cap. (X): 0.503
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 46 Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module:

Table with 12 columns representing different volume metrics and 13 rows including Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduced Vol, PCE Adj, MLF Adj, and FinalVolume.

Saturation Flow Module:

Table with 12 columns representing saturation flow metrics and 4 rows including Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module:

Table with 12 columns representing capacity analysis metrics and 3 rows including Vol/Sat, Crit Volume, and Crit Moves.

CUMULATIVE AND CUMULATIVE MINUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #6 GROVE / ACCESS

Average Delay (sec/veh): 1.7 Worst Case Level Of Service: A[8.9]

Approach:	North Bound			South Bound			East Bound			West Bound										
Movement:	L	T	R	L	T	R	L	T	R	L	T	R								
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign										
Rights:	Include			Include			Include			Include										
Lanes:	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0

Volume Module:

Base Vol:	0	60	4	2	58	0	0	0	0	11	0	17
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	60	4	2	58	0	0	0	0	11	0	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	60	4	2	58	0	0	0	0	11	0	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	60	4	2	58	0	0	0	0	11	0	17

Critical Gap Module:

Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3

Capacity Module:

Cnflct Vol:	xxxx	xxxx	xxxxx	64	xxxx	xxxxx	xxxx	xxxx	xxxxx	124	124	62
Potent Cap.:	xxxx	xxxx	xxxxx	1538	xxxx	xxxxx	xxxx	xxxx	xxxxx	871	766	1003
Move Cap.:	xxxx	xxxx	xxxxx	1538	xxxx	xxxxx	xxxx	xxxx	xxxxx	870	765	1003
Volume/Cap:	xxxx	xxxx	xxxx	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	0.01	0.00	0.02

Level Of Service Module:

2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx			
Control Del:	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*			
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	946	xxxxx			
SharedQueue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx			
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	8.9	xxxxx			
Shared LOS:	*	*	*	A	*	*	*	*	*	*	A	*			
ApproachDel:	xxxxxxx			xxxxxxx			xxxxxxx			8.9					
ApproachLOS:	*			*			*			A					

Note: Queue reported is the number of cars per lane.

CUMULATIVE AND CUMULATIVE MINUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #7 GROVE ST / CEDAR ST

Cycle (sec): 100 Critical Vol./Cap.(X): 0.263
Loss Time (sec): 0 Average Delay (sec/veh): 8.7
Optimal Cycle: 0 Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, and Lanes.

Volume Module:

Table with 13 columns representing different volume and adjustment factors like Base Vol, Growth Adj, Initial Bse, etc.

Saturation Flow Module:

Table with 13 columns representing saturation flow factors like Adjustment, Lanes, and Final Sat.

Capacity Analysis Module:

Table with 13 columns representing capacity analysis factors like Vol/Sat, Crit Moves, Delay/Veh, etc.

Note: Queue reported is the number of cars per lane.

CUMULATIVE AND CUMULATIVE MINUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #7 GROVE ST / CEDAR ST

Cycle (sec): 100 Critical Vol./Cap.(X): 0.257
Loss Time (sec): 0 Average Delay (sec/veh): 8.6
Optimal Cycle: 0 Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, and Lanes.

Volume Module:

Table with 13 columns representing different volume metrics and 13 rows for various adjustment factors like Base Vol, Growth Adj, etc.

Saturation Flow Module:

Table with 13 columns for saturation flow metrics and 3 rows for Adjustment, Lanes, and Final Sat.

Capacity Analysis Module:

Table with 13 columns for capacity analysis metrics and 13 rows for Vol/Sat, Crit Moves, Delay/Veh, etc.

Note: Queue reported is the number of cars per lane.

CUMULATIVE AND CUMULATIVE MINUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Scenario Report

Scenario: CUM PM PLUS PROJ NO CONN

Command: Default Command
Volume: PM CUM WITH PACIFIC
Geometry: EXISTING
Impact Fee: Default Impact Fee
Trip Generation: GP PM
Trip Distribution: CURRENT
Paths: NO CLOVER
Routes: Default Route
Configuration: Default Configuration

CUMULATIVE AND CUMULATIVE MINUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Trip Generation Report

Forecast for GP PM

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
10	QUARRY ROW	64.00	sfr	-0.63	-0.37	-40	-24	-64	100.0
	Zone 10 Subtotal					-40	-24	-64	100.0
TOTAL						-40	-24	-64	100.0

CUMULATIVE AND CUMULATIVE MINUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Trip Distribution Report

Percent Of Trips CURRENT

Zone	To Gates										
	1	2	3	4	5	6	7	8	9	10	11
1	9.0	4.0	18.0	11.0	10.0	8.0	8.0	14.0	6.0	0.0	0.0
2	10.0	0.0	20.0	0.0	0.0	0.0	55.0	0.0	0.0	10.0	5.0
6	20.0	0.0	24.0	5.0	0.0	0.0	2.0	0.0	5.0	2.0	2.0
7	20.0	0.0	24.0	5.0	0.0	0.0	2.0	0.0	5.0	2.0	2.0
9	1.0	0.0	19.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	25.0	10.0	0.0	2.0	26.0	0.0	0.0	0.0	2.0
12	10.0	0.0	20.0	0.0	0.0	0.0	55.0	0.0	0.0	10.0	5.0
13	5.0	0.0	10.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	9.0	0.0	17.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	9.0	0.0	14.0	4.0	0.0	0.0	0.0	0.0	0.0	17.0	0.0

Zone	To Gates								
	12	13	14	15	16	17	18	19	
1	0.0	0.0	0.0	0.0	6.0	0.0	0.0	6.0	
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
6	25.0	10.0	5.0	0.0	0.0	0.0	0.0	0.0	
7	25.0	10.0	5.0	0.0	0.0	0.0	0.0	0.0	
9	0.0	43.0	7.0	10.0	0.0	9.0	9.0	0.0	
10	0.0	0.0	5.0	10.0	0.0	10.0	5.0	5.0	
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
13	0.0	0.0	1.0	0.0	0.0	0.0	82.0	0.0	
14	0.0	0.0	0.0	0.0	0.0	0.0	70.0	0.0	
15	0.0	0.0	0.0	0.0	0.0	0.0	56.0	0.0	

CUMULATIVE AND CUMULATIVE MINUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Turning Movement Report
GP PM

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#1 Pacific St / Midas Ave													
Base	35	90	34	449	136	100	128	826	53	82	741	537	3211
Added	0	0	0	-5	0	0	0	-12	0	0	-8	-3	-28
Total	35	90	34	444	136	100	128	814	53	82	733	534	3183
#2 PACIFIC / GROVE													
Base	30	0	39	0	0	0	0	1457	27	42	1198	0	2793
Added	-10	0	-1	0	0	0	0	-10	-7	0	0	0	-28
Total	20	0	38	0	0	0	0	1447	20	42	1198	0	2765
#3 PACIFIC / YANKEE HILL													
Base	0	0	0	26	0	55	22	1474	0	0	1185	11	2773
Added	0	0	0	0	0	0	0	-11	0	0	0	0	-11
PassBy	8	0	1	0	0	0	0	0	8	16	0	0	33
Total	8	0	1	26	0	55	22	1463	8	16	1185	11	2795
#4 PACIFIC ACCESS													
Base	0	0	8	0	0	0	3	1486	11	13	1196	0	2717
Added	0	0	-8	0	0	0	0	0	-11	-13	0	0	-32
Total	0	0	0	0	0	0	3	1486	0	0	1196	0	2685
#5 Pacific St / American Way													
Base	151	79	136	17	38	63	81	1283	131	136	997	25	3137
Added	-1	0	0	0	0	0	0	-7	0	0	-12	0	-20
Total	150	79	136	17	38	63	81	1276	131	136	985	25	3117
#6 GROVE / ACCESS													
Base	0	54	9	7	60	0	0	0	0	6	0	11	147
Added	0	-1	-9	-7	0	0	0	0	0	-6	0	-11	-34
Total	0	53	0	0	60	0	0	0	0	0	0	0	113
#7 GROVE ST / CEDAR ST													
Base	3	12	135	5	10	1	1	28	2	177	77	9	460
Added	0	0	-8	0	0	0	0	-2	0	-4	-1	0	-15
Total	3	12	127	5	10	1	1	26	2	173	76	9	445
#8 Rocklin Rd / Meyers St													
Base	46	1305	265	56	1340	5	10	0	19	271	3	35	3355
Added	0	-4	-7	0	-2	0	0	0	0	-4	0	0	-17
Total	46	1301	258	56	1338	5	10	0	19	267	3	35	3338

CUMULATIVE AND CUMULATIVE MINUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Impact Analysis Report
Level Of Service

Intersection	Base		Future		Change in
	Del/ LOS	V/ Veh C	Del/ LOS	V/ Veh C	
# 1 Pacific St / Midas Ave	C	xxxxx 0.731	C	xxxxx 0.724	-0.008 V/C
# 2 PACIFIC / GROVE	D	32.0 0.234	D	26.6 0.154	-5.415 D/V
# 3 PACIFIC / YANKEE HILL	C	19.7 0.160	E	45.4 0.215	+25.728 D/V
# 4 PACIFIC ACCESS	C	15.4 0.029	B	11.2 0.005	-4.139 D/V
# 5 Pacific St / American Way	C	xxxxx 0.755	C	xxxxx 0.752	-0.003 V/C
# 6 GROVE / ACCESS	A	8.9 0.011	A	0.0 0.000	-8.862 D/V
# 7 GROVE ST / CEDAR ST	A	8.8 0.332	A	8.8 0.324	-0.008 V/C
# 8 Rocklin Rd / Meyers St	F	165.9 1.388	F	163.2 1.378	-0.009 V/C

CUMULATIVE AND CUMULATIVE MINUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report

Circular 212 Planning Method (Base Volume Alternative)

Intersection #1 Pacific St / Midas Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.731
 Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
 Optimal Cycle: 85 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Ignore			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	0	1	0	1	0	1	1	0	1

Volume Module:

Base Vol:	35	90	34	449	136	100	128	826	53	82	741	537
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	35	90	34	449	136	100	128	826	53	82	741	537
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	35	90	34	449	136	0	128	826	53	82	741	537
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	35	90	34	449	136	0	128	826	53	82	741	537
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	35	90	34	449	136	0	128	826	53	82	741	537

Saturation Flow Module:

Sat/Lane:	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.88	0.12	1.00	2.00	1.00
Final Sat.:	1450	1450	1450	1450	1450	1450	1450	2725	175	1450	2900	1450

Capacity Analysis Module:

Vol/Sat:	0.02	0.06	0.02	0.31	0.09	0.00	0.09	0.30	0.30	0.06	0.26	0.37
Crit Volume:	90			449			440			82		
Crit Moves:	****			****			****			****		

CUMULATIVE AND CUMULATIVE MINUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report

Circular 212 Planning Method (Future Volume Alternative)

Intersection #1 Pacific St / Midas Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.724
 Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
 Optimal Cycle: 83 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Ignore			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	0	1	0	1	1	0	1	0	1

Volume Module:

Base Vol:	35	90	34	449	136	100	128	826	53	82	741	537
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	35	90	34	449	136	100	128	826	53	82	741	537
Added Vol:	0	0	0	-5	0	0	0	-12	0	0	-8	-3
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	35	90	34	444	136	100	128	814	53	82	733	534
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	35	90	34	444	136	0	128	814	53	82	733	534
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	35	90	34	444	136	0	128	814	53	82	733	534
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	35	90	34	444	136	0	128	814	53	82	733	534

Saturation Flow Module:

Sat/Lane:	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.88	0.12	1.00	2.00	1.00
Final Sat.:	1450	1450	1450	1450	1450	1450	1450	2723	177	1450	2900	1450

Capacity Analysis Module:

Vol/Sat:	0.02	0.06	0.02	0.31	0.09	0.00	0.09	0.30	0.30	0.06	0.25	0.37
Crit Volume:	90			444			434			82		
Crit Moves:	****			****			****			****		

CUMULATIVE AND CUMULATIVE MINUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 PACIFIC / GROVE

Average Delay (sec/veh): 1.0 Worst Case Level Of Service: D[32.0]

Approach:	North Bound			South Bound			East Bound			West Bound						
Movement:	L	T	R	L	T	R	L	T	R	L	T	R				
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled						
Rights:	Include			Include			Include			Include						
Lanes:	0	0	1	0	0	0	0	0	1	1	0	1	0	2	0	0

Volume Module:

Base Vol:	30	0	39	0	0	0	0	1457	27	42	1198	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	30	0	39	0	0	0	0	1457	27	42	1198	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	30	0	39	0	0	0	0	1457	27	42	1198	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Volume:	30	0	39	0	0	0	0	1457	27	42	1198	0

Critical Gap Module:

Critical Gp:	6.8	6.5	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx

Capacity Module:

Cnflct Vol:	2154	2753	742	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1484	xxxx	xxxxx
Potent Cap.:	41	19	358	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	449	xxxx	xxxxx
Move Cap.:	38	18	358	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	449	xxxx	xxxxx
Total Cap:	128	99	xxxxx	106	86	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	0.23	0.00	0.11	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.09	xxxx	xxxx

Level Of Service Module:

2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.3	xxxx	xxxxx			
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	13.8	xxxx	xxxxx			
LOS by Move:	*	*	*	*	*	*	*	*	*	B	*	*			
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	201	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx			
Shared Queue:	xxxxx	1.4	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			
Shrd ConDel:	xxxxx	32.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			
Shared LOS:	*	D	*	*	*	*	*	*	*	*	*	*			
ApproachDel:	32.0			xxxxxxx			xxxxxxx			xxxxxxx					
ApproachLOS:	D			*			*			*					

Note: Queue reported is the number of cars per lane.

CUMULATIVE AND CUMULATIVE MINUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 PACIFIC / GROVE

Average Delay (sec/veh): 0.8 Worst Case Level Of Service: D[26.6]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0	0	1	0	0	0	1	0	1	1	0	2

Volume Module:												
Base Vol:	30	0	39	0	0	0	0	1457	27	42	1198	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	30	0	39	0	0	0	0	1457	27	42	1198	0
Added Vol:	-10	0	-1	0	0	0	0	-10	-7	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	20	0	38	0	0	0	0	1447	20	42	1198	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	20	0	38	0	0	0	0	1447	20	42	1198	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	20	0	38	0	0	0	0	1447	20	42	1198	0

Critical Gap Module:												
Critical Gp:	6.8	6.5	6.9	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	4.1	xxxx	xxxx
FollowUpTim:	3.5	4.0	3.3	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	2.2	xxxx	xxxx

Capacity Module:												
Cnflict Vol:	2140	2739	734	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	1467	xxxx	xxxx
Potent Cap.:	42	20	363	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	456	xxxx	xxxx
Move Cap.:	39	18	363	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	456	xxxx	xxxx
Total Cap:	130	100	xxxx	107	88	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Volume/Cap:	0.15	0.00	0.10	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.09	xxxx	xxxx

Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.3	xxxx	xxxx
Control Del:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	13.7	xxxx	xxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	B	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	224	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
SharedQueue:	xxxx	1.0	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Shrd ConDel:	xxxx	26.6	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Shared LOS:	*	D	*	*	*	*	*	*	*	*	*	*
ApproachDel:	26.6			xxxx			xxxx			xxxx		
ApproachLOS:	D			*			*			*		

Note: Queue reported is the number of cars per lane.

CUMULATIVE AND CUMULATIVE MINUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #3 PACIFIC / YANKEE HILL

Average Delay (sec/veh): 0.7 Worst Case Level Of Service: C[19.7]

Approach:	North Bound			South Bound			East Bound			West Bound								
Movement:	L	T	R	L	T	R	L	T	R	L	T	R						
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled								
Rights:	Include			Include			Include			Include								
Lanes:	0	0	1	0	0	0	1	0	0	1	1	0	1	1	0	1	1	0

Volume Module:

Base Vol:	0	0	0	26	0	55	22	1474	0	0	1185	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	26	0	55	22	1474	0	0	1185	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	26	0	55	22	1474	0	0	1185	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	26	0	55	22	1474	0	0	1185	11

Critical Gap Module:

Critical Gp:	7.5	6.5	6.9	6.8	6.5	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx

Capacity Module:

Cnflct Vol:	2111	2714	737	1972	2709	598	1196	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	29	21	361	54	21	445	579	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	25	20	361	53	20	445	579	xxxx	xxxxx	xxxx	xxxx	xxxxx
Total Cap:	91	100	xxxxx	163	103	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	0.00	0.00	0.00	0.16	0.00	0.12	0.04	xxxx	xxxx	xxxx	xxxx	xxxx

Level Of Service Module:

2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.4	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx			
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	14.2	11.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx			
LOS by Move:	*	*	*	*	*	B	B	*	*	*	*	*			
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	0	xxxxx	163	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx			
SharedQueue:	xxxxx	xxxx	xxxxx	0.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			
Shrd ConDel:	xxxxx	xxxx	xxxxx	31.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			
Shared LOS:	*	*	*	D	*	*	*	*	*	*	*	*			
ApproachDel:	xxxxxx			19.7			xxxxxx			xxxxxx					
ApproachLOS:	*			C			*			*					

Note: Queue reported is the number of cars per lane.

CUMULATIVE AND CUMULATIVE MINUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #3 PACIFIC / YANKEE HILL

Average Delay (sec/veh): 1.0 Worst Case Level Of Service: E[45.4]

Approach:	North Bound			South Bound			East Bound			West Bound						
Movement:	L	T	R	L	T	R	L	T	R	L	T	R				
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled						
Rights:	Include			Include			Include			Include						
Lanes:	0	0	1	0	0	1	1	0	1	1	0	1	0	1	1	0

Volume Module:	North Bound			South Bound			East Bound			West Bound		
Base Vol:	0	0	0	26	0	55	22	1474	0	0	1185	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	26	0	55	22	1474	0	0	1185	11
Added Vol:	0	0	0	0	0	0	0	-11	0	0	0	0
PasserByVol:	8	0	1	0	0	0	0	0	8	16	0	0
Initial Fut:	8	0	1	26	0	55	22	1463	8	16	1185	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	8	0	1	26	0	55	22	1463	8	16	1185	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	8	0	1	26	0	55	22	1463	8	16	1185	11

Critical Gap Module:	North Bound			South Bound			East Bound			West Bound		
Critical Gap:	7.5	6.5	6.9	7.5	6.5	6.9	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx

Capacity Module:	North Bound			South Bound			East Bound			West Bound		
Cnflct Vol:	2136	2739	736	1998	2738	598	1196	xxxx	xxxxx	1471	xxxx	xxxxx
Potent Cap.:	28	20	362	35	20	445	579	xxxx	xxxxx	454	xxxx	xxxxx
Move Cap.:	23	18	362	33	18	445	579	xxxx	xxxxx	454	xxxx	xxxxx
Total Cap:	90	97	xxxxx	121	95	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	0.09	0.00	0.00	0.21	0.00	0.12	0.04	xxxx	xxxx	0.04	xxxx	xxxx

Level Of Service Module:	North Bound			South Bound			East Bound			West Bound		
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.4	0.1	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	14.2	11.5	xxxx	xxxxx	13.2	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	B	B	*	*	B	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	98	xxxxx	121	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.3	xxxxx	0.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	45.4	xxxxx	42.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	E	*	E	*	*	*	*	*	*	*	*
ApproachDel:	45.4			23.4			xxxxxxx			xxxxxxx		
ApproachLOS:	E			C			*			*		

Note: Queue reported is the number of cars per lane.

CUMULATIVE AND CUMULATIVE MINUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #4 PACIFIC ACCESS

Average Delay (sec/veh): 0.1 Worst Case Level Of Service: C[15.4]

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	T	R		L	T	R		L	T	R		L	T	R					
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled							
Rights:	Include				Include				Include				Include							
Lanes:	0	0	0	1	0	0	1	0	1	0	1	1	0	1	0	1	1	0	1	1

Volume Module:

Base Vol:	0	0	8	0	0	0	3	1486	11	13	1196	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	8	0	0	0	3	1486	11	13	1196	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	8	0	0	0	3	1486	11	13	1196	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	8	0	0	0	3	1486	11	13	1196	0

Critical Gap Module:

Critical Gp:	xxxxx	xxxx	6.9	7.5	6.5	6.9	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx

Capacity Module:

Cnflct Vol:	xxxx	xxxx	749	1971	2725	598	1196	xxxx	xxxxx	1497	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	355	37	20	445	579	xxxx	xxxxx	444	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	355	35	20	445	579	xxxx	xxxxx	444	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	0.02	0.00	0.00	0.00	0.01	xxxx	xxxx	0.03	xxxx	xxxx

Level Of Service Module:

2Way95thQ:	xxxx	xxxx	0.1	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	15.4	xxxxx	xxxx	xxxxx	11.2	xxxx	xxxxx	13.4	xxxx	xxxxx
LOS by Move:	*	*	C	*	*	*	B	*	*	B	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	0	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	15.4			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	C			*			*			*		

Note: Queue reported is the number of cars per lane.

CUMULATIVE AND CUMULATIVE MINUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #4 PACIFIC ACCESS

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: B[11.2]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module table with 12 columns representing different traffic volumes and adjustment factors.

Critical Gap Module table with 12 columns showing critical gap and follow-up time values.

Capacity Module table with 12 columns showing conflict volume, potent capacity, and volume/capacity ratios.

Level Of Service Module table with 12 columns showing delay, LOS by move, and approach delay/LOS.

Note: Queue reported is the number of cars per lane.

CUMULATIVE AND CUMULATIVE MINUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #5 Pacific St / American Way

Cycle (sec): 100 Critical Vol./Cap.(X): 0.755
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 93 Level Of Service: C

Table with columns for Approach (North, South, East, West Bound) and Movement (L, T, R). Rows include Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module:

Table showing Volume Module data with columns for various adjustment factors like Base Vol, Growth Adj, Initial Bse, etc.

Saturation Flow Module:

Table showing Saturation Flow Module data with columns for Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module:

Table showing Capacity Analysis Module data with columns for Vol/Sat, Crit Volume, and Crit Moves.

CUMULATIVE AND CUMULATIVE MINUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #5 Pacific St / American Way

Cycle (sec): 100 Critical Vol./Cap.(X): 0.752
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 92 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	0	1	0	0	1	0	1	1	0	1

Volume Module:

Base Vol:	151	79	136	17	38	63	81	1283	131	136	997	25
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	151	79	136	17	38	63	81	1283	131	136	997	25
Added Vol:	-1	0	0	0	0	0	0	-7	0	0	-12	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	150	79	136	17	38	63	81	1276	131	136	985	25
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	150	79	136	17	38	63	81	1276	131	136	985	25
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	150	79	136	17	38	63	81	1276	131	136	985	25
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	150	79	136	17	38	63	81	1276	131	136	985	25

Saturation Flow Module:

Sat/Lane:	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.37	0.63	1.00	0.38	0.62	1.00	1.81	0.19	1.00	1.95	0.05
Final Sat.:	1450	533	917	1450	546	904	1450	2630	270	1450	2828	72

Capacity Analysis Module:

Vol/Sat:	0.10	0.15	0.15	0.01	0.07	0.07	0.06	0.49	0.49	0.09	0.35	0.35
Crit Volume:	150			101			704			136		
Crit Moves:	****			****			****			****		

CUMULATIVE AND CUMULATIVE MINUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #6 GROVE / ACCESS

Average Delay (sec/veh): 1.4 Worst Case Level Of Service: A[8.9]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, and Lanes.

Volume Module: Table with 12 columns for volume adjustments. Rows include Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Critical Gap Module: Table with 12 columns for gap values. Rows include Critical Gp and FollowUpTim.

Capacity Module: Table with 12 columns for capacity values. Rows include Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level Of Service Module: Table with 12 columns for LOS values. Rows include 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, Approach Del, and Approach LOS.

Note: Queue reported is the number of cars per lane.

CUMULATIVE AND CUMULATIVE MINUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #7 GROVE ST / CEDAR ST

Cycle (sec): 100 Critical Vol./Cap.(X): 0.332
Loss Time (sec): 0 Average Delay (sec/veh): 8.8
Optimal Cycle: 0 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1	0	0	1	0	0	1	0	0	1

Volume Module:

Base Vol:	3	12	135	5	10	1	1	28	2	177	77	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	12	135	5	10	1	1	28	2	177	77	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	3	12	135	5	10	1	1	28	2	177	77	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	3	12	135	5	10	1	1	28	2	177	77	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	3	12	135	5	10	1	1	28	2	177	77	9

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.02	0.08	0.90	0.31	0.63	0.06	0.03	0.91	0.06	0.68	0.29	0.03
Final Sat.:	17	67	750	221	441	44	24	686	49	534	232	27

Capacity Analysis Module:

Vol/Sat:	0.18	0.18	0.18	0.02	0.02	0.02	0.04	0.04	0.04	0.33	0.33	0.33
Crit Moves:	****			****			****			****		
Delay/Veh:	7.9	7.9	7.9	7.9	7.9	7.9	7.7	7.7	7.7	9.5	9.5	9.5
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	7.9	7.9	7.9	7.9	7.9	7.9	7.7	7.7	7.7	9.5	9.5	9.5
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:	7.9			7.9			7.7			9.5		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	7.9			7.9			7.7			9.5		
LOS by Appr:	A			A			A			A		
AllWayAvgQ:	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5

Note: Queue reported is the number of cars per lane.

CUMULATIVE AND CUMULATIVE MINUS PROJECT
7571-01 TLA: QUARRY ROW SUBDIVISION

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #7 GROVE ST / CEDAR ST

Cycle (sec): 100 Critical Vol./Cap.(X): 0.324
Loss Time (sec): 0 Average Delay (sec/veh): 8.8
Optimal Cycle: 0 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1! 0 0	0	0	1! 0 0	0	0	1! 0 0	0	0	1! 0 0

Volume Module:

Base Vol:	3	12	135	5	10	1	1	28	2	177	77	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	12	135	5	10	1	1	28	2	177	77	9
Added Vol:	0	0	-8	0	0	0	0	-2	0	-4	-1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	3	12	127	5	10	1	1	26	2	173	76	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	3	12	127	5	10	1	1	26	2	173	76	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	3	12	127	5	10	1	1	26	2	173	76	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	3	12	127	5	10	1	1	26	2	173	76	9

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.02	0.08	0.90	0.31	0.63	0.06	0.03	0.90	0.07	0.68	0.29	0.03
Final Sat.:	18	71	749	222	445	44	26	686	53	534	235	28

Capacity Analysis Module:

Vol/Sat:	0.17	0.17	0.17	0.02	0.02	0.02	0.04	0.04	0.04	0.32	0.32	0.32
Crit Moves:	****			****			****			****		
Delay/Veh:	7.8	7.8	7.8	7.9	7.9	7.9	7.7	7.7	7.7	9.4	9.4	9.4
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	7.8	7.8	7.8	7.9	7.9	7.9	7.7	7.7	7.7	9.4	9.4	9.4
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:	7.8			7.9			7.7			9.4		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	7.8			7.9			7.7			9.4		
LOS by Appr:	A			A			A			A		
AllWayAvgQ:	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4

Note: Queue reported is the number of cars per lane.

DELAY (CONTROL)

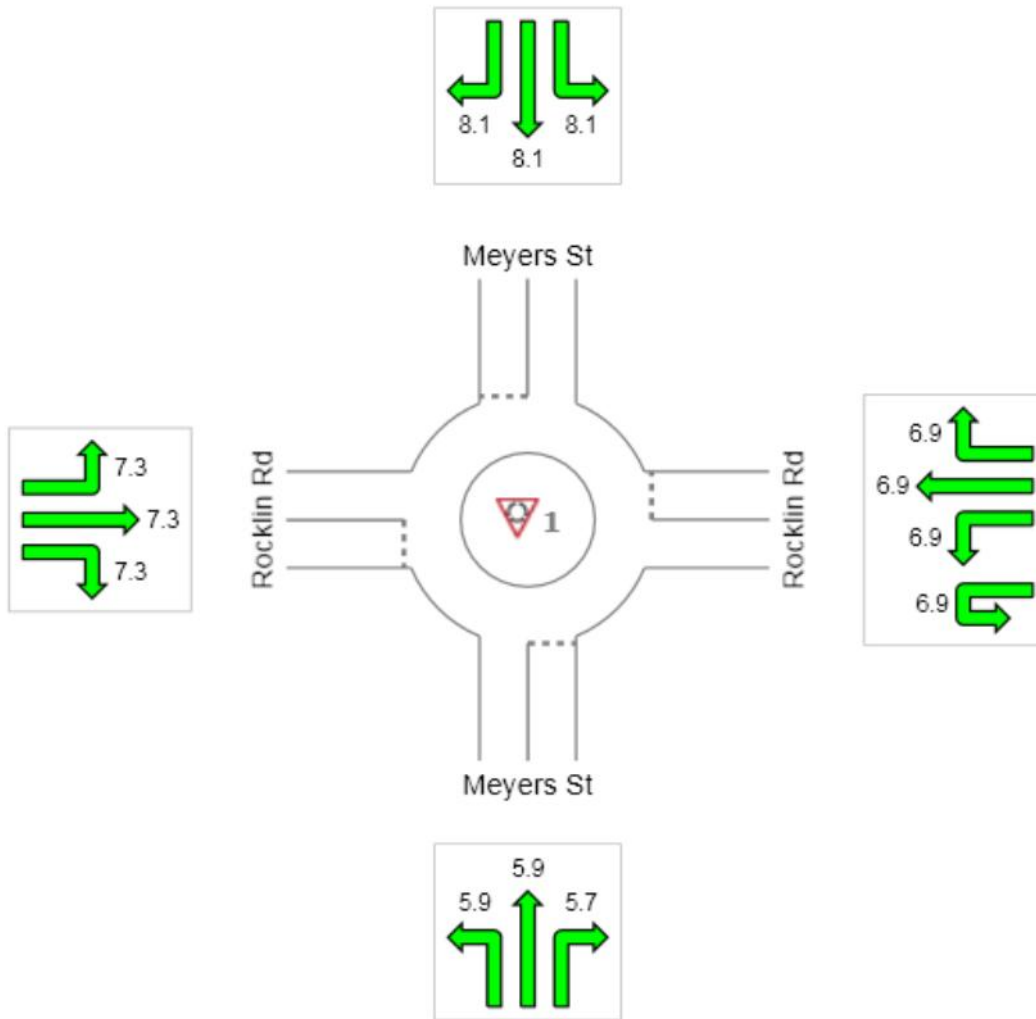
Average control delay per vehicle, or average pedestrian delay (seconds)

 Site: Rocklin Rd / Meyers St - Exist AM

Avalon
Roundabout

All Movement Classes

	South	East	North	West	Intersection
	5.7	6.9	8.1	7.3	7.3
LOS	A	A	A	A	A



Colour code based on Level of Service



Level of Service Method: Delay & v/c (HCM 2010)

LOS F will result if $v/c > 1$ irrespective of movement delay value (does not apply for approaches and intersection).

Roundabout Level of Service Method: Same as Sign Control

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

QUEUE DISTANCE (%ILE)

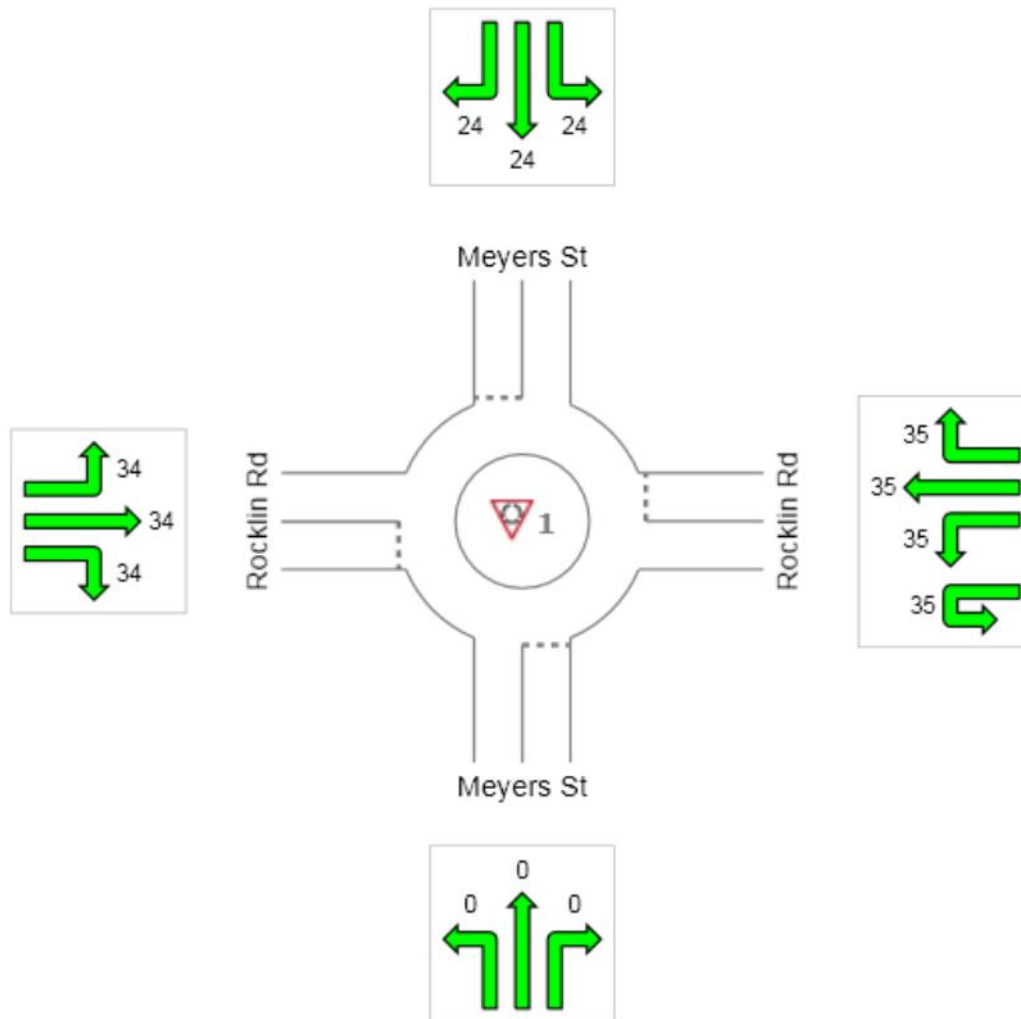
Largest 95% Back of Queue for any lane used by movement (feet)

 Site: Rocklin Rd / Meyers St - Exist AM

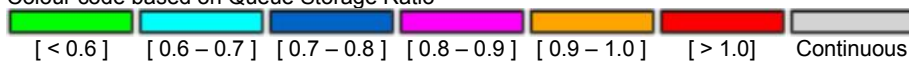
Avalon
Roundabout

All Movement Classes

	South	East	North	West	Intersection
	0	35	24	34	35



Colour code based on Queue Storage Ratio



DELAY (CONTROL)

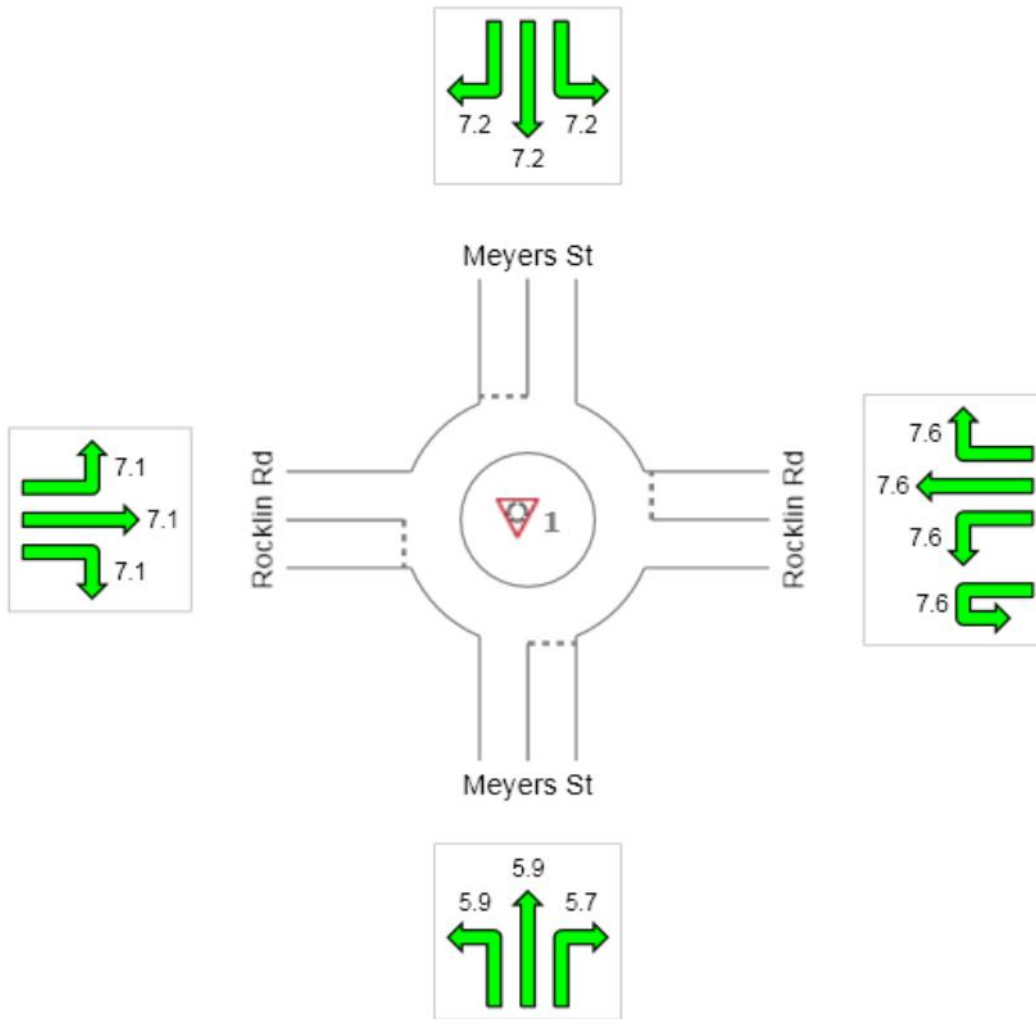
Average control delay per vehicle, or average pedestrian delay (seconds)

 Site: Rocklin Rd / Meyers St - Exist PM

Avalon
Roundabout

All Movement Classes

	South	East	North	West	Intersection
	5.8	7.6	7.2	7.1	7.4
LOS	A	A	A	A	A



Colour code based on Level of Service



Level of Service Method: Delay & v/c (HCM 2010)

LOS F will result if $v/c > 1$ irrespective of movement delay value (does not apply for approaches and intersection).

Roundabout Level of Service Method: Same as Sign Control

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

QUEUE DISTANCE (%ILE)

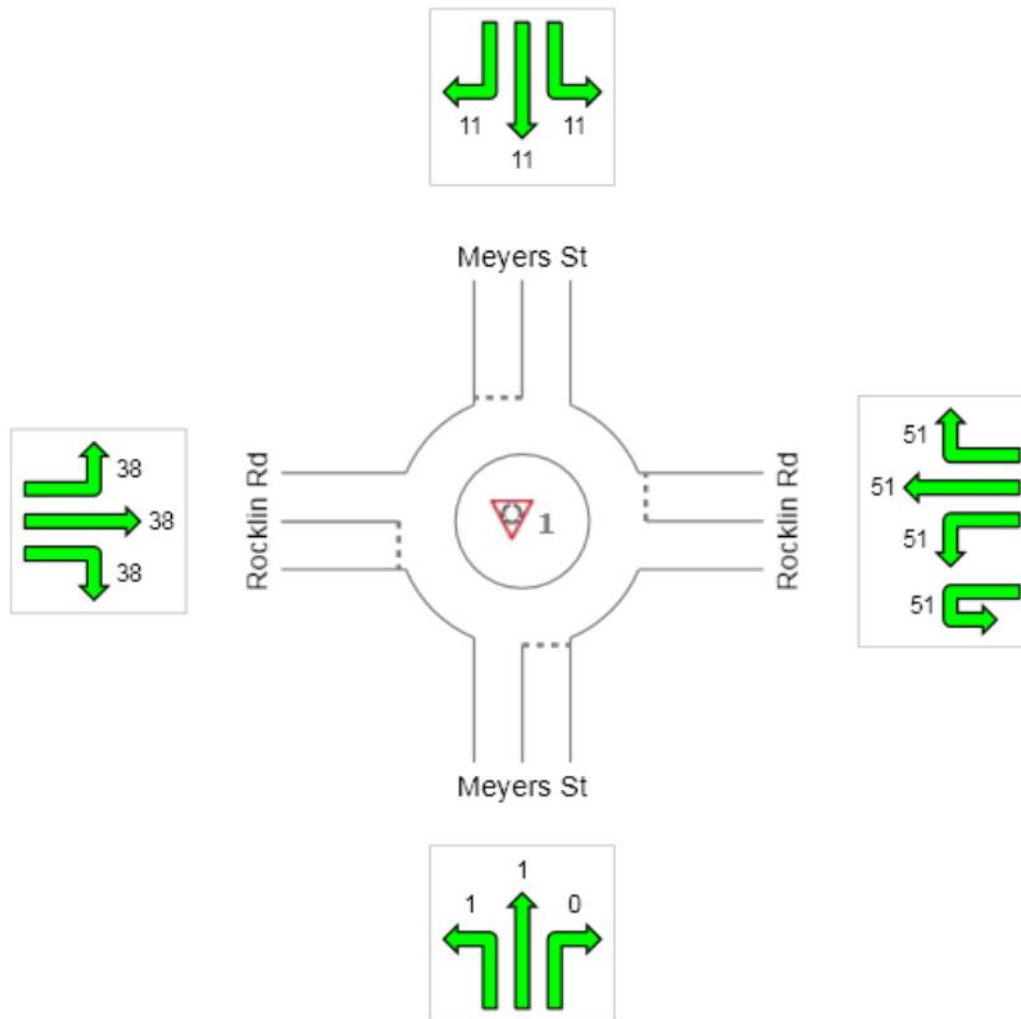
Largest 95% Back of Queue for any lane used by movement (feet)

 Site: Rocklin Rd / Meyers St - Exist PM

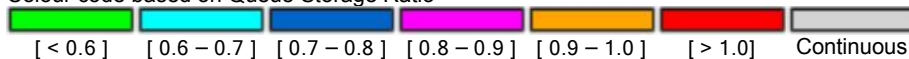
Avalon
Roundabout

All Movement Classes

	South	East	North	West	Intersection
	1	51	11	38	51



Colour code based on Queue Storage Ratio



DELAY (CONTROL)

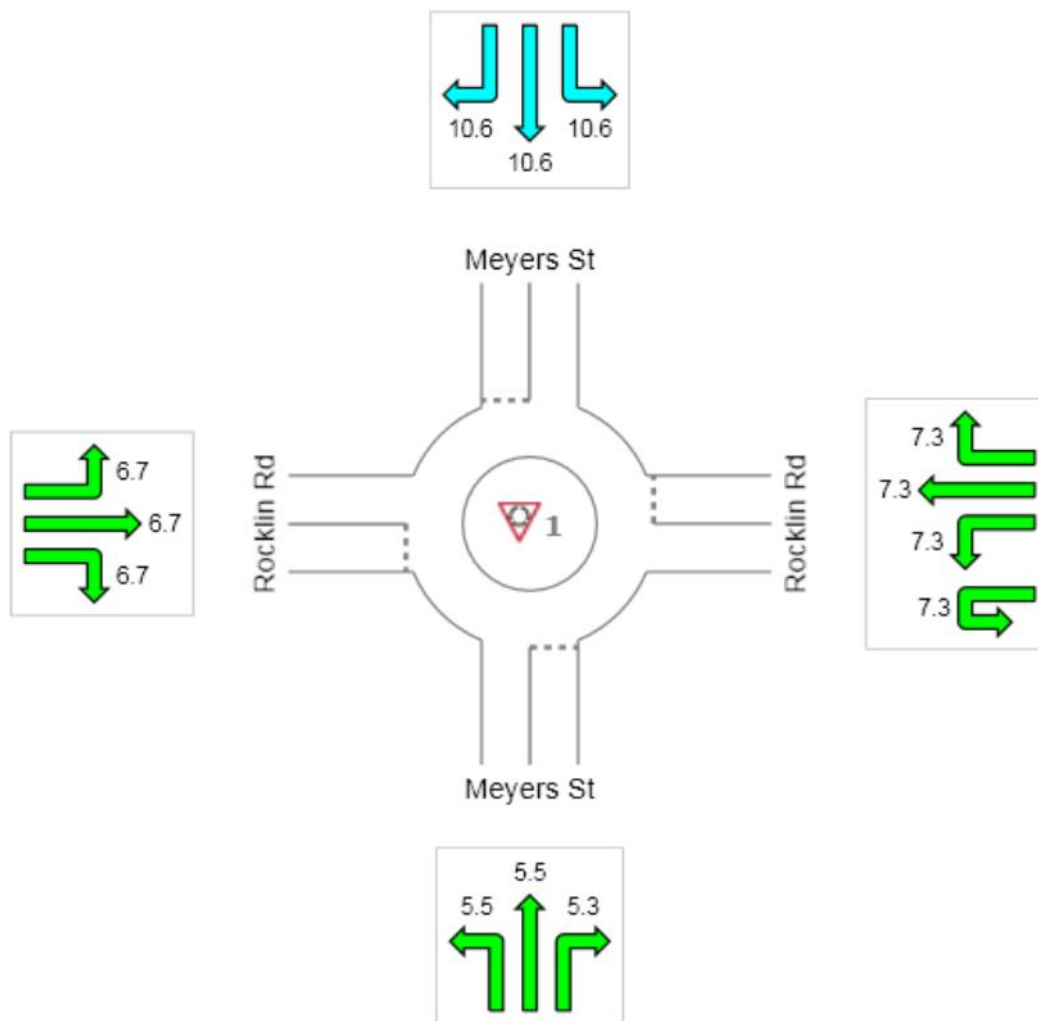
Average control delay per vehicle, or average pedestrian delay (seconds)

 Site: Rocklin Rd / Meyers St - Existing + Project AM

Avalon
Roundabout

All Movement Classes

	South	East	North	West	Intersection
	5.4	7.3	10.6	6.7	7.7
LOS	A	A	B	A	A



Colour code based on Level of Service



Level of Service Method: Delay & v/c (HCM 2010)

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Roundabout Level of Service Method: Same as Sign Control

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

QUEUE DISTANCE (%ILE)

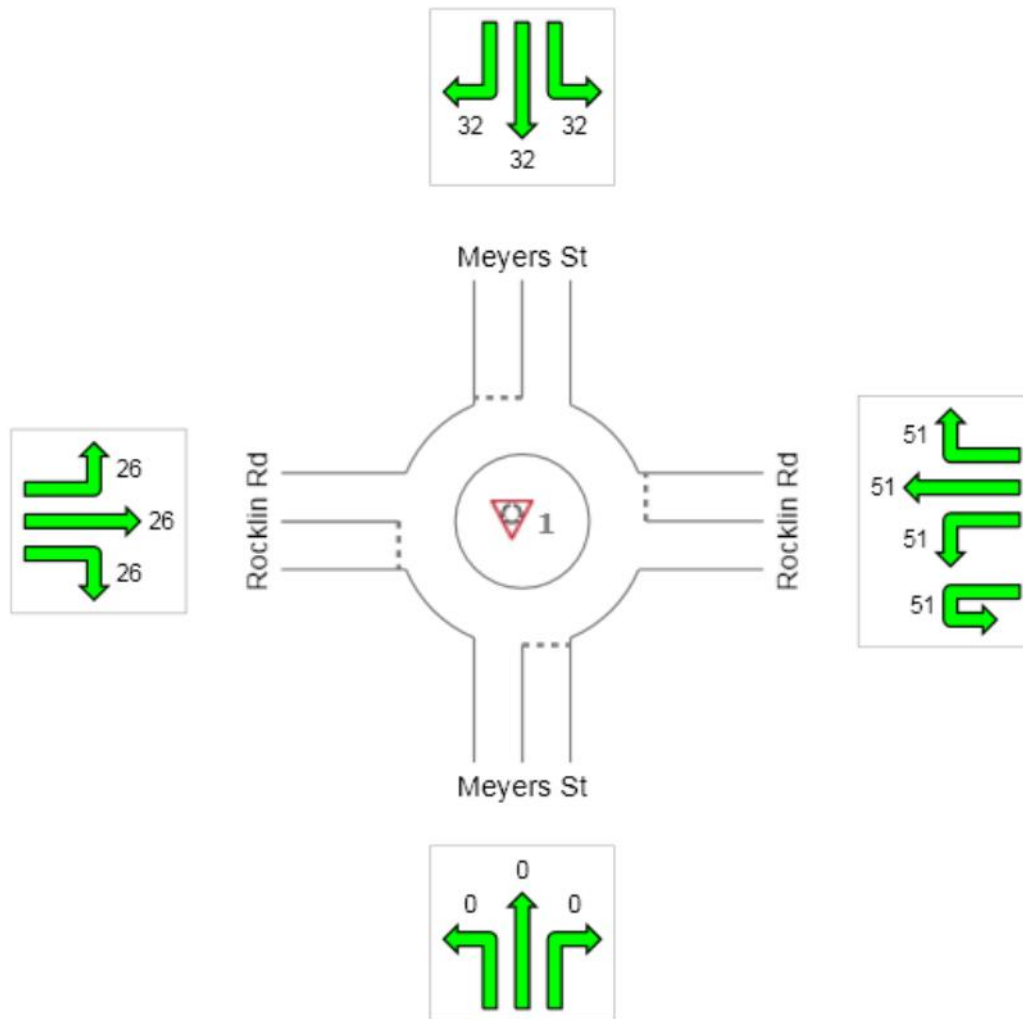
Largest 95% Back of Queue for any lane used by movement (feet)

 Site: Rocklin Rd / Meyers St - Existing + Project AM

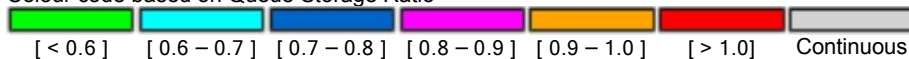
Avalon
Roundabout

All Movement Classes

	South	East	North	West	Intersection
	0	51	32	26	51



Colour code based on Queue Storage Ratio



DELAY (CONTROL)

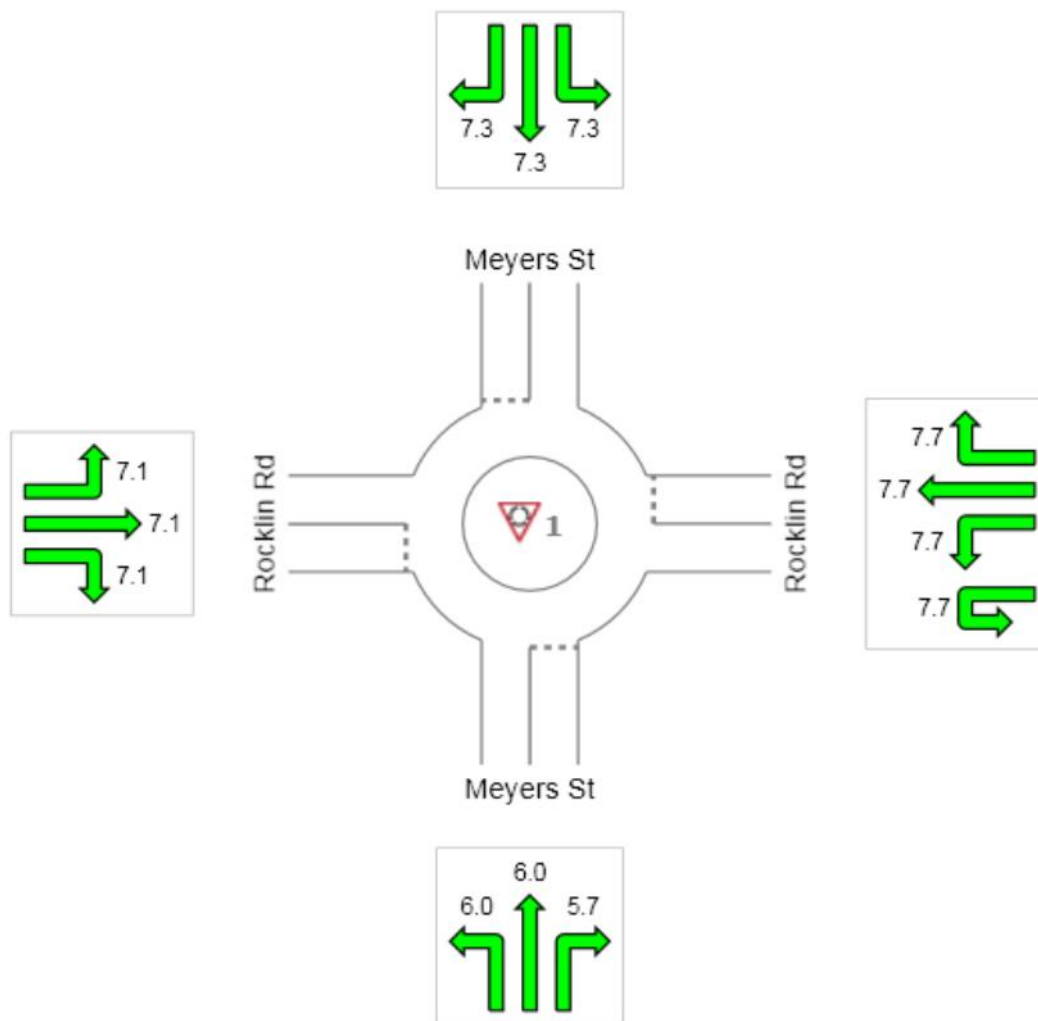
Average control delay per vehicle, or average pedestrian delay (seconds)

 Site: Rocklin Rd / Meyers St - Exist + Project PM

Avalon
Roundabout

All Movement Classes

	South	East	North	West	Intersection
	5.9	7.7	7.3	7.1	7.4
LOS	A	A	A	A	A



Colour code based on Level of Service



Level of Service Method: Delay & v/c (HCM 2010)

LOS F will result if $v/c > 1$ irrespective of movement delay value (does not apply for approaches and intersection).

Roundabout Level of Service Method: Same as Sign Control

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

QUEUE DISTANCE (%ILE)

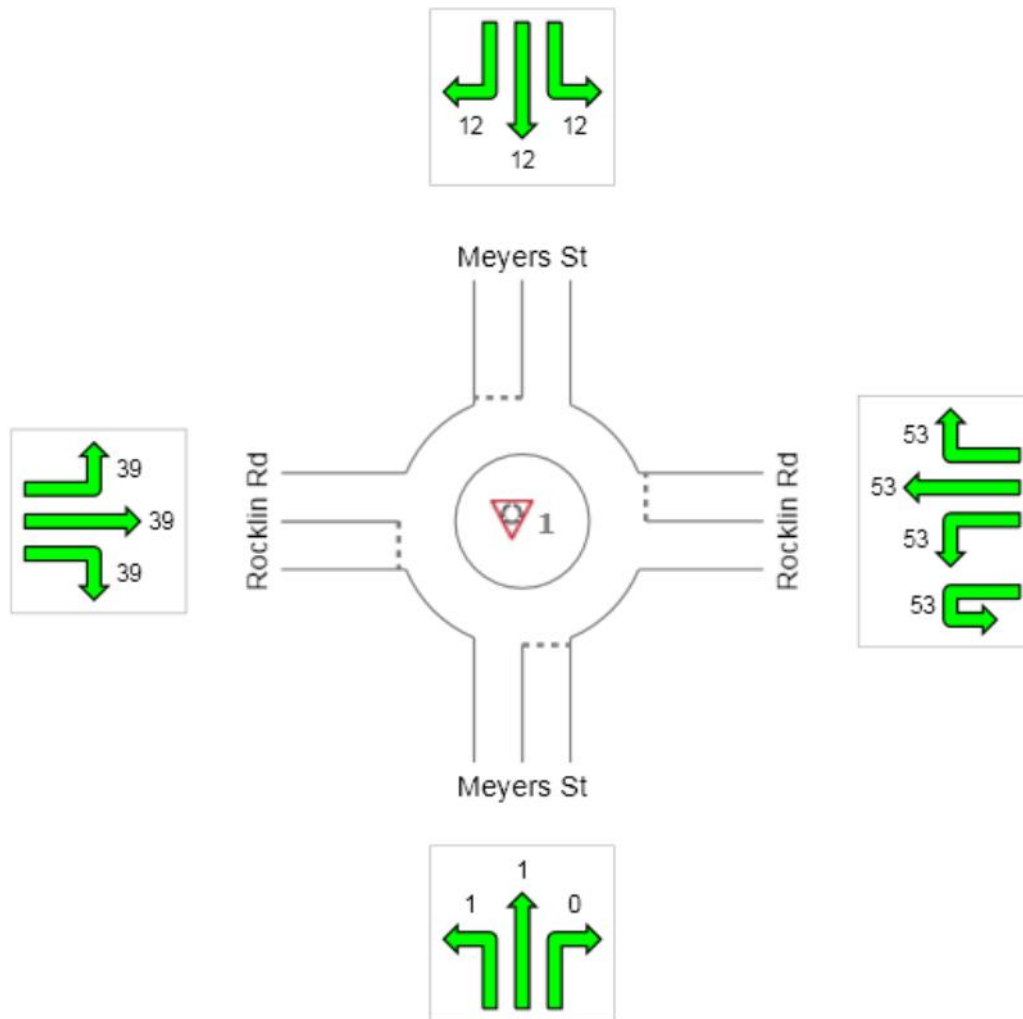
Largest 95% Back of Queue for any lane used by movement (feet)

 Site: Rocklin Rd / Meyers St - Exist + Project PM

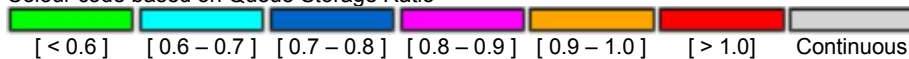
Avalon
Roundabout

All Movement Classes

	South	East	North	West	Intersection
	1	53	12	39	53



Colour code based on Queue Storage Ratio



DELAY (CONTROL)

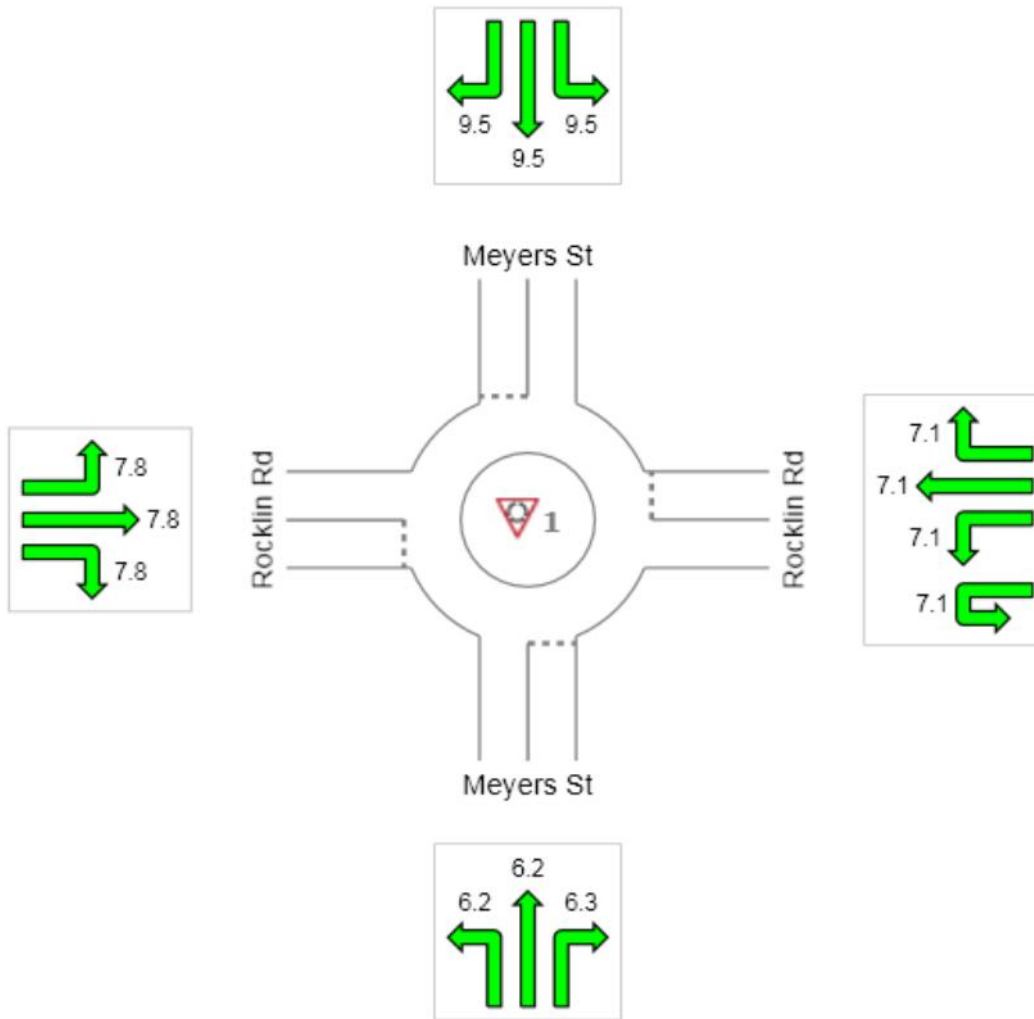
Average control delay per vehicle, or average pedestrian delay (seconds)

 Site: Rocklin Rd / Meyers St - EPAP AM

Avalon
Roundabout

All Movement Classes

	South	East	North	West	Intersection
	6.2	7.1	9.5	7.8	7.7
LOS	A	A	A	A	A



Colour code based on Level of Service



Level of Service Method: Delay & v/c (HCM 2010)

LOS F will result if $v/c > 1$ irrespective of movement delay value (does not apply for approaches and intersection).

Roundabout Level of Service Method: Same as Sign Control

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

QUEUE DISTANCE (%ILE)

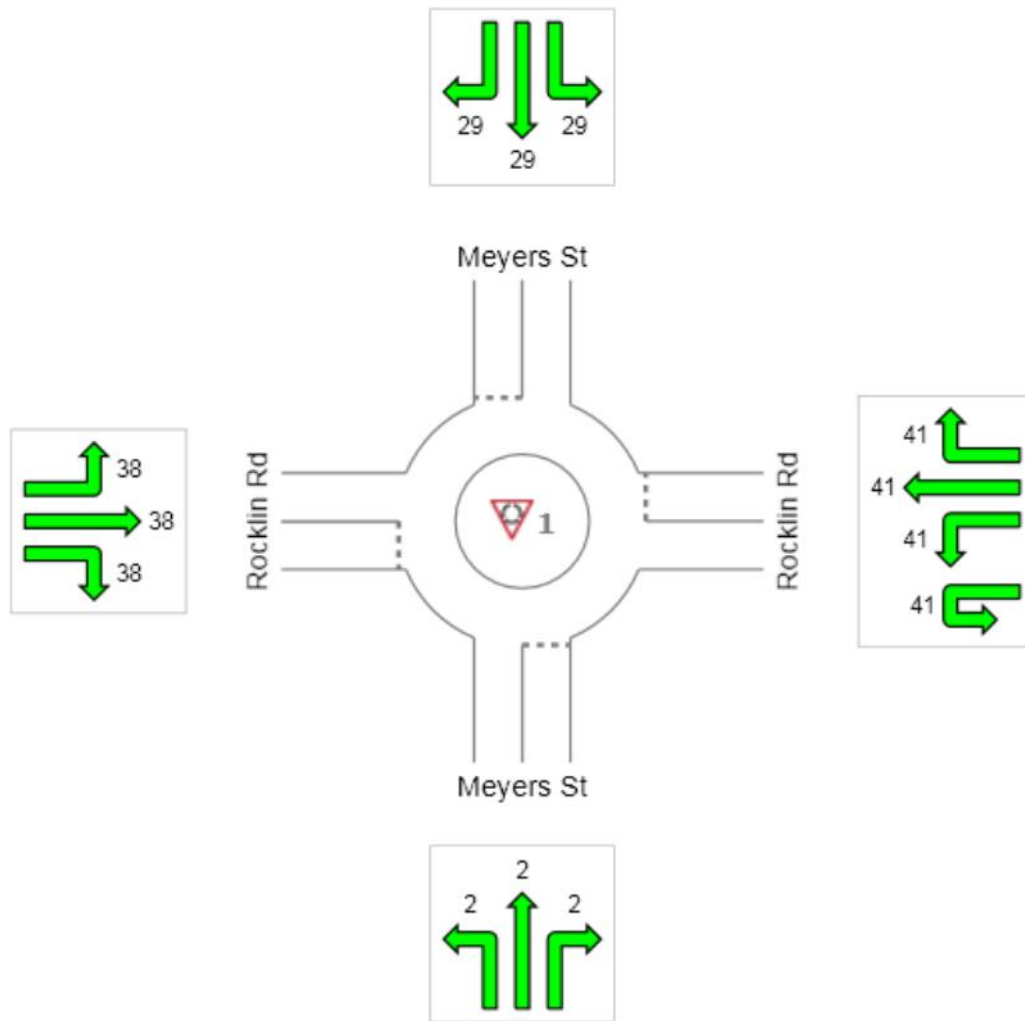
Largest 95% Back of Queue for any lane used by movement (feet)

 Site: Rocklin Rd / Meyers St - EPAP AM

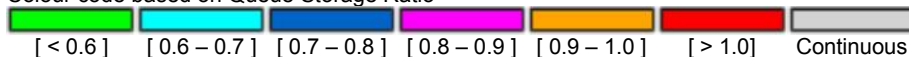
Avalon
Roundabout

All Movement Classes

	South	East	North	West	Intersection
	2	41	29	38	41



Colour code based on Queue Storage Ratio



DELAY (CONTROL)

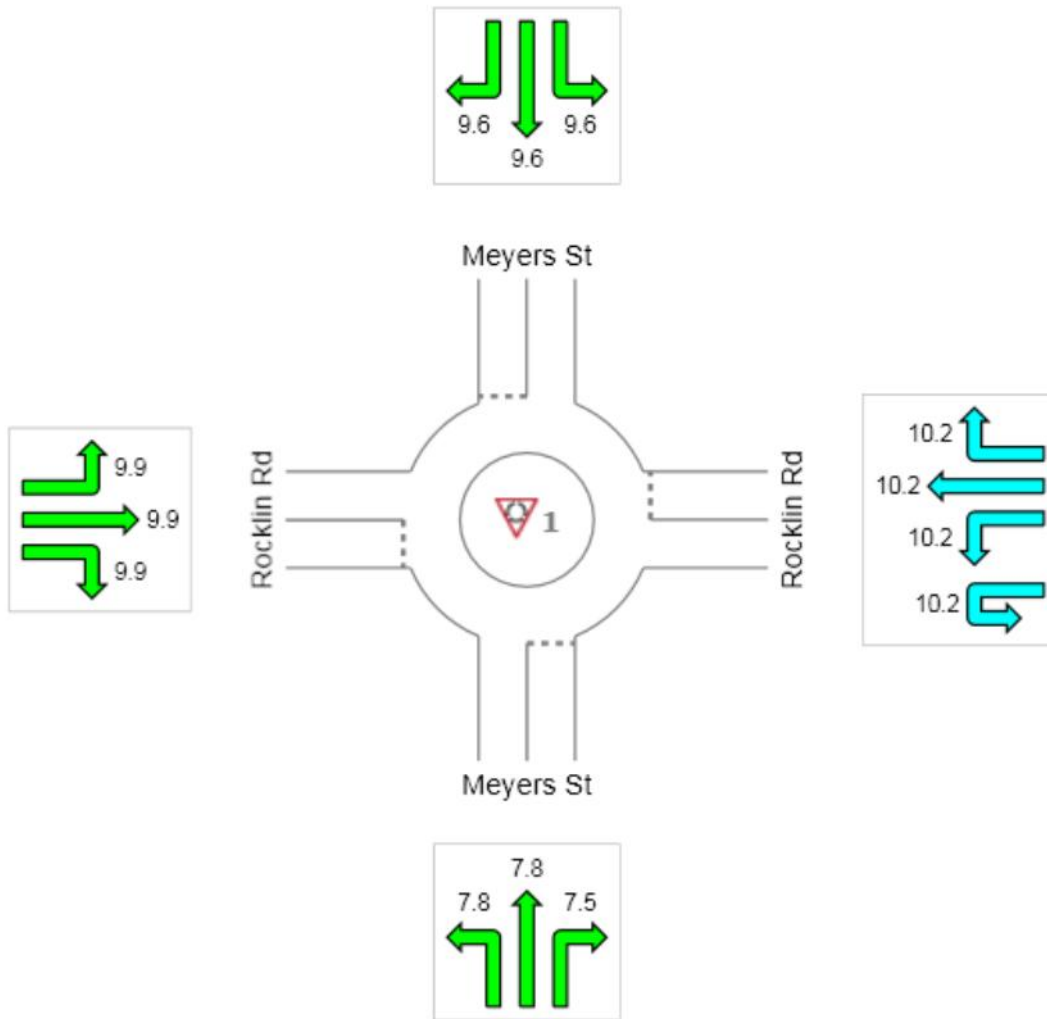
Average control delay per vehicle, or average pedestrian delay (seconds)

 Site: Rocklin Rd / Meyers St - EPAP PM

Avalon
Roundabout

All Movement Classes

	South	East	North	West	Intersection
	7.6	10.2	9.6	9.9	10.0
LOS	A	B	A	A	B



Colour code based on Level of Service



Level of Service Method: Delay & v/c (HCM 2010)

LOS F will result if $v/c > 1$ irrespective of movement delay value (does not apply for approaches and intersection).

Roundabout Level of Service Method: Same as Sign Control

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

QUEUE DISTANCE (%ILE)

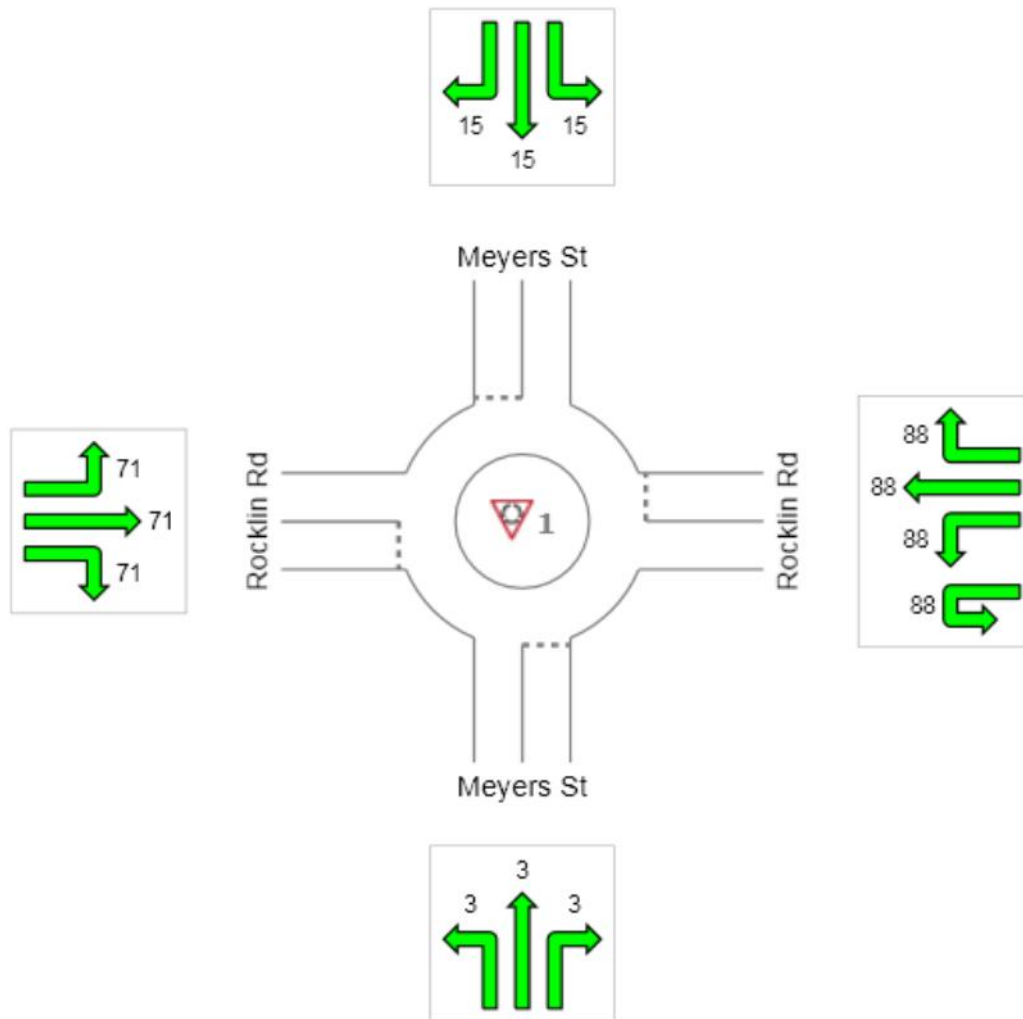
Largest 95% Back of Queue for any lane used by movement (feet)

 Site: Rocklin Rd / Meyers St - EPAP PM

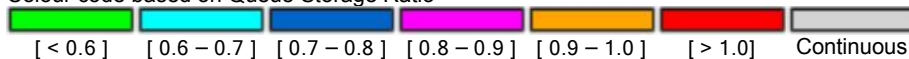
Avalon
Roundabout

All Movement Classes

	South	East	North	West	Intersection
	3	88	15	71	88



Colour code based on Queue Storage Ratio



DELAY (CONTROL)

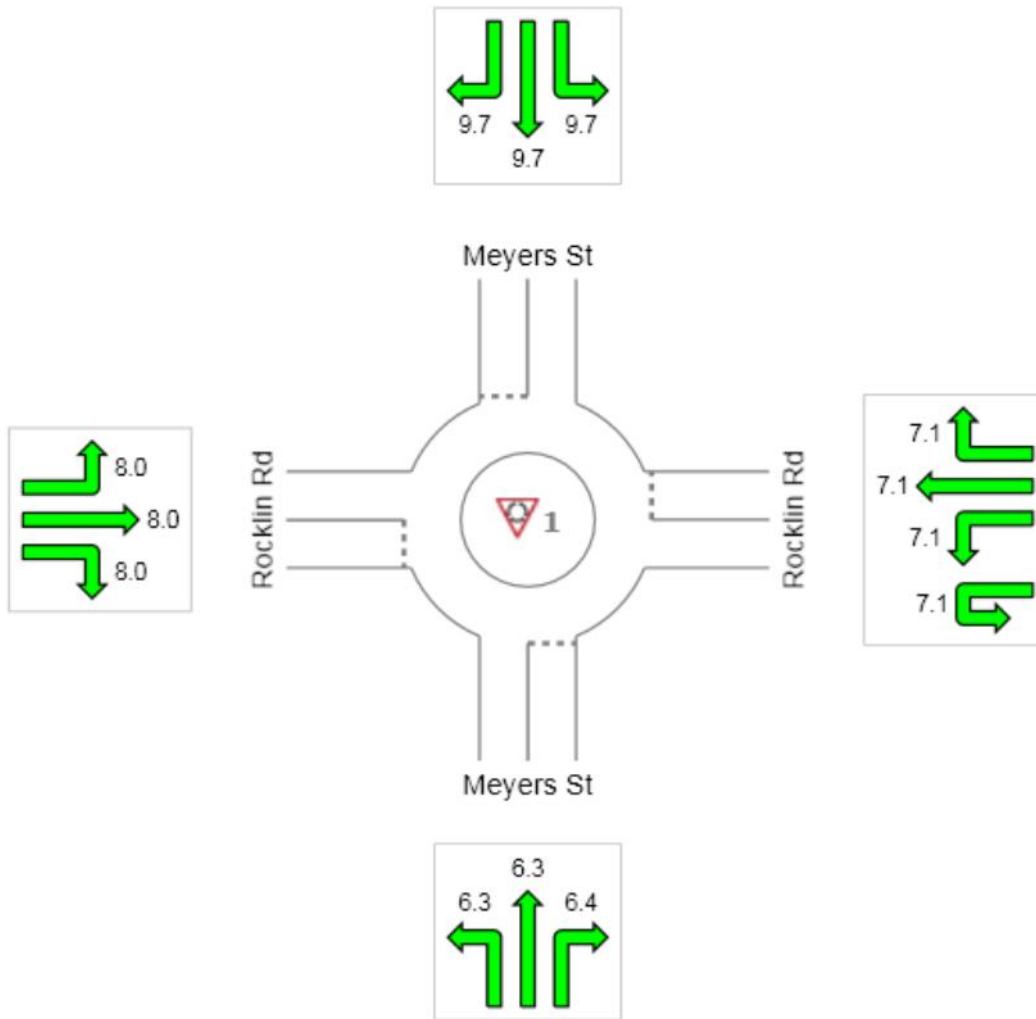
Average control delay per vehicle, or average pedestrian delay (seconds)

 Site: Rocklin Rd / Meyers St - EPAP + Project AM

Avalon Roundabout

All Movement Classes

	South	East	North	West	Intersection
	6.3	7.1	9.7	8.0	7.8
LOS	A	A	A	A	A



Colour code based on Level of Service



Level of Service Method: Delay & v/c (HCM 2010)

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Roundabout Level of Service Method: Same as Sign Control

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

QUEUE DISTANCE (%ILE)

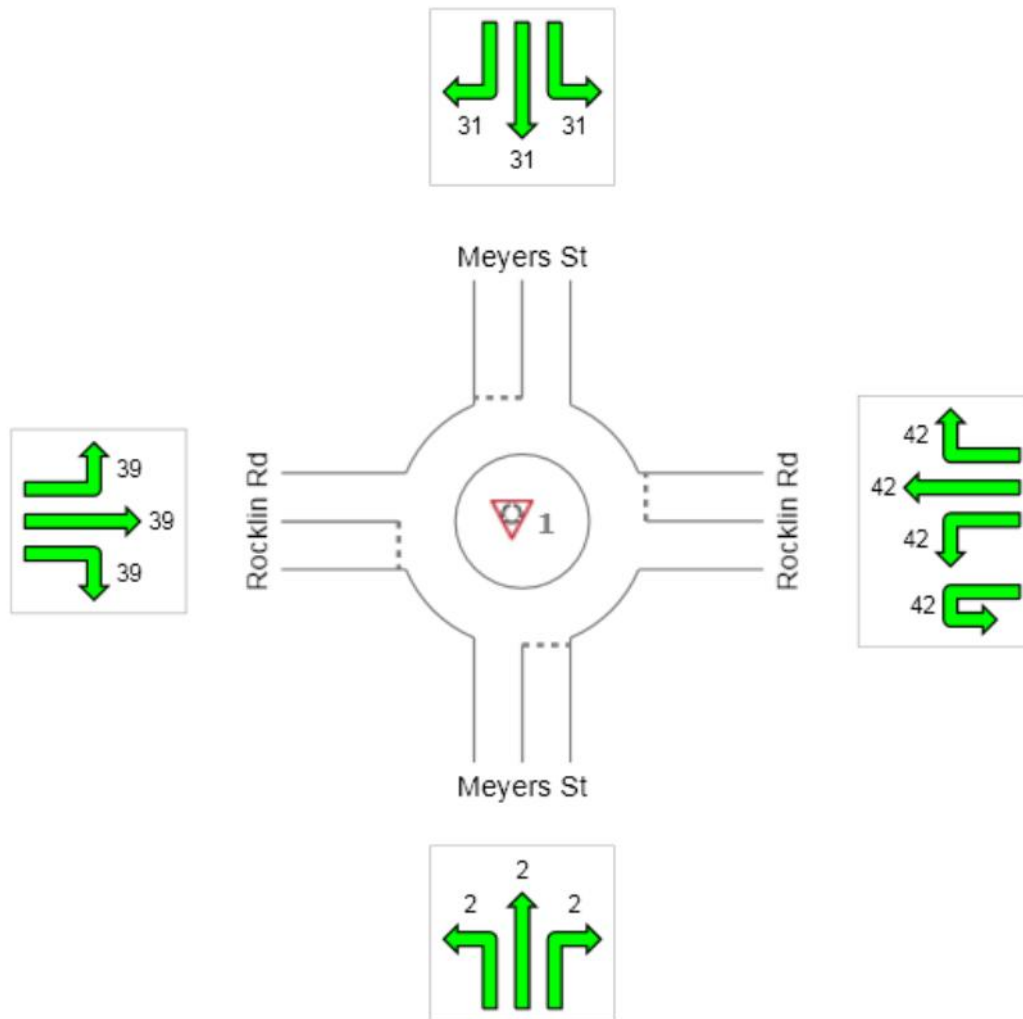
Largest 95% Back of Queue for any lane used by movement (feet)

 Site: Rocklin Rd / Meyers St - EPAP + Project AM

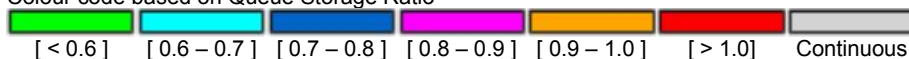
Avalon
Roundabout

All Movement Classes

	South	East	North	West	Intersection
	2	42	31	39	42



Colour code based on Queue Storage Ratio



DELAY (CONTROL)

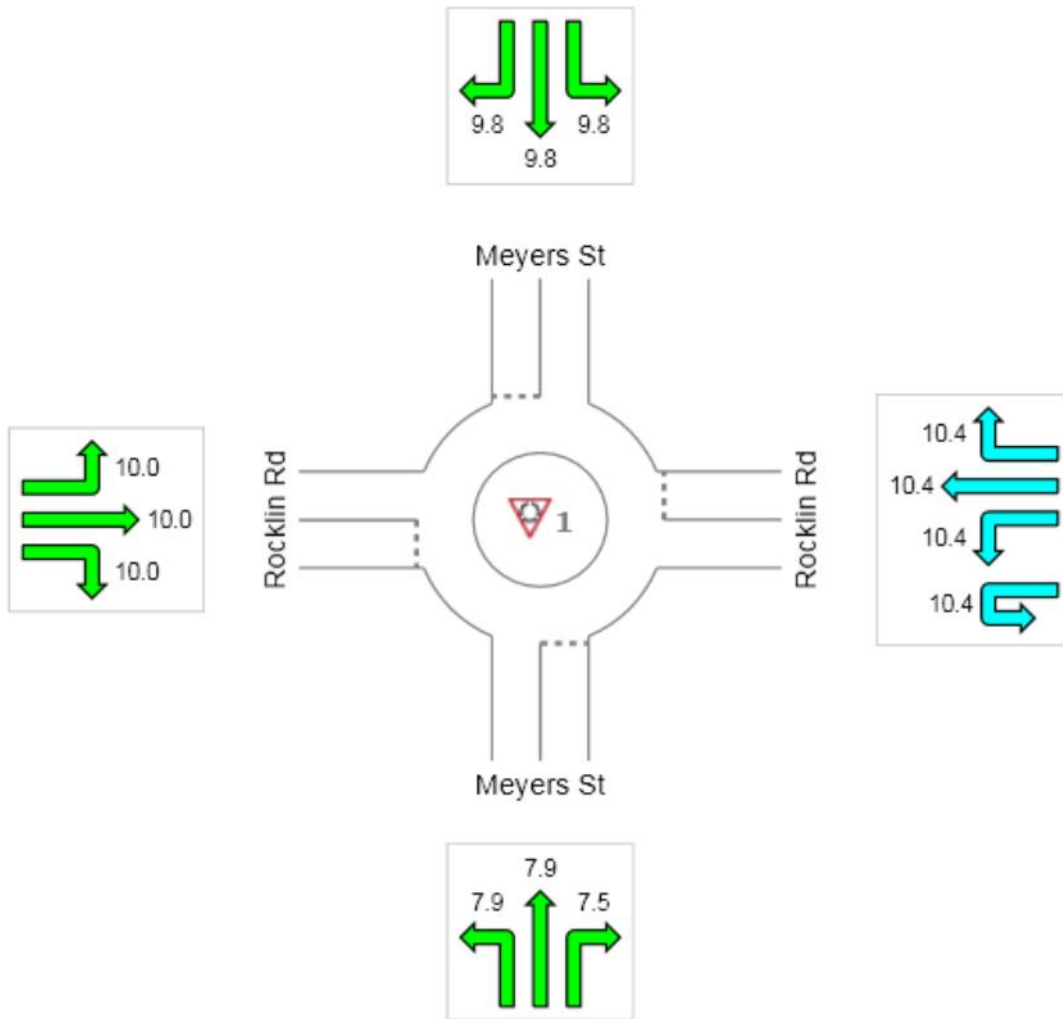
Average control delay per vehicle, or average pedestrian delay (seconds)

 Site: Rocklin Rd / Meyers St - EPAP + Project PM

Avalon
Roundabout

All Movement Classes

	South	East	North	West	Intersection
	7.7	10.4	9.8	10.0	10.1
LOS	A	B	A	A	B



Colour code based on Level of Service



Level of Service Method: Delay & v/c (HCM 2010)

LOS F will result if $v/c > 1$ irrespective of movement delay value (does not apply for approaches and intersection).

Roundabout Level of Service Method: Same as Sign Control

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

QUEUE DISTANCE (%ILE)

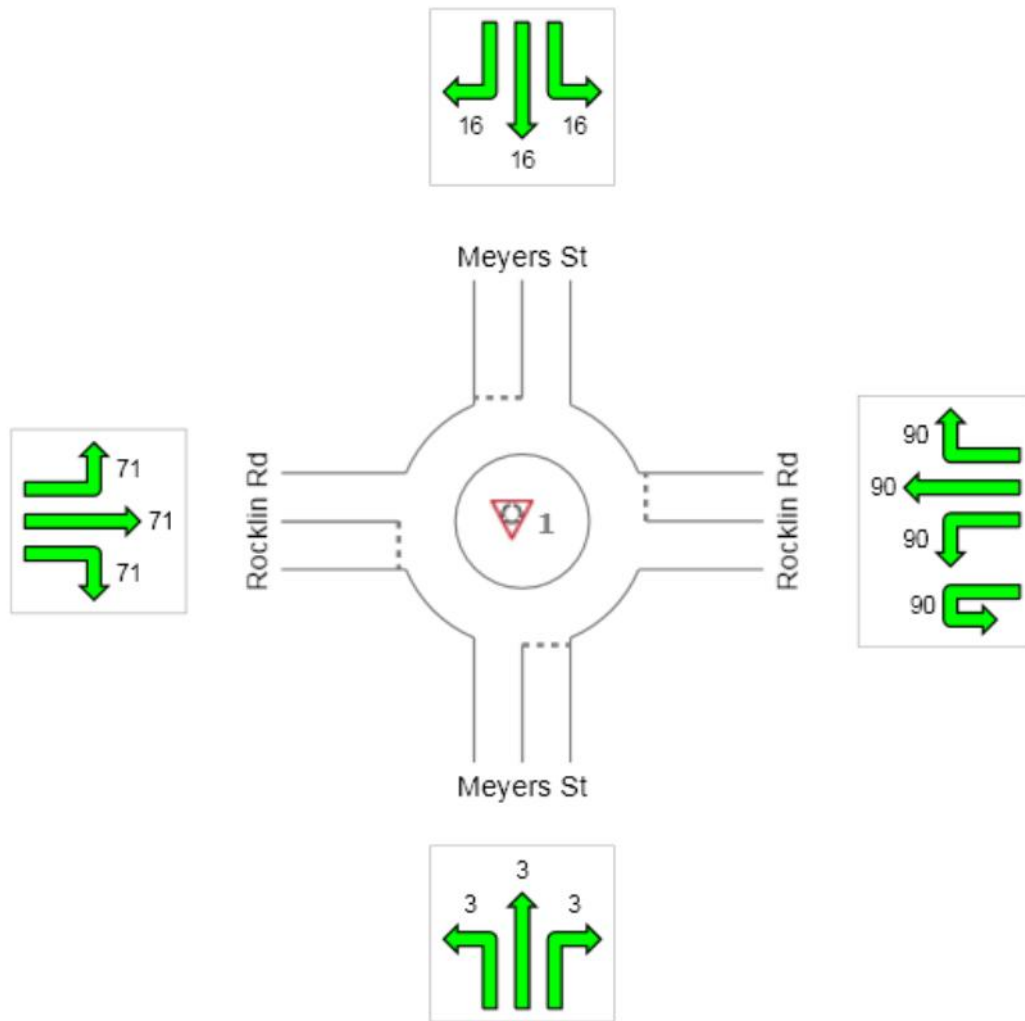
Largest 95% Back of Queue for any lane used by movement (feet)

 Site: Rocklin Rd / Meyers St - EPAP + Project PM

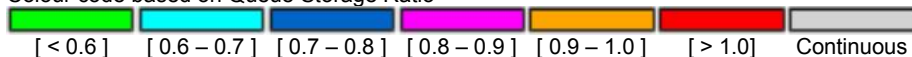
Avalon
Roundabout

All Movement Classes

	South	East	North	West	Intersection
	3	90	16	71	90



Colour code based on Queue Storage Ratio



DELAY (CONTROL)

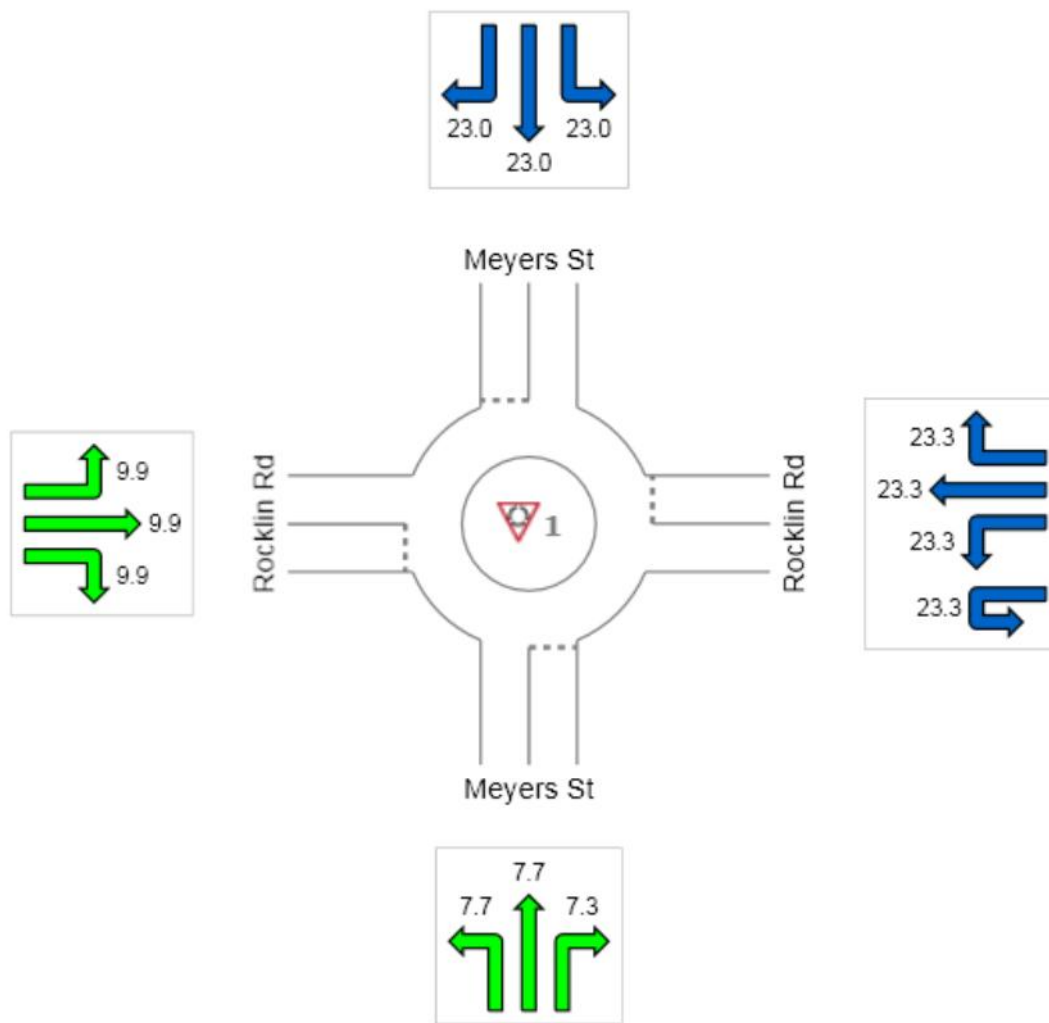
Average control delay per vehicle, or average pedestrian delay (seconds)

 Site: Rocklin Rd / Meyers St - Cumulative AM

Avalon
Roundabout

All Movement Classes

	South	East	North	West	Intersection
	7.5	23.3	23.0	9.9	18.5
LOS	A	C	C	A	C



Colour code based on Level of Service



Level of Service Method: Delay & v/c (HCM 2010)

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Roundabout Level of Service Method: Same as Sign Control

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

QUEUE DISTANCE (%ILE)

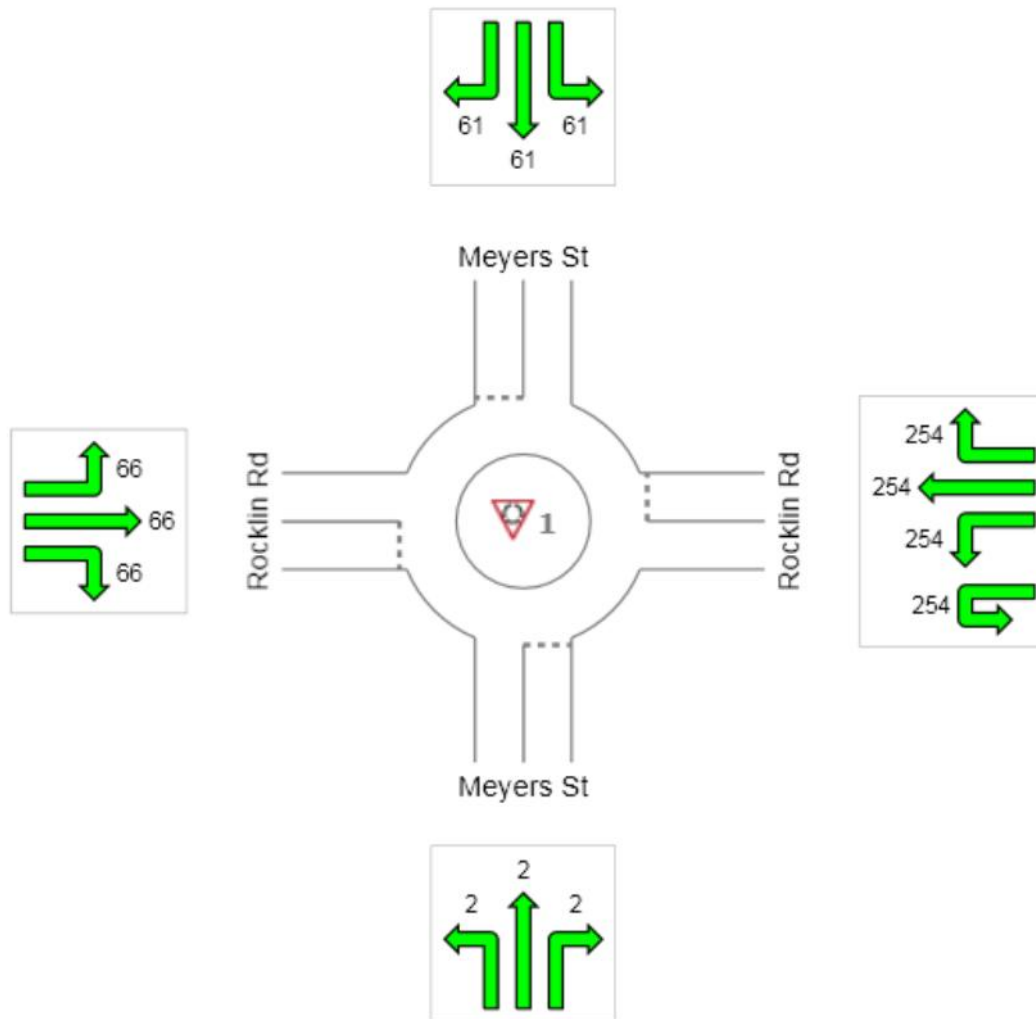
Largest 95% Back of Queue for any lane used by movement (feet)

 Site: Rocklin Rd / Meyers St - Cumulative AM

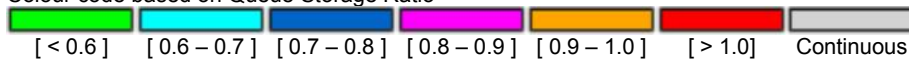
Avalon
Roundabout

All Movement Classes

	South	East	North	West	Intersection
	2	254	61	66	254



Colour code based on Queue Storage Ratio



DELAY (CONTROL)

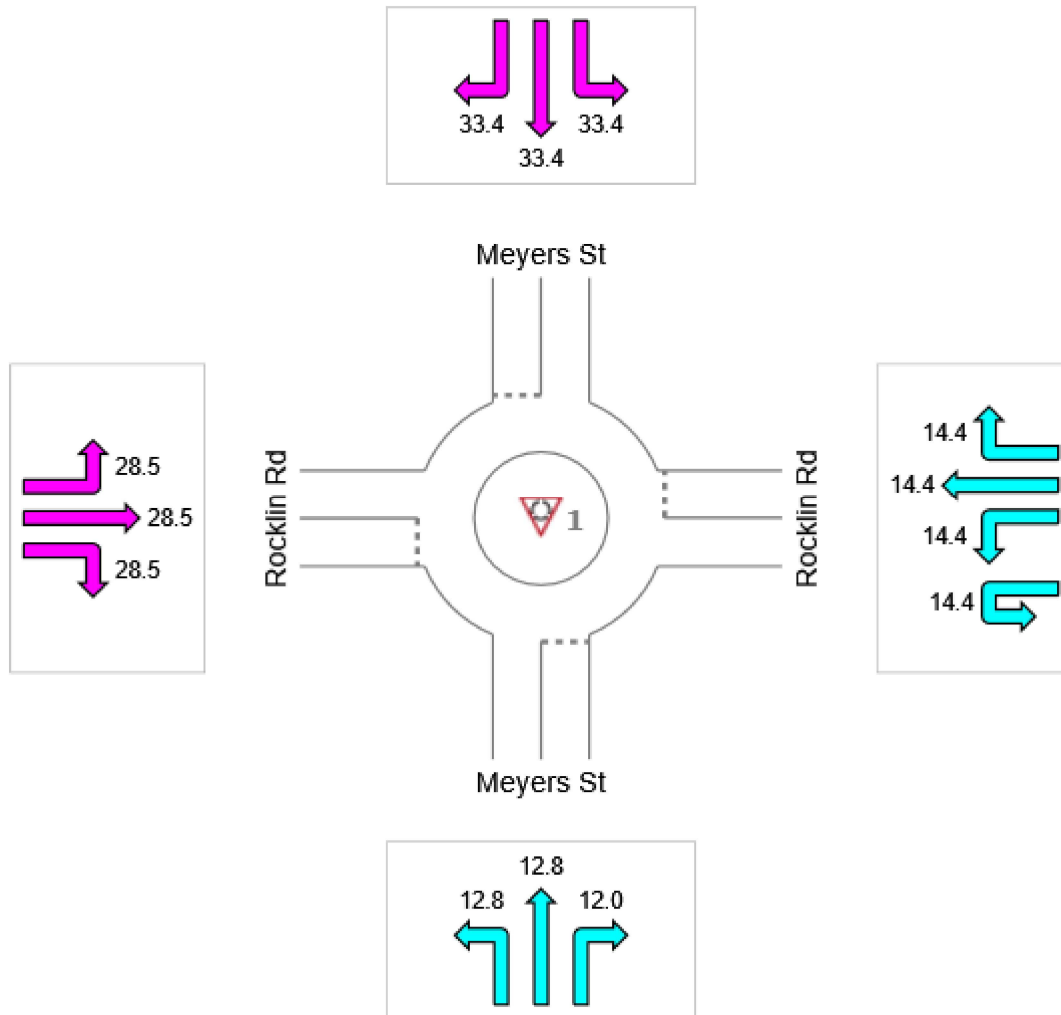
Average control delay per vehicle, or average pedestrian delay (seconds)

Site: 1 [Rocklin Rd / Meyers St - Cumulative PM]

Avalon
Roundabout

All Movement Classes

	South	East	North	West	Intersection
Delay (Control)	12.3	14.4	33.4	28.5	22.0
LOS	B	B	D	D	C



Colour code based on Level of Service



Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Roundabout Level of Service Method: Same as Sign Control

QUEUE DISTANCE (%ILE)

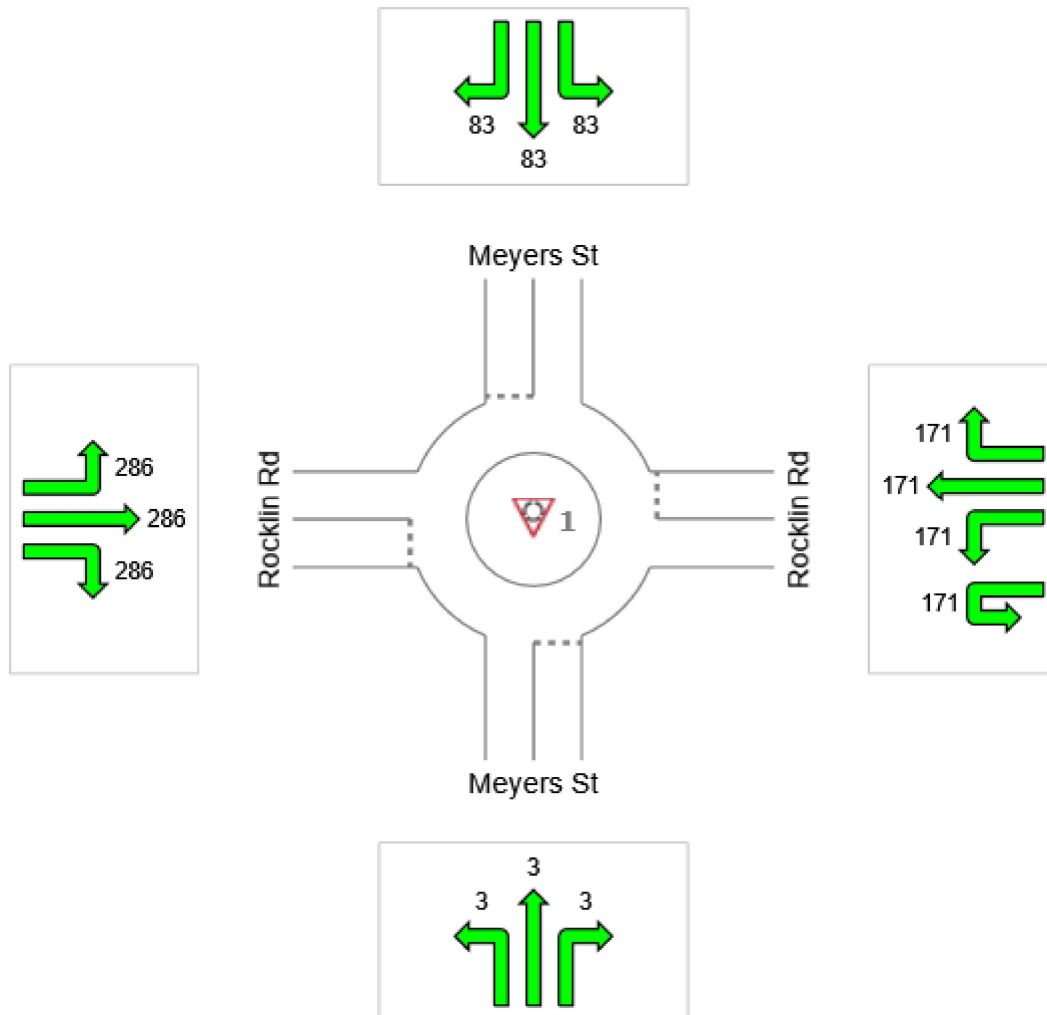
Largest 95% Back of Queue Distance for any lane used by movement (feet)

 Site: 1 [Rocklin Rd / Meyers St - Cumulative PM]

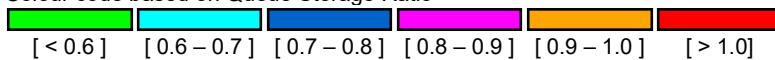
Avalon
Roundabout

All Movement Classes

	South	East	North	West	Intersection
Vehicle Queue (%ile)	3	171	83	286	286



Colour code based on Queue Storage Ratio



DELAY (CONTROL)

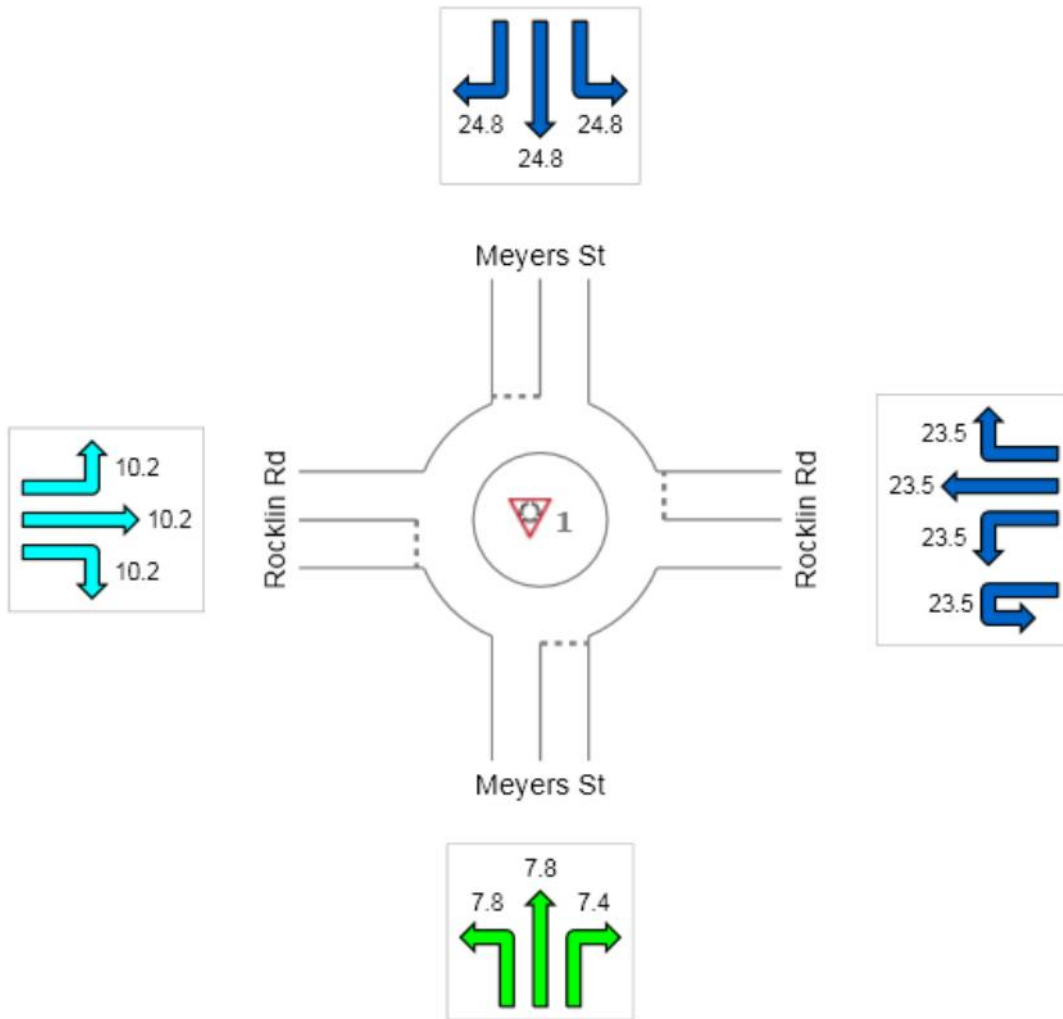
Average control delay per vehicle, or average pedestrian delay (seconds)

 Site: Rocklin Rd / Meyers St - Cumulative + Project AM

Avalon
Roundabout

All Movement Classes

	South	East	North	West	Intersection
	7.6	23.5	24.8	10.2	19.0
LOS	A	C	C	B	C



Colour code based on Level of Service



Level of Service Method: Delay & v/c (HCM 2010)

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Roundabout Level of Service Method: Same as Sign Control

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

QUEUE DISTANCE (%ILE)

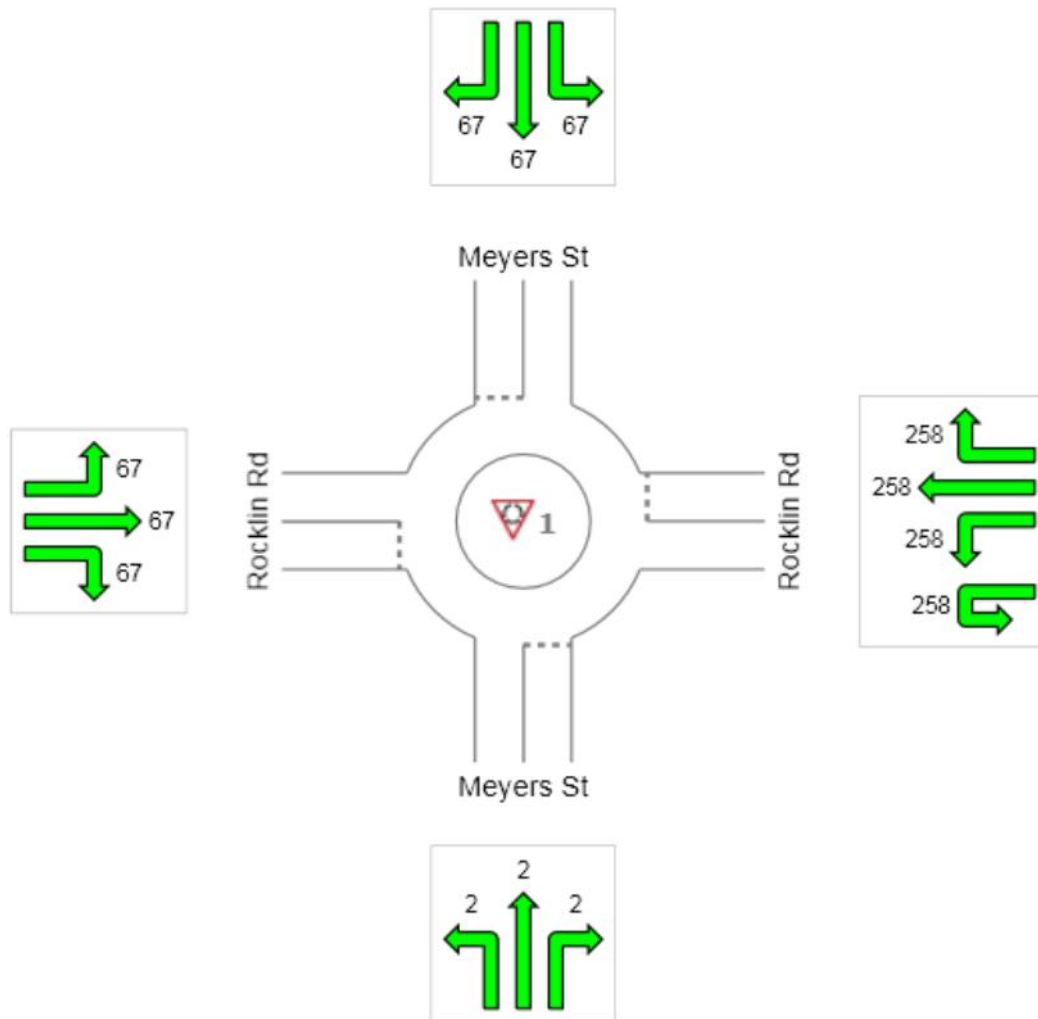
Largest 95% Back of Queue for any lane used by movement (feet)

 Site: Rocklin Rd / Meyers St - Cumulative + Project AM

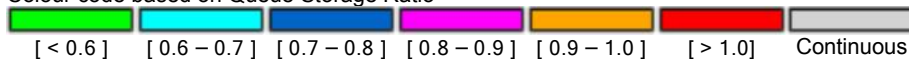
Avalon
Roundabout

All Movement Classes

	South	East	North	West	Intersection
	2	258	67	67	258



Colour code based on Queue Storage Ratio



DELAY (CONTROL)

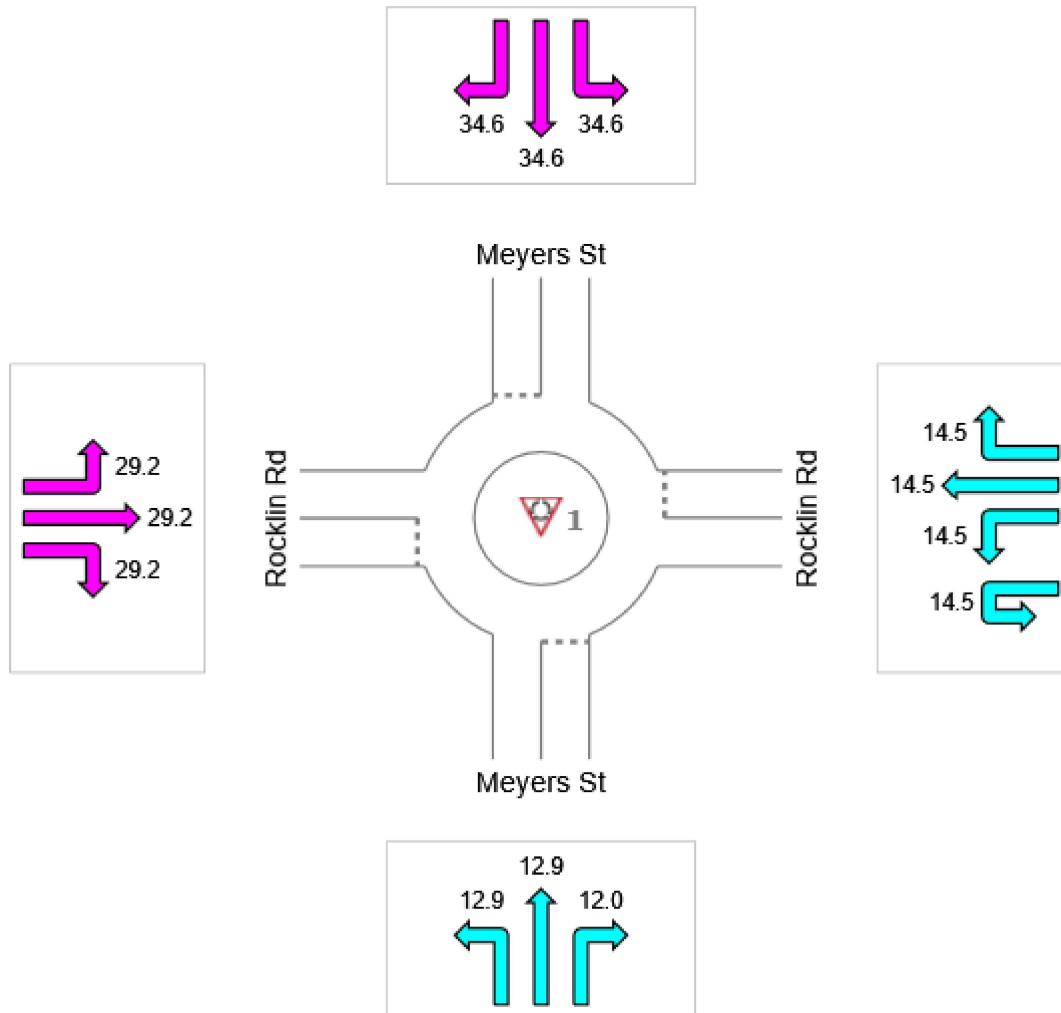
Average control delay per vehicle, or average pedestrian delay (seconds)

 Site: 1 [Rocklin Rd / Meyers St - Cumulative + Project PM]

Avalon
Roundabout

All Movement Classes

	South	East	North	West	Intersection
Delay (Control)	12.3	14.5	34.6	29.2	22.5
LOS	B	B	D	D	C



Colour code based on Level of Service



Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Roundabout Level of Service Method: Same as Sign Control

QUEUE DISTANCE (%ILE)

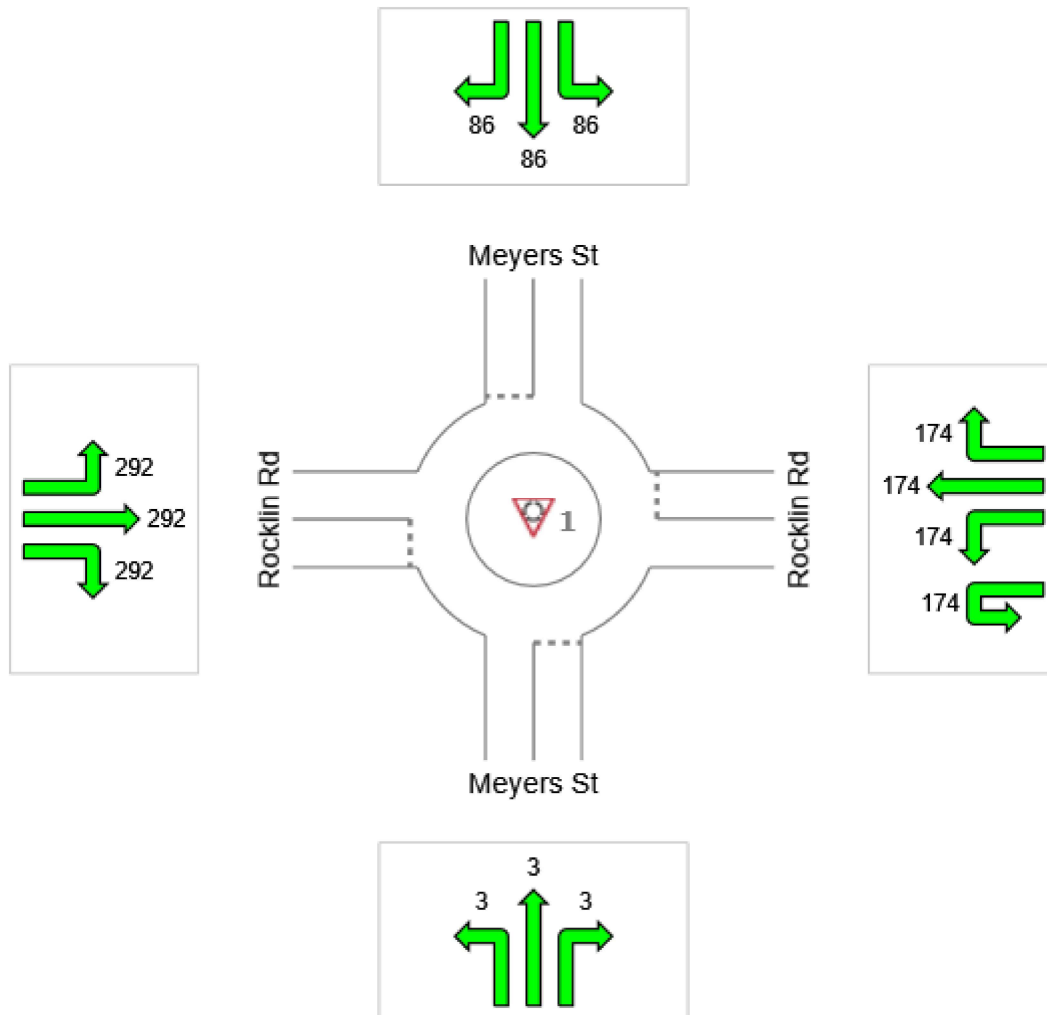
Largest 95% Back of Queue Distance for any lane used by movement (feet)

Site: 1 [Rocklin Rd / Meyers St - Cumulative + Project PM]

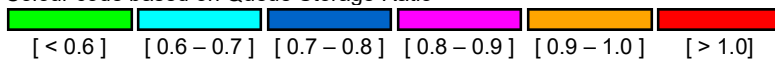
Avalon
Roundabout

All Movement Classes

	South	East	North	West	Intersection
Vehicle Queue (%ile)	3	174	86	292	292



Colour code based on Queue Storage Ratio



July 3, 2017

Mr. David Mohlenbrok, Environmental Coordinator
CITY OF ROCKLIN
4081 Alvis Court
Rocklin, CA 95677

**RE: ADDENDUM TO TRAFFIC IMPACT ANALYSIS FOR QUARRY ROW PROJECT,
ROCKLIN, CALIFORNIA**

Dear Mr. Mohlenbrok:

This letter is an addendum to our January 16, 2017 traffic impact analysis for the Quarry Row project. As we have discussed, the City has received public comments asking for additional information regarding the project's potential impact to Tuttle Drive, a local street south of the project. This addendum addresses that issue.

Background Information

Tuttle Drive is a two lane local street that lies just south of the Quarry Row site. The street is roughly 36 feet wide (curb to curb) and has sidewalk on both sides of the street. Tuttle Drive extends for 1,600 feet from Grove Street to Sierra Meadows Drive. Through traffic on Tuttle Drive is not controlled by stop signs, on-street parking is permitted and the residential prima facie 25 mph speed limit is in effect.

To provide perspective new 24-hr traffic volume counts were made on Tuttle Drive and Grove Street on May 9, 2017. These counts determined that Tuttle Drive carried 956 vehicles per day, as noted in Figure 1.

While no quantitative measure of current traffic speeds has been made, based on our experience with local streets of similar length and circumstances it is likely that some motorists exceed the 25 mph speed limit.

Summary of Comment

The comment suggested that Tuttle Drive already carries appreciable "cut-through" traffic using Tuttle Drive for trips between Pacific Street and Sierra Meadows Drive and Granite Drive at high speeds. The comment suggests that the Quarry Row project will increase the volume of traffic on this street and that traffic calming measures are needed.

Response

The extent of Quarry Row's impact to Tuttle Drive has been determined within the context of City of Rocklin's adopted significance criteria.

Impact Based on Daily Traffic Volume. The City of Rocklin General Plan Circulation Element does not include daily traffic volume on City streets as a significant criteria under the California Environmental Quality Act (CEQA). Standards previously employed by the City suggested that two-lane collector streets with residential frontage could carry up to 12,000 vehicles per day at Level of Service C, but no threshold was established for local residential streets. Other communities such as Roseville and

Sacramento County have indicated that 2,500 to 4,000 vehicles per day is the upper limit of an acceptable volume on a local residential street with direct residential frontage. This threshold is based not on the traffic handling capacity of the roadway but on factors such as noise, ease of driveway access, conflicts with pedestrians, etc.

The Quarry Row project could add traffic to Tuttle Drive if residents use that route to reach retail centers on Granite Drive, and this may be the shortest route to the area of the Safeway shopping center on Granite Drive. Typically “shopping trips” comprise 30% to 40% of the daily trips created by a residence, and the share that may be oriented to any particular retail area will depend on the choices made by individual residents. If we conservatively assume that half of all the shopping trips made by Quarry Row residents were oriented to the Safeway area and all these trips used Tuttle Drive, then roughly 125 new daily trips could be added to Tuttle Drive. This would represent an increase of 13% over the current volume, but the resulting total of 1,081 vehicles per day would remain well below the planning level volume threshold employed by other communities for local streets.

Impact Based on Speeds and Traffic Calming. The Quarry Row project will not have a direct effect on the speed of vehicles already using Tuttle Drive, nor on the need for measures to control speeds, as the current speeds are unlikely to change.

We considered whether traffic calming is applicable in this location. In Rocklin decisions regarding neighborhood traffic calming on any street are made by the City in consultation with affected neighborhood residents, but we understand that as a matter of policy the City has rejected the concept of “vertical” measures (i.e., undulations or speed bumps) which interfere with emergency response.

Similarly, traffic controls on some City streets include all-way stops that appear to have the benefit of slowing the speed of through traffic. The public sometimes views all-way stop control as a traffic calming measure. In Rocklin as in most communities, decisions regarding the installation of all-way stop controls are made based on engineering criteria contained in the Manual of Uniform Traffic Control Devices (MUTCD), as unwarranted all-way stops can result in disobedience at a specific location and a general disregard for stop signs as a whole. Further investigation would be needed before this or any traffic calming measure would be suggested.

Thank you for your attention to this information.

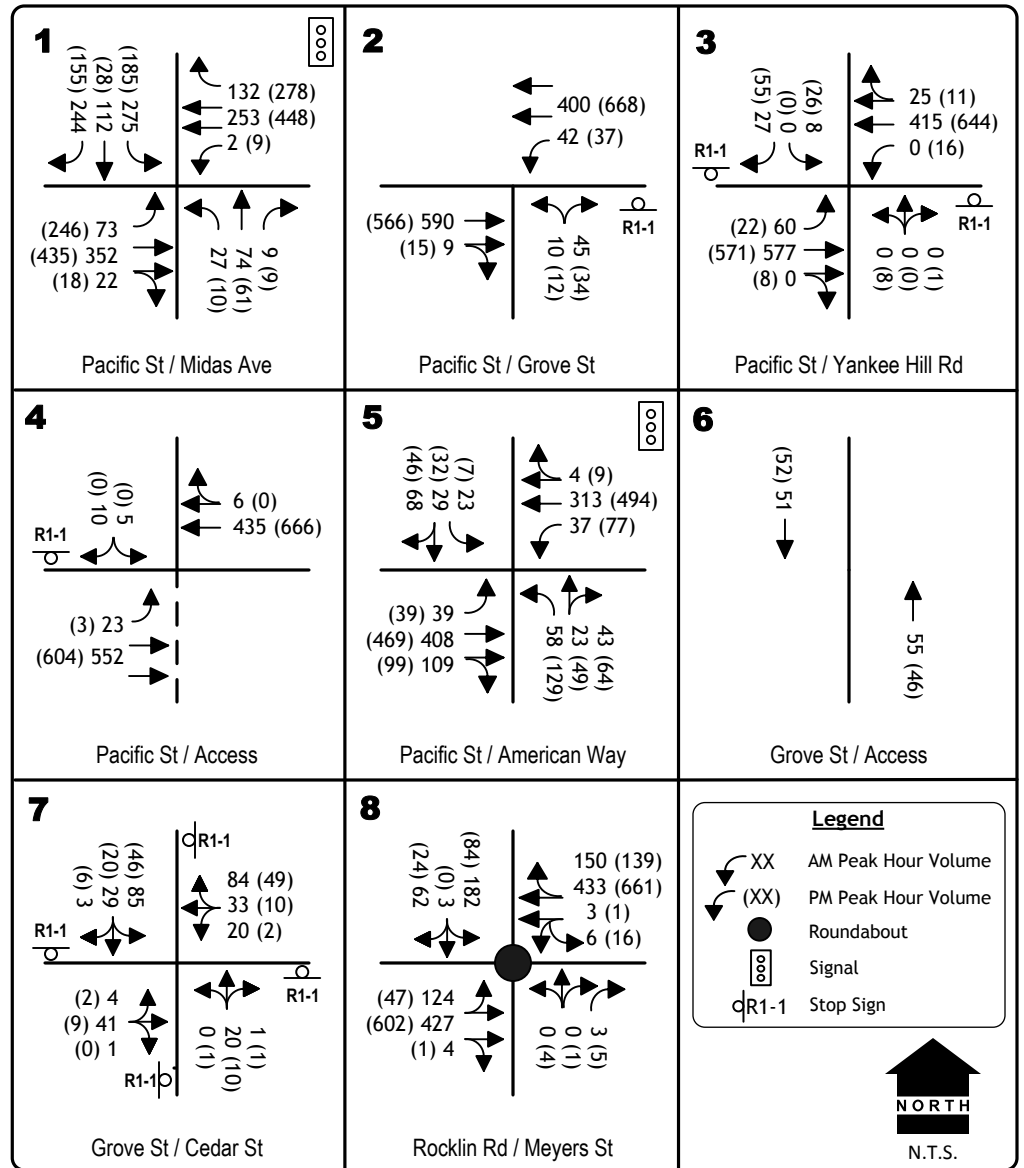
Sincerely,

KD Anderson & Associates, Inc.



Kenneth D. Anderson, P.E.
President

Attachment: Figure, traffic counts



EXISTING TRAFFIC VOLUMES
AND LANE CONFIGURATIONS

VOLUME

Grove St N/O Tuttle Dr

Day: Tuesday
Date: 5/9/2017

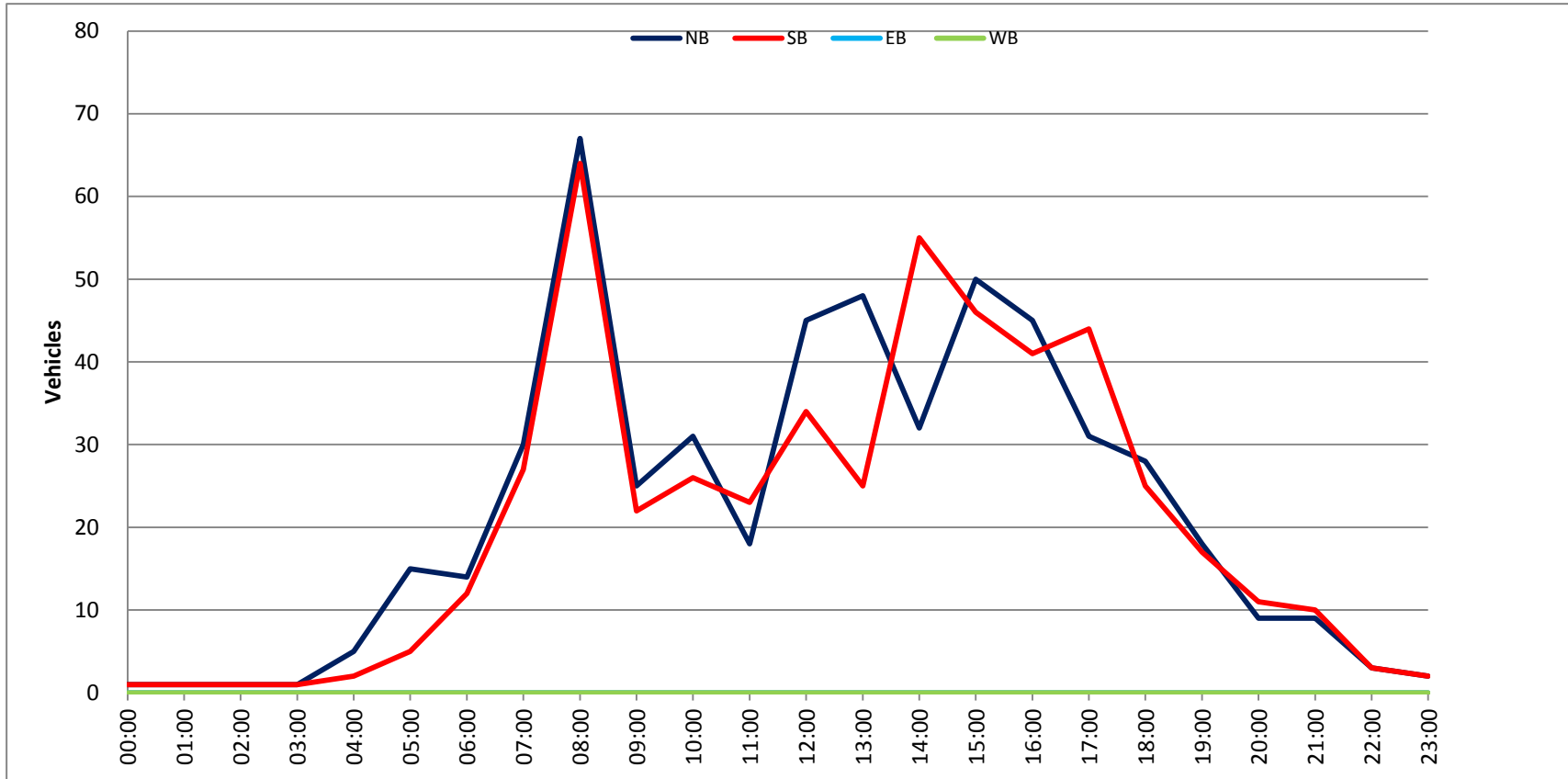
City: Rocklin
Project #: CA17_7393_001 7571-01

DAILY TOTALS					NB	SB	EB	WB	Total
					529	498	0	0	1,027

AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	0	0			0	12:00	11	7			18
00:15	1	0			1	12:15	12	7			19
00:30	0	0			0	12:30	10	13			23
00:45	0	1	1	1	1 2	12:45	12	45	7	34	19 79
01:00	0	0			0	13:00	17	6			23
01:15	0	0			0	13:15	12	9			21
01:30	0	1			1	13:30	10	4			14
01:45	1	1	0	1	1 2	13:45	9	48	6	25	15 73
02:00	0	0			0	14:00	8	6			14
02:15	1	0			1	14:15	5	9			14
02:30	0	0			0	14:30	10	17			27
02:45	0	1	1	1	1 2	14:45	9	32	23	55	32 87
03:00	0	0			0	15:00	14	12			26
03:15	1	0			1	15:15	13	10			23
03:30	0	1			1	15:30	14	12			26
03:45	0	1	0	1	0 2	15:45	9	50	12	46	21 96
04:00	3	0			3	16:00	11	10			21
04:15	1	1			2	16:15	10	11			21
04:30	1	0			1	16:30	15	9			24
04:45	0	5	1	2	1 7	16:45	9	45	11	41	20 86
05:00	1	2			3	17:00	8	13			21
05:15	1	1			2	17:15	9	13			22
05:30	5	1			6	17:30	8	8			16
05:45	8	15	1	5	9 20	17:45	6	31	10	44	16 75
06:00	2	0			2	18:00	4	10			14
06:15	4	3			7	18:15	11	7			18
06:30	3	6			9	18:30	7	5			12
06:45	5	14	3	12	8 26	18:45	6	28	3	25	9 53
07:00	5	2			7	19:00	6	4			10
07:15	9	8			17	19:15	2	4			6
07:30	4	6			10	19:30	9	5			14
07:45	12	30	11	27	23 57	19:45	1	18	4	17	5 35
08:00	20	19			39	20:00	1	2			3
08:15	20	24			44	20:15	2	3			5
08:30	16	17			33	20:30	5	2			7
08:45	11	67	4	64	15 131	20:45	1	9	4	11	5 20
09:00	7	4			11	21:00	3	1			4
09:15	6	5			11	21:15	1	2			3
09:30	6	7			13	21:30	3	4			7
09:45	6	25	6	22	12 47	21:45	2	9	3	10	5 19
10:00	7	8			15	22:00	1	1			2
10:15	4	7			11	22:15	1	1			2
10:30	10	9			19	22:30	1	1			2
10:45	10	31	2	26	12 57	22:45	0	3	0	3	0 6
11:00	5	6			11	23:00	0	1			1
11:15	4	4			8	23:15	1	0			1
11:30	6	5			11	23:30	1	1			2
11:45	3	18	8	23	11 41	23:45	0	2	0	2	0 4
TOTALS	209	185			394	TOTALS	320	313			633
SPLIT %	53.0%	47.0%			38.4%	SPLIT %	50.6%	49.4%			61.6%

DAILY TOTALS					NB	SB	EB	WB	Total
					529	498	0	0	1,027

AM Peak Hour	07:45	07:45			07:45	PM Peak Hour	12:15	14:30			14:30
AM Pk Volume	68	71			139	PM Pk Volume	51	62			108
Pk Hr Factor	0.850	0.740			0.790	Pk Hr Factor	0.750	0.674			0.844
7 - 9 Volume	97	91	0	0	188	4 - 6 Volume	76	85	0	0	161
7 - 9 Peak Hour	07:45	07:45			07:45	4 - 6 Peak Hour	16:00	16:30			16:30
7 - 9 Pk Volume	68	71	0	0	139	4 - 6 Pk Volume	45	46	0	0	87
Pk Hr Factor	0.850	0.740	0.000	0.000	0.790	Pk Hr Factor	0.750	0.885	0.000	0.000	0.906



VOLUME

Tuttle Dr E/O Grove St

Day: Tuesday
Date: 5/9/2017

City: Rocklin
Project #: CA17_7393_002 7571-01

DAILY TOTALS					NB	SB					EB	WB	Total		
					0	0					453	503	956		
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL			
00:00			0	0	0		12:00			10	3		13		
00:15			0	0	0		12:15			6	11		17		
00:30			0	0	0		12:30			6	7		13		
00:45			1	1	0	1	1	12:45		12	34	4	25	16	59
01:00			1		2	3		13:00		7		8		15	
01:15			1		0	1		13:15		6		5		11	
01:30			0		0	0		13:30		2		6		8	
01:45			0	2	1	3	1	5	13:45	5	20	10	29	15	49
02:00			0		0	0		14:00		8		15		23	
02:15			0		0	0		14:15		9		6		15	
02:30			0		0	0		14:30		7		8		15	
02:45			1	1	0	1	1	14:45		5	29	7	36	12	65
03:00			0		0	0		15:00		9		14		23	
03:15			0		0	0		15:15		16		6		22	
03:30			0		0	0		15:30		8		9		17	
03:45			0		0	0		15:45		9	42	16	45	25	87
04:00			2		1	3		16:00		8		10		18	
04:15			1		0	1		16:15		9		9		18	
04:30			0		1	1		16:30		8		13		21	
04:45			2	5	0	2	2	7	16:45	11	36	12	44	23	80
05:00			1		1	2		17:00		6		12		18	
05:15			0		0	0		17:15		13		10		23	
05:30			1		2	3		17:30		10		16		26	
05:45			0	2	0	3	0	5	17:45	11	40	14	52	25	92
06:00			3		1	4		18:00		6		10		16	
06:15			2		1	3		18:15		8		15		23	
06:30			2		5	7		18:30		11		12		23	
06:45			9	16	4	11	13	27	18:45	4	29	9	46	13	75
07:00			2		3	5		19:00		5		11		16	
07:15			11		2	13		19:15		5		10		15	
07:30			7		7	14		19:30		3		5		8	
07:45			10	30	16	28	26	58	19:45	5	18	4	30	9	48
08:00			13		13	26		20:00		2		6		8	
08:15			11		7	18		20:15		2		6		8	
08:30			13		8	21		20:30		2		3		5	
08:45			11	48	12	40	23	88	20:45	7	13	6	21	13	34
09:00			5		11	16		21:00		2		4		6	
09:15			3		5	8		21:15		2		3		5	
09:30			4		3	7		21:30		1		3		4	
09:45			9	21	4	23	13	44	21:45	3	8	1	11	4	19
10:00			5		4	9		22:00		0		6		6	
10:15			10		1	11		22:15		0		3		3	
10:30			7		4	11		22:30		2		0		2	
10:45			5	27	8	17	13	44	22:45	1	3	3	12	4	15
11:00			6		6	12		23:00		0		0		0	
11:15			6		6	12		23:15		0		0		0	
11:30			7		8	15		23:30		2		0		2	
11:45			7	26	5	25	12	51	23:45	0	2	0		0	2
TOTALS			179		152	331	TOTALS			274		351		625	
SPLIT %			54.1%		45.9%	34.6%	SPLIT %			43.8%		56.2%		65.4%	

DAILY TOTALS					NB	SB					EB	WB	Total
					0	0					453	503	956

AM Peak Hour			08:00		07:45	07:45	PM Peak Hour			15:00		17:30	17:00
AM Pk Volume			48		44	91	PM Pk Volume			42		55	92
Pk Hr Factor			0.923		0.688	0.875	Pk Hr Factor			0.656		0.859	0.885
7 - 9 Volume	0	0	78		68	146	4 - 6 Volume	0	0	76		96	172
7 - 9 Peak Hour			08:00		07:45	07:45	4 - 6 Peak Hour			16:45		17:00	17:00
7 - 9 Pk Volume	0	0	48		44	91	4 - 6 Pk Volume	0	0	40		52	92
Pk Hr Factor	0.000	0.000	0.923		0.688	0.875	Pk Hr Factor	0.000	0.000	0.769		0.813	0.885

