3.7 Transportation and Traffic

This section describes potential impacts of the proposed project related to travel demand, as well as the operating condition of roadways, intersections, and public transit and bicycle and pedestrian movement in Loomis and other areas affected by project travel demand. The existing and existing plus project conditions are described below, while the cumulative forecasts with and without the project are discussed in Section 4.0 (Cumulative Analysis) of this DEIR.

- **Existing conditions:** The analysis of Existing traffic conditions identifies project site conditions and the current operational and geometric characteristics of the roadways in the study area. These conditions are compared with future conditions later in this section.
- **Existing plus Project conditions:** The analysis of Existing plus Project traffic conditions forecasts how the study area's transportation system would operate with the addition of traffic generated by the proposed project.
- **Cumulative (Short-Term) Baseline conditions:** The analysis of Short-Term Baseline traffic conditions forecasts how the study area's transportation system would operate with the addition of traffic generated by approved and pending projects in the area before development of the proposed project.
- **Cumulative (Short-Term) plus Project[1] conditions:** The analysis of Cumulative Short-Term plus Project traffic conditions forecasts how the study area's transportation system would operate with the addition of traffic generated by the proposed Costco development in conjunction with trips generated by approved and pending projects.
- **Cumulative (Long-Term) Baseline conditions:** The analysis of Long-Term Baseline traffic conditions forecasts how the study area's transportation system would operate with the addition of traffic generated by background growth in the area by the year 2030.
- **Cumulative (Long-Term) plus Project conditions:** The analysis of Cumulative Long-Term plus Project traffic conditions forecasts how the study area's transportation system would operate with the addition of traffic generated by the proposed Costco warehouse development, combined with trips generated by regional growth in the year 2030.

The information and analysis in this section is a summary of the traffic impact study for the proposed project prepared by Kittelson & Associates, Inc., in May 2018. Measurements of transportation impacts considered in the traffic impact study (Kittelson & Associates 2018) include vehicle miles traveled (VMT), level of service (LOS), and queues at the studied intersections as summarized below. The scope of the traffic impact study was developed based on direction from the Town of Loomis in consultation with the City of Rocklin and California Department of Transportation (Caltrans) staff. A complete copy of that study is included as Appendix E to this DEIR.

3.7.1 Existing Conditions

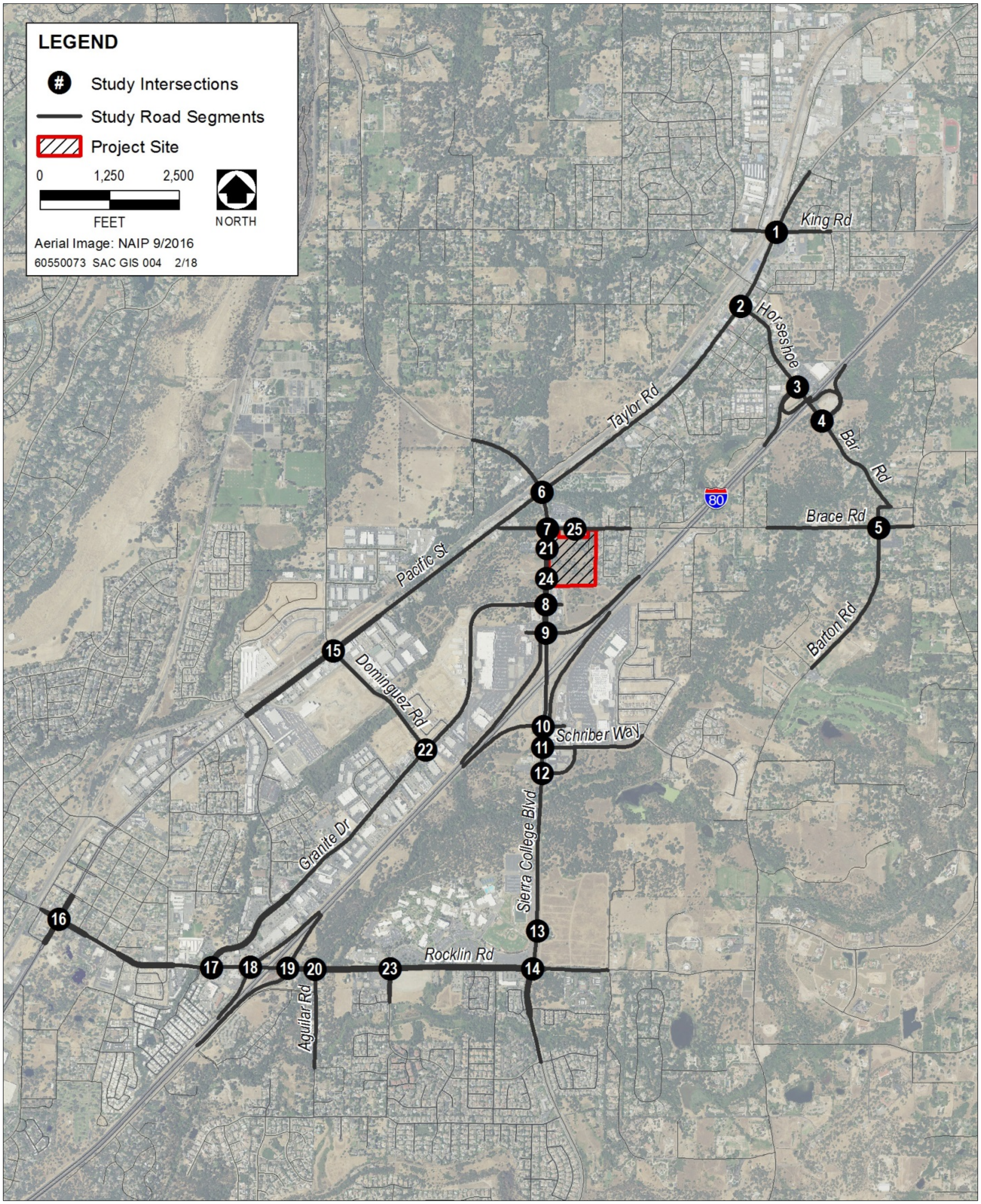
3.7.1.1 Circulation System

The Circulation Element of the *Town of Loomis General Plan* describes a developed circulation system that safely and efficiently ensures the movement of goods and people around Loomis (see Section 3.7.2.3, "Regional and Local Plans, Policies, Regulations, and Ordinances"). Figure 3.7-1 shows the roadway segments and intersections that would serve the project site. The roadway capacity and geometrics of the affected roadway segments are discussed below.

Roadway Segments

Interstate 80 (I-80) is the primary east-west route across Placer County and northern California. In the vicinity of the project site, I-80 is a six-lane, controlled-access freeway. Access to the freeway from Loomis is available at the Horseshoe Bar Road interchange, the Penryn Road interchange to the east, and the Sierra College Boulevard interchange to the west. Caltrans publishes annual reports of traffic volumes on the state highway system. The most recent counts available from Caltrans (2013) report an annual average daily traffic (ADT) volume on I-80 of 91,000 vehicles per day between Sierra College Boulevard and Horseshoe Bar Road, and 84,000 vehicles per day between Horseshoe Bar Road and Penryn Road.

[1] Cumulative impacts are analyzed in Chapter 4.



Note: The study intersections shown here are listed in Table 3.7-4, presented later in this section.
Source: Kittelson & Associates 2018

Figure 3.7-1. Study Intersections and Affected Roadway Segments

Sierra College Boulevard is a north-south roadway that provides primary access to the project site. The circulation elements of the general plans for both the Town of Loomis and the City of Rocklin classify this roadway as an arterial, with an ultimate six-lane cross section south of Taylor Road. In the study area, Sierra College Boulevard is generally a four- to five-lane roadway; however, segments near the I-80 ramps include additional travel lanes.

The Circulation Element of the *Town of Loomis General Plan* identified a series of core and ancillary improvements needed to support buildout of the General Plan. Updates along Sierra College Boulevard include widening the roadway to four lanes from north of Granite Drive to the northern town limits, and to six lanes south of Granite Drive, including bike lanes on both sides, curbs, gutters, and sidewalks (Town of Loomis 2016).

Granite Drive is a four-lane, southwest-northeast roadway located west of I-80. The Circulation Element of the *City of Rocklin General Plan* classifies this roadway as an arterial. Granite Drive extends northward from Rocklin Road and terminates just east of its intersection with Sierra College Boulevard.

Taylor Road is a major arterial street that runs parallel to I-80. Taylor Road is generally a two-lane road through Loomis, but incremental half section widening has occurred in conjunction with private development frontage improvements in some areas.

Improvements planned for Taylor Road include providing two travel lanes, a center left-turn lane, curbs, gutters, bike lanes, and sidewalks on both sides of the street between King Road and Oak Street, consistent with the *Loomis Town Center Implementation Plan* (Town of Loomis 2016).

Horseshoe Bar Road is an arterial street and originates at an intersection on Taylor Road in downtown Loomis and continues east past the Project site to an interchange on I-80. Beyond I-80, Horseshoe Bar Road continues for several miles into the rural area of Placer County near Folsom Lake. Horseshoe Bar Road is a two-lane road with auxiliary left turn lanes at major intersections.

Improvements planned for Horseshoe Bar Road include providing two travel lanes, a center left-turn lane, curbs, gutters, bike lanes, and sidewalks on both sides between Taylor Road and the I-80 ramps. Plans also call for constructing roundabouts at the intersection of Horseshoe Bar Road at the planned Boyington Road Extension north of I-80 and at the I-80 ramps to meet needed capacity and LOS requirements (Town of Loomis 2016).

Brace Road is a minor street that begins at Taylor Road and continues east over I-80. This two-lane road provides secondary access to the project site. Improvements planned for Brace Road include providing curbs, gutters, bike lanes, and sidewalks on both sides from Sierra College Boulevard to I-80 and widening the roadway to standard width with 3-foot shoulders east of I-80 (Town of Loomis 2016).

Intersection and Roadway Operating Standards

The efficiency of traffic operations at a location is measured in terms of vehicular level of service. LOS is the primary unit of measurement for stating the operating quality of a highway, roadway, or intersection. LOS is calculated by comparing the actual number of vehicles using a facility to the facility's carrying capacity. In general, LOS is measured by the traffic volume-to-capacity ratio or by the average delay experienced by vehicles on the facility.

The quality of traffic operation is graded using one of six LOS designations: A, B, C, D, E, or F. A represents excellent (free-flow) conditions and F represents extreme congestion. LOS is measured during the course of 1 hour at intersections and on a daily basis on roadway segments.[2]

At intersections, LOS is defined based on the delay experienced per vehicle. The LOS methodology for signalized intersections accounts for the effects of signal type, timing, phasing, and progression on average delay. Table 3.7-1 presents quantitative definitions of average delay per vehicle and LOS for signalized intersections.

Unsignalized intersections include two-way stop-controlled and all-way stop-controlled intersections. The LOS for an all-way stop-controlled intersection is defined by delay for the intersection as a whole, whereas for a two-way stop-controlled intersection, LOS is based on the delay for the worst operating movement. Table 3.7-2 lists the LOS and delay parameters for unsignalized intersections.

[2] The analysis methodology in the *Highway Capacity Manual 2010* (Transportation Research Board 2010) is applied to all study area intersections in the traffic impact study.

Table 3.7-1. Level of Service Criteria for Signalized Intersections

LOS	Average Control Delay per Vehicle (seconds)	General Description
A	≤10	LOS A describes operations with a control delay of 10 s/veh or less. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.
B	>10 and <20	LOS B describes operations with control delay between 10 and 20 s/veh. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.
C	>20 and <35	LOS C describes operations with control delay between 20 and 35 s/veh. This level is typically assigned when progression is favorable or the cycle length is moderate. Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.
D	>35 and <55	LOS D describes operations with control delay between 35 and 55 s/veh. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.
E	>55 and <80	LOS E describes operations with control delay between 55 and 80 s/veh. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.
F*	>80	LOS F describes operations with control delay exceeding 80 s/veh. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

Notes:

LOS = level of service; V/C = volume-to-capacity ratio

* If the V/C for a lane group exceeds 1.0, LOS F is assigned to the individual lane group. The LOS for the overall approach or intersection is determined solely by the control delay.

Source: Transportation Research Board 2010

Table 3.7-2. Level of Service Criteria for Unsignalized Intersections

Level of Service	Average Control Delay (seconds per vehicle)
A	0 to 10
B	>10 to <15
C	>15 to <25
D	>25 and <35
E	>35 and <50
F[1]	>50

Note: If the volume-to-capacity ratio exceeds 1.0, level of service (LOS) F is assigned to the individual lane group for all unsignalized intersections or the minor street approach at two-way stop-controlled intersections. Overall intersection LOS is determined solely by control delay.

Source: Transportation Research Board 2010.

For freeway mainline road segments, LOS is measured in terms of density (Table 3.7-3). Density describes the proximity to other vehicles and is related to the freedom to maneuver within the traffic stream.

Table 3.7-3. Level of Service and Density Definitions for Basic Freeway Segments

Level of Service	Density (passenger cars per mile per lane)
A	≤11
B	>11 and ≤18
C	>18 and ≤26
D	>26 and ≤35
E	>35 and ≤45
F	>45 (demand exceeds capacity)

Source: Transportation Research Board 2010:Exhibit 11-5

Table 3.7-4 lists the study intersections depicted in Figure 3.7-1 and identifies the responsible jurisdiction and the corresponding operating standard as expressed by the Circulation Element of the *Town of Loomis General Plan*.

Table 3.7-4. Study Intersections, Responsible Jurisdictions, and Applicable Operating Standards

ID	North-South	East-West	Responsible Jurisdiction	LOS Operating Goal	Threshold for Significant Impact
1	Taylor Road	King Road	Loomis	D	LOS E/F or 5.0 seconds + added[1]
2	Taylor Road	Horseshoe Bar Road	Loomis	D	LOS E/F or 5.0 seconds + added [1]
3	Horseshoe Bar Road	I-80 WB ramp	Caltrans	D	LOS E/F or 5.0 seconds + added [1]
4	Horseshoe Bar Road	I-80 EB ramp	Caltrans	D	LOS E/F or 5% project trips
5	Barton Road	Brace Road	Loomis	C	LOS D/E/F or 5% project trips
6	Sierra College Boulevard	Taylor Road	Loomis	C	LOS D/E/F or 5.0 seconds + added [1]
7	Sierra College Boulevard	Brace Road	Loomis	D	LOS E/F or 5.0 seconds + added [1]
8	Sierra College Boulevard	Granite Drive	Rocklin	C	LOS D/E/F or 5.0 seconds + added [1]
9	Sierra College Boulevard	I-80 WB ramps	Caltrans	D	LOS E/F or 5.0 seconds + added [1]
10	Sierra College Boulevard	I-80 EB ramps	Caltrans	D	LOS E/F or 5.0 seconds + added [1]
11	Sierra College Boulevard	Schriber Way	Rocklin	C	*Stop Control:* LOS D/E/F or 5% project [2] *Signal Control:* LOS D/E/F or 5.0 seconds + added [1]
12	Sierra College Boulevard	Bass Pro Drive/Dominguez Road	Rocklin	C	LOS D/E/F or 5.0 seconds + added [1]
13	Sierra College Boulevard	Stadium driveway	Rocklin	C	LOS D/E/F or 5.0 seconds + added [1]
14	Sierra College Boulevard	Rocklin Road	Rocklin	C	LOS D/E/F or 5.0 seconds + added [1]
15	Pacific Street	Dominguez Road/Delmar Avenue	Rocklin	C	LOS D/E/F or 5.0 seconds + added [1]
16	Pacific Street	Rocklin Road	Rocklin	C	LOS D/E/F or 5.0 seconds + added [1]
17	Granite Drive	Rocklin Road	Rocklin	C	LOS D/E/F or 5.0 seconds + added [1]
18	I-80 WB ramps	Rocklin Road	Caltrans	D	LOS E/F or 5.0 seconds + added [1]
19	I-80 EB ramps	Rocklin Road	Caltrans	D	LOS E/F or 5.0 seconds + added [1]
20	Aguilar Road	Rocklin Road	Rocklin	C	LOS D/E/F or 5.0 seconds + added [1]
21	Sierra College Boulevard	Office driveway south of Brace Road	Loomis	C	LOS D/E/F or 5% project trips
22	Granite Drive	Dominguez Road	Rocklin	C	*Stop Control:* LOS D/E/F or 5% project [2] *Signal Control:* LOS D/E/F or 5.0 seconds + added [1]
23	El Don Road	Rocklin Road	Rocklin	C	LOS D/E/F or 5.0 seconds added
24	Sierra College Boulevard	Site access	Loomis	C	LOS D/E/F or 5.0 seconds + added [1]
25	Site access	Brace Road	Loomis	C	LOS D/E/F or 5% project trips

Notes: Caltrans = California Department of Transportation; EB = eastbound; I-80 = Interstate 80; ID = identification number of study intersection; LOS = level of service; WB = westbound

[1] For signalized intersections, the impact would be significant if the project would increase delay to unacceptable levels from acceptable levels. The impact would be significant in situations when the intersection is already operating at unacceptable LOS and the project trips would cause the average intersection delay to increase by 5.0 seconds or more.

[2] For unsignalized intersections, the impact would be significant if the project would increase delay to unacceptable levels from acceptable levels. The impact would be significant in situations when the intersection is already operating at unacceptable LOS and the project would add trips to the intersection exceeding 5% of the total traffic already at the intersection.

Source: Data compiled by AECOM in 2018

Vehicle Miles Traveled

Measurements of transportation impacts may include VMT, VMT per capita, automobile trip generation rates, or automobile trips generated. Senate Bill (SB) 743 (discussed further in Section 3.7.2.2, "State Plans, Policies, Regulations, and Laws") directs the Governor's Office of Planning and Research (OPR) to develop guidelines for assessing transportation-related impacts that "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses" (Public Resources Code Section 21099[b][1]). VMT has long been a common metric used to measure travel demand. A "vehicle mile traveled" is one vehicle traveling on a roadway for a distance of 1 mile.

For this section and most of the Sacramento Area Council of Governments' (SACOG's) technical analysis, VMT is estimated and projected for a typical weekday, as defined in Chapter 5A of the 2036 Metropolitan Transportation Plan/Sustainable Communities Strategy. Many communities have estimated VMT and developed policies related to VMT for years, including estimates and goals for VMT per person and VMT per employee. SB 743 calls for revisions to the State CEQA Guidelines to create criteria for assessing travel demand, such as "vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated" (Public Resources Code Section 21099[b][1]). Once OPR amends the CEQA Guidelines to include guidance for measuring travel demand, delays related to congestion no longer will be considered a significant impact under CEQA (OPR 2016).

VMT has been a primary indicator of travel demand for decades (SACOG 2016:76) because VMT:

- is easy to measure by counting traffic on roadways at different locations, and is one of the few measures of transportation performance that has consistently been monitored over time in the region;
- bears a direct relationship to vehicular emissions;
- can be influenced by policy through a variety of methods, such as by:
- shifting from vehicle to nonvehicle modes or from low occupancy to higher occupancy, thus providing attractive alternatives to driving alone; and
- adjusting land use patterns to provide a better mix of residential, employment, education, and service uses, which can enable people to accomplish their daily activities with less driving, and thus, less VMT;
- correlates with congestion; and
- correlates with the frequency of traffic accidents.

3.7.1.2 Existing Intersection Operations

Existing traffic volumes in the project vicinity were determined by manually counting turning movements at each existing study intersection listed in Table 3.7-4. Figure 4 and Figure 5 of the traffic impact study (Kittelson & Associates 2018) present summaries of turning movement counts for the weekday peak hour and the weekend peak hour, respectively, which represent the hours with the highest volumes in the counting periods. While typically, traffic analysis would focus on weekday peak a.m. and/or p.m. hours only, the weekend midday peak hour was added due to the unique characteristics of the proposed project. Appendix A to the traffic impact study (Kittelson & Associates 2018) contains the traffic count worksheets.

Table 3.7-5 shows the LOS for intersections in the study area during the weekday a.m. and p.m. peak hours under Existing conditions. As shown, most study area intersections currently operate at LOS D or better during both the a.m. and p.m. peak hours. The following intersections operate at an unsatisfactory LOS or experience excessive delay:

- Horseshoe Bar Road/I-80 eastbound ramp (a.m. and p.m.)
- Sierra College Boulevard/Taylor Road (p.m.)
- Sierra College Boulevard/Rocklin Road (a.m. and p.m.)
- Pacific Street/Dominguez Road–Delmar Avenue (p.m.)
- Pacific Street/Rocklin Road (a.m.)
- Granite Drive/Rocklin Road (a.m., p.m., and midday)
- El Don Drive/Rocklin Road (a.m. and p.m.)

Table 3.7-5. Existing Conditions—Intersection Level of Service Analysis, Weekday A.M./P.M. and Weekend Midday Peak Hours

ID	Intersection	Intersection Control Type	LOS Operating Goal	Weekday A.M.		Weekday P.M.		Weekend Midday	
				Delay	LOS	Delay	LOS	Delay	LOS
1	Taylor Road/King Road	Signal	D	33.3	C	36.4	D	20.9	C
2	Taylor Road/Horseshoe Bar Road	Signal	D	30.3	C	26.5	C	14.1	B
3	Horseshoe Bar Road/I-80 WB ramp	Signal	D	13.8	B	14	B	13.6	B
4	Horseshoe Bar Road/I-80 EB ramp	TWSC	D	**70.2**	**F**	**68.2**	**F**	29.1	D
5	Barton Road/Brace Road	TWSC	C	10.8	B	10.7	B	12.2	B
6	Sierra College Boulevard/ Taylor Road	Signal	C	31.8	C	**39.9**	**D**	25.3	C
7	Sierra College Boulevard/ Brace Road	Signal	D	9.7	A	10.7	B	9.1	A
8	Sierra College Boulevard/ Granite Drive	Signal	C	24.4	C	27.1	C	22.8	C
9	Sierra College Boulevard/ I-80 WB ramps	Signal	D	13.2	B	19	B	19.3	B
10	Sierra College Boulevard/ I-80 EB ramps	Signal	D	14.6	B	22.8	C	16.5	B
11	Sierra College Boulevard/ Schriber Way	TWSC	C	9.2	A	9.2	A	10.2	B
12	Sierra College Boulevard/ Bass Pro Drive–Dominguez Road	Signal	C	6.5	A	7.5	A	8.7	A
13	Sierra College Boulevard/ stadium driveway	Signal	C	6.1	A	6.6	A	4.4	A
14	Sierra College Boulevard/ Rocklin Road	Signal	C	**35.7**	**D**	**43.2**	**D**	24.8	C
15	Pacific Street/Dominguez Road– Delmar Avenue	Signal	C	15.4	B	**43.7**	**D**	12.7	B
16	Pacific Street/Rocklin Road	Signal	C	**39.9**	**D**	32.4	C	18.9	B
17	Granite Drive/Rocklin Road	Signal	C	**40.7**	**D**	**51.3**	**D**	**43.7**	**D**
18	I-80 WB ramps/Rocklin Road	Signal	D	20.4	C	38.8	D	20.8	C
19	I-80 EB ramps/Rocklin Road	Signal	D	31	C	30.3	C	24.2	C
20	Aguilar Road/Rocklin Road	Signal	C	10.4	B	8.1	A	8	A
21	Sierra College Boulevard/ driveway south of Brace Road	TWSC	C	0.3	A	12.6	B	0.1	A
22	Granite Drive/Dominguez Road	TWSC	C	11.7	B	12.8	B	12.6	B
23	El Don Drive/Rocklin Road	Signal	C	**35.8**	**D**	**37.5**	**D**	13.8	B

Notes:

EB = eastbound; I-80 = Interstate 80; ID = identification number of study intersection; LOS = level of service; TWSC = two-way stop control—the delay is reported for the worst movement; WB = westbound,

Boldface type indicates intersections performing below acceptable LOS.

Source: Kittelson & Associates 2018

3.7.1.3 Existing Freeway Mainline Operation

Table 3.7-6 outlines the existing mainline volume, density, and associated LOS for the study freeway segments. As shown, all study segments operate at acceptable LOS C or better. Appendix E of the traffic impact study (Kittelson & Associates 2018) includes the freeway mainline LOS worksheets.

Table 3.7-6. Existing Conditions—I-80 Mainline Level of Service Analysis, Weekday A.M./P.M. Peak Hour

ID	Segment	Direction	Number of Lanes	Weekday A.M.			Weekday P.M.			Weekend Midday		
				Volume	Density*	LOS	Volume	Density*	LOS	Volume	Density*	LOS
1	I-80 east of Sierra College Boulevard	EB	3	3,110	19.0	B	4,398	25.8	C	3,980	22.5	C
		WB	3	4,062	25.4	C	3,803	22.5	C	3,892	21.5	C
2	I-80 west of Sierra College Boulevard	EB	3	3,118	19.1	B	4,042	23.4	C	3,963	22.4	C
		WB	3	3,702	22.9	C	3,716	22.0	C	3,812	21.1	C

Notes: EB = eastbound; ID = identification number of study roadway segment; I-80 = Interstate 80; LOS = level of service; WB = westbound

* Density means passenger cars per mile per lane.

Source: Kittelson & Associates 2018

3.7.1.4 Cumulative (Short Term) Baseline Conditions- Intersection Operations

The Cumulative Short Term Baseline traffic conditions analysis forecasts how the study area's transportation system would operate with the addition of traffic generated by the approved and pending projects in the area before development of the proposed project.[3]

Table 26 of the traffic impact study (Kittelson & Associates 2018) lists the approved and pending projects considered in the in the analysis of Cumulative Short Term Baseline conditions, while Appendix I to the traffic impact study provides Institute of Transportation Engineers *Trip Generation Handbook* information for all approved and pending projects. Figure 4-1 in Chapter 4, "Cumulative Impact Analysis," of this DEIR shows the locations of approved and pending projects.

Intersections

Cumulative Short Term Baseline conditions were calculated by adding weekday a.m. and p.m. and weekend midday peak hours associated with the approved and pending projects to the Existing conditions. Figures 14 and 15 of the traffic impact study (Kittelson & Associates 2018) show the Cumulative (Short-Term) Baseline traffic conditions during the weekday a.m. and p.m. peak hours and the weekend midday peak hour, respectively.[4]

Table 3.7-7 summarizes the LOS for the study intersections under Cumulative Short Term Baseline conditions. The delays at some study intersections may be lower than under Existing conditions because of signal timing optimization and/or traffic recirculation attributable to the addition of approved and pending projects. Appendix B to the traffic impact study (Kittelson & Associates 2018) includes the LOS worksheets.

As shown, the following intersections would operate at unacceptable LOS when vehicular trips associated with approved and planned projects are added to the circulation system:

- Taylor Road/King Road (p.m.)
- Horseshoe Bar Road/I-80 eastbound ramp (a.m. and p.m.)
- Sierra College Boulevard/Taylor Road (a.m., p.m., and midday)
- Sierra College Boulevard/Granite Drive (p.m. and midday)
- Sierra College Boulevard/I-80 westbound ramp (midday)
- Sierra College Boulevard/Rocklin Road (a.m., p.m., and midday)
- Pacific Street/Dominguez Road–Delmar Avenue (a.m. and p.m.)
- Pacific Street/Rocklin Road (a.m., p.m., and midday)
- Granite Drive/Rocklin Road (p.m.)
- El Don Drive/Rocklin Road (p.m.)

[3] The Town of Loomis and the City of Rocklin provided lists of approved and pending projects that would affect traffic volumes in the study area.

[4] Note that with the approved project, a western approach would be added at Schriber Way and the intersection of Sierra College Boulevard/Schriber Way would be signalized. These improvements were assumed to be completed in conjunction with the approved pending development project.

Table 3.7-7. Cumulative Short Term Baseline Conditions—Intersection Level of Service Analysis, Weekday A.M./P.M. and Weekend Midday Peak Hour

ID	Intersection	Intersection Control Type	LOS Operating Goal	Weekday A.M.		Weekday P.M.		Weekend Midday	
				Delay	LOS	Delay	LOS	Delay	LOS
1	Taylor Road/King Road	Signal	D	40.7	D	**62**	**E**	45	D
2	Taylor Road/Horseshoe Bar Road	Signal	D	23.1	C	30.1	C	20.8	C
3	Horseshoe Bar Road/I-80 WB ramp	Signal	D	13.7	B	14	B	13.6	B
4	Horseshoe Bar Road/I-80 EB ramp	TWSC*	D	**70.2**	**F**	**68.2**	**F**	29.1	D
5	Barton Road/Brace Road	TWSC*	C	11.8	B	12.9	B	17.2	C
6	Sierra College Boulevard/ Taylor Road	Signal	C	**47.8**	**D**	**63.6**	**E**	**44.9**	**D**
7	Sierra College Boulevard/ Brace Road	Signal	D	10.5	B	16.1	B	13.1	B
8	Sierra College Boulevard/ Granite Drive	Signal	C	32.7	C	**53.4**	**D**	**37**	**D**
9	Sierra College Boulevard/ I-80 WB ramps	Signal	D	35.3	D	**55.7**	**E**	**69.1**	**E**
10	Sierra College Boulevard/ I-80 EB ramps	Signal	D	24.2	C	38.6	D	41.6	D
11	Sierra College Boulevard/ Schriber Way	TWSC*	C	19.5	B	16.7	B	18.4	B
12	Sierra College Boulevard/ Bass Pro Drive–Dominguez Road	Signal	C	7.3	A	12	B	12.7	B
13	Sierra College Boulevard/ stadium driveway	Signal	C	7.4	A	7.1	A	5.2	A
14	Sierra College Boulevard/ Rocklin Road	Signal	C	**98.5**	**F**	**80**	**E**	**44.7**	**D**
15	Pacific Street/Dominguez Road–Delmar Avenue	Signal	C	**41.1**	**D**	**62.4**	**E**	28.1	C
16	Pacific Street/Rocklin Road	Signal	C	**93.3**	**F**	**76.7**	**E**	**45**	**D**
17	Granite Drive/Rocklin Road	Signal	C	27.7	C	**47.5**	**D**	32.2	C
18	I-80 WB ramps/Rocklin Road	Signal	D	23.6	C	47.7	D	19.3	B
19	I-80 EB ramps/Rocklin Road	Signal	D	35.5	D	42.9	D	22.6	C
20	Aguilar Road/Rocklin Road	Signal	C	11.4	B	9.5	A	8.8	A
21	Sierra College Boulevard/ driveway south of Brace Road	TWSC*	C	0.3	A	16.6	C	0.1	A
22	Granite Drive/Dominguez Road	TWSC*	C	14	B	21.5	C	19.6	C
23	El Don Drive/Rocklin Road	Signal	C	34.7	C	**37.6**	**D**	15.1	B

Notes:

EB = eastbound; I-80 = Interstate 80; ID = identification number of study intersection; LOS = level of service; TWSC = two-way stop controlled; WB = westbound

* The delay is reported for the worst movement.

Boldface type indicates intersections performing below acceptable LOS.

Source: Kittelson & Associates 2018

3.7.1.5 Cumulative (Short Term) Baseline Conditions- Freeway Mainline Operations

Table 3.7-8 outlines the freeway mainline volumes, density, and associated LOS for the study segments under Cumulative Short Term Baseline conditions. As shown, all study segments operate at acceptable LOS C or better with the addition of vehicular trips associated with the approved and pending projects. Appendix E to the traffic impact study (Kittelson & Associates 2018) includes the freeway mainline LOS worksheets.

Table 3.7-8. Cumulative Short Term Baseline Conditions—I-80 Mainline Level of Service Analysis, Weekday A.M./P.M. Peak Hours

ID	Segment	Direction	Weekday A.M.			Weekday P.M.			Weekend Midday		
			Volume	Density*	LOS	Volume	Density*	LOS	Volume	Density*	LOS
1	I-80 east of Sierra College Boulevard	EB	3,239	19.1	B	4,532	28.7	C	4,151	23.5	C
		WB	4,108	25.8	C	3,989	24.9	C	4,103	22.7	C
2	I-80 west of Sierra College Boulevard	EB	3,185	19.5	B	4,325	27.0	C	4,315	24.6	C
		WB	3,874	24.1	C	3,984	24.8	C	4,162	23.1	C

Notes: EB = eastbound; I-80 = Interstate 80; ID = identification number of study roadway segment; LOS = level of service; WB = westbound

* Density means passenger cars per mile per lane.

Source: Kittelson & Associates 2018

3.7.1.6 Cumulative (Long-Term) Baseline Conditions - Intersection Operations

The analysis of Cumulative (Long-Term) Baseline[5] traffic conditions forecasts how the study area's transportation system would operate with the addition of traffic generated by background growth in the area. Long-term conditions were based on the City of Rocklin 2030 Travel Demand Model. The model, developed and maintained by the City of Rocklin, is used to predict the impact of travel growth and evaluate potential transportation improvements. The model was updated to account for approved and pending projects not included in the model, as well as missing roadways and roadway improvements in Loomis that are part of the backbone circulation system that will build out over time as needed to accommodate growth. The model volumes were post-processed using standard industry procedures to obtain intersection and link-level traffic volumes used in this analysis.[6]

Figures 18 and 19 of the traffic impact study (Kittelson & Associates 2018) show the Cumulative (Long-Term) Baseline traffic volumes during the weekday a.m. and p.m. peak hours and the weekend midday peak hour, respectively. Appendix B to the traffic impact study includes the LOS worksheets.

Table 3.7-9 summarizes the LOS analysis for the study intersections under Cumulative (Long-Term) Baseline conditions. As shown, the following intersections operate at unacceptable LOS:

- Taylor Road/King Road (a.m. and p.m.)
- Horseshoe Bar Road/I-80 eastbound ramp (a.m., p.m., and midday)
- Barton Road/Brace Road (midday)
- Sierra College Boulevard/Taylor Road (a.m. and p.m.)
- Sierra College Boulevard/Brace Road (p.m.)
- Sierra College Boulevard/Granite Drive (p.m.)
- Sierra College Boulevard/Bass Pro Drive–Dominguez Road (a.m., p.m., and midday)
- Sierra College Boulevard/Rocklin Road (a.m., p.m., and midday)
- Pacific Street/Dominguez Road–Delmar Avenue (a.m., p.m., and midday)
- Pacific Street/Rocklin Road (a.m. and p.m.)
- Granite Drive/Rocklin Road (p.m. and midday)
- I-80 westbound ramps/Rocklin Road (p.m.)
- Sierra College Boulevard & Driveway South of Brace Road (PM)

5 Cumulative impacts are analyzed in Chapter 4.

6 The data were post-processed using weekend midday turning movement volumes. Final adjustments were made at intersections where the model predicted negative growth occurred in projecting turning movement volumes. Forecast Growth (Long-Term) Baseline conditions were assessed using the projected weekday a.m. and p.m. peak-hour and weekend midday peak-hour volumes.

Table 3.7-9. Cumulative (Long-Term) Baseline Conditions—Intersection Level of Service Analysis, Weekday A.M./P.M. and Weekend Midday Peak Hours

ID	Intersection	Intersection Control Type	LOS Operating Goal	Weekday A.M.		Weekday P.M.		Weekend Midday	
				Delay	LOS	Delay	LOS	Delay	LOS
1	Taylor Road/King Road	Signal	D	**87.9**	**F**	**66.2**	**E**	27.9	C
2	Taylor Road/Horseshoe Bar Road	Signal	D	26.6	C	44.1	D	22.1	C
3	Horseshoe Bar Road/ I-80 WB ramp	Signal	D	14.3	B	15.6	B	14.9	B
4	Horseshoe Bar Road/ I-80 EB ramp	TWSC*	D	**74**	**F**	**1050.4**	**F**	**641.6**	**F**
5	Barton Road/Brace Road	TWSC*	C	16.3	C	24	C	**45.8**	**E**
6	Sierra College Boulevard/ Taylor Road	Signal	C	**65.8**	**E**	**71.5**	**E**	34.4	C
7	Sierra College Boulevard/ Brace Road	Signal	D	15.8	B	**65.8**	**E**	18.9	B
8	Sierra College Boulevard/ Granite Drive	Signal	C	32	C	**45.2**	**D**	25.5	C
9	Sierra College Boulevard/ I-80 WB ramps	Signal	D	32.4	C	50.8	D	41.5	D
10	Sierra College Boulevard/ I-80 EB ramps	Signal	D	34.2	C	39.4	D	40.4	D
11	Sierra College Boulevard/ Schriber Way	Signal	C	22	C	13.5	B	11.8	B
12	Sierra College Boulevard/ Bass Pro Drive–Dominguez Road	Signal	C	**106.3**	**F**	**91.9**	**F**	**72.9**	**E**
13	Sierra College Boulevard/ stadium driveway	Signal	C	15	B	11.3	B	6.7	A
14	Sierra College Boulevard/ Rocklin Road	Signal	C	**62.7**	**E**	**125.2**	**F**	**40.5**	**D**
15	Pacific Street/Dominguez Road–Delmar Avenue	Signal	C	**490.9**	**F**	**741.3**	**F**	**58.3**	**E**
16	Pacific Street/Rocklin Road	Signal	C	**97.4**	**F**	**99.2**	**F**	33.2	C
17	Granite Drive/Rocklin Road	Signal	C	32.5	C	**43.4**	**D**	**35.3**	**D**
18	I-80 WB ramps/Rocklin Road	Signal	D	37.4	D	**59.6**	**E**	20.3	C
19	I-80 EB ramps/Rocklin Road	Signal	D	34.3	C	31.1	C	25.6	C
20	Aguilar Road/Rocklin Road	Signal	C	16.4	B	13.5	B	11.2	B
21	Sierra College Boulevard/ driveway south of Brace Road	TWSC*	C	0.9	A	**25.6**	**D**	0.2	A
22	Granite Drive/Dominguez Road	Signal	C	9.9	A	13.5	B	12.4	B
23	El Don Drive/Rocklin Road	Signal	C	28.9	C	34.4	C	13.9	B

Notes:

EB = eastbound; I-80 = Interstate 80; ID = identification number of study intersection; LOS = level of service; TWSC = two-way stop controlled; WB = westbound

* The delay is reported for the worst movement.

Boldface type indicates intersections performing below acceptable LOS.

Source: Kittelson & Associates 2018

3.7.1.7 Cumulative (Long Term) Baseline Conditions - Freeway Mainline Operations

Freeway mainline future forecast volumes were calculated following the same data projection methodology used for intersections. Appendix E to the traffic impact study (Kittelson & Associates 2018) includes the freeway mainline LOS worksheets. Table 3.7-10 outlines the freeway mainline volumes, density, and associated LOS for the study segments under Cumulative (Long-Term) Baseline conditions. As shown, all study segments operate at acceptable LOS D or better.

Table 3.7-10. Cumulative (Long-Term) Baseline Conditions—I-80 Mainline Level of Service Analysis, Weekday A.M./P.M. Peak Hours

ID	Segment	Direction	Weekday A.M.			Weekday P.M.			Weekend Midday		
			Volume	Density*	LOS	Volume	Density*	LOS	Volume	Density*	LOS
1	I-80 east of Sierra College Boulevard	EB	4,810	27.6	D	5,060	29.5	D	5,370	32.2	D
		WB	4,640	26.4	D	5,420	32.6	D	4,990	29	D
2	I-80 west of Sierra College Boulevard	EB	5,030	29.3	D	4,460	25.2	C	5,380	32.2	D
		WB	4,310	24.3	C	5,560	33.9	D	5,070	29.6	D

Notes:

EB = eastbound; I-80 = Interstate 80; ID = identification number of study roadway segment; LOS = level of service; WB = westbound

Density means passenger cars per mile per lane.

Source: Kittelson & Associates 2018

3.7.1.8 Queuing Analysis

For the purposes of this analysis, a vehicle queue is considered a potential safety hazard if the queue overflows the available storage for a turn pocket and blocks the adjacent travel lane, or if the queue extends to an upstream signal and blocks through traffic.[7] Queues at study intersections were evaluated using Synchro software and 95th-percentile queue lengths were reported to identify locations where the queues may exceed available storage capacity (queues may be longer during 5 percent of the peak-hour traffic signal cycles).

The 95th-percentile queues at the study intersections were reviewed to identify locations where the queues may exceed the available storage capacity. This measure is typically used in traffic engineering as a conservative measure of reporting queuing. Because the 95th-percentile queue has only a 5 percent probability of being exceeded, the average driver would likely experience shorter queue lengths than the reported value. As such, the analysis is considered conservative. Average queues can be found on the Synchro output sheets provided in Appendix C to the traffic impact study (Kittelson & Associates 2018).

Existing Conditions

Queues at several intersections extend beyond available storage lengths during the weekday a.m., weekday p.m., and weekend midday peak hours, according to Tables 6, 7, and 8, respectively, of the traffic impact study. Appendix C to the traffic impact study (Kittelson & Associates 2018) presents the storage lengths at each intersection and the queuing worksheets. Deficiencies were found at the following locations:

- Taylor Road/King Road (a.m., p.m., and midday)
- Taylor Road/Horseshoe Bar Road (a.m., p.m., and midday)
- Horseshoe Bar Road/I-80 westbound ramp (a.m., p.m., and midday)
- Sierra College Boulevard/Taylor Road (p.m.)
- Sierra College Boulevard/Brace Road (p.m.)
- Sierra College Boulevard/Granite Drive (a.m., p.m., and midday)
- Sierra College Boulevard/I-80 westbound ramps (p.m. and midday)
- Sierra College Boulevard/Rocklin Road (a.m. and p.m.)
- Pacific Street/Rocklin Road (a.m., p.m., and midday)
- Granite Drive/Rocklin Road (a.m., p.m., and midday)
- I-80 westbound ramps/Rocklin Road (p.m.)
- I-80 eastbound ramps/Rocklin Road (a.m. and p.m.)

[7] The traffic impact study identifies deficiencies in queuing as occurring at locations where project traffic would cause the 95th-percentile queue length for a turn pocket to overflow its available storage compared to No Project conditions, or would cause a queue to spill back into an upstream signalized intersection.

- Aguilar Road/Rocklin Road (a.m. and p.m.)
- El Don Drive/Rocklin Road (a.m. and p.m.)

In addition, the queues reported at the above locations would affect operations at upstream locations as listed below.

- The northbound through queue at Sierra College Boulevard/Taylor Road would affect operations at Sierra College Boulevard/Brace Road (p.m.)
- The southbound through queue at Sierra College Boulevard/I-80 westbound ramps would affect operations at Sierra College Boulevard/Granite Drive (p.m.)
- The westbound through queue at I-80 eastbound ramps/Rocklin Road would affect operations at Aguilar Road/Rocklin Road (p.m.)

Cumulative (Short-Term) Baseline Conditions

Tables 28, 29, and 30 of the traffic impact study (Kittelson & Associates 2018) identify queueing during the weekday a.m., weekday p.m., and weekend midday peak hours, respectively. Appendix C to the traffic impact study (Kittelson & Associates 2018) includes the queuing worksheets. Based on this information, the queues at the intersections listed below would extend beyond the storage lengths available at these locations.

- Taylor Road/King Road (a.m., p.m., and midday)
- Taylor Road/Horseshoe Bar Road (a.m., p.m., and midday)
- Horseshoe Bar Road/I-80 westbound ramp (a.m., p.m., and midday)
- Sierra College Boulevard/Taylor Road (a.m., p.m., and midday)
- Sierra College Boulevard/Brace Road (p.m. and midday)
- Sierra College Boulevard/Granite Drive (a.m., p.m., and midday)
- Sierra College Boulevard/I-80 westbound ramps (a.m., p.m., and midday)
- Sierra College Boulevard/I-80 eastbound ramps (p.m. and midday)
- Sierra College Boulevard/Schriber Way (a.m., p.m., and midday)
- Sierra College Boulevard/Rocklin Road (a.m., p.m., and midday)
- Pacific Street/Rocklin Road (a.m., p.m., and midday)
- Granite Drive/Rocklin Road (a.m., p.m., and midday)
- I-80 westbound ramps/Rocklin Road (p.m. and midday)
- I-80 eastbound ramps/Rocklin Road (a.m., p.m., and midday)
- Aguilar Road/Rocklin Road (a.m. and p.m.)
- El Don Drive/Rocklin Road (a.m. and p.m.)

In addition, the queues reported at the above locations would affect operations at upstream locations as listed below.

- The northbound through queue at Sierra College Boulevard/Taylor Road would affect operations at Sierra College Boulevard/Brace Road (p.m.).
- The northbound left-turn queue at Sierra College Boulevard/Granite Drive would affect operations at Sierra College Boulevard/I-80 westbound ramps (p.m. and midday).
- The northbound through queue at Sierra College Boulevard/Granite Drive would affect operations at Sierra College Boulevard/I-80 westbound ramps (p.m.).
- The southbound through queue at Sierra College Boulevard/I-80 westbound ramps would affect operations at Sierra College Boulevard/Granite Drive (p.m. and midday).
- The southbound through queue at Sierra College Boulevard/Schriber Way would affect operations at Sierra College Boulevard/I-80 eastbound ramps (a.m., p.m., and midday).
- The westbound through queue at I-80 eastbound ramps/Rocklin Road would affect operations at Aguilar Road/Rocklin Road (a.m. and p.m.).
- The eastbound through queue at Aguilar Road and Rocklin Road would affect operations at I-80 eastbound ramps/Rocklin Road (a.m.).

Cumulative (Long-Term) Baseline Conditions

As shown in Tables 43, 44, and 45 of the traffic impact study (Kittelson & Associates 2018) for the weekday a.m., weekday p.m., and weekend midday peak hours, respectively, the queues at the intersections listed below would extend beyond the storage lengths available at these locations. Appendix C to the traffic impact study (Kittelson & Associates 2018) includes the queuing worksheets.

- Taylor Road/King Road (a.m., p.m., and midday)
- Taylor Road/Horseshoe Bar Road (a.m., p.m., and midday)
- Horseshoe Bar Road/I-80 westbound ramp (a.m., p.m., and midday)
- Horseshoe Bar Road/I-80 eastbound ramp (p.m. and midday)
- Sierra College Boulevard/Taylor Road (a.m., p.m., and midday)
- Sierra College Boulevard/Brace Road (a.m., p.m., and midday)
- Sierra College Boulevard/Granite Drive (a.m., p.m., and midday)
- Sierra College Boulevard/I-80 westbound ramps (a.m., p.m., and midday)
- Sierra College Boulevard/I-80 eastbound ramps (a.m., p.m., and midday)
- Sierra College Boulevard/Schriber Way (a.m., p.m., and midday)
- Sierra College Boulevard/Bass Pro Drive–Dominguez Road (a.m., p.m., and midday)
- Sierra College Boulevard/stadium driveway (p.m.)
- Sierra College Boulevard/Rocklin Road (a.m., p.m., and midday)
- Pacific Street/Dominguez Road–Delmar Avenue (a.m., p.m., and midday)
- Pacific Street/Rocklin Road (a.m., p.m., and midday)
- Granite Drive/Rocklin Road (a.m., p.m., and midday)
- I-80 westbound ramps/Rocklin Road (p.m. and midday)
- I-80 eastbound ramps/Rocklin Road (a.m. and p.m.)
- Aguilar Road/Rocklin Road (p.m.)
- Dominguez Road/Granite Drive (p.m.)
- El Don Drive/Rocklin Road (a.m. and p.m.)

In addition, the queues reported at the above locations would affect operations at upstream locations as listed below.

- The westbound queue at Horseshoe Bar Road/I-80 eastbound ramp would back up to the I-80 eastbound mainline (p.m. and midday).
- The northbound through queue at Sierra College Boulevard/Taylor Road would affect operations at Sierra College Boulevard/Brace Road (p.m.).
- The southbound left-turn queue at Sierra College Boulevard/Brace Road would affect operations at Sierra College Boulevard/Taylor Road (p.m.).
- The northbound left-turn queue at Sierra College Boulevard/Granite Drive would affect operations at Sierra College Boulevard/I-80 westbound ramps (a.m.).
- The northbound through queue at Sierra College Boulevard/Granite Drive would affect operations at Sierra College Boulevard/I-80 westbound ramps (p.m.).
- The southbound through queue at Sierra College Boulevard/I-80 westbound ramps would affect operations at Sierra College Boulevard/Granite Drive (a.m., p.m., and midday).
- The southbound through queue at Sierra College Boulevard/Schriber Way would affect operations at Sierra College Boulevard/I-80 eastbound ramps (a.m. and p.m.).
- The southbound through queue at Sierra College Boulevard/Bass Pro Drive–Dominguez Road would affect operations at Sierra College Boulevard/Schriber Way (a.m. and p.m.).
- The westbound left-turn queue at I-80 westbound ramps/Rocklin Road would affect operations at I-80 eastbound ramps/Rocklin Road (p.m.).
- The westbound through queue at I-80 eastbound ramps/Rocklin Road would affect operations at Aguilar Road/Rocklin Road (p.m.).

3.7.1.9 Transit, Bicycle, Rail, and Pedestrian Facilities

Transit

Placer County Transit provides public bus service to the Loomis area Monday through Saturday, with three routes operating in the project study area: two fixed routes and a dial-a-ride service. The Auburn to Light Rail bus route operates on 1-hour headways during the morning and afternoon commute periods and stops at the Sierra College Transfer Center. The Lincoln/Sierra College bus route operates on 1-hour headways between Sierra College and the city of Lincoln. Both routes stop at the downtown multimodal center while the Taylor Road Shuttle makes additional stops along Taylor Road. The Taylor Road Shuttle operates on 2-hour headways during the morning and afternoon commute periods and travels between Auburn and the Sierra College Transfer Center. The Taylor Road Shuttle links Loomis, Penryn, Auburn, and Sierra College in Rocklin and the Placer Commuter Express, which runs during commute hours and links the community with downtown Sacramento. Service is provided between 6:30 a.m. and 4:15 p.m. Monday through Friday with four buses per day. Dial-a-ride service is available between 6 a.m. and 8 p.m. The Taylor Road Shuttle provides the nearest service to the project site along Sierra College Boulevard.

The Union Pacific Railroad runs parallel to and immediately north of Taylor Road. At-grade crossings are located at Webb Street and King Road. Each is equipped with standard crossing gates and warning flashers. The Capitol Corridor Joint Powers Authority operates passenger train service between San Jose and Auburn on the Union Pacific Railroad line and the closest station to the project site is approximately 2.7 miles to the southwest in downtown Rocklin.

Bicycle and Pedestrian Facilities

The *Town of Loomis Bicycle Transportation Plan–2010* (Town of Loomis 2010a) identifies existing and planned bicycle facilities. The existing bicycle system consists of a series of Class II facilities (on-street striped bike lanes) on major arterials. Class II lanes exist on Taylor Road between Sierra College Boulevard and the northern town limits, although the lanes are not marked through the downtown area. Bike lanes also exist on King Road at various locations.

Pedestrian facilities include sidewalks, crosswalks, pedestrian signals, curb ramps, and streetscape amenities. The *Town of Loomis Trails Master Plan 2010* (Town of Loomis 2010b) identifies the locations of existing sidewalks and trails. In general, a network of sidewalks, crosswalks, pedestrian signals, and curb ramps is provided in the vicinity of the project site; however, significant sidewalk gaps were noted in the study area. Partial sidewalks are provided on Sierra College Boulevard, King Road, Taylor Road, and Horseshoe Bar Road. Crosswalks are provided at all signalized intersections and at several other unsignalized locations. No sidewalks exist on portions of Taylor Road and King Road outside of the developed area of Loomis, and most local streets in the older area of downtown Loomis lack sidewalks.

3.7.2 Regulatory Setting

3.7.2.1 Federal Plans, Policies, Regulations, and Laws

No federal plans, policies, regulations, or laws related to transportation and traffic are applicable to the proposed project.

3.7.2.2 State Plans, Policies, Regulations, and Laws

Transportation Corridor Concept Report

The Transportation Corridor Concept Report (TCCR) is Caltrans's long-range (20-year) planning document for each state highway route. The TCCR identifies existing route conditions and future needs, including existing and forecasted travel data, a concept LOS standard, and the facility needed to maintain the concept LOS and address mobility needs over the next 20 years.

The I-80 TCCR provides data for the portion of I-80 from the Sierra College Boulevard interchange to the Nevada state line. Loomis adjoins segment 9. The TCCR notes that the concept LOS for this segment is LOS F, assuming the existing six-lane facility remains. The TCCR identifies programmed improvements and notes that widening the Horseshoe Bar Road overcrossing for four lanes is programmed in the Metropolitan Transportation Plan. No improvements to the Sierra College Boulevard ramps or mainline I-80 are planned under the latest TCCR.

California Department of Transportation Traffic Study Guidelines

Caltrans's *Guide for the Preparation of Traffic Impact Studies* includes the following generalized statement regarding target LOS goals for Caltrans facilities (Caltrans 2002:1):

> *Caltrans endeavors to maintain a target LOS at the transition between LOS 'C' and 'LOS D'…on State highway facilities, however, Caltrans acknowledges that this may not be always feasible and recommends that the lead agency consults with Caltrans to determine the appropriate target LOS. If an existing State highway facility is operating at less than the appropriate target LOS, the existing MOE [measure of effectiveness] should be maintained.*

Based on these standards, the Town of Loomis's LOS D is the minimum acceptable LOS in the study area.

Senate Bill 375

SB 375 (Chapter 728, Statutes of 2008) aligns regional transportation planning efforts, regional greenhouse gas reduction targets, and land use and housing allocations. SB 375 requires each metropolitan planning organization (MPO), such as SACOG, to adopt a sustainable communities strategy or alternative planning strategy that will prescribe land use allocation in that MPO's regional transportation plan. SACOG adopted its sustainable communities strategy in April 2012. The California Air Resources Board, in consultation with the MPOs, provide each affected region with reduction targets for greenhouse gases emitted by passenger cars and light trucks. These reduction targets will be updated every 8 years but can be updated every 4 years if needed based on changing technology.

Sacramento Area Council of Government's 2016 Metropolitan Transportation Plan/Sustainable Communities Strategy (SACOG's MTP/SCS) was adopted on February 18th, 2016. The 2016 MTP/SCS demonstrates how the region can accommodate expected regional population growth and the increased demand for transportation in the region, while also showing that the region could achieve a reduction in per-capita passenger vehicle miles traveled (VMT).

Senate Bill 743

SB 743 (Chapter 386, Statutes of 2013) required changes to the guidelines implementing CEQA (i.e., the State CEQA Guidelines) (California Code of Regulations Title 14, Section 15000 et seq.) regarding the analysis of transportation impacts. OPR has proposed changes to text in the CEQA Guidelines that identifies VMT as the most appropriate metric for evaluating a project's transportation impacts. The proposed changes also require analyses of certain transportation projects to address the potential for induced travel. Once the California Natural Resources Agency adopts these changes to the CEQA Guidelines, automobile delay, as measured by LOS and other similar metrics, generally will no longer constitute a significant environmental effect under CEQA.

Complete StreetsIn 2008, the State of California enacted the Complete Streets Act of 2008. The law required cities and counties, when updating their general plans, to ensure that local streets and roads meet the needs of all users, including bicyclists, pedestrians, transit riders, children, seniors, persons with disabilities and motorists. The law took effect in January 2011, when the Governor's Office of Planning and Research issued new general plan update guidelines. The purpose is to ensure convenient access to jobs, school, entertainment, recreation, and critical services such as banking, medical care, and shopping, which requires a transportation system of roads, transit, bikeways, and sidewalks.

3.7.2.3 Regional and Local Plans, Policies, Regulations, and Ordinances

Metropolitan Transportation Plan/Sustainable Communities Strategy

Sacramento Area Council of Governments (SACOG) is responsible for preparing the Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS)[8] every four years in coordination with the 22 cities and six counties in the greater Sacramento region. Under memoranda of understanding, long-range transportation plans in Placer and El Dorado counties are incorporated into the MTP/SCS.

If a city, county, or public agency in the Sacramento region wants to use federal transportation funding for transportation projects or programs, those projects must be included in the MTP/SCS project list. The MTP/SCS includes transportation improvements and investments that will serve the Sacramento region's projected land use pattern and population growth. All transportation projects that are regionally significant for potential air quality impacts

[8] The MTP/SCS is a 28-year plan for transportation improvements in the six-county region, based on growth projections. The MTP/SCS identifies policies and strategies to reduce greenhouse gas emissions from passenger vehicles to hit targets set by the California Air Resources Board (ARB). The purpose is to encourage integration of transportation and land use planning.

must also be included in the MTP/SCS. SACOG works collaboratively with local government planning and public works departments, transit service providers, air quality management districts, state and federal transportation departments, stakeholder interests, and residents across the region to develop the MTP/SCS. Local improvements must be included in the regional MTP to receive state and federal funding.

Town of Loomis General Plan

The following policies in the Circulation Element of the *Town of Loomis General Plan*, which was updated in 2016 (Town of Loomis 2016), are relevant to the proposed project.

- **Level of Service Policy:** In order to minimize congestion, maintain Level of Service C on all roads and intersections within the Town of Loomis. Level of Service D may be allowed in conjunction with development approved within the Town as an exception to this standard, at the intersections of King and Taylor, Horseshoe Bar Road and Taylor, Horseshoe Bar Road and I-80, Sierra College and Brace Road, and Webb and Taylor, when:
    1. The deficiency is substantially caused by "through" traffic, which neither begins nor ends in Loomis and is primarily generated by non-residents; or
    2. The deficiency will be temporary (less than three years), and a fully-funded plan is in place to provide the improvements needed to remedy the substandard condition.
- **Roadway Improvement Policy:** Roadway improvements within the Town of Loomis shall conform to the roadway classification system and improvement standards specified in the current version of the Town of Loomis Design & Improvement Standards after their adoption.
- **Policy on Character of Roadway Improvements:** The design of Downtown roadway and streetscape improvements will continue to maintain the "small town downtown" character.

The Circulation Element also contains a number of policies directed toward roadway system funding improvements. Policy 2 states that the Town of Loomis shall require new development projects to analyze their contribution to increased vehicle, pedestrian, and bicycle traffic and to implement the roadway improvements needed to address their impacts. Policy 4 requires that provisions be made for ongoing maintenance of new local streets, such as establishing a maintenance district covering the specific roadways, or assumption of maintenance responsibilities by the pertinent homeowners association or other approved organization.

The EIR prepared for the *Town of Loomis General Plan (2001)* also clarifies LOS thresholds by noting that when a project adds traffic to a roadway segment that already operates at an unacceptable LOS, a significant impact would occur when the project would increase the roadway segment's volume-to-capacity ratio by 5 percent or more.

Town of Loomis Municipal Code

To offset the impact of future development and maintain current levels of service and corresponding infrastructure, the Town of Loomis imposes development impact fees as outlined in Title 12, Chapter 12.24 ("Development Impact Fees") of the Loomis Municipal Code. Included is a road circulation/major road fee that applies to the cost of improving traffic circulation throughout the town by existing and improving major roads. The Town also imposes a fee for improvements to Sierra College Boulevard to defray the cost of widening, extending, and improving this roadway as new development occurs, and for planned improvements to the Horseshoe Bar Road/I-80 interchange. Fees are collected at building permit issuance and allocated to fund roadway improvements that are programmed to meet projected traffic demand.

Town of Loomis Capital Improvement Program (CIP)

The Town of Loomis CIP identifies a list of improvements required to serve future development. The CIP includes a list of roadway improvements selected to meet traffic conditions through the five-year CIP cycle. The cost of each improvement along with funding source is listed in the CIP along with funds to be collected through the impact fee program. The most recent CIP for the Town was adopted in June 2016 and runs through June 2021. The list of projects identified by the current CIP does not include roadway improvements along the studied segment of Sierra College Boulevard.

City of Rocklin General Plan

The Transportation and Circulation Element addresses the location and extent of existing and planned transportation routes, terminals, and other local public utilities and facilities. The General Plan identifies roadway and transit goals and policies that have been adopted to ensure that the transportation system of the City will have adequate capacity to serve planned growth. These goals and policies are intended to provide a plan and implementation measures for an integrated, multi-modal transportation system that will safely and efficiently meet the transportation needs of all economic and social segments of the City.

City of Rocklin Capital Improvement Program (CIP)

The City's Traffic Impact Fee and Capital Improvement Program (CIP) define the roadway and intersection improvements needed to maintain the Level of Service (LOS) policy adopted in the City's General Plan. (See Rocklin General Plan Circulation Element, Policy 13.) The City regularly monitors traffic on City streets to include in the City's CIP those improvements needed to maintain an acceptable LOS through the use of traffic fees and other financing mechanisms. The CIP is updated periodically to assure the growth of the City and surrounding jurisdictions does not degrade the LOS on the City's roadways. The fee program currently in effect was adopted July 1, 2017. Fees are calculated on a citywide basis, differentiated by type of development.

3.7.3 Impact Analysis

3.7.3.1 Methodology

Trip Generation

To estimate trips associated with the proposed project, Kittelson & Associates relied on trip generation studies conducted at Costco Wholesale sites located across the western United States, using industry-standard engineering practices consistent with guidance from the Institute of Transportation Engineers' standard reference book, *Trip Generation Handbook,* 9th Edition, Volume 1. These surveys were conducted between 2001 and 2010, and include surveys of 22 Costco warehouses with fuel centers in California, Oregon, Washington, Montana, Utah, and Colorado. Table 3.7-11 summarizes the average trip rates recorded.

Table 3.7-11. Average Trip Characteristics for a Costco Warehouse with a Fueling Station

Land Use	Weekday Daily Trip Rate (per KSF)	Trip Rate during Weekday P.M. Peak Hour of Adjacent Street (per KSF)			Trip Rate during Weekend Midday Peak Hour (per KSF)		
Costco Warehouse with Fueling Station	79.27	7.17	48.50%	51.50%	9.79	51%	49%
Primary Trips	No data		35.10%			50%	
Pass-by Trips[1]	No data		33.30%			29%	
Diverted Trips[2]	No data		31.50%			21%	

Notes:

KSF = thousand square feet

[1] *Pass-by* trips are existing trips on roadways adjacent to the site that allow motorists to turn into the Costco development, then continue on to their ultimate destination.

[2] *Diverted* trips are existing trips on nearby roadways in which motorists decide to drive out-of-direction for a distance to stop at Costco, then continue on to their ultimate destinations after they finish shopping.

Source: Kittelson & Associates 2018.

Based on the survey data summarized in Table 3.7-11, trip generation rates for the proposed project were estimated as shown in Table 3.7-12. Note that the table does not show weekday a.m. peak-hour trips because the Costco Warehouse building would not be open to members during the morning commute hours.

Table 3.7-13 presents the trip characteristics for the proposed fueling station for the weekday a.m. peak hour. The averages summarized in the table reflect data collected at multiple California locations: Lancaster, Cypress, Commerce, Roseville, and Sunnyvale. Note that only members can access the fueling stations, which require a membership card for pump activation.

Table 3.7-12. Estimate of Trip Generation by Proposed Loomis Costco Wholesale Warehouse with Fueling Station

Description	Floor Area (square feet)	Weekday Daily Trips	Weekday P.M. Peak-Hour Trips by Adjacent Street Traffic			Saturday Midday Peak-Hour Trips		
			In	Out	Total	In	Out	Total
Costco Wholesale with Fueling Station	152,800	12,110	1,095	531	564	1,496	762	734
Pass-by Trips (33.3%)		(4,030)	(365)	(177)	(188)	(434)	(221)	(213)
Diverted Trips (31.5%)		(3,810)	(345)	(167)	(178)	(308)	(157)	(151)
TOTAL		**4,270**	**385**	**187**	**198**	**754**	**384**	**370**

Notes:

The number of weekday and weekend daily (primary, pass-by, and diverted) trips was estimated using weekday p.m. peak-hour trip type percentages.

Source: Kittelson & Associates 2018

Table 3.7-13. Trip Characteristics for the Proposed Costco Fueling Station

Trip Characteristics	Weekday A.M. Peak Hour	Weekday A.M. Peak-Hour Trips (24 fueling dispensers)		
		Total	In (50%)	Out (50%)
Total Trip Rate	13.98 trips per fuel dispenser	336	168	168
Internal Trip Percentage	0%[1]	0	0	0
Pass-by Trip Percentage[2]	32.50%	-108	-54	-54
Diverted Trip Percentage[2]	36.80%	-124	-62	-62
	Net New Trips	**104**	**52**	**52**

[1] The warehouse would not be open during weekday a.m. peak period.

[2] Percentage of external trips.

Source: Kittelson & Associates 2018

Trip Distribution and Assignment

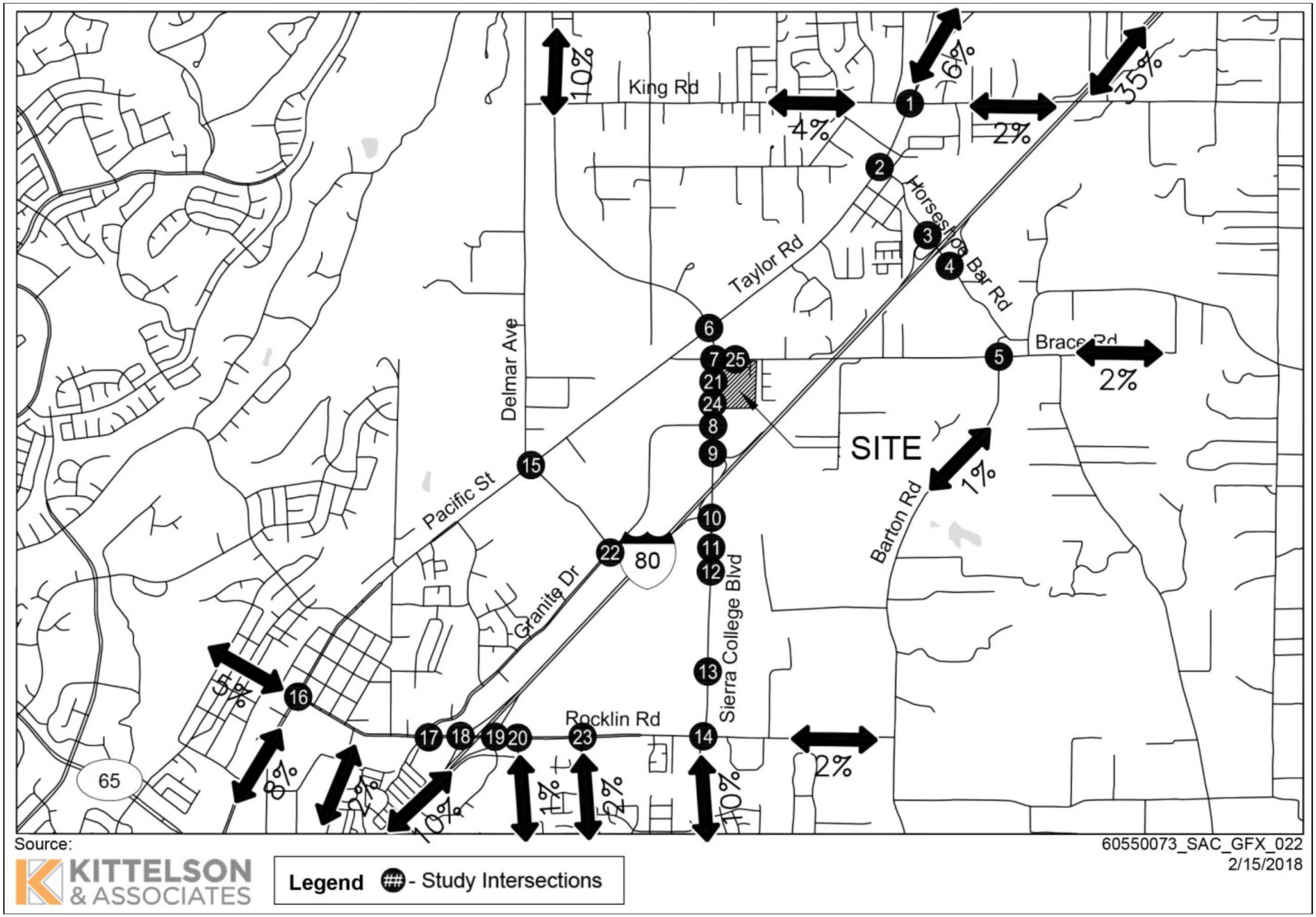
Expected vehicular trips generated by the proposed project were distributed onto the studied roadway network. This trip distribution analysis considered the locations of customers' residences, based on Costco Wholesale membership data, as well as existing travel patterns in the study area. The project site is located approximately 5 miles east of the existing Roseville Costco warehouse and is expected to draw members from the market area served by the Roseville Costco. For example, Costco Wholesale anticipates that the proposed project would directly serve some current Costco members who reside east of the Roseville Costco warehouse, including those living in Loomis and Rocklin. The Town of Loomis and the City of Rocklin approved the trip distribution patterns used in this analysis.

Figure 3.7-2 depicts the regional trip distribution pattern used to conduct the impact analysis. Figure 7 of the traffic impact study (Kittelson & Associates 2018) presents the proposed project's trip distribution patterns during the weekday a.m. peak hour for fuel trips only, as the warehouse would be closed during this peak hour. Figure 8 of the traffic impact study (Kittelson & Associates 2018) presents the proposed project's trip distribution patterns for the weekday p.m. and weekend midday peak hours with the warehouse in operation. Additional figures showing diverted trip assignments and the percentage of traffic added by the project at each study intersection are provided in Appendix H to the traffic impact study (Kittelson & Associates 2018).

3.7.3.2 Thresholds of Significance

Based on Appendix G of the State CEQA Guidelines, the proposed project would result in a significant impact related to transportation and traffic if it would:

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



Source: Kittelson & Associates 2018

Figure 3.7-2. Regional Trip Distribution

- conflict with an applicable congestion management program, including, but not limited to the LOS standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;
- result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
- substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- result in inadequate emergency access; or
- conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Town of Loomis Standards

Town of Loomis standards have also been considered in determining the significance of transportation and traffic impacts at intersections. Applicable standards are described below.

- **Impacts at Signalized Intersections.** An impact would be significant if project trips would cause intersection LOS to change from acceptable to unacceptable levels; or if the intersection is already operating at unacceptable LOS and the project trips would cause the average intersection delay to increase by 5.0 seconds or more.
- **Impacts at Unsignalized Intersections.** An impact would be significant if project trips would cause intersection LOS to change from acceptable to unacceptable levels; or if the intersection is already failing and the project would add trips to the intersection exceeding 5 percent of the total traffic already at the intersection.

3.7.3.3 Topics Not Addressed Further

Implementing the proposed project would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that would result in substantial safety risks. Further, the proposed project does not include features that would conflict with Federal Aviation Administration regulations related to objects affecting navigable airspace (see Section 5.3.4, “Hazards and Hazardous Materials,” for further discussion). Therefore, no impact would occur, and this issue is not discussed further in this EIR.

3.7.3.4 Environmental Impacts and Mitigation Measures

IMPACT 3.7-1: Degradation of Levels of Service at Intersections in the Study Area. *The addition of project-generated traffic to the existing roadway network would cause the LOS at study area intersections to degrade below applicable thresholds and would result in the need for restriping, re-phasing, and optimization of intersection cycle lengths. This impact would be **potentially significant.***

Operation of the proposed project was estimated to generate 4,270 daily net new trips with consideration of pass-by and diverted trips (Table 3.7-12). The mix of trips associated with project operation consists of 104 net new trips (52 inbound, 52 outbound) to the proposed fueling station during the weekday a.m. peak hour (Table 3.7-13). A total of 385 net new trips (187 inbound, 198 outbound) were projected to occur during the weekday p.m. peak hour and 754 net new trips (384 inbound, 370 outbound) were projected for the weekend midday peak hour (Table 3.7-12).

Existing-conditions traffic volumes for the weekday a.m. and p.m. peak hours and the weekend midday peak hour were added to the projected site-generated traffic to arrive at total traffic volumes. Figures 12 and 13 of the traffic impact study (Kittelson & Associates 2018) shows the Existing plus Project traffic condition during the weekday a.m. and p.m. peak hours and the weekend midday peak hour, respectively.

To gauge the impact of project-related traffic on the existing roadway network, the project analysis assumed that signal timings would be unchanged from those under Existing conditions. Table 3.7-14 shows delays and LOS at the study intersections during the weekday a.m. and p.m. peak hours under Existing (no project) and Existing plus Project conditions. Table 3.7-15 shows delays and LOS at the study intersections under these two scenarios during the weekend midday peak hour. Appendix B to the traffic impact study (Kittelson & Associates 2018) includes the LOS worksheets.

Table 3.7-14. Existing and Existing plus Project Conditions— Analysis of Intersection Delays and Levels of Service, Weekday A.M./P.M. Peak Hour

ID	Intersection	Traffic Control Type	LOS Operating Goal	Weekday A.M.					Weekday P.M.				
				Existing Conditions		Existing plus Project Conditions		Change in Delay (sec)	Existing Conditions		Existing plus Project Conditions		Change in Delay (sec)
				Delay (sec)	LOS	Delay (sec)	LOS		Delay (sec)	LOS	Delay (sec)	LOS	
1	Taylor Road/King Road	Signal	D	33.3	C	33.8	C	0.5	36.4	D	38.3	D	1.9
2	Taylor Road/Horseshoe Bar Road	Signal	D	30.3	C	31.1	C	0.8	26.5	C	52.3	D	25.8
3	Horseshoe Bar Road/I-80 WB ramp	Signal	D	13.8	B	13.8	B	0	14	B	14	B	0
4	Horseshoe Bar Road/I-80 EB ramp	TWSC*	D	**70.2**	**F**	**70.2**	**F**	0	**68.2**	**F**	**68.2**	**F**	0
5	Barton Road/Brace Road	TWSC*	C	10.8	B	10.9	B	0.1	10.7	B	10.9	B	0.2
6	Sierra College Boulevard/Taylor Road	Signal	C	31.8	C	32.7	C	0.9	**39.9**	**D**	**75.3**	**F**	35.4
7	Sierra College Boulevard/Brace Road	Signal	D	9.7	A	9.7	A	0	10.7	B	10.9	B	0.2
8	Sierra College Boulevard/Granite Drive	Signal	C	24.4	C	24.8	C	0.4	27.1	C	28.3	C	1.2
9	Sierra College Boulevard/I-80 WB ramps	Signal	D	13.2	B	14.3	B	1.1	19	B	26.9	C	7.9
10	Sierra College Boulevard/I-80 EB ramps	Signal	D	14.6	B	14.7	B	0.1	22.8	C	23.1	C	0.3
11	Sierra College Boulevard/Schriber Way	TWSC*	C	9.2	A	9.2	A	0	9.2	A	9.2	A	0
12	Sierra College Boulevard/Bass Pro Drive–Dominguez Road	Signal	C	6.5	A	6.5	A	0	7.5	A	7.5	A	0
13	Sierra College Boulevard/stadium driveway	Signal	C	6.1	A	6.1	A	0	6.6	A	6.6	A	0
14	Sierra College Boulevard/Rocklin Road	Signal	C	**35.7**	**D**	**35.8**	**D**	0.1	**43.2**	**D**	**44.8**	**D**	1.6
15	Pacific Street/Dominguez Road–Delmar Avenue	Signal	C	15.4	B	15.6	B	0.2	**43.7**	**D**	**44.2**	**D**	0.5
16	Pacific Street/Rocklin Road	Signal	C	**39.9**	**D**	**40**	**D**	0.1	32.4	C	32.9	C	0.5
17	Granite Drive/Rocklin Road	Signal	C	**40.7**	**D**	**40.8**	**D**	0.1	**51.3**	**D**	**52.5**	**D**	1.2
18	I-80 WB ramps/Rocklin Road	Signal	D	20.4	C	20.4	C	0	38.8	D	38.8	D	0
19	I-80 EB ramps/Rocklin Road	Signal	D	31	C	31	C	0	30.3	C	30.3	C	0
20	Aguilar Road/Rocklin Road	Signal	C	10.4	B	10.5	B	0.1	8.1	A	8.2	A	0.1
21	Sierra College Boulevard/ driveway south of Brace Road	TWSC*	C	0.3	A	0.3	A	0	12.6	B	13	B	0.4
22	Granite Drive/Dominguez Road	TWSC*	C	11.7	B	11.8	B	0.1	12.8	B	13	B	0.2
23	El Don Drive/Rocklin Road	Signal	C	**35.8**	**D**	**35.8**	**D**	0	**37.5**	**D**	35	C	-2.5
24	Sierra College Boulevard/project driveway	Signal	C	DNE		13	B	–	DNE		21.9	C	–
25	Brace Road/project driveway	Signal	C	DNE		0	A	–	DNE		9.5	A	–

Notes:

DNE = intersection does not exist under no project conditions; EB = eastbound; I-80 = Interstate 80; LOS = level of service; sec = seconds; TWSC = two-way stop controlled; WB = westbound

* The delay reported reflects the critical movement.

Boldface type indicates intersections performing below acceptable LOS.

Source: Kittelson & Associates 2018

Table 3.7-15. Existing and Existing plus Project Conditions—Analysis of Intersection Delays and Levels of Service, Weekend Midday Peak Hour

ID	Intersection	Traffic Control Type	LOS Operating Goal	Existing Conditions		Existing plus Project Conditions		Change in Delay (sec)
				Delay (sec)	LOS	Delay (sec)	LOS	
1	Taylor Road/King Road	Signal	D	20.9	C	22.4	C	1.5
2	Taylor Road/Horseshoe Bar Road	Signal	D	14.1	B	15.1	B	1
3	Horseshoe Bar Road/I-80 WB ramp	Signal	D	13.6	B	13.6	B	0
4	Horseshoe Bar Road/I-80 EB ramp	TWSC	D	29.1	D	29.1	D	0
5	Barton Road/Brace Road	TWSC	C	12.2	B	12.6	B	0.4
6	Sierra College Boulevard/Taylor Road	Signal	C	25.3	C	28.4	C	3.1
7	Sierra College Boulevard/Brace Road	Signal	D	9.1	A	9.6	A	0.5
8	Sierra College Boulevard/Granite Drive	Signal	C	22.8	C	23.9	C	1.1
9	Sierra College Boulevard/I-80 WB ramps	Signal	D	19.3	B	30	C	10.7
10	Sierra College Boulevard/I-80 EB ramps	Signal	D	16.5	B	16.6	B	0.1
11	Sierra College Boulevard/Schriber Way	TWSC	C	10.2	B	9.9	A	-0.3
12	Sierra College Boulevard/Bass Pro Drive–Dominguez Road	Signal	C	8.7	A	8.5	A	-0.2
13	Sierra College Boulevard/stadium driveway	Signal	C	4.4	A	4.3	A	-0.1
14	Sierra College Boulevard/Rocklin Road	Signal	C	24.8	C	25.8	C	1
15	Pacific Street/Dominguez Road–Delmar Avenue	Signal	C	12.7	B	13.5	B	0.8
16	Pacific Street/Rocklin Road	Signal	C	18.9	B	19.6	B	0.7
17	Granite Drive/Rocklin Road	Signal	C	**43.7**	**D**	**45.5**	**D**	1.8
18	I-80 WB ramps/Rocklin Road	Signal	D	20.8	C	20.8	C	0
19	I-80 EB ramps/Rocklin Road	Signal	D	24.2	C	24.2	C	0
20	Aguilar Road/Rocklin Road	Signal	C	8	A	8.2	A	0.2
21	Sierra College Boulevard/driveway south of Brace Road	TWSC	C	0.1	A	0.1	A	0
22	Granite Drive/Dominguez Road	TWSC	C	12.6	B	12.9	B	0.3
23	El Don Drive/Rocklin Road	Signal	C	13.8	B	14.3	B	0.5
24	Sierra College Boulevard/project driveway	Signal	C	DNE		26.5	C	–
25	Brace Road/project driveway	Signal	C	DNE		9.3	A	–

Notes:

DNE = intersection does not exist under no project conditions; EB = eastbound; I-80 = Interstate 80; LOS = level of service; sec = seconds; TWSC = two-way stop controlled; WB = westbound

* The delay reported reflects the critical movement.

Boldface type indicates intersections performing below acceptable LOS.

Source: Kittelson & Associates 2018

As shown in Tables 3.7-14 and 3.7-15, the following study intersections operate at unacceptable LOS under Existing conditions, without introduction of project trips:

- Study intersection 4, Horseshoe Bar Road/I-80 eastbound ramp (a.m. and p.m.)
- Study intersection 6, Sierra College Boulevard/Taylor Road (p.m.)
- Study intersection 14, Sierra College Boulevard/Rocklin Road (a.m. and p.m.)
- Study intersection 15, Pacific Street/Dominguez Road–Delmar Avenue (p.m.)
- Study intersection 16, Pacific Street/Rocklin Road (a.m.)
- Study intersection 17, Granite Drive/Rocklin Road (a.m., p.m., and midday)
- Study intersection 23, El Don Drive/Rocklin Road (a.m. and p.m.)

At six of these seven locations—study intersections 4, 14–17, and 23—the addition of project traffic would result in an incremental increase in delays of less than 5 seconds under Existing plus Project conditions. Thus, at these six locations, the proposed project would not trigger the Town of Loomis's significance threshold of an increase in delay of 5.0 seconds or more at locations where signalized intersections already operate below acceptable LOS, and the proposed Costco Wholesale warehouse trips would not cause a significant impact.

However, the anticipated increase in delays would be greater than 5 seconds at one study intersection, Sierra College Boulevard/Taylor Road, where the delay during the weekday p.m. peak hour would increase by 35.4 seconds (Table 3.7-14). This increase in delay at a signalized intersection already operating below acceptable LOS exceeds the Town's significance threshold of an increase in delay of 5.0 seconds or more, and thus, would result in a **significant** impact.

Table 3.7-16 lists the study intersections that would be affected by the proposed project, based on the analysis methodology and significance criteria. As shown, this impact of the proposed project would be significant only at study intersection 6, Sierra College Boulevard/Taylor Road. As described below, mitigation is provided to reduce this impact.

The following mitigation measure would be implemented to reduce the effects of the proposed project on this study intersection within the Town of Loomis's jurisdiction.

Mitigation Measure Trans-1: Modify Signal Timing at the Intersection of Sierra College Boulevard and Taylor Road.

Prior to issuance of occupancy permit, the project applicant shall work with the Town of Loomis to modify signal timing (to optimize cycle length and/or splits) and restripe the southbound right-turn lane to create a shared through–right-turn lane at Sierra College Boulevard at its intersection with and Taylor Road intersection. The intersection timing shall also be adjusted for eastbound right overlap phasing and shall optimize cycle length.

Although the signal improvements and related striping are not identified in the Town's Capital Improvement Program, the Town Engineer has determined that these improvements would mitigate the impacts from the project. Based on the above, and because the Town's traffic impact fees are outdated and would not generate sufficient funds to finance the identified improvement, the applicant shall construct the improvements identified in this EIR in lieu of paying traffic impact fees.

Table 3.7-16. Existing plus Project Conditions—Summary of Levels of Service at Study Intersections

ID	Intersection	Unacceptable LOS?		Significant Project Impact?	Significance after Mitigation?
		Existing Conditions	Existing plus Project Conditions		
1	Taylor Road/King Road	–	–	–	–
2	Taylor Road/Horseshoe Bar Road	–	–	–	–
3	Horseshoe Bar Road/I-80 WB ramp	–	–	–	–
4	Horseshoe Bar Road/I-80 EB ramp	Yes	Yes	–	–
5	Barton Road/Brace Road	–	–	–	–
6	Sierra College Boulevard/Taylor Road	Yes	Yes	Yes	Less than Significant
7	Sierra College Boulevard/Brace Road	–	–	–	–
8	Sierra College Boulevard/Granite Drive	–	–	–	–
9	Sierra College Boulevard/I-80 WB ramps	–	–	–	–
10	Sierra College Boulevard/I-80 EB ramps	–	–	–	–
11	Sierra College Boulevard/Schriber Way	–	–	–	–
12	Sierra College Boulevard/Bass Pro Drive–Dominguez Road	–	–	–	–
13	Sierra College Boulevard/stadium driveway	–	–	–	–
14	Sierra College Boulevard/Rocklin Road	Yes	Yes	–	–
15	Pacific Street/Dominguez Road–Delmar Avenue	Yes	Yes	–	–
16	Pacific Street/Rocklin Road	Yes	Yes	–	–
17	Granite Drive/Rocklin Road	Yes	Yes	–	–
18	I-80 WB ramps/Rocklin Road	–	–	–	–
19	I-80 EB ramps/Rocklin Road	–	–	–	–
20	Aguilar Road/Rocklin Road	–	–	–	–
21	Sierra College Boulevard/driveway south of Brace Road	–	–	–	–
22	Granite Drive/Dominguez Road	–	–	–	–
23	El Don Drive/Rocklin Road	Yes	Yes	–	–
24	Sierra College Boulevard/project driveway	DNE	–	–	–
25	Brace Road/project driveway	DNE	–	–	–

Notes:

DNE = intersection does not exist under no project conditions; EB = eastbound; I-80 = Interstate 80; ID = identification number of study intersection; LOS = level of service; WB = westbound

Source: Kittelson & Associates 2018

Significance after Mitigation

The analysis conducted for the traffic impact study (Kittelson & Associates 2018) applied Mitigation Measure Trans-1 to the affected study intersection, Sierra College Boulevard/Taylor Road. Table 3.7-17 presents a comparison of the LOS results to Existing (no project) conditions. As shown, implementing Mitigation Measure Trans-1 would reduce this LOS impact to a **less-than-significant** level because the increase in delay after the addition of project traffic would be less than 5.0 seconds.

Table 3.7-17. Existing plus Project Conditions—Results of Implementing Mitigation Measure Trans-1 on Intersection Delay and Level of Service

ID	Intersection	Scenario	Existing Conditions		Existing plus Project Conditions with Mitigation		Change in Delay (sec)	Impact with Mitigation?
			Delay (sec)	LOS	Delay (sec)	LOS		
6	Sierra College Boulevard/ Taylor Road	p.m.	39.9	D	40.8	D	0.9	Less than significant

Notes: ID = identification number of study intersection; LOS = level of service; sec = seconds

Source: Kittelson & Associates 2018

IMPACT 3.7-2: Potential for Project-Related Degradation of LOS on the I-80 Mainline. *Project operation would introduce new trips onto the I-80 freeway mainline. However, the addition of project-generated traffic to existing traffic would not cause the LOS to degrade below the applicable thresholds on the I-80 mainline in the study area so project operation would not conflict with an applicable congestion management program. This impact would be* ***less than significant****.*

Existing traffic volumes on I-80 during the weekday a.m. and p.m. peak hours were added to anticipated project-generated traffic to determine Existing plus Project traffic volumes. Appendix E of the traffic impact study (Kittelson & Associates 2018) includes the freeway mainline LOS worksheets. Tables 3.7-18, 3.7-19, and 3.7-20 outline Existing and Existing plus Project mainline volumes, density, and associated LOS and changes in density for the study segments for the weekday a.m., weekday p.m., and weekend midday peak hours, respectively. As shown, all study segments operate at acceptable LOS C with project traffic. Therefore, no significant impacts on the freeway mainline would occur under Existing plus Project conditions. This impact would be **less than significant**.

Table 3.7-18. Existing and Existing plus Project Conditions—Analysis of I-80 Mainline Levels of Service, Weekday A.M. Peak Hour

ID	Segment	Direction	Existing Conditions			Existing plus Project Conditions			Change in Density*
			Volume	Density*	LOS	Volume	Density*	LOS	
1	I-80 east of Sierra College Boulevard	EB	3,110	19.0	B	3,128	19.1	B	0.1
		WB	4,062	25.4	C	4,080	25.6	C	0.2
2	I-80 west of Sierra College Boulevard	EB	3,118	19.1	B	3,123	19.1	B	0.0
		WB	3,702	22.9	C	3,707	23.0	C	0.1

Notes: EB = eastbound; I-80 = Interstate 80; LOS = level of service; WB = westbound.

* Density means passenger cars per mile per lane.

Source: Kittelson & Associates 2018:Table 23

Table 3.7-19. Existing and Existing plus Project Conditions—Analysis of I-80 Mainline Levels of Service, Weekday P.M. Peak Hour

ID	Segment	Direction	Existing Conditions			Existing plus Project Conditions			Change in Density*
			Volume	Density*	LOS	Volume	Density*	LOS	
1	I-80 east of Sierra College Boulevard	EB	4,398	25.8	C	4,466	26.2	C	0.4
		WB	3,803	22.5	C	3,868	22.9	C	0.4
2	I-80 west of Sierra College Boulevard	EB	4,042	23.4	C	4,061	23.5	C	0.1
		WB	3,716	22.0	C	3,736	22.1	C	0.1

Notes: EB = eastbound; I-80 = Interstate 80; LOS = level of service; WB = westbound

* Density means passenger cars per mile per lane.

Source: Kittelson & Associates 2018:Table 24

Table 3.7-20. Existing and Existing plus Project Conditions—Analysis of I-80 Mainline Levels of Service, Weekend Midday Peak Hour

ID	Segment	Direction	Existing Conditions			Existing plus Project Conditions			Change in Density*
			Volume	Density*	LOS	Volume	Density*	LOS	
1	I-80 east of Sierra College Boulevard	EB	3,980	22.5	C	4,186	23.8	C	1.3
		WB	3,892	21.5	C	4,105	22.7	C	1.2
2	I-80 west of Sierra College Boulevard	EB	3,963	22.4	C	4,080	23.1	C	0.7
		WB	3,812	21.1	C	3,924	21.7	C	0.6

Notes: EB = eastbound; I-80 = Interstate 80; ID = identification number of study roadway segment; LOS = level of service; WB = westbound

* Density means passenger cars per mile per lane.

Source: Kittelson & Associates 2018:Table 25

IMPACT 3.7-3: Potential for Creation of Substantial Traffic-Related Hazards. *The increase in vehicular trips associated with occupancy of the proposed Costco Wholesale warehouse would cause queues at study area intersections to increase, resulting in the need for re-phasing and optimization of cycle length at those intersections. This impact would be* ***significant****.*

As discussed previously (see Section 3.7.1.6, “Queuing Analysis”), for the purposes of this study, a vehicle queue is considered a potential safety hazard if the queue overflows the available storage for a turn pocket and blocks the adjacent travel lane, or if the queue extends to an upstream signal and blocks through traffic. Such a hazard would be considered a significant impact.

The 95th-percentile queues at the study intersections were reviewed to identify locations where the queues may exceed the available storage capacity. As shown in Tables 18, 19, and 20 of the traffic impact study (Kittelson & Associates 2018) for the weekday a.m., p.m., and weekend midday peak hours, respectively, the queues at 15 of the study intersections would extend beyond the storage lengths available at these locations, resulting in delays at upstream intersection operations. Appendix C to the traffic impact study (Kittelson & Associates 2018) includes the queuing worksheets.

Based on the criteria for a significant impact presented above (project traffic would cause a queue overflow, or if queues overflow under Existing [no project] conditions, the project would contribute 5 percent of the total traffic for the movement), the proposed project would create an intersection queue that triggers the significance threshold at the following study intersections:

- Study intersection 6, Sierra College Boulevard/Taylor Road (p.m. and midday)
- Study intersection 7, Sierra College Boulevard/Brace Road (midday)
- Study intersection 8, Sierra College Boulevard/Granite Drive (p.m.)
- Study intersection 9, Sierra College Boulevard/I-80 westbound ramps (midday)

Therefore, at the above study intersections, this impact would be **significant.** The following mitigation measure would be implemented to reduce the queues at these locations.

Mitigation Measure Trans-2 Provide Signal Coordination.

Prior to issuance of occupancy permits, the applicant shall provide funding necessary to conduct signal coordination (to optimize cycle length and/or splits) at the following study intersections:

- Sierra College Boulevard/Taylor Road (p.m. and midday)
    - Provide optimized cycle length with optimized splits based on current demand (100 second for pm and 90 seconds for midday peak.
- Sierra College Boulevard/Brace Road (midday)
    - Provide 60 second cycle length with optimized splits based on current demand.
- Sierra College Boulevard/Granite Drive (p.m.)

  - o Provide 115 second cycle length with optimized splits based on current demand.
- Sierra College Boulevard/I-80 westbound ramps (midday)
  - o Provide 120 second cycle length with optimized splits based on current demand.

The Town shall implement these improvements prior to occupancy of the proposed project.

Significance after Mitigation

Mitigation Measure Trans-2 requires modification of signal timing to optimize cycle length and/or splits at the affected study intersections. The analysis conducted for the traffic impact study (Kittelson & Associates 2018) applied this mitigation measure to those intersections. Table 3.7-21 presents a comparison of the queuing results to Existing (no project) conditions with adoption of Mitigation Measure Trans-2.

Table 3.7-21. Existing plus Project Conditions—Results of Implementing Mitigation Measure Trans-2 on Intersection Queuing

ID	Intersection	Peak Hour	Movement	Existing plus Project Conditions with Mitigation		Impact with Mitigation?
				Storage (feet)	Queue (feet)	
6	Sierra College Boulevard/Taylor Road	p.m.	NBL	190	185	Less than significant
		Midday	NBL	190	182	Less than significant
7	Sierra College Boulevard/Brace Road	Midday	WBL	85	78	Less than significant
8	Sierra College Boulevard/Granite Drive	p.m.	NBT	365	333	Significant and unavoidable*
9	Sierra College Boulevard/I-80 WB ramps	Midday	SBT	370	368	Significant and unavoidable*

Notes:

I-80 = Interstate 80; ID = identification number of study intersection; NBL = northbound through lane; NBT = northbound turn; SBT = southbound turn; WB = westbound; WBL = westbound through lane

* The mitigation measure would improve intersection operation enough to reduce the impact to a less-than-significant level; however, the mitigation measure may be deemed infeasible or outside of the lead agency's jurisdiction to implement.
Source: Kittelson & Associates 2018

As shown, implementing Mitigation Measure Trans-1 would reduce the queuing impact at study intersections 6 and 7, Sierra College Boulevard/Taylor Road and Sierra College Boulevard/Brace Road, to a **less-than-significant** level.

However, as identified in Table 3.7-4, study intersections 8 and 9, Sierra College Boulevard/Granite Drive and Sierra College Boulevard/I-80 westbound ramps, lie outside the jurisdiction of the Town of Loomis, within the jurisdictions of the City of Rocklin and Caltrans, respectively. State CEQA Guidelines Section 15126.4 requires that mitigation measures are fully enforceable through permit conditions, agreements or other legally binding instruments. The improvements identified in Mitigation Measure Trans-2 are not part of a Capital Improvement Program nor programmed in regional transportation plans. Since there is no enforcement mechanism established to ensure implementation of these measures, and the improvements are outside the Town's authority to implement, the Town cannot guarantee the improvements required to mitigate project impacts at intersections 8 and 9, Sierra College Boulevard/Granite Drive and Sierra College Boulevard/I-80 westbound ramps. Therefore, the Town must conservatively assume that, at the time of project approval, impacts at the two intersections are **significant and unavoidable**.

IMPACT 3.7-4: Project-Related Interference with Emergency Access. *The short-term, temporary addition of construction-related traffic could cause an increase in emergency response times and impede emergency services by resulting in traffic congestion during lane closures or when heavy trucks enter or exit the project site. Therefore, construction-related impacts would be* ***potentially significant.***

The plan for operations at the project site must meet Town of Loomis standards for turning radii, drive aisle width, and other road geometry and must comply with Town landscaping standards requiring that vegetation be set back to maintain the line of sight. Maintaining adequate safety and operation at internal intersections and drive aisles and trimming the shrubbery and landscaping near the internal intersections and site access points would ensure adequate emergency access. The available spaces at the fueling station would be well in excess of the average 95th-percentile queue observed at the five Costco Gasoline sites; therefore, operational impacts would be **less than significant.**

Construction Impacts

Construction of the proposed project could require temporary lane or street closures or detours, which could affect emergency access. In addition, pedestrian, bicycle, or vehicular movements around the site may need to be restricted or redirected to accommodate material hauling, construction, staging, and modifications to existing infrastructure. Lane restrictions, closures, and/or detours could cause an increase in traffic volumes or delays on adjacent roadways. In the event of an emergency, emergency response access or response times could be adversely affected. This impact would be **potentially significant.** Mitigation Measure Trans-3, presented below following the operational impact discussion, would be implemented to reduce this construction impact.

Operational Impacts

Primary access to the project site would be provided by a signalized driveway on Sierra College Boulevard approximately 600 feet north of Granite Drive. This access would be designed to accommodate a potential fourth approach for future development on the vacant lot across Sierra College Boulevard to the west. A secondary limited right-in/right-out driveway would be located along Brace Road approximately 250 feet from Sierra College Boulevard. The Brace Road driveway would serve entering warehouse delivery trucks that would subsequently exit the site at the new signalized primary access along Sierra College Boulevard.

The traffic impact study for the proposed project prepared (by Kittelson & Associates, Inc., in May 2018), also evaluated on-site circulation for adequate maneuverability for passenger vehicles, delivery trucks, and emergency vehicles. The AutoTurn software application was used to evaluate the maneuverability of larger trucks throughout the site. Specific details regarding the truck turning can be found in the project application and were provided to the Town of Loomis for review. The project access driveways have adequate widths and curve radii to accommodate larger trucks.

In addition, to ensure adequate safety and operation at the internal intersections and drive aisles, shrubbery and landscaping near the internal intersections and site access points would be maintained to ensure adequate sight distance in accordance with Town of Loomis standards, which are designed to avoid safety issues.

The proposed Costco Gasoline fueling station at the Loomis site would provide eight aisles with three pumps each, offering a total of 24 fueling dispensers from which customers can purchase fuel simultaneously. Based on the current site plan, the queueing area beyond the pumps, extending toward the primary entry aisle from Sierra College Boulevard, measures approximately 125 feet.

Vehicular queuing data have been collected at other representative Costco Gasoline fueling station sites to provide reliable information regarding the anticipated queues for the proposed facility. For this analysis, Costco Gasoline queuing data collected in 2016 and 2017 were gathered from five Costco Gasoline sites, each with 22 or more fueling dispensers.

Table 15 of the traffic impact study (Kittelson & Associates 2018) summarizes the five comparable locations. Observed queues were reported for the maximum, average, and 95th-percentile scenarios during both the weekday p.m. peak hour and a weekend midday peak hour. The 95th-percentile queue is defined as the queue length (in vehicles) that has only a 5 percent probability of being exceeded during the analysis time period. The industry-standard methodology for queuing analysis considers the 95th-percentile queue.

Extrapolating the observed data to the Loomis site with 24 fueling dispensers, and assuming that each queued vehicle would occupy 20 feet, each lane leading to a fueling dispenser could store up to six vehicles (120 feet) without affecting the primary entry aisle from Sierra College Boulevard (not counting the vehicles at the fueling dispenser position). With eight fueling aisles, each holding six vehicles, the queue storage area between the fueling dispensers and the primary entry aisle from Sierra College Boulevard could accommodate 48 vehicles before affecting operations at the drive aisle. The 48 available spaces would be well in excess of the average 95th-percentile queue observed at the five Costco Gasoline sites (25 vehicles), as well as the maximum observed queue (35 vehicles).

Figure 11 of the traffic impact study (Kittelson & Associates 2018) illustrates the available queue storage area and the projected queues for the fueling station. As shown in the figure, the proposed Loomis Costco Gasoline site plan provides sufficient storage within the fueling station facility to accommodate the average 95th-percentile queue anticipated without interference to the on-site drive aisle that leads to Sierra College Boulevard.

Therefore, the operation of the proposed project would provide adequate emergency access. This operational impact would be **less than significant**.

Mitigation Measure Trans-3: Prepare and Implement a Construction Traffic Control Plan.

The project applicant shall prepare and implement a traffic control plan for construction activities that may affect road rights-of-way, to facilitate travel by emergency vehicles on affected roadways. The traffic control plan shall:

- illustrate the location of the proposed work area;
- provide a diagram showing areas where the public right-of-way will be closed or obstructed and the placement of traffic control devices will be necessary to perform the work;
- show the phases of traffic control; and
- identify the time periods when traffic control will be in effect and the time periods when construction work will require prohibiting access to private property from a public right-of-way.

Measures typically used in traffic control plans include advertising planned lane closures, posting warning signage, and employing a flag person to direct traffic flows when needed. During project construction, access to the existing surrounding land uses shall be maintained at all times, with detours used as necessary during road closures. The plan may be modified by the Town of Loomis at any time to eliminate or avoid traffic conditions that represent hazards to public safety. The traffic control plan shall be submitted to the Town of Loomis for review and approval before issuing a grading permit.

Significance after Mitigation

Implementing Mitigation Measure Trans-3 would reduce the potentially significant impacts of decreased emergency response times during construction to a **less-than-significant** level by requiring preparation and implementation of a construction traffic control plan that would provide for adequate emergency access during construction activities.

IMPACT 3.7-5: Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities or otherwise materially decrease the performance or safety of such facilities. *The proposed project is expected to result in minimal increases in transit ridership in the study area and in pedestrian and bicycle traffic in the study area. This impact would be* ***less than significant.***

The proposed project would provide new pedestrian facilities (sidewalks) along the site frontages on Sierra College Boulevard and Brace Road. The frontage improvements would provide connectivity with existing facilities along both roadways and with new pedestrian facilities that would be provided on the project site. In addition, the project would provide on-site bicycle parking for both members and employees. Because of the nature of products and services provided by Costco, the proposed project would minimally increase pedestrian and bicycle traffic in the study area off-site. The impact of the proposed project on pedestrian and bicycle facilities would be **less than significant**.

Transit service would be available to members and employees. As discussed above, three routes operate in the project study area: two fixed routes and a dial-a-ride service. The Auburn to Light Rail bus route operates on 1-hour headways during the morning and afternoon commute periods and stops at the Sierra College Transfer Center. The Lincoln/Sierra College bus route operates on 1-hour headways between Sierra College and the city of Lincoln. Both routes stop at the downtown multimodal center while the Taylor Road Shuttle makes additional stops along Taylor Road. The Taylor Road Shuttle operates on 2-hour headways during the morning and afternoon commute periods and travels between Auburn and the Sierra College Transfer Center. The Taylor Road Shuttle provides the nearest service to the project site along Sierra College Boulevard. However, because of the nature of products and services provided by Costco and the limited transit connectivity provided adjacent to the site, the proposed project is expected to minimally increase transit ridership in the study area. The impact of the proposed project on transit services would be **less than significant**.

IMPACT 3.7-6: Changes in Vehicle Miles Traveled. *The proposed project is expected to reduce total vehicle miles traveled because the placement of a Costco in Loomis would capture trips that otherwise would travel down to Roseville. This impact would be* ***less than significant.***

The following VMT analysis is a summary of information provided in the Traffic Study prepared by Kittelson & Associates (Appendix E). The VMT analysis was conducted consistent with guidance outlined in the Technical

Advisory for Evaluating Transportation Impacts in CEQA (April 2018) issued by the Governor's Office of Planning and Research. The advisory was prepared to reflect changes in the way traffic impacts are to be determined as required under SB 743. See Section 3.7.2, Regulatory Setting, of this Draft EIR for more information on SB 743.[9]

There are multiple retail uses in the region such as the Costco Wholesale stores located to the south and east of Loomis including Roseville, Citrus Heights, Folsom, Cal Expo (Sacramento), Rancho Cordova and Woodland. The proposed project is located approximately five miles east of the existing Roseville Costco Warehouse. Costco Wholesale anticipates the proposed project will directly serve a portion of existing members who reside east of the Roseville Costco Warehouse, particularly those along the I-80 corridor and must currently drive past Loomis on I-80 to reach Roseville.

Review of existing membership information allowed Kittleson to determine the general location of each Costco Wholesale member based on zip codes for the purposes of determining average trip length and to estimate regional trips generated by operation of the existing store. Review of market analysis data provided by Costco Wholesale was used to make predictions about which members would patronize the proposed project instead of existing locations and to estimate new membership.

Future VMT was calculated by multiplying the trips to each zip code by the average trip length assigned to each zip code.[10] Using this member-based approach, the weighted average trip length was estimated at approximately 22 miles in length while the total VMT for all member zip codes combined is estimated at approximately 259,000 miles on a daily basis. Note that this estimate is conservative, as it does not account for pass-by trips that would do not substantially contribute toward VMT. In addition, diverted trips would only add short distances to the VMT (from the freeway corridor to the Project site) which would also reduce the calculated VMT. Finally, VMT associated with the project represent existing member trips currently on the roadway network traveling to and from the existing Roseville Costco site.

Given the proposed project would be placed five miles from the existing Roseville Costco Wholesale location, it was assumed that the proposed project would capture trips originating east of the existing Roseville Costco as members residing in the town of Loomis or who presently travel on I-80 past Loomis to reach Roseville would change their travel patterns. The resultant effect is to shorten vehicle trip length by approximately five miles per trip. Multiplying this average reduction in trip length by the number of trips generated by the proposed project (see Appendix G of the Kittelson Report) yields a weekday daily VMT reduction of approximately 46,000 miles.[11] Based on the above, operation of the proposed project would not increase VMT from current conditions and would improve transportation efficiency consistent with statewide plans to better integrate land use and transportation planning in order to reduce VMT and associated GHG emissions.

3.7.4 Significance after Mitigation

Operation of the proposed project would result in vehicular trips onto the roadway network, which would result in a significant impact on operating conditions at one study intersection, Sierra College Boulevard/Taylor Road. Implementing Mitigation Measure Trans-1 and Trans-2 would reduce this impact to a **less-than-significant** level.

Occupancy of the project site would also create vehicle queues at certain study intersections that would impede the operation of upstream intersections by contributing 5 percent or more of the queue volumes. Mitigation Measure Trans-1 and Trans-3, involving modification of signal timing and phasing, is available to address impacts on the four locations where significant project impacts have been identified. However, as identified in Table 3.7-4, two of the affected locations lie outside the jurisdiction of the Town of Loomis:

- Study intersection 8, Sierra College Boulevard/Granite Drive (within the jurisdiction of the City of Rocklin)
- Study intersection 9, Sierra College Boulevard/I-80 westbound ramps (within Caltrans jurisdiction)

[9] The technical advisory recognizes that adding retail opportunities to the urban environment influences changes in travel patterns through redistribution of existing trips and generation of new trips. This change in travel pattern can either create shorter trips and reductions in overall VMT or in the case of regional serving retail, may lead to substitution of longer trips for shorter ones, depending on circumstances.

[10] An average trip length was determined from the proposed Project site to the centroid of each zip code polygon using a GIS tool. Multiplying trips to each zip code by the average trip length then yielded a VMT estimate.

[11] Any additional induced trips based on the location of the new warehouse would likely occur within the Town of Loomis and City of Rocklin and would not substantially increase the estimated VMT.

It is beyond the authority of the Town of Loomis to implement signal improvements at these two locations; therefore, impacts at these locations would be **significant and unavoidable**.

Heavy trucks entering and leaving the project site during construction could increase congestion and delays along Sierra College Boulevard and/or Brace Road during periods of activity. Implementation of Mitigation Measure Trans-3 would ensure that traffic flow is maintained at all times during periods of construction activity.