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 information and analysis in this section is a summary of the transportation impact analysis for the proposed project prepared by Kittelson & Associates, Inc., in October 2019. The study examined three scenarios with and without project conditions. The project-specific impacts are considered in this section (existing and existing plus project conditions) while the cumulative forecasts with and without the project are discussed in Section 4.0 (Cumulative Analysis) of this EIR.

- **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 the 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[1] 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.

Measurements of transportation impacts considered in the transportation impact analysis (Kittelson & Associates 2019) include vehicle miles traveled (VMT)[2], level of service (LOS), and queues at the studied intersections as summarized below. The scope of the transportation impact analysis was developed based on direction from the Town of Loomis in consultation with the City of Rocklin and the California Department of Transportation (Caltrans) staff. A complete copy of that study is included as Appendix E to this EIR.

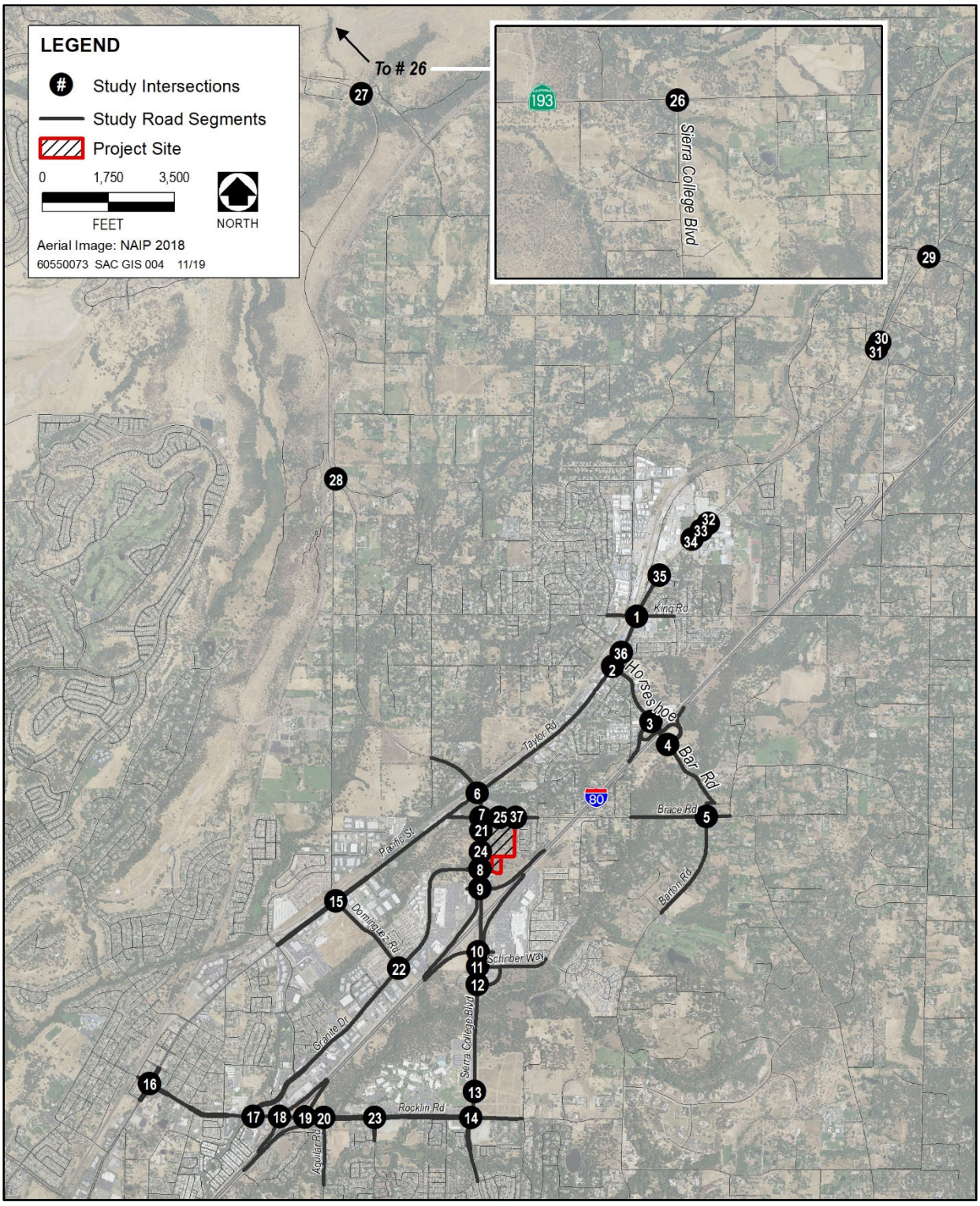
3.7.1 Existing Conditions

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 geometries of the affected roadway segments are discussed below.

[1] Cumulative impacts are analyzed in Chapter 4.

[2] Recent changes to CEQA (Cal. Code Regs., Title 14, Div. 6, Ch. 3, § 15000 et seq.) included revisions to the method for determining transportation and circulation impacts. Under the new thresholds, transportation impacts may include "vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated." The changes identify vehicle miles traveled (VMT) as the appropriate metric to evaluate a project's transportation impacts. The adopted revisions included a grace period to allow time for local agencies to update plans and policies contained in their General Plan.



Note: The study intersections shown here are listed in Table 3.7-4, presented later in this section.
Source: Kittelson & Associates 2019

Figure 3.7-1. Study Intersections and Affected Roadway Segments

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. In the study area, I-80 provides three travel lanes in each direction. 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.

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.

In conjunction with site development, Costco would provide right-of-way dedications and widen Sierra College Boulevard along the project site frontage to provide a third northbound travel lane and Class II bike lane between Granite Drive and Brace Road. A new signalized intersection would be constructed with a southbound left turn lane. Separate northbound right-turn lanes would be constructed on Sierra College Boulevard at the new signalized Costco access and at Brace Road. The new signalized entry on Sierra College Boulevard would be designed to accommodate a potential fourth approach to serve future Rocklin development on the vacant lot across Sierra College Boulevard to the west.

In addition to the recommended improvements to be constructed by Costco described above, the Town of Loomis will be separately widening Sierra College Boulevard to three lanes northbound with a Class II bike lane and three lanes southbound between Brace Road and Taylor Road as part of a funded Capital Improvement Plan project. The Sierra College Boulevard widening by the Town north of Brace Road is expected to be completed prior to opening of the Costco.

Granite Drive is a four-lane, southwest-northeast roadway located west of I-80 located in the city of Rocklin. 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. Under Options 1B and 1C, Costco will reconfigure Granite Drive east of Sierra College Boulevard to provide side-by-side eastbound and westbound left-turn lanes on Granite Drive (separated by a raised median) between Sierra College Boulevard and the new north-south drive aisle connecting to the project site.

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 by the Town of Loomis 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 with 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 by the Town of Loomis 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). Costco will also provide a raised median between the

Sierra College Boulevard intersection and the proposed right in/right out Costco driveway on Brace Road, maintaining access to Homewood Lumber.

Intersection and Roadway Operating Standards

The efficiency of traffic operations at a location is measured in terms of the vehicular level of service (LOS). 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.[3]

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.

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; s/veh=second per vehicle.
* 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

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.

[3] 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 3.7-2. 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:

[1] 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	E[2]	LOS E/F or 5.0 seconds + added [1]
10	Sierra College Boulevard	I-80 EB ramps	Caltrans	E[2]	LOS E/F or 5.0 seconds + added [1]
11	Sierra College Boulevard	Schriber Way	Rocklin	C[3]	*Stop Control:* LOS D/E/F or 5% project [4] *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]

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
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[3]	*Stop Control:* LOS D/E/F or 5% project [4] *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	Project Driveway	Brace Road	Loomis	C	LOS D/E/F or 5% Project Trips[4]
26	Sierra College Boulevard	SR-193	Placer	D[3]	*Stop control:* LOS E/F or 2.5 seconds added & meets warrants [6] *Signal control:* LOS E/F or 4.0 seconds added [5]
27	Sierra College Boulevard	English Colony Way	Placer	C[3]	*Stop control:* LOS D/E/F or 2.5 seconds added & meets warrants [6] *Signal control:* LOS E/F or 4.0 seconds added [5]
28	Delmar Avenue	Sierra College Boulevard	Placer	C	LOS D/E/F or 2.5 seconds added & meets warrants [6]
29	Taylor Road	English Colony Way	Placer	C[3]	*Stop control:* LOS D/E/F or 2.5 seconds added & meets warrants [6] *Signal control:* LOS E/F or 4.0 seconds added [5]
30	Taylor Road	Penryn Road (North)	Placer	C	LOS D/E/F or 2.5 seconds added & meets warrants [6]
31	Taylor Road	Penryn Road (South)	Placer	C	LOS D/E/F or 2.5 seconds added & meets warrants [6]
32	Taylor Road	Del Oro High School North Lot	Loomis	C	LOS D/E/F or 5% Project Trips
33	Taylor Road	Del Oro High School Drop-Off	Loomis	C	LOS D/E/F or 5% Project Trips
34	Taylor Road	Del Oro High School South Lot	Loomis	C	LOS D/E/F or 5% Project Trips
35	Taylor Road	Rippey Road	Loomis	C	LOS D/E/F or 5% Project Trips
36	Taylor Road	Webb Street	Loomis	C	LOS D/E/F or 5% Project Trips
37	Project Driveway East	Brace Road	Loomis	C	LOS D/E/F or 5% Project Trips[4]

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, impact is significant if the Project increases delay to unacceptable levels from acceptable levels. Impact is significant in situations when the intersection is already operating at unacceptable LOS and the Project trips cause the average intersection delay to increase by 5.0 seconds or more.

[2] Caltrans direction for acceptable LOS of E at this location.

[3] For existing roadway network configuration the intersection was stop controlled; however, under future conditions the intersection would become signalized and therefore would be evaluated with the signalized intersection threshold.

[4] For unsignalized intersections, impact is significant if the Project increases delay to unacceptable levels from acceptable levels. Impact is significant in situations when the intersection is already operating at unacceptable LOS and the Project adds trips to the intersection exceeding 5 percent of the total traffic already at the intersection.

[5] For signalized intersections, impact is significant if the Project increases delay to unacceptable levels from acceptable levels. Impact is significant in situations when the intersection is already operating at unacceptable LOS and the Project trips cause the average intersection delay to increase by 4.0 seconds or more.

[6] For unsignalized intersections, impact is significant if the Project increases delay to unacceptable levels from acceptable levels and meets Manual on Uniform Traffic Control Device (MUTCD) signal warrants. Impact is significant in situations when the intersection is already operating at unacceptable LOS, meets MUTCD signal warrants, and the Project trips cause the average intersection delay to increase by 2.5 seconds or more.

Source: Data compiled by AECOM in 2019

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 3.7.4.2, "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 one mile. The changes towards vehicle miles traveled (VMT) as the appropriate metric to evaluate a project's transportation impacts includes a grace period to allow time for local agencies to update plans and policies contained in their General Plan. However, as the Town has not yet adopted a VMT methodology or significance threshold, the discussion of the potential changes to VMT resulting from the project is provided for infomational purposes only.

3.7.1.2 Existing Intersection Operations

Existing traffic volumes in the vicinity of the project site 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 transportation impact analysis (Kittelson & Associates 2019) 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 transportation impact analysis (Kittelson & Associates 2019) 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. Appendix B to the transportation impact analysis (Kittelson & Associates 2019) includes the level-of-service worksheets. As shown, the following intersections operate at an unsatisfactory LOS:

- Horseshoe Bar Road & I 80 Eastbound Ramp (AM, PM)
- Sierra College Boulevard & Taylor Road (PM)
- Sierra College Boulevard & Rocklin Road (AM and PM)
- Pacific Street & Dominguez Road/Delmar Avenue (PM)
- Pacific Street & Rocklin Road (AM)
- Granite Drive & Rocklin Road (AM, PM, and MD)
- El Don Drive & Rocklin Road (AM and PM)
- Sierra College Boulevard & SR 193 (PM)
- Sierra College Boulevard & Delmar Avenue (AM and PM)
- Taylor Road & Penryn Road (South) (AM)
- Taylor Road & Del Oro High School North Lot (AM)
- Taylor Road & Del Oro High School Drop Off (AM)
- Taylor Road & Del Oro High School South Lot (AM)
- Taylor Road & Webb Street (PM and MD)

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	37.7	D	21.8	C
2	Taylor Road/Horseshoe Bar Road	Signal	D	30.3	C	26.3	C	13.9	B
3	Horseshoe Bar Road/I-80 WB ramp	Signal	D	13.8	B	14.0	B	13.4	B
4	Horseshoe Bar Road/I-80 EB ramp	TWSC	D	**70.2**	**F**	**68.2**	**F**	28.7	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	**38.3**	**D**	25.0	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	22.6	C
9	Sierra College Boulevard/I-80 WB ramps	Signal	E	13.2	B	19.0	B	19.3	B
10	Sierra College Boulevard/I-80 EB ramps	Signal	E	14.6	B	16.1	B	16.5	B
11	Sierra College Boulevard/Schriber Way	TWSC	C	9.2	A	9.2	A	10.3	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**	**43.3**	**D**	24.9	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**	33.7	C	19.6	B
17	Granite Drive/Rocklin Road	Signal	C	**40.7**	**D**	**50.8**	**D**	**43.7**	**D**
18	I-80 WB ramps/Rocklin Road	Signal	D	20.4	C	38.8	D	20.6	C
19	I-80 EB ramps/Rocklin Road	Signal	D	31.0	C	30.3	C	24.6	C
20	Aguilar Road/Rocklin Road	Signal	C	10.4	B	8.1	A	8.0	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	12.5	B
23	El Don Drive/Rocklin Road	Signal	C	**35.8**	**D**	**34.9**	**D**	13.7	B
26	Sierra College Blvd/SR-193	AWSC	C[3]	22.5	C	**43.1**	**E**	19.7	C
27	Sierra College Blvd/English Colony Way	TWSC	C	11	B	19.8	C	12.2	B
28	Sierra College Blvd/Delmar Avenue	TWSC	C[3]	**38**	**E**	**41.4**	**E**	22.2	C
29	Taylor Rd/English Colony Way	AWSC	C	21.4	C	13.2	B	15.4	C
30	Taylor Rd/Penryn Road (North)	TWSC	C	14.4	B	10	B	10.2	B

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
31	Taylor Rd/Penryn Road (South)	TWSC	C	**233.5**	**F**	15.5	C	12	B
32	Taylor Rd/Del Oro High School North Lot	TWSC	C	**31.9**	**D**	12	B	13.5	B
33	Taylor Rd/Del Oro High School Drop-Off	TWSC	C	**265**	**F**	14.1	B	19.4	C
34	Taylor Rd/Del Oro High School South Lot	TWSC	C	**40.9**	**E**	15.7	C	16.1	C
35	Taylor Rd/Rippey Road	TWSC	C	13.9	B	11.3	B	11.6	B
36	Taylor Rd/Webb Street	TWSC	C	21.4	C	**26.8**	**D**	**70.2**	**F**

Notes: EB = eastbound; I-80 = Interstate 80; ID = identification number of study intersection; LOS = level of service; AWSC: All-way stop control – The average intersection delay is reported; 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 2019

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 transportation impact analysis (Kittelson & Associates 2019) 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	C	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	C	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 2019

3.7.1.4 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.[4] 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

[4] 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.

average driver would likely experience shorter queue lengths than the reported value. As such, the analysis is considered conservative given the reported queues would be less than those experienced by the average driver. Average queues can be found on the Synchro output sheets provided in Appendix C to the transportation impact analysis (Kittelson & Associates, Inc. 2019).

Existing Conditions

Queues at several intersections extend beyond available storage lengths during the weekday a.m., weekday p.m., and weekend midday peak hours. Appendix C to the transportation impact analysis (Kittelson & Associates, Inc. 2019) presents the storage lengths at each intersection and the queuing worksheets for Existing conditions. The 95th percentile queues would extend beyond the available storage lengths at the following locations:

- Taylor Road & King Road (AM, PM, and MD)
- Taylor Road & Horseshoe Bar Road (AM, PM, and MD)
- Horseshoe Bar Road & I-80 Westbound Ramp (AM, PM, and MD)
- Sierra College Boulevard & Taylor Road (PM)
- Sierra College Boulevard & Brace Road (PM)
- Sierra College Boulevard & Granite Drive (AM, PM, and MD)
- Sierra College Boulevard & I-80 WB Ramps (PM and MD)
- Sierra College Boulevard & Rocklin Road (AM and PM)
- Pacific Street & Rocklin Road (AM, PM, and MD)
- Granite Drive & Rocklin Road (AM, PM, and MD)
- I-80 Westbound Ramps & Rocklin Road (PM)
- I-80 Eastbound Ramps & Rocklin Road (AM and PM)
- El Don Drive & Rocklin Road (AM and PM)
- Taylor Road & English Colony Way (AM and MD)
- Taylor Road & Del Oro High School Drop Off (AM)
- Taylor Road & Del Oro High School South Lot (AM)

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

- The northbound through at Sierra College Boulevard & Taylor Road would affect operations at Sierra College Boulevard & Brace Road (PM)
- The southbound through at Sierra College Boulevard & I-80 WB Ramps would affect operations at Sierra College Boulevard & Granite Drive (PM)
- The westbound through at I-80 Eastbound Ramps & Rocklin Road would affect operations at Aguilar Road & Rocklin Road (PM)

3.7.1.5 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 one-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 two-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 Cumulative (Short-Term) Baseline Conditions

Queueing during the weekday a.m., weekday p.m., and weekend midday peak hours are identified for Cumulative Baseline Short Term conditions in the queuing worksheets in Appendix C to the transportation impact analysis (Kittelson & Associates, Inc. 2019). 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 (AM, PM, and MD)
- Taylor Road & Horseshoe Bar Road (AM, PM, and MD)
- Horseshoe Bar Road & I-80 Westbound Ramp (AM, PM, and MD)
- Sierra College Boulevard & Taylor Road (AM, PM, and MD)
- Sierra College Boulevard & Brace Road (PM and MD)
- Sierra College Boulevard & Granite Drive (AM, PM, and MD)
- Sierra College Boulevard & I-80 WB Ramps (AM, PM, and MD)
- Sierra College Boulevard & I-80 EB Ramps (PM and MD)
- Sierra College Boulevard & Schriber Way (AM, PM, and MD)
- Sierra College Boulevard & Rocklin Road (AM, PM, and MD)
- Pacific Street & Rocklin Road (AM, PM, and MD)
- Granite Drive & Rocklin Road (AM, PM, and MD)
- I-80 Westbound Ramps & Rocklin Road (PM and MD)
- I-80 Eastbound Ramps & Rocklin Road (AM and PM)
- Aguilar Road & Rocklin Road (AM and PM)
- El Don Drive & Rocklin Road (AM)
- Sierra College Boulevard & SR-193 (MD)
- Taylor Road & English Colony Way (AM and MD)
- Taylor Road & Del Oro High School Drop Off (AM)
- Taylor Road & Del Oro High School South Lot (AM)

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

- The northbound through at Sierra College Boulevard & Taylor Road would affect operations at Sierra College Boulevard & Brace Road (PM)
- The northbound left-turn at Sierra College Boulevard & Granite Drive would affect operations at Sierra College Boulevard & I-80 WB Ramps (PM and MD)
- The northbound through at Sierra College Boulevard & Granite Drive would affect operations at Sierra College Boulevard & I-80 WB Ramps (PM and MD)
- The southbound through at Sierra College Boulevard & I-80 WB Ramps would affect operations at Sierra College Boulevard & Granite Drive (AM, PM and MD)
- The southbound through at Sierra College Boulevard & Schriber Way would affect operations at Sierra College Boulevard & I-80 EB Ramps (AM, PM, and MD)
- The westbound left at I-80 Westbound Ramps & Rocklin Road would affect operations at I-80 Eastbound Ramps & Rocklin Road (PM)
- The westbound through at I-80 Eastbound Ramps & Rocklin Road would affect operations at Aguilar Road & Rocklin Road (AM and PM)
- The eastbound through at Aguilar Road & Rocklin Road would affect operations at I-80 Eastbound Ramps & Rocklin Road (AM)

3.7.3 Cumulative (Long-Term) Baseline Conditions

Queueing during the weekday a.m., weekday p.m., and weekend midday peak hours are identified for Cumulative Baseline Long Term conditions in the queuing worksheets in Appendix C to the transportation impact analysis (Kittelson & Associates, Inc. 2019). The queues at the intersections listed below would extend beyond the storage lengths available at these locations:

- Taylor Road & King Road (AM, PM, and MD)
- Taylor Road & Horseshoe Bar Road (AM, PM, and MD)
- Horseshoe Bar Road & I-80 Westbound Ramp (AM, PM, and MD)
- Horseshoe Bar Road & I-80 Eastbound Ramp (PM and MD)
- Sierra College Boulevard & Taylor Road (AM, PM, and MD)
- Sierra College Boulevard & Brace Road (AM, PM, and MD)
- Sierra College Boulevard & Granite Drive (AM, PM, and MD)
- Sierra College Boulevard & I-80 WB Ramps (AM, PM, and MD)
- Sierra College Boulevard & I-80 EB Ramps (AM, PM, and MD)
- Sierra College Boulevard & Schriber Way (AM, PM, and MD)
- Sierra College Boulevard & Bass Pro Drive/Dominguez Road (AM, PM, and MD)
- Sierra College Boulevard & Stadium Dwy (AM and PM)
- Sierra College Boulevard & Rocklin Road (AM, PM, and MD)
- Pacific Street & Dominguez Road/Delmar Avenue (AM and PM)
- Pacific Street & Rocklin Road (AM, PM, and MD)
- Granite Drive & Rocklin Road (AM, PM, and MD)
- I-80 Westbound Ramps & Rocklin Road (AM, PM, and MD)
- I-80 Eastbound Ramps & Rocklin Road (AM and PM)
- Aguilar Road & Rocklin Road (AM)
- Granite Drive & Dominguez Road (AM, PM, and MD)
- El Don Drive & Rocklin Road (AM)
- Sierra College Boulevard & Project Driveway (AM, PM, and MD)
- Sierra College Boulevard & SR-193 (AM, PM, and MD)

- Sierra College Boulevard & English Colony Way (AM, PM, and MD)
- Taylor Road & English Colony Way (AM, PM, and MD)
- Taylor Road & Penryn Road (south) (AM, PM, and MD)
- Taylor Road & Del Oro High School North Lot (AM)
- Taylor Road & Del Oro High School Drop Off (AM)
- Taylor Road & Del Oro High School South Lot (AM)

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

- The westbound through at Horseshoe Bar Road & I-80 Eastbound Ramp would back up to the I-80 Eastbound mainline (PM and MD)
- The northbound through at Sierra College Boulevard & Taylor Road would affect operations at Sierra College Boulevard & Brace Road (PM)
- The southbound left-turn at Sierra College Boulevard & Brace Road would affect operations at Sierra College Boulevard & Taylor Road (PM)
- The northbound left-turn at Sierra College Boulevard & Granite Drive would affect operations at Sierra College Boulevard & I-80 WB Ramps (AM)
- The northbound through at Sierra College Boulevard & Granite Drive would affect operations at Sierra College Boulevard & I-80 WB Ramps (PM)
- The southbound through at Sierra College Boulevard & I-80 Westbound Ramps would affect operations at Sierra College Boulevard & Granite Drive (AM, PM, and MD)
- The southbound through at Sierra College Boulevard & Schriber Way would affect operations at Sierra College Boulevard & I-80 EB Ramps (AM and PM)
- The southbound through at Sierra College Boulevard & Bass Pro Drive/Dominguez Road would affect operations at Sierra College Boulevard & Schriber Way (AM and PM)
- The westbound left-turn at I-80 Westbound Ramps & Rocklin Road would affect operations at I-80 Eastbound Ramps & Rocklin Road (PM)
- The westbound through at I-80 Eastbound Ramps & Rocklin Road would affect operations at Aguilar Road & Rocklin Road (PM).

3.7.4 Regulatory Setting

3.7.4.1 Federal Plans, Policies, Regulations, and Laws

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

3.7.4.2 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. Caltrans staff were contacted to confirm operating requirements for study intersection assessment purposes as noted above. Caltrans District 3 Forecasting and Operations staff identified a LOS E target standard for the Sierra College Boulevard ramp terminals with I-80.

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 August 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 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 changed the text in the CEQA Guidelines (See Section 15064.3) that identifies VMT as the most appropriate metric for evaluating a project's transportation impacts. The changes also require analyses of certain transportation projects to address the potential for induced travel. Section 15064.3(c) states that "A lead agency may elect to be governed by the provisions of this section immediately. Beginning on July 1, 2020, the provisions of this section shall apply statewide."

The Governor's Office of Planning and Research has prepared the Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Advisory) published November 2017 to provide an initial alternative approach to evaluating project effects on the transportation system. The Technical Advisory provides the following guidelines specific to retail projects:

- Lead agencies should usually analyze the effects of a retail project by assessing the change in total VMT, because a retail project typically re-routes travel from other retail destinations. A retail project might lead to increases or decreases in VMT, depending on previously existing retail travel patterns.
- Recommended threshold for retail projects: A net increase in total VMT may indicate a significant transportation impact.
- Because new retail development typically redistributes shopping trips rather than creating new trips, estimating the total change in VMT (i.e., the difference in total VMT in the area affected with and without the project) is the best way to analyze a retail project's transportation impacts.
- By adding retail opportunities to the urban fabric and thereby improving retail destination proximity, local-serving retail development tends to shorten trips and reduce VMT. Lead agencies generally, therefore, may presume such development creates a less than significant transportation impact. Regional-serving retail development, on the other hand, which can lead to substitution of longer trips for shorter ones, might tend to have a significant impact. Where such development decreases VMT, lead agencies may consider it to have a less-than-significant impact.

Many cities and counties define local-serving and regional-serving retail in their zoning codes. Lead agencies may refer to those local definitions when available, but should also consider any project-specific information, such as market studies or economic impacts analyses that might bear on customers' travel behavior. Because lead agencies will best understand their own communities and the likely travel behaviors of future project users, they are likely in the best position to decide when a project will likely be local serving. Generally, however, development including stores larger than 50,000 square feet might be considered regional serving, and so lead agencies should undertake an analysis to determine whether the project might increase or decrease VMT.

However, the jurisdictions involved in this project have not adopted VMT thresholds yet. Therefore, the VMT analysis provided in the transportation impact analysis (Kittelson & Associates, Inc. 2019) is for informational purposes, and this analysis does not represent an adverse environmental traffic effect under CEQA. All adverse physical impacts associated with the project's increase in travel demand (VMT) are fully addressed in topic-specific sections of this EIR detailing impacts related to greenhouse gas emissions, air pollutant emissions, transportation noise, and other relevant topics.

Complete Streets

In 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.

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

Metropolitan Transportation Plan/Sustainable Communities Strategy

SACOG is responsible for preparing the Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS)[5] 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 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.

Placer County Significance Criteria

The Placer County General Plan identifies policies presenting significance criteria, including the following:

- Policy 3.A.7: The County shall develop and manage its roadway system to maintain the following minimum LOS:
  - LOS C on rural roadways, except within one-half mile of state highways where the standard shall be LOS D.
  - LOS C on urban/suburban roadways, except within one-half mile of state highways where the standard shall be LOS D.

The County may allow exceptions to these level of service standards where it finds that the improvements or other measures required to achieve the LOS standards are unacceptable based on established criteria. In allowing any exception to the standards, the County shall consider the following factors:

- The number of hours per day that the intersection or roadway segment would operate at conditions worse than the standard.
- The ability of the required improvement to significantly reduce peak hour delay and improve traffic operations.

[5] 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.

- The right-of-way needs and the physical impacts on surrounding properties.
- The visual aesthetics of the required improvement and its impact on community identity and character.
- Environmental impacts including air quality and noise impacts.
- Construction and right-of-way acquisition costs.
- The impacts on general safety.
- The impacts of the required construction phasing and traffic maintenance.
- The impacts on quality of life as perceived by residents.
- Consideration of other environmental, social, or economic factors on which the County may base findings to allow an exceedance of the standards.

Exceptions to the standards will only be allowed after all feasible measures and options are explored, including alternative forms of transportation.

Specific methodology is provided in the County's Impact Analysis Methodology of Assessment Memorandum prepared September 30th, 2015 as outlined below:

Signalized Intersection Assessment Methodology:

- A project may be considered to exceed minimum LOS policies if:
    - An intersection operating at or above the established Placer County policies without the project traffic trips will decrease to an unacceptable LOS with the project; or
    - An intersection currently operating below the established acceptable LOS policy will experience an increase in overall average intersection delay of 4 seconds or greater.

Unsignalized Intersection Assessment Methodology:

- A project may be considered to exceed minimum LOS policies if:
    - An all-way stop or side street controlled intersection, which currently operates at or above the established Placer County policies without the project, will deteriorate to an unacceptable LOS with the project and cause the intersection to meet the Manual on Uniform Traffic Control Device (MUTCD) traffic sign warrant(s); or
    - An all-way stop or side street controlled intersection which currently operates below the established acceptable LOS policy and meets MUTCD signal warrant(s) will experience an increase of 2.5 seconds or more with the project.

Further consideration will be given in situations where the existing level of service is just above or at the approved minimum level of service and any increase in vehicle trips, or even daily fluctuations in traffic will deteriorate the level of service to an unacceptable level.

Based on the review of Placer County roadway segment analysis in the approved Bickford Ranch EIR, roadway segment impacts would be considered in conjunction with intersection performance along the corridor. The specific methodology outlined in the Impact Analysis Methodology of Assessment Memorandum prepared September 30th, 2015 states:

- A project may be considered to exceed minimum LOS policies (as defined by Policy 3.A.7 as outlined above) if:
    - A roadway segment operating at or above the established Placer County policies without the project traffic trips will decrease to an unacceptable LOS with the project; or
    - A roadway segment currently operating below the established acceptable LOS policy will experience an increase in volume to capacity (V/C) ratio of 0.05 or greater with the project;

or

    - A roadway segment currently operating below the established acceptable LOS policy will experience an increase in ADT of 100 or more project generated trips, per lane.

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 the 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 and the 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 Town of Loomis will be separately completing widening of Sierra College Boulevard to three lanes northbound and three lanes southbound between Brace Road and Taylor Road as part of a funded Capital Improvement Plan project. The Sierra College Boulevard widening by the Town north of Brace Road is expected to be completed prior to opening of the Costco.

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

The City's Traffic Impact Fee and CIP define the roadway and intersection improvements needed to maintain the LOS policy adopted in the City's General Plan. (See Rocklin General Plan Circulation Element, Policy 13.)

The City of Rocklin General Plan Circulation Element (2012) states the following:

A. Maintain a minimum traffic LOS C for all signalized intersections during the PM peak hour on an average weekday, except in the circumstances described below.

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

C. All development in another jurisdiction outside of Rocklin's control which creates traffic impacts in Rocklin should be required to construct all mitigation necessary in order to maintain a LOS C in Rocklin unless the mitigation is determined to be infeasible by the Rocklin City Council. The standard for determining the feasibility of the mitigation would be whether or not the improvements create unusual economic, legal, social, technological, physical or other similar burdens and considerations.

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 on July 1, 2017. Fees are calculated on a citywide basis, differentiated by type of development.

3.7.5 Impact Analysis

3.7.5.1 Methodology

Trip Generation

To estimate trips associated with the proposed project, Kittelson & Associates, Inc. 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.[6] 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 3.7-7 summarizes the average trip rates recorded.

[6] Note that the Trip Generation Manual (9th Edition and 10th Edition) includes trip data for a "Discount Club" (Land Use Code 857) that is described as follows: "A discount club is a discount store or warehouse where shoppers pay a membership fee in order to take advantage of discounted prices on a wide variety of items such as food, clothing, tires and appliances; many items are sold in large quantities or bulk. Some sites may include on-site fueling pumps." By comparison, the trip rates presented in Trip Generation for the Discount Club are 41.80 trips/KSF per day weekdays, 4.18 trips/KSF for the weekday PM peak hour, and 6.37 trips/KSF for the Saturday peak hour of the generator; each lower than the Costco trip rates shown in Table 3.7-7. Per the Trip Generation Handbook, 3rd Edition, the weekday PM peak hour pass-by rate for Land Use Code 857 is 37% and the Saturday midday peak hour pass-by rate is 30 percent (both slightly higher than the values shown in Table 12 for Costco) while no diverted trip data was reported (not collected).

Table 3.7-7. 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, Inc. 2019.

Based on the survey data summarized in Table 3.7-7, trip generation for the proposed project was estimated as shown in Table 3.7-8. 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. No adjustments for employee transportation demand management (TDM) measures were made as employee trips occur primarily outside of the analysis peak hours.

Table 3.7-9 presents trip generation estimates for the proposed Costco fueling station for the weekday a.m. peak-hour assuming the planned future 30 fueling position capacity. The averages summarized in Table 3.7-9 reflect data collected at multiple California locations based on comparable size and available data including Lancaster, Cypress, Commerce, Roseville, and Sunnyvale. Note that only members can access the fueling stations, which require a membership card for pump activation.

Table 3.7-8. 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	155,000	12,290	539	572	1,111	773	745	1,581
Pass-by Trips (33.3% PM/28.9% MD)		(4,090)	(179)	(191)	(370)	(223)	(216)	(439)
Diverted Trips (31.5% PM/20.6 MD)		(3,870)	(170)	(180)	(350)	(159)	(154)	(180)
TOTAL		**4,330**	**190**	**201**	**391**	**391**	**375**	**766**

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, Inc. 2019

Table 3.7-9. Trip Characteristics for the Proposed Costco Fueling Station

Trip Characteristics	Weekday A.M. Peak Hour	Weekday A.M. Peak-Hour Trips (30 fueling dispensers)		
		Total	In (50%)	Out (50%)
Total Trip Rate	13.98 trips per fuel dispenser	420	210	210
Internal Trip Percentage	0%[1]	0	0	0
Pass-by Trip Percentage[2]	32.50%	-136	-68	-68
Diverted Trip Percentage[2]	36.80%	-154	-77	-77
	Net New Trips	**130**	**65**	**65**

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

[2] Percentage of external trips.

Source: Kittelson & Associates, Inc. 2019

Costco anticipates an average of about 10-13 Costco trucks a day delivering goods to the Costco Warehouse. The Costco trucks typically measure up to approximately 70 feet long for double-axle trailers. Typical receiving time is from 2:00 AM to 1:00 PM, averaging two to three trucks per hour, with most of the deliveries completed before the 10:00 AM warehouse opening time. Deliveries to the warehouse are made primarily in Costco trucks from its freight consolidation facility in Tracy, California. In addition to the Costco depot trucks, deliveries such as bread are expected to be made by local vendors using single-unit trucks and/or single-axle trailers.

Costco anticipates that the Costco fueling station will receive five to seven fuel deliveries per day on average. During busy holiday weeks, an additional delivery is often required during the day. These deliveries occur any time between 6:00 AM and 7:00 PM.

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.

Exhibit 1 of the transportation impact analysis (Kittelson & Associates, Inc. 2019) presents Existing Costco Warehouse Sites.

Based on the project site location and the existing Costco Warehouses, approximately 45 percent of the project net new site-generated trips are expected to travel to and from the project site via I-80, including 35 percent traveling east of Sierra College Boulevard and approximately 10 percent traveling west of Sierra College Boulevard). The remaining trips were routed to Town of Loomis, City of Rocklin, and Placer County roadway facilities.

The presence of the Roseville Costco directly impacts (limits) the amount of new traffic anticipated to the proposed Project site from points to the north and west. For example, the number of project-generated trips on Sierra College Boulevard north of Taylor Road is expected to be relatively limited (approximately 10 percent) because residents of Lincoln and portions of the housing west of Sierra College Boulevard are able to access the Roseville Costco via State Route 65. Similarly, while resident population is generally denser west of Sierra College Boulevard, the number of net new trips routing on Pacific Street west of Sierra College Boulevard was estimated at 10 percent while the portion routed on Taylor Road east of Sierra College Boulevard was estimated higher at 12 percent recognizing that some residents to the west will continue to shop at the Roseville Costco.

Figure 7 of the transportation impact analysis (Kittelson & Associates, Inc. 2019) 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 transportation impact analysis (Kittelson & Associates, Inc. 2019) 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 transportation impact analysis (Kittelson & Associates, Inc. 2019).

Project Driveway Access Options

As detailed in Chapter 2 of this EIR, to address comments received on the previous EIR published June 7, 2018, the proposed vehicle access to the project site now consists of three site access option plans: Option 1A; Option 1B; and Option 1C. Option 1A provides access to the site at three locations, including a new signalized intersection on Sierra College Boulevard, a right-in/right-out only driveway located on Brace Road, and a full movement driveway located further east on Brace Road. Option 1B includes three public site access points, incluing an unsignalized right-in/right-out only on Brace Road, a new signalized intersection along Sierra College Boulevard, and a new roadway connection between the south side of the Costco site and Granite Drive. Option 1C includes four public site access points, including an unsignalized right-in/right-out only on Brace Road, an unsignalized full access on Brace Road, and a new roadway connection between the south side of the Costco site and Granite Drive. Each of these options is addressed fully throughout this EIR.

3.7.5.2 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 performance of the circulation system, taking into account all modes of transportation relevant components of circulation system;
- 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;
- conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b);
- 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.

3.7.5.3 Significant Impact

Intersection Delay and Level of Service

Based on direction provided by the lead jurisdiction, Town of Loomis, an intersection is considered significantly impacted as follows:

- **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.

This criteria is applied to study locations within the Town of Loomis, as well as to jurisdictions where an incremental delay-based impact is not established. Based on the guidelines from each jurisdiction above, Table 3.7-4 lists the study intersections, the responsible jurisdiction, and the corresponding operating standard.

Intersection Queuing

The Town and neighboring jurisdictions do not have formally-adopted guidelines on queuing analysis methodology or criterion that establishes thresholds of significance for vehicle queues at intersections. For the purposes of this study, a vehicle queue that overflows the available storage for a turn pocket blocking the adjacent travel lane or that queues to an upstream signal blocking through traffic is considered a potential safety hazard and would be considered a significant impact. Therefore, this study identifies a significant impact as occurring at locations where the project traffic would cause the queue length for a turn pocket to overflow its available storage compared to no project conditions or cause a queue to spillback into an upstream signalized intersection. Further, in cases where the no project queue already overflows the queue storage and the project would contribute 5 percent of the total traffic for the movement, the impact would be considered significant.

Increase in VMT - Conflict with CEQA Guidelines Section 15064.3, Subdivision (b)

It is possible that the proposed project could result in a net increase in VMT. As noted previously, the jurisdictions involved in this project have not adopted VMT thresholds yet. Therefore, the VMT analysis is for informational

purposes only, and this analysis does not represent an adverse environmental traffic effect under CEQA. All adverse physical impacts associated with the project's increase in travel demand (VMT) are fully addressed in topic-specific sections of this EIR detailing impacts related to greenhouse gas emissions, air pollutant emissions, transportation noise, and other relevant topics.

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 four miles northeast 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.

The VMT estimate for the project reflects factors including the anticipated site trip generation and distribution, project membership, as well associated VMT changes at the existing Roseville Costco site. The VMT estimate included:

- assessment of project trip generation (including members, employees, and deliveries)
- assessment of project trip length based on Costco member location
- assessment of anticipated growth in Costco membership at both the project site and the existing Roseville Costco site
- estimation of project site VMT associated with Costco members, including primary, diverted, and pass-by trips
- estimation of latent demand at the Roseville Costco site, with additional VMT to account for potential new trips to the Roseville Costco site
- additional VMT based on the regional trip length estimate to account for new Costco employees trips

The project would generate approximately 12,290 trips. A significant number of these trips are pass-by and diverted trips. Pass-by trips are already on the roadway network that do not add VMT. Diverted trips are already on the roadway network, but that turn from a major route to access the site. For the purposes of this study, diverted trips were assumed to travel between the I-80 ramps and the Project site (approximately 0.5 mile). Trip generation for the project site accounts for all trips to and from the site (members, employees, and deliveries). The average member trip distance would be approximately 22 miles, based on a review of the membership database.

Due to the proximity of the Roseville Costco, there would be a substantial redistribution of existing members between the two sites. The Costco market projections estimate a total regional membership of 104,200 for both the Roseville and Loomis warehouses. Of these members 9,100 are projected to be new members (approximately 8.7 percent of the total membership). The remaining 95,100 members are existing members who are currently visiting the Roseville site and are already traveling on the regional transportation network. The daily VMT increase attributable to the project site is 8,420 miles. This includes the 4,330 primary trips with a 22-mile average distance, and 8.7 percent of them being new trips plus 3,870 diverted trips with an assumed average distance of a half mile, and 8.7 percent of the trips being new trips. There would be 4,090 pass-by trips that turn into and out of the project site and do not add VMT to the roadway network.

Latent demand may be realized at the Roseville Costco as it becomes less crowded with the proposed project opening and new Costco members using the existing warehouse. The total daily VMT associated with latent demand would be 2,525. This includes 3,815 primary trips with a 7.2-mile average distance, and 8.7 percent of them being new trips plus 3,425 diverted trips with an assumed average distance of a half mile, and 8.7 percent of the trips being new trips. There would be 3,425 pass-by trips that turn into and out of the Roseville Costco site and do not add VMT to the roadway network.

Employees would generate additional VMT, which was estimated by taking an average of 250 employees on-site per day, assuming 100 percent of employees drive, multiplied by the City of Rocklin Travel Demand Model one-way trip length for commercial land uses for a total of 3,900 miles (500 trips x 7.8 miles).

Finally, Costco would have an average of 13 warehouse deliveries a day, most likely from the facility in Tracy, California, which is approximately 100 miles from the project site, and 7 fuel deliveries per day between the project sit and the West Sacramento terminal location, approximately 30 miles from the project site The total VMT for truck trips site is approximately 3,020 miles.

The total daily VMT would be approximately 17,865 (8,420 + 2,525 + 3,900 + 3,020). This estimate does not reflect a reduction in VMT associated with re-routing of Costco member trips that currently are made to the Roseville site but will transfer to the project site out of convenience/shorter travel distance. Based on Costco membership data, an estimated 31 percent of existing Roseville Costco members are located north of the project site. These members to the north could realize an average trip length reduction of approximately five miles by switching membership from the Roseville site to the project site, which would reduce areawide VMT.

3.7.5.4 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* ***significant****.*

Operation of the proposed project was estimated to generate 4,330 daily net new trips with consideration of pass-by and diverted trips (Table 3.7-8). The mix of trips associated with project operation consists of 130 net new trips (65 inbound, 65 outbound) to the proposed fueling station during the weekday a.m. peak hour (Table 3.7-9). A total of 391 net new trips (190 inbound, 201 outbound) were projected to occur during the weekday p.m. peak hour and 766 net new trips (391 inbound, 375 outbound) were projected for the weekend midday peak hour (Table 3.7-8).

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 Existing plus Project condition traffic volumes. Figures 16 and 17 of the transportation impact analysis (Kittelson & Associates, Inc. 2019) show the Existing plus Project traffic condition for Option 1A (cited as Project Driveway Access Option 1A in the transportation impact analysis) during the weekday a.m. and p.m. peak hours and the weekend midday peak hour, respectively.

Project Driveway Access Option 1A

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 3.7-10 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 3.7-11 shows delays and LOS at the study intersections under these two scenarios during the weekend midday peak hour. Appendix B to the transportation impact analysis (Kittelson & Associates, Inc. 2019) includes the LOS worksheets.

As shown in Tables 3.7-10 and 3.7-11, the following study intersections operate at unacceptable LOS:

- Horseshoe Bar Road & I-80 Eastbound Ramp (AM and PM)
- Sierra College Boulevard & Taylor Road (PM)
- Sierra College Boulevard & Rocklin Road (AM and PM)
- Pacific Street & Dominguez Road/Delmar Avenue (PM)
- Pacific Street & Rocklin Road (AM)
- Granite Drive & Rocklin Road (AM, PM, and MD)
- El Don Drive & Rocklin Road (AM)
- Sierra College Boulevard & SR-193 (PM)
- Sierra College Boulevard & Delmar Avenue (AM, PM, and MD)
- Taylor Road & Penryn Road (South) (AM)
- Taylor Road & Del Oro High School North Lot (AM)
- Taylor Road & Del Oro High School Drop Off (AM)
- Taylor Road & Del Oro High School South Lot (AM)
- Taylor Road & Webb Street (PM and MD)

Table 3.7-10. Existing and Existing plus Project Conditions— Analysis of Intersection Delays and Levels of Service, Weekday A.M./P.M. Peak Hour–Project Driveway Access Option 1A

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	37.7	D	39.4	D	1.7
2	Taylor Road/Horseshoe Bar Road	Signal	D	30.3	C	31.2	C	0.9	26.3	C	27.2	C	0.9
3	Horseshoe Bar Road/I-80 WB ramp	Signal	D	13.8	B	13.8	B	0.0	14.0	B	14.0	B	0.0
4	Horseshoe Bar Road/I-80 EB ramp	TWSC	D	**70.2**	**F**	**70.2**	**F**	0.0	**68.2**	**F**	**68.2**	**F**	0.0
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	32.8	C	1.0	**38.3**	**D**	**41.6**	**D**	3.3
7	Sierra College Boulevard/Brace Road	Signal	D	9.7	A	13.2	B	3.5	10.7	B	14.1	B	3.4
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	E	13.2	B	13.7	B	0.5	19.0	B	27.1	C	8.1
10	Sierra College Boulevard/I-80 EB ramps	Signal	E	14.6	B	14.7	B	0.1	16.1	B	16.3	B	0.2
11	Sierra College Boulevard/Schriber Way	TWSC	C	9.2	A	9.2	A	0.0	9.2	A	9.2	A	0.0
12	Sierra College Boulevard/Bass Pro Drive–Dominguez Road	Signal	C	6.5	A	6.5	A	0.0	7.5	A	7.5	A	0.0
13	Sierra College Boulevard/stadium driveway	Signal	C	6.1	A	6.1	A	0.0	6.6	A	6.6	A	0.0
14	Sierra College Boulevard/Rocklin Road	Signal	C	**35.7**	**D**	**35.8**	**D**	0.1	**43.3**	**D**	**45.0**	**D**	1.7
15	Pacific Street/Dominguez Road–Delmar Avenue	Signal	C	15.4	B	15.7	B	0.3	**43.7**	**D**	**44.2**	**D**	0.5
16	Pacific Street/Rocklin Road	Signal	C	**39.9**	**D**	**40.0**	**D**	0.1	33.7	C	34.2	C	0.5
17	Granite Drive/Rocklin Road	Signal	C	**40.7**	**D**	**40.9**	**D**	0.2	**50.8**	**D**	**52.1**	**D**	1.3
18	I-80 WB ramps/Rocklin Road	Signal	D	20.4	C	20.4	C	0.0	38.8	D	38.8	D	0.0
19	I-80 EB ramps/Rocklin Road	Signal	D	31.0	C	31.0	C	0.0	30.3	C	30.3	C	0.0
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	0.0	12.6	B	12.9	B	0.3
22	Granite Drive/Dominguez Road	TWSC	C	11.7	B	11.8	B	0.1	12.8	B	13.0	B	0.2
23	El Don Drive/Rocklin Road	Signal	C	**35.8**	**D**	**35.8**	**D**	0.0	34.9	C	35.0	C	0.1
24	Sierra College Boulevard/project driveway	Signal	C	DNE		6.5	A	-	DNE		11.3	B	-
25	Brace Road/project driveway	TWSC	C	DNE		0.0	A	-	DNE		9.5	A	-
26	Sierra College Blvd/SR-193	AWSC	D	22.5	C	23.0	C	0.5	**43.1**	**E**	**45.8**	**E**	2.7
27	Blvd/English Colony	TWSC	C	11.0	B	11.4	B	0.4	19.8	C	21.6	C	1.8
28	Sierra College Blvd/Delmar Av[2]	TWSC	C	**38.0**	**E**	**39.5**	**E**	1.5	**41.4**	**E**	**45.5**	**E**	4.1
29	Taylor Rd/English Colony Way	AWSC	C	21.4	C	21.5	C	0.1	13.2	B	13.4	B	0.2
30	Taylor Rd/Penryn Road (North)	TWSC	C	14.4	B	14.4	B	0.0	10.0	B	10.1	B	0.1
31	Taylor Rd/Penryn Road (South)	TWSC	C	**233.5**	**F**	**245.3**	**F**	11.8	15.5	C	16.1	C	0.6
32	Taylor Rd/Del Oro High School North[1] Lot	TWSC	C	**31.9**	**D**	**32.7**	**D**	0.8	12.0	B	12.2	B	0.2
33	Taylor Rd/Del Oro High School Drop-Off[1]	TWSC	C	**265.0**	**F**	**273.4**	**F**	8.4	14.1	B	14.3	B	0.2
34	Taylor Rd/Del Oro High School South[1] Lot	TWSC	C	**40.9**	**E**	**41.6**	**E**	0.7	15.7	C	15.9	C	0.2
35	Taylor Rd/ Rippey Road	TWSC	C	13.9	B	13.9	B	0.0	11.3	B	11.3	B	0.0
36	Taylor Rd/ Webb Street[1]	TWSC	C	21.4	C	21.8	C	0.4	**26.8**	**D**	**28.7**	**D**	1.9
37	Brace Road/ Project Driveway East	TWSC	C	DNE		10.0	B	-	DNE		9.3	A	-

Notes: * The delay reported reflects the critical movement.
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
Boldface type indicates intersections performing below acceptable LOS. Shaded cells indicate a project impact.
1 An impact is significant in situations when the intersection is already operating at unacceptable LOS and the Project adds trips to the intersection exceeding 5% of the total traffic already at the intersection. At these locations, the project does not contribute 5 percent or more of the volumes.
2 Intersection does not meet signal warrants for impacts condition, therefore per the Placer County guidelines, this intersection is not significantly impacted. Traffic signal warrants provided in Appendix J of the Kittelson transportation impact analysis.
Source: Kittelson & Associates, Inc. 2019

Table 3.7-11. Existing and Existing plus Project Conditions—Analysis of Intersection Delays and Levels of Service, Weekend Midday Peak Hour– Project Driveway Access Option 1A

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 Rd/King Rd	Signal	D	21.8	C	23.1	C	1.3
2	Taylor Rd/Horseshoe Bar Rd	Signal	D	13.9	B	14.9	B	1.0
3	Horseshoe Bar Rd/I-80 Westbound Ramp	Signal	D	13.4	B	13.4	B	0.0
4	Horseshoe Bar Rd/I-80 Eastbound Ramp	TWSC	D	28.7	D	28.7	D	0.0
5	Barton Rd/Brace Rd	TWSC	C	12.2	B	12.6	B	0.4
6	Sierra College Blvd/Taylor Rd	Signal	C	25.0	C	28.1	C	3.1
7	Sierra College Blvd/Brace Rd	Signal	D	9.1	A	15.0	B	5.9
8	Sierra College Blvd/Granite Dr	Signal	C	22.6	C	23.7	C	1.1
9	Sierra College Blvd/I-80 WB Ramps	Signal	E	19.3	B	30.3	C	11.0
10	Sierra College Blvd/I-80 EB Ramps	Signal	E	16.5	B	16.6	B	0.1
11	Sierra College Blvd/Schriber Way	TWSC	C	10.3	B	9.9	A	-0.4
12	Sierra College Blvd/Bass Pro Dr-Dominguez Rd	Signal	C	8.7	A	8.5	A	-0.2
13	Sierra College Blvd/Stadium Dwy	Signal	C	4.4	A	4.3	A	-0.1
14	Sierra College Blvd/Rocklin Rd	Signal	C	24.9	C	25.9	C	1.0
15	Pacific St/Dominguez Rd-Delmar Ave	Signal	C	12.7	B	13.5	B	0.8
16	Pacific St/Rocklin Rd	Signal	C	19.6	B	20.3	C	0.7
17	Granite Dr/Rocklin Rd	Signal	C	43.7	**D**	**45.6**	**D**	1.9
18	I-80 Westbound Ramps/Rocklin Rd	Signal	D	20.6	C	20.6	C	0.0
19	I-80 Eastbound Ramps/Rocklin Rd	Signal	D	24.6	C	24.6	C	0.0
20	Aguilar Rd/Rocklin Rd	Signal	C	8.0	A	8.2	A	0.2
21	Sierra College Blvd/Dwy South of Brace Rd	TWSC	C	0.1	A	0.1	A	0.0
22	Granite Dr/Dominguez Rd	TWSC	C	12.5	B	12.9	B	0.4
23	El Don Dr/Rocklin Rd	Signal	C	13.7	B	14.1	B	0.4
24	Sierra College Boulevard/Project Driveway	Signal	C	DNE		14.5	B	-
25	Brace Road/Project Driveway	TWSC	C	DNE		9.2	A	-
26	Sierra College Blvd/SR-193	AWSC	D	19.7	C	21.5	C	1.8
27	Sierra College Blvd/English Colony Way	TWSC	C	12.2	B	13.2	B	1.0
28	Sierra College Blvd/Delmar Avenue[2]	TWSC	C	22.2	C	**25.4**	**D**	3.2
29	Taylor Rd/English Colony Way	AWSC	C	15.4	C	16.1	C	0.7
30	Taylor Rd/Penryn Road (North)	TWSC	C	10.2	B	10.3	B	0.1
31	Taylor Rd/Penryn Road (South)	TWSC	C	12.0	B	12.5	B	0.5
32	Taylor Rd/Del Oro High School North Lot	TWSC	C	13.5	B	14.1	B	0.6
33	Taylor Rd/Del Oro High School Drop-Off	TWSC	C	19.4	C	21.0	C	1.6
34	Taylor Rd/Del Oro High School South Lot	TWSC	C	16.1	C	16.7	C	0.6
35	Taylor Rd/Rippey Road	TWSC	C	11.6	B	11.9	B	0.3
36	Taylor Rd/Webb Street	TWSC	C	**70.2**	**F**	**121.4**	**F**	51.2
37	Brace Road/Project Driveway East	TWSC		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, Inc. 2019

Based on the impact criteria defined earlier, the following intersections would be significantly impacted by the proposed Project Driveway Access Option 1A:

- 26 Sierra College Boulevard & SR-193 (PM)
- 31 Taylor Road & Penryn Road (South) (AM)
- 36 Taylor Road & Webb Street (MD)

The above three intersections are unsignalized intersections. The increase in delay exceeds the Town's significance threshold of an increase in traffic volume of 5 percent or more, and thus, would result in a **significant** impact.

Project Driveway Access Options 1B & 1C

Figures 18 and 19 of the transportation impact analysis (Kittelson & Associates, Inc. 2019) show the Existing plus Project traffic condition for Project Driveway Access Options 1B and 1C (cited as Project Driveway Access Option 1B & 1C in the transportation impact analysis) during the weekday a.m. and p.m. peak hours and the weekend midday peak hour, respectively.

Project Driveway Access Options 1B and 1C would affect operations of study intersections 7, 8, 21, 24, 25, and 37 due to rerouting of trips at project driveways. Table 3.7-12 shows the baseline Existing No-Project and Plus Project delays and LOS for those study intersections affected by Project Driveway Access Options 1B and 1C during weekday AM and PM peak hours. Table 3.7-13 shows the baseline Existing No-Project and Plus Project delays and LOS for the affected study intersections during the weekend midday peak hour.

As shown in the two tables, none of the six study intersections affected by site trip routing to the Project driveways are significantly impacted by the proposed project for Project Driveway Access Options 1B and 1C.

Table 3.7-12. Existing Plus Project - Intersection LOS Analysis, Weekday AM/PM Peak Hour – Project Driveway Access Options 1B & 1C

			Weekday AM					Weekday PM				
			Existing		Plus Project		Change	Existing		Plus Project		Change
ID	Intersection	Traffic Control Type	Delay (sec)	LOS	Delay (sec)	LOS	in Delay (sec)	Delay (sec)	LOS	Delay (sec)	LOS	in Delay (sec)
Project Driveway Access Option 1B												
7	Sierra College Blvd/Brace Rd	Signal	9.7	A	13.2	B	3.5	10.7	B	16.7	B	6.0
8	Sierra College Blvd/Granite Dr	Signal	24.4	C	24.1	C	-0.3	27.1	C	29.9	C	2.8
21	Sierra College Blvd/Dwy South of Brace Rd	TWSC	0.3	A	0.3	A	0.0	12.6	B	13.0	B	0.4
24	Sierra College Blvd/Project Driveway	Signal	DNE		6.5	A	-	DNE		11.2	B	-
25	Brace Road/Project Driveway	TWSC	DNE		0.0	A	-	DNE		9.5	A	-
37	Brace Road/Project Driveway East	TWSC	DNE					DNE				
Project Driveway Access Option 1C												
7	Sierra College Blvd/Brace Rd	Signal	9.7	A	13.2	B	3.5	10.7	B	14.1	B	3.4
8	Sierra College Blvd/Granite Dr	Signal	24.4	C	24.1	C	-0.3	27.1	C	29.9	C	2.8
21	Sierra College Blvd/Dwy South of Brace Rd	TWSC	0.3	A	0.3	A	0.0	12.6	B	12.9	B	0.3
24	Sierra College Blvd/Project Driveway	Signal	DNE		6.4	A	-	DNE		11.0	B	-
25	Brace Road/Project Driveway	TWSC	DNE		0.0	A	-	DNE		9.5	A	-
37	Brace Road/ Project Driveway East	TWSC	DNE		10.0	B	-	DNE		10.4	B	-

Notes:
AWSC: All-way stop control – The average intersection delay is reported.
TWSC: Two-way stop control - delay reported reflects the critical movement.
DNE: Intersection does not exist under no Project conditions.
Boldface type indicates intersections performing below acceptable LOS. Refer to Table 1 for applicable operating standards.
Source: Kittelson & Associates, Inc. 2019

Table 3.7-13. Existing Plus Project - Intersection LOS Analysis, Weekend Midday Peak Hour – Project Driveway Access Options 1B & 1C

ID	Intersection	Traffic Control Type	Existing		Plus Project		Change in Delay (sec)
			Delay (sec)	LOS	Delay (sec)	LOS	
Project Driveway Access Option 1B							
7	Sierra College Blvd/Brace Rd	Signal	9.1	A	12.6	B	3.5
8	Sierra College Blvd/Granite Dr	Signal	22.6	C	24.8	C	2.2
21	Sierra College Blvd/Dwy South of Brace Rd	TWSC	DNE		0.1	A	-
24	Sierra College Boulevard/Project Driveway	Signal	DNE		15.6	B	-
25	Brace Road/Project Driveway	TWSC	DNE		9.3	A	-
37	Brace Road/Project Driveway East	TWSC	DNE				
Project Driveway Access Option 1C							
7	Sierra College Blvd/Brace Rd	Signal	9.1	A	15.0	B	5.9
8	Sierra College Blvd/Granite Dr	Signal	22.6	C	24.8	C	2.2
21	Sierra College Blvd/Dwy South of Brace Rd	TWSC	DNE		0.1	A	-
24	Sierra College Boulevard/Project Driveway	Signal	DNE		14.1	B	-
25	Brace Road/Project Driveway	TWSC	DNE		9.2	A	-
37	Brace Road/Project Driveway East	TWSC	DNE		10.1	B	-

Notes:
AWSC: All-way stop control – The average intersection delay is reported.
TWSC: Two-way stop control - The delay reported reflects the critical movement.
DNE: Intersection does not exist under no Project conditions.
Boldface type indicates intersections performing below acceptable LOS. Refer to Table 1 for applicable operating standards.
Source: Kittelson & Associates, Inc. 2019

Table 62 of the transportation impact analysis report (Kittelson & Associates, Inc. 2019) presents the intersection and queuing mitigation measures under Existing plus Project Conditions. The same lettering and numbering used in the Kittleson transportation impact analysis report is used in this EIR section (TR MM 4, etc.).

Mitigation Measure TR MM 4: Restripe Intersection.

Restripe Taylor Road & Webb Street intersection approaches to improve LOS and intersection operations.

Mitigation Measure TR MM 6: Provide Traffic Signal.

Install traffic signals at: Sierra College Boulevard & SR-193 and at Taylor Road & Penryn Road.

Significance after Mitigation

The analysis conducted for the transportation impact analysis (Kittelson & Associates, Inc. 2019) applied mitigation measures TR MM 4 and TR MM 6 to the affected study intersections, under Existing Plus Project conditions, as shown in Table 62 of the transportation impact analysis and Table 3.7-14, below (Kittelson & Associates, Inc. 2019).

Table 3.7-14. Existing plus Project Mitigation Measures

ID	Intersection	Project Driveway Access Option(s)	Jurisdiction	Mitigation Measure	Improvement	Effects of Mitigation
26	Sierra College Boulevard & SR-193	1A, 1B, 1C	Placer	TR MM 6	Install a traffic signal.	Provides protected time (stops major street) to facilitate minor street movements
31	Taylor Road & Penryn Road (South)	1A, 1B, 1C	Placer	TR MM 6	Install a traffic signal.	Provides protected time (stops major street) to facilitate minor street movements
36	Taylor Road & Webb Street	1A, 1B, 1C	Loomis	TR MM 4	Eliminate 3 parking spaces on the north side of Webb Street and provide a 50 foot westbound right turn pocket.	Provides right turn lane, allowing these vehicles to move through intersection without waiting behind left/through vehicles

Table 3.7-15 presents a comparison of the LOS results with the proposed mitigation measures in place to Existing (no project) conditions. the mitigation measures would reduce the LOS impacts to less than significant levels at some of the impacted locations; however, significant and unavoidable impacts remain as noted. Some impacts are deemed to be **significant and unavoidable** impacts because the intersections are located outside of the Town of Loomis (lead agency) jurisdiction and the town cannot ensure the mitigation would be implemented. For this reason, it is not considered to be feasible mitigation for purposes of environmental review. The Town is working in good faith to reach an agreement with the affected agencies that would represent a fair-share contribution toward improvements based on the project's increased traffic volumes to the roadway system.

Table 3.7-15. Existing plus Project Conditions—Results of Implementing Mitigation Results

ID	Intersection	Scenario	Existing Conditions		Existing plus Project Conditions with Mitigation		Change in Delay (sec)	Impact with Mitigation?
			Delay (sec)	LOS	Delay (sec)	LOS		
Project Driveway Access Option 1A								
26	Sierra College Blvd & SR-193	PM	43.1	E	9.1	A	-34.0	Significant unavoidable*
31	Taylor Road & Penryn Road (South)	AM	233.5	F	9.3	A	-224.2	Significant unavoidable*
36	Taylor Road & Webb Street	MD	70.2	F	99.1	F	28.9	Significant unavoidable[1]
Project Driveway Access Option 1B								
26	Sierra College Blvd & SR-193	PM	Same results as Project Driveway Access Option 1A					
31	Taylor Road & Penryn Road (South)	AM	Same results as Project Driveway Access Option 1A					
36	Taylor Road & Webb Street	MD	Same results as Project Driveway Access Option 1A					
Project Driveway Access Option 1C								
26	Sierra College Blvd & SR-193	PM	Same results as Project Driveway Access Option 1A					
31	Taylor Road & Penryn Road (South)	AM	Same results as Project Driveway Access Option 1A					
36	Taylor Road & Webb Street	MD	Same results as Project Driveway Access Option 1A					

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

* The mitigation measures are outside of the lead agency jurisdiction to implement and determine feasibility; however, the measures would improve the intersection operation to less than significant levels, and therefore the agency(ies) with jurisdiction over these intersections should implement them or allow them to be implemented.

[1] Temporary impact given this impact can be mitigated with the westbound right-turn mitigation measure under Short Term and Long Term conditions. Traffic volumes projected at intersection do not meet signal traffic warrants. Note that an alternative route is available for Webb Street traffic traveling to Taylor Road by routing to the traffic signal at Taylor Road/Horseshoe Bar Road. Further, the Project does not add trips to the failing approach.

Source: Kittelson & Associates, Inc. 2019

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 transportation impact analysis (Kittelson & Associates, Inc. 2019) includes the freeway mainline LOS worksheets. Tables 3.7-16, 3.7-17, and 3.7-18 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 regardless of the Project Driveway Access Option considered (no difference in the project volumes between project driveway access options for the freeway segments

analyzed). Therefore, no significant impacts on the freeway mainline would occur under Existing plus Project conditions. This impact would be **less than significant**.

Table 3.7-16. 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	C	3,132	19.1	C	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	C	3,125	19.1	C	0.0
		WB	3,702	22.9	C	3,709	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, Inc. 2019:Table 23

Table 3.7-17. 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	4,469	26.3	D	0.5
		WB	3,803	22.5	C	3,870	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, Inc. 2019:Table 24

Table 3.7-18. 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	4,110	23.3	C	0.8
		WB	3,892	21.5	C	4,029	22.3	C	0.8
2	I-80 west of Sierra College Boulevard	EB	3,963	22.4	C	4,002	22.6	C	0.2
		WB	3,812	21.1	C	3,850	21.3	C	0.2

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, Inc. 2019: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 3.7.1.4, "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. Appendix C to the transportation impact analysis (Kittelson & Associates, Inc. 2019) includes the queuing worksheets. Existing plus Project conditions for all of the Project Driveway Access Options, one or more 95th percentile queues would extend beyond the available storage lengths at the following intersections:

Project Driveway Access Option 1A

- Taylor Road & King Road (AM, PM, and MD)
- Taylor Road & Horseshoe Bar Road (AM, PM, and MD)
- Horseshoe Bar Road & I-80 Westbound Ramp (AM, PM, and MD)
- Sierra College Boulevard & Taylor Road (PM)
- Sierra College Boulevard & Granite Drive (AM and PM)
- Sierra College Boulevard & I-80 WB Ramps (PM and MD)
- Sierra College Boulevard & Rocklin Road (AM and PM)
- Pacific Street & Rocklin Road (AM, PM, and MD)
- Granite Drive & Rocklin Road (AM, PM, and MD)
- I-80 Westbound Ramps & Rocklin Road (PM)
- I-80 Eastbound Ramps & Rocklin Road (AM and PM)
- El Don Drive & Rocklin Road (AM and PM)
- Taylor Road & English Colony Way (AM and MD)
- Taylor Road & Del Oro High School Drop Off (AM)
- Taylor Road & Del Oro High School South Lot (AM)

In addition, the queues reported at the above locations would affect operations at the upstream locations as shown:

- The northbound through at Sierra College Boulevard & Taylor Road would affect operations at Sierra College Boulevard & Brace Road (PM)
- The southbound through at Sierra College Boulevard & I-80 WB Ramps would affect operations at Sierra College Boulevard & Granite Drive (PM and MD)
- The westbound through at I-80 Eastbound Ramps & Rocklin Road would affect operations at Aguilar Road & Rocklin Road (PM)

Based on the intersection queuing significant impact criteria presented previously (Project traffic causes queue overflow or if queues overflows under no Project, the Project contributes 5 percent of the total traffic for the movement), an intersection queue significant impact occurs at the following intersections under Project Driveway Access Option 1A:

- Taylor Road & King Road (MD)
- Sierra College Boulevard & Granite Drive (PM)
- Sierra College Boulevard & I-80 WB Ramps (PM and MD)
- Granite Drive & Rocklin Road (MD)

Project Driveway Access Options 1B and 1C

As previously explained, Project Driveway Access Options 1B and 1C would affect operations of study intersections 7, 8, 21, 24, 25, and 37 due to driveway trip routing. All other study intersections would operate the same under Project Driveway Access Options 1B and 1C as they would under Project Driveway Access Option 1A. Of the six affected intersections, one or more 95th percentile queues would extend beyond the available storage lengths at the following intersections (for those intersections affected by the driveway options):

- Sierra College Boulevard & Brace Road (AM, PM, and MD)
- Sierra College Boulevard & Granite Drive (AM, PM, and MD)

In addition, the queues reported at the above locations would affect operations at the upstream locations, as shown (for those intersections affected by the driveway options):

- The northbound through at Sierra College Boulevard & Taylor Road would affect operations at Sierra College Boulevard & Brace Road (PM)
- The southbound through at Sierra College Boulevard & I-80 WB Ramps would affect operations at Sierra College Boulevard & Granite Drive (PM and MD)

Based on the intersection queuing significant impact criteria presented previously (Project traffic causes queue overflow or if queues overflows under no Project, the Project contributes 5% of the total traffic for the movement), an intersection queue significant impact occurs at the following affected study area intersections:

- Sierra College Boulevard & Brace Road (PM and MD)[7]
- Sierra College Boulevard & Granite Drive (AM, PM, and MD)

Therefore, at the above study intersections, this impact would be **significant.** Table 62 of the transportation impact analysis (Kittelson & Associates, Inc. 2019) and Table 3.7-19, below, presents the queuing mitigation measures under Existing plus Project Conditions that would be implemented to reduce the queues at these locations to less-than-significant levels. (Please note: the same mitigation measure lettering and numbering is used in this section as in the traffic impact analysis).

Mitigation Measure TR MM 1: Modify Signal Timing.

Modify signal timing (to optimize cycle length and/or splits) at the intersections of Taylor Road & King Road, Sierra College Boulevard & Brace Road, Sierra College Boulevard & Granite Drive, Sierra College Boulevard & I-80 westbound ramps, and Granite Drive & Rocklin Road to improve LOS and intersection operations.

Mitigation Measure TR MM 4: Restripe Intersection.

Restripe Sierra College Boulevard & Brace Road and Sierra College Boulevard & Granite Drive intersection approaches to improve LOS and intersection operations.

[7] Weekday PM and Weekend Midday peak hour impacted for Project Driveway Access Option 1B only.

Table 3.7-19. Existing plus Project Mitigation Measures

ID	Intersection	Project Driveway Access Option(s)	Jurisdiction	Mitigation Measure	Specific Actions Recommended	Effects of Mitigation
1	Taylor Road & King Road	1A, 1B, 1C	Loomis	TR MM 1	Provide optimized cycle length with optimized splits based on current demand	Assigns green time to the highest demand movements allowing more vehicles to travel through the intersection
7	Sierra College Boulevard & Brace Road	1B	Loomis	TR MM 1 & 4	Restripe the westbound right lane to a shared westbound left-right lane. Optimize cycle length and splits)	Provides additional left turn lane, allowing more vehicles to turn left during each signal phase
8	Sierra College Boulevard & Granite Dr	1A	Rocklin	TR MM 1 & 4	Restripe northbound right turn lane to shared through-right lane. Optimize cycle length with optimized splits based on current demand.	Provides additional through lane, allowing more vehicles to travel through the intersection
8	Sierra College Boulevard & Granite Dr	1B, 1C	Rocklin	TR MM 1 & 4	Restripe westbound through lane to left turn and restripe westbound right turn lane to a shared through-right lane. Optimize cycle length with optimized splits based on current demand.	Provides additional left turn lane, allowing more vehicles to turn left during each signal phase
9	Sierra College Boulevard & I-80 Westbound Ramps	1A, 1B, 1C	Caltrans	TR MM 1	Provide optimized cycle length with optimized splits based on current demand	Assigns green time to the highest demand movements allowing more vehicles to travel through the intersection
17	Granite Drive & Rocklin Road	1A, 1B, 1C	Rocklin	TR MM 1	Provide optimized cycle length with optimized splits based on current demand	Assigns green time to the highest demand movements allowing more vehicles to travel through the intersection

Significance after Mitigation

Mitigation Measures listed in Table 62 of the transportation impact analysis (Kittelson & Associates, Inc. 2019) and Table 3.7-19, above, require modification of signal timing to optimize cycle length and/or splits at the affected study intersections. Table 3.7-20 presents a comparison of the queuing results to Existing (no project) conditions with the adoption of the mitigation measures.

As shown, implementing mitigation measures listed in Table 62 of the transportation impact analysis (Kittelson & Associates, Inc. 2019) would reduce the queuing impact at study intersections 1 and 7, Taylor Road & King Road and Sierra College Boulevard & Brace Road to a **less-than-significant** level.

In conjunction with site development, Costco would provide right-of-way dedications and widen Sierra College Boulevard along the project site frontage to provide a third northbound travel lane between Granite Drive and Brace Road. Separate northbound right-turn lanes would be constructed on Sierra College Boulevard at the new signalized Costco access and at Brace Road. The new signalized entry on Sierra College Boulevard would be designed to accommodate a potential fourth approach to serve future Rocklin development on the vacant lot across Sierra College Boulevard to the west. For Project Driveway Access Options 1B and 1C, Costco will also reconfigure Granite Drive east of Sierra College Boulevard to provide side-by-side eastbound and westbound left-turn lanes on Granite Drive (separated by a raised median) between Sierra College Boulevard and the new north-south drive aisle connecting to the project site.

In addition to the recommended improvements to be constructed by Costco described above, the Town of Loomis will be separately completing widening of Sierra College Boulevard to three lanes northbound and three lanes southbound between Brace Road and Taylor Road as part of a funded Capital Improvement Plan project. The Sierra College Boulevard widening by the Town north of Brace Road is expected to be completed prior to opening of the Costco.

Table 3.7-20. Significance after Mitigation

ID	Intersection	Jurisdiction	Peak Hour	Movement	Storage (feet)	No Project Queue (feet)	Mitigated Queue (feet)	Impact with mitigation?
Project Driveway Access Option 1A								
1	Taylor Road & King Road	Loomis	MD	WBL	95	133	126	Less than significant
8	Sierra College Boulevard & Granite Drive	Rocklin	PM	NBT	370	325	245	Significant unavoidable*
				SBT	495	427	443	Significant unavoidable*
				EBL	185	217	183	Significant unavoidable*
9	Sierra College Boulevard & I-80 WB Ramps	Caltrans	PM	SBT	370	378	365	Significant unavoidable*
			MD	SBT	370	268	361	Significant unavoidable*
17	Granite Drive & Rocklin Road	Rocklin	MD	EBL	225	294	211	Significant unavoidable*
Project Driveway Access Option 1B								
1	Taylor Road & King Road	Loomis	MD	WBL	95	Same results as Project Driveway Access Option A		
7	Sierra College Boulevard & Brace Road	Loomis	PM	WBL	100	92	72	Less than significant
			MD	WBL	100	79	62	Less than significant
8	Sierra College Boulevard & Granite Drive	Rocklin	AM	WBL	160	122	84	Significant unavoidable*
			PM	WBL	160	153	73	Significant unavoidable*
			MD	WBL	160	130	82	Significant unavoidable*
9	Sierra College Boulevard & I-80 WB Ramps	Caltrans	PM	SBT	370	Same results as Project Driveway Access Option 1A		
			MD	SBT	370	Same results as Project Driveway Access Option 1A		
17	Granite Drive & Rocklin Road	Rocklin	MD	EBL	225	Same results as Project Driveway Access Option 1A		
Project Driveway Access Option 1C								
1	Taylor Road & King Road	Loomis	MD	WBL	95	Same results as Project Driveway Access Option 1A		
8	Sierra College Boulevard & Granite Drive	Rocklin	AM	WBL	160	Same results as Project Driveway Access Option 1B		
			PM	WBL	160	Same results as Project Driveway Access Option 1B		
			MD	WBL	160	Same results as Project Driveway Access Option 1B		
9	Sierra College Boulevard & I-80 WB Ramps	Caltrans	PM	SBT	370	Same results as Project Driveway Access Option 1A		
			MD	SBT	370	Same results as Project Driveway Access Option 1A		
17	Granite Drive & Rocklin Road	Rocklin	MD	EBL	225	Same results as Project Driveway Access Option 1A		

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, Inc. 2019

However, study intersections 8 Sierra College Boulevard & Granite Drive, 9 Sierra College Boulevard & I-80 WB Ramps, and 17 Granite Drive & Rocklin Road are outside the jurisdiction of the Town of Loomis, and within the

jurisdictions of the City of Rocklin and Caltrans. 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 Table 62 of the transportation impact analysis (Kittelson & Associates, Inc. 2019) are not part of a capital improvement program (CIP) nor are they programmed in regional transportation plans, except that the Taylor Road and Penryn Road traffic signal is in the Placer County CIP and the Sierra College Boulevard and SR 193 traffic signal is programmed by SPRTA, to be funded by private developers. 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 Sierra College Boulevard & Granite Drive, 9 Sierra College Boulevard & I-80 WB Ramps, and 17 Granite Drive & Rocklin Road. Therefore, the Town must assume that, at the time of project approval, impacts at the three 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****.*

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 3.7-4 presented below, following the operational impact discussion, would be implemented to reduce this construction impact.

Operational Impacts

The proposed site plan provides access to the site at three locations including a new signalized intersection on Sierra College Boulevard, a right-in/right-out only driveway located on Brace Road, and a full movement driveway located further east on Brace Road. Primary access to the project site would be provided by a signalized driveway on Sierra College Boulevard approximately 625 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. Costco fueling station delivery vehicles would enter and exit the Project site at the proposed new Project signalized intersection on Sierra College Boulevard. A secondary limited right-in/right-out driveway would be located along Brace Road approximately 215 feet from Sierra College Boulevard under all three options. The right-in/right-out only Brace Road driveway would also serve entering warehouse delivery trucks. Warehouse deliver trucks would exit the site at the new Project signalized intersection on Sierra College Boulevard. Under Project Driveway Access Options 1B and 1C, a third access driveway would connect to Granite Drive, and would serve as the primary exit for fueling station deliveries. Project Driveway Access Options 1A and 1C would also include an unsignalized full access driveway on Brace Road located approximately 675 feet east of Sierra College Boulevard.The transportation impact analysis for the proposed project (prepared by Kittelson & Associates, Inc., in October 2019), 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 implemented to avoid safety issues.

The proposed Costco warehouse fueling station area would initially provide five islands (10 fueling aisles) with four fueling positions each, offering a total of 20 fueling positions where vehicles can simultaneously purchase fuel. The site plan is expandable, adding a third row of fuel dispensers that would result in a total of 30 fueling positions.

Based on the current site plan, the queueing area beyond the pumps extending toward the primary entry aisle from Sierra College Boulevard measures approximately 80 feet, assuming all 30 fuel dispensers are in operation.

Vehicular queuing data have been collected at other representative Costco fueling station sites to provide reliable information regarding the anticipated queues for the proposed facility. For this analysis, Costco fueling station

queuing data collected in 2016 and 2017 were gathered from five Costco sites, each with 22 or more fueling dispensers.

Table 14 of the transportation impact analysis (Kittelson & Associates, Inc. 2019) 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 30-fueling position configuration proposed at Loomis and assuming each queued vehicle occupies 25 feet, each lane leading to a fueling position can store up to three vehicles (75 feet) without impacting the primary entry aisle from Sierra College Boulevard (not counting the vehicles at the fuel pump position). With ten fueling aisles each holding three vehicles, the queue storage area between the fuel pumps and primary entry aisle from Sierra College Boulevard can accommodate at least 30 vehicles before affecting operations at the drive aisle. The 30 available spaces would be in excess of the average 95th percentile queue observed at the five fueling station sites (25 vehicles). In addition, the five sites studied were limited to fewer fueling positions (24 vs. 30). Queues at the proposed project site should be shorter given the ability to fuel more vehicles simultaneously at the project site.

Figure 15 of the transportation impact analysis (Kittelson & Associates, Inc. 2019) illustrates the available queue storage area and the projected queues for the fueling station. As shown in the figure, the proposed 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.

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 fueling station sites; therefore, the operation of the proposed project would provide adequate emergency access. This operational impact would be **less than significant**.

Mitigation Measure 3.7-4: 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 diagrams showing areas where the public right-of-way will be closed or obstructed and where the placement of traffic control devices will be necessary to perform the work;
- show the phases of traffic control and criteria for use of traffic control measures;
- preserve safe and convenient passage for bicyclists and pedestrians through/around construction areas;
- preserve emergency vehicle access;
- provide a point of contact for area residents to obtain construction information; 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 in traffic control plans should include, but would not be limited to 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 3.7-4 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. Pedestrian crosswalks would be provided at proposed new signalized Costco site access intersection on Sierra College Boulevard – an intersection that is ideally located for pedestrian safety relative to other intersection locations. The project would reconstruct the Type II bicycle facility on Sierra College Boulevard northbound along the site frontage, including providing separate northbound right-turn lanes at the proposed signalized Project access and at Brace Road. 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 Project site would not be in conflict with applicable Town pedestrian and bicycle plans for any of the Project Driveway Access Options considered. The impact of the proposed project on pedestrian and bicycle facilities would be **less than significant** for all Project Driveway Access Options considered.

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** for all Project Driveway Access Options considered.

3.7.6 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. Mitigation measures were evaluated to reduce the Project impacts to less than significant levels under CEQA. Table 62 of the Traffic Study prepared by Kittelson & Associates, Inc, presents the intersection and queuing mitigation measures under Existing plus Project Conditions. The proposed mitigation measures were applied to the study intersections to evaluate LOS and queuing effects. Table 63 of the Traffic Study prepared by Kittelson & Associates, Inc, presents the LOS results in comparison to no Project conditions and Table 64 of the Traffic Study prepared by Kittelson & Associates, Inc, outlines the corresponding queueing results. The mitigation measures would reduce the LOS and queue impacts to less than significant levels at some of the impacted locations; however, significant and unavoidable impacts remain as noted. Impacts 3.7-1 and 3.7-3 would be **significant and unavoidable** impacts because facilities requiring improvement are outside of the jurisdiction of the Town of Loomis (lead agency).

Construction of the proposed project could require temporary lane or street closures or detours, which could affect emergency access. With respect to emergency access, 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 3.7-4 would reduce Impact 3.7-4 to a **less-than-significant** level.