FEHR PEERS

February 7, 2020

Mr. Daniel Cucchi, Legal Counsel
City of Rocklin
3970 Rocklin Road
Rocklin, CA 95677

Subj: Review and Independent Transportation Analysis of Loomis Costco Recirculated DEIR

Dear Mr. Cucchi:

Fehr & Peers has completed a review of the *Loomis Costco Recirculated DEIR (AECOM, December 2019) ("*DEIR*")* and Appendix E (Traffic Impact Study ("TIS")). Our review focused on the overall adequacy of the transportation impact analysis, as well as reasonableness of identified impacts and recommended mitigation measures to Rocklin streets and intersections.

Our comments are provided below.

1. **The number of new <u>peak hour</u> vehicle trips generated by the project has been underestimated. This results in project impacts on the surrounding roadway network being understated**. The basis for this conclusion are the following points:
    a. <u>Lack of consideration of effects of number of fueling positions on trip generation</u>. Page 59 of the TIS indicates that the trip generation was based on 22 existing Costco sites that were surveyed, but does not specify how many fueling positions were present at those sites. The report states that "trip generation rates inherently account for Costco Gasoline fuel station trips within the overall rate". This is misleading as evidenced by the data in a document (see Attachment A) referred to as the *Costco Gasoline Station Trip Characteristics Data* (Kittleson Associates, October 25, 2011). That document, which pertained specifically to the effects of fueling pumps on trip generation, yields the following conclusions:
        i. 66% of trips generated by fueling pumps are new trips added to the Costco project driveways and project site.
        ii. A database of over 40 Costco stores with fueling stations from across the United States is included in that document. All of these sites consisted of 20 or fewer fueling positions, with more than half consisting of only 16 positions. Since none of the sites in that document had 30 fueling positions (as of 2011), it seems unlikely that the database of 22 sites used to develop the proposed project's trip generation would have consisted of sites with 30 fueling positions. This is important because that document states that each added fueling position generates an additional 27 trips during the weekday PM peak hour, two-thirds of which are added to Costco driveways and potentially the adjacent street.

b. Pass-by percentages imply an unrealistic, exceedingly high level of members currently traveling on Sierra College Boulevard. Table 12 of the TIS indicates that 179 vehicles during the PM peak hour and 223 vehicles during the Saturday midday peak hour would 'pass-by' into the site from Sierra College Boulevard. This implies that 9% of the 2,060 vehicles currently traveling on this segment of Sierra College Boulevard would enter the site during the weekday PM peak hour. During the Saturday midday peak hour, 15% of the 1,455 vehicles on this segment would enter the site. The following subpoints illustrate how this level of pass-by is unreasonable:

   i. When considering how much 'pass-by' traffic to a proposed retail/service project can reasonably be expected from an adjacent street, transportation engineers consider the amount of traffic currently on that street. Often, engineers apply an upper limit of no more than 25% of motorists on the street choosing to stop in to a grocery store, gas station, etc. In this case, the only portion of adjacent street traffic from which pass-by could be taken would be Costco members. If it is generously assumed that as much as one of every three Costco members already traveling on Sierra College Boulevard would enter the site, then Costco members would comprise 27% of all vehicles on Sierra College Boulevard during the weekday PM peak hour and 45% of all vehicles during the Saturday midday peak hour.

   ii. These percentages do not align well with two important, related statistics. First, according to page 94 of the TIS, Loomis Costco members would reside an average of 22 miles from the project site. Second, the top 20 zip codes that are projected to serve the new Loomis store would consist of 45,208 members. Those zip codes include about 240,000 persons age 18 and over (which is the minimum age to become a Costco member). Based on this data, 19% of persons over 18 in these zip codes would be Costco members. But these zip codes are an average of 22 miles from the project site. Thus, it is entirely unreasonable that Costco members would make up 27% to 45% of travelers as necessitated by the pass-by assumption.

2. **The number of new weekday daily vehicle trips generated by the project has been underestimated.** Table 11 of the TIS indicates that no data exists for the percentage of daily trips that are pass-by or diverted. Yet Table 12 applies the percentages for weekday PM peak hour to daily conditions. The overestimated pass-by percentages for weekday PM peak hour conditions are also transferred to the weekday daily condition. Data from the *Trip Generation Handbook* (Institute of Transportation Engineers, 2017) demonstrates that the percentage of trips that would pass-by into a project site would be lower during non-commute periods. For instance, the Shopping Center Land Use Category (820) has average pass-by percentages of 34% during the weekday PM peak period versus 26% during the Saturday midday peak period (which consists of far less work travel). Similarly, the Discount Club Land Use Category (857) has average pass-by percentages of 37% during the weekday PM peak period versus 30% during the Saturday midday peak period.

3. **The project's net increase in VMT has been underestimated, which means that the analyses of project impacts on greenhouse gas emissions, air, and noise are incorrect insofar as they rely on VMT as an input**. This conclusion is based on the following points:
   a. Table 15 shows that the Loomis Site VMT is 8,420 miles. This is based on the following flawed or unsubstantiated assumptions:
      i. First, the proportion of daily trips that are pass-by or diverted from I-80 has been overstated, which effectively reduces VMT because their trip lengths are zero and one-half mile, respectively. In contrast, new trips average 22 miles in length.
      ii. Second, 91.3% of project trips are presumed to be redistributed from the existing Costco store in Roseville, with a mere 8.7% being new trips. This assumption stems from the conclusion on page 94 of the TIS that Costco membership is projected to increase from 95,100 members for the Roseville store to 104,200 members combined for the Roseville and Loomis stores.
   b. Table 16 shows that the opening of the Loomis Costco store would cause 2,375 miles of induced travel to the existing Roseville store (by virtue of it being less crowded). **Table 1** below puts these values into perspective (ignoring employee VMT).

Table 1: VMT Estimation Associated with New Trips[1] to Roseville and Loomis Costco Stores

Scenario		Roseville Store			Loomis Store			Combined	
		KSF	New Weekday Daily Trips	Member VMT	KSF	New Weekday Daily Trips	Member VMT	Member VMT	Member VMT per KSF
Existing Conditions		136.9	3,815 [*Table 16*]	27,468	-	-	-	27,468	200
Existing Plus Project Conditions	New Trips	136.9	3,815 [*Table 16*]	27,468	155.0	8.7% x 4,330 = 375 [*Table 15*]	8,250	38,093	130 [4]
	Shifted Trips		- 91.3% x 4,330 = - 3,955	Offsets[2]		+ 91.3% x 4,330 = 3,955 [*Table 15*]	Offsets[2]		
	Induced Trips		+ 8.7% of 3,815 = 330 [*Table 16*]	2,375		-	-		
	Total		190 [3]	-		4,330	-		

Notes:
[1] All values in this table relate only to new trips and their VMT; pass-by and diverted trips are not considered here.
[2] The text on page 95 of the TIS describes trips being shifted from the Roseville to Loomis store, but does not quantify the change in VMT associated with that shift. Therefore, it is assumed here to be offset.
[3] This number demonstrates the technical flaw of this approach. It is entirely unreasonable to assume that the opening of the Loomis Costco store will cause the number of new daily trips attracted to the existing Roseville store to be reduced from 3,815 to 190.
[4] This value is calculated as: (27,468+8,250+2,375)/(136.9+155) = 130 VMT per KSF.
KSF = Thousand Square Feet.

Footnotes 3 and 4 of the table illustrate the flawed technical approach taken to estimate the project's effect on VMT. Namely, the massive shift of 91% of the Roseville Costco store's new trips to the Loomis Costco Store, combined with very little new induced travel due to it being less crowded implies that the number of new trips at the Roseville site will be 5% of what it currently is.

A fundamental component of the DEIR's VMT estimation methodology is that the number of new trips (and VMT) to the two stores is proportional to the total number of members, and *not to the frequency of member trips*. This approach ignores the basic premise that the addition of a second store will likely entice more frequent trips by both existing and new members. It could also shift trips from other discount club stores in the area. This disregard for likely changes in Costco member trip frequency represents a major oversight in the VMT estimation.

Academic journals and stories (e.g., https://trid.trb.org/view/1127465) have reported on the relationship between VMT and gross domestic product (GDP), finding general correlation between the two. Given this, why would Costco take actions to reduce its VMT per KSF from 200 to 130, a 35% drop? In all likelihood, that it is not their intention, which can only mean that the VMT in the DEIR has been underestimated.

4. **The usage of Brace Road east of the project site by outbound project trips has been underestimated. This results in project impacts on Loomis streets and at the I-80/Horseshoe Bar Road interchange being potentially not identified**. Travel time runs were performed during the weekday PM peak hour on Wednesday, January 8, 2020. Two sets of runs were performed for the following two routes:
    a. Route 1: Begin on southbound Sierra College Boulevard at proposed Costco Store signalized driveway and merge onto eastbound I-80, terminating travel time run east of the Horseshoe Bar Road interchange.
    b. Route 2: Begin on eastbound Brace Road at proposed Costco Store frontage, travel eastbound on Brace Road, northbound on Horseshoe Bar Road, and merge onto eastbound I-80, terminating travel time run east of the Horseshoe Bar Road interchange.

    Under existing conditions, Route 2 was measured to be about 15 seconds faster.

    With the addition of the proposed project, the travel time on Route 2 would be similar as Figure 8A of the TIS predicts only 3% of outbound traffic (under Access Option 1A) would travel eastbound on Brace Road (with none of these trips actually using the I-80/Horseshoe Bar Road interchange). In contrast, 35% of project trips are anticipated to travel southbound on Sierra College Boulevard and merge onto eastbound I-80. Motorists exiting the Costco site using this route would incur added delay at the following locations:
        i. Added delay turning out of signalized project driveway: 29 seconds
        ii. Added delay on southbound Sierra College Boulevard at Granite Drive: 35 seconds
        iii. Added delay on southbound Sierra College Boulevard at WB Ramps: 22 seconds

The above delay estimates are based on the differences in delays between existing and existing plus project conditions, as estimated by Fehr & Peers using micro-simulation modeling of the study corridor (see later pages for details). The net effect of these added delays is that Route 1 (i.e., Sierra College Boulevard to Eastbound I-80) would be about 100 seconds slower (15+29+35+22) than Route 2 (Brace Road to I-80/Horseshoe Bar Road interchange). Additional delays could occur due to ramp metering at the Sierra College Boulevard loop on-ramp. Micro-simulation modeling of future year scenarios also shows further worsening of delays in the corridor due to more background traffic. Costco members will be repeat travelers to the site who will realize which routes are quicker to exit the site, either by observing other members or following mobile travel apps on their phones. In conclusion, the DEIR's assumption that all 35% of project trips that are destined to the east on I-80 will use the Sierra College Boulevard interchange is flawed. In all likelihood, many trips will use Brace Road to access the I-80/Horseshoe Bar Road interchange because it would result in a 1.5-minute or more travel time savings.

5. **The project's fueling station may cause vehicles waiting to access a fuel pump to spill back into the entry driveway, which would cause inbound traffic to the retail center to queue back onto Sierra College Boulevard**. Page 90 of the TIS concludes that "the proposed Loomis Costco Gasoline fuel station site plan provides sufficient storage to accommodate the average 95th percentile queue anticipated without interference to the on-site drive aisle that leads to Sierra College Boulevard". This conclusion is based on observed queuing at five gas stations. Using the data in Table 14 of the TIS, **Table 2** below has been prepared to develop ratios of vehicle queues to fueling positions at those stores.

Table 2: Vehicle Queuing Observations During Saturday Midday Peak Hour at Selected Costco Fuel Stations [1]

Observed Location[2]	Pumps	Hourly Vehicles Served	Average Queue	95th Percentile Queue	Maximum Queue	Average Queue Per Pump	95th Percentile Queue Per Pump	Maximum Queue Per Pump
Portland, OR	24	616 vph	10	16	20	0.42	0.67	0.83
Rohnert Park, CA	24	632 vph	8	16	22	0.33	0.67	0.92
Concord, CA	24	700 vph	19	28	32	0.79	1.17	1.33
NE San Jose, CA	24	686 vph	20	29	31	0.83	1.21	1.29
Tustin, CA	22	610 vph	29	35	38	1.32	1.59	1.73
Average (Excluding Portland, OR) [3]	23.5	657 vph	19	27	30.8	0.82	1.16	1.32

Notes:

[1] Data collected in 2016-2017. Queue refers to vehicles waiting to access a fueling position.

[2] Ranked from lowest to highest queue.

[3] The Portland, OR site has been excluded because Oregon law requires gas to be pumped be service station workers, and not customers. As is documented in online reviews of this station, this contributes to more efficient operations and less queuing (than when customers pump their own gas) as the table shows.

Vph = Vehicles per Hour. Pump and fueling positions are being used as interchangeable terms.

The table indicates that the four surveyed California sites exhibited an average 95th percentile queue per pump of 1.16 vehicles. When this is applied to the 30 fueling positions at the proposed site, the resulting 95th percentile queue would be 35 vehicles. This exceeds the available storage for 30 vehicles provided in advance of the fueling positions. During the busiest two or three minutes of the hour, 40 queued vehicles (maximum queue of 1.32 vehicles per position multiplied by 30 positions) would be present. Page 90 of the TIS hypotheses that vehicle queues 'should be shorter' when more fueling positions are added, though no such data or analysis is provided to support this conclusion.

In summary, there is a strong potential that vehicles waiting in the fuel station queuing area could spill back onto the main driveway, thereby blocking inbound traffic from entering the project site. This would adversely affect traffic on Sierra College Boulevard. It is recommended that a turn lane be constructed within the main driveway that provides exclusive access to the fueling station. The recently completed fueling station at the Roseville Costco site contains a similar turn lane.

6. **The Draft EIR relies on the use of an outdated technical methodology to analyze intersections and freeway facilities**. Pages 21 through 23 of the TIS indicate that procedures from the *2010 Highway Capacity Manual* (HCM) were used to analyze all study intersections and freeway facilities. In 2016, this version was updated/replaced with the *HCM 6th Edition*. The Transportation Research Board (TRB) website (http://www.trb.org/publications/hcm6e.aspx) describes how the 6th Edition "serves as a fundamental reference on concepts, performance measures, and analysis techniques for evaluating the multimodal operations of street, highway, freeways, and off-street pathways". The 6th Edition "incorporates the latest research on highway capacity, quality of service active traffic and demand management and travel time reliability", which suggests that the HCM 2010 edition may not. Given this description, what was the basis for continuing to use an outdated methodology?

7. **The City of Rocklin does not currently endorse project access options 1B or 1C because they rely upon an unapproved vehicular connection through a property within the City of Rocklin, would exacerbate queuing along Granite Drive, and would worsen operations at the Sierra College Boulevard/Granite Drive intersection.** Thus, all analyses and comments that follow pertain to project access option 1A, as that is the only access alternative presented in the DEIR that is considered viable by the City of Rocklin. Options 1B and 1C would adversely affect access to retail properties situated in multiple quadrants of the Sierra College Boulevard/Granite Drive intersection within the City of Rocklin.

8. **Cumulative traffic forecasts do not properly consider trips generated by reasonably foreseeable land use developments.** Comparison of cumulative long-term no project traffic forecasts on Figure 26a of the TIS against existing volumes on Figure 4a of the TIS reveals that the analysis does not fully take into consideration at least four different reasonably foreseeable land uses.

    - Granite Marketplace – This pending project consists of 153,000 square feet of planned retail accessed entirely from the east leg of the Sierra College Boulevard/Granite Drive intersection. The net increase in weekday PM peak hour traffic on this leg between existing and cumulative conditions is 100 vehicles. A more realistic estimate would be a net increase of 575 combined inbound and outbound trip based on trip rates from the *Trip Generation Manual* (Institute of Transportation Engineers, 2017).
    - Undeveloped Commercially-Zoned Property on West Side of Sierra College Boulevard. This property is located within the City of Rocklin directly opposite the proposed Loomis Costco site. It is zoned for retail business (C-2) land uses, and according to the City's 2030 travel demand model, is expected to yield about 184,400 square feet of retail space. Review of Figure 26a of the TIS indicates that a west leg to the planned signalized Costco driveway was assumed to provide access to this property. The west leg was forecast to carry 296 vehicles during the weekday PM peak hour. During the weekday PM peak hour, this leg would serve 296 vehicles. According to the *Trip Generation Manual* (Institute of Transportation Engineers, 2017), 184,400 square feet of retail space would generate 855 weekday PM peak hour trips. Since only 296 PM peak hour vehicles are projected to use the west leg that would provide the primary access to this property, trips generated by this reasonably foreseeable land use have likely been underestimated. This is demonstrated by: the total volume on the west leg being one-third of what ITE estimates the site would generate, a modest 48 northbound left-turns (which seems low given that this is the most direct movement into the site from I-80), and no growth in trips (over existing conditions) in the northbound left-turn movement at Granite Drive (i.e., this property would be accessible from Granite Drive).
    - Sierra College Facilities Master Plan – In 2019, Sierra College – Rocklin Campus adopted its Facilities Master Plan (FMP). The FMP sets forth on-site planning, and off-site circulation improvements to accommodate a 50% increase in student enrollment at the campus over a 20-year planning horizon. According to Figures 4 and 9 of Appendix I to the *Sierra College Rocklin Campus Facility Master Plan DEIR* (QK, November 2018), (available at https://www.sierracollege.edu/_files/resources/administrative-services/bids/Revised-Draft-EIR-reduced.pdf), the signalized project driveway serving the campus on Sierra College Boulevard at Stadium Way would experience a net increase of 795 weekday AM peak hour trips and 641 PM peak hour trips between existing and cumulative conditions. Much of this increase is being driven by ongoing construction of a 1,500-space parking garage in the north area of the campus, which

would be easily accessible from Stadium Way. In contrast to this growth, Figures 4 and 26B of the DEIR show a net increase of 608 AM peak hour trips and 409 PM peak hour trips between existing and cumulative long-term conditions. Thus, the DEIR assumes only 64% of the anticipated increase in travel at the project's entrance off Sierra College Boulevard.

- College Park Residential Project – This pending project consists of two separate properties along Sierra College Boulevard and Rocklin Road. The portion along Sierra College Boulevard would be situated directly opposite the Sierra College-Rocklin campus and consist of 425 dwelling units, plus commercial closer to Rocklin Road. Access to the residential uses would be provided by a fourth (easterly) leg to the Sierra College Boulevard/Stadium Way intersection. Figure 26b of the TIS does not show a fourth leg to this intersection under cumulative conditions. Therefore, this reasonably foreseeable project was not properly considered under cumulative conditions. Note that a tentative subdivision map is available on the City's website at the following links: https://www.rocklin.ca.us/sites/main/files/file-attachments/2b_-_tsm_north.pdf?1554920038. https://www.rocklin.ca.us/post/college-park-formerly-sierra-villages

9. **Cumulative roadway network assumptions are incorrect.** The DEIR's cumulative roadway network excluded certain planned roadway improvements within the City of Rocklin including:
    - The northbound direction of Sierra College Boulevard from south of Rocklin Road to Bass Pro Drive is incorrectly assumed to remain as two lanes. Instead, a third northbound lane should have been assumed as this is a planned City improvement that has been assumed in numerous prior City studies. Intersection LOS results at Sierra College Boulevard/Stadium Driveway and Sierra College Boulevard/Rocklin Road are therefore incorrect.
    - The City of Rocklin plans to widen Pacific Street to four lanes from east of Midas Avenue to its easterly City limit. Intersection LOS results at the Pacific Street/Delmar Avenue/Dominguez Road intersection are therefore incorrect.
    - A multi-lane roundabout is planned to replace the existing traffic signal at the Pacific Street/Rocklin Road intersection.

10. **The TIS uses the deterministic Synchro software program to report intersection level of service (LOS), delay, and queuing, which causes impacts to be underreported**.

    (a) Guidance is provided in the *Highway Capacity Manual (HCM), 6th Edition* (Transportation Research Board, 2016) regarding conditions for which micro-simulation versus the deterministic HCM procedures should be used. Attachment B contains underlined text from several pages of the *HCM 6th Edition* describing when microsimulation (which is referred to as an 'alternative tool') is typically applied. Conditions cited in Exhibit 6-2

as typical applications for micro-simulation include: bottlenecks, oversaturated flow analysis, unbalanced lane usage, signal timing plan development, and turn bay overflow. Each of these situations is present in this study area. Page 6-17 of the *HCM 6th Edition* states the following:

> "*Before the analyst can select the appropriate tool, the performance measures that realistically reflect attributes of the problem under study must be identified. For example, when oversaturated conditions are studied, use of a tool that quantifies the effects of queuing as well as stops and delay is necessary*."

Page 19-20 of the *HCM 6th Edition* lists many of the conditions which are not explicitly considered by the HCM procedures, such as:

- Turn bay overflow
- Demand starvation due to a closely spaced upstream intersection
- Queue spillback into the subject intersection from a downstream or upstream intersection
- Through lane added just upstream of an intersection or dropped just downstream of an intersection

Page 19-20 then concludes that if one or more of these conditions are present within the study area, analysts should consider using alternatives methods or tools, the most common of which is micro-simulation. The Sierra College Boulevard corridor has many of these types of conditions. Under plus project conditions, five signalized intersections would be located between the I-80 WB ramps and Taylor Road (inclusive) at an average distance of 510 feet apart. This type of spacing is typical on one-way grid streets, but can be problematic on two-way arterial streets. Very high (over 2,000 vehicles per hour) peak directional flows on Sierra College Boulevard are expected under cumulative conditions. Imbalanced lane utilization and inadequate turn bay storage also occur. Refer to Attachment A for this HCM guidance.

(b) State transportation agency staff from Florida, Oregon, California, Washington, Wisconsin, and Ohio and practitioners discussed their experiences and recommendations on microsimulation in a 2014 FHWA report entitled *Guidance on the Level of Effort Required to Conduct Traffic Analysis Using Microsimulation* (found at: (https://www.fhwa.dot.gov/publications/research/operations/13026/13026.pdf). The following two sentences (see Attachment A) from this panel exemplify why micro-simulation is preferred over deterministic HCM procedures under certain conditions:

1. *Microsimulation is recommended for facilities with significant congestion and/or operational problems, whereas simpler tools, such as deterministic methods and macrosimulation, are recommended for less complex projects.*

2. *Many microsimulation models are used because the macroscopic deterministic analytical techniques do not fully capture the extent of congestion.*

(b) The Consultant who performed the TIS micro-simulation analysis (using the SimTraffic module within Synchro) for this study, but only used those results to describe corridor travel times and speeds. According to Table 21, the average delay per vehicle within the corridor during the weekday PM peak hour increased from 55 seconds (existing) to 94 seconds under existing plus project conditions. Table 22 indicates that during the weekday PM peak hour, northbound travel speed decreases from 21 to 14 miles per hour (mph), and southbound travel speed decreases from 26 to 16 mph. Independent analysis of these conditions by Fehr & Peers (using DEIR lanes and traffic volumes) confirm similar declines in operations.

(d) Despite academic guidance that suggests microsimulation should have been applied in the Sierra College Boulevard corridor and analysis showing significantly worsened conditions when microsimulation is used, the DEIR nonetheless still relied on synchro results to identify impacts. Review of Table 17 for weekday PM peak hour conditions for Access Option 1a shows that using the deterministic HCM methods, the project would increase the average delay at Sierra College Boulevard intersections with Taylor Road, Brace Road, Granite Drive, I-80 WB Ramps, and I-80 EB Ramps from 22 to 25 seconds per vehicle (see Attachment B). This is a far different, less impactful conclusion than the 55 to 94 second worsening of corridor travel times (based on microsimulation results) reported in Table 21.

(e) When describing the results of the simulation analysis of Sierra College Boulevard, Page 121 of the TIS states "the project increases delay, travel time, and reduces arterial speed for all peak hours and directions." Yet the official DEIR conclusions regarding significantly impacted under existing plus project conditions shows just three intersections, none of which are situated near the project site. However, the DEIR does identify (on page 3.7-30) queuing related impacts at the Sierra College Boulevard/Granite Drive and Sierra College Boulevard/I-80 WB Ramps intersections. The next comment evaluates the adequacy of the conclusion that adverse queuing effects are limited to those intersections. This is performed using the more appropriate microsimulation model for the corridor.

11. **Impacts Statements 3.7-2 and 3.7-3 understate the degree of existing plus project impacts on facilities owned/operated by the City of Rocklin, Town of Loomis, and Caltrans.** The following pages includes **Tables 3 and 4** which summarize independent analysis results (see Attachment B for technical calculations) by Fehr & Peers for existing and existing plus project conditions using microsimulation for the segment of the Sierra College Boulevard corridor from Taylor Road to Rocklin Road. To facilitate direct comparisons, all analyses are performed for weekday PM peak hour and Saturday midday conditions using the traffic volumes and lane configurations contained in the DEIR for that particular scenario and time period. Intersection delay and LOS results are then compared (in Table 3) against the published values in the DEIR. In addition, an existing plus project 95th percentile queue table (Table 4) is

provided to indicate where queues along the corridor would spill back to an upstream intersection. Based on these independent analyses, the following significant impacts were not disclosed in the DEIR:

Existing Plus Project (Access Option 1a) Significant Intersection LOS Impacts

- Sierra College Boulevard / Taylor Road (Weekday PM Peak Hour) – degrades from LOS C under existing conditions to an unacceptable LOS D under existing plus project conditions.
- Sierra College Boulevard / Granite Drive (Weekday PM Peak Hour) – degrades from LOS C under existing conditions to an unacceptable LOS D under existing plus project conditions.

The DEIR fails to disclose the significant impacts at these two intersections. Had reasonable pass-by assumptions been made as noted in Comment 1, additional impacts could have also been caused.

Existing Plus Project (Access Option 1a) Significant Intersection Queuing Impacts

For this particular scenario, the independent SimTraffic analysis confirms much of the DEIR findings in terms of queue spillbacks.

The significance criteria regarding vehicular queuing specifies that a 95th percentile queue that 'overflows its available storage compared to no project conditions' at *any* turn pocket due to the project would be considered a significant impact. The SimTraffic results in Attachment B show at least eight (8) instances in which the existing plus project scenario would have a 95th percentile queue that exceeds the available storage. Based on the significance criteria, these should have been considered significant impacts.

Table 3: Intersection LOS Comparison for Existing Conditions

			EXISTING CONDITIONS				EXISTING PLUS PROJECT CONDITIONS			
			DEIR		Peer Review		DEIR		Peer Review	
Intersection	**Control**	**Peak Hour**	**Delay (s)**	**LOS**	**Delay (s)**	**LOS**	**Delay (s)**	**LOS**	**Delay (s)**	**LOS**
Sierra College Blvd / Taylor Rd	Signal	Weekday PM	38.3	D	33.3	C	41.6	D	37.6	D
		Weekend MD	25.0	C	24.5	C	28.1	C	29.0	C
Sierra College Blvd / Brace Rd	Signal	Weekday PM	10.7	B	12.9	B	14.1	B	18.0	B
		Weekend MD	9.1	A	7.7	A	15.0	B	9.1	A
Sierra College Blvd / Granite Dr	Signal	Weekday PM	27.1	C	21.9	C	28.3	C	44.7	D
		Weekend MD	22.6	C	16.8	B	23.7	C	32.2	C
Sierra College Blvd / Rocklin Commons Dwy / I-80 WB Ramps	Signal	Weekday PM	19.0	B	21.4	C	27.1	C	33.3	C
		Weekend MD	19.3	B	24.4	C	30.3	C	37.1	D
Sierra College Blvd / I-80 EB Ramps / Rocklin Crossings Dwy	Signal	Weekday PM	16.1	B	21.3	C	16.3	B	24.6	C
		Weekend MD	16.5	B	19.5	B	16.6	B	22.0	C
Sierra College Blvd / Dominguez Rd / Bass Pro Dr	Signal	Weekday PM	7.5	A	6.4	A	7.5	A	8.4	A
		Weekend MD	8.7	A	4.9	A	8.5	A	5.9	A
Sierra College Blvd / Stadium Entrance Dr	Signal	Weekday PM	6.6	A	7.6	A	6.6	A	7.1	A
		Weekend MD	4.4	A	2.8	A	4.3	A	3.0	A
Sierra College Blvd / Rocklin Rd	Signal	Weekday PM	43.3	D	48.2	D	45.0	D	48.1	D
		Weekend MD	24.9	C	24.4	C	25.9	C	25.1	C
Sierra Collge Blvd / Project Dwy	Signal	Weekday PM	-	-	-	-	11.3	B	24.8	C
		Weekend MD	-	-	-	-	14.5	B	15.1	B

Source: Tables 17 and 18 of the TIS, and Fehr & Peers, 2020 (see Attachment B for technical calculations).
Notes: Shaded cells indicate a significant impact based on DEIR significance criteria.

Table 4 : Vehicular Queuing Comparison under Existing Plus Project Conditions

95th Percentile Vehicle Queues that Spill back to Upstream intersections			EXISTING PLUS PROJECT CONDITIONS			
			DEIR		Peer Review	
Segment	**Length (ft)**	**Peak Hour**	**NB**	**SB**	**NB**	**SB**
Sierra College Boulevard between Taylor Road and Brace Road	575	Weekday PM	Y	N	Y	N
		Weekend MD	N	N	N	N
Sierra College Boulevard between Brace Road and Project Driveway	625	Weekday PM	N	N	N	N
		Weekend MD	N	N	N	N
Sierra College Boulevard between Project Driveway and Granite Drive	575	Weekday PM	N	Y	N	Y
		Weekend MD	N	N	N	Y
Sierra College Boulevard between Granite Drive and Rocklin Commons Driveway / I-80 WB Ramps	400	Weekday PM	Y	Y	N	Y
		Weekend MD	N	Y	N	Y
Sierra College Boulevard between Rocklin Commons Driveway / I-80 WB Ramps and I-80 EB Ramps / Rocklin Crossings Driveway	1,500	Weekday PM	N	N	N	N
		Weekend MD	N	N	N	N
Sierra College Boulevard between I-80 EB Ramps / Rocklin Crossings Driveway and Dominguez Road / Bass Pro Drive	725	Weekday PM	N	N	N	N
		Weekend MD	N	N	N	N
Sierra College Boulevard between Dominguez Road / Bass Pro Drive and Stadium Entrance Drive	1,700	Weekday PM	N	N	N	N
		Weekend MD	N	N	N	N
Sierra College Boulevard between Stadium Entrance Drive and Rocklin Road	1,600	Weekday PM	N	N	N	N
		Weekend MD	N	N	N	N
Sierra College Boulevard between Rocklin Road and El Don Drive / Brookfield Circle	1,650	Weekday PM	Y	-	Y	-
		Weekend MD	N	-	N	-

Notes: Shaded cells indicate queue spillbacks that extend back to an upstream signalized intersection that is considered a significant impact. In some instances in the table below, a "Y" value is shown in a cell but it is not highlighted This is because the queue may have already spilled back to the upstream intersection under 'no project' conditions and the project did not increase the approach volume by 5% or more.

12. **Impacts 3.7-8 and 3.7-12 understate the degree of cumulative short-term plus project impacts on facilities owned/operated by the City of Rocklin, Town of Loomis, and Caltrans.** The following pages includes **Tables 5 and 6** which summarize the independent analysis results (see Attachment B for technical calculations) by Fehr & Peers for this scenario. Based on these independent analyses, the following significant impacts were not disclosed in the DEIR:

    Cumulative Short-Term Plus Project (Access Option 1a) Significant Intersection LOS Impacts

    - Sierra College Boulevard/Taylor Road (Weekday PM Peak Hour) – operations would worsen from LOS D to F with the addition of project trips.
    - Sierra College Boulevard / Brace Road (Weekday PM and Weekend Midday Peak Hours) – operations would worsen from LOS D to E with the addition of project trips.
    - Sierra College Boulevard / Rocklin Road (Weekday PM Peak Hour) – degrades from LOS E to F with the addition of project trips.
    - Sierra College Boulevard/Project Driveway Road (Weekday PM and Weekend Midday Peak Hours) – would operate at LOS E during the weekday PM and weekend midday peak hours.

In summary, the DEIR failed to disclose four significant intersection impacts.

Cumulative Short-Term Plus Project (Access Option 1a) Significant Intersection Queuing Impacts

The independent SimTraffic analysis shows more frequent queue spillbacks between signalized intersections than is reported in the DEIR. These should have been identified as significant impacts in the DEIR. The SimTraffic results in Attachment B show at least 16 instances in which the cumulative short-term plus project scenario would have a 95th percentile queue that exceeds the available storage. Based on the significance criteria, these would have been identified as significant impacts. Refer to following page for SimTraffic screenshot that illustrates vehicular queuing during the weekday PM peak hour.

Table 5: Vehicular Queuing Comparison under Cumulative Short-Term Plus Project Conditions

95th Percentile Vehicle Queues that Spill back to Upstream intersections				CUMULATIVE SHORT-TERM PLUS PROJECT CONDITIONS			
				DEIR		Peer Review	
Segment	**Length (ft)**		**Peak Hour**	**NB**	**SB**	**NB**	**SB**
Sierra College Boulevard between Taylor Road and Brace Road	575		Weekday PM	Y	N	N	Y
			Weekend MD	N	N	N	Y
Sierra College Boulevard between Brace Road and Project Driveway	625		Weekday PM	N	N	N	Y
			Weekend MD	N	N	N	Y
Sierra College Boulevard between Project Driveway and Granite Drive	575		Weekday PM	N	Y	N	Y
			Weekend MD	N	Y	N	Y
Sierra College Boulevard between Granite Drive and Rocklin Commons Driveway / I-80 WB Ramps	400		Weekday PM	Y	Y	Y	Y
			Weekend MD	Y	Y	Y	Y
Sierra College Boulevard between Rocklin Commons Driveway / I-80 WB Ramps and I-80 EB Ramps / Rocklin Crossings Driveway	1,500		Weekday PM	N	N	N	N
			Weekend MD	N	N	Y	N
Sierra College Boulevard between I-80 EB Ramps / Rocklin Crossings Driveway and Schriber Way	300		Weekday PM	N	Y	Y	Y
			Weekend MD	N	Y	N	N
Sierra College Boulevard between Schriber Way and Dominguez Road / Bass Pro Drive	350		Weekday PM	N	N	Y	N
			Weekend MD	N	N	N	N
Sierra College Boulevard between Dominguez Road / Bass Pro Drive and Stadium Entrance Drive	1,700		Weekday PM	N	N	N	N
			Weekend MD	N	N	N	N
Sierra College Boulevard between Stadium Entrance Drive and Rocklin Road	1,600		Weekday PM	N	N	N	N
			Weekend MD	N	N	N	N
Sierra College Boulevard between Rocklin Road and El Don Drive / Brookfield Circle	1,650		Weekday PM	Y	-	Y	-
			Weekend MD	Y	-	Y	-

Source: Technical Appendix of TIS, and Fehr & Peers, 2020.

Notes: Shaded cells indicate queue spillbacks that extend back to an upstream signalized intersection that is considered a significant impact. In some instances in the table below, a "Y" value is shown in a cell but it is not highlighted This is because the queue may have already spilled back to the upstream intersection under 'no project' conditions and the project did not increase the approach volume by 5% or more.

Table 6: Intersection LOS Comparison for Cumulative Short-Term Conditions

				CUMULATIVE SHORT-TERM NO PROJECT CONDITIONS				CUMULATIVE SHORT-TERM PLUS PROJECT CONDITIONS			
				DEIR		Peer Review		DEIR		Peer Review	
ID	Intersection	Control	Peak Hour	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
6	Sierra College Blvd / Taylor Rd	Signal	Weekday PM	40.5	D	40.6	D	44.1	D	82.1	F
			Weekend MD	31.7	C	36.6	D	38.9	D	107.2	F
7	Sierra College Blvd / Brace Rd	Signal	Weekday PM	18.3	B	39.3	D	16.9	B	67.4	E
			Weekend MD	15.1	B	36.6	D	17.4	B	73.1	E
8	Sierra College Blvd / Granite Dr	Signal	Weekday PM	58.2	E	98.5	F	105.1	F	84.1	F
			Weekend MD	39.9	D	94.3	F	75.1	E	84.7	F
9	Sierra College Blvd / Rocklin Commons Dwy / I-80 WB Ramps	Signal	Weekday PM	66.5	E	78.3	E	96.6	F	100.3	F
			Weekend MD	76.5	E	94.9	F	126.6	F	141.0	F
10	Sierra College Blvd / I-80 EB Ramps / Rocklin Crossings Dwy	Signal	Weekday PM	43.6	D	45.5	D	45.2	D	52.4	D
			Weekend MD	55.5	E	51.8	D	43.1	D	51.1	D
11	Sierra College Blvd/Schriber Wy	Signal	Weekday PM	17.0	B	17.2	B	17.1	B	24.1	C
			Weekend MD	20.8	C	18.5	B	21.0	C	16.9	B
12	Sierra College Blvd / Dominguez Rd / Bass Pro Dr	Signal	Weekday PM	12.2	B	18.6	B	12.4	B	23.7	C
			Weekend MD	13.3	B	17.0	B	13.5	B	14.3	B
13	Sierra College Blvd / Stadium Entrance Dr	Signal	Weekday PM	7.1	A	7.2	A	7.2	A	7.7	A
			Weekend MD	5.7	A	4.6	A	3.0	A	4.2	A
14	Sierra College Blvd / Rocklin Rd	Signal	Weekday PM	90.0	F	106.3	F	92.4	F	103.3	F
			Weekend MD	60.1	E	77.2	E	35.4	D	84.5	F
24	Sierra College Blvd / Project Dwy	Signal	Weekday PM	-	-	-	-	13.5	B	60.3	E
			Weekend MD	-	-	-	-	16.0	B	74.1	E

Source: Tables 34 and 35 of the TIS, and Fehr & Peers, 2020 (see Attachment B for technical calculations).
Notes: Shaded cells indicate a significant impact based on DEIR significance criteria.

Cumulative Short-Term Plus Project Vehicle Queues During Weekday PM Peak Hour

Southbound traffic spills back to Taylor Road due to:

- **Tight signal spacing**
- **Heavy traffic demands**
- **Imblanced lane utilization**

Note lengthy side-street queues on Brace Road and at the Costco Signalized Project Driveway

13. **Impacts 3.7-10 and 3.7-13 understate the degree of cumulative long-term plus project impacts on facilities owned/operated by the City of Rocklin, Town of Loomis, and Caltrans.** The following page contains **Table 7** which summarizes the independent analysis results (see Attachment B for technical calculations) by Fehr & Peers for these scenarios. Based on these independent analyses, the following significant impacts were not disclosed in the DEIR:

    - Sierra College Boulevard/Taylor Road (Weekday PM Peak Hour) – operations would worsen from LOS E to F with the addition of project trips.
    - Sierra College Boulevard / I-80 WB Ramps (Weekday PM and Weekend Midday Peak Hours) – LOS F operations would be exacerbated to a significant degree with the addition of project trips.
    - Sierra College Boulevard / Bass Pro Drive / Dominguez Road (Weekday PM Peak Hour) – LOS F operations would be exacerbated to a significant degree by the addition of project trips.
    - Sierra College Boulevard/Project Driveway Road (Weekday PM and Weekend Midday Peak Hours) – would operate at LOS E during the weekday PM and LOS F during the weekend midday peak hours with the addition of project trips.

    Table 7 also discloses how the addition of project trips would reduce the percentage of the hourly travel demand that is able to be served at a given intersection. For instance, the percent demand served during the weekday PM peak hour at the Sierra College Boulevard/Granite Drive intersection would decrease from 67% without the project to 61% with the project.

    Reviews of queuing in SimTraffic shows extensive vehicle queues throughout the Sierra College Boulevard. Queuing is particularly problematic in the northbound direction of Sierra College Boulevard south of Bass Pro Drive because the simulation modeling replicated the incorrect assumption that Sierra College Boulevard would remain with two northbound lanes from south of Rocklin Road to Bass Pro Drive.

    In summary, the DEIR failed to disclose these four significant intersection impacts.

14. **Recommended mitigation under cumulative short-term conditions for the Sierra College Boulevard/Granite Drive intersection is internally inconsistent and unacceptable to the City.** Table 65 of the TIS recommends mitigation (for Access Option 1A and cumulative short-term conditions) consisting of converting the northbound and southbound right-turn lanes to shared through/right lanes, operating the eastbound right-turn lanes with overlap phasing, and coordinating traffic signals. However, Table 4-10 of the DEIR, which summarizes cumulative short-term mitigation measures, does not appear to include all of these mitigation measures. The identified mitigation measures are not acceptable to the City for the following reasons:

Table 7: Intersection LOS Comparison for Cumulative Long-Term Conditions

				CUMULATIVE LONG-TERM NO PROJECT CONDITIONS					CUMULATIVE LONG-TERM PLUS PROJECT CONDITIONS				
				DEIR		Peer Review			DEIR		Peer Review		
ID	Intersection	Control	Peak Hour	Delay (s)	LOS	Delay (s)	LOS	Percent Demand Served	Delay (s)	LOS	Delay (s)	LOS	Percent Demand Served
6	Sierra College Blvd / Taylor Rd	Signal	Weekday PM	51.9	D	70.2	E	70.4%	55.9	E	81.1	F	70.7%
			Weekend MD	33.2	C	58.7	E	78.3%	43.4	D	81.4	F	70.6%
7	Sierra College Blvd / Brace Rd	Signal	Weekday PM	137.4	F	68.9	E	68.7%	76.5	F	60.1	E	66.8%
			Weekend MD	68.5	E	77.2	E	71.1%	20.1	C	71.6	E	63.0%
8	Sierra College Blvd / Granite Dr	Signal	Weekday PM	68.5	E	91.5	F	67.3%	118.0	F	92.6	F	60.5%
			Weekend MD	28.3	C	110.8	F	74.1%	33.9	C	104.1	F	61.4%
9	Sierra College Blvd / Rocklin Commons Dwy / I-80 WB Ramps	Signal	Weekday PM	46.1	D	95.9	F	70.0%	70.0	E	129.3	F	62.1%
			Weekend MD	42.2	D	95.5	F	77.1%	62.2	E	157.5	F	61.2%
10	Sierra College Blvd / I-80 EB Ramps / Rocklin Crossings Dwy	Signal	Weekday PM	48.6	D	31.5	C	69.1%	52.0	D	33.6	C	67.4%
			Weekend MD	36.4	D	29.5	C	82.4%	39.0	D	36.7	D	74.5%
11	Sierra College Blvd/Schriber Wy	Signal	Weekday PM	16.1	B	19.5	B	61.8%	16.2	B	17.7	B	60.3%
			Weekend MD	16.0	B	10.8	B	78.5%	16.1	B	10.5	B	72.1%
12	Sierra College Blvd / Dominguez Rd / Bass Pro Dr	Signal	Weekday PM	102.4	F	111.0	F	62.7%	106.9	F	116.9	F	62.7%
			Weekend MD	74.0	E	64.2	E	77.1%	79.2	E	62.0	E	73.0%
13	Sierra College Blvd / Stadium Entrance Dr	Signal	Weekday PM	19.3	B	27.3	C	66.7%	20.5	C	28.6	C	64.4%
			Weekend MD	7.4	A	27.3	C	81.9%	7.7	A	29.2	C	77.2%
14	Sierra College Blvd / Rocklin Rd	Signal	Weekday PM	172.8	F	145.2	F	72.0%	175.7	F	148.0	F	71.1%
			Weekend MD	50.9	D	58.7	E	92.3%	54.2	D	61.8	E	88.8%
24	Sierra College Blvd / Project Dwy	SSSC/ Signal	Weekday PM	11249.5	F	561.3	F	66.0%	31.7	C	57.1	E	66.0%
			Weekend MD	898.5	F	433.7	F	69.4%	29.8	C	98.8	F	59.0%

Source: Tables 49 and 50 of the TIS, and Fehr & Peers, 2020 (see Attachment B for technical calculations).
Notes: Shaded cells indicate a significant impact based on DEIR significance criteria.

a. The eastbound overlap phase would require prohibiting the northbound u-turn movement. This movement is critical for ingress/egress to several commercial land uses located on both sides of Sierra College Boulevard. The City will not permit the northbound u-turn to be prohibited.

b. The City believes the conversion of the 190-foot southbound right-turn lane to a shared through/right lane would offer very little operational benefits and may encourage downstream 'last minute lane changing behaviors from the middle through lane' approaching the I-80 interchange.

15. **Mitigation effectiveness under cumulative short-term conditions.** The recommended mitigation measures for Option 1A in Table 65 of the TIS were tested under cumulative short-term plus project conditions during the weekday PM peak hour. The results are shown in **Table 8** (see Attachment B for technical calculations).

This table indicates that the recommended mitigations would be effective at reducing delays and queuing within the Sierra College Boulevard corridor. However, they rely almost entirely upon on physical improvements located outside of the Town of Loomis, for which the Town could not guarantee or ensure get constructed.

The portion of the recommended mitigation at the Sierra College Boulevard/Granite Drive intersection consisting of an eastbound right-turn overlap phase is not acceptable to the City of Rocklin. The added capacity at the I-80 WB Ramps/Sierra College Boulevard interchange consisting of a second northbound left-turn lane and an additional lane on the I-80 westbound off-ramp may require additional right-of-way and/or lane width design exceptions, all of which would be subject to review and approval by Caltrans.

Table 8: Intersection LOS Mitigation Effectiveness Under Cumulative Short-Term Conditions

Independent Analysis Using Microsimulation				CUMULATIVE SHORT-TERM NO PROJECT CONDITIONS		CUMULATIVE SHORT-TERM PLUS PROJECT CONDITIONS			
						Without Mitigation		With Mitigation	
ID	Intersection	Control	Peak Hour	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
6	Sierra College Blvd / Taylor Rd	Signal	Weekday PM	40.6	D	82.1	F	38.6	D
7	Sierra College Blvd / Brace Rd	Signal	Weekday PM	39.3	D	67.4	E	23.9	C
8	Sierra College Blvd / Granite Dr	Signal	Weekday PM	98.5	F	84.1	F	44.0	D
9	Sierra College Blvd / Rocklin Commons Dwy / I-80 WB Ramps	Signal	Weekday PM	78.3	E	100.3	F	54.7	D
10	Sierra College Blvd / I-80 EB Ramps / Rocklin Crossings Dwy	Signal	Weekday PM	45.5	D	52.4	D	54.4	D
11	Sierra College Blvd/Schriber Wy	Signal	Weekday PM	17.2	B	24.1	C	25.3	C
12	Sierra College Blvd / Dominguez Rd / Bass Pro Dr	Signal	Weekday PM	18.6	B	23.7	C	23.9	C
13	Sierra College Blvd / Stadium Entrance Dr	Signal	Weekday PM	7.2	A	7.7	A	7.6	A
14	Sierra College Blvd / Rocklin Rd	Signal	Weekday PM	106.3	F	103.3	F	106.9	F
24	Sierra College Blvd / Project Dwy	Signal	Weekday PM	-	-	60.3	E	28.7	C

Source: Fehr & Peers, 2020 (see Attachment B for technical calculations).

Notes: Shaded cells indicate a significant impact based on DEIR significance criteria. Mitigations consist of list in Table 65 for Option 1A.

16. **Mitigation effectiveness under cumulative long-term conditions.** The recommended mitigation measures for Option 1A in Table 68 of the TIS were tested under cumulative long-term plus project conditions during the weekday PM peak hour. The results are shown in **Table 9** (see Attachment B for technical calculations). This table indicates that the operations would improve if the identified mitigation measures were to be implemented. However, congestion would still be present in most parts of the Sierra College Boulevard corridor, as the percent demand served at its intersections along it would remain below 80%.

17. **The DEIR fails to disclose significant impacts at the I-80/Horseshoe Bar Road eastbound ramps intersection.** Table 34 of the TIS indicates that this unsignalized intersection would operate at LOS F with 68.2 seconds of delay under cumulative short-term conditions during the weekday PM peak hour without the project. Table 49 of the TIS indicates that this intersection would operate at LOS F with 978.6 seconds of delay under cumulative long-term conditions without the project during the weekday PM peak hour. Since the DEIR assumes the project would not add any trips to this intersection, it would not alter the delay. Hence, no impacts were identified. However, comment 4 in this letter demonstrated that motorists exiting the project site desiring to travel eastbound on I-80 would achieve a travel time savings by using Brace Road to the I-80/Horseshoe Bar Road interchange. Thus, there is a strong likelihood that project trips would pass through this intersection, thereby further degrading its operations**.**

Table 9: Intersection LOS Mitigation Effectiveness Under Cumulative Long-Term Conditions

Independent Analysis Using Microsimulation				CUMULATIVE LONG-TERM NO PROJECT CONDITIONS		CUMULATIVE LONG-TERM PLUS PROJECT CONDITIONS			
						Without Mitigation		With Mitigation	
ID	Intersection	Control	Peak Hour	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
6	Sierra College Blvd / Taylor Rd	Signal	Weekday PM	70.2	E	81.1	F	78.2	E
7	Sierra College Blvd / Brace Rd	Signal	Weekday PM	68.9	E	60.1	E	52.2	D
8	Sierra College Blvd / Granite Dr	Signal	Weekday PM	91.5	F	92.6	F	59.9	E
9	Sierra College Blvd / Rocklin Commons Dwy / I-80 WB Ramps	Signal	Weekday PM	95.9	F	129.3	F	86.1	F
10	Sierra College Blvd / I-80 EB Ramps / Rocklin Crossings Dwy	Signal	Weekday PM	31.5	C	33.6	C	43.4	D
11	Sierra College Blvd/Schriber Wy	Signal	Weekday PM	19.5	B	17.7	B	25.6	C
12	Sierra College Blvd / Dominguez Rd / Bass Pro Dr	Signal	Weekday PM	111.0	F	116.9	F	121.9	F
13	Sierra College Blvd / Stadium Entrance Dr	Signal	Weekday PM	27.3	C	28.6	C	34.9	C
14	Sierra College Blvd / Rocklin Rd	Signal	Weekday PM	145.2	F	148.0	F	147.3	F
24	Sierra College Blvd / Project Dwy	TWSC/ Signal	Weekday PM	561.3	F	57.1	E	7.1	A

Source: Fehr & Peers, 2020 (see Attachment B for technical calculations).

Notes: Shaded cells indicate a significant impact based on DEIR significance criteria. Mitigations consist of list in Table 65 for Option 1A.

18. **The signalized project driveway on Sierra College Boulevard would not provide adequate storage to accommodate the planned land development it would serve.** Table ES-2 of the DEIR identified impacts due to queuing at multiple intersections along Sierra College Boulevard. Table 72 of the TIS concludes that queuing impacts under cumulative long-term conditions would be less-than-significant at the project driveway. However, this conclusion is at odds with results from the TIS technical appendix as well as our own independent peer review analysis of the corridor. **Table 10** below shows results from both methods of the 95th percentile queues at the Sierra College Boulevard/Project Driveway for cumulative long-term plus project Weekday PM peak hour conditions, without and with the recommended mitigation measures. It is readily apparent that vehicular queue spillbacks would occur even with recommended mitigation measures in place. And as noted previously, much of the mitigation that would benefit the corridor is within Rocklin or Caltrans' control, and there are no certainties that any of those mitigations will be approved.

Table 10: Vehicle Queues at Signalized Project Driveway on Sierra College Boulevard

Movement	Storage	95th Percentile Queue During Weekday PM Peak Hour [1]			
		Cumulative Long-Term Plus Project Conditions		Cumulative Long-Term Plus Project Conditions with Mitigation	
		DEIR	Peer Review	DEIR	Peer Review
Northbound Left-Turn	175 ft.	78 ft.	100 ft. [2]	49 ft.	125 ft. [2]
Northbound Through	600 ft.	678 ft. [3]	400 ft.	847 ft. [3]	625 ft.
Northbound Right-Turn	160 ft.	63 ft.	200 ft.	81 ft.	225 ft.
Southbound Left-Turn	190 ft. / 225 ft.[4]	240 ft. [3]	200 ft.	123 ft.	175 ft.
Southbound Through	340 ft.	449 ft.	650 ft.	444 ft. [3]	475 ft.
Westbound Left-Turn	150 ft.	261 ft. [3]	> 300 ft.	233 ft. [3]	> 300 ft.
Westbound Through/Right	150 ft.	58 ft.	> 300 ft.	53 ft.	200 ft.

Notes:

1 Source: pages 1618 and 1723 of technical appendix of the TIS, and Fehr & Peers, 2020 (see Attachment B for technical calculations).

2 Peer review is based on TIS traffic volumes, which underestimated the northbound left-turn volume. Use of appropriate volumes (based on land use zoning for the property to the west) would likely show queue spillback out of this pocket.

3 A '#" symbol is shown next to this result, which is defined as "95th percentile volumes exceeds capacity, queue may be longer"

4 Page 4-23 of the DEIR identifies the need for the southbound left-turn lane to be lengthened to 225 feet as a mitigation measure.

Shaded cells indicate a significant impact because the 95th percentile vehicle queue exceeds the available storage.

19. **The project would worsen queuing at the I-80 westbound off-ramp at the Sierra College Boulevard interchange. The DEIR and TIS fail to disclose these significant impacts. Table 11** below the 95th percentile queue length for the I-80 westbound off-ramp based on results from the TIS. It concludes that queued vehicles would not queue back onto the freeway under any scenarios. In contrast, the micro-simulation analysis performed as part of the independent peer review revealed the following project impacts:

    - Project would cause the vehicle queue to spill back onto the freeway during the PM peak hour under cumulative short-term conditions.
    - Under cumulative long-term conditions, the project would exacerbate queues that already extend a considerable distance onto the freeway.

    The singular source for this major discrepancy in results is the use of the deterministic synchro model in the DEIR TIS. The micro-simulation model is a more accurate predictor of vehicle queuing because it considers queue spillbacks from upstream intersections, imbalanced lane utilization, turn pocket queue exceedances, etc.

Table 11: Vehicle Queues at I-80/Sierra College Boulevard Westbound Off-Ramp

Movement [1]	Storage[2]	95th Percentile Queue During Weekday PM Peak Hour [3]							
		Cumulative Short-Term No Project		Cumulative Short-Term Plus Project		Cumulative Long-Term No Project		Cumulative Long-Term Plus Project	
		DEIR	Peer Review	DEIR	Peer Review	DEIR	Peer Review	DEIR	Peer Review
I-80 WB Off-Ramp	1,300 ft.	326 ft.	1,100 ft.	466 ft.	1,375 ft.	628 ft.	5,325 ft.	628 ft.	6,075 ft.

Notes:

1 Vehicle queue is reported for the movement with the longest reported value.

2 Measured from the stop bar to the freeway gore point.

3 Source is pages 1329, 1392, 1490, and 1568 of technical appendix of the TIS, and Fehr & Peers, 2020 (see Attachment B for technical calculations).

Shaded cells indicate that queue would spill beyond the freeway gore point.

20. **The TIS does not properly characterize current and projected traffic conditions along Rocklin Road.** According to page 1174 of the technical appendix, the existing 95th percentile queue on westbound Rocklin Road at Aguilar Road is 286 feet during the PM peak hour. This result does not even remotely match recurring conditions each weekday evening, in which queues spill back from the interchange, through this intersection, and nearly back to the Sierra College campus. The reported LOS A condition for this intersection bears no resemblance to current conditions. The reason for this incorrect result is the lack of use of microsimulation in the corridor. Specifically, vehicle queues spill back from the heavily used single left-turn lane onto westbound I-80. This causes upstream queue spillback and imbalanced lane utilization, as evidenced by this image of queuing from a simtraffic model recently built for the corridor. The analysis should have disclosed how results reported in the DEIR along the Rocklin Road corridor and at the I-80/Rocklin Road interchange are not representative of current conditions and would also not be an accurate depiction of future conditions.

Image shows queue spillback (vehicles in blue) from the I-80 WB on-ramp, which adversely affects the EB ramps and Aguilar Road intersections.

21. **The analysis should include details of follow-up meetings with Caltrans discussing the specifics of the mitigation measures recommended within the state ROW.** Meetings should address details such as (but not limited to): the feasibility of the identified improvements, any design exceptions, type of approval process (i.e., encroachment permit versus PA/ED), lead agency, schedule, cost, etc. Decision-makers and the general public should be aware of the extent to which these improvements are viable and the likely time period in which they could be implemented.

22. **Fehr & Peers and the City of Rocklin reiterate our previous comments that the proposed signalized Costco driveway be situated at least 100 feet north of its proposed location and have appropriately-sized turn lanes**. Reasons for locating the signal 100 feet or more north of its proposed location are three-fold, including:

    i. *It would enable the northbound right-turn lane (entering the Costco Store parking lot) to be increased from 160 feet to at least 250 feet*. Lengthening of this turn pocket will reduce queuing in the adjacent through lane due to vehicles otherwise being blocked from accessing the turn lane.

    ii. *It would enable the northbound left-turn lane (serving the undeveloped retail-zoned property on the west side of the street) to be increased from 160 feet to at least 250 feet*. Given the size of this parcel and the number of trips it would generate, the City of Rocklin would potentially need to prohibit this left-turn movement (if turn lane storage is limited as currently proposed) due to likely queuing out of the turn pocket. This could introduce a potential safety hazard due to motorists attempting to unlawfully turn into the site from the northbound through lane (since all other movements would be permitted).

    iii. *It would provide improved traffic operations by virtue of less frequent queue spillbacks into the Granite Drive intersection and greater distance to accomplish lane changing maneuvers (i.e., more balanced lane utilization*).

    To date, there has been no written justification supporting the premise that relocation of the signalized driveway would adversely affect on-site circulation, truck access, parking, etc. If such concerns exist, they should be clearly described, and accompanied by evidence clearly demonstrating the specific unavoidable issue that would occur.

    Both the DEIR's TIS and the independent analysis performed by Fehr & Peers concluded that vehicle queues would spill out of the single southbound left-turn lane at the signalized Costco driveway. To address this operational concern, the following is recommended:

    - *Construct dual southbound left-turn lanes at the proposed signalized Costco driveway along with two receiving lanes entering the parking lot*. This improvement will not only address the queue spillback issue, but it will also improve overall corridor operations as more signal green time could be allocated to the northbound through movement.

23. **In conjunction with the relocation of the signalized driveway 100 or more feet to the north, the project should be modified to include a dedicated right-turn inbound only driveway on Sierra College Boulevard that serves the fueling station.** This driveway, which would be situated within the deceleration lane, would reduce the volume of traffic using the main signalized driveway and would decrease the likelihood of vehicle queues spilling out of the fueling station and blocking the path of inbound vehicles. Similar driveway designs are present in the area. One example is the operationally-beneficial right-turn inbound-only driveway on southbound Galleria Boulevard serving the Roseville Galleria. That driveway reduces the travel demand entering the main signalized driveway (opposite Antelope Creek Drive).

In closing, we do not take any pride or gain any enjoyment from taking on these types of assignments. But we do feel an obligation to assist cities such as Rocklin who regularly require their proposed land use projects to mitigate their impacts in a just and equitable manner. In this particular instance, it is clear that the proposed project located just outside the City's boundary would have adverse effects on Rocklin's roads and intersections, and proposed mitigation is clearly not sufficient to address those impacts. We share a mutual respect with the firm that prepared the TIS. In this particular instance, a strong understanding of the local context and need to apply state-of-the-practice analysis methods is crucial to properly analyze the project.

The end of Attachment A contains my resume. Within it, there is a partial list of the dozens of retail centers I have studied during my 25-year career as a transportation engineer at Fehr & Peers.

Respectfully Submitted,

FEHR & PEERS

John Gard, P.E.
Principal

Attachment A

KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING / PLANNING
101 S Capitol Boulevard, Suite 301, Boise, ID 83702 208.336.2683 208.336.2685

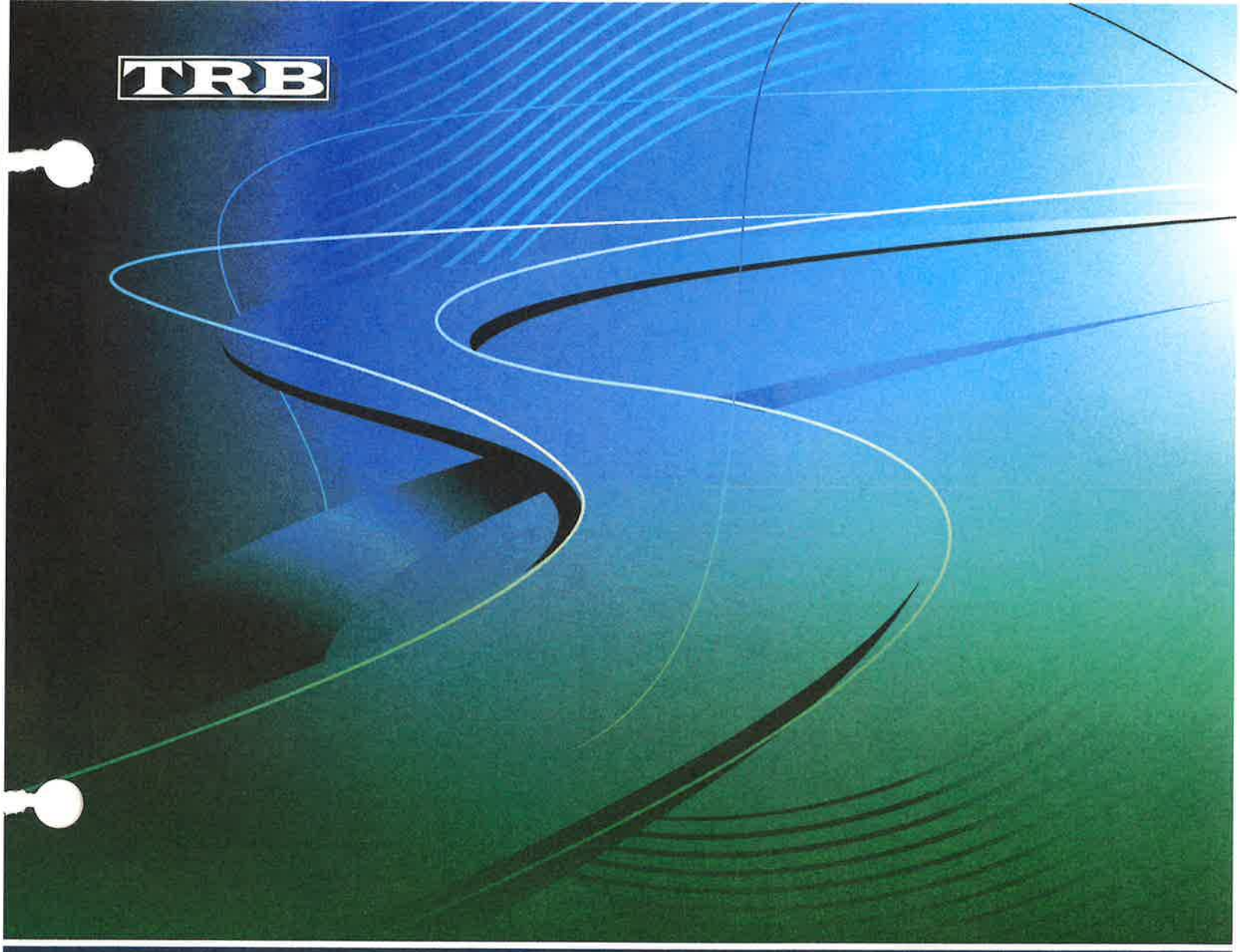
COSTCO GASOLINE TRIP CHARACTERISTICS DATA (updated October 25, 2011)

before and after expansion data

396

United States

LOCATION	FUELING POSITIONS	WEEKDAY AM PEAK TRIPS		WEEKDAY PM PEAK TRIPS		SATURDAY PEAK		WEEKDAY DAILY		WEEKDAY DAILY		
		TOTAL TRIPS	RATE	TOTAL TRIPS	RATE	TOTAL TRIPS	RATE	TOTAL TRIPS	RATE	TOTAL TRIPS	RATE	
Milford, CT	12			358	29.83	412	34.33					
Waterbury, CT	12			362	30.17	360	30.00					
Bedford Park, IL	12							1404	117.00	1418.0	118.17	NOTE - pulled as a very small market sample
Merrillville, IN	12							1508	125.67	1730.0	144.17	NOTE - pulled as a very small market sample
Vancouver, WA	12			372	31.00	382	31.83	4740	395.00	4040	336.67	
Medford, OR	12	232	19.33									
Albany, OR	12			315	26.25							
Salem, OR	12			320	26.67	348	29.00	3982	331.83	3218	268.17	
Wilsonville, OR	12			306	25.50	340	28.33	3886	323.83	3244	270.33	
Missoula, MT	12			278	23.17	294	24.50					
Orem, UT	12			380	31.67	294	24.50	4478	373.17	2868	239.00	
Folsom, CA	12			354	29.50	376	31.33	4740	395.00	3972	331.00	
Corona, CA	12			307	25.58	316	26.33					
Chino Hills, CA	12			364	30.33	342	28.50					
Laguna Niguel HR, CA (11/04)	12					440	36.67					
Citrus Heights, CA	12					370	30.83					
Santa Clara, CA	12	256	21.33	378	31.50	386	32.17	5426	452.17	4294.0	357.83	
Redwood City, CA	12			400	33.33	430	35.83					
Kauai, HI	12			260	21.67	264	22.00	2730	452.17	2420.0	201.67	
Woodenville, WA	16			416	26.00							
Aurora Village, WA (Seattle)	16			414	25.88							
Vancouver, WA	16			474	29.63	492	30.75	5418	338.63	4776	298.50	
Eugene, OR	16	294	18.38									
Wilsonville, OR (counts)	16					381	23.81					
Hillsboro, OR	16					367	22.94					
Portland, OR	16					462	28.88					
Salem, OR	16			370	23.13	414	25.88	4446	277.88	3752	234.50	
Wilsonville, OR (transactions)	16			306	19.13	374	23.38	3548	221.75	3160	197.50	
Orem, UT	16			450	28.13	340	21.25	4780	298.75	3162	197.63	
Folsom, CA	16			432	27.00	484	30.25	5186	324.13	4640	290.00	
Simi Valley, CA	16			414	25.88	392	24.50					
SE San Diego, CA	16			362	22.63							
Rancho Del Ray, CA	16			414	25.88							
Oxnard, CA	16			392	24.50	410	25.63					
Morena, CA	16			372	23.25							
Laguna Niguel HR, CA (3/06)	16					502	31.38					
Fountain Valley, CA	16			467	29.19	464	29.00					
City of Industry, CA	16			466	29.13	476	29.75					
Carlsbad, CA	16			440	27.50							
Burbank, CA	16			416	26.00	468	29.25					
Garden Grove, CA	16					442	27.63					
Antioch, CA	16					380	23.75					
Vallejo, CA	16					440	27.50					
Santa Clara, CA	16	290	18.13									
San Diego (Morena), CA	16	230	14.38	440	27.50	500	31.25	5260	328.75			
El Camino (S San Fran), CA	16			500	31.25	516	32.25	6722	420.13	5866	366.63	
NE San Jose	16			474	29.63	494	30.88	6796	424.75	5650	353.13	
San Jose II	16			430	26.88	466	29.13	5486	342.88	4964	310.25	
Kona, HI	16			472	29.50	488	30.50	5488	343.00	4784	299.00	
Honolulu, HI	16			512	32.00	532	33.25	8218	513.63	7264	454.00	
Kapolei, HI	16			402	25.13	436	27.25	4350	271.88	4298	268.63	
Waipio, HI	20			536	26.80	606	30.30	7022	351.10	6774	338.70	
Tucson, AZ	20	134	6.70	344	17.20	440	22.00	4082	204.10	3504	175.20	
Scottsdale, AZ	20	130	6.50	498	24.90	570	28.50	4988	249.40	4374	218.70	
Total Average		224	14.96	399	26.99	421	28.50	4779	328.19	4094	272.58	



HIGHWAY CAPACITY MANUAL

6TH EDITION | A GUIDE FOR MULTIMODAL MOBILITY ANALYSIS

VOLUME 1: CONCEPTS

The National Academies of
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- Are the tool's performance measures (output) defined and computed in a manner consistent with the specification given in Chapter 7, Interpreting HCM and Alternative Tool Results?

Exhibit 6-2 provides examples of typical alternative tool applications for various situations that occur with both interrupted- and uninterrupted-flow conditions. Corridor and areawide analyses are not addressed in this exhibit. HCM procedures, which focus on points on the roadway and on linear roadway systems, tend to have limitations that are best addressed by tools that explicitly model corridors and areawide transportation systems.

Exhibit 6-2
Typical Applications for Alternative Traffic Analysis Tools

HCM Chapter	Typical Alternative Tool Application
Typical Applications in HCM Volume 2: Uninterrupted Flow	
Applicable to all uninterrupted-flow procedures	Bottlenecks Oversaturated flow analysis Time-varying demands Unbalanced lane use Special lane restrictions
10, 11: Freeway Facilities	Surface street traffic control and ramp metering
12: Basic Freeway and Multilane Highway Segments	See uninterrupted-flow situations above
13: Freeway Weaving Segments	Complex weaving areas
14: Freeway Merge and Diverge Segments	Ramp metering Managed ramp lanes
15: Two-Lane Highways	Combination of terrain and traffic characteristics such as power–weight ratios or coefficient of variation of desired speeds
Typical Applications in HCM Volume 3: Interrupted Flow	
Applicable to all interrupted-flow procedures	Oversaturated flow analysis Bus activity On-street parking Special lane use Queue spillback
16, 17: Urban Street Facilities	Multimodal system analysis
18: Urban Street Segments	Mix of signals and no signals (STOP and YIELD) Effects of midblock bottlenecks Signal timing plan development Turn bay overflow
19: Signalized Intersections	Geometrically offset intersections Alternative arrival characteristics Phase skips Pedestrian actuation Timing plan development
20: Two-Way STOP-Controlled Intersections	Two-way left turns YIELD-controlled intersection delay TWSC intersection on a signalized arterial
21: All-Way STOP-Controlled Intersections	AWSC intersection on a signalized arterial
22: Roundabouts	Roundabout on a signalized arterial Multilane roundabouts Effect of geometrics Mixed-mode traffic
23: Ramp Terminals and Alternative Intersections	Full cloverleaf interchange Backup from freeway segments Long-term (i.e., multicycle) approach blockage Diverging diamond interchanges
24: Off-Street Pedestrian and Bicycle Facilities	Explicit modeling of pedestrian crossing activity

- *Arterial and network signal-timing tools,* which produce recommended signal-timing plans based on measures that are generally similar to those produced by the HCM procedures; and
- *Microscopic simulation tools,* as described previously in this chapter.

Signal-timing tools generate signal-timing plans that can be used as inputs to HCM operational methods or to microsimulation tools.

Signal-timing tools are mostly based on macroscopic analytical models of traffic flow. Because they are the only class of urban street analysis tool that generates a signal-timing plan design, they are frequently used as an alternative tool for this purpose. The signal-timing plan may be fed into the HCM operational analysis or used as input to a microsimulation tool.

Microsimulation tools are used to deal with complex intersection interactions beyond the capabilities of the HCM.

Microsimulation tools are used in urban street analysis, mainly to deal with complex intersection phenomena beyond the capabilities of the HCM. These tools evaluate interactions between arterial segments, including the effect of various types of unsignalized intersections. They are also applied in evaluating networks and corridors with parallel facilities with the use of DTA routines.

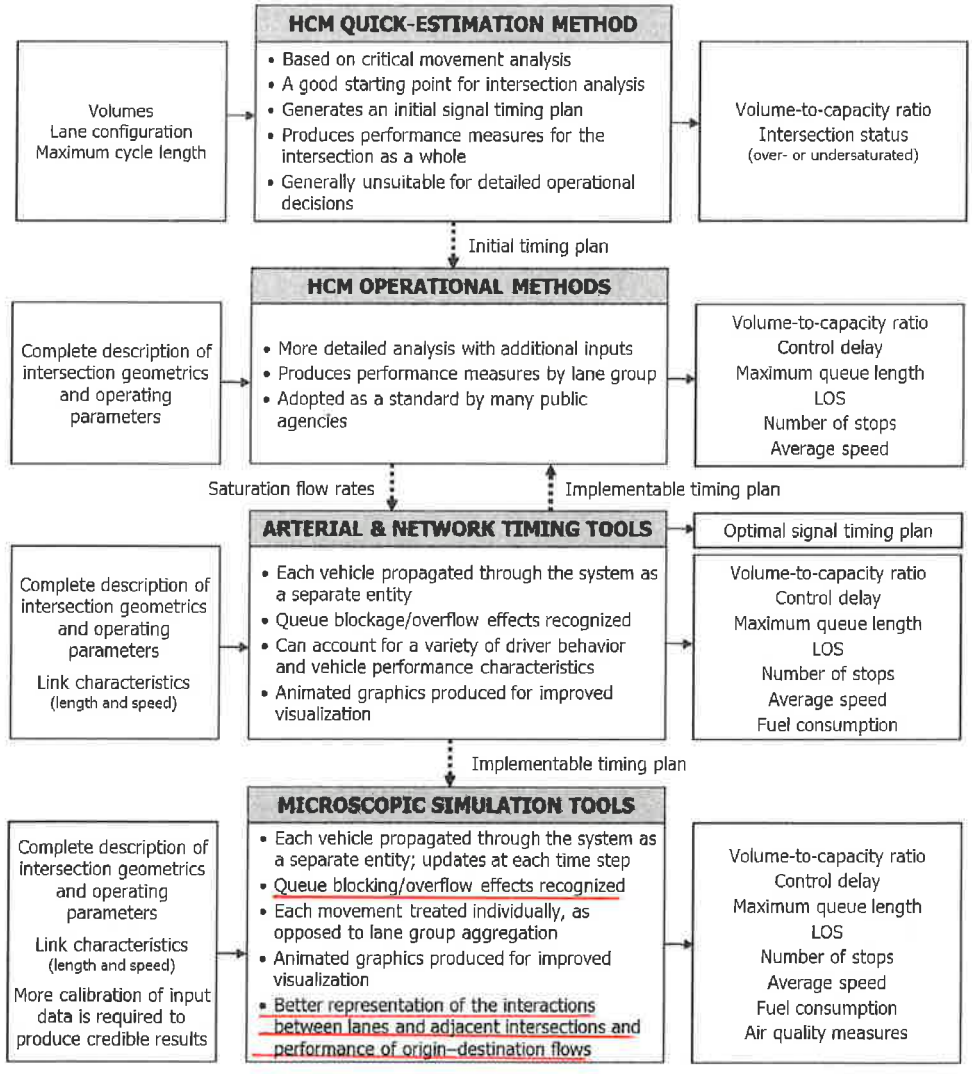


Exhibit 6-4
Urban Street Modeling Framework for the HCM and Alternative Tools

Source: *Signalized Intersections: Informational Guide* (*9*).

The framework for corridor and areawide analysis differs from the framework presented for freeways and urban streets in three ways:

1. The HCM procedures account for a much smaller part of the modeling framework.
2. Different levels of simulation modeling are represented here. Simulation of urban streets and freeways is typically performed only at the microscopic level.
3. The framework is two-dimensional, with the coverage area as one dimension and the modeling detail as the other.

The selection of a model class (microscopic, mesoscopic, or hybrid) reflects a trade-off between coverage area and modeling detail.

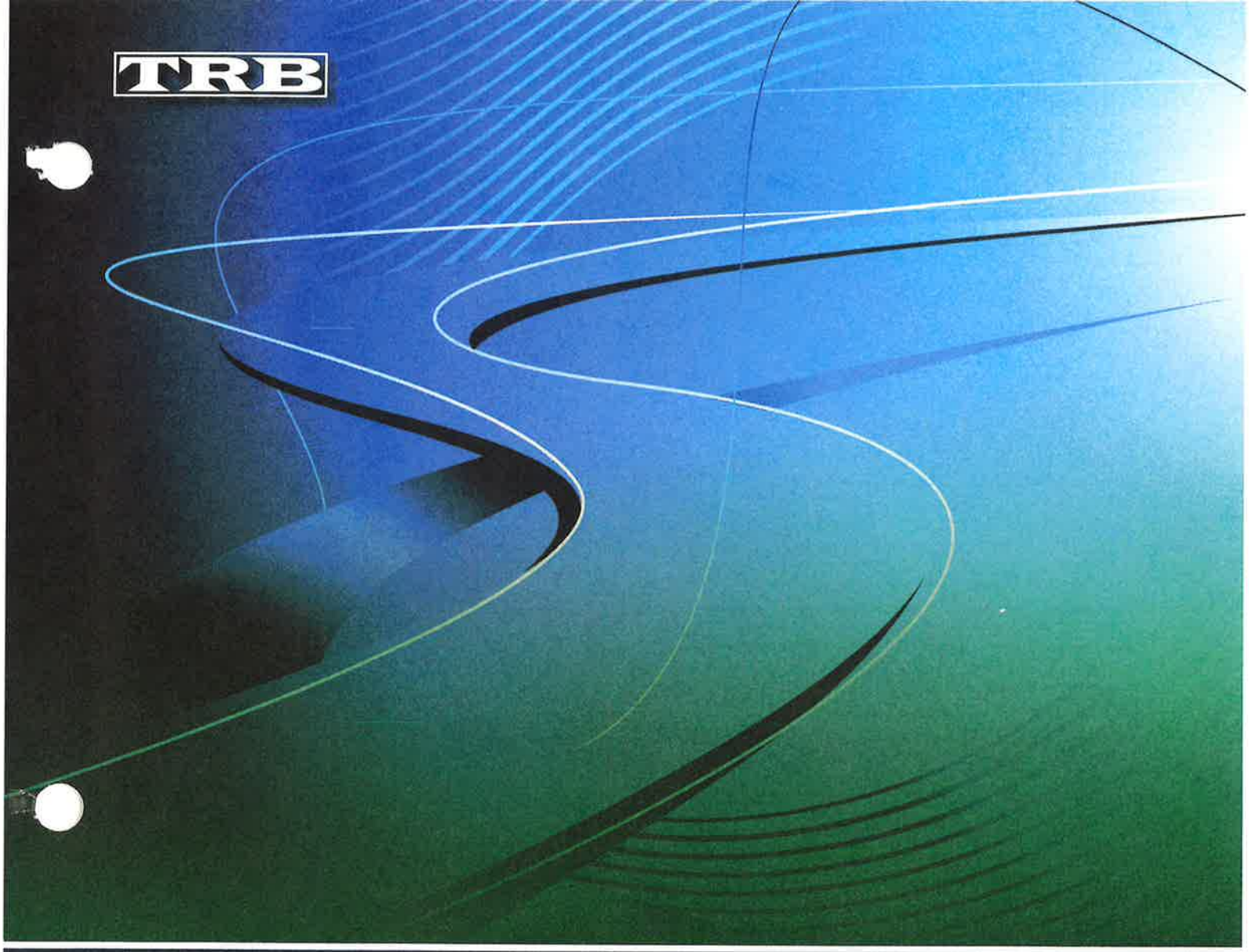
The model classes shown in Exhibit 6-5 depict the trade-off between these characteristics. The trade-off between coverage area and modeling detail is evident:

- *Microscopic simulation* provides more detail and more coverage than the HCM procedures. The additional detail comes from the microscopic nature of the model structure. The additional coverage comes from the ability to accommodate multiple links and nodes.
- *Mesoscopic simulation* provides more coverage with less modeling detail than microscopic simulation. In addition to accommodating larger areas, mesoscopic models are computationally faster than microscopic models and are thus well suited to the iterative simulations required for DTA, which can be time-consuming.
- *Hybrid modeling* uses network partitioning to treat more critical parts of the system microscopically and less critical parts mesoscopically—or even macroscopically. In this way, the regional coverage may be expanded without losing essential detail. A typical application for hybrid modeling might be interurban evacuation analysis, which must accommodate a large geographical area without loss of detail at critical intersections and interchanges.

PERFORMANCE MEASURES FROM ALTERNATIVE TOOLS

The tool selected for a given analysis needs to provide performance measures that realistically reflect the attributes of the problem being studied.

Before the analyst can select the appropriate tool, the performance measures that realistically reflect attributes of the problem under study must be identified. For example, when oversaturated conditions are studied, use of a tool that quantifies the effects of queuing as well as stops and delay is necessary. If the methodologies presented in Volumes 2 and 3 do not provide a particular performance measure of interest to the analyst (e.g., fuel consumption and emissions), an alternative tool might be required. Exhibit 6-6 provides a summary of important performance measures for the procedures discussed in Volumes 2 and 3. The applicability of the HCM procedures and alternative tools is indicated for each chapter in this exhibit.



HIGHWAY CAPACITY MANUAL

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VOLUME 3: INTERRUPTED FLOW

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If evaluation of multiple analysis periods is determined to be important, then the performance estimates for each period should be separately reported. In this situation, reporting an average performance for the study period is not encouraged because it may obscure extreme values and suggest acceptable operation when in reality some analysis periods have unacceptable operation.

Performance Measures

Performance measures applicable to the motorized vehicle travel mode include volume-to-capacity ratio, control delay, and queue storage ratio. The queue storage ratio describes the ratio of the back-of-queue size to the available vehicle storage length. The back of queue represents the maximum backward extent of queued vehicles during a typical cycle.

LOS is also considered a performance measure. It is useful for describing intersection performance to elected officials, policy makers, administrators, or the public. LOS is based on control delay.

Limitations of the Methodology

This subsection identifies the known limitations of the motorized vehicle methodology. If one or more of these limitations are believed to have an important influence on the performance of a specific street segment, then the analyst should consider using alternative methods or tools for the evaluation.

The motorized vehicle methodology does not account for the effect of the following conditions on intersection operation:

- Turn bay overflow;
- Multiple advance detectors in the same lane;
- Demand starvation due to a closely spaced upstream intersection;
- Queue spillback into the subject intersection from a downstream intersection;
- Queue spillback from the subject intersection into an upstream intersection;
- Premature phase termination due to short detection length, passage time, or both;
- Right-turn-on-red (RTOR) volume prediction or resulting right-turn delay;
- Turn movements served by more than two exclusive lanes;
- Delay to traffic movements that are not under signal control;
- Through lane (or lanes) added just upstream of the intersection or dropped just downstream of the intersection; and
- Storage of shared-lane left-turning vehicles within the intersection to permit bypass by through vehicles in the same lane.

In addition to the above conditions, the methodology does not directly account for the following controller functions:

Guidance on the Level of Effort Required to Conduct Traffic Analysis Using Microsimulation

PUBLICATION NO. FHWA-HRT-13-026

MARCH 2014

U.S. Department of Transportation
Federal Highway Administration

Research, Development, and Technology
Turner-Fairbank Highway Research Center
6300 Georgetown Pike
McLean, VA 22101-2296

ANALYSIS AND RESULTS

Development of Analysis Scenarios

Respondents indicated that analysis scenarios are developed in close coordination with project stakeholders. Scenarios are usually driven by the planning needs of the project and by the availability of resources. The types and numbers of scenarios to be modeled are usually dependent on the geometric design and operational solutions being considered.

Analysis of Different Operational Conditions

Most interviewees' agencies conduct their analyses for the typical day. Some agencies use the 30th highest hour of the year to help establish morning and afternoon average day peak period analyses. It is not standard practice to model nonrecurring congestion (e.g., incidents, weather events, fluctuations in demand, and construction activities), and there are no model calibration criteria associated with these operational conditions.

Presentation of Analysis Results

Survey responses indicated that analysis results are presented through memoranda/reports, screen shots from the simulation, and video clips. Reports usually contain summary tables and charts for network measures, graphs, and maps for location-specific LOS. Reports also contain time-space diagrams for freeway corridor queues/congestion.

Decision Development from Analysis Results

Results of the analysis (including the comparison between performance measures for different analysis scenarios) provide useful information for decisionmaking on various projects and for prioritization and staging of programmed and planned projects. Interviewees stated that decisions are made based on a collaborative process involving the project development team, the management team, local jurisdictions, and stakeholders. In general, the charge of the analysts is to provide unbiased technical information for the clients/decisionmakers to review and take appropriate action.

Funding Level Specification

Specifying funding levels for the analysis is done on a project-by-project basis, and no general guidance is available. Microsimulation is recommended for facilities with significant congestion and/or operational problems, whereas simpler tools, such as deterministic methods and macrosimulation, are recommended for less complex projects. Factors influencing the project costs include the length of the corridor, presence/inclusion of parallel streets, existing level of congestion, time period of the simulation, routing assignment used, number and types of analysis scenarios desired, availability of existing data, and comprehensiveness and internal consistency of calibration data.

Baseline Model Calibration

Calibration of the baseline model is crucial to the validity of the model to replicate existing observed conditions as well as its stability to forecast future operations. Calibration requires two steps: (1) calibration for capacity and (2) calibration for route choice. This methodology is described in *Traffic Analysis Toolbox Volume III: Guidelines for Applying Traffic Microsimulation Modeling Software*.[1] Prior to calibration, criteria must be developed for the models that are being calibrated. Model calibration targets should be set after taking into account the performance measures developed and the quality of field data. The performance measures should be measurable in terms of the field data collected and can be calculated for real-life conditions and compared to the model outputs.

Development of the Future Baseline Model

A future baseline microsimulation model (or future no-build alternative) is an essential part of the analysis process; it is the basis for comparison between alternatives. Many microsimulation models are used because the macroscopic deterministic analytical techniques do not fully capture the extent of congestion.

A common methodology for developing future demand forecasts is using a regional TDM. TDMs take into account regional growth due to land use, demographics, and socioeconomic activity. In cases where a TDM does not exist, it is acceptable to utilize a trend projection of travel demand. As with the development of the existing base-year model, the future baseline (i.e., no build) microsimulation model and future baseline subarea TDM should have zone and link/node structures that ensure correspondence between the models.

The amount of further refinement to the zonal layers within the demand and simulation models depends on the type of growth anticipated in the study area and the future no-build transportation system. The zones need to be refined if there is a large shift in land use within the study area or if transportation improvements cause a shift in land use or become barriers to access to the transportation system from certain zones. Otherwise, the future baseline scenario zones for the simulation model and the demand model can remain the same as the existing baseline zonal systems.

Alternatives Analysis

The alternatives analysis consists of the following steps:

- **Development of project alternatives for analysis:** Alternatives are usually developed by the project team and are shaped through the stakeholder involvement process.

- **Model application:** Microsimulation models operate based on randomly generated numbers, and results can often vary from model run to model run of the same scenario. Therefore, it is necessary to run each scenario multiple times with different random number seeds to determine mean, minimum, and maximum conditions. Multiple model runs are also useful in estimating the reliability of travel time associated with particular alternatives.

FEHR PEERS

John Gard, TE

Principal, Sierra Region Senior Market Leader

EDUCATION

Master of Science, Civil and Environmental Engineering
University of California, Davis, 1994

Bachelor of Science, Mathematics
University of California, Davis, 1992

EMPLOYMENT / ROLES

- Employed at Fehr & Peers since 1995.
- Currently serves as firm-wide Land Use & Transportation Discipline Group leader.

REGISTRATIONS

Traffic Engineer, California (TR 2016)

AFFILIATIONS

Institute of Transportation Engineers (ITE)

EXPERTISE

- Long-Range Transportation Planning
- Transportation Studies for EIRs
- Traffic Impact/Parking Assessments
- Traffic Engineering Studies
- Freeway/Corridor Studies
- Expert Witness

RELEVANT EXPERIENCE ON RETAIL CENTER TRAFFIC STUDIES (PARTIAL LIST)

- Costco Store, Citrus Heights
- Creekside Center, Roseville
- The Fountains, Roseville
- Sunrise Mall, Citrus Heights
- 99 Bond Retail Center, Elk Grove
- Fountains Retail, Sacramento
- Renaissance Creek, Roseville
- Target Shopping Center, Folsom
- Target Shopping Center, Roseville
- Costco Store, Folsom
- Palladio Place Shopping, Folsom
- Broadstone Power Center, Folsom
- Golden 1 Center, Sacramento
- Lincoln Crossing Marketplace, Lincoln
- Sam's Club, Citrus Heights
- Folsom Gateway Retail Center, Folsom
- Campus Oaks Retail Center, Roseville
- Highland Crossing Retail Center, Roseville

WORK EXPERIENCE IN CITY OF ROCKLIN

City of Rocklin Travel Demand Model Update and General Plan Circulation Element Update (ongoing)

Sierra College – Rocklin Campus Facilities Master Plan (FMP)

Northwest Rocklin Annexation Area (Whitney Ranch) Master Plan

Whitney Oaks Master Plan

Attachment B

Existing Conditions

Intersection 6 **Sierra College Blvd/Taylor Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	116	117	100.5%	58.1	6.1	E
	Through	667	617	92.4%	32.3	7.1	C
	Right Turn	240	228	94.9%	11.8	3.8	B
	Subtotal	1,023	961	93.9%	30.6	5.4	C
SB	Left Turn	23	20	85.0%	67.6	17.8	E
	Through	431	425	98.7%	42.4	7.9	D
	Right Turn	96	100	104.6%	12.0	3.7	B
	Subtotal	550	545	99.1%	37.5	6.8	D
EB	Left Turn	113	110	97.2%	43.6	6.2	D
	Through	265	279	105.4%	37.9	6.2	D
	Right Turn	148	146	98.8%	11.4	2.2	B
	Subtotal	526	535	101.8%	32.0	4.4	C
WB	Left Turn	266	261	98.1%	42.6	4.8	D
	Through	273	273	100.1%	32.2	2.9	C
	Right Turn	44	49	111.1%	8.0	3.0	A
	Subtotal	583	583	100.0%	34.7	2.0	C
Total		2,682	2,625	97.9%	33.3	2.5	C

Intersection 7 **Sierra College Blvd/Brace Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	919	852	92.7%	15.0	1.6	B
	Right Turn	116	112	96.9%	7.3	1.4	A
	Subtotal	1,035	964	93.2%	14.1	1.5	B
SB	Left Turn	99	98	99.1%	30.8	5.4	C
	Through	746	732	98.1%	7.6	1.3	A
	Right Turn						
	Subtotal	845	830	98.2%	10.4	2.0	B
EB	Left Turn						
	Through						
	Right Turn	142	147	103.5%	11.4	2.5	B
	Subtotal	142	147	103.5%	11.4	2.5	B
WB	Left Turn	112	105	93.3%	26.0	6.2	C
	Through						
	Right Turn	106	113	106.8%	9.7	1.7	A
	Subtotal	218	218	99.9%	17.5	3.2	B
Total		2,240	2,159	96.4%	12.9	1.1	B

Intersection 8 **Sierra College Blvd/Granite Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	218	204	93.7%	41.4	4.4	D
	Through	858	797	92.9%	17.0	2.2	B
	Right Turn	69	70	101.4%	5.7	1.9	A
	Subtotal	1,145	1,072	93.6%	20.9	2.3	C
SB	Left Turn	61	68	112.2%	40.1	5.2	D
	Through	878	847	96.4%	21.9	5.0	C
	Right Turn	80	77	95.9%	5.9	1.5	A
	Subtotal	1,019	992	97.3%	21.9	4.3	C
EB	Left Turn	167	161	96.6%	32.0	6.4	C
	Through	26	20	75.2%	29.2	8.0	C
	Right Turn	288	274	95.2%	15.8	2.7	B
	Subtotal	481	455	94.6%	22.1	3.1	C
WB	Left Turn	107	100	93.1%	34.2	6.1	C
	Through	24	21	87.7%	30.1	13.2	C
	Right Turn	33	38	116.2%	7.7	3.1	A
	Subtotal	164	159	97.0%	27.7	4.7	C
Total		2,809	2,677	95.3%	21.9	2.7	C

Intersection 9 **Sierra College Blvd/Rocklin Commons Dwy-I-80 WB Ramps** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	272	272	100.1%	34.7	4.1	C
	Through	913	867	94.9%	11.7	2.4	B
	Right Turn	262	256	97.9%	5.2	0.7	A
	Subtotal	1,447	1,395	96.4%	15.0	2.0	B
SB	Left Turn						
	Through	1,169	1,108	94.8%	27.3	4.2	C
	Right Turn	94	88	93.2%	11.4	2.4	B
	Subtotal	1,263	1,196	94.7%	26.1	4.2	C
EB	Left Turn	77	64	83.5%	35.9	4.5	D
	Through						
	Right Turn	113	129	114.5%	9.9	3.2	A
	Subtotal	190	194	101.9%	18.6	1.8	B
WB	Left Turn	456	437	95.7%	27.9	2.8	C
	Through	104	101	97.3%	35.9	4.6	D
	Right Turn	196	195	99.4%	18.8	2.4	B
	Subtotal	756	732	96.9%	26.7	1.3	C
Total		3,656	3,517	96.2%	21.4	2.1	C

Intersection 10 **Sierra College Blvd/I-80 EB Ramps-Rocklin Crossings Dwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,288	1,230	95.5%	25.8	3.4	C
	Right Turn	88	83	94.9%	10.7	2.0	B
	Subtotal	1,376	1,313	95.4%	24.8	3.4	C
SB	Left Turn	280	268	95.6%	34.5	3.2	C
	Through	770	757	98.2%	10.7	1.8	B
	Right Turn	348	336	96.5%	4.2	0.2	A
	Subtotal	1,398	1,360	97.3%	13.8	0.9	B
EB	Left Turn	389	378	97.0%	30.7	3.4	C
	Through	225	221	98.1%	31.3	5.0	C
	Right Turn	60	66	110.3%	10.2	1.8	B
	Subtotal	674	664	98.6%	28.8	3.2	C
WB	Left Turn	105	104	99.2%	35.7	4.7	D
	Through						
	Right Turn	311	290	93.3%	18.4	4.6	B
	Subtotal	416	394	94.8%	22.9	3.9	C
Total		3,864	3,732	96.6%	21.3	1.7	C

Intersection 11 **Sierra College Blvd/Schriber Wy** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,284	1,221	95.1%	2.1	0.4	A
	Right Turn	64	62	96.9%	0.7	0.6	A
	Subtotal	1,348	1,283	95.2%	2.0	0.4	A
SB	Left Turn						
	Through	935	928	99.2%	0.7	0.1	A
	Right Turn						
	Subtotal	935	928	99.2%	0.7	0.1	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn	94	92	98.4%	15.5	2.8	C
	Subtotal	94	92	98.4%	15.5	2.8	C
Total		2,377	2,303	96.9%	2.0	0.3	A

Intersection 12 **Sierra College Blvd/Dominguez Rd-Bass Pro Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	2	0	18.8%	0.6	2.0	A
	Through	1,332	1,267	95.2%	8.2	1.4	A
	Right Turn	56	50	88.6%	7.1	1.7	A
	Subtotal	1,390	1,318	94.8%	8.1	1.4	A
SB	Left Turn	26	26	98.3%	22.8	7.7	C
	Through	910	899	98.8%	1.8	0.7	A
	Right Turn	1	1	112.8%	0.0	0.0	A
	Subtotal	937	926	98.8%	2.4	0.6	A
EB	Left Turn	5	3	67.7%	11.1	16.7	B
	Through						
	Right Turn	1	1	112.8%	1.5	2.5	A
	Subtotal	6	5	75.2%	9.7	11.1	A
WB	Left Turn	75	67	89.7%	25.3	5.6	C
	Through						
	Right Turn	11	12	112.8%	10.1	5.1	B
	Subtotal	86	80	92.7%	23.1	4.8	C
Total		2,419	2,328	96.2%	6.4	1.0	A

Intersection 13 **Sierra College Blvd/Stadium Entrance Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	26	30	117.1%	27.0	7.5	C
	Through	1,182	1,114	94.2%	7.3	1.2	A
	Right Turn						
	Subtotal	1,208	1,144	94.7%	7.8	1.3	A
SB	Left Turn						
	Through	873	854	97.8%	5.5	0.7	A
	Right Turn	67	57	84.7%	3.6	1.5	A
	Subtotal	940	910	96.8%	5.4	0.7	A
EB	Left Turn	119	124	104.0%	22.8	2.6	C
	Through						
	Right Turn	74	73	98.6%	7.0	1.6	A
	Subtotal	193	197	101.9%	17.0	2.5	B
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		2,341	2,251	96.2%	7.6	0.8	A

Intersection 14 **Sierra College Blvd/Rocklin Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	307	280	91.4%	76.5	25.6	E
	Through	902	873	96.8%	72.3	28.6	E
	Right Turn	43	46	106.7%	71.2	30.0	E
	Subtotal	1,252	1,200	95.8%	73.3	27.5	E
SB	Left Turn	143	132	92.3%	56.9	13.5	E
	Through	658	637	96.7%	35.7	4.9	D
	Right Turn	161	166	103.2%	8.3	1.6	A
	Subtotal	962	935	97.2%	33.8	3.8	C
EB	Left Turn	224	221	98.5%	57.2	15.0	E
	Through	301	287	95.4%	32.5	11.5	C
	Right Turn	343	344	100.4%	11.6	3.3	B
	Subtotal	868	852	98.2%	30.5	7.5	C
WB	Left Turn	51	55	106.9%	65.4	21.4	E
	Through	221	217	98.0%	47.7	15.2	D
	Right Turn	130	120	92.3%	28.0	20.4	C
	Subtotal	402	391	97.3%	44.1	16.8	D
Total		3,484	3,378	97.0%	48.2	13.3	D

Intersection 21 **Sierra College Blvd/Office Dwy** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	5	5	105.3%	4.8	4.9	A
	Through	1,035	962	92.9%	2.7	0.5	A
	Right Turn						
	Subtotal	1,040	967	93.0%	2.7	0.5	A
SB	Left Turn						
	Through	999	979	98.0%	1.5	0.3	A
	Right Turn	2	3	131.6%	0.7	1.0	A
	Subtotal	1,001	981	98.0%	1.5	0.3	A
EB	Left Turn						
	Through						
	Right Turn	20	19	95.9%	5.9	3.0	A
	Subtotal	20	19	95.9%	5.9	3.0	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		2,061	1,968	95.5%	2.2	0.2	A

Intersection 6 **Sierra College Blvd/Taylor Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	123	108	87.7%	42.6	5.4	D
	Through	311	300	96.6%	20.0	5.3	B
	Right Turn	214	209	97.8%	7.4	2.4	A
	Subtotal	648	617	95.3%	19.7	2.9	B
SB	Left Turn	29	29	100.6%	49.8	15.6	D
	Through	337	330	97.9%	25.2	3.7	C
	Right Turn	59	56	95.0%	5.6	1.8	A
	Subtotal	425	415	97.7%	24.3	3.6	C
EB	Left Turn	70	62	88.9%	42.6	5.6	D
	Through	195	201	103.0%	34.8	5.5	C
	Right Turn	120	104	86.7%	8.1	2.7	A
	Subtotal	385	367	95.4%	28.9	3.8	C
WB	Left Turn	222	217	97.6%	34.8	2.9	C
	Through	168	190	112.9%	23.5	5.6	C
	Right Turn	24	29	121.6%	4.7	2.0	A
	Subtotal	414	435	105.2%	27.8	2.1	C
Total		1,872	1,835	98.0%	24.5	2.3	C

Intersection 7 **Sierra College Blvd/Brace Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	582	563	96.8%	6.6	0.8	A
	Right Turn	89	86	97.1%	4.2	1.4	A
	Subtotal	671	650	96.8%	6.3	0.9	A
SB	Left Turn	76	63	82.4%	24.3	8.2	C
	Through	602	586	97.3%	5.3	0.7	A
	Right Turn						
	Subtotal	678	649	95.7%	7.3	1.1	A
EB	Left Turn						
	Through						
	Right Turn	69	66	95.2%	7.3	1.4	A
	Subtotal	69	66	95.2%	7.3	1.4	A
WB	Left Turn	113	114	100.9%	18.7	2.4	B
	Through						
	Right Turn	55	48	87.3%	6.4	1.4	A
	Subtotal	168	162	96.5%	15.0	1.5	B
Total		1,586	1,526	96.2%	7.7	0.8	A

Intersection 8 **Sierra College Blvd/Granite Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	198	192	96.8%	28.0	4.4	C
	Through	490	467	95.4%	12.7	1.6	B
	Right Turn	98	90	91.7%	4.1	1.2	A
	Subtotal	786	749	95.3%	15.7	2.0	B
SB	Left Turn	64	70	109.2%	31.5	6.8	C
	Through	621	590	95.0%	16.5	3.2	B
	Right Turn	99	100	100.8%	4.5	1.0	A
	Subtotal	784	760	96.9%	16.3	2.6	B
EB	Left Turn	117	114	97.5%	26.1	3.4	C
	Through	23	22	96.8%	34.9	10.8	C
	Right Turn	204	219	107.3%	9.7	2.3	A
	Subtotal	344	355	103.3%	16.5	2.1	B
WB	Left Turn	118	127	108.0%	27.9	4.6	C
	Through	24	23	94.4%	26.7	7.3	C
	Right Turn	23	28	123.5%	5.7	2.2	A
	Subtotal	165	179	108.2%	24.5	5.3	C
Total		2,079	2,042	98.2%	16.8	1.9	B

Intersection 9 **Sierra College Blvd/Rocklin Commons Dwy-I-80 WB Ramps** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	340	351	103.1%	39.6	7.7	D
	Through	558	535	95.9%	12.5	2.7	B
	Right Turn	245	263	107.5%	6.2	1.2	A
	Subtotal	1,143	1,149	100.5%	19.4	3.8	B
SB	Left Turn						
	Through	880	859	97.6%	32.8	6.4	C
	Right Turn	82	78	94.6%	10.2	1.5	B
	Subtotal	962	937	97.4%	31.0	6.2	C
EB	Left Turn	80	78	97.4%	40.2	6.4	D
	Through						
	Right Turn	290	296	102.0%	11.5	2.4	B
	Subtotal	370	374	101.0%	17.6	2.6	B
WB	Left Turn	407	402	98.9%	27.1	3.9	C
	Through	149	164	110.3%	36.7	4.1	D
	Right Turn	169	170	100.9%	19.6	3.9	B
	Subtotal	725	737	101.7%	27.5	3.3	C
Total		3,200	3,196	99.9%	24.4	3.6	C

Intersection 10 **Sierra College Blvd/I-80 EB Ramps-Rocklin Crossings Dwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	683	694	101.5%	24.5	2.4	C
	Right Turn	90	105	116.5%	10.0	2.0	A
	Subtotal	773	798	103.3%	22.5	2.3	C
SB	Left Turn	432	422	97.6%	29.1	5.3	C
	Through	494	457	92.4%	10.5	1.8	B
	Right Turn	219	222	101.3%	3.9	0.2	A
	Subtotal	1,145	1,100	96.1%	16.3	2.4	B
EB	Left Turn	373	370	99.1%	24.6	3.4	C
	Through	281	309	110.0%	25.9	2.7	C
	Right Turn	50	52	104.4%	6.6	1.7	A
	Subtotal	704	731	103.9%	23.8	1.8	C
WB	Left Turn	107	106	99.4%	25.9	5.3	C
	Through						
	Right Turn	335	319	95.4%	10.6	2.3	B
	Subtotal	442	426	96.3%	14.5	2.2	B
Total		3,064	3,055	99.7%	19.5	1.5	B

Intersection 11 **Sierra College Blvd/Schriber Wy** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	669	692	103.4%	1.5	0.1	A
	Right Turn	72	68	93.9%	0.3	0.1	A
	Subtotal	741	759	102.5%	1.4	0.1	A
SB	Left Turn						
	Through	651	614	94.3%	0.5	0.1	A
	Right Turn						
	Subtotal	651	614	94.3%	0.5	0.1	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn	106	105	98.9%	7.5	2.4	A
	Subtotal	106	105	98.9%	7.5	2.4	A
Total		1,498	1,478	98.7%	1.4	0.2	A

Intersection 12 **Sierra College Blvd/Dominguez Rd-Bass Pro Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	1	0	38.4%	0.7	2.1	A
	Through	720	733	101.8%	5.9	0.5	A
	Right Turn	77	84	109.7%	3.4	0.6	A
	Subtotal	798	818	102.4%	5.7	0.5	A
SB	Left Turn	31	38	121.4%	18.3	4.9	B
	Through	614	576	93.9%	1.5	0.5	A
	Right Turn	5	5	92.2%	0.2	0.5	A
	Subtotal	650	619	95.2%	2.5	0.6	A
EB	Left Turn	3	2	51.2%	7.7	11.5	A
	Through						
	Right Turn	3	3	115.2%	3.6	3.8	A
	Subtotal	6	5	83.2%	8.3	7.6	A
WB	Left Turn	70	65	92.7%	17.6	4.2	B
	Through	1	0	38.4%	3.7	11.7	A
	Right Turn	18	23	125.9%	6.0	1.7	A
	Subtotal	89	88	98.8%	14.7	3.6	B
Total		1,543	1,529	99.1%	4.9	0.5	A

Intersection 13 **Sierra College Blvd/Stadium Entrance Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	15	10	66.6%	9.2	6.2	A
	Through	761	786	103.3%	2.9	0.8	A
	Right Turn						
	Subtotal	776	796	102.6%	3.0	0.8	A
SB	Left Turn						
	Through	660	627	95.0%	2.2	0.6	A
	Right Turn	27	23	86.8%	1.2	1.1	A
	Subtotal	687	650	94.7%	2.2	0.6	A
EB	Left Turn	37	31	84.1%	10.7	3.5	B
	Through						
	Right Turn	20	16	78.7%	4.3	1.9	A
	Subtotal	57	47	82.2%	8.7	2.8	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,520	1,493	98.2%	2.8	0.6	A

Intersection 14 **Sierra College Blvd/Rocklin Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	165	156	94.3%	41.8	5.1	D
	Through	544	566	104.0%	24.0	3.3	C
	Right Turn	29	27	92.7%	16.4	8.9	B
	Subtotal	738	748	101.4%	27.4	3.1	C
SB	Left Turn	103	92	89.5%	40.4	11.6	D
	Through	452	409	90.4%	21.3	2.2	C
	Right Turn	90	89	98.6%	4.3	1.2	A
	Subtotal	645	589	91.4%	21.9	2.3	C
EB	Left Turn	125	126	100.5%	40.4	8.9	D
	Through	184	200	108.5%	25.9	3.2	C
	Right Turn	185	191	103.4%	5.2	0.8	A
	Subtotal	494	516	104.6%	21.8	3.5	C
WB	Left Turn	40	33	82.6%	46.4	17.5	D
	Through	158	149	94.5%	33.1	2.5	C
	Right Turn	112	113	101.1%	11.2	1.9	B
	Subtotal	310	296	95.4%	26.0	1.9	C
Total		2,187	2,150	98.3%	24.4	2.3	C

Intersection 21 **Sierra College Blvd/Office Dwy** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	7	4	60.3%	3.1	4.7	A
	Through	671	649	96.7%	1.0	0.2	A
	Right Turn						
	Subtotal	678	653	96.3%	1.0	0.2	A
SB	Left Turn						
	Through	784	764	97.5%	1.1	0.2	A
	Right Turn						
	Subtotal	784	764	97.5%	1.1	0.2	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,462	1,417	96.9%	1.0	0.1	A

Intersection 6 **Sierra College Blvd/Taylor Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	175	100	18	175	61	200	83	0%	0%
	Through	4,650	200	29	300	51	325	64	20%	0%
	Right Turn	200	100	24	200	89	225	113	0%	0%
NB	Left Turn	225	150	29	300	52	275	37	0%	0%
	Through	575	425	72	525	90	525	72	24%	1%
	Right Turn	575	125	18	175	36	175	38	0%	0%
SB	Left Turn	200	50	13	100	55	100	82	0%	0%
	Through	4,975	300	50	400	76	425	74	25%	0%
	Right Turn	375	75	12	125	28	125	33	0%	0%
WB	Left Turn	225	175	18	250	42	275	54	2%	0%
	Through	4,850	175	22	275	49	300	62	5%	0%
	Right Turn	225	50	16	75	51	75	71	0%	0%

Intersection 7 **Sierra College Blvd/Brace Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Right Turn	875	75	11	100	22	100	21	0%	0%
NB	Through	1,275	250	23	300	29	325	23	1%	0%
	Through/Right	1,275	125	15	225	40	225	58	0%	0%
SB	Left Turn	175	75	17	125	27	125	26	0%	0%
	Through	575	75	17	150	32	150	39	0%	0%
	Through/Right	575	100	15	150	27	150	29	0%	0%
WB	Left Turn	100	75	17	125	24	125	23	4%	0%
	Right Turn	5,000	75	8	100	24	125	36	0%	0%

Intersection 8 **Sierra College Blvd/Granite Dr** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	200	125	16	175	23	175	28	1%	0%
	Through	2,575	25	8	50	14	75	59	0%	0%
	Right Turn	2,575	100	13	150	34	150	33	0%	0%
NB	Left Turn	175	150	23	225	27	200	20	4%	0%
	Through	400	225	37	325	68	325	60	6%	0%
	Right Turn	400	75	14	150	61	175	77	0%	0%
SB	Left Turn	300	75	15	125	26	125	33	0%	0%
	Through	1,275	225	49	350	81	325	82	15%	0%
	Right Turn	200	50	30	150	99	150	125	0%	0%
WB	Left Turn	175	75	11	125	20	125	24	0%	0%
	Through	225	25	8	50	15	50	16	0%	0%
	Right Turn	175	25	7	50	13	50	17	0%	0%

Intersection 9 **Sierra College Blvd/Rocklin Commons Dwy-I-80 WB Ramps** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	750	50	9	100	15	100	20	0%	0%
	Right Turn	750	50	10	100	26	125	38	0%	0%
NB	Left Turn	150	175	12	250	22	250	19	0%	10%
	Through	1,500	175	19	225	40	225	38	0%	0%
	Right Turn	300	50	10	75	13	75	19	0%	0%
SB	Through	400	225	26	350	40	325	39	0%	0%
	Right Turn	150	50	5	75	10	75	11	0%	0%
WB	Left Turn	750	150	30	225	46	225	54	1%	0%
	Through/Right	1,300	125	16	200	29	175	31	2%	0%
	Right Turn	200	50	24	125	51	150	46	0%	0%

Intersection 10 **Sierra College Blvd/I-80 EB Ramps-Rocklin Crossings Dwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Std. Dev.	95th Queue (ft) Average	Std. Dev.	Maximum Queue (ft) Average	Std. Dev.	Block Time Pocket	Upstream
EB	Left Turn	375	175	32	250	67	275	69	0%	0%
	Through	1,300	75	13	150	20	150	27	0%	0%
	Right Turn	225	50	5	75	13	75	21	0%	0%
NB	Through	725	250	36	325	59	375	66	0%	0%
	Right Turn	125	25	4	50	14	50	17	0%	0%
SB	Left Turn	225	125	13	175	36	175	35	0%	0%
	Through	1,500	150	17	225	41	200	49	0%	0%
	Right Turn	475	25	0	25	0	25	0	0%	0%
WB	Left Turn	375	75	15	125	29	150	34	0%	0%
	Right Turn	500	125	25	200	40	200	44	0%	0%

Intersection 11 **Sierra College Blvd/Schriber Wy** **Side-street Stop**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Std. Dev.	95th Queue (ft) Average	Std. Dev.	Maximum Queue (ft) Average	Std. Dev.	Block Time Pocket	Upstream
NB	Through/Right	200	25	6	50	24	75	57	0%	0%
WB	Right Turn	575	50	9	100	22	100	30	0%	0%
SB	Through	200	25	0	25	0	25	0	0%	0%
0										

Intersection 12 **Sierra College Blvd/Dominguez Rd-Bass Pro Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	200	25	4	25	13	25	14	0%	0%
	Through/Right	375	25	1	25	8	25	11	0%	0%
NB	Left Turn	100	25	0	25	2	25	3	0%	0%
	Through	1,700	100	55	250	122	300	121	11%	0%
	Right Turn	75	25	8	75	21	75	19	0%	0%
SB	Left Turn	225	25	14	50	22	50	26	0%	0%
	Through	625	50	13	100	31	100	32	0%	0%
	Right Turn	200	25	0	25	0	25	0	0%	0%
WB	Left Turn	250	50	10	100	19	100	25	0%	0%
	Through	750	25	0	25	0	25	0	0%	0%
	Right Turn	175	25	6	50	13	50	10	0%	0%

Intersection 13 **Sierra College Blvd/Stadium Entrance Dr** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	400	75	11	125	21	125	22	13%	0%
	Right Turn	100	50	7	75	22	75	28	0%	0%
NB	Left Turn	225	50	13	75	23	75	28	0%	0%
	Through	1,600	100	24	150	50	150	50	0%	0%
SB	Through	1,700	50	11	100	20	100	29	0%	0%
	Through/Right	725	75	14	125	24	125	31	0%	0%
0										

Intersection 14 **Sierra College Blvd/Rocklin Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	225	200	13	300	33	275	21	10%	0%
	Through	950	150	66	250	151	275	139	0%	0%
	Right Turn	950	125	26	175	54	200	55	0%	0%
NB	Left Turn	225	250	24	350	45	300	37	5%	0%
	Through	1,650	475	167	700	219	675	188	33%	2%
	Through/Right	1,650	525	157	725	207	700	164	0%	3%
SB	Left Turn	250	125	21	225	38	225	47	2%	0%
	Through	1,700	150	20	225	26	225	34	7%	0%
	Right Turn	175	50	11	100	25	100	29	0%	0%
WB	Left Turn	225	75	24	125	55	125	73	0%	0%
	Through	5,000	175	66	275	175	275	199	3%	0%
	Through/Right	250	125	34	200	62	200	53	2%	0%

Intersection 21 **Sierra College Blvd/Office Dwy** **Side-street Stop**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Right Turn	525	25	6	50	6	50	8	0%	0%
NB	Left Turn	125	25	5	25	17	25	17	0%	0%
	Through	400	25	9	75	39	100	53	1%	0%
SB	Through	275	25	0	25	0	25	0	0%	0%
	Through/Right	275	25	0	25	0	25	0	0%	0%
0										

Intersection 6 **Sierra College Blvd/Taylor Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	175	50	8	100	19	100	15	0%	0%
	Through	4,650	150	25	225	58	225	52	9%	0%
	Right Turn	200	50	9	100	32	100	33	0%	0%
NB	Left Turn	225	100	22	150	51	150	61	0%	0%
	Through	575	125	33	200	54	200	72	1%	1%
	Right Turn	575	50	15	100	30	100	33	0%	0%
SB	Left Turn	200	50	11	75	21	75	24	0%	0%
	Through	4,975	150	14	250	36	250	37	4%	2%
	Right Turn	375	25	7	50	12	50	11	0%	0%
WB	Left Turn	225	125	21	175	39	175	44	1%	0%
	Through	4,850	100	18	175	30	175	22	0%	0%
	Right Turn	225	25	9	50	12	50	16	0%	0%

Intersection 7 **Sierra College Blvd/Brace Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Right Turn	875	50	3	75	8	75	6	0%	0%
NB	Through	1,275	75	21	150	48	150	49	0%	0%
	Through/Right	1,275	75	13	125	31	125	35	0%	0%
SB	Left Turn	175	50	14	100	36	100	46	0%	0%
	Through	575	50	9	75	18	75	23	0%	0%
	Through/Right	575	75	17	125	38	125	36	0%	0%
WB	Left Turn	100	75	10	100	16	100	16	1%	0%
	Right Turn	1,000	50	5	75	12	75	20	0%	0%

Intersection 8 **Sierra College Blvd/Granite Dr** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	200	75	12	125	21	125	23	0%	0%
	Through	2,575	25	8	50	14	50	14	0%	0%
	Right Turn	2,575	75	15	100	32	100	35	0%	0%
NB	Left Turn	175	125	23	175	40	175	37	1%	0%
	Through	400	125	18	200	41	200	43	1%	0%
	Right Turn	400	25	9	50	36	75	48	0%	0%
SB	Left Turn	300	75	13	100	22	125	25	0%	0%
	Through	1,275	150	20	225	47	225	59	2%	0%
	Right Turn	200	50	13	75	55	100	77	0%	0%
WB	Left Turn	175	75	10	100	11	100	7	27%	0%
	Through	350	50	16	125	38	150	60	2%	0%
	Right Turn	175	25	8	50	14	50	16	0%	0%

Intersection 9 **Sierra College Blvd/Rocklin Commons Dwy-I-80 WB Ramps** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	750	75	9	100	17	125	19	0%	0%
	Right Turn	750	100	24	150	34	150	47	0%	0%
NB	Left Turn	150	200	24	275	19	250	9	0%	25%
	Through	1,500	125	29	225	49	225	53	0%	0%
	Right Turn	300	50	8	100	11	100	12	0%	0%
SB	Through	400	200	28	275	39	275	42	0%	0%
	Right Turn	150	100	9	125	22	125	27	0%	0%
WB	Left Turn	750	125	26	175	45	175	49	0%	0%
	Through/Right	1,300	200	28	275	59	275	56	4%	0%
	Right Turn	200	75	27	175	55	175	55	0%	0%

Intersection 10 **Sierra College Blvd/I-80 EB Ramps-Rocklin Crossings Dwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	375	125	19	200	30	200	38	0%	0%
	Through	1,000	100	13	150	25	150	30	0%	0%
	Right Turn	225	50	6	75	10	50	13	0%	0%
NB	Through	725	200	19	225	38	250	39	0%	0%
	Right Turn	125	25	9	75	16	75	21	0%	0%
SB	Left Turn	225	150	19	200	29	200	31	0%	0%
	Through	1,500	100	26	150	49	150	58	0%	0%
	Right Turn	475	25	0	25	0	25	0	0%	0%
WB	Left Turn	375	75	14	125	28	125	29	0%	0%
	Right Turn	500	100	17	175	29	175	29	0%	0%

Intersection 11 **Sierra College Blvd/Schriber Wy** **Side-street Stop**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
NB	Through/Right	200	25	3	25	16	25	24	0%	0%
WB	Right Turn	575	50	8	75	19	100	27	0%	0%
SB	Through	200	25	0	25	0	25	0	0%	0%
0										

Intersection 12 **Sierra College Blvd/Dominguez Rd-Bass Pro Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	200	25	3	25	10	25	14	0%	0%
	Through/Right	375	25	3	25	10	25	11	0%	0%
NB	Left Turn	100	25	1	25	4	25	6	0%	0%
	Through	1,700	75	12	100	47	100	61	4%	0%
	Right Turn	75	25	12	75	20	75	7	0%	0%
SB	Left Turn	225	50	7	75	11	75	18	0%	0%
	Through	625	25	9	75	25	75	32	0%	0%
	Right Turn	200	25	1	25	6	25	8	0%	0%
WB	Left Turn	250	50	8	75	11	75	14	0%	0%
	Through	750	25	2	25	7	25	9	0%	0%
	Right Turn	175	25	7	50	8	50	7	0%	0%

Intersection 13 **Sierra College Blvd/Stadium Entrance Dr** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	400	25	11	50	26	50	25	1%	0%
	Right Turn	100	25	6	50	8	50	6	0%	0%
NB	Left Turn	225	25	7	25	15	50	16	0%	0%
	Through	1,600	50	11	100	25	100	30	0%	0%
SB	Through	1,700	25	7	50	16	50	18	0%	0%
	Through/Right	725	25	12	75	31	75	37	0%	0%
0										

Intersection 14 **Sierra College Blvd/Rocklin Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	225	100	15	150	25	150	18	0%	0%
	Through	950	75	12	150	33	150	44	0%	0%
	Right Turn	950	75	8	100	17	100	20	0%	0%
NB	Left Turn	225	100	20	150	34	150	46	0%	0%
	Through	1,650	125	25	175	50	175	45	0%	0%
	Through/Right	1,650	150	27	250	36	225	39	0%	0%
SB	Left Turn	250	75	25	150	51	150	47	0%	0%
	Through	1,700	75	10	125	23	125	27	0%	0%
	Right Turn	175	25	8	50	19	50	23	0%	0%
WB	Left Turn	225	50	12	75	14	75	11	0%	0%
	Through	5,000	100	12	150	28	150	31	0%	0%
	Through/Right	250	75	8	125	19	125	20	0%	0%

Intersection 21 **Sierra College Blvd/Office Dwy** **Side-street Stop**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
NB	Left Turn	125	25	4	25	15	25	16	0%	0%
	Through	125	25	0	25	0	25	0	0%	0%
SB	Through	275	25	0	25	0	25	0	0%	0%
	Through/Right	275	25	0	25	0	25	0	0%	0%
EB	Right Turn	575	25	0	25	0	25	0	0%	0%
0										

Existing Plus Project Conditions

Intersection 6 **Sierra College Blvd/Taylor Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	137	120	87.8%	67.3	7.4	E
	Through	687	638	92.9%	37.1	7.6	D
	Right Turn	264	271	102.5%	15.4	3.9	B
	Subtotal	1,088	1,029	94.6%	35.0	6.2	C
SB	Left Turn	23	27	117.7%	63.5	24.7	E
	Through	450	437	97.0%	46.0	14.6	D
	Right Turn	96	101	105.4%	15.5	8.0	B
	Subtotal	569	565	99.3%	41.4	14.1	D
EB	Left Turn	113	120	106.5%	51.6	6.5	D
	Through	265	270	102.0%	44.1	5.8	D
	Right Turn	168	169	100.5%	14.1	4.4	B
	Subtotal	546	559	102.5%	36.8	5.5	D
WB	Left Turn	290	286	98.7%	47.1	8.2	D
	Through	273	260	95.3%	33.5	3.5	C
	Right Turn	44	50	112.8%	12.5	4.8	B
	Subtotal	607	596	98.2%	38.3	4.9	D
Total		2,810	2,750	97.9%	37.6	4.5	D

Intersection 7 **Sierra College Blvd/Brace Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	981	939	95.7%	23.3	5.2	C
	Right Turn	116	109	94.3%	11.4	2.5	B
	Subtotal	1,097	1,049	95.6%	22.0	4.8	C
SB	Left Turn	106	105	99.3%	34.8	9.2	C
	Through	802	773	96.3%	10.4	5.2	B
	Right Turn						
	Subtotal	908	878	96.7%	13.4	5.0	B
EB	Left Turn						
	Through						
	Right Turn	142	141	99.3%	13.1	5.2	B
	Subtotal	142	141	99.3%	13.1	5.2	B
WB	Left Turn	112	103	92.0%	29.3	10.8	C
	Through						
	Right Turn	109	105	95.9%	10.9	3.8	B
	Subtotal	221	208	93.9%	20.4	7.0	C
Total		2,368	2,275	96.1%	18.0	4.4	B

Intersection 8 **Sierra College Blvd/Granite Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	218	214	98.3%	77.3	11.2	E
	Through	1,143	1,136	99.3%	26.7	6.0	C
	Right Turn	69	67	96.5%	13.3	5.1	B
	Subtotal	1,430	1,416	99.0%	33.7	5.8	C
SB	Left Turn	61	61	99.2%	71.6	17.7	E
	Through	1,179	1,096	92.9%	57.1	17.1	E
	Right Turn	89	65	73.5%	37.6	12.1	D
	Subtotal	1,329	1,222	91.9%	56.7	16.7	E
EB	Left Turn	176	178	101.1%	67.8	25.1	E
	Through	26	23	88.2%	53.5	22.0	D
	Right Turn	288	276	96.0%	31.5	9.0	C
	Subtotal	490	477	97.4%	45.8	12.1	D
WB	Left Turn	107	94	88.2%	66.2	23.0	E
	Through	24	23	97.1%	50.1	12.2	D
	Right Turn	33	38	115.1%	10.8	5.7	B
	Subtotal	164	156	94.9%	49.9	12.9	D
Total		3,413	3,271	95.8%	44.7	9.8	D

Intersection 9 **Sierra College Blvd/Rocklin Commons Dwy-I-80 WB Ramps** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	272	268	98.6%	43.5	5.9	D
	Through	1,046	1,048	100.2%	17.3	3.1	B
	Right Turn	262	241	92.1%	6.5	1.1	A
	Subtotal	1,580	1,557	98.6%	20.1	3.1	C
SB	Left Turn						
	Through	1,470	1,379	93.8%	49.5	10.5	D
	Right Turn	94	80	85.6%	25.8	8.5	C
	Subtotal	1,564	1,460	93.3%	48.2	10.5	D
EB	Left Turn	77	69	89.8%	50.0	11.7	D
	Through						
	Right Turn	113	116	102.5%	14.1	4.3	B
	Subtotal	190	185	97.4%	27.3	4.6	C
WB	Left Turn	456	461	101.2%	33.4	2.7	C
	Through	104	100	95.8%	47.3	11.0	D
	Right Turn	348	333	95.7%	29.2	6.2	C
	Subtotal	908	894	98.5%	33.5	4.1	C
Total		4,242	4,096	96.6%	33.3	5.2	C

Intersection 10 **Sierra College Blvd/I-80 EB Ramps-Rocklin Crossings Dwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,317	1,217	92.4%	32.1	3.7	C
	Right Turn	88	86	98.3%	12.3	2.3	B
	Subtotal	1,405	1,303	92.8%	30.8	3.6	C
SB	Left Turn	280	264	94.3%	43.5	8.1	D
	Through	800	740	92.5%	15.2	3.7	B
	Right Turn	509	497	97.6%	4.8	0.2	A
	Subtotal	1,589	1,501	94.5%	16.9	2.7	B
EB	Left Turn	493	508	103.0%	29.4	1.8	C
	Through	225	240	106.8%	29.5	4.0	C
	Right Turn	60	53	88.4%	9.7	2.8	A
	Subtotal	778	801	103.0%	28.1	2.1	C
WB	Left Turn	105	100	95.6%	37.9	6.6	D
	Through						
	Right Turn	311	301	96.8%	21.8	5.8	C
	Subtotal	416	402	96.5%	25.9	4.1	C
Total		4,188	4,007	95.7%	24.6	1.8	C

Intersection 11 **Sierra College Blvd/Schriber Wy** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,313	1,259	95.9%	2.4	0.7	A
	Right Turn	64	64	100.5%	0.9	0.6	A
	Subtotal	1,377	1,323	96.1%	2.4	0.7	A
SB	Left Turn						
	Through	965	898	93.0%	0.8	0.1	A
	Right Turn						
	Subtotal	965	898	93.0%	0.8	0.1	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn	94	90	95.6%	20.8	15.9	C
	Subtotal	94	90	95.6%	20.8	15.9	C
Total		2,436	2,311	94.8%	2.5	0.9	A

Intersection 12 **Sierra College Blvd/Dominguez Rd-Bass Pro Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	2	0	18.8%	0.8	2.6	A
	Through	1,361	1,307	96.1%	10.5	1.7	B
	Right Turn	56	51	90.6%	9.3	2.3	A
	Subtotal	1,419	1,358	95.7%	10.5	1.7	B
SB	Left Turn	26	25	96.9%	35.4	15.3	D
	Through	940	883	94.0%	2.6	1.2	A
	Right Turn	1	2	150.4%	0.1	0.2	A
	Subtotal	967	910	94.1%	3.5	1.0	A
EB	Left Turn	5	4	82.7%	11.7	16.4	B
	Through						
	Right Turn	1	1	75.2%	1.1	2.4	A
	Subtotal	6	5	81.5%	12.7	15.8	B
WB	Left Turn	75	81	107.8%	28.3	3.5	C
	Through						
	Right Turn	11	14	123.1%	7.4	4.3	A
	Subtotal	86	94	109.7%	25.3	2.6	C
Total		2,478	2,368	95.5%	8.4	1.2	A

Intersection 13 **Sierra College Blvd/Stadium Entrance Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	26	23	88.2%	30.8	13.0	C
	Through	1,211	1,182	97.6%	7.0	0.8	A
	Right Turn						
	Subtotal	1,237	1,205	97.4%	7.4	0.8	A
SB	Left Turn						
	Through	903	851	94.2%	5.0	0.8	A
	Right Turn	67	67	99.9%	3.9	1.7	A
	Subtotal	970	917	94.6%	4.9	0.8	A
EB	Left Turn	119	107	89.7%	22.7	4.2	C
	Through						
	Right Turn	74	71	96.0%	6.8	1.0	A
	Subtotal	193	178	92.1%	16.3	3.4	B
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		2,400	2,300	95.8%	7.1	0.8	A

Intersection 14 **Sierra College Blvd/Rocklin Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	307	288	93.8%	90.5	21.4	F
	Through	921	867	94.1%	69.0	18.0	E
	Right Turn	43	44	102.3%	69.1	17.0	E
	Subtotal	1,271	1,199	94.3%	74.2	17.5	E
SB	Left Turn	147	129	87.5%	59.7	8.3	E
	Through	678	622	91.7%	38.4	4.5	D
	Right Turn	167	162	96.8%	8.9	2.7	A
	Subtotal	992	912	91.9%	36.1	3.8	D
EB	Left Turn	230	241	105.0%	53.7	6.1	D
	Through	301	293	97.3%	28.5	3.6	C
	Right Turn	343	344	100.4%	10.5	2.5	B
	Subtotal	874	879	100.5%	28.5	3.2	C
WB	Left Turn	51	47	92.9%	62.6	18.7	E
	Through	221	213	96.3%	45.7	7.9	D
	Right Turn	134	137	102.4%	23.4	4.7	C
	Subtotal	406	397	97.9%	39.8	6.2	D
Total		3,543	3,387	95.6%	48.1	5.2	D

Intersection 21 **Sierra College Blvd/Office Dwy** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	5	7	142.9%	11.2	5.7	B
	Through	1,097	1,060	96.6%	8.2	2.5	A
	Right Turn						
	Subtotal	1,102	1,067	96.8%	8.2	2.5	A
SB	Left Turn						
	Through	1,055	1,007	95.4%	5.2	4.8	A
	Right Turn	2	2	75.2%	0.3	0.5	A
	Subtotal	1,057	1,008	95.4%	5.2	4.8	A
EB	Left Turn						
	Through						
	Right Turn	20	18	88.4%	51.2	91.0	F
	Subtotal	20	18	88.4%	51.2	91.0	F
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		2,179	2,093	96.0%	6.9	3.6	A

Intersection 24 **Sierra College Blvd/Project Dwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	947	896	94.6%	32.3	12.2	C
	Right Turn	387	375	97.0%	11.6	5.7	B
	Subtotal	1,334	1,271	95.3%	26.1	10.0	C
SB	Left Turn	142	129	90.8%	29.7	11.4	C
	Through	933	863	92.4%	24.0	14.7	C
	Right Turn						
	Subtotal	1,075	992	92.2%	24.8	13.8	C
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	402	384	95.5%	29.0	17.3	C
	Through						
	Right Turn	161	168	104.2%	8.1	4.8	A
	Subtotal	563	552	98.0%	22.5	13.2	C
Total		2,972	2,814	94.7%	24.8	10.4	C

Intersection 6 **Sierra College Blvd/Taylor Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	162	149	91.7%	47.0	6.6	D
	Through	349	348	99.8%	25.1	4.3	C
	Right Turn	260	259	99.5%	9.4	2.4	A
	Subtotal	771	756	98.0%	24.1	3.1	C
SB	Left Turn	59	55	93.7%	51.9	7.9	D
	Through	376	367	97.7%	34.2	5.4	C
	Right Turn	29	25	86.1%	7.4	2.9	A
	Subtotal	464	448	96.5%	34.9	4.5	C
EB	Left Turn	70	68	96.5%	44.8	7.0	D
	Through	195	192	98.5%	34.7	5.8	C
	Right Turn	161	158	98.0%	9.9	2.4	A
	Subtotal	426	417	98.0%	26.9	3.5	C
WB	Left Turn	270	270	99.8%	39.8	5.3	D
	Through	168	178	105.8%	26.7	3.0	C
	Right Turn	24	23	96.0%	6.2	3.5	A
	Subtotal	462	470	101.8%	33.3	4.1	C
Total		2,123	2,091	98.5%	29.0	3.0	C

Intersection 7 **Sierra College Blvd/Brace Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	699	683	97.7%	9.6	2.5	A
	Right Turn	89	96	108.3%	5.8	0.7	A
	Subtotal	788	780	98.9%	9.1	2.3	A
SB	Left Turn	91	89	98.3%	24.1	3.3	C
	Through	716	709	99.0%	5.6	0.5	A
	Right Turn						
	Subtotal	807	798	98.9%	7.7	0.6	A
EB	Left Turn						
	Through						
	Right Turn	69	67	96.8%	7.7	1.3	A
	Subtotal	69	67	96.8%	7.7	1.3	A
WB	Left Turn	113	116	102.6%	20.6	5.7	C
	Through						
	Right Turn	61	61	100.7%	7.3	1.3	A
	Subtotal	174	177	102.0%	16.0	4.6	B
Total		1,838	1,822	99.1%	9.1	0.9	A

Intersection 8 **Sierra College Blvd/Granite Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	198	193	97.6%	58.6	21.8	E
	Through	884	884	100.0%	19.6	5.5	B
	Right Turn	98	90	92.1%	6.5	2.7	A
	Subtotal	1,180	1,167	98.9%	25.1	7.7	C
SB	Left Turn	64	58	90.6%	50.5	11.9	D
	Through	999	942	94.3%	35.5	13.8	D
	Right Turn	116	102	87.7%	20.7	13.9	C
	Subtotal	1,179	1,101	93.4%	35.0	13.7	C
EB	Left Turn	135	125	92.4%	67.7	60.4	E
	Through	23	22	93.5%	42.9	21.2	D
	Right Turn	204	208	102.0%	22.2	5.2	C
	Subtotal	362	354	97.9%	38.9	21.3	D
WB	Left Turn	118	116	98.6%	55.1	22.6	E
	Through	24	26	110.4%	52.7	23.4	D
	Right Turn	23	26	111.9%	15.5	9.6	B
	Subtotal	165	169	102.2%	48.8	20.3	D
Total		2,886	2,792	96.7%	32.2	11.6	C

Intersection 9 **Sierra College Blvd/Rocklin Commons Dwy-I-80 WB Ramps** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	340	339	99.7%	57.2	7.2	E
	Through	735	732	99.6%	19.9	2.1	B
	Right Turn	245	248	101.4%	8.5	1.8	A
	Subtotal	1,320	1,320	100.0%	27.4	3.3	C
SB	Left Turn						
	Through	1,258	1,175	93.4%	54.1	6.9	D
	Right Turn	82	84	102.6%	24.2	3.8	C
	Subtotal	1,340	1,260	94.0%	52.1	6.7	D
EB	Left Turn	80	78	97.9%	51.8	8.0	D
	Through						
	Right Turn	290	295	101.7%	20.6	2.4	C
	Subtotal	370	373	100.9%	27.4	1.8	C
WB	Left Turn	407	419	102.8%	32.1	2.7	C
	Through	149	162	108.5%	51.9	6.7	D
	Right Turn	386	393	101.9%	30.5	6.1	C
	Subtotal	942	973	103.3%	34.8	4.1	C
Total		3,972	3,926	98.8%	37.1	3.4	D

Intersection 10 **Sierra College Blvd/I-80 EB Ramps-Rocklin Crossings Dwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	742	727	98.0%	28.7	2.9	C
	Right Turn	90	74	81.9%	9.0	1.4	A
	Subtotal	832	801	96.2%	26.9	2.6	C
SB	Left Turn	432	421	97.5%	39.3	8.1	D
	Through	550	546	99.3%	13.9	2.3	B
	Right Turn	426	404	94.9%	4.6	0.2	A
	Subtotal	1,408	1,372	97.4%	19.0	3.0	B
EB	Left Turn	492	503	102.2%	24.4	2.0	C
	Through	281	271	96.3%	24.4	3.7	C
	Right Turn	50	50	99.1%	6.8	1.6	A
	Subtotal	823	823	100.0%	23.4	1.4	C
WB	Left Turn	107	107	100.1%	32.2	7.6	C
	Through						
	Right Turn	335	327	97.5%	16.1	8.7	B
	Subtotal	442	434	98.2%	20.4	7.4	C
Total		3,505	3,429	97.8%	22.0	2.2	C

Intersection 11 **Sierra College Blvd/Schriber Wy** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	728	703	96.5%	1.5	0.1	A
	Right Turn	72	74	102.9%	0.4	0.2	A
	Subtotal	800	777	97.1%	1.4	0.1	A
SB	Left Turn						
	Through	707	702	99.3%	0.6	0.1	A
	Right Turn						
	Subtotal	707	702	99.3%	0.6	0.1	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn	106	96	90.2%	6.5	3.5	A
	Subtotal	106	96	90.2%	6.5	3.5	A
Total		1,613	1,575	97.6%	1.4	0.2	A

Intersection 12 **Sierra College Blvd/Dominguez Rd-Bass Pro Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	1	1	76.8%	11.7	25.0	B
	Through	779	752	96.5%	7.0	1.2	A
	Right Turn	77	79	103.2%	4.8	1.0	A
	Subtotal	857	832	97.1%	6.8	1.2	A
SB	Left Turn	31	35	111.5%	22.8	6.2	C
	Through	670	661	98.6%	2.2	0.6	A
	Right Turn	5	2	38.4%	0.3	0.8	A
	Subtotal	706	697	98.8%	3.3	0.7	A
EB	Left Turn	3	2	64.0%	22.6	37.7	C
	Through						
	Right Turn	3	2	64.0%	1.7	2.8	A
	Subtotal	6	4	64.0%	9.1	12.7	A
WB	Left Turn	70	73	104.2%	18.6	3.5	B
	Through	1	2	192.0%	4.6	10.3	A
	Right Turn	18	21	117.3%	6.1	2.0	A
	Subtotal	89	96	107.9%	15.7	2.5	B
Total		1,658	1,629	98.3%	5.9	0.8	A

Intersection 13 **Sierra College Blvd/Stadium Entrance Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	15	17	112.6%	19.2	18.8	B
	Through	820	798	97.3%	2.8	0.6	A
	Right Turn						
	Subtotal	835	815	97.6%	3.0	0.5	A
SB	Left Turn						
	Through	716	703	98.1%	2.4	0.5	A
	Right Turn	27	31	113.8%	1.9	0.5	A
	Subtotal	743	733	98.7%	2.4	0.4	A
EB	Left Turn	37	36	97.6%	12.1	2.4	B
	Through						
	Right Turn	20	23	115.2%	4.6	1.2	A
	Subtotal	57	59	103.7%	9.2	1.4	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,635	1,607	98.3%	3.0	0.3	A

Intersection 14 **Sierra College Blvd/Rocklin Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	165	160	97.0%	39.0	5.7	D
	Through	584	596	102.0%	25.8	2.4	C
	Right Turn	29	29	100.6%	20.3	5.9	C
	Subtotal	778	785	100.9%	28.2	2.3	C
SB	Left Turn	110	104	94.3%	44.6	5.5	D
	Through	490	502	102.5%	21.9	4.1	C
	Right Turn	101	103	101.5%	4.7	0.8	A
	Subtotal	701	708	101.1%	22.7	2.7	C
EB	Left Turn	137	130	95.0%	43.5	4.5	D
	Through	184	182	98.7%	25.2	3.7	C
	Right Turn	185	187	100.9%	5.5	1.1	A
	Subtotal	506	498	98.5%	22.7	2.0	C
WB	Left Turn	40	42	104.6%	48.0	12.3	D
	Through	158	148	93.6%	32.4	3.5	C
	Right Turn	120	113	94.4%	11.8	2.5	B
	Subtotal	318	303	95.3%	26.8	4.2	C
Total		2,303	2,295	99.6%	25.1	1.2	C

Intersection 21 **Sierra College Blvd/Office Dwy** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	7	8	109.7%	5.6	3.5	A
	Through	788	785	99.7%	3.3	0.4	A
	Right Turn						
	Subtotal	795	793	99.7%	3.3	0.4	A
SB	Left Turn						
	Through	898	887	98.8%	1.4	0.4	A
	Right Turn						
	Subtotal	898	887	98.8%	1.4	0.4	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,693	1,680	99.2%	2.3	0.3	A

SimTraffic Post-Processor **Loomis Costco DEIR Peer Review**
Average Results from 10 Runs **Existing Plus Project Conditions**
Volume and Delay by Movement **Weekend MD Peak Hour**

Intersection 24 **Sierra College Blvd/Project Dwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	562	549	97.7%	20.3	5.3	C
	Right Turn	528	524	99.3%	9.4	1.8	A
	Subtotal	1,090	1,073	98.5%	15.0	3.5	B
SB	Left Turn	221	228	103.0%	26.9	5.7	C
	Through	677	646	95.4%	10.2	6.4	B
	Right Turn						
	Subtotal	898	874	97.3%	14.6	6.0	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	499	481	96.3%	20.1	6.7	C
	Through						
	Right Turn	229	245	107.0%	7.2	1.9	A
	Subtotal	728	726	99.7%	15.8	4.9	B
Total		2,716	2,673	98.4%	15.1	4.2	B

Intersection 6 **Sierra College Blvd/Taylor Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	175	125	12	200	21	175	1	2%	0%
	Through	4,650	250	78	375	105	375	103	21%	0%
	Right Turn	200	125	23	225	33	225	0	0%	0%
NB	Left Turn	225	175	23	300	18	250	1	0%	0%
	Through	575	475	74	625	85	600	79	29%	4%
	Right Turn	575	100	21	175	44	150	40	0%	0%
SB	Left Turn	200	50	33	125	89	125	86	0%	0%
	Through	4,975	350	101	450	125	475	120	29%	1%
	Right Turn	375	75	29	150	50	150	52	0%	0%
WB	Left Turn	225	175	30	250	37	225	22	3%	0%
	Through	4,850	200	35	325	99	350	124	5%	0%
	Right Turn	225	50	23	100	67	100	75	0%	0%

Intersection 7 **Sierra College Blvd/Brace Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Right Turn	875	75	9	125	13	125	15	0%	0%
NB	Through	625	325	69	475	101	475	96	0%	0%
	Right Turn	625	50	11	75	21	100	19	0%	0%
SB	Left Turn	175	75	17	150	27	150	35	0%	0%
	Through	575	150	32	225	70	225	66	1%	0%
	Through/Right	575	125	34	200	62	200	58	0%	3%
WB	Left Turn	100	75	13	125	17	100	15	7%	0%
	Right Turn	5,000	50	16	100	46	125	59	1%	0%

Intersection 8 **Sierra College Blvd/Granite Dr** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	200	175	18	225	27	200	15	17%	0%
	Through	2,575	100	90	250	210	250	211	0%	0%
	Right Turn	2,575	150	39	250	91	250	109	6%	0%
NB	Left Turn	175	175	12	225	11	200	0	25%	0%
	Through	400	325	46	400	42	425	35	14%	3%
	Right Turn	400	175	69	375	45	325	4	0%	10%
SB	Left Turn	300	100	36	225	107	225	102	0%	0%
	Through	575	550	93	700	100	675	70	51%	24%
	Right Turn	200	75	32	200	74	200	59	0%	0%
WB	Left Turn	175	100	24	175	35	175	31	5%	0%
	Through	800	50	20	100	62	100	93	0%	0%
	Right Turn	175	25	9	50	9	50	11	0%	0%

Intersection 9 **Sierra College Blvd/Rocklin Commons Dwy-I-80 WB Ramps** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	750	75	12	100	18	125	19	0%	0%
	Right Turn	750	50	11	100	25	100	32	0%	0%
NB	Left Turn	150	200	24	275	28	250	16	0%	18%
	Through	1,500	200	34	250	56	250	48	0%	0%
	Right Turn	300	50	8	100	20	100	28	0%	0%
SB	Through	400	375	79	500	69	475	65	0%	11%
	Right Turn	150	50	8	75	14	75	19	0%	0%
WB	Left Turn	750	225	24	325	41	350	53	3%	0%
	Through/Right	1,300	225	33	325	48	325	52	10%	0%
	Right Turn	200	125	22	225	40	200	25	1%	0%

Intersection 10 **Sierra College Blvd/I-80 EB Ramps-Rocklin Crossings Dwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	375	225	23	300	40	300	36	0%	0%
	Through	1,300	100	15	150	26	150	26	0%	0%
	Right Turn	225	50	10	75	15	75	15	0%	0%
NB	Through	725	250	63	350	95	400	92	0%	0%
	Right Turn	125	25	4	50	9	50	14	0%	0%
SB	Left Turn	225	125	21	200	45	200	36	0%	0%
	Through	1,500	175	34	275	57	250	42	2%	2%
	Right Turn	475	25	0	25	0	25	0	0%	0%
WB	Left Turn	375	75	17	150	34	150	33	0%	0%
	Right Turn	500	150	33	225	64	250	79	0%	0%

Intersection 11 **Sierra College Blvd/Schriber Wy** **Side-street Stop**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
NB	Through	200	25	7	25	34	25	48	0%	0%
	Through/Right	200	25	21	75	68	75	73	0%	0%
WB	Right Turn	575	75	20	100	54	125	65	0%	0%
SB	Through	200	25	0	25	0	25	0	0%	0%
0										

Intersection 12 **Sierra College Blvd/Dominguez Rd-Bass Pro Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	200	25	5	25	17	25	18	0%	0%
	Through/Right	375	25	1	25	7	25	10	0%	0%
NB	Left Turn	100	25	1	25	4	25	6	0%	0%
	Through	1,700	150	55	300	79	325	87	13%	0%
	Right Turn	75	50	6	75	6	75	3	1%	0%
SB	Left Turn	225	25	9	75	17	50	16	0%	0%
	Through	625	50	15	125	39	125	47	0%	1%
	Right Turn	200	25	0	25	0	25	0	0%	0%
WB	Left Turn	250	50	20	100	39	100	44	0%	0%
	Through	750	25	0	25	0	25	0	0%	0%
	Right Turn	175	25	5	50	7	50	8	0%	0%

Intersection 13 **Sierra College Blvd/Stadium Entrance Dr** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	400	50	32	75	51	75	56	7%	0%
	Right Turn	100	50	9	75	26	75	30	0%	0%
NB	Left Turn	225	25	8	50	14	50	15	0%	0%
	Through	1,600	100	19	175	42	175	46	0%	0%
SB	Through	1,700	50	9	100	21	100	26	0%	0%
	Through/Right	725	50	12	125	27	125	36	0%	0%
0										

SimTraffic Post-Processor
Average Results from 10 Runs
Queue Length

Loomis Costco DEIR Peer Review
Existing Plus Project Conditions
Weekday PM Peak Hour

Intersection 14 **Sierra College Blvd/Rocklin Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	225	200	15	275	13	250	2	11%	0%
	Through	950	150	31	300	77	350	102	0%	0%
	Right Turn	950	100	24	175	50	175	54	0%	0%
NB	Left Turn	225	225	18	275	28	250	13	9%	0%
	Through	1,650	500	129	750	165	725	149	32%	2%
	Through/Right	1,650	525	129	725	176	675	154	0%	1%
SB	Left Turn	250	125	26	225	39	225	35	2%	0%
	Through	1,700	150	19	225	48	250	62	9%	0%
	Right Turn	175	100	28	200	52	175	32	0%	0%
WB	Left Turn	225	50	14	100	33	100	35	0%	0%
	Through	5,000	150	18	225	23	200	30	1%	0%
	Through/Right	250	125	15	200	24	200	32	0%	0%

Intersection 21 **Sierra College Blvd/Office Dwy** **Side-street Stop**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Right Turn	525	50	12	75	22	75	34	0%	0%
NB	Left Turn	125	25	4	25	11	50	11	0%	0%
	Through	375	75	51	225	143	225	140	7%	0%
SB	Through	225	25	31	75	90	100	93	0%	0%
	Through/Right	225	50	47	100	120	100	109	0%	6%
0										

Intersection 24 **Sierra College Blvd/Project Dwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
NB	Through	575	225	31	300	59	250	39	2%	29%
	Right Turn	150	100	19	150	33	150	21	2%	0%
SB	Left Turn	175	100	25	175	46	175	34	1%	0%
	Through	625	225	76	375	149	325	125	6%	11%
WB	Left Turn	1,075	200	78	300	171	325	177	7%	0%
	Right Turn	225	75	25	150	70	175	80	0%	0%
0										

Intersection 6 **Sierra College Blvd/Taylor Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	175	75	17	100	28	125	39	0%	0%
	Through	4,650	125	13	200	36	225	30	6%	0%
	Right Turn	200	75	11	125	33	150	58	0%	0%
NB	Left Turn	225	125	25	200	44	225	46	1%	0%
	Through	575	200	38	325	54	350	66	3%	0%
	Right Turn	575	75	17	150	37	150	48	0%	0%
SB	Left Turn	200	75	23	150	60	175	67	0%	0%
	Through	4,975	250	38	325	44	325	39	12%	0%
	Right Turn	375	25	4	50	10	50	14	0%	0%
WB	Left Turn	225	125	25	175	37	175	29	0%	0%
	Through	4,850	100	12	175	24	175	17	0%	0%
	Right Turn	225	25	12	50	17	50	16	0%	0%

Intersection 7 **Sierra College Blvd/Brace Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Right Turn	875	50	8	75	16	75	16	0%	0%
NB	Through	625	150	33	250	63	250	51	0%	0%
	Right Turn	625	50	9	75	17	75	17	0%	0%
SB	Left Turn	175	75	14	125	32	125	36	0%	0%
	Through	575	75	23	125	44	125	41	0%	0%
	Through/Right	575	75	11	100	17	100	20	0%	0%
WB	Left Turn	100	75	10	100	17	100	14	3%	0%
	Right Turn	1,000	50	9	75	40	75	57	0%	0%

Intersection 8 **Sierra College Blvd/Granite Dr** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	200	125	32	200	36	200	27	10%	0%
	Through	2,575	50	78	125	161	125	137	0%	0%
	Right Turn	2,575	100	22	150	36	150	30	0%	0%
NB	Left Turn	175	150	27	200	22	200	11	13%	0%
	Through	400	250	52	350	70	350	48	3%	0%
	Right Turn	400	150	48	325	82	325	48	0%	0%
SB	Left Turn	300	75	12	100	20	100	27	0%	0%
	Through	575	450	85	575	106	600	96	31%	7%
	Right Turn	200	100	30	225	47	225	0	0%	0%
WB	Left Turn	175	75	4	100	5	75	1	45%	0%
	Through	800	100	42	200	70	225	69	7%	0%
	Right Turn	175	25	7	50	8	50	9	0%	0%

Intersection 9 **Sierra College Blvd/Rocklin Commons Dwy-I-80 WB Ramps** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	750	75	18	125	27	125	26	0%	0%
	Right Turn	750	125	17	225	32	225	38	0%	0%
NB	Left Turn	150	250	16	275	17	250	5	0%	44%
	Through	1,500	225	51	375	74	375	73	0%	0%
	Right Turn	300	50	4	75	7	75	14	0%	0%
SB	Through	400	300	55	425	67	425	68	0%	3%
	Right Turn	150	50	6	75	11	75	17	0%	0%
WB	Left Turn	750	200	37	325	60	325	65	1%	0%
	Through/Right	1,300	250	27	325	33	300	20	22%	9%
	Right Turn	200	175	21	250	12	225	0	1%	0%

Intersection 10 **Sierra College Blvd/I-80 EB Ramps-Rocklin Crossings Dwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	375	175	28	250	47	250	35	0%	0%
	Through	1,300	75	17	125	23	125	29	0%	0%
	Right Turn	225	50	6	75	11	50	16	0%	0%
NB	Through	725	200	23	250	30	250	37	0%	0%
	Right Turn	125	25	3	50	9	50	15	0%	0%
SB	Left Turn	225	150	22	225	33	225	31	2%	0%
	Through	1,500	125	28	200	58	225	77	0%	1%
	Right Turn	475	25	0	25	0	25	0	0%	0%
WB	Left Turn	375	75	17	150	66	150	88	0%	0%
	Right Turn	500	125	42	225	91	250	93	0%	0%

Intersection 11 **Sierra College Blvd/Schriber Wy** **Side-street Stop**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
NB	Through/Right	200	25	3	25	13	25	17	0%	0%
WB	Right Turn	575	50	7	75	23	75	25	0%	0%
SB	Through	200	25	0	25	0	25	0	0%	0%
0										

Intersection 12 **Sierra College Blvd/Dominguez Rd-Bass Pro Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	200	25	2	25	11	25	14	0%	0%
	Through/Right	375	25	3	25	11	25	11	0%	0%
NB	Left Turn	100	25	1	25	6	25	10	0%	0%
	Through	1,700	50	34	125	91	125	100	6%	0%
	Right Turn	75	50	7	75	8	75	3	1%	0%
SB	Left Turn	225	25	6	75	16	50	18	0%	0%
	Through	625	50	11	100	30	100	40	0%	0%
	Right Turn	200	25	1	25	4	25	6	0%	0%
WB	Left Turn	250	50	15	75	24	75	24	0%	0%
	Through	750	25	3	25	12	25	13	0%	0%
	Right Turn	175	25	7	50	7	50	8	0%	0%

Intersection 13 **Sierra College Blvd/Stadium Entrance Dr** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	400	25	13	50	25	50	23	0%	0%
	Right Turn	100	25	7	50	10	50	11	0%	0%
NB	Left Turn	225	25	7	50	12	50	12	0%	0%
	Through	1,600	50	15	100	33	100	31	0%	0%
SB	Through	1,700	25	7	50	12	75	14	0%	0%
	Through/Right	725	25	8	75	14	75	19	0%	0%
0										

Intersection 14 **Sierra College Blvd/Rocklin Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	225	100	14	175	25	175	37	0%	0%
	Through	950	75	13	125	23	125	32	0%	0%
	Right Turn	950	50	11	100	25	100	32	0%	0%
NB	Left Turn	225	100	14	150	38	150	58	0%	0%
	Through	1,650	125	16	200	32	200	26	0%	0%
	Through/Right	1,650	175	27	250	63	250	63	0%	0%
SB	Left Turn	250	75	15	125	22	150	27	0%	0%
	Through	1,700	75	18	125	26	125	28	0%	0%
	Right Turn	175	25	6	50	10	50	7	0%	0%
WB	Left Turn	225	50	10	75	16	75	17	0%	0%
	Through	5,000	100	18	150	27	150	27	0%	0%
	Through/Right	250	75	8	125	23	125	33	0%	0%

Intersection 21 **Sierra College Blvd/Office Dwy** **Side-street Stop**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
NB	Left Turn	125	25	6	25	17	25	16	0%	0%
	Through	375	25	2	25	13	25	18	0%	0%
SB	Through	225	25	3	25	18	25	33	0%	0%
	Through/Right	225	25	0	25	0	25	31	0%	0%
EB	Right Turn	575	25	0	25	0	25	0	0%	0%
0										

Intersection 24 **Sierra College Blvd/Project Dwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
NB	Through	575	125	42	200	67	200	58	0%	3%
	Right Turn	150	125	21	175	14	175	11	4%	0%
SB	Left Turn	175	125	17	175	24	175	17	4%	0%
	Through	625	125	44	175	69	200	98	0%	0%
WB	Left Turn	1,075	175	41	275	91	300	136	3%	0%
	Right Turn	225	100	32	175	69	175	69	0%	0%
0										

Cumulative Short-Term Conditions

Intersection 6 **Sierra College Blvd/Taylor Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	140	109	78.2%	61.5	17.9	E
	Through	1,122	857	76.4%	26.8	7.2	C
	Right Turn	433	311	71.8%	10.5	4.5	B
	Subtotal	1,695	1,278	75.4%	25.8	5.2	C
SB	Left Turn	23	24	106.3%	49.6	15.2	D
	Through	751	689	91.7%	46.0	14.4	D
	Right Turn	161	157	97.4%	16.8	7.2	B
	Subtotal	935	870	93.1%	40.8	13.0	D
EB	Left Turn	189	198	104.8%	65.7	21.9	E
	Through	282	290	102.9%	43.2	13.1	D
	Right Turn	162	157	96.8%	20.2	12.8	C
	Subtotal	633	645	101.9%	44.7	14.9	D
WB	Left Turn	464	395	85.2%	79.7	27.0	E
	Through	303	268	88.6%	48.2	19.3	D
	Right Turn	44	38	87.2%	32.7	19.2	C
	Subtotal	811	702	86.6%	65.2	23.5	E
Total		4,074	3,495	85.8%	40.6	6.8	D

Intersection 7 **Sierra College Blvd/Brace Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,576	1,196	75.9%	20.6	2.3	C
	Right Turn	188	140	74.4%	19.2	3.3	B
	Subtotal	1,764	1,336	75.7%	20.5	2.4	C
SB	Left Turn	108	91	84.6%	105.9	30.7	F
	Through	1,269	1,070	84.4%	44.1	15.8	D
	Right Turn						
	Subtotal	1,377	1,162	84.4%	48.9	15.2	D
EB	Left Turn						
	Through						
	Right Turn	142	114	80.0%	76.4	33.4	E
	Subtotal	142	114	80.0%	76.4	33.4	E
WB	Left Turn	199	150	75.6%	111.9	83.8	F
	Through						
	Right Turn	121	103	85.5%	58.2	77.2	E
	Subtotal	320	254	79.3%	90.1	82.2	F
Total		3,603	2,865	79.5%	39.3	11.3	D

Intersection 8 **Sierra College Blvd/Granite Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	358	258	71.9%	116.9	20.2	F
	Through	1,566	1,182	75.5%	42.2	4.6	D
	Right Turn	69	54	77.9%	25.0	5.6	C
	Subtotal	1,993	1,493	74.9%	54.5	6.4	D
SB	Left Turn	61	39	63.5%	151.1	23.4	F
	Through	1,451	1,127	77.7%	128.6	20.2	F
	Right Turn	117	92	78.7%	105.3	21.8	F
	Subtotal	1,629	1,258	77.2%	127.5	20.2	F
EB	Left Turn	188	153	81.6%	197.1	89.1	F
	Through	26	23	88.2%	196.0	115.5	F
	Right Turn	368	293	79.6%	119.9	101.6	F
	Subtotal	582	469	80.6%	137.3	60.3	F
WB	Left Turn	107	54	50.3%	317.5	138.2	F
	Through	24	17	72.1%	188.2	146.3	F
	Right Turn	33	19	58.1%	158.5	127.5	F
	Subtotal	164	90	55.0%	249.7	134.9	F
Total		4,368	3,311	75.8%	98.5	15.7	F

Intersection 9 **Sierra College Blvd/Rocklin Commons Dwy-I-80 WB Ramps** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	418	299	71.6%	133.1	27.3	F
	Through	1,506	1,192	79.2%	74.9	34.6	E
	Right Turn	392	315	80.5%	46.0	28.2	D
	Subtotal	2,316	1,807	78.0%	79.2	31.8	E
SB	Left Turn						
	Through	1,707	1,285	75.3%	62.1	10.4	E
	Right Turn	209	153	73.4%	36.2	7.3	D
	Subtotal	1,916	1,439	75.1%	59.3	10.2	E
EB	Left Turn	200	82	41.0%	273.5	102.2	F
	Through						
	Right Turn	307	270	87.8%	44.9	51.3	D
	Subtotal	507	352	69.3%	91.8	51.6	F
WB	Left Turn	556	478	86.0%	103.3	58.4	F
	Through	137	113	82.6%	153.6	96.0	F
	Right Turn	328	282	86.0%	117.7	77.0	F
	Subtotal	1,021	873	85.5%	112.7	63.8	F
Total		5,760	4,471	77.6%	78.3	19.1	E

Intersection 10 **Sierra College Blvd/I-80 EB Ramps-Rocklin Crossings Dwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,823	1,474	80.8%	30.2	4.1	C
	Right Turn	177	142	80.1%	13.2	2.5	B
	Subtotal	2,000	1,615	80.8%	28.7	3.9	C
SB	Left Turn	393	334	84.9%	64.4	5.3	E
	Through	1,207	985	81.6%	27.0	4.4	C
	Right Turn	460	344	74.9%	11.7	1.5	B
	Subtotal	2,060	1,663	80.7%	31.3	4.2	C
EB	Left Turn	624	629	100.9%	60.0	4.6	E
	Through	276	276	100.1%	59.7	6.3	E
	Right Turn	151	150	99.6%	31.9	3.2	C
	Subtotal	1,051	1,056	100.5%	56.0	2.9	E
WB	Left Turn	199	184	92.6%	130.5	34.6	F
	Through						
	Right Turn	464	420	90.4%	102.4	53.3	F
	Subtotal	663	604	91.1%	111.3	46.6	F
Total		5,774	4,939	85.5%	45.5	6.0	D

Intersection 11 **Sierra College Blvd/Schriber Wy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	48	37	77.6%	40.5	7.2	D
	Through	1,749	1,351	77.3%	14.1	2.9	B
	Right Turn	64	51	79.9%	13.5	5.3	B
	Subtotal	1,861	1,440	77.4%	14.8	2.9	B
SB	Left Turn						
	Through	1,360	1,161	85.4%	19.7	3.9	B
	Right Turn	90	70	77.3%	10.2	3.2	B
	Subtotal	1,450	1,231	84.9%	19.2	3.8	B
EB	Left Turn	97	99	101.9%	29.1	7.2	C
	Through						
	Right Turn	51	56	110.6%	10.4	2.1	B
	Subtotal	148	155	104.9%	22.4	4.8	C
WB	Left Turn	75	72	95.8%	24.0	4.5	C
	Through						
	Right Turn	94	108	114.4%	14.9	4.6	B
	Subtotal	169	179	106.1%	18.6	4.5	B
Total		3,628	3,005	82.8%	17.2	2.9	B

Intersection 12 **Sierra College Blvd/Dominguez Rd-Bass Pro Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	2	1	56.4%	22.2	26.5	C
	Through	1,916	1,479	77.2%	24.4	3.7	C
	Right Turn	85	63	74.3%	25.6	5.3	C
	Subtotal	2,003	1,543	77.1%	24.5	3.8	C
SB	Left Turn	80	70	87.9%	38.2	6.8	D
	Through	1,407	1,215	86.4%	9.7	2.0	A
	Right Turn	1	0	37.6%	4.5	0.7	A
	Subtotal	1,488	1,286	86.4%	11.3	2.2	B
EB	Left Turn	5	4	82.7%	17.2	20.0	B
	Through						
	Right Turn	1	1	112.8%	2.8	7.2	A
	Subtotal	6	5	87.7%	17.3	19.1	B
WB	Left Turn	107	115	107.2%	24.9	3.2	C
	Through						
	Right Turn	70	70	99.4%	13.7	5.3	B
	Subtotal	177	184	104.1%	20.8	3.1	C
Total		3,674	3,019	82.2%	18.6	2.4	B

Intersection 13 **Sierra College Blvd/Stadium Entrance Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	26	21	82.4%	24.4	9.5	C
	Through	1,795	1,359	75.7%	7.8	1.0	A
	Right Turn						
	Subtotal	1,821	1,381	75.8%	8.1	1.1	A
SB	Left Turn						
	Through	1,402	1,237	88.3%	5.2	0.9	A
	Right Turn	67	53	79.1%	4.1	0.8	A
	Subtotal	1,469	1,290	87.8%	5.1	0.9	A
EB	Left Turn	119	106	89.1%	19.5	3.8	B
	Through						
	Right Turn	74	73	99.1%	8.9	3.0	A
	Subtotal	193	179	92.9%	15.2	3.0	B
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		3,483	2,850	81.8%	7.2	1.0	A

Intersection 14 **Sierra College Blvd/Rocklin Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	406	282	69.4%	227.3	28.3	F
	Through	1,317	926	70.3%	221.0	23.2	F
	Right Turn	74	51	68.6%	227.4	19.7	F
	Subtotal	1,797	1,258	70.0%	222.6	23.3	F
SB	Left Turn	210	174	83.1%	131.6	58.3	F
	Through	994	869	87.4%	37.5	4.6	D
	Right Turn	281	251	89.4%	12.3	2.1	B
	Subtotal	1,485	1,295	87.2%	45.5	9.9	D
EB	Left Turn	380	305	80.2%	201.6	41.5	F
	Through	412	413	100.2%	42.6	3.4	D
	Right Turn	411	394	95.9%	17.0	2.5	B
	Subtotal	1,203	1,112	92.4%	77.0	10.7	E
WB	Left Turn	70	67	95.6%	64.0	15.9	E
	Through	340	339	99.8%	55.1	7.5	E
	Right Turn	220	226	102.9%	38.3	12.4	D
	Subtotal	630	632	100.4%	50.2	8.4	D
Total		5,115	4,297	84.0%	106.3	5.2	F

Intersection 21 **Sierra College Blvd/Office Dwy** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	5	2	37.6%	9.0	24.9	A
	Through	1,764	1,349	76.5%	6.2	1.0	A
	Right Turn						
	Subtotal	1,769	1,351	76.4%	6.2	1.0	A
SB	Left Turn						
	Through	1,609	1,311	81.5%	13.3	3.9	B
	Right Turn	2	2	112.8%	3.0	5.1	A
	Subtotal	1,611	1,313	81.5%	13.3	3.9	B
EB	Left Turn						
	Through						
	Right Turn	20	12	62.0%	92.5	73.3	F
	Subtotal	20	12	62.0%	68.4	56.7	F
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		3,400	2,676	78.7%	9.9	2.1	A

Intersection 6 **Sierra College Blvd/Taylor Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	141	113	80.1%	51.4	7.3	D
	Through	769	618	80.4%	25.8	2.8	C
	Right Turn	474	371	78.2%	13.8	1.6	B
	Subtotal	1,384	1,102	79.6%	24.3	1.7	C
SB	Left Turn	29	30	102.0%	57.6	13.2	E
	Through	762	702	92.1%	42.2	12.2	D
	Right Turn	123	120	97.7%	18.0	15.3	B
	Subtotal	914	851	93.1%	39.3	12.1	D
EB	Left Turn	139	155	111.6%	42.9	10.2	D
	Through	215	210	97.5%	36.0	7.0	D
	Right Turn	136	137	100.8%	27.2	11.4	C
	Subtotal	490	502	102.4%	35.6	7.0	D
WB	Left Turn	506	462	91.3%	59.8	15.0	E
	Through	192	174	90.6%	43.5	10.7	D
	Right Turn	24	23	96.0%	28.6	20.4	C
	Subtotal	722	659	91.3%	54.5	13.9	D
Total		3,510	3,114	88.7%	36.6	5.7	D

Intersection 7 **Sierra College Blvd/Brace Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,307	1,056	80.8%	22.5	4.2	C
	Right Turn	182	138	75.7%	22.1	4.5	C
	Subtotal	1,489	1,193	80.2%	22.4	4.2	C
SB	Left Turn	86	80	93.3%	57.6	6.9	E
	Through	1,317	1,159	88.0%	43.4	12.0	D
	Right Turn						
	Subtotal	1,403	1,239	88.3%	44.3	11.6	D
EB	Left Turn						
	Through						
	Right Turn	69	71	103.0%	35.7	15.0	D
	Subtotal	69	71	103.0%	35.7	15.0	D
WB	Left Turn	215	185	86.1%	75.9	42.2	E
	Through						
	Right Turn	66	65	98.9%	41.5	42.4	D
	Subtotal	281	250	89.1%	67.1	42.9	E
Total		3,242	2,754	84.9%	36.6	8.5	D

Intersection 8 **Sierra College Blvd/Granite Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	301	230	76.5%	113.2	23.7	F
	Through	1,284	1,037	80.7%	38.5	5.4	D
	Right Turn	98	89	90.5%	22.1	6.9	C
	Subtotal	1,683	1,356	80.6%	49.9	7.8	D
SB	Left Turn	64	51	79.8%	133.2	25.1	F
	Through	1,411	1,111	78.7%	119.2	21.8	F
	Right Turn	126	92	73.1%	99.2	21.8	F
	Subtotal	1,601	1,254	78.3%	118.3	21.6	F
EB	Left Turn	141	105	74.6%	262.5	165.9	F
	Through	23	19	81.8%	225.2	180.8	F
	Right Turn	298	218	73.2%	134.9	70.3	F
	Subtotal	462	342	74.1%	159.5	65.8	F
WB	Left Turn	118	39	32.9%	388.4	135.1	F
	Through	24	15	62.4%	253.9	103.3	F
	Right Turn	23	12	51.8%	188.4	100.7	F
	Subtotal	165	66	39.8%	299.0	88.5	F
Total		3,911	3,018	77.2%	94.3	12.4	F

Intersection 9 **Sierra College Blvd/Rocklin Commons Dwy-I-80 WB Ramps** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	570	367	64.4%	144.7	17.3	F
	Through	1,186	1,011	85.3%	94.3	17.1	F
	Right Turn	418	373	89.3%	72.4	15.3	E
	Subtotal	2,174	1,751	80.6%	100.0	16.3	F
SB	Left Turn						
	Through	1,585	1,189	75.0%	77.0	9.5	E
	Right Turn	261	191	73.1%	46.6	5.8	D
	Subtotal	1,846	1,380	74.8%	72.8	9.0	E
EB	Left Turn	245	157	64.3%	268.4	42.5	F
	Through						
	Right Turn	550	486	88.3%	141.7	56.4	F
	Subtotal	795	643	80.9%	171.3	39.9	F
WB	Left Turn	603	584	96.9%	60.5	25.3	E
	Through	200	180	89.9%	96.5	39.9	F
	Right Turn	273	265	97.2%	70.0	34.0	E
	Subtotal	1,076	1,029	95.6%	69.3	29.9	E
Total		5,891	4,804	81.5%	94.9	12.3	F

Intersection 10 **Sierra College Blvd/I-80 EB Ramps-Rocklin Crossings Dwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,342	1,202	89.6%	34.7	3.3	C
	Right Turn	231	180	78.1%	20.5	2.9	C
	Subtotal	1,573	1,382	87.9%	32.9	3.0	C
SB	Left Turn	612	529	86.5%	75.5	24.0	E
	Through	1,125	947	84.2%	32.8	16.7	C
	Right Turn	356	295	82.9%	17.2	14.6	B
	Subtotal	2,093	1,772	84.7%	43.1	18.3	D
EB	Left Turn	611	548	89.7%	74.3	26.1	E
	Through	362	341	94.3%	61.4	6.7	E
	Right Turn	160	155	97.0%	36.9	10.0	D
	Subtotal	1,133	1,045	92.2%	64.3	13.0	E
WB	Left Turn	238	203	85.2%	101.7	34.7	F
	Through						
	Right Turn	539	439	81.5%	93.9	44.5	F
	Subtotal	777	642	82.6%	96.5	40.5	F
Total		5,576	4,841	86.8%	51.8	8.2	D

Intersection 11 **Sierra College Blvd/Schriber Wy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	77	60	77.8%	41.6	10.7	D
	Through	1,368	1,167	85.3%	14.8	3.1	B
	Right Turn	177	157	88.5%	12.3	4.0	B
	Subtotal	1,622	1,383	85.3%	15.7	3.1	B
SB	Left Turn						
	Through	1,293	1,110	85.9%	22.1	5.2	C
	Right Turn	143	115	80.3%	11.8	2.7	B
	Subtotal	1,436	1,225	85.3%	21.1	4.9	C
EB	Left Turn	131	140	106.7%	31.6	3.4	C
	Through						
	Right Turn	73	66	90.0%	11.4	2.4	B
	Subtotal	204	205	100.7%	25.0	2.6	C
WB	Left Turn	90	89	99.4%	25.8	2.9	C
	Through						
	Right Turn	178	175	98.4%	11.3	2.1	B
	Subtotal	268	265	98.7%	16.3	2.2	B
Total		3,530	3,078	87.2%	18.5	3.4	B

Intersection 12 **Sierra College Blvd/Dominguez Rd-Bass Pro Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	1	0	38.4%	1.2	3.8	A
	Through	1,517	1,285	84.7%	22.0	6.2	C
	Right Turn	126	105	83.2%	24.1	8.4	C
	Subtotal	1,644	1,390	84.6%	22.2	6.3	C
SB	Left Turn	122	104	85.6%	31.1	5.9	C
	Through	1,328	1,140	85.9%	9.3	1.6	A
	Right Turn	5	2	46.1%	4.5	0.5	A
	Subtotal	1,455	1,247	85.7%	11.1	1.7	B
EB	Left Turn	3	2	64.0%	20.8	24.3	C
	Through						
	Right Turn	3	3	102.4%	3.8	6.6	A
	Subtotal	6	5	83.2%	15.6	19.7	B
WB	Left Turn	114	117	102.4%	23.2	3.3	C
	Through	1	1	115.2%	6.4	12.0	A
	Right Turn	102	101	99.4%	11.3	3.0	B
	Subtotal	217	219	101.0%	17.7	2.1	B
Total		3,322	2,862	86.1%	17.0	3.8	B

Intersection 13 **Sierra College Blvd/Stadium Entrance Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	15	11	71.7%	13.1	7.8	B
	Through	1,607	1,374	85.5%	5.4	1.1	A
	Right Turn						
	Subtotal	1,622	1,385	85.4%	5.4	1.2	A
SB	Left Turn						
	Through	1,418	1,245	87.8%	3.5	0.7	A
	Right Turn	27	25	91.0%	2.2	1.4	A
	Subtotal	1,445	1,269	87.8%	3.5	0.7	A
EB	Left Turn	37	35	94.4%	11.0	4.9	B
	Through						
	Right Turn	20	18	90.2%	5.1	1.3	A
	Subtotal	57	53	93.0%	9.4	3.2	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		3,124	2,707	86.7%	4.6	0.9	A

Intersection 14 **Sierra College Blvd/Rocklin Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	352	280	79.4%	146.9	21.8	F
	Through	1,151	932	80.9%	153.6	30.5	F
	Right Turn	97	78	80.0%	158.8	32.9	F
	Subtotal	1,600	1,289	80.5%	152.6	28.5	F
SB	Left Turn	189	159	84.3%	71.6	20.8	E
	Through	983	873	88.8%	35.1	3.9	D
	Right Turn	243	224	92.3%	11.7	1.3	B
	Subtotal	1,415	1,257	88.8%	35.6	4.4	D
EB	Left Turn	300	282	94.0%	109.8	48.4	F
	Through	300	313	104.3%	35.4	4.8	D
	Right Turn	337	335	99.4%	14.3	3.3	B
	Subtotal	937	930	99.2%	50.7	17.0	D
WB	Left Turn	95	97	101.9%	61.8	7.1	E
	Through	278	258	92.8%	45.3	5.4	D
	Right Turn	207	217	104.8%	26.7	3.2	C
	Subtotal	580	572	98.6%	41.3	3.9	D
Total		4,532	4,047	89.3%	77.2	9.9	E

Intersection 21 **Sierra College Blvd/Office Dwy** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	7	7	98.7%	10.0	8.7	A
	Through	1,489	1,205	80.9%	6.6	1.6	A
	Right Turn						
	Subtotal	1,496	1,212	81.0%	6.7	1.7	A
SB	Left Turn						
	Through	1,601	1,395	87.2%	12.3	3.2	B
	Right Turn						
	Subtotal	1,601	1,395	87.2%	12.3	3.2	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		3,097	2,607	84.2%	9.7	2.0	A

Intersection 6 **Sierra College Blvd/Taylor Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	175	150	18	200	13	175	1	18%	0%
	Through	4,650	325	127	550	236	550	229	16%	3%
	Right Turn	200	125	32	225	69	225	2	0%	0%
NB	Left Turn	225	125	25	225	53	225	45	0%	0%
	Through	575	250	71	375	72	375	70	7%	0%
	Right Turn	575	100	38	175	67	175	68	0%	0%
SB	Left Turn	200	50	13	100	54	100	81	0%	0%
	Through	5,000	250	47	375	116	450	170	22%	1%
	Right Turn	225	100	39	225	67	225	2	0%	0%
WB	Left Turn	225	225	25	250	14	225	6	24%	0%
	Through	4,850	400	197	775	383	925	497	7%	0%
	Right Turn	225	50	15	100	50	100	73	0%	0%

Intersection 7 **Sierra College Blvd/Brace Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Right Turn	1,250	125	50	225	95	225	87	0%	0%
NB	Through	1,275	300	22	425	39	425	31	0%	0%
	Through/Right	1,275	250	15	350	22	300	11	0%	15%
SB	Left Turn	175	125	20	200	19	200	1	10%	0%
	Through	575	425	89	650	105	625	78	21%	9%
	Right Turn	575	25	0	25	0	25	0	0%	0%
WB	Left Turn	100	125	7	125	8	125	1	55%	0%
	Right Turn	5,000	300	240	525	377	575	334	1%	0%

Intersection 8 **Sierra College Blvd/Granite Dr** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	200	200	13	225	11	225	1	65%	0%
	Through	2,575	425	197	800	289	775	362	0%	0%
	Right Turn	2,575	425	287	675	432	700	441	47%	0%
NB	Left Turn	175	200	3	200	4	200	0	62%	0%
	Through	400	450	39	575	50	525	30	21%	23%
	Right Turn	400	400	49	500	52	500	29	0%	11%
SB	Left Turn	300	100	37	250	105	250	92	0%	0%
	Through	1,275	1,025	86	1,325	74	1,300	50	59%	7%
	Right Turn	200	125	43	250	71	200	51	0%	0%
WB	Left Turn	175	175	23	200	12	200	6	70%	0%
	Through	1,325	375	225	700	280	675	242	0%	0%
	Right Turn	175	25	6	50	17	50	22	0%	0%

Intersection 9 **Sierra College Blvd/Rocklin Commons Dwy-I-80 WB Ramps** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	875	500	156	800	211	800	164	13%	0%
	Right Turn	3,125	375	378	875	880	1,025	866	1%	0%
NB	Left Turn	150	250	5	275	12	275	15	0%	76%
	Through	1,500	625	189	900	232	925	208	0%	2%
	Right Turn	300	125	28	225	48	225	47	10%	0%
SB	Through	400	450	39	525	43	525	32	0%	30%
	Right Turn	200	125	12	175	19	175	22	2%	0%
WB	Left Turn	800	425	193	575	228	600	198	23%	0%
	Through/Right	2,800	650	384	1,100	563	1,225	584	54%	1%
	Right Turn	200	200	19	250	20	225	0	8%	0%

Intersection 10 **Sierra College Blvd/I-80 EB Ramps-Rocklin Crossings Dwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	375	300	32	375	37	375	20	4%	0%
	Through	1,625	150	50	275	136	300	150	0%	0%
	Right Turn	225	100	12	175	29	200	30	0%	0%
NB	Through	300	250	62	350	79	325	74	0%	11%
	Right Turn	125	50	8	75	13	100	15	0%	0%
SB	Left Turn	225	200	18	250	26	250	18	3%	1%
	Through	1,500	325	46	375	64	400	58	9%	0%
	Right Turn	475	25	0	25	0	25	0	0%	0%
WB	Left Turn	375	325	61	400	47	375	18	6%	0%
	Right Turn	3,175	725	396	1,125	637	1,100	621	43%	0%

Intersection 11 **Sierra College Blvd/Schriber Wy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	225	75	15	125	27	125	29	0%	0%
	Through/Right	650	25	8	50	18	75	25	0%	0%
NB	Left Turn	125	50	7	75	12	75	13	0%	0%
	Through	350	150	20	200	32	200	37	3%	0%
	Through/Right	350	225	36	325	42	350	30	0%	1%
SB	Through	300	225	49	350	48	375	45	22%	6%
	Right Turn	100	50	19	100	35	125	24	0%	0%
WB	Left/Through	575	50	10	100	25	100	33	0%	0%
	Right Turn	225	75	10	100	25	100	34	0%	0%

Intersection 12 **Sierra College Blvd/Dominguez Rd-Bass Pro Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	200	25	6	25	18	25	20	0%	0%
	Through/Right	375	25	2	25	8	25	10	0%	0%
NB	Left Turn	100	25	5	25	24	25	33	0%	0%
	Through	1,700	325	66	450	93	450	98	29%	0%
	Right Turn	75	50	8	75	9	75	3	1%	0%
SB	Left Turn	225	75	10	100	28	125	32	0%	1%
	Through	350	175	39	200	47	225	45	0%	0%
	Right Turn	200	25	0	25	0	25	0	0%	0%
WB	Left Turn	250	75	11	100	12	100	11	0%	0%
	Through	750	25	0	25	0	25	0	0%	0%
	Right Turn	175	50	6	75	11	75	17	0%	0%

Intersection 13 **Sierra College Blvd/Stadium Entrance Dr** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	400	75	23	100	40	100	44	7%	0%
	Right Turn	100	50	9	75	21	100	26	1%	0%
NB	Left Turn	225	25	12	50	22	50	19	0%	0%
	Through	1,600	100	17	175	34	175	41	0%	0%
SB	Through	1,700	50	18	100	22	100	23	0%	0%
	Through/Right	725	75	15	125	30	125	34	0%	0%
0										

SimTraffic Post-Processor | **Loomis Costco DEIR Peer Review**
Average Results from 10 Runs | **Cumulative Short Term No Project Conditions**
Queue Length | **Weekday PM Peak Hour**

Intersection 14 **Sierra College Blvd/Rocklin Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	225	250	1	250	1	250	0	82%	0%
	Through	2,275	875	173	1,175	281	1,150	269	0%	0%
	Right Turn	2,275	150	19	250	38	250	77	0%	0%
NB	Left Turn	225	225	22	275	23	250	8	5%	0%
	Through	5,650	2,075	326	3,075	496	3,175	416	53%	0%
	Through/Right	5,650	2,100	320	3,075	481	3,175	427	0%	0%
SB	Left Turn	250	225	44	275	29	250	17	41%	0%
	Through	1,700	325	150	475	198	450	179	16%	3%
	Right Turn	175	150	28	225	13	200	0	0%	0%
WB	Left Turn	225	100	38	200	76	200	64	0%	0%
	Through	5,000	275	58	400	111	425	119	11%	0%
	Through/Right	250	225	24	275	9	275	0	7%	0%

Intersection 21 **Sierra College Blvd/Office Dwy** **Side-street Stop**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Right Turn	525	25	14	75	34	75	45	0%	0%
NB	Left Turn	125	25	2	25	9	25	10	0%	0%
	Through	1,025	75	23	175	75	200	79	1%	0%
SB	Through	225	125	41	275	41	250	21	0%	7%
	Through/Right	225	150	38	300	27	225	5	0%	21%
0										

Intersection 6 **Sierra College Blvd/Taylor Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	175	125	22	175	28	175	14	6%	0%
	Through	4,650	175	67	275	115	325	122	9%	0%
	Right Turn	200	100	22	200	31	200	26	2%	0%
NB	Left Turn	225	100	23	175	23	175	33	0%	0%
	Through	575	150	21	250	36	250	63	1%	0%
	Right Turn	575	125	24	225	51	225	60	0%	0%
SB	Left Turn	200	50	25	125	76	150	86	0%	0%
	Through	5,000	250	64	400	161	425	167	18%	0%
	Right Turn	225	100	40	250	55	225	2	0%	0%
WB	Left Turn	225	200	22	250	13	225	2	17%	0%
	Through	4,850	275	119	600	311	725	453	2%	0%
	Right Turn	225	25	7	50	12	50	13	0%	0%

Intersection 7 **Sierra College Blvd/Brace Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Right Turn	1,275	75	12	100	15	100	17	0%	0%
NB	Through	1,275	275	50	400	67	450	59	0%	0%
	Through/Right	1,275	250	27	325	28	300	12	0%	18%
SB	Left Turn	175	100	24	175	36	175	28	0%	0%
	Through/Right	575	400	59	625	70	625	43	0%	9%
	Right Turn	575	50	0	50	0	50	0	0%	0%
WB	Left Turn	100	125	6	150	9	125	1	46%	0%
	Right Turn	5,000	225	128	425	244	425	258	1%	0%

Intersection 8 **Sierra College Blvd/Granite Dr** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	200	200	28	225	18	225	1	57%	0%
	Through	2,575	375	215	725	255	700	207	1%	0%
	Right Turn	2,575	375	168	700	342	700	315	44%	0%
NB	Left Turn	175	200	5	225	9	200	1	54%	0%
	Through	400	400	46	525	65	500	40	16%	16%
	Right Turn	400	350	47	450	49	425	29	0%	6%
SB	Left Turn	300	125	46	250	108	250	106	0%	0%
	Through	1,275	1,100	96	1,350	95	1,325	45	59%	9%
	Right Turn	200	100	37	275	52	225	0	0%	0%
WB	Left Turn	175	175	15	200	19	200	5	81%	0%
	Through	1,325	450	165	850	257	825	256	2%	0%
	Right Turn	175	25	5	25	13	50	54	0%	0%

Intersection 9 **Sierra College Blvd/Rocklin Commons Dwy-I-80 WB Ramps** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	875	750	109	975	111	900	21	8%	0%
	Right Turn	3,125	1,100	399	1,700	542	1,725	519	34%	0%
NB	Left Turn	150	250	3	250	8	275	13	0%	78%
	Through	1,500	525	137	1,050	213	1,225	204	0%	0%
	Right Turn	300	125	16	200	33	225	39	9%	0%
SB	Through	400	450	38	525	37	500	37	0%	33%
	Right Turn	200	150	13	200	23	200	24	4%	0%
WB	Left Turn	800	325	115	475	165	475	137	10%	0%
	Through/Right	2,800	450	301	600	386	600	372	45%	0%
	Right Turn	200	200	21	250	23	225	0	2%	0%

Intersection 10 **Sierra College Blvd/I-80 EB Ramps-Rocklin Crossings Dwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	375	300	46	375	52	375	30	8%	0%
	Through	2,450	250	181	425	399	550	484	3%	0%
	Right Turn	225	125	25	200	46	200	45	1%	0%
NB	Through	300	225	28	325	32	325	29	0%	4%
	Right Turn	125	75	21	125	39	125	31	0%	2%
SB	Left Turn	225	225	15	275	17	250	1	24%	8%
	Through	1,500	400	185	550	268	550	245	11%	1%
	Right Turn	475	25	0	25	0	25	0	0%	0%
WB	Left Turn	375	325	47	425	56	375	23	1%	0%
	Right Turn	3,175	750	462	1,300	682	1,400	631	41%	0%

Intersection 11 **Sierra College Blvd/Schriber Wy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	225	100	17	150	23	150	25	0%	0%
	Through/Right	650	50	7	75	16	75	21	0%	0%
NB	Left Turn	125	50	12	100	29	100	33	1%	0%
	Through	350	150	29	250	56	275	62	3%	1%
	Through/Right	350	175	26	275	47	275	39	0%	6%
SB	Through	300	225	43	300	57	300	55	25%	3%
	Right Turn	100	50	17	125	20	125	0	0%	0%
WB	Left/Through	575	75	16	100	23	100	26	0%	0%
	Right Turn	225	75	11	100	19	100	21	0%	0%

Intersection 12 **Sierra College Blvd/Dominguez Rd-Bass Pro Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	200	25	2	25	8	25	13	0%	0%
	Through/Right	375	25	2	25	9	25	12	0%	0%
NB	Left Turn	100	25	2	25	5	25	7	0%	0%
	Through	1,700	350	100	500	165	500	140	35%	2%
	Right Turn	75	75	4	75	9	75	0	2%	0%
SB	Left Turn	225	75	13	125	24	125	29	0%	2%
	Through	350	150	24	200	48	225	41	0%	0%
	Right Turn	200	25	0	25	0	25	0	0%	0%
WB	Left Turn	250	75	7	100	13	100	16	0%	0%
	Through	750	25	2	25	9	25	13	0%	0%
	Right Turn	175	50	14	75	29	75	32	0%	0%

Intersection 13 **Sierra College Blvd/Stadium Entrance Dr** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	400	25	12	50	22	50	22	0%	0%
	Right Turn	100	25	4	50	5	50	1	0%	0%
NB	Left Turn	225	25	6	50	14	50	10	0%	0%
	Through	1,600	75	24	150	45	175	41	0%	0%
SB	Through	1,700	50	9	75	15	75	19	0%	0%
	Through/Right	725	50	8	100	15	100	16	0%	0%
0										

Intersection 14 **Sierra College Blvd/Rocklin Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	225	250	21	275	12	250	6	51%	0%
	Through	2,275	400	184	550	241	525	220	0%	0%
	Right Turn	2,275	125	22	200	46	200	51	0%	0%
NB	Left Turn	225	225	18	300	32	250	28	3%	0%
	Through	6,425	1,200	272	1,800	340	1,825	314	45%	0%
	Through/Right	6,425	1,225	258	1,825	316	1,825	302	0%	0%
SB	Left Turn	250	175	36	250	49	225	36	6%	0%
	Through	1,700	200	29	300	65	300	71	13%	0%
	Right Turn	175	125	25	225	28	200	3	0%	0%
WB	Left Turn	225	100	27	175	40	175	49	0%	0%
	Through	5,000	175	50	275	92	300	85	4%	0%
	Through/Right	250	175	19	250	29	250	30	1%	0%

Intersection 21 **Sierra College Blvd/Office Dwy** **Side-street Stop**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
NB	Left Turn	125	25	7	25	18	25	16	0%	0%
	Through	625	75	36	175	86	200	81	1%	0%
SB	Through	225	125	40	300	37	275	27	0%	9%
	Through/Right	225	150	42	300	29	225	7	0%	20%
EB	Right Turn	575	25	0	25	0	25	0	0%	0%
0										

Cumulative Short-Term Plus Project Conditions

Intersection 6 **Sierra College Blvd/Taylor Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	161	97	60.5%	65.1	26.6	E
	Through	1,142	832	72.8%	26.7	3.4	C
	Right Turn	457	332	72.6%	11.1	2.1	B
	Subtotal	1,760	1,261	71.6%	25.5	4.0	C
SB	Left Turn	23	17	75.2%	99.8	30.0	F
	Through	770	538	69.8%	141.8	54.4	F
	Right Turn	161	114	70.5%	102.2	53.3	F
	Subtotal	954	669	70.1%	134.0	53.1	F
EB	Left Turn	189	168	88.9%	81.9	52.4	F
	Through	282	239	84.7%	77.7	46.1	E
	Right Turn	182	148	81.4%	58.7	36.6	E
	Subtotal	653	555	85.0%	74.0	44.1	E
WB	Left Turn	488	227	46.5%	222.8	61.1	F
	Through	303	173	57.0%	166.8	56.2	F
	Right Turn	44	29	64.9%	147.9	70.9	F
	Subtotal	835	428	51.2%	194.7	58.1	F
Total		4,202	2,912	69.3%	82.1	18.0	F

Intersection 7 **Sierra College Blvd/Brace Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,638	1,182	72.2%	15.3	6.2	B
	Right Turn	188	135	72.0%	7.2	1.5	A
	Subtotal	1,826	1,318	72.2%	14.4	5.7	B
SB	Left Turn	115	73	63.1%	113.3	19.4	F
	Through	1,325	759	57.3%	127.9	25.2	F
	Right Turn						
	Subtotal	1,440	832	57.8%	126.7	24.3	F
EB	Left Turn						
	Through						
	Right Turn	142	95	66.7%	129.3	83.2	F
	Subtotal	142	95	66.7%	129.3	83.2	F
WB	Left Turn	199	93	46.7%	240.4	110.1	F
	Through						
	Right Turn	124	75	60.3%	195.0	125.3	F
	Subtotal	323	168	51.9%	220.2	115.4	F
Total		3,731	2,412	64.6%	67.4	6.9	E

Intersection 8 **Sierra College Blvd/Granite Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	358	226	63.2%	113.5	18.4	F
	Through	1,851	1,266	68.4%	50.1	5.2	D
	Right Turn	69	53	76.8%	33.9	5.3	C
	Subtotal	2,278	1,545	67.8%	58.9	6.5	E
SB	Left Turn	61	41	66.6%	94.0	10.6	F
	Through	1,752	1,089	62.1%	78.7	8.5	E
	Right Turn	126	76	60.0%	56.2	6.6	E
	Subtotal	1,939	1,205	62.1%	77.7	8.1	E
EB	Left Turn	197	144	73.3%	232.3	112.3	F
	Through	26	20	76.6%	229.9	137.1	F
	Right Turn	368	231	62.7%	161.8	105.4	F
	Subtotal	591	395	66.9%	178.8	82.3	F
WB	Left Turn	107	38	35.5%	393.3	106.6	F
	Through	24	11	43.9%	204.3	120.5	F
	Right Turn	33	19	57.0%	222.2	110.2	F
	Subtotal	164	67	41.0%	299.7	112.8	F
Total		4,972	3,212	64.6%	84.1	13.4	F

Intersection 9 **Sierra College Blvd/Rocklin Commons Dwy-I-80 WB Ramps** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	418	307	73.4%	153.4	33.8	F
	Through	1,639	1,175	71.7%	108.9	44.6	F
	Right Turn	392	305	77.9%	70.0	34.0	E
	Subtotal	2,449	1,787	73.0%	109.8	41.3	F
SB	Left Turn						
	Through	2,008	1,227	61.1%	70.2	10.9	E
	Right Turn	209	123	59.0%	41.7	6.1	D
	Subtotal	2,217	1,351	60.9%	67.6	10.6	E
EB	Left Turn	200	60	29.9%	383.1	94.9	F
	Through						
	Right Turn	307	236	76.9%	78.8	54.6	E
	Subtotal	507	296	58.4%	136.3	67.6	F
WB	Left Turn	556	509	91.5%	110.8	53.6	F
	Through	137	102	74.4%	158.9	55.3	F
	Right Turn	480	385	80.1%	131.2	56.4	F
	Subtotal	1,173	995	84.8%	123.7	54.4	F
Total		6,346	4,429	69.8%	100.3	21.7	F

Intersection 10 **Sierra College Blvd/I-80 EB Ramps-Rocklin Crossings Dwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,852	1,492	80.6%	35.8	4.4	D
	Right Turn	177	130	73.7%	16.9	3.2	B
	Subtotal	2,029	1,622	80.0%	34.3	4.4	C
SB	Left Turn	393	291	74.1%	60.1	8.3	E
	Through	1,237	904	73.1%	29.6	12.2	C
	Right Turn	621	438	70.5%	12.4	4.2	B
	Subtotal	2,251	1,633	72.6%	30.4	8.9	C
EB	Left Turn	728	706	97.0%	84.4	23.0	F
	Through	276	294	106.4%	60.8	7.3	E
	Right Turn	151	150	99.6%	34.1	10.4	C
	Subtotal	1,155	1,150	99.6%	71.9	15.3	E
WB	Left Turn	199	174	87.3%	155.7	54.4	F
	Through						
	Right Turn	464	408	87.8%	115.1	53.8	F
	Subtotal	663	581	87.7%	127.7	51.5	F
Total		6,098	4,987	81.8%	52.4	9.0	D

Intersection 11 **Sierra College Blvd/Schriber Wy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	48	37	76.8%	52.0	18.6	D
	Through	1,778	1,383	77.8%	22.2	7.9	C
	Right Turn	194	138	70.9%	23.6	10.2	C
	Subtotal	2,020	1,557	77.1%	23.1	8.3	C
SB	Left Turn						
	Through	1,390	1,061	76.3%	25.4	10.0	C
	Right Turn	90	70	77.7%	14.9	8.9	B
	Subtotal	1,480	1,131	76.4%	24.8	9.8	C
EB	Left Turn	97	102	105.0%	39.6	16.0	D
	Through						
	Right Turn	51	42	82.6%	8.8	4.3	A
	Subtotal	148	144	97.3%	30.4	10.7	C
WB	Left Turn	75	74	98.8%	26.2	5.7	C
	Through						
	Right Turn	156	163	104.4%	22.2	8.3	C
	Subtotal	231	237	102.5%	23.5	6.9	C
Total		3,879	3,069	79.1%	24.1	8.5	C

Intersection 12 **Sierra College Blvd/Dominguez Rd-Bass Pro Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	2	2	112.8%	26.0	23.9	C
	Through	1,945	1,501	77.2%	32.3	10.8	C
	Right Turn	85	65	76.1%	36.5	16.3	D
	Subtotal	2,032	1,568	77.2%	32.5	11.0	C
SB	Left Turn	80	66	82.7%	40.7	17.7	D
	Through	1,437	1,119	77.8%	10.0	2.5	A
	Right Turn	1	1	112.8%	5.4	1.6	A
	Subtotal	1,518	1,186	78.1%	11.7	2.4	B
EB	Left Turn	5	4	75.2%	30.4	26.5	C
	Through						
	Right Turn	1	1	75.2%	1.8	3.3	A
	Subtotal	6	5	75.2%	28.8	23.9	C
WB	Left Turn	107	98	91.4%	34.7	15.2	C
	Through						
	Right Turn	70	70	99.9%	15.3	6.0	B
	Subtotal	177	168	94.7%	27.2	13.2	C
Total		3,733	2,926	78.4%	23.7	7.1	C

Intersection 13 **Sierra College Blvd/Stadium Entrance Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	26	18	68.0%	23.1	5.8	C
	Through	1,824	1,395	76.5%	8.2	1.1	A
	Right Turn						
	Subtotal	1,850	1,413	76.4%	8.4	1.1	A
SB	Left Turn						
	Through	1,432	1,120	78.2%	5.1	0.6	A
	Right Turn	67	55	82.5%	4.5	1.4	A
	Subtotal	1,499	1,176	78.4%	5.1	0.6	A
EB	Left Turn	119	147	123.2%	23.0	4.3	C
	Through						
	Right Turn	74	77	104.7%	8.2	2.1	A
	Subtotal	193	224	116.1%	17.8	3.3	B
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		3,542	2,812	79.4%	7.7	0.9	A

Intersection 14 **Sierra College Blvd/Rocklin Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	406	290	71.3%	229.6	33.9	F
	Through	1,336	942	70.5%	221.4	38.3	F
	Right Turn	74	45	61.5%	229.0	55.4	F
	Subtotal	1,816	1,277	70.3%	223.7	37.4	F
SB	Left Turn	214	161	75.0%	99.4	45.5	F
	Through	1,014	811	79.9%	35.6	4.2	D
	Right Turn	287	241	84.1%	12.8	2.8	B
	Subtotal	1,515	1,213	80.0%	39.6	7.4	D
EB	Left Turn	386	303	78.4%	165.3	42.6	F
	Through	412	412	100.0%	38.3	4.0	D
	Right Turn	411	412	100.3%	17.9	3.0	B
	Subtotal	1,209	1,127	93.2%	65.2	12.6	E
WB	Left Turn	70	68	96.7%	75.1	7.4	E
	Through	340	318	93.6%	55.8	4.0	E
	Right Turn	224	228	101.7%	37.2	6.0	D
	Subtotal	634	614	96.8%	51.1	4.1	D
Total		5,174	4,230	81.8%	103.3	10.7	F

Intersection 21 **Sierra College Blvd/Office Dwy** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	5	3	67.7%	25.9	40.7	D
	Through	1,826	1,324	72.5%	4.5	0.4	A
	Right Turn						
	Subtotal	1,831	1,327	72.5%	4.5	0.3	A
SB	Left Turn						
	Through	1,665	947	56.9%	33.9	3.8	D
	Right Turn	2	1	56.4%	9.4	21.8	A
	Subtotal	1,667	948	56.9%	33.9	3.8	D
EB	Left Turn						
	Through						
	Right Turn	20	8	37.6%	366.2	196.2	F
	Subtotal	20	8	37.6%	192.8	173.4	F
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		3,518	2,283	64.9%	17.5	1.9	C

Intersection 24 **Sierra College Blvd/Project Dwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,676	1,175	70.1%	29.1	7.8	C
	Right Turn	387	268	69.2%	12.7	3.6	B
	Subtotal	2,063	1,443	70.0%	26.1	6.9	C
SB	Left Turn	142	90	63.5%	120.5	34.1	F
	Through	1,543	871	56.4%	104.5	8.4	F
	Right Turn						
	Subtotal	1,685	961	57.0%	106.4	9.8	F
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	402	380	94.5%	84.0	28.2	F
	Through						
	Right Turn	161	155	96.2%	34.7	22.2	C
	Subtotal	563	535	95.0%	69.3	25.3	E
Total		4,311	2,939	68.2%	60.3	8.0	E

Intersection 6 **Sierra College Blvd/Taylor Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	180	112	62.3%	92.5	57.7	F
	Through	807	591	73.3%	29.4	5.3	C
	Right Turn	520	376	72.2%	15.4	3.1	B
	Subtotal	1,507	1,079	71.6%	31.9	8.2	C
SB	Left Turn	29	22	76.8%	163.2	30.6	F
	Through	801	455	56.9%	196.6	35.6	F
	Right Turn	123	72	58.7%	156.3	37.4	F
	Subtotal	953	550	57.7%	188.8	31.2	F
EB	Left Turn	139	123	88.7%	74.0	26.8	E
	Through	215	195	90.7%	80.4	16.8	F
	Right Turn	177	152	85.9%	106.5	43.0	F
	Subtotal	531	470	88.6%	86.8	24.4	F
WB	Left Turn	554	207	37.4%	307.7	87.8	F
	Through	192	83	43.0%	250.8	107.7	F
	Right Turn	24	13	56.0%	243.8	102.4	F
	Subtotal	770	303	39.4%	287.3	92.7	F
Total		3,761	2,403	63.9%	107.2	7.2	F

Intersection 7 **Sierra College Blvd/Brace Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,424	1,026	72.1%	13.7	1.7	B
	Right Turn	182	133	73.2%	7.0	1.2	A
	Subtotal	1,606	1,160	72.2%	13.0	1.6	B
SB	Left Turn	101	57	56.6%	123.2	17.9	F
	Through	1,431	729	50.9%	146.7	17.9	F
	Right Turn						
	Subtotal	1,532	786	51.3%	145.0	17.6	F
EB	Left Turn						
	Through						
	Right Turn	69	65	94.1%	67.6	25.8	E
	Subtotal	69	65	94.1%	67.6	25.8	E
WB	Left Turn	215	137	63.8%	164.5	74.5	F
	Through						
	Right Turn	72	52	72.5%	111.1	72.8	F
	Subtotal	287	189	66.0%	149.4	74.3	F
Total		3,494	2,200	63.0%	73.1	8.8	E

Intersection 8 **Sierra College Blvd/Granite Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	301	207	68.8%	122.3	40.1	F
	Through	1,678	1,150	68.5%	53.0	7.2	D
	Right Turn	98	80	81.5%	30.1	6.4	C
	Subtotal	2,077	1,437	69.2%	61.8	10.4	E
SB	Left Turn	64	45	69.6%	101.3	22.7	F
	Through	1,789	1,088	60.8%	79.9	5.9	E
	Right Turn	143	83	57.7%	56.0	6.8	E
	Subtotal	1,996	1,215	60.9%	79.1	5.8	E
EB	Left Turn	159	104	65.4%	253.5	161.1	F
	Through	23	19	81.8%	200.9	133.7	F
	Right Turn	298	224	75.3%	159.0	113.9	F
	Subtotal	480	347	72.3%	173.1	86.6	F
WB	Left Turn	118	39	32.9%	443.3	124.4	F
	Through	24	10	40.0%	325.2	196.5	F
	Right Turn	23	11	48.4%	312.6	174.5	F
	Subtotal	165	60	36.1%	377.1	139.9	F
Total		4,718	3,059	64.8%	84.7	12.3	F

Intersection 9 **Sierra College Blvd/Rocklin Commons Dwy-I-80 WB Ramps** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	570	351	61.5%	176.9	58.6	F
	Through	1,363	1,065	78.2%	138.5	63.6	F
	Right Turn	418	328	78.5%	102.2	50.4	F
	Subtotal	2,351	1,744	74.2%	139.3	59.9	F
SB	Left Turn						
	Through	1,963	1,207	61.5%	81.2	6.2	F
	Right Turn	261	158	60.6%	47.6	4.5	D
	Subtotal	2,224	1,366	61.4%	77.3	6.2	E
EB	Left Turn	245	66	26.8%	460.2	99.0	F
	Through						
	Right Turn	550	378	68.8%	190.4	69.2	F
	Subtotal	795	444	55.8%	230.9	74.2	F
WB	Left Turn	603	449	74.4%	211.8	129.7	F
	Through	200	131	65.3%	259.0	142.5	F
	Right Turn	490	336	68.5%	228.7	129.8	F
	Subtotal	1,293	915	70.8%	224.7	131.4	F
Total		6,663	4,468	67.1%	141.0	35.9	F

Intersection 10 **Sierra College Blvd/I-80 EB Ramps-Rocklin Crossings Dwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,401	1,170	83.5%	36.7	5.8	D
	Right Turn	231	206	89.3%	19.4	3.5	B
	Subtotal	1,632	1,377	84.4%	34.1	5.3	C
SB	Left Turn	612	429	70.1%	50.8	8.8	D
	Through	1,181	807	68.3%	19.0	3.1	B
	Right Turn	563	369	65.5%	8.9	0.7	A
	Subtotal	2,356	1,604	68.1%	25.2	4.2	C
EB	Left Turn	730	622	85.3%	96.0	23.4	F
	Through	362	347	95.9%	64.7	4.3	E
	Right Turn	160	161	100.6%	31.9	5.4	C
	Subtotal	1,252	1,130	90.3%	76.9	11.8	E
WB	Left Turn	238	215	90.2%	108.2	37.7	F
	Through						
	Right Turn	539	443	82.1%	106.6	45.5	F
	Subtotal	777	657	84.6%	107.5	40.7	F
Total		6,017	4,769	79.3%	51.1	6.2	D

Intersection 11 **Sierra College Blvd/Schriber Wy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	77	63	81.3%	42.3	8.0	D
	Through	1,427	1,181	82.8%	14.4	2.2	B
	Right Turn	177	149	84.0%	12.2	3.2	B
	Subtotal	1,681	1,392	82.8%	15.5	2.2	B
SB	Left Turn						
	Through	1,349	1,008	74.7%	19.2	3.0	B
	Right Turn	143	104	72.5%	9.5	2.0	A
	Subtotal	1,492	1,111	74.5%	18.3	2.9	B
EB	Left Turn	131	125	95.3%	28.6	2.2	C
	Through						
	Right Turn	73	68	93.6%	9.9	2.4	A
	Subtotal	204	193	94.7%	22.0	1.7	C
WB	Left Turn	90	88	97.7%	23.5	3.5	C
	Through						
	Right Turn	178	188	105.5%	11.4	1.7	B
	Subtotal	268	276	102.9%	15.3	1.8	B
Total		3,645	2,973	81.6%	16.9	1.9	B

Intersection 12 **Sierra College Blvd/Dominguez Rd-Bass Pro Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	1	1	76.8%	6.7	14.1	A
	Through	1,576	1,301	82.6%	17.2	4.2	B
	Right Turn	126	103	81.7%	17.9	5.9	B
	Subtotal	1,703	1,405	82.5%	17.3	4.3	B
SB	Left Turn	122	89	73.3%	32.3	9.4	C
	Through	1,384	1,067	77.1%	8.5	1.1	A
	Right Turn	5	5	99.8%	4.3	0.5	A
	Subtotal	1,511	1,161	76.9%	10.4	1.4	B
EB	Left Turn	3	3	115.2%	17.6	19.0	B
	Through						
	Right Turn	3	2	76.8%	3.3	5.3	A
	Subtotal	6	6	96.0%	14.5	12.8	B
WB	Left Turn	114	104	91.6%	22.9	4.2	C
	Through	1	2	192.0%	8.0	9.8	A
	Right Turn	102	100	97.9%	9.6	1.7	A
	Subtotal	217	206	95.0%	16.4	2.2	B
Total		3,437	2,778	80.8%	14.3	2.5	B

Intersection 13 **Sierra College Blvd/Stadium Entrance Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	15	15	97.3%	12.4	5.9	B
	Through	1,666	1,337	80.3%	4.9	1.1	A
	Right Turn						
	Subtotal	1,681	1,352	80.4%	5.0	1.1	A
SB	Left Turn						
	Through	1,474	1,167	79.2%	3.0	0.6	A
	Right Turn	27	18	68.3%	1.9	0.9	A
	Subtotal	1,501	1,186	79.0%	3.0	0.5	A
EB	Left Turn	37	42	113.1%	12.2	3.5	B
	Through						
	Right Turn	20	18	92.2%	6.0	2.3	A
	Subtotal	57	60	105.8%	10.3	3.4	B
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		3,239	2,598	80.2%	4.2	0.8	A

Intersection 14 **Sierra College Blvd/Rocklin Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	352	270	76.6%	167.2	29.7	F
	Through	1,191	926	77.8%	178.7	30.9	F
	Right Turn	97	82	84.7%	190.8	38.7	F
	Subtotal	1,640	1,278	77.9%	177.3	30.6	F
SB	Left Turn	196	162	82.9%	75.7	16.1	E
	Through	1,021	845	82.8%	33.8	4.4	C
	Right Turn	254	201	79.1%	10.8	2.7	B
	Subtotal	1,471	1,208	82.2%	35.8	5.3	D
EB	Left Turn	312	271	86.9%	98.5	25.5	F
	Through	300	280	93.4%	32.5	4.5	C
	Right Turn	337	326	96.6%	11.7	1.8	B
	Subtotal	949	877	92.4%	45.3	8.9	D
WB	Left Turn	95	81	84.9%	58.9	8.7	E
	Through	278	280	100.6%	44.2	4.1	D
	Right Turn	215	200	92.9%	26.3	4.8	C
	Subtotal	588	560	95.2%	40.0	4.0	D
Total		4,648	3,923	84.4%	84.5	9.5	F

Intersection 21 **Sierra College Blvd/Office Dwy** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	7	5	65.8%	4.3	4.7	A
	Through	1,606	1,165	72.6%	4.2	0.5	A
	Right Turn						
	Subtotal	1,613	1,170	72.5%	4.3	0.5	A
SB	Left Turn						
	Through	1,715	942	54.9%	35.5	3.4	E
	Right Turn						
	Subtotal	1,715	942	54.9%	35.5	3.4	E
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		3,328	2,112	63.5%	18.2	1.4	C

Intersection 24 **Sierra College Blvd/Project Dwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,380	972	70.4%	33.9	6.6	C
	Right Turn	528	380	72.0%	16.9	4.2	B
	Subtotal	1,908	1,352	70.9%	29.1	5.8	C
SB	Left Turn	221	138	62.6%	113.5	23.9	F
	Through	1,494	808	54.1%	109.1	7.7	F
	Right Turn						
	Subtotal	1,715	946	55.1%	110.0	9.8	F
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	499	437	87.6%	131.5	60.2	F
	Through						
	Right Turn	229	196	85.5%	91.7	63.3	F
	Subtotal	728	633	86.9%	119.2	61.7	F
Total		4,351	2,931	67.4%	74.1	12.1	E

Intersection 6 **Sierra College Blvd/Taylor Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	175	150	16	225	17	175	1	14%	0%
	Through	4,650	500	305	875	497	925	561	28%	0%
	Right Turn	200	125	28	250	29	225	0	4%	0%
NB	Left Turn	225	100	27	175	54	200	57	2%	0%
	Through	575	200	24	300	38	325	44	6%	1%
	Right Turn	575	100	20	200	38	200	41	0%	0%
SB	Left Turn	200	50	28	150	87	150	93	0%	0%
	Through	5,000	625	186	1,150	356	1,225	375	59%	0%
	Right Turn	225	150	35	300	41	250	0	0%	0%
WB	Left Turn	225	225	17	250	19	225	0	59%	0%
	Through	5,550	1,400	533	2,825	788	3,000	626	7%	0%
	Right Turn	225	50	25	100	80	125	97	0%	0%

Intersection 7 **Sierra College Blvd/Brace Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Right Turn	1,250	200	105	350	191	375	201	0%	0%
NB	Through	625	175	73	275	92	275	92	0%	0%
	Right Turn	625	50	15	75	16	75	13	0%	0%
SB	Left Turn	175	125	29	225	30	200	1	0%	0%
	Through	575	575	29	725	46	650	33	43%	32%
	Right Turn	575	25	0	25	0	25	0	0%	0%
WB	Left Turn	100	125	6	125	6	125	1	78%	0%
	Right Turn	5,000	600	292	1,125	508	1,125	476	1%	0%

Intersection 8 **Sierra College Blvd/Granite Dr** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	200	200	26	225	18	225	0	68%	0%
	Through	2,575	575	224	1,000	436	950	424	0%	1%
	Right Turn	2,575	550	296	975	532	1,050	473	60%	2%
NB	Left Turn	175	200	7	225	3	200	1	51%	0%
	Through	400	500	30	575	39	525	21	23%	37%
	Right Turn	400	450	32	550	46	525	28	0%	27%
SB	Left Turn	300	125	44	300	63	325	0	0%	0%
	Through	575	675	29	700	27	675	17	58%	53%
	Right Turn	200	100	34	250	49	225	0	0%	0%
WB	Left Turn	175	175	16	200	17	200	2	81%	0%
	Through	1,350	475	195	825	219	800	211	0%	0%
	Right Turn	175	25	10	75	22	75	22	0%	0%

Intersection 9 **Sierra College Blvd/Rocklin Commons Dwy-I-80 WB Ramps** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	875	650	126	950	133	850	110	25%	0%
	Right Turn	3,700	675	426	1,575	868	1,675	755	14%	0%
NB	Left Turn	150	250	2	275	11	275	14	0%	75%
	Through	1,500	775	238	1,200	304	1,200	301	0%	2%
	Right Turn	300	150	24	275	46	250	52	13%	0%
SB	Through	400	450	35	550	41	500	32	0%	34%
	Right Turn	200	125	10	150	17	150	20	2%	0%
WB	Left Turn	800	450	167	700	209	675	188	19%	0%
	Through/Right	4,600	850	451	1,375	605	1,550	668	66%	0%
	Right Turn	200	200	12	250	27	225	0	14%	0%

Intersection 10 **Sierra College Blvd/I-80 EB Ramps-Rocklin Crossings Dwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	375	375	28	400	21	375	2	23%	0%
	Through	1,625	450	255	750	341	725	331	1%	0%
	Right Turn	225	100	23	200	43	200	48	1%	0%
NB	Through	300	325	28	375	34	375	21	0%	20%
	Right Turn	300	100	14	150	29	150	38	0%	0%
SB	Left Turn	225	175	22	250	32	250	28	0%	0%
	Through	1,500	325	70	375	102	400	108	9%	0%
	Right Turn	475	25	0	25	0	25	0	0%	0%
WB	Left Turn	375	325	52	425	55	375	0	12%	0%
	Right Turn	3,175	825	397	1,225	502	1,200	472	46%	0%

Intersection 11 **Sierra College Blvd/Schriber Wy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	225	75	20	125	39	125	43	1%	0%
	Through/Right	650	25	7	50	15	50	21	0%	0%
NB	Left Turn	125	50	12	100	36	125	44	0%	0%
	Through	350	175	38	250	60	275	56	7%	0%
	Through/Right	350	325	72	450	85	425	74	0%	11%
SB	Through	300	250	56	350	60	350	56	28%	10%
	Right Turn	100	50	20	125	39	125	24	0%	0%
WB	Left/Through	575	50	6	100	17	100	22	0%	0%
	Right Turn	225	100	21	150	44	150	40	0%	0%

Intersection 12 **Sierra College Blvd/Dominguez Rd-Bass Pro Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	200	25	3	25	14	25	16	0%	0%
	Through/Right	375	25	1	25	7	25	11	0%	0%
NB	Left Turn	100	25	3	25	10	25	32	0%	0%
	Through	1,700	450	113	675	168	700	187	36%	0%
	Right Turn	75	75	4	75	9	75	1	1%	0%
SB	Left Turn	225	75	16	100	33	100	32	0%	2%
	Through	350	175	38	225	43	250	31	0%	0%
	Right Turn	200	25	1	25	7	25	10	0%	0%
WB	Left Turn	250	75	27	125	47	125	43	0%	0%
	Through	750	25	0	25	0	25	0	0%	0%
	Right Turn	175	50	6	75	14	75	19	0%	0%

Intersection 13 **Sierra College Blvd/Stadium Entrance Dr** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	400	75	34	100	54	100	51	12%	0%
	Right Turn	100	50	9	75	25	75	31	0%	0%
NB	Left Turn	225	25	3	50	6	50	11	0%	0%
	Through	1,600	125	22	175	31	175	31	0%	0%
SB	Through	1,700	50	11	100	26	100	28	0%	0%
	Through/Right	725	75	13	125	24	100	21	0%	0%
0										

Intersection 14 **Sierra College Blvd/Rocklin Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	225	250	1	250	3	250	0	79%	0%
	Through	2,275	725	228	975	304	1,050	327	0%	0%
	Right Turn	2,275	175	26	250	52	250	49	0%	0%
NB	Left Turn	225	225	31	275	26	250	19	8%	0%
	Through	5,650	2,050	420	3,050	570	3,050	571	52%	0%
	Through/Right	5,650	2,075	412	3,025	558	3,050	571	0%	0%
SB	Left Turn	250	200	41	275	25	250	15	18%	0%
	Through	1,700	200	92	325	122	350	99	11%	0%
	Right Turn	175	125	24	225	35	200	0	0%	0%
WB	Left Turn	225	100	37	200	56	200	60	0%	0%
	Through	5,000	275	46	400	79	375	84	12%	0%
	Through/Right	250	225	20	275	25	275	12	7%	0%

Intersection 21 **Sierra College Blvd/Office Dwy** **Side-street Stop**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Right Turn	525	50	24	100	39	100	46	0%	0%
NB	Left Turn	125	25	3	25	13	25	16	0%	0%
	Through	375	25	6	25	25	25	34	0%	0%
SB	Through	225	200	31	275	32	250	12	0%	24%
	Through/Right	225	225	4	225	5	225	6	0%	51%
0										

SimTraffic Post-Processor
Average Results from 10 Runs
Queue Length

Loomis Costco DEIR Peer Review
Cumulative Short Term Plus Project Conditions
Weekday PM Peak Hour

Intersection 24 **Sierra College Blvd/Project Dwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
NB	Through	575	275	68	425	95	425	91	20%	0%
	Right Turn	150	125	12	225	9	175	0	0%	1%
SB	Left Turn	175	125	35	225	24	200	3	7%	0%
	Through	625	625	36	675	41	650	25	32%	24%
WB	Left Turn	1,075	425	161	650	257	675	228	43%	1%
	Right Turn	225	175	33	300	24	250	0	0%	0%
0										

Intersection 6 **Sierra College Blvd/Taylor Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	175	125	15	200	14	175	0	5%	0%
	Through	4,650	400	134	700	150	700	107	27%	4%
	Right Turn	200	175	35	250	36	225	2	27%	0%
NB	Left Turn	225	150	64	225	63	225	49	13%	0%
	Through	575	250	66	375	93	350	87	3%	0%
	Right Turn	575	150	30	250	50	250	55	0%	0%
SB	Left Turn	200	75	46	175	105	200	76	0%	0%
	Through	5,000	800	134	1,500	232	1,550	245	73%	0%
	Right Turn	225	150	25	325	14	250	0	0%	0%
WB	Left Turn	225	225	16	250	15	225	0	72%	0%
	Through	4,850	1,700	431	3,275	568	3,250	438	1%	6%
	Right Turn	225	25	9	50	24	50	26	0%	0%

Intersection 7 **Sierra College Blvd/Brace Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Right Turn	1,275	75	20	150	41	150	45	0%	0%
NB	Through	625	150	25	250	48	250	57	0%	0%
	Right Turn	625	50	9	75	21	75	25	0%	0%
SB	Left Turn	175	125	27	225	31	200	0	0%	0%
	Through	575	600	17	675	30	675	21	45%	39%
	Right Turn	575	25	0	25	0	25	0	0%	0%
WB	Left Turn	100	125	8	125	10	125	0	78%	0%
	Right Turn	5,000	400	186	700	267	725	283	2%	0%

Intersection 8 **Sierra College Blvd/Granite Dr** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	200	200	40	225	23	225	6	62%	0%
	Through	2,575	450	301	775	392	775	388	2%	0%
	Right Turn	2,575	450	295	725	443	775	442	55%	0%
NB	Left Turn	175	200	5	225	9	200	0	46%	0%
	Through	400	500	47	550	48	525	18	13%	37%
	Right Turn	400	450	65	550	67	525	34	0%	24%
SB	Left Turn	300	100	46	225	123	200	114	0%	0%
	Through	575	675	39	700	26	700	16	59%	55%
	Right Turn	200	100	35	250	43	225	0	0%	0%
WB	Left Turn	175	175	10	200	17	200	2	87%	0%
	Through	1,350	650	262	1,075	331	1,025	338	0%	2%
	Right Turn	175	25	11	50	31	50	34	0%	0%

Intersection 9 **Sierra College Blvd/Rocklin Commons Dwy-I-80 WB Ramps** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	875	825	59	1,000	98	875	22	41%	0%
	Right Turn	3,150	1,675	454	2,900	609	2,950	333	31%	13%
NB	Left Turn	150	250	5	275	15	275	16	0%	77%
	Through	1,500	1,275	95	1,525	83	1,525	58	0%	13%
	Right Turn	300	150	36	250	57	250	50	14%	0%
SB	Through	400	450	49	525	37	500	25	0%	36%
	Right Turn	200	125	11	175	17	175	25	3%	0%
WB	Left Turn	800	600	162	900	156	825	27	17%	0%
	Through/Right	6,650	1,975	1,254	3,200	1,537	3,450	1,453	78%	2%
	Right Turn	200	200	19	225	34	225	0	5%	0%

Intersection 10 **Sierra College Blvd/I-80 EB Ramps-Rocklin Crossings Dwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	375	375	32	400	23	375	2	26%	0%
	Through	2,450	450	205	800	339	1,000	529	5%	0%
	Right Turn	225	125	13	225	23	225	33	0%	0%
NB	Through	300	200	32	300	38	300	38	0%	5%
	Right Turn	125	75	17	125	42	125	41	0%	2%
SB	Left Turn	225	200	22	275	21	250	11	4%	1%
	Through	1,500	250	58	325	77	350	70	3%	0%
	Right Turn	475	25	0	25	0	25	0	0%	0%
WB	Left Turn	375	350	57	425	31	375	0	8%	0%
	Right Turn	3,175	800	364	1,350	734	1,475	821	47%	0%

Intersection 11 **Sierra College Blvd/Schriber Wy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	225	75	9	125	24	150	31	0%	0%
	Through/Right	650	50	10	75	18	75	22	0%	0%
NB	Left Turn	125	50	16	100	32	125	33	1%	0%
	Through	350	125	19	200	41	200	49	2%	0%
	Through/Right	350	225	37	275	50	300	47	0%	1%
SB	Through	300	225	41	300	51	300	49	20%	3%
	Right Turn	100	75	26	125	35	125	16	0%	0%
WB	Left/Through	575	50	8	100	17	100	29	0%	0%
	Right Turn	225	75	14	125	38	125	38	0%	0%

Intersection 12 **Sierra College Blvd/Dominguez Rd-Bass Pro Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	200	25	3	25	11	25	14	0%	0%
	Through/Right	375	25	3	25	11	25	13	0%	0%
NB	Left Turn	100	25	1	25	7	25	10	0%	0%
	Through	1,700	275	65	425	101	400	90	29%	0%
	Right Turn	75	75	3	75	3	75	0	2%	0%
SB	Left Turn	225	75	21	125	40	125	37	0%	2%
	Through	350	150	23	175	41	200	40	0%	0%
	Right Turn	200	50	2	50	6	50	8	0%	0%
WB	Left Turn	250	50	18	75	31	75	31	0%	0%
	Through	750	25	3	25	11	25	15	0%	0%
	Right Turn	175	50	8	75	16	75	17	0%	0%

Intersection 13 **Sierra College Blvd/Stadium Entrance Dr** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	400	25	14	50	28	50	27	0%	0%
	Right Turn	100	25	7	50	7	50	1	0%	0%
NB	Left Turn	225	25	8	50	14	50	11	0%	0%
	Through	1,600	75	25	125	39	125	37	0%	0%
SB	Through	1,700	25	8	75	16	75	20	0%	0%
	Through/Right	725	50	10	75	10	75	15	0%	0%
0										

Intersection 14 **Sierra College Blvd/Rocklin Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	225	250	16	275	12	250	1	48%	0%
	Through	2,275	350	128	525	215	525	170	0%	0%
	Right Turn	2,275	125	13	175	25	175	30	0%	0%
NB	Left Turn	225	200	33	275	27	250	27	1%	0%
	Through	5,650	1,425	256	2,050	360	2,050	257	53%	0%
	Through/Right	5,650	1,450	258	2,050	356	2,050	276	0%	0%
SB	Left Turn	250	175	38	250	42	250	38	8%	0%
	Through	1,700	200	35	300	76	275	74	11%	0%
	Right Turn	175	100	26	225	27	200	0	0%	0%
WB	Left Turn	225	100	15	175	41	175	62	0%	0%
	Through	5,000	175	33	275	58	275	62	3%	0%
	Through/Right	250	175	29	250	38	250	28	1%	0%

Intersection 21 **Sierra College Blvd/Office Dwy** **Side-street Stop**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
NB	Left Turn	125	25	4	25	14	25	17	0%	0%
	Through	375	25	2	25	9	25	46	0%	0%
SB	Through	225	200	35	275	33	250	14	0%	24%
	Through/Right	225	225	3	225	3	225	3	0%	53%
EB	Right Turn	575	25	0	25	0	25	0	0%	0%
0										

SimTraffic Post-Processor
Average Results from 10 Runs
Queue Length

Loomis Costco DEIR Peer Review
Cumulative Short Term Plus Project Conditions
Weekend MD Peak Hour

Intersection 24 **Sierra College Blvd/Project Dwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
NB	Through	575	325	72	525	99	525	89	25%	1%
	Right Turn	150	150	16	200	25	175	0	2%	1%
SB	Left Turn	175	150	24	225	14	200	4	12%	0%
	Through	625	600	43	700	50	650	26	25%	24%
WB	Left Turn	2,150	900	483	1,375	634	1,375	576	57%	1%
	Right Turn	225	200	24	300	18	250	0	1%	0%
0										

Intersection 6 **Sierra College Blvd/Taylor Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	175	125	15	200	14	175	0	5%	0%
	Through	4,650	400	134	700	150	700	107	27%	4%
	Right Turn	200	175	35	250	36	225	2	27%	0%
NB	Left Turn	225	150	64	225	63	225	49	13%	0%
	Through	575	250	66	375	93	350	87	3%	0%
	Right Turn	575	150	30	250	50	250	55	0%	0%
SB	Left Turn	200	75	46	175	105	200	76	0%	0%
	Through	5,000	800	134	1,500	232	1,550	245	73%	0%
	Right Turn	225	150	25	325	14	250	0	0%	0%
WB	Left Turn	225	225	16	250	15	225	0	72%	0%
	Through	4,850	1,700	431	3,275	568	3,250	438	1%	6%
	Right Turn	225	25	9	50	24	50	26	0%	0%

Intersection 7 **Sierra College Blvd/Brace Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Right Turn	1,275	75	20	150	41	150	45	0%	0%
NB	Through	625	150	25	250	48	250	57	0%	0%
	Right Turn	625	50	9	75	21	75	25	0%	0%
SB	Left Turn	175	125	27	225	31	200	0	0%	0%
	Through	575	600	17	675	30	675	21	45%	39%
	Right Turn	575	25	0	25	0	25	0	0%	0%
WB	Left Turn	100	125	8	125	10	125	0	78%	0%
	Right Turn	5,000	400	186	700	267	725	283	2%	0%

Intersection 8 **Sierra College Blvd/Granite Dr** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	200	200	40	225	23	225	6	62%	0%
	Through	2,575	450	301	775	392	775	388	2%	0%
	Right Turn	2,575	450	295	725	443	775	442	55%	0%
NB	Left Turn	175	200	5	225	9	200	0	46%	0%
	Through	400	500	47	550	48	525	18	13%	37%
	Right Turn	400	450	65	550	67	525	34	0%	24%
SB	Left Turn	300	100	46	225	123	200	114	0%	0%
	Through	575	675	39	700	26	700	16	59%	55%
	Right Turn	200	100	35	250	43	225	0	0%	0%
WB	Left Turn	175	175	10	200	17	200	2	87%	0%
	Through	1,350	650	262	1,075	331	1,025	338	0%	2%
	Right Turn	175	25	11	50	31	50	34	0%	0%

Intersection 9 **Sierra College Blvd/Rocklin Commons Dwy-I-80 WB Ramps** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	875	825	59	1,000	98	875	22	41%	0%
	Right Turn	3,150	1,675	454	2,900	609	2,950	333	31%	13%
NB	Left Turn	150	250	5	275	15	275	16	0%	77%
	Through	1,500	1,275	95	1,525	83	1,525	58	0%	13%
	Right Turn	300	150	36	250	57	250	50	14%	0%
SB	Through	400	450	49	525	37	500	25	0%	36%
	Right Turn	200	125	11	175	17	175	25	3%	0%
WB	Left Turn	800	600	162	900	156	825	27	17%	0%
	Through/Right	6,650	1,975	1,254	3,200	1,537	3,450	1,453	78%	2%
	Right Turn	200	200	19	225	34	225	0	5%	0%

Intersection 10 **Sierra College Blvd/I-80 EB Ramps-Rocklin Crossings Dwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	375	375	32	400	23	375	2	26%	0%
	Through	2,450	450	205	800	339	1,000	529	5%	0%
	Right Turn	225	125	13	225	23	225	33	0%	0%
NB	Through	300	200	32	300	38	300	38	0%	5%
	Right Turn	125	75	17	125	42	125	41	0%	2%
SB	Left Turn	225	200	22	275	21	250	11	4%	1%
	Through	1,500	250	58	325	77	350	70	3%	0%
	Right Turn	475	25	0	25	0	25	0	0%	0%
WB	Left Turn	375	350	57	425	31	375	0	8%	0%
	Right Turn	3,175	800	364	1,350	734	1,475	821	47%	0%

Intersection 11 **Sierra College Blvd/Schriber Wy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	225	75	9	125	24	150	31	0%	0%
	Through/Right	650	50	10	75	18	75	22	0%	0%
NB	Left Turn	125	50	16	100	32	125	33	1%	0%
	Through	350	125	19	200	41	200	49	2%	0%
	Through/Right	350	225	37	275	50	300	47	0%	1%
SB	Through	300	225	41	300	51	300	49	20%	3%
	Right Turn	100	75	26	125	35	125	16	0%	0%
WB	Left/Through	575	50	8	100	17	100	29	0%	0%
	Right Turn	225	75	14	125	38	125	38	0%	0%

Intersection 12 **Sierra College Blvd/Dominguez Rd-Bass Pro Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	200	25	3	25	11	25	14	0%	0%
	Through/Right	375	25	3	25	11	25	13	0%	0%
NB	Left Turn	100	25	1	25	7	25	10	0%	0%
	Through	1,700	275	65	425	101	400	90	29%	0%
	Right Turn	75	75	3	75	3	75	0	2%	0%
SB	Left Turn	225	75	21	125	40	125	37	0%	2%
	Through	350	150	23	175	41	200	40	0%	0%
	Right Turn	200	50	2	50	6	50	8	0%	0%
WB	Left Turn	250	50	18	75	31	75	31	0%	0%
	Through	750	25	3	25	11	25	15	0%	0%
	Right Turn	175	50	8	75	16	75	17	0%	0%

Intersection 13 **Sierra College Blvd/Stadium Entrance Dr** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	400	25	14	50	28	50	27	0%	0%
	Right Turn	100	25	7	50	7	50	1	0%	0%
NB	Left Turn	225	25	8	50	14	50	11	0%	0%
	Through	1,600	75	25	125	39	125	37	0%	0%
SB	Through	1,700	25	8	75	16	75	20	0%	0%
	Through/Right	725	50	10	75	10	75	15	0%	0%
0										

Intersection 14 **Sierra College Blvd/Rocklin Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	225	250	16	275	12	250	1	48%	0%
	Through	2,275	350	128	525	215	525	170	0%	0%
	Right Turn	2,275	125	13	175	25	175	30	0%	0%
NB	Left Turn	225	200	33	275	27	250	27	1%	0%
	Through	5,650	1,425	256	2,050	360	2,050	257	53%	0%
	Through/Right	5,650	1,450	258	2,050	356	2,050	276	0%	0%
SB	Left Turn	250	175	38	250	42	250	38	8%	0%
	Through	1,700	200	35	300	76	275	74	11%	0%
	Right Turn	175	100	26	225	27	200	0	0%	0%
WB	Left Turn	225	100	15	175	41	175	62	0%	0%
	Through	5,000	175	33	275	58	275	62	3%	0%
	Through/Right	250	175	29	250	38	250	28	1%	0%

Intersection 21 **Sierra College Blvd/Office Dwy** **Side-street Stop**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
NB	Left Turn	125	25	4	25	14	25	17	0%	0%
	Through	375	25	2	25	9	25	46	0%	0%
SB	Through	225	200	35	275	33	250	14	0%	24%
	Through/Right	225	225	3	225	3	225	3	0%	53%
EB	Right Turn	575	25	0	25	0	25	0	0%	0%
0										

SimTraffic Post-Processor
Average Results from 10 Runs
Queue Length

Loomis Costco DEIR Peer Review
Cumulative Short Term Plus Project Conditions
Weekend MD Peak Hour

Intersection 24 **Sierra College Blvd/Project Dwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
NB	Through	575	325	72	525	99	525	89	25%	1%
	Right Turn	150	150	16	200	25	175	0	2%	1%
SB	Left Turn	175	150	24	225	14	200	4	12%	0%
	Through	625	600	43	700	50	650	26	25%	24%
WB	Left Turn	2,150	900	483	1,375	634	1,375	576	57%	1%
	Right Turn	225	200	24	300	18	250	0	1%	0%
0										

Cumulative Long-Term Conditions

Intersection 6 **Sierra College Blvd/Taylor Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	130	82	62.8%	54.9	14.3	D
	Through	1,470	907	61.7%	29.1	2.3	C
	Right Turn	550	326	59.3%	11.5	1.6	B
	Subtotal	2,150	1,314	61.1%	26.3	2.5	C
SB	Left Turn	35	21	61.2%	119.4	54.7	F
	Through	940	740	78.7%	108.8	42.8	F
	Right Turn	70	56	80.6%	63.3	39.9	E
	Subtotal	1,045	818	78.3%	106.0	42.6	F
EB	Left Turn	135	117	86.6%	75.2	29.6	E
	Through	320	285	89.1%	71.1	31.7	E
	Right Turn	240	211	87.7%	67.1	30.1	E
	Subtotal	695	613	88.1%	70.7	30.0	E
WB	Left Turn	495	331	66.9%	156.8	70.0	F
	Through	190	143	75.2%	103.1	55.6	F
	Right Turn	70	50	70.9%	90.8	49.5	F
	Subtotal	755	524	69.4%	136.8	65.5	F
Total		4,645	3,269	70.4%	70.2	21.2	E

Intersection 7 **Sierra College Blvd/Brace Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	2,045	1,195	58.4%	58.1	8.1	E
	Right Turn	375	219	58.4%	55.9	9.8	E
	Subtotal	2,420	1,413	58.4%	57.8	8.3	E
SB	Left Turn	315	189	60.0%	172.7	15.5	F
	Through	1,245	969	77.8%	39.2	5.5	D
	Right Turn	115	89	77.8%	35.0	5.5	D
	Subtotal	1,675	1,248	74.5%	59.3	8.0	E
EB	Left Turn						
	Through						
	Right Turn	545	485	89.0%	105.2	35.1	F
	Subtotal	545	485	89.0%	105.2	35.1	F
WB	Left Turn	105	82	77.7%	183.4	68.4	F
	Through						
	Right Turn	130	120	92.3%	86.9	83.0	F
	Subtotal	235	202	85.8%	125.7	78.6	F
Total		4,875	3,348	68.7%	68.9	9.2	E

Intersection 8 **Sierra College Blvd/Granite Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	220	144	65.5%	110.7	15.2	F
	Through	1,865	1,217	65.2%	58.3	9.0	E
	Right Turn	55	28	51.3%	37.7	10.2	D
	Subtotal	2,140	1,389	64.9%	63.4	9.2	E
SB	Left Turn	100	62	61.7%	119.8	55.6	F
	Through	1,560	1,201	77.0%	78.6	34.8	E
	Right Turn	185	128	69.1%	67.6	42.0	E
	Subtotal	1,845	1,390	75.3%	79.2	35.9	E
EB	Left Turn	415	179	43.1%	334.5	113.9	F
	Through	25	15	60.2%	310.7	129.1	F
	Right Turn	285	224	78.5%	114.1	57.8	F
	Subtotal	725	418	57.6%	200.3	65.9	F
WB	Left Turn	120	59	49.5%	283.5	132.8	F
	Through	30	21	70.2%	197.9	149.3	F
	Right Turn	90	55	61.4%	168.3	136.3	F
	Subtotal	240	136	56.6%	221.9	146.3	F
Total		4,950	3,332	67.3%	91.5	22.6	F

Intersection 9 **Sierra College Blvd/Rocklin Commons Dwy-I-80 WB Ramps** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	305	227	74.6%	69.0	8.3	E
	Through	1,835	1,195	65.1%	37.2	12.8	D
	Right Turn	255	174	68.3%	11.8	4.1	B
	Subtotal	2,395	1,596	66.7%	38.9	11.0	D
SB	Left Turn						
	Through	1,930	1,446	74.9%	48.2	6.6	D
	Right Turn	35	20	58.0%	26.6	4.9	C
	Subtotal	1,965	1,467	74.6%	47.9	6.6	D
EB	Left Turn	35	25	70.9%	100.7	45.2	F
	Through						
	Right Turn	120	119	99.0%	26.0	4.7	C
	Subtotal	155	144	92.7%	38.7	9.0	D
WB	Left Turn	1,035	669	64.7%	291.3	41.3	F
	Through	70	49	69.8%	294.1	39.3	F
	Right Turn	240	177	73.9%	271.5	36.0	F
	Subtotal	1,345	896	66.6%	287.5	40.1	F
Total		5,860	4,103	70.0%	95.9	9.0	F

Intersection 10 **Sierra College Blvd/I-80 EB Ramps-Rocklin Crossings Dwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	2,430	1,316	54.2%	22.8	7.9	C
	Right Turn	160	86	54.1%	9.4	4.4	A
	Subtotal	2,590	1,403	54.2%	22.0	7.7	C
SB	Left Turn	270	199	73.7%	73.8	12.2	E
	Through	1,525	1,078	70.7%	14.8	4.5	B
	Right Turn	360	267	74.1%	8.4	0.8	A
	Subtotal	2,155	1,543	71.6%	21.2	3.5	C
EB	Left Turn	520	500	96.1%	62.8	13.7	E
	Through	180	175	97.1%	52.7	5.8	D
	Right Turn	100	96	95.9%	26.5	12.8	C
	Subtotal	800	770	96.3%	56.0	9.2	E
WB	Left Turn	125	105	84.2%	105.1	54.7	F
	Through						
	Right Turn	310	309	99.8%	38.8	21.1	D
	Subtotal	435	415	95.3%	56.6	28.7	E
Total		5,980	4,131	69.1%	31.5	6.8	C

Intersection 11 **Sierra College Blvd/Schriber Wy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	55	29	53.3%	44.2	15.0	D
	Through	2,360	1,152	48.8%	14.1	5.2	B
	Right Turn	65	40	61.9%	11.6	7.1	B
	Subtotal	2,480	1,222	49.3%	14.7	5.1	B
SB	Left Turn						
	Through	1,560	1,119	71.8%	23.7	12.0	C
	Right Turn	190	147	77.2%	13.2	8.1	B
	Subtotal	1,750	1,266	72.3%	22.4	11.5	C
EB	Left Turn	155	155	99.7%	32.0	7.5	C
	Through	10	10	97.8%	47.3	48.2	D
	Right Turn	65	62	95.4%	16.1	5.9	B
	Subtotal	230	226	98.4%	27.9	5.9	C
WB	Left Turn	25	30	121.8%	31.8	9.7	C
	Through	5	3	67.7%	13.0	13.3	B
	Right Turn	75	72	96.3%	16.0	8.4	B
	Subtotal	105	106	101.0%	21.0	8.6	C
Total		4,565	2,820	61.8%	19.5	7.7	B

Intersection 12 **Sierra College Blvd/Dominguez Rd-Bass Pro Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	295	130	44.1%	284.5	45.0	F
	Through	2,260	1,023	45.3%	210.7	32.6	F
	Right Turn	185	90	48.8%	196.7	29.7	F
	Subtotal	2,740	1,243	45.4%	217.6	33.6	F
SB	Left Turn	100	71	71.1%	89.3	19.3	F
	Through	1,445	1,047	72.4%	36.9	8.9	D
	Right Turn	105	75	71.3%	18.3	5.6	B
	Subtotal	1,650	1,193	72.3%	38.9	8.6	D
EB	Left Turn	205	173	84.6%	108.3	40.6	F
	Through	55	46	83.4%	50.5	29.7	D
	Right Turn	485	479	98.7%	49.8	10.5	D
	Subtotal	745	698	93.7%	64.4	15.3	E
WB	Left Turn	155	151	97.3%	76.9	8.8	E
	Through	100	91	91.4%	43.5	5.5	D
	Right Turn	15	13	85.2%	8.4	4.5	A
	Subtotal	270	255	94.4%	62.0	7.2	E
Total		5,405	3,389	62.7%	111.0	14.4	F

Intersection 13 **Sierra College Blvd/Stadium Entrance Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	60	37	62.0%	44.4	10.1	D
	Through	2,435	1,389	57.0%	27.0	16.3	C
	Right Turn						
	Subtotal	2,495	1,426	57.1%	27.5	16.0	C
SB	Left Turn						
	Through	1,945	1,583	81.4%	8.3	1.3	A
	Right Turn	175	141	80.8%	7.0	1.3	A
	Subtotal	2,120	1,725	81.4%	8.2	1.3	A
EB	Left Turn	285	141	49.3%	198.9	61.7	F
	Through						
	Right Turn	175	92	52.6%	157.4	62.1	F
	Subtotal	460	233	50.6%	182.5	60.8	F
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		5,075	3,383	66.7%	27.3	7.4	C

Intersection 14 **Sierra College Blvd/Rocklin Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	485	282	58.2%	300.9	34.9	F
	Through	1,955	1,110	56.8%	292.8	27.7	F
	Right Turn	110	60	54.7%	304.3	43.3	F
	Subtotal	2,550	1,452	56.9%	295.0	28.5	F
SB	Left Turn	325	195	59.9%	211.6	52.3	F
	Through	1,600	1,242	77.6%	35.2	4.8	D
	Right Turn	225	175	77.7%	15.1	3.0	B
	Subtotal	2,150	1,611	74.9%	54.4	7.4	D
EB	Left Turn	330	195	59.0%	301.1	48.4	F
	Through	320	321	100.3%	46.3	5.9	D
	Right Turn	625	582	93.1%	84.2	17.1	F
	Subtotal	1,275	1,098	86.1%	111.6	14.5	F
WB	Left Turn	105	88	83.4%	239.3	56.3	F
	Through	240	235	97.9%	60.7	13.1	E
	Right Turn	210	217	103.5%	41.8	10.0	D
	Subtotal	555	540	97.3%	82.4	18.6	F
Total		6,530	4,701	72.0%	145.2	9.0	F

Intersection 21 **Sierra College Blvd/Office Dwy** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	5	2	37.6%	19.2	18.3	C
	Through	2,420	1,425	58.9%	30.9	7.8	D
	Right Turn						
	Subtotal	2,425	1,427	58.8%	30.9	7.9	D
SB	Left Turn						
	Through	1,865	1,517	81.3%	3.4	3.2	A
	Right Turn	5	6	127.8%	2.6	4.8	A
	Subtotal	1,870	1,524	81.5%	3.4	3.2	A
EB	Left Turn						
	Through						
	Right Turn	20	15	75.2%	55.9	140.0	F
	Subtotal	20	15	75.2%	55.9	140.0	F
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		4,315	2,966	68.7%	17.0	4.1	C

SimTraffic Post-Processor **Loomis Costco DEIR Peer Review**
Average Results from 10 Runs **Cumulative Long Term No Project Conditions**
Volume and Delay by Movement **Weekday PM Peak Hour**

Intersection 24 **Sierra College Blvd/Commercial Access Dwy** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	48	23	47.8%	77.4	48.6	F
	Through	2,320	1,418	61.1%	8.9	3.6	A
	Right Turn						
	Subtotal	2,368	1,441	60.9%	10.0	3.7	A
SB	Left Turn						
	Through	1,825	1,425	78.1%	17.4	18.5	C
	Right Turn	60	50	84.0%	28.4	35.9	D
	Subtotal	1,885	1,475	78.3%	17.8	19.1	C
EB	Left Turn	105	10	9.3%	561.3	76.9	F
	Through						
	Right Turn	83	7	8.6%	405.8	86.3	F
	Subtotal	188	17	9.0%	321.2	234.7	F
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		4,441	2,933	66.0%	16.1	9.6	C

Intersection 6 **Sierra College Blvd/Taylor Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	140	117	83.7%	58.7	20.9	E
	Through	715	578	80.9%	27.5	6.6	C
	Right Turn	500	411	82.2%	15.2	3.4	B
	Subtotal	1,355	1,106	81.6%	26.4	6.1	C
SB	Left Turn	40	37	93.1%	67.8	25.0	E
	Through	730	578	79.1%	80.0	27.8	E
	Right Turn	40	28	71.0%	55.4	36.0	E
	Subtotal	810	643	79.4%	78.1	27.8	E
EB	Left Turn	80	75	94.1%	48.5	17.9	D
	Through	220	196	89.0%	46.7	22.7	D
	Right Turn	225	189	84.1%	46.4	35.0	D
	Subtotal	525	460	87.7%	47.1	26.9	D
WB	Left Turn	485	309	63.7%	143.2	41.1	F
	Through	170	106	62.6%	99.1	34.4	F
	Right Turn	35	21	60.3%	101.4	62.3	F
	Subtotal	690	436	63.2%	130.4	39.9	F
Total		3,380	2,646	78.3%	58.7	11.6	E

Intersection 7 **Sierra College Blvd/Brace Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,253	1,054	84.1%	39.8	8.3	D
	Right Turn	280	237	84.5%	39.6	8.9	D
	Subtotal	1,533	1,290	84.2%	39.8	8.4	D
SB	Left Turn	235	186	79.3%	107.3	30.1	F
	Through	1,095	721	65.8%	98.8	24.0	F
	Right Turn	110	61	55.9%	133.0	43.7	F
	Subtotal	1,440	968	67.3%	102.7	25.3	F
EB	Left Turn						
	Through						
	Right Turn	270	117	43.2%	233.1	79.2	F
	Subtotal	270	117	43.2%	233.1	79.2	F
WB	Left Turn	115	31	27.4%	302.1	97.3	F
	Through						
	Right Turn	80	38	47.0%	155.2	88.0	F
	Subtotal	195	69	35.4%	218.0	92.9	F
Total		3,438	2,445	71.1%	77.2	12.5	E

Intersection 8 **Sierra College Blvd/Granite Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	210	156	74.2%	112.8	39.2	F
	Through	1,120	957	85.4%	40.6	10.1	D
	Right Turn	85	72	84.5%	16.8	5.6	B
	Subtotal	1,415	1,184	83.7%	48.6	13.1	D
SB	Left Turn	100	83	82.6%	238.1	57.1	F
	Through	1,130	598	52.9%	244.4	34.8	F
	Right Turn	190	69	36.2%	234.5	38.5	F
	Subtotal	1,420	749	52.7%	242.8	37.2	F
EB	Left Turn	280	266	94.9%	99.7	52.3	F
	Through	20	20	97.9%	64.2	36.8	E
	Right Turn	210	206	98.2%	50.1	10.2	D
	Subtotal	510	492	96.4%	77.5	31.5	E
WB	Left Turn	140	130	92.7%	105.8	37.0	F
	Through	30	31	105.0%	54.7	15.1	D
	Right Turn	65	66	101.0%	34.1	18.1	C
	Subtotal	235	227	96.6%	78.7	29.6	E
Total		3,580	2,652	74.1%	110.8	17.8	F

Intersection 9 **Sierra College Blvd/Rocklin Commons Dwy-I-80 WB Ramps** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	400	343	85.6%	66.2	10.6	E
	Through	1,280	1,134	88.6%	28.4	6.0	C
	Right Turn	240	243	101.1%	14.4	4.2	B
	Subtotal	1,920	1,719	89.5%	34.1	7.3	C
SB	Left Turn						
	Through	1,430	863	60.3%	59.4	7.5	E
	Right Turn	25	15	61.4%	31.8	4.4	C
	Subtotal	1,455	878	60.4%	58.9	7.7	E
EB	Left Turn	80	74	92.2%	122.3	75.7	F
	Through						
	Right Turn	290	309	106.5%	31.3	6.6	C
	Subtotal	370	382	103.4%	48.3	13.4	D
WB	Left Turn	1,090	776	71.2%	255.5	33.2	F
	Through	150	109	72.4%	257.3	31.7	F
	Right Turn	180	119	65.9%	227.7	29.5	F
	Subtotal	1,420	1,003	70.6%	252.4	32.1	F
Total		5,165	3,983	77.1%	95.5	8.6	F

Intersection 10 **Sierra College Blvd/I-80 EB Ramps-Rocklin Crossings Dwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,350	1,025	75.9%	23.9	3.5	C
	Right Turn	100	78	78.0%	8.4	1.4	A
	Subtotal	1,450	1,103	76.1%	22.8	3.4	C
SB	Left Turn	435	351	80.6%	42.9	5.4	D
	Through	995	727	73.0%	11.0	1.3	B
	Right Turn	235	167	71.2%	6.5	0.3	A
	Subtotal	1,665	1,245	74.7%	19.4	2.4	B
EB	Left Turn	560	533	95.1%	55.5	3.8	E
	Through	285	273	95.9%	50.3	5.7	D
	Right Turn	85	83	98.0%	14.5	2.9	B
	Subtotal	930	889	95.6%	50.2	3.3	D
WB	Left Turn	125	120	96.2%	62.5	5.2	E
	Through						
	Right Turn	345	365	105.7%	22.7	2.5	C
	Subtotal	470	485	103.2%	32.5	2.6	C
Total		4,515	3,722	82.4%	29.5	1.3	C

Intersection 11 **Sierra College Blvd/Schriber Wy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	46	25	53.4%	27.5	8.5	C
	Through	1,180	860	72.9%	9.0	1.7	A
	Right Turn	75	56	75.3%	6.0	3.0	A
	Subtotal	1,301	941	72.3%	9.4	1.7	A
SB	Left Turn						
	Through	1,180	931	78.9%	11.6	2.1	B
	Right Turn	201	162	80.6%	5.4	1.1	A
	Subtotal	1,381	1,093	79.1%	10.7	1.9	B
EB	Left Turn	170	159	93.5%	21.2	4.8	C
	Through	12	14	115.2%	15.0	10.3	B
	Right Turn	58	58	99.3%	8.5	2.8	A
	Subtotal	240	230	96.0%	18.0	3.8	B
WB	Left Turn	10	11	107.5%	24.8	12.0	C
	Through	14	13	96.0%	22.7	9.3	C
	Right Turn	100	103	103.3%	6.5	1.3	A
	Subtotal	124	127	102.8%	9.3	0.9	A
Total		3,046	2,392	78.5%	10.8	1.7	B

Intersection 12 **Sierra College Blvd/Dominguez Rd-Bass Pro Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	515	229	44.4%	201.3	16.4	F
	Through	1,051	688	65.5%	79.7	10.1	E
	Right Turn	175	124	70.9%	48.8	9.5	D
	Subtotal	1,741	1,041	59.8%	102.7	8.9	F
SB	Left Turn	115	88	76.8%	70.1	7.4	E
	Through	845	692	81.9%	37.9	4.5	D
	Right Turn	255	206	80.9%	19.4	4.2	B
	Subtotal	1,215	986	81.2%	36.9	4.2	D
EB	Left Turn	245	240	98.1%	109.9	44.9	F
	Through	105	108	102.4%	53.2	37.1	D
	Right Turn	500	494	98.8%	23.5	3.3	C
	Subtotal	850	842	99.1%	51.9	16.8	D
WB	Left Turn	75	78	103.9%	64.4	12.0	E
	Through	205	200	97.4%	51.2	3.0	D
	Right Turn	5	7	145.9%	10.8	5.7	B
	Subtotal	285	285	100.0%	53.6	1.8	D
Total		4,091	3,155	77.1%	64.2	5.3	E

Intersection 13 **Sierra College Blvd/Stadium Entrance Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	35	28	80.1%	46.9	26.0	D
	Through	1,570	1,202	76.6%	46.9	15.8	D
	Right Turn						
	Subtotal	1,605	1,230	76.7%	46.8	15.7	D
SB	Left Turn						
	Through	1,405	1,257	89.5%	6.1	1.2	A
	Right Turn	70	63	89.4%	4.1	1.1	A
	Subtotal	1,475	1,319	89.5%	6.0	1.2	A
EB	Left Turn	90	47	52.1%	131.0	63.0	F
	Through						
	Right Turn	50	40	80.6%	46.1	37.1	D
	Subtotal	140	87	62.3%	86.2	38.1	F
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		3,220	2,637	81.9%	27.3	7.3	C

Intersection 14 **Sierra College Blvd/Rocklin Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	265	235	88.8%	116.0	25.2	F
	Through	1,250	1,117	89.4%	97.2	24.2	F
	Right Turn	75	72	95.7%	97.0	32.1	F
	Subtotal	1,590	1,425	89.6%	100.3	24.4	F
SB	Left Turn	230	203	88.3%	72.4	22.0	E
	Through	1,065	937	88.0%	26.9	6.3	C
	Right Turn	125	119	95.2%	7.6	2.3	A
	Subtotal	1,420	1,260	88.7%	32.7	3.8	C
EB	Left Turn	175	176	100.7%	79.2	13.2	E
	Through	285	299	105.0%	36.9	3.9	D
	Right Turn	320	318	99.5%	15.5	3.5	B
	Subtotal	780	794	101.8%	37.9	3.6	D
WB	Left Turn	80	86	107.5%	59.0	7.0	E
	Through	170	153	89.9%	39.9	5.6	D
	Right Turn	180	177	98.1%	20.7	3.1	C
	Subtotal	430	415	96.6%	35.8	4.0	D
Total		4,220	3,893	92.3%	58.7	10.3	E

Intersection 21 **Sierra College Blvd/Office Dwy** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	10	8	80.6%	23.0	17.4	C
	Through	1,533	1,305	85.1%	18.4	7.5	C
	Right Turn						
	Subtotal	1,543	1,313	85.1%	18.4	7.6	C
SB	Left Turn						
	Through	1,480	842	56.9%	43.8	10.6	E
	Right Turn						
	Subtotal	1,480	842	56.9%	43.8	10.6	E
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		3,023	2,155	71.3%	28.1	6.9	D

Intersection 24 **Sierra College Blvd/Commercial Access Dwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	52	49	93.8%	122.0	121.3	F
	Through	1,445	1,283	88.8%	8.3	6.6	A
	Right Turn						
	Subtotal	1,497	1,332	89.0%	12.5	10.6	B
SB	Left Turn						
	Through	1,424	791	55.5%	140.0	26.5	F
	Right Turn	56	21	37.7%	241.4	52.3	F
	Subtotal	1,480	812	54.8%	142.6	26.4	F
EB	Left Turn	98	39	40.0%	443.7	150.7	F
	Through						
	Right Turn	90	13	14.1%	433.5	96.3	F
	Subtotal	188	52	27.6%	414.7	98.5	F
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		3,165	2,195	69.4%	68.8	11.8	E

Intersection 6 **Sierra College Blvd/Taylor Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	175	125	25	200	35	175	12	1%	0%
	Through	2,600	500	239	850	381	825	401	32%	0%
	Right Turn	200	175	32	250	19	225	0	13%	0%
NB	Left Turn	225	100	32	200	68	200	66	0%	0%
	Through	575	300	37	400	59	425	50	9%	0%
	Right Turn	575	100	25	200	54	200	59	0%	0%
SB	Left Turn	200	75	43	175	95	175	77	0%	0%
	Through	5,000	575	213	975	392	1,075	443	61%	0%
	Right Turn	225	125	57	275	87	225	58	0%	0%
WB	Left Turn	225	225	20	250	24	225	2	48%	0%
	Through	5,325	875	490	1,675	858	1,875	950	2%	0%
	Right Turn	225	25	13	75	18	75	18	0%	0%

Intersection 7 **Sierra College Blvd/Brace Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Right Turn	2,475	650	200	925	279	950	303	0%	0%
NB	Through	1,275	650	91	875	113	875	103	23%	0%
	Through/Right	1,275	725	95	875	129	875	125	0%	0%
SB	Left Turn	175	200	0	200	1	200	1	87%	0%
	Through	575	575	62	675	54	650	49	3%	37%
	Through/Right	575	225	41	325	41	325	42	0%	0%
WB	Left Turn	100	125	10	125	8	125	2	71%	0%
	Right Turn	5,000	325	188	500	248	500	215	5%	0%

Intersection 8 **Sierra College Blvd/Granite Dr** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	200	225	4	225	3	225	0	87%	0%
	Through	4,025	1,425	490	2,275	713	2,200	724	0%	0%
	Right Turn	4,025	525	467	1,200	1,249	1,400	1,278	18%	0%
NB	Left Turn	175	175	11	225	10	200	0	14%	0%
	Through	400	475	51	550	39	525	28	31%	35%
	Right Turn	400	425	68	525	73	525	36	0%	24%
SB	Left Turn	300	100	24	150	59	150	69	0%	0%
	Through	1,275	825	130	1,000	153	1,000	136	52%	2%
	Right Turn	200	125	34	250	46	225	2	0%	0%
WB	Left Turn	175	175	18	225	17	200	6	63%	0%
	Through	3,150	525	417	1,025	495	1,025	434	0%	0%
	Right Turn	175	50	13	100	31	100	33	0%	0%

Intersection 9 **Sierra College Blvd/Rocklin Commons Dwy-I-80 WB Ramps** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	875	50	20	100	33	100	42	0%	0%
	Right Turn	875	75	23	150	49	150	50	0%	0%
NB	Left Turn	150	225	25	275	23	250	1	0%	31%
	Through	1,500	250	57	350	83	375	84	0%	0%
	Right Turn	300	100	18	175	29	175	31	8%	0%
SB	Through	400	450	58	550	47	525	30	0%	40%
	Right Turn	200	75	10	100	20	100	18	0%	0%
WB	Left Turn	800	825	5	825	14	825	12	61%	0%
	Through/Right	6,375	3,475	506	5,325	646	5,325	622	3%	0%
	Right Turn	200	100	24	200	31	200	33	1%	0%

Intersection 10 **Sierra College Blvd/I-80 EB Ramps-Rocklin Crossings Dwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	375	250	24	350	43	325	37	3%	0%
	Through	1,625	100	48	200	167	250	218	0%	0%
	Right Turn	225	75	21	100	34	125	44	0%	0%
NB	Through	300	225	77	275	99	275	94	0%	6%
	Right Turn	125	25	9	50	21	75	28	0%	0%
SB	Left Turn	225	125	20	200	47	200	40	1%	0%
	Through	1,500	225	50	300	69	325	63	2%	0%
	Right Turn	475	25	0	25	0	25	0	0%	0%
WB	Left Turn	375	175	81	250	107	250	91	5%	0%
	Right Turn	3,175	225	134	375	287	350	231	3%	0%

Intersection 11 **Sierra College Blvd/Schriber Wy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	225	100	16	175	32	175	38	1%	0%
	Through/Right	650	50	15	100	49	100	67	0%	0%
NB	Left Turn	125	50	16	100	35	100	45	0%	0%
	Through	350	100	32	175	64	175	67	3%	1%
	Through/Right	350	200	50	300	65	300	65	0%	0%
SB	Through	300	250	69	350	87	350	79	25%	11%
	Right Turn	100	75	28	150	15	125	0	0%	1%
WB	Left/Through	575	25	10	75	21	75	23	0%	0%
	Right Turn	225	50	15	100	36	100	39	0%	0%

Intersection 12 **Sierra College Blvd/Dominguez Rd-Bass Pro Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	200	200	31	250	16	225	1	43%	0%
	Through	1,350	250	169	450	210	450	220	0%	0%
	Right Turn	1,350	375	80	500	54	500	59	0%	0%
NB	Left Turn	100	125	1	125	2	125	1	76%	0%
	Through	1,700	1,550	137	1,975	135	1,825	50	40%	35%
	Right Turn	75	75	5	75	9	75	2	2%	0%
SB	Left Turn	225	100	16	150	36	150	34	0%	10%
	Through	350	350	69	450	78	425	62	0%	12%
	Right Turn	200	100	13	150	18	150	22	0%	0%
WB	Left Turn	250	150	27	200	39	200	24	0%	0%
	Through	750	100	22	150	45	150	42	2%	0%
	Right Turn	175	25	10	50	34	50	46	0%	0%

Intersection 13 **Sierra College Blvd/Stadium Entrance Dr** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	2,400	750	220	1,400	470	1,650	464	87%	0%
	Right Turn	100	75	17	175	12	125	0	4%	0%
NB	Left Turn	225	50	16	125	55	125	65	0%	0%
	Through	1,625	275	130	575	292	600	275	14%	2%
SB	Through	1,700	100	14	175	30	175	31	0%	0%
	Through/Right	725	125	21	200	45	200	46	0%	0%
0										

Intersection 14 **Sierra College Blvd/Rocklin Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	225	250	1	250	3	250	0	89%	0%
	Through	2,275	1,025	182	1,425	266	1,475	285	2%	0%
	Right Turn	2,275	650	114	925	189	975	239	0%	0%
NB	Left Turn	225	225	23	300	26	250	26	5%	0%
	Through	9,150	4,200	560	6,200	633	6,375	569	51%	0%
	Through/Right	9,150	4,225	558	6,250	627	6,350	491	0%	0%
SB	Left Turn	250	275	6	275	14	275	0	79%	0%
	Through	1,700	550	134	750	161	725	154	25%	20%
	Right Turn	175	125	29	250	20	200	0	0%	0%
WB	Left Turn	225	225	32	250	12	250	14	60%	0%
	Through	5,000	325	114	475	152	450	140	2%	0%
	Through/Right	5,000	275	89	425	127	425	124	0%	0%

Intersection 21 **Sierra College Blvd/Office Dwy** **Side-street Stop**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Right Turn	525	25	22	75	33	50	28	0%	0%
NB	Left Turn	125	25	4	25	14	25	17	0%	0%
	Through	1,400	475	89	625	114	650	101	23%	0%
SB	Through	225	25	47	75	97	75	89	0%	0%
	Through/Right	225	50	58	100	114	100	115	0%	2%
0										

SimTraffic Post-Processor **Loomis Costco DEIR Peer Review**
Average Results from 10 Runs **Cumulative Long Term No Project Conditions**
Queue Length **Weekday PM Peak Hour**

Intersection 24 **Sierra College Blvd/Commercial Access Dwy** **Side-street Stop**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	225	225	4	250	10	225	6	98%	0%
	Right Turn	1,675	900	148	1,400	111	1,400	145	0%	0%
NB	Left Turn	175	50	14	75	25	75	23	0%	0%
	Through	575	100	66	225	124	225	112	2%	0%
SB	Through	625	175	154	275	213	325	200	0%	0%
	Through/Right	625	225	165	400	207	400	190	0%	2%
0										

Intersection 6 **Sierra College Blvd/Taylor Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	175	75	17	150	30	175	35	0%	0%
	Through	2,600	225	126	475	360	525	363	8%	0%
	Right Turn	200	125	24	225	34	200	17	9%	0%
NB	Left Turn	225	125	27	200	34	200	38	1%	0%
	Through	550	150	32	225	56	225	77	2%	1%
	Right Turn	550	125	34	200	56	200	57	0%	0%
SB	Left Turn	200	50	13	125	46	125	70	0%	0%
	Through	5,275	375	113	700	271	825	251	47%	0%
	Right Turn	225	50	32	175	96	175	96	0%	0%
WB	Left Turn	225	225	17	275	24	225	1	54%	0%
	Through	3,550	725	228	1,600	522	1,925	504	1%	0%
	Right Turn	225	25	6	50	13	50	13	0%	0%

Intersection 7 **Sierra College Blvd/Brace Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Right Turn	2,475	575	171	1,075	283	1,150	264	0%	0%
NB	Through	1,275	475	84	725	116	725	105	7%	0%
	Through/Right	1,275	400	81	575	106	575	103	0%	1%
SB	Left Turn	175	150	19	225	17	200	2	18%	0%
	Through	575	375	73	575	80	575	50	10%	6%
	Through/Right	575	475	58	700	52	625	39	0%	24%
WB	Left Turn	100	100	8	125	10	125	1	73%	0%
	Right Turn	5,000	350	185	750	324	800	282	0%	0%

Intersection 8 **Sierra College Blvd/Granite Dr** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	200	200	22	250	12	225	1	48%	0%
	Through	4,025	325	183	600	231	550	168	0%	0%
	Right Turn	4,025	125	21	250	51	275	68	7%	0%
NB	Left Turn	175	175	20	225	18	200	0	31%	0%
	Through	400	350	63	425	75	425	62	20%	9%
	Right Turn	400	250	51	375	50	400	38	0%	1%
SB	Left Turn	300	125	42	250	75	275	79	0%	0%
	Through	1,275	1,225	76	1,325	100	1,275	59	77%	32%
	Right Turn	200	150	26	300	25	225	0	0%	0%
WB	Left Turn	175	150	30	200	23	200	14	40%	0%
	Through	3,150	175	111	375	195	425	157	0%	0%
	Right Turn	175	50	16	75	20	75	23	0%	0%

Intersection 9 **Sierra College Blvd/Rocklin Commons Dwy-I-80 WB Ramps** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	875	125	52	200	67	175	68	0%	0%
	Right Turn	875	175	34	275	62	250	60	0%	0%
NB	Left Turn	150	250	17	275	19	275	13	0%	47%
	Through	1,500	325	83	475	104	475	96	0%	0%
	Right Turn	300	100	10	150	22	150	24	10%	0%
SB	Through	400	300	162	325	176	325	174	0%	23%
	Right Turn	200	75	6	100	15	100	15	0%	0%
WB	Left Turn	800	825	5	825	12	825	16	51%	0%
	Through/Right	6,375	3,125	532	4,850	669	4,925	701	7%	0%
	Right Turn	200	75	20	150	58	175	54	0%	0%

Intersection 10 **Sierra College Blvd/I-80 EB Ramps-Rocklin Crossings Dwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	375	275	26	350	48	350	44	1%	0%
	Through	2,450	150	25	200	60	225	98	1%	0%
	Right Turn	225	50	12	100	36	100	52	0%	0%
NB	Through	300	175	25	200	41	225	36	0%	0%
	Right Turn	125	25	6	50	16	75	20	0%	0%
SB	Left Turn	225	150	25	200	36	200	28	0%	0%
	Through	1,500	125	21	200	40	175	48	0%	0%
	Right Turn	475	25	0	25	0	25	0	0%	0%
WB	Left Turn	375	125	17	200	24	200	28	0%	0%
	Right Turn	3,175	150	27	250	49	250	48	0%	0%

Intersection 11 **Sierra College Blvd/Schriber Wy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	225	75	15	125	44	150	45	1%	0%
	Through/Right	650	50	7	75	11	75	11	0%	0%
NB	Left Turn	125	25	8	50	11	50	15	0%	0%
	Through	350	100	16	175	33	175	35	1%	0%
	Through/Right	350	75	22	150	59	150	71	0%	1%
SB	Through	300	175	26	200	40	225	39	10%	0%
	Right Turn	100	50	14	125	32	125	25	0%	0%
WB	Left/Through	575	25	4	50	12	50	20	0%	0%
	Right Turn	225	50	6	75	15	75	16	0%	0%

Intersection 12 **Sierra College Blvd/Dominguez Rd-Bass Pro Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	200	225	17	225	7	225	1	52%	0%
	Through	1,350	375	218	575	248	575	237	0%	0%
	Right Turn	1,350	225	43	350	67	350	69	0%	0%
NB	Left Turn	100	125	1	125	2	125	0	81%	0%
	Through	1,700	625	35	775	75	650	15	37%	89%
	Right Turn	75	75	4	75	5	75	1	2%	0%
SB	Left Turn	225	100	13	150	20	150	25	0%	5%
	Through	350	250	29	350	44	350	44	0%	1%
	Right Turn	200	150	16	225	35	225	38	0%	0%
WB	Left Turn	250	100	35	150	77	150	80	0%	0%
	Through	750	200	33	275	51	275	50	17%	0%
	Right Turn	175	25	13	75	55	75	75	0%	0%

Intersection 13 **Sierra College Blvd/Stadium Entrance Dr** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	2,400	125	74	325	197	425	192	30%	0%
	Right Turn	100	50	13	100	29	100	33	0%	0%
NB	Left Turn	225	75	26	175	75	200	79	0%	0%
	Through	1,625	325	100	750	206	825	160	39%	8%
SB	Through	1,700	75	15	100	31	125	34	0%	0%
	Through/Right	725	75	18	125	32	125	30	0%	0%
0										

Intersection 14 **Sierra College Blvd/Rocklin Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	225	200	21	275	21	250	10	9%	0%
	Through	2,275	125	29	200	75	200	90	0%	0%
	Right Turn	2,275	125	25	200	37	200	40	0%	0%
NB	Left Turn	225	200	19	300	29	250	30	0%	0%
	Through	9,150	850	221	1,100	292	1,075	293	51%	0%
	Through/Right	9,150	825	222	1,100	318	1,075	308	0%	0%
SB	Left Turn	250	200	36	275	40	250	29	14%	0%
	Through	1,700	200	41	325	91	325	67	10%	0%
	Right Turn	175	75	41	175	61	175	42	0%	0%
WB	Left Turn	225	100	21	150	40	150	36	0%	0%
	Through	5,000	125	14	175	27	175	29	0%	0%
	Through/Right	5,000	100	18	175	32	175	33	0%	0%

Intersection 21 **Sierra College Blvd/Office Dwy** **Side-street Stop**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
NB	Left Turn	125	25	2	25	10	25	13	0%	0%
	Through	1,400	150	79	325	138	350	131	2%	1%
SB	Through	225	200	28	300	48	250	19	0%	32%
	Through/Right	225	225	18	275	41	250	20	0%	58%
EB	Right Turn	575	25	0	25	0	25	0	0%	0%
0										

Intersection 24 **Sierra College Blvd/Commercial Access Dwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	225	200	38	250	20	225	7	71%	0%
	Right Turn	1,675	675	200	1,075	290	1,100	245	31%	0%
NB	Left Turn	175	75	38	125	48	125	41	6%	0%
	Through	575	150	111	250	176	225	152	7%	0%
SB	Through	625	625	66	700	87	675	44	0%	32%
	Through/Right	625	625	23	700	49	675	24	0%	58%
0										

Cumulative Long-Term Plus Project Conditions

Intersection 6 **Sierra College Blvd/Taylor Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	151	90	59.5%	79.3	26.6	E
	Through	1,490	938	63.0%	36.8	9.4	D
	Right Turn	574	352	61.2%	15.9	3.6	B
	Subtotal	2,215	1,380	62.3%	34.5	6.8	C
SB	Left Turn	35	30	84.9%	104.6	37.1	F
	Through	959	769	80.2%	107.0	27.2	F
	Right Turn	70	62	88.1%	63.9	20.9	E
	Subtotal	1,064	860	80.9%	104.2	26.3	F
EB	Left Turn	135	127	94.4%	86.6	36.9	F
	Through	320	277	86.6%	87.6	38.0	F
	Right Turn	260	214	82.4%	81.4	35.0	F
	Subtotal	715	619	86.6%	85.6	36.1	F
WB	Left Turn	519	338	65.2%	185.9	48.3	F
	Through	190	129	67.7%	144.4	54.4	F
	Right Turn	70	47	66.6%	120.9	64.9	F
	Subtotal	779	514	65.9%	169.8	51.2	F
Total		4,773	3,372	70.7%	81.1	11.9	F

Intersection 7 **Sierra College Blvd/Brace Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	2,107	1,260	59.8%	29.2	5.1	C
	Right Turn	375	208	55.4%	15.7	4.2	B
	Subtotal	2,482	1,468	59.1%	27.3	4.8	C
SB	Left Turn	322	201	62.4%	158.7	14.7	F
	Through	1,301	990	76.1%	47.6	8.0	D
	Right Turn	115	94	81.4%	49.9	11.0	D
	Subtotal	1,738	1,284	73.9%	65.0	8.1	E
EB	Left Turn						
	Through						
	Right Turn	545	392	72.0%	147.7	74.3	F
	Subtotal	545	392	72.0%	147.7	74.3	F
WB	Left Turn	105	78	74.5%	179.0	102.4	F
	Through						
	Right Turn	133	121	90.7%	94.4	91.3	F
	Subtotal	238	199	83.6%	128.9	97.9	F
Total		5,003	3,343	66.8%	60.1	9.5	E

Intersection 8 **Sierra College Blvd/Granite Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	220	124	56.4%	108.9	10.9	F
	Through	2,150	1,299	60.4%	70.6	8.0	E
	Right Turn	55	33	60.8%	49.4	12.0	D
	Subtotal	2,425	1,457	60.1%	73.4	8.0	E
SB	Left Turn	100	69	69.2%	170.6	60.8	F
	Through	1,861	1,271	68.3%	78.3	9.1	E
	Right Turn	194	123	63.6%	71.4	13.0	E
	Subtotal	2,155	1,464	67.9%	82.2	7.7	F
EB	Left Turn	424	130	30.6%	362.1	65.0	F
	Through	25	8	30.1%	358.9	148.4	F
	Right Turn	285	215	75.5%	103.8	37.9	F
	Subtotal	734	352	48.0%	190.0	37.1	F
WB	Left Turn	120	33	27.9%	405.6	127.8	F
	Through	30	14	45.1%	267.4	184.0	F
	Right Turn	90	42	47.2%	261.3	145.5	F
	Subtotal	240	89	37.3%	247.8	127.3	F
Total		5,554	3,362	60.5%	92.6	6.7	F

Intersection 9 **Sierra College Blvd/Rocklin Commons Dwy-I-80 WB Ramps** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	305	196	64.4%	122.2	26.9	F
	Through	1,968	1,160	58.9%	101.3	31.9	F
	Right Turn	255	142	55.7%	53.8	23.7	D
	Subtotal	2,528	1,498	59.3%	99.5	29.9	F
SB	Left Turn						
	Through	2,231	1,487	66.7%	53.4	7.0	D
	Right Turn	35	18	51.6%	30.2	5.1	C
	Subtotal	2,266	1,506	66.4%	53.1	6.9	D
EB	Left Turn	35	14	38.7%	306.2	183.4	F
	Through						
	Right Turn	120	108	90.2%	20.0	4.9	C
	Subtotal	155	122	78.6%	40.0	22.1	D
WB	Left Turn	1,035	592	57.2%	342.1	79.8	F
	Through	70	41	59.1%	328.4	71.5	F
	Right Turn	392	241	61.5%	320.0	66.2	F
	Subtotal	1,497	874	58.4%	335.5	75.4	F
Total		6,446	4,000	62.1%	129.3	16.8	F

Intersection 10 **Sierra College Blvd/I-80 EB Ramps-Rocklin Crossings Dwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	2,459	1,309	53.2%	21.4	7.1	C
	Right Turn	160	94	58.5%	8.2	3.4	A
	Subtotal	2,619	1,402	53.6%	20.6	6.8	C
SB	Left Turn	270	171	63.5%	76.0	13.0	E
	Through	1,555	1,017	65.4%	16.7	2.5	B
	Right Turn	521	326	62.6%	9.3	0.8	A
	Subtotal	2,346	1,515	64.6%	21.9	2.4	C
EB	Left Turn	624	613	98.2%	75.4	16.5	E
	Through	180	190	105.3%	57.2	7.5	E
	Right Turn	100	100	100.4%	34.3	37.0	C
	Subtotal	904	903	99.9%	66.8	15.3	E
WB	Left Turn	125	112	89.6%	94.1	30.3	F
	Through						
	Right Turn	310	314	101.4%	31.6	5.5	C
	Subtotal	435	426	98.0%	48.2	7.5	D
Total		6,304	4,247	67.4%	33.6	3.9	C

Intersection 11 **Sierra College Blvd/Schriber Wy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	55	26	47.9%	43.4	9.6	D
	Through	2,389	1,178	49.3%	13.2	3.7	B
	Right Turn	65	33	50.3%	9.2	3.3	A
	Subtotal	2,509	1,237	49.3%	13.8	3.7	B
SB	Left Turn						
	Through	1,590	1,096	68.9%	21.5	9.7	C
	Right Turn	190	120	63.1%	12.4	8.3	B
	Subtotal	1,780	1,216	68.3%	20.6	9.4	C
EB	Left Turn	155	160	103.3%	28.4	6.3	C
	Through	10	9	94.0%	28.0	19.0	C
	Right Turn	65	65	99.5%	14.1	4.5	B
	Subtotal	230	234	101.8%	24.4	4.8	C
WB	Left Turn	25	25	100.8%	28.0	9.1	C
	Through	5	3	67.7%	19.4	17.9	B
	Right Turn	75	73	97.8%	13.3	4.5	B
	Subtotal	105	102	97.0%	17.5	4.4	B
Total		4,624	2,788	60.3%	17.7	6.0	B

Intersection 12 **Sierra College Blvd/Dominguez Rd-Bass Pro Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	295	133	45.2%	279.5	40.4	F
	Through	2,289	1,058	46.2%	211.2	33.2	F
	Right Turn	185	82	44.5%	205.7	30.5	F
	Subtotal	2,769	1,274	46.0%	218.2	34.4	F
SB	Left Turn	100	75	74.8%	90.8	18.6	F
	Through	1,475	1,024	69.4%	40.0	7.7	D
	Right Turn	105	73	69.8%	19.2	5.3	B
	Subtotal	1,680	1,172	69.8%	42.0	7.5	D
EB	Left Turn	205	176	86.0%	133.7	27.1	F
	Through	55	50	90.9%	56.7	20.4	E
	Right Turn	485	478	98.5%	63.0	28.0	E
	Subtotal	745	704	94.5%	80.4	21.8	F
WB	Left Turn	155	162	104.6%	84.4	12.0	F
	Through	100	99	98.5%	44.9	7.6	D
	Right Turn	15	14	92.7%	7.1	3.4	A
	Subtotal	270	274	101.7%	66.7	8.9	E
Total		5,464	3,424	62.7%	116.9	10.5	F

Intersection 13 **Sierra College Blvd/Stadium Entrance Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	60	33	54.5%	52.7	19.8	D
	Through	2,464	1,368	55.5%	26.9	13.9	C
	Right Turn						
	Subtotal	2,524	1,401	55.5%	27.5	13.7	C
SB	Left Turn						
	Through	1,945	1,543	79.4%	7.5	1.4	A
	Right Turn	175	134	76.5%	6.0	1.4	A
	Subtotal	2,120	1,677	79.1%	7.4	1.4	A
EB	Left Turn	285	136	47.6%	225.7	69.4	F
	Through						
	Right Turn	175	76	43.2%	206.8	73.1	F
	Subtotal	460	211	45.9%	218.3	70.0	F
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		5,104	3,289	64.4%	28.6	6.3	C

Intersection 14 **Sierra College Blvd/Rocklin Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	485	274	56.6%	303.5	19.3	F
	Through	1,974	1,102	55.8%	310.0	16.7	F
	Right Turn	110	66	59.8%	314.9	35.1	F
	Subtotal	2,569	1,442	56.1%	309.1	17.0	F
SB	Left Turn	329	198	60.2%	201.8	53.4	F
	Through	1,620	1,260	77.8%	41.3	5.9	D
	Right Turn	231	171	74.1%	20.4	3.6	C
	Subtotal	2,180	1,630	74.8%	58.7	7.0	E
EB	Left Turn	336	195	58.0%	307.6	49.7	F
	Through	320	320	99.9%	49.3	2.6	D
	Right Turn	625	564	90.2%	67.6	26.0	E
	Subtotal	1,281	1,078	84.2%	105.4	15.6	F
WB	Left Turn	105	86	82.0%	171.9	62.8	F
	Through	240	232	96.7%	55.6	11.0	E
	Right Turn	214	214	100.1%	43.5	11.5	D
	Subtotal	559	532	95.2%	70.1	17.5	E
Total		6,589	4,682	71.1%	148.0	6.7	F

Intersection 21 **Sierra College Blvd/Office Dwy** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	5	4	75.2%	14.5	13.3	B
	Through	2,482	1,468	59.1%	7.0	1.9	A
	Right Turn						
	Subtotal	2,487	1,472	59.2%	7.1	1.9	A
SB	Left Turn						
	Through	1,921	1,440	74.9%	13.5	5.7	B
	Right Turn	5	3	52.6%	10.6	29.4	B
	Subtotal	1,926	1,442	74.9%	13.5	5.7	B
EB	Left Turn						
	Through						
	Right Turn	20	13	65.8%	98.1	58.5	F
	Subtotal	20	13	65.8%	98.1	58.5	F
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		4,433	2,927	66.0%	10.6	2.3	B

SimTraffic Post-Processor **Loomis Costco DEIR Peer Review**
Average Results from 10 Runs **Cumulative Long Term Plus Project Conditions**
Volume and Delay by Movement **Weekday PM Peak Hour**

Intersection 24 **Sierra College Blvd/Project Dwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	48	29	60.3%	56.9	14.6	E
	Through	2,227	1,226	55.0%	21.5	2.0	C
	Right Turn	387	194	50.0%	11.1	1.3	B
	Subtotal	2,662	1,448	54.4%	20.8	2.1	C
SB	Left Turn	142	88	62.2%	75.4	11.9	E
	Through	1,739	1,234	71.0%	70.5	15.5	E
	Right Turn	60	39	65.8%	107.6	28.7	F
	Subtotal	1,941	1,362	70.2%	72.0	14.6	E
EB	Left Turn	105	97	92.0%	66.9	19.2	E
	Through						
	Right Turn	83	84	101.0%	66.4	22.4	E
	Subtotal	188	180	96.0%	66.0	15.0	E
WB	Left Turn	402	139	34.7%	313.1	59.1	F
	Through						
	Right Turn	161	142	88.0%	39.9	12.4	D
	Subtotal	563	281	50.0%	169.8	27.4	F
Total		5,354	3,272	61.1%	57.1	6.7	E

Intersection 6 **Sierra College Blvd/Taylor Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	179	133	74.2%	93.2	38.0	F
	Through	753	568	75.4%	24.9	4.8	C
	Right Turn	546	387	70.8%	14.0	2.7	B
	Subtotal	1,478	1,087	73.6%	29.6	7.1	C
SB	Left Turn	40	31	78.7%	83.1	29.3	F
	Through	769	573	74.5%	104.1	38.9	F
	Right Turn	40	33	81.6%	74.9	49.0	E
	Subtotal	849	637	75.0%	101.6	38.5	F
EB	Left Turn	80	70	87.8%	86.3	57.9	F
	Through	220	179	81.2%	82.3	59.2	F
	Right Turn	266	192	72.2%	100.0	62.7	F
	Subtotal	566	441	77.9%	90.5	59.2	F
WB	Left Turn	533	291	54.5%	207.1	72.7	F
	Through	170	82	48.3%	173.8	79.6	F
	Right Turn	35	27	76.8%	137.7	64.5	F
	Subtotal	738	400	54.2%	195.6	74.0	F
Total		3,631	2,564	70.6%	81.4	25.3	F

Intersection 7 **Sierra College Blvd/Brace Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,370	1,008	73.6%	16.2	3.3	B
	Right Turn	280	197	70.2%	8.7	1.1	A
	Subtotal	1,650	1,205	73.0%	15.0	2.9	B
SB	Left Turn	250	180	71.9%	94.9	35.4	F
	Through	1,209	716	59.2%	120.8	55.0	F
	Right Turn	110	43	39.4%	183.5	82.2	F
	Subtotal	1,569	939	59.9%	117.9	48.6	F
EB	Left Turn						
	Through						
	Right Turn	270	97	35.8%	262.6	81.7	F
	Subtotal	270	97	35.8%	262.6	81.7	F
WB	Left Turn	115	45	39.1%	284.2	97.3	F
	Through						
	Right Turn	86	38	44.7%	193.4	94.3	F
	Subtotal	201	83	41.5%	243.5	97.8	F
Total		3,690	2,324	63.0%	71.6	16.6	E

Intersection 8 **Sierra College Blvd/Granite Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	210	136	64.7%	126.3	31.0	F
	Through	1,514	1,009	66.6%	80.4	9.1	F
	Right Turn	85	62	72.7%	57.0	4.4	E
	Subtotal	1,809	1,207	66.7%	84.5	10.6	F
SB	Left Turn	100	58	57.6%	108.7	19.7	F
	Through	1,508	663	44.0%	137.7	13.9	F
	Right Turn	207	65	31.4%	141.1	18.3	F
	Subtotal	1,815	785	43.3%	135.8	12.2	F
EB	Left Turn	298	273	91.7%	132.7	67.8	F
	Through	20	16	78.7%	123.9	58.8	F
	Right Turn	210	197	93.6%	60.4	13.6	E
	Subtotal	528	486	92.0%	104.2	44.1	F
WB	Left Turn	140	126	90.2%	136.7	84.9	F
	Through	30	27	89.6%	100.1	80.1	F
	Right Turn	65	61	93.9%	62.2	50.9	E
	Subtotal	235	214	91.2%	111.2	74.0	F
Total		4,387	2,692	61.4%	104.1	9.4	F

Intersection 9 **Sierra College Blvd/Rocklin Commons Dwy-I-80 WB Ramps** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	400	302	75.5%	123.3	33.5	F
	Through	1,457	1,087	74.6%	114.7	37.4	F
	Right Turn	240	184	76.8%	64.8	29.9	E
	Subtotal	2,097	1,574	75.0%	110.5	35.7	F
SB	Left Turn						
	Through	1,808	912	50.4%	64.0	5.3	E
	Right Turn	25	10	41.5%	32.8	3.3	C
	Subtotal	1,833	922	50.3%	63.7	5.2	E
EB	Left Turn	80	23	29.3%	347.6	116.8	F
	Through						
	Right Turn	290	305	105.0%	30.9	13.8	C
	Subtotal	370	328	88.6%	51.1	14.5	D
WB	Left Turn	1,090	546	50.1%	400.0	49.3	F
	Through	150	65	43.0%	449.7	67.3	F
	Right Turn	397	199	50.2%	408.5	69.6	F
	Subtotal	1,637	810	49.5%	405.8	54.3	F
Total		5,937	3,634	61.2%	157.5	21.9	F

Intersection 10 **Sierra College Blvd/I-80 EB Ramps-Rocklin Crossings Dwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,409	1,043	74.0%	25.5	4.9	C
	Right Turn	100	76	76.4%	8.6	2.8	A
	Subtotal	1,509	1,119	74.2%	24.3	4.6	C
SB	Left Turn	435	268	61.6%	51.3	5.1	D
	Through	1,051	579	55.1%	13.6	1.9	B
	Right Turn	442	236	53.3%	6.9	0.6	A
	Subtotal	1,928	1,082	56.1%	21.4	1.5	C
EB	Left Turn	679	647	95.3%	78.4	8.6	E
	Through	285	264	92.6%	57.5	4.4	E
	Right Turn	85	84	98.9%	13.5	2.6	B
	Subtotal	1,049	995	94.9%	67.4	6.1	E
WB	Left Turn	125	121	96.5%	62.7	5.7	E
	Through						
	Right Turn	345	375	108.7%	26.4	8.1	C
	Subtotal	470	496	105.5%	35.6	4.8	D
Total		4,956	3,693	74.5%	36.7	2.3	D

Intersection 11 **Sierra College Blvd/Schriber Wy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	46	25	55.1%	32.5	9.1	C
	Through	1,239	861	69.5%	8.0	1.1	A
	Right Turn	75	58	76.8%	5.4	1.2	A
	Subtotal	1,360	943	69.4%	8.5	1.2	A
SB	Left Turn						
	Through	1,236	830	67.2%	11.2	2.1	B
	Right Turn	201	128	63.6%	5.6	1.3	A
	Subtotal	1,437	958	66.7%	10.4	2.0	B
EB	Left Turn	170	159	93.7%	22.5	3.3	C
	Through	12	11	89.6%	14.3	10.4	B
	Right Turn	58	55	94.7%	8.1	2.8	A
	Subtotal	240	225	93.8%	18.7	3.1	B
WB	Left Turn	10	11	107.5%	16.6	11.5	B
	Through	14	22	153.6%	23.3	6.5	C
	Right Turn	100	121	121.0%	7.7	1.9	A
	Subtotal	124	153	123.6%	10.9	2.7	B
Total		3,161	2,280	72.1%	10.5	1.6	B

Intersection 12 **Sierra College Blvd/Dominguez Rd-Bass Pro Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	515	235	45.7%	359.3	49.2	F
	Through	1,110	700	63.1%	240.8	37.4	F
	Right Turn	175	115	65.8%	216.1	35.2	F
	Subtotal	1,800	1,051	58.4%	264.4	38.4	F
SB	Left Turn	115	89	77.8%	60.1	8.2	E
	Through	901	625	69.3%	36.9	2.9	D
	Right Turn	255	188	73.8%	17.8	2.9	B
	Subtotal	1,271	902	71.0%	35.2	1.8	D
EB	Left Turn	245	243	99.4%	92.3	26.7	F
	Through	105	94	90.0%	41.2	15.1	D
	Right Turn	500	507	101.4%	20.2	2.2	C
	Subtotal	850	845	99.4%	43.3	9.1	D
WB	Left Turn	75	71	94.7%	64.3	8.5	E
	Through	205	195	95.2%	48.1	7.6	D
	Right Turn	5	5	92.2%	13.5	15.0	B
	Subtotal	285	271	95.0%	51.9	7.4	D
Total		4,206	3,069	73.0%	116.8	10.9	F

Intersection 13 **Sierra College Blvd/Stadium Entrance Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	35	28	80.1%	72.8	51.9	E
	Through	1,629	1,202	73.8%	61.0	33.3	E
	Right Turn						
	Subtotal	1,664	1,230	73.9%	61.3	33.5	E
SB	Left Turn						
	Through	1,461	1,208	82.7%	5.6	1.3	A
	Right Turn	70	53	75.2%	3.6	1.5	A
	Subtotal	1,531	1,261	82.3%	5.5	1.3	A
EB	Left Turn	90	54	59.7%	133.0	74.8	F
	Through						
	Right Turn	50	31	61.4%	64.7	46.6	E
	Subtotal	140	84	60.3%	107.8	65.4	F
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		3,335	2,575	77.2%	34.5	15.7	C

Intersection 14 **Sierra College Blvd/Rocklin Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	265	242	91.1%	119.9	25.5	F
	Through	1,290	1,123	87.1%	103.7	29.4	F
	Right Turn	75	62	82.4%	99.3	31.7	F
	Subtotal	1,630	1,427	87.5%	106.3	28.5	F
SB	Left Turn	237	206	87.0%	65.5	14.5	E
	Through	1,103	908	82.3%	28.4	5.8	C
	Right Turn	136	128	94.3%	7.4	2.3	A
	Subtotal	1,476	1,243	84.2%	32.6	5.2	C
EB	Left Turn	187	177	94.5%	96.7	25.7	F
	Through	285	278	97.4%	34.7	2.3	C
	Right Turn	320	308	96.1%	12.8	2.3	B
	Subtotal	792	762	96.2%	40.7	7.1	D
WB	Left Turn	80	78	97.0%	60.2	12.6	E
	Through	170	161	94.6%	41.9	6.6	D
	Right Turn	188	179	95.2%	21.2	3.6	C
	Subtotal	438	417	95.3%	36.2	3.7	D
Total		4,336	3,848	88.8%	61.8	10.3	E

Intersection 21 **Sierra College Blvd/Office Dwy** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	10	5	53.8%	21.6	27.4	C
	Through	1,650	1,206	73.1%	4.1	0.5	A
	Right Turn						
	Subtotal	1,660	1,212	73.0%	4.2	0.6	A
SB	Left Turn						
	Through	1,594	832	52.2%	57.4	18.1	F
	Right Turn						
	Subtotal	1,594	832	52.2%	57.4	18.1	F
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		3,254	2,043	62.8%	25.0	3.7	D

Intersection 24 **Sierra College Blvd/Project Dwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	52	35	67.9%	91.6	28.2	F
	Through	1,329	976	73.4%	27.5	3.8	C
	Right Turn	528	377	71.5%	13.3	1.8	B
	Subtotal	1,909	1,389	72.7%	25.3	3.4	C
SB	Left Turn	221	141	63.9%	130.6	24.3	F
	Through	1,317	650	49.4%	188.4	45.0	F
	Right Turn	56	17	30.9%	252.6	76.3	F
	Subtotal	1,594	809	50.8%	180.3	39.8	F
EB	Left Turn	98	96	97.6%	91.4	30.7	F
	Through						
	Right Turn	90	75	83.2%	179.6	35.9	F
	Subtotal	188	170	90.7%	128.3	25.9	F
WB	Left Turn	499	102	20.5%	440.4	75.5	F
	Through						
	Right Turn	229	139	60.7%	143.9	89.8	F
	Subtotal	728	241	33.1%	264.9	79.1	F
Total		4,419	2,609	59.0%	98.8	10.8	F

Intersection 6 **Sierra College Blvd/Taylor Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	175	125	27	200	30	175	19	9%	0%
	Through	2,600	600	280	1,000	405	975	324	36%	0%
	Right Turn	200	175	15	275	16	225	0	12%	0%
NB	Left Turn	225	125	34	225	26	250	4	1%	0%
	Through	575	350	64	475	84	475	57	15%	1%
	Right Turn	575	125	33	250	54	250	53	0%	0%
SB	Left Turn	200	100	39	225	49	225	0	0%	0%
	Through	5,000	550	126	875	233	950	255	68%	0%
	Right Turn	225	150	37	300	34	225	1	0%	0%
WB	Left Turn	225	225	11	250	16	225	1	57%	0%
	Through	5,325	1,150	396	2,200	791	2,250	752	2%	0%
	Right Turn	225	25	11	75	39	75	59	0%	0%

Intersection 7 **Sierra College Blvd/Brace Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Right Turn	2,475	750	375	1,300	634	1,400	610	0%	0%
NB	Through	625	325	50	425	56	425	53	13%	0%
	Right Turn	175	125	33	225	37	175	0	0%	0%
SB	Left Turn	175	200	1	200	1	200	1	83%	0%
	Through	575	600	46	700	59	675	46	2%	38%
	Through/Right	575	300	49	425	78	450	78	0%	0%
WB	Left Turn	100	100	17	125	13	125	8	58%	0%
	Right Turn	2,175	325	221	550	377	525	344	3%	0%

Intersection 8 **Sierra College Blvd/Granite Dr** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	200	225	3	225	3	225	0	93%	0%
	Through	4,025	1,575	272	2,500	439	2,525	517	0%	0%
	Right Turn	4,025	475	263	1,375	940	1,825	1,110	25%	0%
NB	Left Turn	175	150	29	225	25	200	12	6%	0%
	Through	400	475	37	575	32	525	27	30%	29%
	Right Turn	400	475	27	575	27	525	22	0%	42%
SB	Left Turn	300	150	69	225	85	225	85	4%	0%
	Through	575	625	55	675	42	675	19	59%	49%
	Right Turn	200	125	41	275	47	225	0	0%	0%
WB	Left Turn	175	175	14	200	14	200	3	85%	0%
	Through	3,150	750	369	1,300	489	1,225	477	0%	0%
	Right Turn	175	50	25	125	61	125	60	0%	0%

Intersection 9 **Sierra College Blvd/Rocklin Commons Dwy-I-80 WB Ramps** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	875	100	68	175	89	200	95	0%	0%
	Right Turn	875	50	12	100	17	100	21	0%	0%
NB	Left Turn	150	200	23	275	20	250	5	0%	32%
	Through	1,500	500	133	850	186	850	193	0%	3%
	Right Turn	300	125	23	225	23	200	16	12%	0%
SB	Through	400	475	24	550	39	500	24	0%	45%
	Right Turn	200	75	8	100	16	100	17	0%	0%
WB	Left Turn	800	825	5	825	15	825	17	64%	0%
	Through/Right	6,375	3,875	429	6,075	559	5,950	549	12%	4%
	Right Turn	200	150	36	225	28	225	3	3%	0%

Intersection 10 **Sierra College Blvd/I-80 EB Ramps-Rocklin Crossings Dwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	375	350	38	400	26	375	3	13%	0%
	Through	1,625	250	157	550	318	575	290	0%	0%
	Right Turn	225	75	32	125	62	125	43	1%	0%
NB	Through	300	200	56	250	68	250	60	0%	1%
	Right Turn	300	25	10	50	26	50	32	0%	0%
SB	Left Turn	225	125	25	200	43	200	46	1%	0%
	Through	1,500	250	39	325	58	350	50	4%	0%
	Right Turn	475	25	0	25	0	25	0	0%	0%
WB	Left Turn	375	150	38	250	58	225	61	0%	0%
	Right Turn	3,175	175	26	250	54	250	49	0%	0%

Intersection 11 **Sierra College Blvd/Schriber Wy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	225	100	17	150	18	150	32	0%	0%
	Through/Right	650	50	9	75	23	75	27	0%	0%
NB	Left Turn	125	50	12	75	27	75	32	0%	0%
	Through	350	125	27	225	56	225	59	3%	0%
	Through/Right	350	200	33	275	52	300	58	0%	1%
SB	Through	300	250	79	350	90	325	77	27%	10%
	Right Turn	100	75	18	150	31	125	13	0%	0%
WB	Left/Through	575	25	7	50	14	50	19	0%	0%
	Right Turn	225	50	9	75	16	75	20	0%	0%

Intersection 12 **Sierra College Blvd/Dominguez Rd-Bass Pro Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	200	200	28	250	15	225	3	53%	0%
	Through	1,350	300	137	525	185	500	184	0%	0%
	Right Turn	1,350	425	148	600	188	600	177	0%	0%
NB	Left Turn	100	100	4	125	3	125	1	74%	0%
	Through	1,700	1,600	137	2,050	104	1,825	50	45%	43%
	Right Turn	75	75	5	75	8	75	2	2%	0%
SB	Left Turn	225	100	28	150	43	150	35	0%	11%
	Through	350	375	51	475	44	425	37	0%	13%
	Right Turn	200	100	12	150	16	150	22	0%	0%
WB	Left Turn	250	150	31	200	43	200	29	0%	0%
	Through	750	100	20	150	38	150	41	2%	0%
	Right Turn	175	25	9	50	32	50	44	0%	0%

Intersection 13 **Sierra College Blvd/Stadium Entrance Dr** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	2,400	925	305	1,750	575	1,850	527	88%	2%
	Right Turn	100	75	29	150	22	125	0	4%	0%
NB	Left Turn	225	50	13	100	46	100	67	0%	0%
	Through	1,600	300	109	625	283	675	286	12%	4%
SB	Through	1,700	100	23	175	36	175	44	0%	0%
	Through/Right	725	125	22	200	33	200	34	0%	0%
0										

Intersection 14 **Sierra College Blvd/Rocklin Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	225	250	1	250	2	250	0	91%	0%
	Through	2,275	1,075	212	1,500	246	1,575	267	2%	0%
	Right Turn	2,275	550	165	800	227	825	266	0%	0%
NB	Left Turn	225	225	23	275	37	250	35	4%	0%
	Through	9,150	4,450	319	6,500	443	6,750	418	50%	0%
	Through/Right	9,150	4,450	312	6,525	435	6,750	392	0%	0%
SB	Left Turn	250	275	2	275	3	275	0	75%	0%
	Through	1,700	500	99	675	149	700	150	29%	6%
	Right Turn	175	125	25	250	25	200	0	0%	0%
WB	Left Turn	225	200	56	225	59	225	50	41%	0%
	Through	5,000	250	88	375	145	375	134	2%	0%
	Through/Right	5,000	250	54	350	86	375	111	0%	0%

Intersection 21 **Sierra College Blvd/Office Dwy** **Side-street Stop**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Right Turn	500	25	14	75	20	75	17	0%	0%
NB	Left Turn	125	25	3	25	14	25	17	0%	0%
	Through	375	75	36	200	83	175	90	4%	0%
SB	Through	225	125	56	225	83	200	66	0%	3%
	Through/Right	225	150	46	275	40	225	8	0%	13%
0										

Intersection 24 **Sierra College Blvd/Project Dwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	225	125	27	200	43	200	42	2%	0%
	Through/Right	1,675	125	34	200	75	200	77	2%	0%
NB	Left Turn	175	50	17	100	47	125	54	0%	0%
	Through	575	275	26	400	37	400	33	16%	0%
	Right Turn	150	100	37	200	37	175	0	0%	1%
SB	Left Turn	175	125	25	200	39	175	31	3%	0%
	Through	625	500	71	650	72	600	63	14%	3%
	Through/Right	625	550	51	675	49	650	22	0%	13%
WB	Left Turn	2,550	1,000	264	1,750	423	1,775	374	86%	0%
	Through/Right	2,550	425	290	1,175	736	1,425	660	0%	0%

Intersection 6 **Sierra College Blvd/Taylor Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	175	75	36	150	67	150	50	4%	0%
	Through	2,600	450	309	975	655	1,075	607	10%	0%
	Right Turn	200	150	26	250	35	200	20	30%	0%
NB	Left Turn	225	150	49	225	60	200	46	13%	0%
	Through	575	200	65	300	102	300	90	2%	0%
	Right Turn	575	125	29	225	52	225	54	0%	0%
SB	Left Turn	200	50	20	125	69	150	86	0%	0%
	Through	5,000	475	157	875	346	1,000	370	55%	0%
	Right Turn	225	50	26	175	81	200	87	0%	0%
WB	Left Turn	225	225	16	250	32	225	1	65%	0%
	Through	4,850	1,225	501	2,450	900	2,775	779	1%	1%
	Right Turn	225	25	12	75	42	75	60	0%	0%

Intersection 7 **Sierra College Blvd/Brace Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Right Turn	2,475	575	158	1,025	250	1,100	251	0%	0%
NB	Through	625	175	37	250	53	250	48	0%	0%
	Right Turn	225	75	7	125	18	125	24	0%	0%
SB	Left Turn	175	125	24	200	27	200	11	8%	0%
	Through	575	400	86	600	104	575	86	13%	12%
	Through/Right	575	500	57	700	53	600	41	0%	33%
WB	Left Turn	100	100	10	125	9	125	1	77%	0%
	Right Turn	2,175	425	178	825	282	850	257	0%	0%

Intersection 8 **Sierra College Blvd/Granite Dr** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	200	200	18	225	12	225	0	61%	0%
	Through	4,900	475	246	775	312	750	294	0%	0%
	Right Turn	4,900	150	47	300	88	300	81	9%	0%
NB	Left Turn	175	175	32	225	23	200	10	18%	0%
	Through	400	500	23	550	25	525	18	15%	60%
	Right Turn	400	475	15	525	21	525	20	0%	48%
SB	Left Turn	300	100	43	200	98	250	100	0%	0%
	Through	800	800	71	875	93	850	33	76%	38%
	Right Turn	200	125	37	275	49	225	0	0%	0%
WB	Left Turn	175	175	33	200	25	200	18	44%	0%
	Through	3,150	250	200	450	305	425	263	0%	0%
	Right Turn	175	50	11	100	29	100	34	0%	0%

Intersection 9 **Sierra College Blvd/Rocklin Commons Dwy-I-80 WB Ramps** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	875	200	66	350	113	350	116	0%	0%
	Right Turn	900	175	57	300	110	300	91	0%	0%
NB	Left Turn	150	250	11	275	18	250	8	0%	46%
	Through	1,500	650	177	975	229	1,025	207	0%	0%
	Right Turn	300	150	20	250	20	225	17	17%	0%
SB	Through	400	450	106	500	115	475	113	0%	45%
	Right Turn	200	75	8	100	14	100	16	0%	0%
WB	Left Turn	800	800	13	825	22	825	11	61%	0%
	Through/Right	6,375	4,475	385	7,225	383	6,400	89	36%	27%
	Right Turn	200	150	31	225	31	200	16	4%	0%

Intersection 10 **Sierra College Blvd/I-80 EB Ramps-Rocklin Crossings Dwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	375	350	23	425	29	375	1	17%	0%
	Through	2,450	350	99	700	181	650	192	0%	0%
	Right Turn	225	50	11	100	36	100	48	0%	0%
NB	Through	300	175	42	225	45	225	44	0%	0%
	Right Turn	300	25	10	50	20	50	21	0%	0%
SB	Left Turn	225	125	22	200	38	200	46	0%	0%
	Through	475	125	20	200	50	200	63	0%	0%
	Right Turn	475	25	0	25	0	25	0	0%	0%
WB	Left Turn	375	150	16	225	52	225	73	0%	0%
	Right Turn	3,175	175	54	275	71	275	65	0%	0%

Intersection 11 **Sierra College Blvd/Schriber Wy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	225	100	19	150	32	150	35	0%	0%
	Through/Right	650	50	11	50	18	50	19	0%	0%
NB	Left Turn	125	25	8	75	14	75	21	0%	0%
	Through	350	50	11	100	21	100	32	0%	0%
	Through/Right	350	75	24	125	42	150	46	0%	0%
SB	Through	300	150	22	175	30	225	37	9%	0%
	Right Turn	100	50	15	125	24	125	3	0%	0%
WB	Left/Through	575	25	7	50	15	50	20	0%	0%
	Right Turn	225	50	7	75	18	75	17	0%	0%

Intersection 12 **Sierra College Blvd/Dominguez Rd-Bass Pro Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	200	225	9	250	10	225	0	45%	0%
	Through	1,350	300	136	500	115	475	129	0%	0%
	Right Turn	1,350	225	23	325	45	325	40	0%	0%
NB	Left Turn	100	125	1	125	2	125	0	81%	0%
	Through	1,700	625	53	725	83	650	14	39%	88%
	Right Turn	75	75	4	75	3	75	0	2%	0%
SB	Left Turn	225	100	17	150	29	150	30	0%	5%
	Through	350	200	24	275	29	300	32	0%	0%
	Right Turn	200	150	18	225	34	225	39	0%	0%
WB	Left Turn	250	75	40	150	80	150	75	0%	0%
	Through	750	175	27	300	83	275	82	14%	0%
	Right Turn	175	25	12	75	62	100	87	0%	0%

Intersection 13 **Sierra College Blvd/Stadium Entrance Dr** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	2,400	150	75	325	172	375	179	42%	0%
	Right Turn	100	50	9	75	24	100	36	0%	0%
NB	Left Turn	225	75	28	200	67	225	54	0%	0%
	Through	1,625	325	141	775	226	825	158	38%	11%
SB	Through	1,700	50	15	100	23	100	19	0%	0%
	Through/Right	725	75	18	125	37	125	42	0%	0%
0										

Intersection 14 **Sierra College Blvd/Rocklin Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	225	200	31	275	20	250	12	22%	0%
	Through	2,275	175	64	300	132	300	107	0%	0%
	Right Turn	2,275	100	20	175	48	175	44	0%	0%
NB	Left Turn	225	200	22	300	29	250	32	0%	0%
	Through	9,150	900	273	1,275	394	1,250	341	49%	0%
	Through/Right	9,150	875	270	1,250	405	1,225	342	0%	0%
SB	Left Turn	250	200	39	250	37	250	29	9%	0%
	Through	1,700	175	46	275	79	275	70	10%	0%
	Right Turn	175	75	29	150	67	175	61	0%	0%
WB	Left Turn	225	75	20	125	27	125	25	0%	0%
	Through	5,000	125	19	200	37	200	40	0%	0%
	Through/Right	250	125	10	175	34	175	38	0%	0%

Intersection 21 **Sierra College Blvd/Office Dwy** **Side-street Stop**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
NB	Left Turn	125	25	5	25	16	25	20	0%	0%
	Through	375	25	5	25	21	25	28	0%	0%
SB	Through	225	225	45	275	37	250	22	0%	38%
	Through/Right	225	225	19	250	30	250	12	0%	66%
EB	Right Turn	575	25	0	25	0	25	0	0%	0%
0										

Intersection 24 **Sierra College Blvd/Project Dwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	225	150	30	275	38	250	0	3%	0%
	Through/Right	1,675	225	61	450	162	450	227	32%	0%
NB	Left Turn	175	75	31	100	45	100	41	0%	0%
	Through	575	275	33	375	50	400	50	18%	0%
	Right Turn	150	125	19	200	20	175	0	2%	2%
SB	Left Turn	175	150	27	225	12	200	0	13%	0%
	Through	625	375	46	500	42	425	21	13%	55%
	Through/Right	625	400	14	425	26	425	12	0%	78%
WB	Left Turn	3,550	1,950	418	3,025	593	3,000	580	96%	1%
	Through/Right	3,550	1,400	559	3,075	946	2,850	772	0%	0%

Cumulative Short-Term Plus Project (Mitigated) Conditions

Intersection 6 **Sierra College Blvd/Taylor Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	161	135	83.6%	54.8	8.9	D
	Through	1,142	984	86.2%	26.9	4.0	C
	Right Turn	457	398	87.1%	11.2	1.9	B
	Subtotal	1,760	1,517	86.2%	25.4	2.9	C
SB	Left Turn	23	26	112.8%	58.5	16.9	E
	Through	770	736	95.6%	42.7	24.1	D
	Right Turn	161	162	100.4%	22.1	22.4	C
	Subtotal	954	924	96.8%	39.6	23.8	D
EB	Left Turn	189	178	94.1%	61.6	24.9	E
	Through	282	284	100.8%	54.2	19.3	D
	Right Turn	182	193	106.2%	24.8	16.2	C
	Subtotal	653	655	100.4%	47.7	20.4	D
WB	Left Turn	488	423	86.8%	67.8	41.1	E
	Through	303	278	91.8%	52.7	30.2	D
	Right Turn	44	49	110.2%	29.6	26.9	C
	Subtotal	835	750	89.8%	59.9	35.4	E
Total		4,202	3,846	91.5%	38.6	11.6	D

Intersection 7 **Sierra College Blvd/Brace Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,638	1,417	86.5%	16.2	4.4	B
	Right Turn	188	172	91.4%	8.2	1.6	A
	Subtotal	1,826	1,589	87.0%	15.3	4.0	B
SB	Left Turn	115	104	90.2%	49.0	14.6	D
	Through	1,325	1,196	90.3%	31.1	23.4	C
	Right Turn						
	Subtotal	1,440	1,300	90.3%	32.6	22.7	C
EB	Left Turn						
	Through						
	Right Turn	142	136	95.9%	26.8	12.7	C
	Subtotal	142	136	95.9%	26.8	12.7	C
WB	Left Turn	199	183	91.8%	43.1	26.9	D
	Through						
	Right Turn	124	117	94.0%	20.1	22.2	C
	Subtotal	323	299	92.7%	34.5	26.4	C
Total		3,731	3,324	89.1%	23.9	11.8	C

Intersection 8 **Sierra College Blvd/Granite Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	358	299	83.4%	83.7	16.5	F
	Through	1,851	1,588	85.8%	18.3	3.4	B
	Right Turn	69	53	76.3%	14.2	4.5	B
	Subtotal	2,278	1,939	85.1%	28.5	6.1	C
SB	Left Turn	61	59	96.8%	80.0	9.8	E
	Through	1,752	1,484	84.7%	57.2	19.3	E
	Right Turn	126	112	88.6%	47.1	15.1	D
	Subtotal	1,939	1,655	85.4%	57.4	18.3	E
EB	Left Turn	197	186	94.5%	96.8	33.1	F
	Through	26	23	86.8%	97.4	59.3	F
	Right Turn	368	375	101.9%	36.3	9.2	D
	Subtotal	591	584	98.7%	58.6	16.0	E
WB	Left Turn	107	97	91.0%	48.7	7.6	D
	Through	24	21	89.3%	56.5	13.5	E
	Right Turn	33	26	79.8%	25.1	12.5	C
	Subtotal	164	145	88.5%	46.7	7.1	D
Total		4,972	4,323	87.0%	44.0	8.1	D

Intersection 9 **Sierra College Blvd/Rocklin Commons Dwy-I-80 WB Ramps** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	418	326	78.1%	109.8	29.9	F
	Through	1,639	1,394	85.1%	31.8	9.9	C
	Right Turn	392	314	80.0%	19.4	9.6	B
	Subtotal	2,449	2,034	83.1%	42.5	12.7	D
SB	Left Turn						
	Through	2,008	1,736	86.5%	41.3	7.6	D
	Right Turn	209	183	87.4%	22.7	4.6	C
	Subtotal	2,217	1,919	86.6%	39.5	7.4	D
EB	Left Turn	200	113	56.6%	255.2	112.0	F
	Through						
	Right Turn	307	263	85.7%	60.3	22.0	E
	Subtotal	507	376	74.2%	111.2	19.6	F
WB	Left Turn	556	515	92.7%	85.0	41.8	F
	Through	137	141	102.6%	95.7	54.0	F
	Right Turn	480	462	96.3%	82.4	40.8	F
	Subtotal	1,173	1,118	95.3%	85.2	42.3	F
Total		6,346	5,448	85.8%	54.7	11.7	D

Intersection 10 **Sierra College Blvd/I-80 EB Ramps-Rocklin Crossings Dwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,852	1,410	76.2%	38.3	4.5	D
	Right Turn	177	144	81.4%	19.0	3.0	B
	Subtotal	2,029	1,554	76.6%	36.5	4.3	D
SB	Left Turn	393	330	84.0%	88.7	24.8	F
	Through	1,237	1,076	87.0%	34.4	24.4	C
	Right Turn	621	529	85.3%	19.1	13.9	B
	Subtotal	2,251	1,935	86.0%	39.4	20.2	D
EB	Left Turn	728	714	98.1%	74.6	27.6	E
	Through	276	274	99.2%	57.5	6.2	E
	Right Turn	151	151	100.1%	44.0	9.5	D
	Subtotal	1,155	1,139	98.6%	66.5	18.2	E
WB	Left Turn	199	153	76.9%	171.7	91.5	F
	Through						
	Right Turn	464	383	82.6%	126.6	63.7	F
	Subtotal	663	536	80.9%	140.7	70.2	F
Total		6,098	5,165	84.7%	54.4	15.8	D

Intersection 11 **Sierra College Blvd/Schriber Wy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	48	34	71.3%	55.2	22.5	E
	Through	1,778	1,312	73.8%	23.4	9.2	C
	Right Turn	194	144	74.0%	22.8	8.2	C
	Subtotal	2,020	1,490	73.8%	24.1	9.3	C
SB	Left Turn						
	Through	1,390	1,206	86.8%	26.8	10.7	C
	Right Turn	90	77	85.6%	15.2	8.0	B
	Subtotal	1,480	1,283	86.7%	26.1	10.5	C
EB	Left Turn	97	92	95.4%	38.4	25.0	D
	Through						
	Right Turn	51	46	89.9%	10.4	2.9	B
	Subtotal	148	138	93.5%	28.7	15.0	C
WB	Left Turn	75	79	105.3%	29.3	8.0	C
	Through						
	Right Turn	156	153	97.9%	23.3	10.8	C
	Subtotal	231	232	100.3%	25.8	8.1	C
Total		3,879	3,143	81.0%	25.3	9.1	C

Intersection 12 **Sierra College Blvd/Dominguez Rd-Bass Pro Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	2	1	56.4%	17.6	16.1	B
	Through	1,945	1,441	74.1%	33.4	12.1	C
	Right Turn	85	64	74.8%	38.2	19.0	D
	Subtotal	2,032	1,506	74.1%	33.6	12.3	C
SB	Left Turn	80	62	77.6%	38.7	9.6	D
	Through	1,437	1,263	87.9%	10.8	2.3	B
	Right Turn	1	1	112.8%	5.4	1.3	A
	Subtotal	1,518	1,327	87.4%	12.1	2.4	B
EB	Left Turn	5	3	67.7%	27.6	37.8	C
	Through						
	Right Turn	1	3	300.8%	5.6	6.5	A
	Subtotal	6	6	106.5%	27.2	36.3	C
WB	Left Turn	107	111	103.7%	32.7	8.5	C
	Through						
	Right Turn	70	65	92.9%	18.7	6.9	B
	Subtotal	177	176	99.4%	27.5	7.3	C
Total		3,733	3,014	80.7%	23.9	7.0	C

Intersection 13 **Sierra College Blvd/Stadium Entrance Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	26	17	65.1%	28.3	8.7	C
	Through	1,824	1,357	74.4%	8.3	0.6	A
	Right Turn						
	Subtotal	1,850	1,374	74.2%	8.5	0.6	A
SB	Left Turn						
	Through	1,432	1,271	88.7%	5.4	0.7	A
	Right Turn	67	56	83.1%	4.3	1.1	A
	Subtotal	1,499	1,327	88.5%	5.4	0.7	A
EB	Left Turn	119	114	95.7%	19.9	2.5	B
	Through						
	Right Turn	74	76	102.6%	9.6	2.0	A
	Subtotal	193	190	98.4%	15.7	2.3	B
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		3,542	2,890	81.6%	7.6	0.4	A

Intersection 14 **Sierra College Blvd/Rocklin Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	406	286	70.4%	239.9	29.3	F
	Through	1,336	926	69.3%	229.2	22.4	F
	Right Turn	74	50	68.1%	227.6	25.0	F
	Subtotal	1,816	1,262	69.5%	231.4	23.4	F
SB	Left Turn	214	179	83.8%	141.9	34.3	F
	Through	1,014	926	91.4%	37.4	5.3	D
	Right Turn	287	255	89.0%	13.0	3.5	B
	Subtotal	1,515	1,361	89.8%	46.6	8.0	D
EB	Left Turn	386	303	78.6%	174.3	34.4	F
	Through	412	405	98.3%	40.3	3.1	D
	Right Turn	411	411	100.1%	18.1	4.2	B
	Subtotal	1,209	1,120	92.6%	68.6	10.3	E
WB	Left Turn	70	70	99.9%	72.6	11.6	E
	Through	340	329	96.9%	60.1	11.5	E
	Right Turn	224	220	98.4%	40.3	8.0	D
	Subtotal	634	620	97.7%	54.7	9.3	D
Total		5,174	4,363	84.3%	106.9	7.4	F

Intersection 21 **Sierra College Blvd/Office Dwy** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	5	6	120.3%	12.4	13.1	B
	Through	1,826	1,588	87.0%	4.5	0.5	A
	Right Turn						
	Subtotal	1,831	1,594	87.1%	4.5	0.5	A
SB	Left Turn						
	Through	1,665	1,489	89.4%	9.5	5.4	A
	Right Turn	2	2	112.8%	1.6	3.6	A
	Subtotal	1,667	1,491	89.5%	9.4	5.4	A
EB	Left Turn						
	Through						
	Right Turn	20	14	71.4%	78.6	106.1	F
	Subtotal	20	14	71.4%	78.6	106.1	F
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		3,518	3,100	88.1%	7.1	2.7	A

Intersection 24 **Sierra College Blvd/Project Dwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,676	1,432	85.4%	22.1	4.3	C
	Right Turn	387	327	84.4%	11.0	1.9	B
	Subtotal	2,063	1,759	85.2%	20.0	3.9	C
SB	Left Turn	142	130	91.4%	55.3	11.1	E
	Through	1,543	1,340	86.8%	39.4	15.3	D
	Right Turn						
	Subtotal	1,685	1,469	87.2%	40.8	14.7	D
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	402	359	89.4%	30.3	17.9	C
	Through						
	Right Turn	161	158	98.1%	12.3	6.2	B
	Subtotal	563	517	91.9%	24.7	13.9	C
Total		4,311	3,745	86.9%	28.7	7.5	C

Intersection 6 **Sierra College Blvd/Taylor Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	175	150	20	200	13	175	0	12%	0%
	Through	4,650	350	175	650	370	600	309	22%	0%
	Right Turn	200	125	35	250	21	225	0	0%	0%
NB	Left Turn	300	125	28	225	57	225	73	0%	0%
	Through	575	275	26	375	42	375	52	1%	0%
	Right Turn	575	100	28	200	41	175	39	0%	0%
SB	Left Turn	200	50	22	100	63	125	75	0%	0%
	Through	5,000	250	91	375	230	375	265	16%	0%
	Right Turn	225	150	48	250	77	225	50	0%	0%
WB	Left Turn	300	225	43	325	52	300	48	5%	0%
	Through	5,550	300	267	600	707	700	915	9%	0%
	Right Turn	225	50	26	125	83	150	85	0%	0%

Intersection 7 **Sierra College Blvd/Brace Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Right Turn	1,250	75	13	125	37	150	53	0%	0%
NB	Through	625	200	56	250	62	275	54	0%	0%
	Right Turn	625	50	12	100	29	100	28	0%	0%
SB	Left Turn	175	100	26	175	42	175	34	1%	0%
	Through	575	325	86	450	115	500	107	12%	3%
	Right Turn	575	75	45	100	77	125	79	0%	0%
WB	Left Turn	100	100	12	125	6	125	3	27%	0%
	Right Turn	5,000	125	85	275	179	300	182	1%	0%

Intersection 8 **Sierra College Blvd/Granite Dr** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	200	200	26	225	17	225	8	41%	0%
	Through	2,575	225	138	400	135	375	132	0%	0%
	Right Turn	2,575	225	52	350	104	350	98	15%	0%
NB	Left Turn	175	200	14	225	9	200	1	50%	0%
	Through	425	400	93	475	85	475	76	14%	26%
	Through/Right	425	300	28	375	38	400	41	0%	1%
SB	Left Turn	300	150	65	300	112	300	67	0%	0%
	Through	575	575	90	700	62	675	41	27%	18%
	Through/Right	375	400	25	475	32	450	6	0%	23%
WB	Left Turn	175	100	18	175	23	150	28	3%	0%
	Through	1,350	50	18	100	56	100	76	0%	0%
	Right Turn	175	25	10	75	19	75	23	0%	0%

Intersection 9 **Sierra College Blvd/Rocklin Commons Dwy-I-80 WB Ramps** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	875	525	164	750	238	725	207	8%	0%
	Right Turn	3,700	425	232	875	564	950	606	7%	0%
NB	Left Turn	150	250	28	275	18	275	11	0%	46%
	Through	1,500	425	181	550	213	550	200	0%	0%
	Right Turn	300	125	19	200	30	200	27	4%	0%
SB	Through	375	425	56	575	50	525	31	0%	18%
	Right Turn	175	100	7	150	15	150	32	2%	0%
WB	Left Turn	775	400	149	575	182	600	169	26%	0%
	Through	4,600	475	284	800	439	825	440	9%	0%
	Right Turn	200	175	25	250	21	225	4	21%	0%

Intersection 10 **Sierra College Blvd/I-80 EB Ramps-Rocklin Crossings Dwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	375	350	20	425	22	375	0	19%	0%
	Through	1,625	400	178	800	321	750	356	1%	0%
	Right Turn	225	125	25	225	29	225	24	2%	0%
NB	Through	300	325	35	400	22	375	17	0%	22%
	Right Turn	300	100	12	150	32	150	34	0%	0%
SB	Left Turn	225	200	35	250	33	250	19	9%	3%
	Through	1,500	375	216	550	310	525	263	14%	1%
	Right Turn	475	25	0	25	0	25	0	0%	0%
WB	Left Turn	375	325	48	450	52	375	0	17%	0%
	Right Turn	3,175	900	503	1,500	935	1,475	804	40%	1%

Intersection 11 **Sierra College Blvd/Schriber Wy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	225	75	18	125	45	125	41	1%	0%
	Through/Right	650	25	13	75	51	75	73	0%	0%
NB	Left Turn	125	50	13	75	28	100	38	0%	0%
	Through	350	175	48	275	84	275	77	7%	1%
	Through/Right	350	325	77	425	85	425	74	0%	10%
SB	Through	300	300	58	400	67	375	60	31%	14%
	Right Turn	100	50	23	125	45	125	1	0%	0%
WB	Left/Through	575	75	24	125	83	150	112	0%	0%
	Right Turn	225	100	21	150	49	150	51	1%	0%

Intersection 12 **Sierra College Blvd/Dominguez Rd-Bass Pro Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	200	25	3	25	11	25	13	0%	0%
	Through/Right	375	25	3	25	11	25	13	0%	0%
NB	Left Turn	100	25	2	25	7	25	9	0%	0%
	Through	1,700	450	156	700	188	675	171	34%	0%
	Right Turn	75	50	9	100	8	75	2	1%	0%
SB	Left Turn	225	50	9	100	18	100	23	0%	0%
	Through	350	175	41	250	60	275	59	0%	1%
	Right Turn	200	25	1	25	4	25	6	0%	0%
WB	Left Turn	250	75	10	125	24	125	32	0%	0%
	Through	750	25	0	25	0	25	0	0%	0%
	Right Turn	175	50	11	75	21	100	21	0%	0%

Intersection 13 **Sierra College Blvd/Stadium Entrance Dr** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	400	75	18	125	39	125	39	9%	0%
	Right Turn	100	50	9	100	19	100	25	0%	0%
NB	Left Turn	225	25	5	50	13	50	16	0%	0%
	Through	1,600	125	13	175	23	175	29	0%	0%
SB	Through	1,700	50	14	100	21	100	26	0%	0%
	Through/Right	725	75	14	125	25	125	34	0%	0%
0										

Intersection 14 **Sierra College Blvd/Rocklin Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	225	250	1	250	2	250	1	78%	0%
	Through	2,275	725	163	1,000	237	975	227	0%	0%
	Right Turn	2,275	175	42	275	70	275	72	0%	0%
NB	Left Turn	225	225	21	300	32	250	26	5%	0%
	Through	5,650	2,200	298	3,200	424	3,250	426	51%	0%
	Through/Right	5,650	2,200	291	3,200	426	3,275	443	0%	0%
SB	Left Turn	250	250	20	300	27	275	6	48%	0%
	Through	1,700	300	80	450	109	450	88	19%	0%
	Right Turn	175	150	35	225	33	200	0	0%	0%
WB	Left Turn	225	100	29	200	63	200	67	0%	0%
	Through	5,000	275	100	425	174	425	177	16%	0%
	Through/Right	250	225	26	275	24	275	6	7%	0%

Intersection 21 **Sierra College Blvd/Office Dwy** **Side-street Stop**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Right Turn	525	50	22	75	39	75	38	0%	0%
NB	Left Turn	125	25	5	25	16	25	18	0%	0%
	Through	375	25	6	25	19	25	25	0%	0%
SB	Through	225	75	67	150	129	200	97	0%	5%
	Through/Right	225	125	70	225	64	225	9	0%	11%
0										

SimTraffic Post-Processor **Loomis Costco DEIR Peer Review**
Average Results from 10 Runs **Cumulative Short Term Plus Project Conditions (Mitigated)**
Queue Length **Weekday PM Peak Hour**

Intersection 24 **Sierra College Blvd/Project Dwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
NB	Through	575	250	39	350	55	375	58	17%	0%
	Right Turn	150	125	32	200	26	175	2	1%	1%
SB	Left Turn	175	125	16	225	19	200	3	2%	0%
	Through	625	475	104	625	94	650	41	14%	11%
WB	Left Turn	1,075	175	70	300	186	350	232	6%	0%
	Right Turn	225	75	22	150	64	150	69	0%	0%
0										

Cumulative Long-Term Plus Project (Mitigated) Conditions

Intersection 6 **Sierra College Blvd/Taylor Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	151	118	77.9%	73.1	17.0	E
	Through	1,490	1,081	72.5%	39.5	7.1	D
	Right Turn	574	430	74.9%	16.3	2.3	B
	Subtotal	2,215	1,628	73.5%	35.9	5.9	D
SB	Left Turn	35	23	66.6%	115.4	41.4	F
	Through	959	804	83.8%	103.3	27.0	F
	Right Turn	70	64	91.9%	63.5	24.5	E
	Subtotal	1,064	891	83.8%	100.9	26.7	F
EB	Left Turn	135	102	75.2%	123.6	62.8	F
	Through	320	246	76.7%	130.8	86.9	F
	Right Turn	260	212	81.6%	101.5	81.0	F
	Subtotal	715	559	78.2%	118.9	79.9	F
WB	Left Turn	519	326	62.8%	168.0	67.1	F
	Through	190	144	75.8%	104.6	56.0	F
	Right Turn	70	55	79.0%	83.7	50.0	F
	Subtotal	779	525	67.4%	141.7	59.9	F
Total		4,773	3,604	75.5%	78.2	20.2	E

Intersection 7 **Sierra College Blvd/Brace Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	2,107	1,603	76.1%	30.7	3.1	C
	Right Turn	375	299	79.7%	18.1	2.4	B
	Subtotal	2,482	1,901	76.6%	28.8	2.9	C
SB	Left Turn	322	191	59.2%	159.0	18.7	F
	Through	1,301	1,042	80.1%	40.3	4.6	D
	Right Turn	115	91	78.8%	35.5	4.5	D
	Subtotal	1,738	1,323	76.1%	57.2	6.7	E
EB	Left Turn						
	Through						
	Right Turn	545	473	86.9%	126.2	36.1	F
	Subtotal	545	473	86.9%	126.2	36.1	F
WB	Left Turn	105	79	75.2%	120.2	53.8	F
	Through						
	Right Turn	133	129	96.7%	45.2	44.0	D
	Subtotal	238	208	87.2%	74.5	51.1	E
Total		5,003	3,906	78.1%	52.2	3.2	D

Intersection 8 **Sierra College Blvd/Granite Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	220	159	72.5%	89.6	16.0	F
	Through	2,150	1,475	68.6%	34.5	9.7	C
	Right Turn	55	33	59.5%	30.8	13.9	C
	Subtotal	2,425	1,667	68.7%	39.8	9.8	D
SB	Left Turn	100	77	77.5%	82.2	19.4	F
	Through	1,861	1,548	83.2%	42.8	10.5	D
	Right Turn	194	169	87.0%	38.2	11.2	D
	Subtotal	2,155	1,794	83.2%	44.0	10.3	D
EB	Left Turn	424	338	79.7%	191.3	58.8	F
	Through	25	14	57.2%	181.2	59.9	F
	Right Turn	285	221	77.4%	165.7	65.9	F
	Subtotal	734	573	78.1%	181.3	61.8	F
WB	Left Turn	120	119	99.0%	54.2	7.5	D
	Through	30	24	80.2%	53.4	11.7	D
	Right Turn	90	96	106.1%	28.4	6.9	C
	Subtotal	240	238	99.3%	44.0	5.2	D
Total		5,554	4,272	76.9%	59.9	6.3	E

Intersection 9 **Sierra College Blvd/Rocklin Commons Dwy-I-80 WB Ramps** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	305	206	67.7%	64.7	7.6	E
	Through	1,968	1,346	68.4%	21.7	4.0	C
	Right Turn	255	180	70.6%	8.9	1.6	A
	Subtotal	2,528	1,733	68.5%	25.5	2.7	C
SB	Left Turn						
	Through	2,231	1,851	83.0%	21.9	3.8	C
	Right Turn	35	28	80.6%	11.7	2.2	B
	Subtotal	2,266	1,880	82.9%	21.8	3.8	C
EB	Left Turn	35	33	93.5%	114.8	50.7	F
	Through						
	Right Turn	120	119	99.3%	35.0	9.4	C
	Subtotal	155	152	98.0%	53.0	15.1	D
WB	Left Turn	1,035	651	62.9%	339.9	54.6	F
	Through	70	45	65.0%	341.2	60.9	F
	Right Turn	392	237	60.5%	321.6	61.7	F
	Subtotal	1,497	934	62.4%	335.5	56.3	F
Total		6,446	4,698	72.9%	86.1	10.6	F

Intersection 10 **Sierra College Blvd/I-80 EB Ramps-Rocklin Crossings Dwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	2,459	1,285	52.2%	24.3	8.8	C
	Right Turn	160	85	52.9%	10.7	5.2	B
	Subtotal	2,619	1,369	52.3%	23.4	8.6	C
SB	Left Turn	270	190	70.5%	91.2	18.1	F
	Through	1,555	1,119	71.9%	28.6	10.6	C
	Right Turn	521	386	74.1%	13.4	5.3	B
	Subtotal	2,346	1,695	72.3%	32.4	9.3	C
EB	Left Turn	624	600	96.2%	99.2	38.8	F
	Through	180	177	98.4%	66.1	10.5	E
	Right Turn	100	105	104.5%	46.9	19.6	D
	Subtotal	904	882	97.5%	86.0	27.5	F
WB	Left Turn	125	92	73.4%	163.4	82.7	F
	Through						
	Right Turn	310	276	88.9%	41.7	24.1	D
	Subtotal	435	367	84.4%	70.4	29.3	E
Total		6,304	4,313	68.4%	43.4	10.9	D

Intersection 11 **Sierra College Blvd/Schriber Wy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	55	24	43.8%	38.3	11.4	D
	Through	2,389	1,161	48.6%	16.2	3.4	B
	Right Turn	65	29	44.5%	14.2	6.9	B
	Subtotal	2,509	1,214	48.4%	16.6	3.3	B
SB	Left Turn						
	Through	1,590	1,168	73.5%	35.3	10.4	D
	Right Turn	190	138	72.6%	21.6	7.9	C
	Subtotal	1,780	1,306	73.4%	33.8	10.2	C
EB	Left Turn	155	158	101.6%	31.8	6.7	C
	Through	10	12	116.6%	40.5	21.2	D
	Right Turn	65	62	95.4%	23.0	10.3	C
	Subtotal	230	231	100.5%	29.6	4.5	C
WB	Left Turn	25	29	117.3%	31.8	7.8	C
	Through	5	3	60.2%	20.2	18.1	C
	Right Turn	75	71	94.3%	13.4	5.0	B
	Subtotal	105	103	98.1%	19.1	3.1	B
Total		4,624	2,855	61.7%	25.6	6.1	C

Intersection 12 **Sierra College Blvd/Dominguez Rd-Bass Pro Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	295	139	47.0%	296.8	33.5	F
	Through	2,289	1,029	45.0%	227.7	24.5	F
	Right Turn	185	76	40.9%	217.0	21.7	F
	Subtotal	2,769	1,243	44.9%	234.9	25.8	F
SB	Left Turn	100	70	70.3%	93.7	23.1	F
	Through	1,475	1,067	72.3%	46.9	4.1	D
	Right Turn	105	88	83.8%	25.4	2.1	C
	Subtotal	1,680	1,225	72.9%	48.3	3.6	D
EB	Left Turn	205	177	86.2%	115.6	46.3	F
	Through	55	63	114.9%	50.5	19.7	D
	Right Turn	485	476	98.1%	60.8	15.4	E
	Subtotal	745	716	96.0%	73.6	19.3	E
WB	Left Turn	155	166	107.0%	92.8	20.1	F
	Through	100	103	102.6%	43.4	8.9	D
	Right Turn	15	15	102.8%	7.4	5.1	A
	Subtotal	270	284	105.1%	69.8	10.8	E
Total		5,464	3,468	63.5%	121.9	8.2	F

Intersection 13 **Sierra College Blvd/Stadium Entrance Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	60	29	48.9%	58.0	7.7	E
	Through	2,464	1,340	54.4%	42.6	17.7	D
	Right Turn						
	Subtotal	2,524	1,369	54.3%	42.9	17.4	D
SB	Left Turn						
	Through	1,945	1,578	81.1%	7.5	0.3	A
	Right Turn	175	131	75.0%	6.7	1.1	A
	Subtotal	2,120	1,709	80.6%	7.4	0.3	A
EB	Left Turn	285	117	41.0%	238.0	38.4	F
	Through						
	Right Turn	175	79	45.3%	204.2	50.2	F
	Subtotal	460	196	42.7%	221.5	39.4	F
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		5,104	3,275	64.2%	34.9	6.1	C

Intersection 14 **Sierra College Blvd/Rocklin Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	485	271	55.9%	307.2	18.6	F
	Through	1,974	1,114	56.4%	292.3	15.2	F
	Right Turn	110	55	50.2%	282.2	24.3	F
	Subtotal	2,569	1,440	56.1%	294.8	14.0	F
SB	Left Turn	329	197	59.8%	213.5	27.2	F
	Through	1,620	1,279	79.0%	42.4	6.8	D
	Right Turn	231	168	72.9%	22.0	6.5	C
	Subtotal	2,180	1,644	75.4%	60.8	6.3	E
EB	Left Turn	336	194	57.6%	327.3	31.4	F
	Through	320	318	99.5%	47.6	3.9	D
	Right Turn	625	566	90.5%	92.1	34.3	F
	Subtotal	1,281	1,078	84.2%	121.4	18.8	F
WB	Left Turn	105	86	82.0%	157.1	75.5	F
	Through	240	242	100.7%	53.5	6.6	D
	Right Turn	214	198	92.6%	42.1	5.2	D
	Subtotal	559	526	94.1%	67.0	13.8	E
Total		6,589	4,689	71.2%	147.3	7.3	F

Intersection 21 **Sierra College Blvd/Office Dwy** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	5	5	97.8%	68.1	117.3	F
	Through	2,482	1,867	75.2%	9.6	1.3	A
	Right Turn						
	Subtotal	2,487	1,872	75.3%	9.8	1.3	A
SB	Left Turn						
	Through	1,921	1,586	82.6%	3.5	1.3	A
	Right Turn	5	3	60.2%	1.2	1.8	A
	Subtotal	1,926	1,589	82.5%	3.5	1.3	A
EB	Left Turn						
	Through						
	Right Turn	20	23	112.8%	48.1	30.0	E
	Subtotal	20	23	112.8%	48.1	30.0	E
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		4,433	3,484	78.6%	7.1	1.0	A

Intersection 24 **Sierra College Blvd/Project Dwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	48	32	67.4%	59.2	21.3	E
	Through	2,227	1,585	71.2%	33.5	6.9	C
	Right Turn	387	276	71.3%	20.3	4.8	C
	Subtotal	2,662	1,893	71.1%	32.1	6.6	C
SB	Left Turn	142	112	79.2%	67.6	21.7	E
	Through	1,739	1,414	81.3%	31.3	11.5	C
	Right Turn	60	51	84.6%	42.0	24.7	D
	Subtotal	1,941	1,577	81.2%	34.3	11.7	C
EB	Left Turn	105	106	100.6%	46.8	16.5	D
	Through						
	Right Turn	83	83	100.1%	38.3	25.9	D
	Subtotal	188	189	100.4%	43.4	19.3	D
WB	Left Turn	402	317	78.8%	138.4	78.8	F
	Through						
	Right Turn	161	167	103.9%	18.0	3.4	B
	Subtotal	563	484	86.0%	92.4	45.6	F
Total		5,354	4,143	77.4%	40.4	11.2	D

Intersection 6 **Sierra College Blvd/Taylor Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	175	125	23	225	20	175	1	7%	0%
	Through	2,600	800	540	1,425	765	1,425	630	43%	1%
	Right Turn	200	175	30	250	30	225	0	14%	0%
NB	Left Turn	300	150	39	275	63	300	39	1%	0%
	Through	575	425	58	550	74	575	64	14%	2%
	Right Turn	575	150	32	275	61	275	56	0%	0%
SB	Left Turn	200	75	35	175	78	200	59	0%	0%
	Through	5,000	575	143	950	250	950	269	65%	0%
	Right Turn	225	125	37	275	38	250	0	0%	0%
WB	Left Turn	325	300	33	375	32	325	13	41%	0%
	Through	5,325	900	550	2,025	1,023	2,100	986	2%	0%
	Right Turn	225	50	15	100	48	125	68	0%	0%

Intersection 7 **Sierra College Blvd/Brace Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Right Turn	2,475	800	205	1,125	332	1,100	276	0%	0%
NB	Through	625	375	43	525	59	525	49	17%	0%
	Right Turn	175	125	21	225	19	200	0	1%	0%
SB	Left Turn	175	200	1	200	3	200	0	82%	0%
	Through	575	600	47	700	70	675	59	5%	39%
	Through/Right	575	250	36	350	54	400	54	0%	0%
WB	Left Turn	100	100	16	125	12	125	8	42%	0%
	Right Turn	2,175	200	127	350	204	375	215	5%	0%

Intersection 8 **Sierra College Blvd/Granite Dr** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	200	225	18	250	23	225	1	65%	0%
	Through/Right	4,025	1,400	550	2,050	883	1,975	819	5%	0%
	Right Turn	200	75	17	125	45	125	46	0%	0%
NB	Left Turn	175	175	19	225	16	200	1	20%	0%
	Through	400	325	56	400	52	400	38	18%	2%
	Through/Right	275	275	38	400	23	350	11	0%	27%
SB	Left Turn	300	100	36	200	74	225	99	0%	0%
	Through	575	575	69	675	73	650	65	40%	19%
	Right Turn	200	150	36	300	33	225	0	0%	0%
WB	Left Turn	175	125	14	200	22	175	12	6%	0%
	Through	3,150	50	15	150	64	175	94	0%	0%
	Right Turn	175	75	15	125	31	125	29	0%	0%

Intersection 9 **Sierra College Blvd/Rocklin Commons Dwy-I-80 WB Ramps** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	875	50	21	100	37	100	34	0%	0%
	Right Turn	875	75	20	125	31	150	38	0%	0%
NB	Left Turn	150	125	28	200	49	200	55	0%	3%
	Through	1,500	225	48	275	64	300	65	0%	0%
	Right Turn	300	100	13	150	24	150	25	5%	0%
SB	Through	400	350	105	525	127	475	112	0%	8%
	Right Turn	200	75	8	100	15	100	13	0%	0%
WB	Left Turn	775	800	6	800	14	800	14	62%	0%
	Through/Right	6,375	4,400	938	6,450	1,036	6,025	850	9%	3%
	Right Turn	200	125	27	200	45	200	28	2%	0%

Intersection 10 **Sierra College Blvd/I-80 EB Ramps-Rocklin Crossings Dwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	375	350	35	400	35	375	6	23%	0%
	Through	1,625	400	313	725	496	725	433	1%	0%
	Right Turn	225	100	28	150	62	150	58	2%	0%
NB	Through	300	200	51	250	55	250	48	0%	1%
	Right Turn	300	25	11	75	28	75	31	0%	0%
SB	Left Turn	225	175	36	250	47	250	34	1%	0%
	Through	1,500	325	81	450	115	500	115	12%	0%
	Right Turn	475	25	0	25	0	25	0	0%	0%
WB	Left Turn	375	225	64	350	84	325	72	12%	0%
	Right Turn	3,175	250	148	475	389	600	509	1%	0%

Intersection 11 **Sierra College Blvd/Schriber Wy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	225	100	18	175	24	175	26	0%	0%
	Through/Right	650	50	11	100	19	100	21	0%	0%
NB	Left Turn	125	50	11	75	23	75	34	0%	0%
	Through	350	150	36	250	59	250	54	5%	0%
	Through/Right	350	225	41	325	67	375	49	0%	1%
SB	Through	300	300	60	425	63	400	53	40%	24%
	Right Turn	100	75	22	150	14	125	0	0%	1%
WB	Left/Through	575	50	8	75	18	75	21	0%	0%
	Right Turn	225	50	11	75	23	75	20	0%	0%

Intersection 12 **Sierra College Blvd/Dominguez Rd-Bass Pro Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	200	200	18	250	11	225	1	44%	0%
	Through	1,350	275	156	450	161	450	152	0%	0%
	Right Turn	1,350	425	84	650	139	600	119	0%	0%
NB	Left Turn	100	125	2	125	2	125	1	75%	0%
	Through	1,700	1,650	55	2,075	61	1,825	33	39%	49%
	Right Turn	75	75	6	75	9	75	2	1%	0%
SB	Left Turn	225	100	35	150	39	150	30	0%	11%
	Through	350	400	27	500	35	450	22	0%	21%
	Right Turn	200	100	10	175	13	150	12	0%	0%
WB	Left Turn	250	150	21	225	36	225	34	0%	0%
	Through	750	100	23	150	37	150	35	2%	0%
	Right Turn	175	25	10	50	34	50	46	0%	0%

Intersection 13 **Sierra College Blvd/Stadium Entrance Dr** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	2,400	900	189	1,675	291	1,925	321	89%	0%
	Right Turn	100	75	25	150	24	125	0	6%	0%
NB	Left Turn	225	50	16	150	65	175	86	0%	0%
	Through	1,600	325	133	675	285	725	261	15%	5%
SB	Through	1,700	100	14	150	28	175	38	0%	0%
	Through/Right	725	100	14	200	24	175	29	0%	0%
0										

Intersection 14 **Sierra College Blvd/Rocklin Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	225	250	1	250	2	250	1	91%	0%
	Through	2,275	1,100	176	1,500	247	1,550	263	0%	0%
	Right Turn	2,275	700	254	1,050	406	1,050	386	0%	0%
NB	Left Turn	225	200	26	300	28	250	18	6%	0%
	Through	9,150	4,125	348	6,125	536	6,275	654	50%	0%
	Through/Right	9,150	4,150	333	6,175	525	6,375	569	0%	0%
SB	Left Turn	250	275	4	275	9	275	0	81%	0%
	Through	1,700	575	68	800	77	775	84	30%	9%
	Right Turn	175	125	23	250	23	200	0	0%	0%
WB	Left Turn	225	175	52	225	42	225	28	22%	0%
	Through	5,000	225	72	350	124	375	107	3%	0%
	Through/Right	5,000	250	45	375	88	350	87	0%	0%

Intersection 21 **Sierra College Blvd/Office Dwy** **Side-street Stop**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Right Turn	500	25	10	75	11	75	14	0%	0%
NB	Left Turn	125	25	8	50	30	50	39	0%	0%
	Through	375	125	47	275	82	300	65	7%	0%
SB	Through	225	25	16	50	66	75	99	0%	0%
	Through/Right	225	50	32	125	93	175	75	0%	1%
0										

Intersection 24 **Sierra College Blvd/Project Dwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Left Turn	225	100	23	150	47	175	46	2%	0%
	Through/Right	1,675	75	29	125	64	125	69	0%	0%
NB	Left Turn	175	75	36	125	73	125	59	0%	0%
	Through	575	425	64	625	68	600	41	31%	3%
	Right Turn	150	125	20	225	19	175	0	0%	2%
SB	Left Turn	175	125	34	175	30	175	22	7%	0%
	Through	625	325	72	475	93	475	100	7%	0%
	Through/Right	625	375	75	550	70	575	55	0%	1%
WB	Left Turn	2,550	500	270	800	427	825	375	56%	0%
	Through/Right	2,550	100	60	200	182	250	265	0%	0%