4. Cumulative Impacts

4.1 Introduction

Sections 15126 and 15130 of the State CEQA Guidelines provide that EIRs consider the significant environmental effects of a proposed project as well as cumulative impacts. “Cumulative impacts” are two or more individual effects which, when considered together, are considerable or which compound and increase other environmental impacts (State CEQA Guidelines Section 15355). Cumulative impacts may be analyzed by considering a list of past, present, and possible future projects producing related or cumulative impacts (State CEQA Guidelines Section 15130[b][1][A]) or through a summary of projections adopted in a local, regional, or statewide plan (State CEQA Guidelines Section 15130[B]).

An EIR is to focus the discussion on the cumulative impacts of a project when the project’s incremental effect is cumulatively considerable (State CEQA Guidelines Section 15130). “Cumulatively considerable” means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects (State CEQA Guidelines Section 15065[a][3]).

As set forth in the State CEQA Guidelines (Section 15130[b]), the discussion of cumulative impacts must reflect the severity of the impacts, as well as the likelihood of their occurrence; however, the discussion need not be as detailed as the discussion of environmental impacts attributable to the project alone. The analysis should be guided by the standards of practicality and reasonableness, and it should focus on the cumulative impacts to which the other identified projects contribute to the cumulative impact. “The mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project’s incremental effects are cumulatively considerable.”

Based on the foregoing direction, the analysis in this DEIR chapter provides:

- a list of related past, present, and future projects;
- long-range demographic forecasts based on adopted regional plans;
- a determination of whether the long-term impacts of all related past, present, and future plans and projects would cause a cumulatively significant impact; and
- a determination as to whether implementation of the proposed project would have a “cumulatively considerable” contribution to any significant cumulative impact. (See State CEQA Guidelines Sections 15130[a] and 15130[b], 15355[b], 15064[h], and 15065[c].)

4.2 Cumulative Context

4.2.1 Regional Growth

The Sacramento Area Council of Governments (SACOG) has developed a regional plan for growth known as the Metropolitan Transportation Plan (MTP)/Sustainable Communities Strategy (SCS). The MTP/SCS includes a land use strategy to improve mobility and reduce travel demand from passenger vehicles by prioritizing compact and transit-oriented development, reducing the growth in vehicle miles traveled (VMT) and associated greenhouse gas (GHG) emissions. The MTP/SCS is based on projections of growth in the region, between jurisdictions and among housing place types (i.e., infill and greenfield development). The document serves as the adopted regional plan that provides a summary of projections based on which certain cumulative impacts are considered later in this chapter.

The Town of Loomis is located in rapidly growing southwest Placer County, which is home to the cities of Rocklin and Roseville. The *Town of Loomis General Plan* (General Plan) aims to maintain the town’s rural character by directing growth into the Town Center. Demographic forecasts in the MTP/SCS predict that Loomis will expand by 1,629 new employees and 779 new housing units by 2036. The MTP/SCS recognizes that this growth will occur as infill

development in the Town Center area and places the designation of Center and Corridor Community on this planning area. The MTP/SCS forms the basis for a comparison of cumulative project impacts with regional plans.

4.2.2 Approved, Pending, and Planned Projects

A list of related past, present, and reasonably foreseeable future projects used for certain portions of the cumulative impact analysis includes development projects that have been constructed, are approved for construction, or are pending a decision by the Town of Loomis and neighboring jurisdictions. The related projects identified in Table 4-1 correspond with the numbers that appear on the map in Figure 4-1.

Table 4-1. Approved and Pending Projects

Map Key	Project Name	Location	Dwelling Units	Commercial/Office Area (sq. ft.)
1	Rocklin Crossings	Shopping center I-80/Sierra College Boulevard	NA	83,000
2	Rocklin Commons	Shopping center I-80/Sierra College Boulevard	NA	120,000
3	Garnet Creek	Granite Drive opposite Target	81 single-family du 260 apartments	–
4	Granite Dominguez Subdivision	Granite Drive west of Dominguez Road	71 du	–
5	Los Cerros Subdivision	On ridge along Hillside Drive	115 du	–
6	Brighton Subdivision	Northeast corner of Granite Drive and Dominguez Road	72 du	–
7	Rocklin 60	Behind Rocklin Crossings along Schriber Way	179 du	–
8	Croftwood	East of Schriber Way	51 du	–
9	Granite Terrace	Behind Rocklin Library	42 du	–
10	Avalon Subdivision	On Rocklin Road east of Grove Street	76 du	–
11	Sierra Gateway Apartments	Southeast corner of Rocklin Road/Sierra College Boulevard	195 apartments	–
12	Clover Valley Residential	West of Sierra College Boulevard and east of Whitney Oaks	558 du	–
13	Parklands Subdivision	North of Pacific Street and west of Delmar Avenue	142 du	–
14	The Center at Secret Ravine	East of Sierra College Boulevard and south of Rocklin Crossings	–	16,000
15	Rocklin Gateway Apartment	North of Pacific Street and east of Midas Avenue	204 apartments	–
16	Quarry Row Subdivision	Southeast corner of Grove and Pacific Streets	64 du	–
17	Sierra Pine Subdivision	West side of Dominguez Road between Pacific Street and Granite Drive	199 du	-
18	Rocklin Station	West side of Sierra College Boulevard south of the I-80/Sierra College Boulevard interchange	–	33,000
19	Oak Vista Subdivision	Southwestern corner of Makabe Lane and Dias Lane, adjacent on one boundary to the eastern limits of the City of Rocklin	63 du	–
20	Croftwood 2	West side of Barton Road at the terminus of Lakepointe Drive	63 du	–
21	Sierra Villages North (SCB Site)	North Village: Northeast corner of Rocklin Road/Sierra College Boulevard (72 +/- acres)	349 du 14.8-acre park	15.9 acres mixed use
22	Sierra Villages South (Rocklin Road)	South Village: Southeast corner of Rocklin Road/ El Don Drive (36+/- acres)	37 du 16.4-acre park	11.7 acres mixed use
23	Village at Loomis	Generally located at the corner of Horseshoe Bar Road and Library Drive	416 du 9.68 acres active and passive parks including trail	4.9 acres commercial 0.75 Mixed Use
24	The Grove	West of Humphrey Road between King Road and Arcadia Avenue	22 du	NA
25	Flying Change Farms	James Drive accessed from Rocklin Road	NA	40 stall Horse Boarding/ Equestrian Center

Notes: du = dwelling units; I-80 = Interstate 80; NA = not applicable; sq. ft. = square feet

Source: Kittelson & Associates 2018

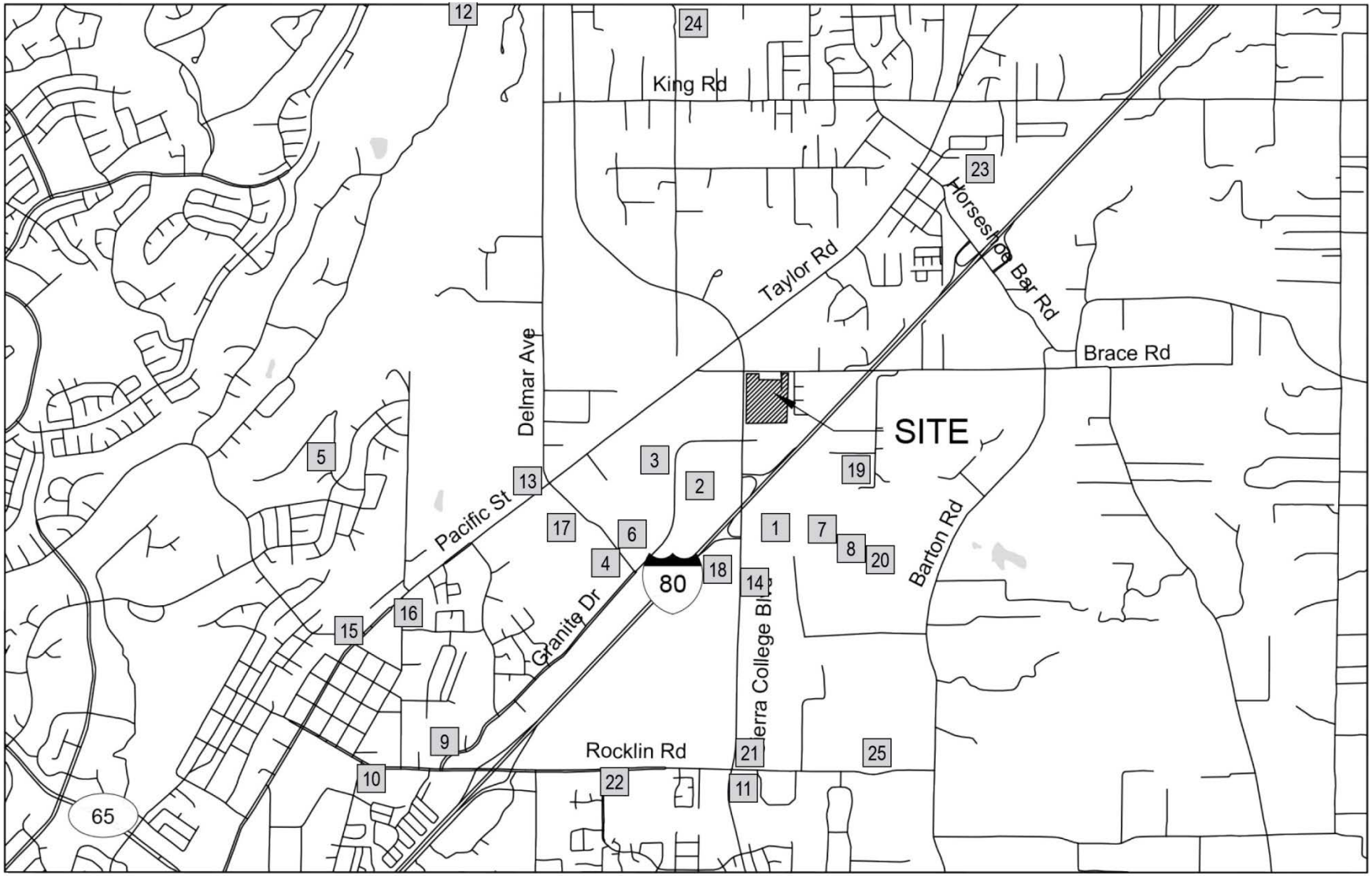

Figure 4-1. Cumulative Projects

4.2.3 Scope of the Cumulative Impact Analysis

The geographic boundary considered in the environmental analysis varies depending on the type of issue considered. For instance, impacts related to air quality and GHG emissions would be regional because the emissions from construction and operation of the proposed project would not be restricted to the project site boundaries. Consequently, the cumulative impact analysis considers environmental impacts within the air basin.

The discussion of cumulative traffic impacts also includes a regional component because the analysis must consider land use plans from surrounding agencies that could generate traffic that would travel along roadway segments and through intersections in the Town of Loomis. In other cases, impacts (e.g., unstable soils, exposure to a stationary noise source) would be limited to a specific site. Table 4-2 presents the typical geographic areas associated with the environmental topics addressed in this EIR.

Table 4-2. Geographic Scope of Cumulative Impacts

Issue Area	Geographic Area
Aesthetics	Viewshed of the project site
Air Quality	Sacramento Valley Air Basin
Biological Resources	Town of Loomis and watershed boundaries
Greenhouse Gases and Energy	Global impact with emissions levels and rates established at the statewide level
Noise	Studied roadway segments and adjacent land uses exposed to project noise
Transportation and Traffic	Roadways and intersections affected by project traffic

Source: Data compiled by AECOM in 2017

4.3 Analysis of Cumulative Impacts

4.3.1 Aesthetics

IMPACT 4.3-1: Cumulative Impacts on Aesthetics. *Twenty-five development projects are proposed within the Loomis town limits and adjacent jurisdictions. The physical removal or alteration of trees or rock outcroppings or the disruption of scenic views within the visual landscape, and the introduction of new structures where none presently exist, are circumstances that may combine to form cumulative impacts. The project's contribution to visual changes are not* ***cumulatively considerable****. .*

Cumulative impacts on aesthetics may result when multiple projects are located within the same viewshed or are contiguous to one another and affect mutually shared landscape elements such as topography, hedgerows, woodland, or greenbelts. For example, trees may be physically removed from or altered within the landscape, or new elements or features such as roads and utility transmission lines may be added to the landscape where none presently exist. In the case of the proposed project, cumulative development found within the project's viewshed includes Rocklin Crossings shopping center (project 1), Rocklin Commons shopping center (project 2), and the Garnet Creek residential development (project 3). Rocklin Crossing and Rocklin Commons are existing commercial centers found at the interchange of Sierra College Boulevard with Interstate 80 (I-80), while Garnet Creek is a residential development containing a mix of single-family homes and apartments.

The General Plan guides the pattern of development and intensity of land uses. The Town of Loomis addresses the regulation of land use and density of development through the General Plan's land use designations and zoning code. The General Plan includes a Community Design and Character Element that provides goals, policies, and design guidelines to help retain and enhance the unique character of both the urbanized and predominantly rural areas of Loomis. As noted in the Town's General Plan EIR (Town of Loomis 2001b), development in the Town would incrementally alter the small-town character of the community, converting it to a more urban environment. However, the General Plan places similar types of land uses adjacent to each other and retains a large proportion of rural residential land. These factors were found to limit the effect of ongoing development such that "development would not fundamentally alter the small

town character of the Town" (Town of Loomis 2001b). Therefore, cumulative impacts to the community character, including visual character, are expected to be less than significant and there is no significant cumulative impact to which the project could contribute.

The project site is located in the Town Center planning area, characterized as the town's primary commercial corridor. As described in Section 3.2, Aesthetics, the density of development in the project area is high and the pattern of development is regional commercial in nature similar to the proposed project. The building height, building mass and parking field coverage of the proposed project is similar to that of the existing Rocklin Crossings and Rocklin Commons shopping centers within the viewshed of the proposed project. Similarly, the project is visually compatible with the Garnet Creek development that includes a multi-story apartment building containing 260 units. All development is subject to Town design standards that regulate building height, mass, site coverage, and landscape requirements. Compliance with these existing standards ensures that development is planned and constructed in a manner consistent with the visual character of the Town and avoid adverse aesthetic impacts. The proposed project would not create an unavoidable significant visual impact and the three cumulative projects are compatible with the scenic character of the area. Project impacts are not cumulatively considerable and no cumulative impact is associated with the visual interaction of these projects.

4.3.2 Air Quality

IMPACT 4.3-2: Result in a Cumulatively Considerable Net Increase in a Criteria Pollutant for which the Region is Nonattainment under an Applicable Federal or State Ambient Air Quality Standard. *Ongoing development and operation of new land uses would generate additional emissions of ozone precursors (volatile organic compounds [VOCs] and oxides of nitrogen [NO_X]) and particulate matter, which may adversely affect the ability of the region to achieve attainment with the applicable air quality standards. The project's contribution to this impact would not be* ***cumulatively*** *considerable.*

Because of its nonattainment status relative to the federal and state ozone standards, the geographic scope of the area for the proposed project's cumulative impact analysis includes the areas within the Sacramento Federal Nonattainment Area (SFNA) for ozone. The SFNA includes Sacramento and Yolo Counties, parts of Solano and Sutter Counties, and Placer and El Dorado Counties (except the Lake Tahoe Air Basin). The SFNA is in nonattainment for ozone and particulate matter. Ongoing development and operation of new land uses would generate additional emissions of ozone precursors (VOCs and NO_X) and particulate matter, which may adversely affect the region's ability to achieve attainment with the applicable air quality standards representing a significant cumulative impact.

As discussed in Section 3.3.2, "Regulatory Setting," in Section 3.3, "Air Quality," regional air quality plans have been prepared to identify strategies to achieve attainment of the ambient air quality standards. New development in the SFNA that would result in greater air pollutant emissions than assumed in regional air quality plans could contribute to cumulative air quality impacts. Development of the project site with primarily commercial uses was assumed in regional air quality planning, so air emissions are accounted for in growth projections that form the basis for attainment plans.

In October 2017, Placer County Air Pollution Control District (PCAPCD) held a public hearing to consider, and ultimately adopted, the *Sacramento Regional 2008 National Ambient Air Quality Standard 8-Hour Ozone Attainment and Reasonable Further Progress Plan* (Attainment and Progress Plan). The Attainment and Progress Plan geographically covers the SFNA, which includes all of Sacramento and Yolo counties, and portions of Placer, El Dorado, Solano, and Sutter counties. The project site is located in the portion of Placer County that lies within the SFNA. The Attainment and Progress Plan documents how the region is meeting requirements under the federal Clean Air Act (CAA) in demonstrating reasonable further progress and attainment of the 2008 NAAQS (PCAPCD 2017a).

Despite the progress made towards attainment, in accordance with Placer County Air Pollution Control District (PCAPCD) guidance, the contribution of a project with emissions of reactive organic gases or NO_X in excess of 55 pounds per day (lb/day) or PM_{10} in excess of 82 lb/day would represent a cumulatively considerable contribution to a significant impact. The project's contribution to the cumulative impact is assessed below.

Construction

As shown in Table 3.3-4, daily emissions generated by any single phase of project construction would not exceed the PCAPCD-recommended thresholds of significance. Additionally, PCAPCD recommends that all construction projects

implement dust control requirements, in accordance with PCAPCD Rule 228. Because the project construction emissions are below thresholds, project construction related activity would not generate criteria air pollutants at a level that inhibits the ability to achieve attainment of air quality standards.

Operation

As shown in Table 3.3-5, the project's VOC emissions would be 31 lb/day, NO_X emissions would be 182 lb/day, and PM_{10} emissions would be 71 lb/day. These NO_X emissions would exceed PCACPD's threshold of significance and would make a cumulatively considerable contribution to a significant cumulative impact in the absence of a reduction in vehicle miles traveled.

However, as described in detail in the traffic impact study (Appendix E), the proposed warehouse and fueling center would be located approximately 5 miles from an existing Costco Wholesale warehouse and fueling center in the city of Roseville. Given the proximity of the existing warehouse, the proposed Loomis warehouse is expected to capture existing trips from consumers who otherwise would shop at the Roseville Costco warehouse. Members using the existing Roseville Costco warehouse who would switch to the proposed Loomis warehouse based on location and convenience would ultimately drive an average of 5 fewer miles per trip. The vehicle miles traveled (VMT) analysis in the traffic impact study (Appendix E) determined that this per-trip reduction would result in an overall reduction of VMT for the region estimated at 46,000 miles daily during the weekday[1]. The emissions estimates presented in Table 3.3-5 present emissions only for assumed new trips and do not take into consideration the reduction in VMT that would result from the proposed project. More than 99 percent of the estimated NO_X emissions are attributable to mobile-source operations; therefore, assuming a net decrease in VMT, and therefore mobile-source emissions, rather than a net increase as presented in Table 3.3-5, project operation would create a net decrease in mobile-source emissions. Thus, when accounting for the net reduction in VMT, operational NO_X emissions would not exceed PCAPCD's cumulative threshold of 55 lb/day. Therefore, the proposed project would not result in a cumulatively considerable contribution to a cumulative impact.

Direct emissions of $PM_{2.5}$ in the Sacramento metropolitan area decreased between 2000 and 2010, but are projected to increase very slightly through 2035. Similarly, emissions of diesel PM (DPM) decreased from 2000 through 2010 because of reduced exhaust emissions from diesel mobile sources; these emissions are anticipated to continue to decline through 2035 (ARB 2013). As described in Section 3.3 (Air Quality) of the Draft EIR, emissions of PM generated during construction and operation of the project would not exceed the PCAPCD cumulative thresholds for either daily or operational emissions. Therefore, the project would not impede attainment of the ambient air quality standards for PM and the project contribution is less than cumulatively considerable.

IMPACT 4.3-3: Result in Cumulatively Considerable Contribution to Human Health Risk Through Exposure of Sensitive Receptors to Toxic Air Contaminants. *Ongoing development and operation of certain land uses including fueling stations would generate emissions of toxic air contaminants. Exposure of sensitive receptors to TACs could represent a health risk. The project's contribution to this impact would not be* ***cumulatively*** *considerable.*

Land uses near the project site include several fueling stations such as a Chevron station immediately south of the site and an Arco station to the southwest opposite Sierra College Boulevard. All fueling stations in the Town are subject to regulation by the PCAPCD and CARB to ensure the risk to human health is below threshold levels. The PCAPCD authority to construct process requires preparation of a health risk assessment that must show operation of a fueling station would not result in exceedance of the risk threshold of 10 in one million prior to issuing an Authority to Construct. As part of this process annual monitoring and reporting is required to ensure the risk remains below threshold levels. Further, CARB-certified Phase I and Phase II vapor recovery systems are required for all fueling stations. Vapor recovery systems collect gasoline vapors that would otherwise escape into the air during bulk fuel delivery (Phase I) or fuel storage and vehicle refueling (Phase II). Additionally, CARB requires fuel storage tanks to be equipped with a permanent submerged fill pipe tank that prevents the escape of gasoline vapors. The air quality analysis contained in Section 3.3 (Air Quality) identified project specific measures to reduce the potential health risk by requiring the applicant to reduce throughput of gasoline at the fueling station in the event annual monitoring determines the risk to health exceeds the threshold. Application of these regulations ensures that the project contribution to a health risk is not cumulatively considerable.

[1] Additional trips associated with new patrons of Costco that are induced based on the proximity of the warehouse to their residence would likely occur within the Town of Loomis and City of Rocklin. Consequently, these trips would not substantially influence VMT calculations given their proximity to the new warehouse.

IMPACT 4.3-4: Result in cumulatively Considerable Contribution to Odor Related Impacts. *Ongoing development and operation of bakery and fast food restaurants would generate odors that some may consider to be a nuisance. The project's contribution to this impact would not be **cumulatively** considerable.*

Land uses near the site include a McDonalds and Carl's Jr. fast food restaurants, both located immediately to the south of the project. The project itself includes food service preparation and sales that may generate odors. All restaurants must comply with state regulations associated with cooking equipment and controls, including the use of grease filtration and removal systems, exhaust hood systems, blowers to move air into the hood, through air cleaning equipment, and then outdoors. Such equipment would ensure that pollutants associated with smoke and exhaust from cooking surfaces would be captured and filtered prior to release into the atmosphere. Application of these regulations ensures that the project contribution to any odor related impact is not cumulatively considerable.

4.3.3 Biological Resources

IMPACT 4.3-5: Cumulative Impacts on Biological Resources. *According to the 2001 Loomis General Plan EIR, buildout of land uses under the Land Use Element of the General Plan would result in a significant cumulative impact on habitat for common and special-status species (Town of Loomis 2001a). The loss of oak woodlands on the project site would represent a **cumulatively** considerable contribution to the loss of natural habitat.*

As described previously, construction and operation of the proposed project would result in the loss of habitat that provides foraging and nesting value, and in the loss of sensitive natural communities. The project site also provides habitat for a variety of small mammals, reptiles, and some bird species. In addition, the proposed project would result in the loss of woodland and riparian habitat and associated effects on special-status wildlife species.

Construction of the approved and proposed projects listed in Table 4-1, permitted by the General Plan, would combine with related project impacts to form a cumulative impact on natural resources. Each project would be subject to the Town's policies for conservation and protection of natural resources. Those policies include development standards intended to avoid or minimize direct impacts where feasible and call for mitigation in the form of restoration or replacement when impacts on such resources cannot be avoided. If each future project were to comply with the General Plan policies pertaining to natural resources, the impacts of each project on its own could be avoided. As described in Chapter VII, "Conservation of Resources," of the General Plan, the majority of the habitat of high ecological value in Loomis is located in areas designated for developed land use types, as opposed to protected open space or parklands (Town of Loomis 2001b). The project site represents one of the largest undeveloped tracts in the town, and the loss of oak woodland habitat and riparian resources would contribute to the cumulative loss of natural habitats.

Implementing project Mitigation Measures Bio-1 through Bio-7 would reduce and/or provide compensation for the direct impacts on sensitive habitats and special-status species found on the project site, resulting in a less-than-significant project impact. However, the proposed project, in conjunction with buildout of the General Plan, would contribute to the permanent loss of habitat in Loomis. The loss of this habitat would represent a cumulatively considerable contribution to the impact caused by General Plan buildout; therefore, this impact would be **significant and unavoidable** consistent with the findings of the General Plan EIR.

4.3.4 Greenhouse Gases and Energy

IMPACT 4.3-6: Cumulative Greenhouse Gas Impacts. *Emissions of GHGs have the potential to adversely affect the environment because such emissions contribute cumulatively to global climate change. It is unlikely that a single project will contribute significantly to climate change, but cumulative emissions from many projects could affect global GHG concentrations and the climate system, which is considered a significant cumulative effect. However, as discussed in Section 3.7 (Traffic) of this DEIR project operation would reduce total vehicle miles traveled compared to existing conditions; resulting in a reduction of GHG emissions compared to current conditions. Therefore, the project contribution to the significant cumulative effect is not cumulatively considerable.*

Greenhouse Gases

An individual project of this size and nature is of insufficient magnitude by itself to influence climate change or result in a substantial contribution to the global GHG inventory. GHG impacts are cumulative in nature. The additive effect of project-related GHGs would not result in a cumulatively considerable contribution to global climate change. In addition, the proposed project as well as other cumulative related projects would be subject to all applicable regulatory requirements, which would further reduce GHG emissions. Regional growth in the air basin would

generate GHG concentrations that may lead to climate change (refer to Section 3.5). Projects that conflict with adopted plans, policies, and regulations adopted for the purpose of reducing GHG emissions would be considered to contribute towards a cumulatively significant effect.

As described in Section 3.5, "Greenhouse Gases and Energy," estimated GHG emissions for project construction and operations were compared to PCAPCD's thresholds of significance. It was determined that GHG emissions generated by construction and operation of the proposed project would not exceed PCAPCD's significance thresholds and would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of GHGs. Therefore, the contribution of GHG emissions generated by the proposed project would be **less than cumulatively considerable**. See Section 3.5 of this EIR for additional detail regarding the GHG emissions estimates and analysis.

Energy

Each of the cumulative projects listed in Table 4-1 would increase demand for electrical, natural gas, and fuel supplies within the SACOG region. Energy is consumed for heating, cooling, and electricity in homes and businesses; for public infrastructure and service operations; for agriculture, industry, and commercial uses; and for transportation associated with each of these activities. Each service provider is responsible for ensuring adequate provision of these utilities within its jurisdictional boundaries and would be responsible for upgrading its existing electrical and natural gas distribution systems or constructing new distribution systems to meet the demands of individual projects.

As noted in Section 3.5, "Greenhouse Gases and Energy," transportation is, by far, the largest energy-consuming sector in California, accounting for approximately 39 percent of all energy use in the state (U.S. Energy Information Administration 2016). Because transportation accounts for more energy consumption than heating, cooling, and powering of buildings, powering industry, or any other use, the overall efficiency of energy use in the region will depend to a great extent on the ability of local lead agencies to plan in a way that reduces travel demand. SACOG's 2016 MTP/SCS demonstrates an increase in energy efficiency through 2036 in relation to transportation energy use: VMT per capita is forecast to decrease by approximately 9 percent. SACOG also estimates that total VMT will decrease by approximately 7 percent during the 2016 MTP/SCS planning period (SACOG 2016: Table 5B.2).

Energy efficiency will also increase in relation to building operations. The State of California has adopted the California Green Building Standards Code, which establishes mandatory standards for all buildings in California, including for energy efficiency. This code is updated over time, and the energy efficiency standards are increased in each instance.

The *Town of Loomis General Plan* (Town of Loomis 2001b) and the *Town of Loomis Strategic Energy Resources Report* (Town of Loomis 2015) contain goals, policies, and programs that address important community issues and are the basis for land use and public policy decisions. Included are several policies pertaining to energy conservation strategies for land use and community development, public services and facilities, conservation of resources, and increases in renewable energy use. Nevertheless, even with implementation of such strategies, new development in the region would still result in an increased demand for energy and consumption of energy resources that would be considered cumulatively significant.

However, implementation of the MTP/SCS guiding principles to minimize transportation impacts would reduce overall energy demands primarily by designing transportation systems to support planned growth and efficiently connecting community members to goods, jobs, services and housing. In addition, Pacific Gas and Electric Company (PG&E), the energy service provider for the Town of Loomis, sources 33 percent of its electrical power mix from California Renewable Portfolio Standard–eligible renewable sources and an additional 12 percent from large hydroelectric sources (PG&E 2017). Thus, renewable energy sources provide for nearly half of the town's overall energy demands, and this would be expected to increase over time as PG&E and other surrounding service providers continue to increase their portfolios of renewable energy sources in accordance with the requirements of the California Renewable Portfolio Standard. Therefore, although energy demands may increase over time with overall population increases and development, implementation of policies and strategies as laid out in the MTP/SCS, the General Plan, the *Loomis Strategic Energy Resources Report*, and state regulatory requirements and energy conservation measures would ensure that future growth is planned and implemented in accordance with relevant plans and policies and would not result in inefficient, wasteful, or unnecessary consumption of energy. Moreover, the project contribution to this demand would not be cumulatively considerable since operation would reduce total VMT and therefore reduce the amount of fuel consumed compared to current conditions.

4.3.5 Noise

IMPACT 4.3-7: Cumulative Noise Impacts. *Project operation would generate noise from both stationary and mobile sources that would combine with noise from existing and future land uses operating along the studied roadways and in the vicinity to increase levels above ambient conditions. The proposed project's contribution to increased noise levels would not be cumulatively considerable.*

Construction

Cumulative construction noise and vibration impacts have the potential to occur when multiple construction projects in the same general area are taking place during the same time period. Noise and vibration are a localized occurrence and attenuates rapidly with distance. Therefore, only future cumulative development projects in the direct vicinity of the project site could add to anticipated project-generated transportation and stationary-source noise, thus resulting in cumulative noise impacts. Since there are no planned construction projects within the vicinity of the project site, and since all project-specific construction and would conform to the time-of day restrictions of the City's Municipal Code, cumulative noise impacts during construction would be less than significant and no mitigation measures are necessary.

Operation

A two-tier approach is used to determine whether mobile source noise from project vehicle trips represents a cumulatively considerable contribution to a significant noise impact. The first step is to predict noise levels experienced along studied roadway segments in the "future with project" condition and compare these levels to existing conditions in order to determine whether those cumulative levels would represent a substantial, permanent increase in noise that exceeds adopted standards. Next, the project's contribution to predicted "future with project" conditions is determined by comparing the "future without project" to the "future with project" conditions for each roadway segment. If the project's contribution to future roadway noise at studied segments is less than 3dBA, the contribution would not be audible to the human ear and therefore, would not be a cumulatively considerable contribution to the impact.

Table 4-3 summarizes the modeling output for ambient roadway noise levels along studied roadway segments assuming no attenuation from barriers such as walls and elevation changes. Existing noise levels along studied roadway segments range from a high of 81 dB(A) day-night average noise level (L_{dn}) at 100 feet along I-80 to a low of 59 dB(A) L_{dn} along a segment of Brace Road from Barton to Sierra College Boulevard.

Table 4-3. Existing Roadway Noise Levels

Roadway	Roadway Segment	dBA, L_{dn} at 100 feet	
		Weekday	Weekend
I-80	From Horseshoe Bar Road to Sierra College Boulevard	80	81
I-80	From Sierra College Boulevard to Rocklin Road	80	81
Sierra College Boulevard	From King Road to Taylor Road	68	68
Sierra College Boulevard	From Taylor Road to Brace Road	68	69
Sierra College Boulevard	From Brace Road to Granite Drive	67	67
Sierra College Boulevard	From Granite Drive to I-80 ramps	68	69
Sierra College Boulevard	From I-80 ramps to Rocklin Road	71	71
Granite Drive	From Rocklin Road to Sierra College Boulevard	63	63
Taylor Road	From Horseshoe Bar Road to Sierra College Boulevard	65	65
Taylor Road	From Sierra College Boulevard to Delmar Avenue	66	66
Pacific Street	From Delmar Avenue to Rocklin Road	66	66
Brace Road	From Barton Road to Sierra College Boulevard	59	59
Rocklin Road	From Sierra College Boulevard to I-80 ramps	69	69
Rocklin Road	From I-80 ramps to Granite Drive	68	68
Rocklin Road	From Granite Drive to Pacific Street	66	66

Notes: dBA = A-weighted decibels; I-80 = Interstate 80; L_{dn} = day-night average noise level

Source: Modeling conducted by AECOM in 2018

Table 4-4 depicts modeled noise levels along these same roadway segments with the addition of trips generated under "future without project" and "future with project conditions". Based on the noise modeling, cumulative vehicular noise under the short term future no project conditions shown in Table 4-4 would increase traffic noise from +0 A-weighted decibels (dBA) to +3 dBA L_{dn} depending on the segment under review. The largest increase is experienced during the weekend along Sierra College Boulevard from Brace Road to Granite Drive (an increase from 67 dB(A) L_{dn} to 70 dB(A) L_{dn}). Land uses along this segment of Sierra College Boulevard are zoned for general commercial which is not considered a noise sensitive use by the Loomis General Plan. Therefore, the cumulative increase in noise levels at this roadway segment would not represent a cumulative impact. The project's contribution to noise levels in the short term cumulative conndition range from +0 dBA to +1 dBA L_{dn} (multiple segments of Sierra College Boulevard, Taylor Road from Sierra College Boulevard to Delmar Avenue). An increase of 3 dBA or less is not audible to most people; thus, the project's contribution to noise levels along studued roadway segments in the cumulative short term scenario is not cumulatively considerable.

Table 4-4. Predicted Traffic Noise Levels, Cumulative Short-Term Conditions

Roadway	Segment	L_{dn} at 100 Feet, dBA					
		Weekday			Weekend		
		Future No Project	Plus Project	Net Change	Future No Project	Plus Project	Net Change
I-80	From Horseshoe Bar Road to Sierra College Boulevard	80	80	0	80	80	0
I-80	From Sierra College Boulevard to Rocklin Road	81	81	0	81	81	0
Sierra College Boulevard	From King Road to Taylor Road	70	70	0	69	70	1
Sierra College Boulevard	From Taylor Road to Brace Road	70	70	0	71	71	0
Sierra College Boulevard	From Brace Road to Granite Drive	68	68	0	70	70	0
Sierra College Boulevard	From Granite Drive to I-80 ramps	69	70	1	70	71	1
Sierra College Boulevard	From I-80 ramps to Rocklin Road	72	72	0	72	73	1
Granite Drive	From Rocklin Road to Sierra College Boulevard	64	64	0	65	65	0
Taylor Road	From Horseshoe Bar Road to Sierra College Boulevard	65	65	0	67	67	0
Taylor Road	From Sierra College Boulevard to Delmar Avenue	66	66	0	66	67	1
Pacific Street	From Delmar Avenue to Rocklin Road	67	67	0	67	67	0
Brace Road	From Barton Road to Sierra College Boulevard	60	60	0	61	61	0
Rocklin Road	From Sierra College Boulevard to I-80 ramps	70	70	0	69	69	0
Rocklin Road	From I-80 ramps to Granite Drive	69	69	0	70	70	0
Rocklin Road	From Granite Drive to Pacific Street	68	68	0	67	67	0

Notes: dBA = A-weighted decibels; I-80 = Interstate 80; L_{dn} = day-night average noise level

Traffic noise levels are predicted at a standard distance of 100 feet from the roadway centerline and do not account for shielding from existing noise barriers or intervening structures. Traffic noise levels may vary depending on actual setback distances and localized shielding.

Source: Modeling conducted by AECOM in 2018

Table 4-5 illustrates future noise levels under long-range buildout conditions. Implementation of long-term cumulative conditions would result in traffic noise level increases ranging from +0 dBA to +4 dBA L_{dn} (compared to existing noise levels without the project. The following segments experience a cumulative increase in noise levels that would be perceptible to most people;

- **Sierra College Boulvard from King Road to Taylor Road (+3dB(A)) L_{dn}** – Exterior noise levels in the cumulative long-term future with project condition are predicted to reach 71 dB(A) L_{dn} at 100 feet from roadway centerline. Land uses along this roadway segment are residential estates characterized by large set backs from the roadway. Exposure at the exterior façade of the residential units would be

substantially reduced from the predicted noise levels due to attenuation provided by the distance between receptor and the source and presence of soft terrain.[2] Regional growth would create a substantial increase in mobile source noise along this roadway segment that exceeds exterior noise standards at the property line. This impact **is cumulatively significant**.

- **Sierra College Boulevard from Taylor Road to Brace Road (3dB(A)) L_{dn}** - Exterior noise levels in the cumulative future with project condition are predicted to reach 72 dB(A) L_{dn} at 100 feet from roadway centerline. Land uses along this roadway segment are commercial in nature and are not considered as noise sensitive by either the Loomis or City of Rocklin General Plans. Therefore, no significant noise impacts would occur along this studied roadway segment in the cumulative long-term with project condition. Cumulative impacts along this segment are **less than significant.**
- **Sierra College Boulevard from Brace Road to Granite Drive (4dB(A)) L_{dn}** - Exterior noise levels in the cumulative future with project condition are predicted to reach 71 dB(A) L_{dn} at 100 feet from roadway centerline. Land uses along this roadway segment are commercial in nature and are not considered as noise sensitive by either the Loomis or City of Rocklin General Plans. Therefore, no significant noise impacts would occur along this studied roadway segment in the cumulative long-term with project condition. Cumulative impacts along this segment are **less than significant.**
- **Brace Road from Barton to Sierra College Boulevard (4dB(A)) L_{dn}** Exterior noise levels in the cumulative future with project condition are predicted to reach 63 dB(A) L_{dn} at 100 feet from roadway centerline. Land uses along this roadway segment are residential in nature and are considered as noise sensitive by the Town of Loomis General Plan. Predicted noise levels under the cumulative long-term with project condition would fall within the accetable exterior noise levels for residential uses established by the Town at 65 dB(A) L_{dn}. Therefore, no significant noise impacts would occur along this studied roadway segment in the cumulative long-term with project condition. Cumulative impacts along this segment are **less than significant**

Table 4-5. Predicted Traffic Noise Levels, Cumulative Long-Term Conditions

Roadway	Segment	L_{dn} at 100 Feet, dBA					
		Weekday			Weekend		
	Roadway Segment	Future No Project	Plus Project	Net Change	Future No Project	Plus Project	Net Change
I-80	From Horseshoe Bar Road to Sierra College Boulevard	81	81	0	81	81	0
I-80	From Sierra College Boulevard to Rocklin Road	82	82	0	82	82	0
Sierra College Boulevard	From King Road to Taylor Road	72	72	0	70	71	0
Sierra College Boulevard	From Taylor Road to Brace Road	72	72	0	71	72	1
Sierra College Boulevard	From Brace Road to Granite Drive	70	70	0	70	71	1
Sierra College Boulevard	From Granite Drive to I-80 ramps	71	71	0	70	71	1
Sierra College Boulevard	From I-80 ramps to Rocklin Road	74	74	0	73	73	0
Granite Drive	From Rocklin Road to Sierra College Boulevard	64	64	0	64	65	1
Taylor Road	From Horseshoe Bar Road to Sierra College Boulevard	67	67	0	67	67	0
Taylor Road	From Sierra College Boulevard to Delmar Avenue	67	67	0	66	67	1
Pacific Street	From Delmar Avenue to Rocklin Road	69	69	0	69	69	0
Brace Road	From Barton Road to Sierra College Boulevard	62	62	0	63	63	0
Rocklin Road	From Sierra College Boulevard to I-80 ramps	70	70	0	69	69	0
Rocklin Road	From I-80 ramps to Granite Drive	71	71	0	71	71	0
Rocklin Road	From Granite Drive to Pacific Street	68	68	0	65	67	2

Notes: dBA = A-weighted decibels; I-80 = Interstate 80; L_{dn} = day-night average noise level
Traffic noise levels are predicted at a standard distance of 100 feet from the roadway centerline and do not account for shielding from existing noise barriers or intervening structures. Traffic noise levels may vary depending on actual setback distances and localized shielding.
Source: Modeling conducted by AECOM in 2018

[2] Highway Noise fundamentals (Springfield, Virginia: U.S. Department of Transportation, Federal Highway Administration, September 1980). Sound typically diminishes at a rate of 7 dB(A) for each doubling of distance from the source of the receptor at acoustically soft sites like earth and vegetation which contains absorptive properties.

The proposed project's contribution to this cumulative increase would be only 2 dBA, which is not perceptible to the human ear. Therefore, noise levels from project-generated traffic sources would not result in a substantial permanent increase in ambient noise levels (3 dB or greater) under long range cumulative buildout conditions and most likely would not be perceivable to existing noise-sensitive receptors. Although regional growth could result in a substantial permanent increase in traffic noise along roadway segments, the proposed project's contribution toward this impact would not be cumulatively considerable.

All future development would be required to conduct site-specific analyses and mitigation at the time of consideration. In most cases, new development, similar to the proposed project, will be required to include the necessary setbacks, construction materials, sound walls, berms, or other features necessary to ensure that internal and external noise levels meet applicable standards. Application of these requirements as each project is proposed and constructed would ensure that cumulative noise impacts are **less than significant**.

Stationary-source noise associated with the proposed project could potentially result in an exceedance of the standards established by the Town's noise regulations if not properly controlled. Noise generated by stationary sources including mechanical equipment such as HVAC, loading dock, and similar equipment associated with the project operation would be controlled at the source (by means of mechanical rooms and use of setbacks from sensitive uses). Stationary-source noise generated by the project would not cause a project specific impact; thus, operation of stationary equipment would not result in a cumulatively considerable contribution to a cumulative noise impact.

4.3.6 Transportation and Traffic

This section addresses the potential for traffic from the proposed project to reduce level of service (LOS) at studied intersections or increase vehicular delays that may result in a cumulatively considerable impact on roads and intersections in the future growth scenarios. As described in Section 3.7, "Transportation and Traffic," traffic growth forecasts were implemented to examine both the short-term operating condition (the project approach) and the long-term operating condition (the plans and policies approach) for study intersections and the freeway mainline under future short-term (project based) and longer term growth horizons. Table 3.7-7 (short-term baseline forecast), Table 3.7-8 (short-term baseline freeway mainline forecast), Table 3.7-9 (long-term baseline growth forecast, weekday a.m./p.m. and weekend midday peak hours), and Table 3.7-10 (long-term baseline growth forecast, freeway mainline) provide a summary of the operating condition of intersections and roadway segments in the future without-project condition. Project traffic was added to these predicted traffic growth forecasts to evaluate the potential for cumulative impacts as discussed below.

IMPACT 4.3-8: Cumulative Impacts of Short-Term plus Project Intersection Operations. *Adding project-generated traffic to cumulative traffic generated by approved and pending projects would cause the LOS at studied intersections to degrade below adopted standards, requiring the need for restriping, re-phasing, and optimization of the cycle length at study area intersections. The project's contribution to this impact is* ***cumulatively considerable*** *at certain study intersections.*

Figure 16 a through c of the traffic impact study (Kittelson & Associates 2018) shows the Cumulative Short-Term plus Project traffic volumes during the weekday a.m. and p.m. peak hours while Figure 17 a through c of the traffic impact study (Kittelson & Associates 2018) shows the Cumulative Short-Term plus Project traffic volumes during the weekend midday peak hour.

Cumulative Short-Term No-Project and Plus Project delays and LOS for study intersections during the weekday a.m. and p.m. peak hours are depicted in Table 4-6. Table 4-7 shows the baseline Cumulative Short-Term No-Project and Plus Project delays and LOS for the study intersections during weekend midday peak hour. Please note that the delays at some study intersections may be lower than under Existing or Existing plus Project conditions because of signal timing optimization and/or recirculation of traffic with the addition of approved/pending projects. Appendix B of the traffic impact study (Kittelson & Associates 2018) includes the LOS worksheets.

As shown in Tables 4-6 and 4-7, regional growth would result in a significant impact at the following intersections causing them to operate at unacceptable LOS in the cumulative short-term with project condition:

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

The proposed project would contribute to an impact at three of the study locations listed above by increasing delay or dropping the LOS to below acceptable levels. These locations are Sierra College Boulevard/Taylor Road (p.m. and midday), Sierra College Boulevard/Granite Drive (p.m. and midday), Sierra College Boulevard at Rocklin Road and Sierra College Boulevard/I-80 westbound ramps (p.m. and midday). The project's contribution to traffic volumes at these three locations would be **cumulatively considerable,** and mitigation is needed to improve the operating conditions. See Table 4-8 for the study intersections performing at unacceptable LOS and the locations affected by the project.

Mitigation Measure Cum-Trans-1: Restripe the Sierra College Boulevard/Taylor Road and Sierra College Boulevard/Granite Drive Intersections.

Prior to issuance of building permits, the project applicant shall construct the following improvements:

- *Sierra College Boulevard/Taylor Road:* Restripe the southbound right-turn lane to a shared through-right lane. Optimize cycle length and splits (140 seconds for the p.m. peak hour and 90 seconds for the midday peak hour).
- *Sierra College Boulevard/Granite Drive:* Restripe the northbound and southbound right-turn lanes to a shared through-right lane. Optimize cycle length and splits (145 seconds for the p.m. peak hour and 135 seconds for the midday peak hour).

Mitigation Measure Cum-Trans-2: Add Exclusive Turn Lanes at Sierra College Boulevard/I-80 Westbound Ramps

Prior to issuance of building permits, the project applicant shall construct the following improvement:

- *A second northbound left-turn lane (dual left) shall be provided at Sierra College Boulevard/I-80 westbound ramps.*

Table 4-6. Cumulative Short-Term plus Project—Intersection LOS Analysis, Weekday A.M./P.M. Peak Hour

ID	Intersection	Traffic Control Type	LOS Operating Goal	Weekday A.M.					Weekday P.M.				
				Cumulative Short-Term		Cumulative Short Term Plus Project		Change in Delay (sec)	Cumulative Short-Term		Cumulative Short Term Plus Project		Change in Delay (sec)
				Delay (sec)	LOS	Delay (sec)	LOS		Delay (sec)	LOS	Delay (sec)	LOS	
1	Taylor Road/King Road	Signal	D	40.7	D	41.3	D	0.6	**62**	**E**	**64.9**	**E**	2.9
2	Taylor Road/Horseshoe Bar Road	Signal	D	23.1	C	23.4	C	0.3	30.1	C	31.8	C	1.7
3	Horseshoe Bar Road/I-80 WB ramp	Signal	D	13.7	B	13.7	B	0	14	B	14	B	0
4	Horseshoe Bar Road/I-80 EB ramp	TWSC	D	**70.2**	**F**	**70.2**	**F**	0	**68.2**	**F**	**68.2**	**F**	0
5	Barton Road/Brace Road	TWSC	C	11.8	B	11.9	B	0.1	12.9	B	13.1	B	0.2
6	Sierra College Boulevard/Taylor Road	Signal	C	**47.8**	**D**	**49.3**	**D**	1.5	**63.6**	**E**	**69.7**	**E**	6.1
7	Sierra College Boulevard/Brace Road	Signal	D	10.5	B	10.6	B	0.1	16.1	B	16.6	B	0.5
8	Sierra College Boulevard/Granite Drive	Signal	C	32.7	C	33.9	C	1.2	**53.4**	**D**	**83.5**	**F**	30.1
9	Sierra College Boulevard/I-80 WB ramps	Signal	D	35.3	D	43.8	D	8.5	**55.7**	**E**	**91.2**	**F**	35.5
10	Sierra College Boulevard/I-80 EB ramps	Signal	D	24.2	C	24.4	C	0.2	38.6	D	39.4	D	0.8
11	Sierra College Boulevard/Schriber Way	Signal	C	19.5	B	19.6	B	0.1	16.7	B	16.9	B	0.2
12	Sierra College Boulevard/Bass Pro Drive–Dominguez Road	Signal	C	7.3	A	7.3	A	0	12	B	12.1	B	0.1
13	Sierra College Boulevard/stadium driveway	Signal	C	7.4	A	7.4	A	0	7.1	A	7.2	A	0.1
14	Sierra College Boulevard/Rocklin Road	Signal	C	**98.5**	**F**	**98.5**	**F**	0	**80**	**E**	**82**	**F**	2
15	Pacific Street/Dominguez Road–Delmar Avenue	Signal	C	41.1	D	41.5	D	0.4	**62.4**	**E**	**64.6**	**E**	2.2
16	Pacific Street/Rocklin Road	Signal	C	**93.3**	**F**	**94**	**F**	0.7	**76.7**	**E**	**77.7**	**E**	1
17	Granite Drive/Rocklin Road	Signal	C	27.7	C	27.8	C	0.1	**47.5**	**D**	**49.1**	**D**	1.6
18	I-80 WB ramps/Rocklin Road	Signal	D	23.6	C	23.6	C	0	47.7	D	47.7	D	0
19	I-80 EB ramps/Rocklin Road	Signal	D	35.5	D	35.5	D	0	42.9	D	42.9	D	0
20	Aguilar Road/Rocklin Road	Signal	C	11.4	B	11.5	B	0.1	9.5	A	9.5	A	0
21	Sierra College Boulevard/driveway south of Brace Road	TWSC	C	0.3	A	0.3	A	0	16.6	C	17.2	C	0.6
22	Granite Drive/Dominguez Road	TWSC	C	14	B	14.1	B	0.1	21.5	C	22.1	C	0.6
23	El Don Drive/Rocklin Road	Signal	C	34.7	C	34.8	C	0.1	**37.6**	**D**	**37.7**	**D**	0.1
24	Sierra College Boulevard/project driveway	Signal	C	DNE		17.1	B	–	DNE		24.6	C	–
25	Brace Road/project driveway	Signal	C	DNE		0	A	–	DNE		10.1	B	–

Notes:

DNE = intersection does not exist under no project conditions; EB = eastbound; I-80 = Interstate 80; ID = identification number of study intersection; LOS = level of service; sec = seconds; TWSC = two-way stop control—delay reported reflects the critical movement; WB = westbound

Boldface type indicates intersections performing below acceptable LOS.

Source: Kittelson & Associates 2018

Table 4-7. Cumulative Short-Term plus Project—Intersection LOS Analysis, Weekend Midday Peak Hour

ID	Intersection	Traffic Control Type	LOS Operating Goal	Cumulative Short-Term		Cumulative Short Term Plus Project		Change in Delay (sec)
				Delay (sec)	LOS	Delay (sec)	LOS	
1	Taylor Road/King Road	Signal	D	45	D	53.5	D	8.5
2	Taylor Road/Horseshoe Bar Road	Signal	D	20.8	C	22.5	C	1.7
3	Horseshoe Bar Road/I-80 WB ramp	Signal	D	13.6	B	13.6	B	0
4	Horseshoe Bar Road/I-80 EB ramp	TWSC	D	29.1	D	29.1	D	0
5	Barton Road/Brace Road	TWSC	C	17.2	C	18.1	C	0.9
6	Sierra College Boulevard/Taylor Road	Signal	C	**44.9**	**D**	**57**	**E**	12.1
7	Sierra College Boulevard/Brace Road	Signal	D	13.1	B	15.4	B	2.3
8	Sierra College Boulevard/Granite Drive	Signal	C	**37**	**D**	**60.4**	**E**	23.4
9	Sierra College Boulevard/I-80 WB ramps	Signal	D	**69.1**	**E**	**122.8**	**F**	53.7
10	Sierra College Boulevard/I-80 EB ramps	Signal	D	41.6	D	43.4	D	1.8
11	Sierra College Boulevard/Schriber Way	Signal	C	18.4	B	18.9	B	0.5
12	Sierra College Boulevard/Bass Pro Drive–Dominguez Road	Signal	C	12.7	B	12.8	B	0.1
13	Sierra College Boulevard/stadium driveway	Signal	C	5.2	A	5.3	A	0.1
14	Sierra College Boulevard/Rocklin Road	Signal	C	**44.7**	**D**	**48.3**	**D**	3.6
15	Pacific Street/Dominguez Road–Delmar Avenue	Signal	C	28.1	C	30.4	C	2.3
16	Pacific Street/Rocklin Road	Signal	C	**45**	**D**	**46.8**	**D**	1.8
17	Granite Drive/Rocklin Road	Signal	C	32.2	C	34.8	C	2.6
18	I-80 WB ramps/Rocklin Road	Signal	D	19.3	B	19.3	B	0
19	I-80 EB ramps/Rocklin Road	Signal	D	22.6	C	22.6	C	0
20	Aguilar Road/Rocklin Road	Signal	C	8.8	A	8.9	A	0.1
21	Sierra College Boulevard/driveway south of Brace Road	TWSC	C	0.1	A	0.1	A	0
22	Granite Drive/Dominguez Road	TWSC	C	19.6	C	20.4	C	0.8
23	El Don Drive/Rocklin Road	Signal	C	15.1	B	15.4	B	0.3
24	Sierra College Boulevard/project driveway	Signal	C	DNE		32.9	C	–
25	Brace Road/project driveway	Signal	C	DNE		10	B	–

Notes:

DNE = intersection does not exist under no project conditions; EB = eastbound; I-80 = Interstate 80; ID = identification number of study intersection; LOS = level of service; sec = seconds; TWSC = two-way stop control = the delay reported reflects the critical movement; WB = westbound

Boldface type indicates intersections performing below acceptable LOS.

Source: Kittelson & Associates 2018

Table 4-8. Cumulative Short-Term plus Project—Study Area Intersection LOS Results Summary

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

Notes:

DNE = intersection does not exist under no project conditions; EB = eastbound; I-80 = Interstate 80; ID = identification number of study intersection; LOS = level of service; sec = seconds; TWSC = two-way stop control = the delay reported reflects the critical movement; WB = westbound

Boldface type indicates intersections performing below acceptable LOS.

Source: Kittelson & Associates 2018

Significance after Mitigation

The mitigation measures identified above were applied to the intersection analysis. Table 4-9 presents the LOS results in comparison to short-term cumulative no project conditions.

Table 4-9. Cumulative Short-Term—Intersection LOS Analysis, Geometric Mitigation Results

ID	Intersection Scenario	Scenario	Cumulative Short-Term + Project		Cumulative Short-Term plus Project Mitigated		Change in Delay (sec)	Impact with Mitigation?
			Delay (sec)	LOS	Delay (sec)	LOS		
6	Sierra College Boulevard/ Taylor Road	P.M.	63.6	E	62.4	E	-1.2	Less than significant
		Midday	44.9	D	48	D	3.1	Less than significant
8	Sierra College Boulevard/ Granite Drive	P.M.	53.4	D	48.7	D	-4.7	Significant and unavoidable*
		Midday	37	D	35	D	-2	Significant and unavoidable*
9	Sierra College Boulevard/ I-80 WB ramps	P.M.	55.7	E	56.2	E	0.5	Significant and unavoidable*
		Midday	69.1	E	63.9	E	-5.2	Significant and unavoidable*

Notes:

I-80 = Interstate 80; ID = identification number of study intersection; LOS = level of service; sec = seconds; WB = westbound

* The mitigation measure would improve intersection operation enough to reduce the impact to a less-than-significant level; however, the mitigation measure is outside of the lead agency's jurisdiction to implement.

Source: Kittelson & Associates 2018

Mitigation Measures Cum-Trans-1 and Cum-Trans-2 would reduce the proposed project's contribution to the cumulative impact at Sierra College Boulevard/Taylor Road to less than cumulatively considerable and could be implemented by the Town of Loomis (the lead agency).

Impacts at Sierra College Boulevard/Granite Drive and Sierra College Boulevard/I-80 westbound ramps could be mitigated with the proposed mitigation measures; however, these measures would be infeasible within the existing roadway width and therefore may not be implementable due to the need for right of way acquisition. State CEQA Guidelines Section 15126.4 requires that mitigation measures are fully enforceable through permit conditions, agreements or other legally binding instruments. The improvements identified for Sierra College Boulevard at Granite Drive and Sierra College Boulevard/I-80 WB ramps are not part of a capital improvement program nor programmed in regional transportation plans. Further, these mitigation measures would be beyond the jurisdiction of the Town of Loomis (the lead agency) to implement because the two locations lie outside the incorporated boundaries of Loomis and the Town does not have a means to enforce implementation. Accordingly, cumulative impacts at Sierra College Boulevard/Granite Drive, and Sierra College Boulevard/I-80 westbound ramps, are conservatively considered to be **significant and unavoidable.**

IMPACT 4.3-9: Cumulative Impacts of Short-Term plus Project I-80 Mainline Operations. *Adding project-generated traffic to cumulative short-term traffic would not cause the LOS on the I-80 mainline in the study area to degrade below the applicable thresholds. The project's contribution is not cumulatively considerable.*

Cumulative Short-Term traffic volumes for the weekday a.m. and p.m. peak hours were added to project-generated traffic to arrive at the Short-Term plus Project total traffic volumes. Appendix E of the traffic impact study (Kittelson & Associates 2018) includes the freeway mainline LOS worksheets. Tables 4-10, 4-11, and 4-12 outline the forecasted Short-Term and Cumulative Short-Term plus Project mainline volume, density, and associated LOS for each roadway segment. As shown, all study segments operate at acceptable LOS D or better. Therefore, the project would not result in a cumulatively considerable contribution to a significant impact on the freeway mainline Cumulative Short-Term plus Project conditions.

Table 4-10. Cumulative Short-Term—I-80 Mainline LOS Analysis, Weekday A.M. Peak Hour

ID	Segment	Direction	Cumulative Short-Term			Cumulative Short-Term plus Project			Change in Density
			Volume	Density*	LOS	Volume	Density*	LOS	
1	I-80 east of Sierra College Boulevard	EB	3,239	19.1	C	3,257	19.9	C	0.1
		WB	4,108	25.8	C	4,126	25.9	C	0.1
2	I-80 west of Sierra College Boulevard	EB	3,185	19.5	C	3,190	19.5	C	0.0
		WB	3,874	24.1	C	3,879	24.1	C	0.0

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

* Density means passenger cars per mile per lane.

Source: Kittelson & Associates 2018

Table 4-11. Cumulative Short-Term—I-80 Mainline LOS Analysis, Weekday P.M. Peak Hour

ID	Segment	Direction	Cumulative Short-Term			Cumulative Short-Term plus Project			Change in Density
			Volume	Density*	LOS	Volume	Density*	LOS	
1	I-80 east of Sierra College Boulevard	EB	4,532	28.7	D	4,600	29.3	D	0.6
		WB	3,989	24.9	C	4,054	25.3	C	0.5
2	I-80 west of Sierra College Boulevard	EB	4,325	27.0	D	4,344	27.2	D	0.2
		WB	3,984	24.8	C	4,004	25.0	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 2018

Table 4-12. Cumulative Short-Term—I-80 Mainline LOS Analysis, Weekday MD Peak Hour

ID	Segment	Direction	Cumulative Short-Term			Cumulative Short-Term plus Project			Change In Density
			Volume	Density*	LOS	Volume	Density*	LOS	
1	I-80 east of Sierra College Boulevard	EB	4,151	23.5	1.3	4,357	24.8	C	1.3
		WB	4,103	24.6	0.7	4,316	24.0	C	1.3
2	I-80 west of Sierra College Boulevard	EB	4,315	24.6	0.7	4,432	25.3	C	0.7
		WB	4,162	23.1	Change In Density	4,274	23.7	C	0.7

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

* Density means passenger cars per mile per lane.

Source: Kittelson & Associates 2018

IMPACT 4.3-10: Cumulative Impacts of Long-Term plus Project Intersection Operations. *Adding project-generated traffic to cumulative long-term traffic would cause the LOS to degrade below the applicable thresholds and would result in the need for restriping, re-phasing, and optimization of the cycle length at study area intersections. The project's contributions to these impacts are* ***cumulatively*** *considerable.*

. Figures 20 a through c and 21 a through c of the traffic impact study (Kittelson & Associates 2018) show the Cumulative Short-Term future without and plus Project traffic volumes during the weekday a.m. and p.m. peak hours and during the weekend midday peak hour, respectively. To gauge the impact of proposed project traffic on the baseline roadway network, the project analysis assumed that study intersection signal timings would be unchanged from those under no project conditions.

Table 4-13 and Table 4-14 show the baseline Cumulative Long-Term No-Project and Plus Project delays and LOS for the study intersections during weekday a.m. and p.m. peak hours and during the weekend midday peak hour, respectively. Appendix B of the traffic impact study (Kittelson & Associates 2018) includes the LOS worksheets.

As shown in Tables 4-13 and 4-14, the following intersections operate at unacceptable LOS in the cumulative long term without project condition representing a cumulatively significant impact:

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

The proposed project would contribute to an impact at four of the study locations listed above, by increasing delay or dropping the LOS to below acceptable levels. These locations are Sierra College Boulevard/Taylor Road (p.m. and midday), Sierra College Boulevard/Brace Road (p.m.), Sierra College Boulevard/Granite Drive (p.m.), and Sierra College Boulevard/I-80 westbound ramps (p.m. and midday). The proposed project's contribution to traffic volumes at these locations would be **cumulatively considerable** and mitigation is needed to improve the operating conditions. See Table 4-15 for the study intersections and ramps performing at unacceptable LOS and the locations affected by the proposed project.

Table 4-13. Cumulative Conditions—Long-Term Traffic Conditions, Weekday A.M. and P.M. Peak Hours

ID	Intersection	Traffic Control Type	LOS Operating Goal	Weekday A.M.					Weekday P.M.				
				Cumulative Long-Term		Plus Project		Change in Delay (sec)	Cumulative Long-Term		Plus Project		Change in Delay (sec)
				Delay (sec)	LOS	Delay (sec)	LOS		Delay (sec)	LOS	Delay (sec)	LOS	
1	Taylor Road/King Road	Signal	D	**87.9**	**F**	**88.6**	**F**	0.7	**66.2**	**E**	**69.9**	**E**	3.7
2	Taylor Road/Horseshoe Bar Road	Signal	D	26.6	C	26.9	C	0.3	44.1	D	46.4	D	2.3
3	Horseshoe Bar Road/ I-80 WB ramp	Signal	D	14.3	B	14.3	B	0	15.6	B	15.6	B	0
4	Horseshoe Bar Road/ I-80 EB ramp	TWSC	D	**74**	**F**	**74**	**F**	0	**1050.4**	**F**	**1050.4**	**F**	0
5	Barton Road/Brace Road	TWSC	C	16.3	C	16.5	C	0.2	24	C	24.8	C	0.8
6	Sierra College Boulevard/Taylor Road	Signal	C	**65.8**	**E**	**67.2**	**E**	1.4	**71.5**	**E**	**77.2**	**E**	5.7
7	Sierra College Boulevard/Brace Road	Signal	D	15.8	B	15.9	B	0.1	**65.8**	**E**	**72.2**	**E**	6.4
8	Sierra College Boulevard/Granite Drive	Signal	C	32	C	32.8	C	0.8	**45.2**	**D**	**67.8**	**E**	22.6
9	Sierra College Boulevard/I-80 WB ramps	Signal	D	32.4	C	27.2	C	-5.2	50.8	D	**63**	**E**	12.2
10	Sierra College Boulevard/I-80 EB ramps	Signal	D	34.2	C	43.5	D	9.3	39.4	D	40.9	D	1.5
11	Sierra College Boulevard/Schriber Way	Signal	C	22	C	22.1	C	0.1	13.5	B	13.6	B	0.1
12	Sierra College Boulevard/Bass Pro Drive–Dominguez Road	Signal	C	**106.3**	**F**	**107.2**	**F**	0.9	**91.9**	**F**	**95.4**	**F**	3.5
13	Sierra College Boulevard/stadium driveway	Signal	C	15	B	15.2	B	0.2	11.3	B	11.5	B	0.2
14	Sierra College Boulevard/Rocklin Road	Signal	C	**62.7**	**E**	**63.3**	**E**	0.6	**125.2**	**F**	**127.1**	**F**	1.9
15	Pacific Street/Dominguez Road–Delmar Avenue	Signal	C	**490.9**	**F**	**489.5**	**F**	-1.4	**741.3**	**F**	**737.3**	**F**	-4
16	Pacific Street/Rocklin Road	Signal	C	**97.4**	**F**	**97.9**	**F**	0.5	**99.2**	**F**	**100.2**	**F**	1
17	Granite Drive/Rocklin Road	Signal	C	32.5	C	32.8	C	0.3	**43.4**	**D**	**44.8**	**D**	1.4
18	I-80 WB ramps/Rocklin Road	Signal	D	37.4	D	37.4	D	0	**59.6**	**E**	**59.6**	**E**	0
19	I-80 EB ramps/Rocklin Road	Signal	D	34.3	C	34.3	C	0	31.1	C	31.1	C	0
20	Aguilar Road/Rocklin Road	Signal	C	16.4	B	16.5	B	0.1	13.5	B	13.5	B	0
21	Sierra College Boulevard/driveway south of Brace Road	TWSC	C	0.9	A	0.9	A	0	**25.6**	**D**	**26.8**	**D**	1.2
22	Granite Drive/Dominguez Road	Signal	C	9.9	A	9.9	A	0	13.5	B	13.6	B	0.1
23	El Don Drive/Rocklin Road	Signal	C	28.9	C	28.9	C	0	34.4	C	34.5	C	0.1
24	Sierra College Boulevard/project driveway	Signal	C	DNE		12.4	B	–	DNE		33.2	C	–
25	Brace Road/project driveway	Signal	C	DNE		0	A	–	DNE		15.5	C	–

Notes:

DNE = intersection does not exist under no project conditions; EB = eastbound; I-80= Interstate 80; ID = identification number of study intersection; LOS = level of service; sec = seconds; TWSC = two-way stop control—delay reported reflects the critical movement; WB = westbound

Boldface type indicates intersections performing below acceptable LOS.

Source: Kittelson & Associates 2018

Table 4-14. Cumulative Conditions—Long-Term Traffic Condition, Weekend Midday Peak

ID	Intersection	Traffic Control Type	LOS Operating Goal	Cumulative Long-Term		Plus Project		Change in Delay (sec)
				Delay (sec)	LOS	Delay (sec)	LOS	
1	Taylor Road/King Road	Signal	D	27.9	C	31.8	C	3.9
2	Taylor Road/Horseshoe Bar Road	Signal	D	22.1	C	24	C	1.9
3	Horseshoe Bar Road/I-80 WB ramp	Signal	D	14.9	B	14.9	B	0
4	Horseshoe Bar Road/I-80 EB ramp	TWSC	D	**641.6**	**F**	**641.6**	**F**	0
5	Barton Road/Brace Road	TWSC	C	**45.8**	**E**	**52.1**	**F**	6.3
6	Sierra College Boulevard/Taylor Road	Signal	C	34.4	C	**44.1**	**D**	9.7
7	Sierra College Boulevard/Brace Road	Signal	D	18.9	B	21	C	2.1
8	Sierra College Boulevard/Granite Drive	Signal	C	25.5	C	28	C	2.5
9	Sierra College Boulevard/I-80 WB ramps	Signal	D	41.5	D	**66.5**	**E**	25
10	Sierra College Boulevard/I-80 EB ramps	Signal	D	40.5	D	53.7	D	13.2
11	Sierra College Boulevard/Schriber Way	Signal	C	11.8	B	11.9	B	0.1
12	Sierra College Boulevard/Bass Pro Drive–Dominguez Road	Signal	C	**72.9**	**E**	**75.4**	**E**	2.5
13	Sierra College Boulevard/stadium driveway	Signal	C	6.7	A	6.9	A	0.2
14	Sierra College Boulevard/Rocklin Road	Signal	C	**40.5**	**D**	**42.5**	**D**	2
15	Pacific Street/Dominguez Road–Delmar Avenue	Signal	C	**58.3**	**E**	**62.8**	**E**	4.5
16	Pacific Street/Rocklin Road	Signal	C	33.2	C	34.7	C	1.5
17	Granite Drive/Rocklin Road	Signal	C	**35.3**	**D**	**39.4**	**D**	4.1
18	I-80 WB ramps/Rocklin Road	Signal	D	20.3	C	20.3	C	0
19	I-80 EB ramps/Rocklin Road	Signal	D	25.6	C	25.6	C	0
20	Aguilar Road/Rocklin Road	Signal	C	11.2	B	11.3	B	0.1
21	Sierra College Boulevard/driveway south of Brace Road	TWSC	C	0.2	A	0.2	A	0
22	Granite Drive/Dominguez Road	Signal	C	12.4	B	12.5	B	0.1
23	El Don Drive/Rocklin Road	Signal	C	13.9	B	14.6	B	0.7
24	Sierra College Boulevard/project driveway	Signal	C	DNE		30	C	–
25	Brace Road/project driveway	Signal	C	DNE		13.1	B	–

Notes:

DNE = intersection does not exist under no project conditions; EB = eastbound; I-80 = Interstate 80; ID = identification number of study intersection; LOS = level of service; sec = seconds; TWSC = two-way stop control—the delay reported reflects the critical movement; WB = westbound

Boldface type indicates intersections performing below acceptable LOS.

Source: Kittelson & Associates 2018

Table 4-15. Cumulative Long-Term plus Project—Study Area Intersection LOS Results Summary

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

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

Source: Kittelson & Associates 2018

The following mitigation measure is recommended to reduce project impacts to less than cumulatively considerable.

Mitigation Measure Cum-Trans-3: Modify Signal Timing and Phasing, Restripe Intersections, and Add Exclusive Turn Lanes and Turn Lane Storage at Intersections with Sierra College Boulevard.

Prior to issuance of building permits, the project applicant shall construct the following improvements:

- *Sierra College Boulevard/Taylor Road:* Provide eastbound right overlap phasing and optimize cycle length and splits (150 seconds for the p.m. peak hour and 100 seconds for the midday peak hour). Provide coordination with the Sierra College Boulevard/Brace Road intersection.
- *Sierra College Boulevard/Brace Road:* Provide 150-second cycle length with optimized splits based on demand. Provide coordination with the Sierra College Boulevard/Taylor Road intersection.
- *Sierra College Boulevard /Granite Drive:* Convert the eastbound through lane to a shared through-left lane with split phasing. Provide eastbound right overlap phasing and optimize cycle length and splits (150 seconds for the p.m. peak hour and 100 seconds for the midday peak hour). Remove the westbound crosswalk to provide a better timing plan.
- *Sierra College Boulevard/I-80 westbound ramps:* Provide a second northbound left-turn lane (dual left) and optimize cycle length and splits (120 seconds for the a.m. peak hour, 150 seconds for the p.m. peak hour, and 140 seconds for the midday peak hour).
- *Sierra College Boulevard/project driveway:* Provide additional storage for the southbound left-turn lane (225 feet).

Significance after Mitigation

The mitigation measures identified above were applied to the intersection analysis. Table 4-16 presents the LOS results in comparison to no project conditions.

Table 4-16. Cumulative Long-Term—Intersection LOS Analysis, Geometric Mitigation Results

ID	Intersection Scenario	Scenario	Long Term		Long Term plus Project Mitigated		Change in Delay (sec)	Impact with Mitigation?
			Delay (sec)	LOS	Delay (sec)	LOS		
6	Sierra College Boulevard/Taylor Road	P.M.	71.5	E	61.4	D	-10.1	Less than significant
		Midday	34.4	C	40.1	D	5.7	Significant
7	Sierra College Boulevard/ Brace Road	P.M.	65.8	E	69.6	E	3.8	Less than significant
8	Sierra College Boulevard/ Granite Drive	P.M.	45.2	D	33.7	C	-11.5	Significant unavoidable*
9	Sierra College Boulevard/ I-80 WB ramps	P.M.	50.8	D	41.5	D	-9.3	Significant unavoidable*
		Midday	41.5	D	40.3	D	-1.2	Significant unavoidable*

Notes:

I-80 = Interstate 80; ID = identification number of study intersection; LOS = level of service; sec = seconds; WB = westbound

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

Source: Kittelson & Associates 2018

The impacts at Sierra College Boulevard/Taylor Road and Sierra College Boulevard/Brace Road could be mitigated to less than significant with the proposed mitigation measure. At Sierra College Boulevard/I-80 westbound ramps, the measure would be infeasible within the existing roadway width and therefore may not be implementable. State CEQA Guidelines Section 15126.4 requires that mitigation measures are fully enforceable through permit conditions, agreements or other legally binding instruments. The improvements identified for Sierra College Boulevard at Granite Drive and Sierra College Boulevard/I-80 westbound ramps are not part of a capital improvement program nor programmed in regional transportation plans. In addition, mitigation measures at Sierra College Boulevard/Granite

Drive and at Sierra College Boulevard/I-80 westbound ramps would be beyond the jurisdiction of the Town of Loomis (the lead agency) to implement because these two locations lie outside the incorporated boundaries of Loomis and the Town cannot guarantee implementation. Accordingly, cumulative impacts at Sierra College Boulevard/Granite Drive and Sierra College Boulevard/I-80 westbound ramps are conservatively considered to be **significant and unavoidable**.

IMPACT 4.3-11: Cumulative Impacts of Long-Term plus Project I-80 Mainline Operations. *Adding project-generated traffic to cumulative long-term traffic would not cause the LOS on the I-80 mainline in the study area to degrade below acceptable levels of service except for I-80 east and west of Sierra College Boulevard during the p.m. peak hour. These two freeway segments operate at LOS E in the future without project condition. However, because the baseline measure of effectiveness (MOE) of LOS E is maintained in the future with project condition, the project's contribution under the long term plus project condition is not cumulatively considerable. This cumulative impact would be less than significant.*

Cumulative long-term traffic volumes for the weekday a.m. and p.m. peak hours were added to the project-generated traffic to arrive at the Long-Term Cumulative plus Project traffic volumes. Appendix E of the traffic impact study (Kittelson & Associates 2018) includes the freeway mainline LOS worksheets. Tables 4-17, 4-18, and 4-19 outline mainline volume, density, and associated LOS for the study segments in the Cumulative Long-Term and Cumulative Long-Term plus Project conditions. As shown, all study segments would operate at acceptable LOS D or better with project traffic except for I-80 east of Sierra College Boulevard and I-80 west of Sierra College Boulevard. However, the baseline measure of effectiveness (MOE) of LOS E is maintained, so the project contribution to the freeway mainline would not significantly affect operating conditions in the cumulative long term plus project condition. Therefore, the impact on the freeway mainline under Cumulative Long-Term plus Project conditions would be **less than significant**.

Table 4-17. Cumulative Long-Term—I-80 Mainline LOS Analysis, Weekday A.M. Peak Hour

ID	Segment	Direction	Long Term			Long Term Plus Project			Change in Density
			Volume	Density*	LOS	Volume	Density*	LOS	
1	I-80 east of Sierra College Boulevard	EB	4,180	31.2	D	4,828	31.3	D	0.1
		WB	4,640	30.1	D	4,658	30.3	D	0.2
2	I-80 west of Sierra College Boulevard	EB	5,030	33.3	D	5,035	33.4	D	0.1
		WB	4,310	27.3	D	4,315	27.3	D	0.0

Notes:

EB = eastbound; I-80 = Interstate 80; ID = identification number of study segment; LOS = level of service; WB = westbound * Density means passenger cars per mile per lane.

Source: Kittelson & Associates 2018

Table 4-18. Cumulative Long-Term—I-80 Mainline LOS Analysis, Weekday P.M. Peak Hour

ID	Segment	Direction	Long Term			Long Term Plus Project			Change in Density
			Volume	Density*	LOS	Volume	Density*	LOS	
1	I-80 east of Sierra College Boulevard	EB	5,060	30.9	D	5,128	31.5	D	0.6
		WB	5,420	35.6	E	5,485	36.4	E	0.8
2	I-80 west of Sierra College Boulevard	EB	4,460	26.2	D	4,479	26.3	D	0.1
		WB	5,560	37.2	E	5,580	37.5	E	0.3

Notes:

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

* Density means passenger cars per mile per lane.

Source: Kittelson & Associates, Inc. 2018

Table 4-19. Cumulative Long-Term—I-80 Mainline LOS Analysis, Weekend Midday Peak Hour

ID	Segment	Direction	Long Term			Long Term Plus Project			Change in Density
			Volume	Density*	LOS	Volume	Density*	LOS	
1	I-80 east of Sierra College Boulevard	EB	5,370	32.7	D	5,576	34.7	D	2.0
		WB	4,990	28.6	D	5,203	30.2	D	1.6
2	I-80 west of Sierra College Boulevard	EB	5,380	32.8	D	5,497	33.9	D	1.1
		WB	5,070	29.2	D	5,182	30.1	D	0.9

Notes:

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

* Density means passenger cars per mile per lane.

Source: Kittelson & Associates 2018

IMPACT 4.3-12: Cumulative Potential for Creation of Substantial Traffic-Related Hazards. *The proposed Costco Wholesale warehouse trips would increase queues at study area intersections in the cumulative short-term condition, resulting in the potential for conflicting movements to cause a hazardous traffic condition. Improvements needed in the cumulative short-term plus project condition would include re-phasing and optimization of cycle length at study area intersections. This cumulative impact would be* ***potentially significant****.*

As shown in Tables 35, 36, and 37 of the traffic impact study (Kittelson & Associates 2018) for the weekday a.m., p.m. and weekend midday peak hours, the queues at the following intersections would extend beyond the storage lengths available at these locations. Appendix C of the traffic impact study (Kittelson & Associates 2018) includes the queuing worksheets.

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

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 (p.m.).
- The northbound left-turn at Sierra College Boulevard/Granite Drive would affect operations at Sierra College Boulevard/I-80 westbound ramps (p.m. and midday).

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

Operation of the proposed project would contribute 5 percent of traffic and represent a cumulatively considerable contribution to increased queue overflow at two locations: Sierra College Boulevard/Granite Drive (midday) and Sierra College Boulevard/project driveway (midday). Mitigation Measures Cum-Trans-1 and Cum-Trans-2 discussed above under Impact 4.3-6, require restriping the affected intersections and adding exclusive turn lanes to optimize cycle length and/or splits at the affected intersections. These mitigation measures were applied to the intersection analysis. Table 4-20 presents the queuing results for the short-term cumulative with project conditions after implementation of recommended mitigation.

Table 4-20. Cumulative Short-Term plus Project—Intersection Queuing Analysis, Signal Coordination Mitigation Results

ID	Intersection Scenario	Peak Hour	Movement	Short Term plus Project Mitigated		Impact with Mitigation?
				Storage (feet)	Queue (feet)	
8	Sierra College Boulevard/Granite Drive	Midday	NBT	365	317	Significant unavoidable*
24	Sierra College Boulevard/project driveway	Midday	SBL	225	#219	Significant unavoidable*

Notes:

ID = identification number of study intersection; NBT = northbound through lane; SBL = southbound left-turn lane

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

Source: Kittelson & Associates 2018

As shown, the impacts at Sierra College Boulevard/Granite Drive and Sierra College Boulevard/project driveway in the cumulative short-term conditions would be **significant and unavoidable**.

IMPACT 4.3-13: Potential for Creation of Substantial Traffic-Related Hazards under Cumulative Long-Term plus Project Conditions. *The proposed Costco Wholesale warehouse trips would increase queues at study area intersections, resulting in a potential for conflicting movements to cause a hazardous traffic condition, and would result in the need for re-phasing and optimization of the cycle length at study area intersections. This cumulative impact would be potentially significant.*

As shown in Tables 35, 36, and 37 of the traffic impact study (Kittelson & Associates 2018) for the weekday a.m., p.m. and weekend midday peak hours, the queues at the following intersections would extend beyond the storage lengths available at these locations. Appendix C of the traffic impact study (Kittelson & Associates 2018) includes the queuing worksheets.

- Taylor Road/King Road (a.m., p.m., and midday)
- Taylor Road/Horseshoe Bar Road (a.m., p.m., and midday)
- Horseshoe Bar Road/I-80 westbound ramp (a.m., p.m., and midday)
- Sierra College Boulevard/Taylor Road (a.m., p.m., and midday)
- Sierra College Boulevard/Brace Road (p.m. and midday)

- Sierra College Boulevard/Granite Drive (a.m., p.m., and midday)
- Sierra College Boulevard/I-80 westbound ramps (a.m., p.m. and midday)
- Sierra College Boulevard/I-80 eastbound ramps (p.m. and midday)
- Sierra College Boulevard/Schriber Way (a.m., p.m., and midday)
- Sierra College Boulevard/Rocklin Road (a.m., p.m., and midday)
- Pacific Street/Rocklin Road (a.m., p.m., and midday)
- Granite Drive/Rocklin Road (a.m., p.m., and midday)
- I-80 westbound ramps/Rocklin Road (p.m. and midday)
- I-80 eastbound ramps/Rocklin Road (a.m., p.m., and midday)
- Aguilar Road/Rocklin Road (a.m. and p.m.)
- El Don Drive/Rocklin Road (a.m. and p.m.)
- Sierra College Boulevard/project driveway (p.m. and midday)

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

Based on the criteria for a significant impact related to intersection queuing (project traffic would cause a queue overflow, or if queues overflow under no project, the project would contribute 5 percent of the total traffic for the movement), a significant impact related to an intersection queue would occur at the following intersections:

- Sierra College Boulevard/Taylor Road (am, pm, midday)
- Sierra College Boulevard/Granite Drive (midday)
- Sierra College Boulevard/project driveway (midday)

Please note that the queues at some study intersections may be lower than under existing conditions because of signal timing optimization and/or recirculation of traffic with the addition of approved/pending projects. Therefore, the proposed Costco Wholesale warehouse trips would cause a **significant impact** because increased delay would cause a queuing impact at the above intersections. The following mitigation measures are recommended for implementation.

Mitigation Measure Cum-Trans-4: Modify Signal Timing and Phasing, Restripe Intersections, and Add Turn Lane Storage to Reduce Intersection Queuing.

Prio to issuance of certificate of occupancy, the applicant shall construct the following modifications to the intersections listed below:

- *Sierra College Boulevard/Taylor Road*—Provide eastbound right overlap phasing and optimize cycle length and splits. Provide coordination with the Sierra College Boulevard/Brace Road intersection.
- *Sierra College Boulevard/Granite Drive*—Convert the eastbound through lane to a shared through-left lane with split phasing. Provide eastbound right overlap phasing and optimize cycle length and splits (150 seconds for the p.m. peak hour and 100 seconds for the midday peak hour). Remove the westbound crosswalk to provide a better timing plan.
- Sierra College Boulevard/project driveway—Provide an additional storage lane for the southbound left-turn lane (225 feet).

Significance after Mitigation

These mitigation measures were applied to the intersection analysis. Table 4-21 presents the queuing results in comparison to no project conditions.

Table 4-21. Cumulative Long-Term plus Project—Intersection Queuing Analysis, Geometric Mitigation Results

ID	Intersection Scenario	Peak Hour	Movement	Long Term plus Project Mitigated		Impact with Mitigation?
				Storage (feet)	Queue (feet)	
6	Sierra College Boulevard/Taylor Road	Midday	EBR	130	60	Less than significant
8	Sierra College Boulevard/Granite Drive	Midday	NBT	365	348	Significant unavoidable*
24	Sierra College Boulevard/project driveway	Midday	SBL	225	225	Less than significant

Notes:

EBR = eastbound right-turn lane; ID = identification number of study intersection; NBT = northbound through lane; SBL = southbound left-turn lane

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

Source: Kittelson & Associates 2018

As shown, implementing Mitigation Measure Cum-Trans-4 would reduce the queuing impact at Sierra College Boulevard/Granite Drive to less than significant. However, State CEQA Guidelines Section 15126.4 requires that mitigation measures are fully enforceable through permit conditions, agreements or other legally binding instruments. The improvements identified for Sierra College Boulevard at Granite Drive are not part of a capital improvement program nor programmed in regional transportation plans. Further, because this is outside the lead agency's jurisdiction to implement, the cumulative impact is conservatively considered to be **significant and unavoidable**.

Implementing Mitigation Measure Cum-Trans-4 would reduce the queuing impact at Sierra College Boulevard/Taylor Road and Sierra College Boulevard/project driveway to **less than significant**.

Impact 4.3-14: Cumulative Decrease in Capacity of Freeway Ramps Resulting In Queues Extending Onto Local Roadway. *The proposed project would incrementally increase vehicles using the I-80 WB and EB freeway ramps. The cumulative impact created by vehicle queuing at the ramp would be less than significant.*

Ramp metering analysis was requested by Caltrans during the scoping process to determine whether queues from the future ramp meter at the I-80 Westbound slip ramp from southbound Sierra College Boulevard would exceed storage and affect operations along the arterial. The following analysis addresses this request.

Cumulative Short-Term plus Project

Table 4-22 shows the calculated queues in feet and the minimum metering rate in vehicles per hour. The generated queues are accommodated within the available 1,200-foot long storage area. Cumulative impacts are less than significant.

Table 4-22. Cumulative Short Term Conditions-I-80 Westbound Slip Ramp Meter Analysis

Peak Hour	Short Term		Short Term Plus Project	
	Meter Rate (Vehicles/Hour)	Calculated Queue (Feet)	Meter Rate (Vehicles/Hour)	Calculated Queue (Feet)
AM	240	0	240	0
PM	240	212	240	714
Mid	240	70	240	750

Source: Kittelson & Associates 2018

Cumulative Long-Term plus Project

Table 4-23 shows the calculated queues in feet and the minimum metering rate in vehicles per hour. The generated queues are accommodated within the available 1,200-foot long storage area under the cumulative long term condition. Cumulative impacts are less than significant.

Table 4-23. Cumulative Short Term Conditions-I-80 Westbound Slip Ramp Meter Analysis

Peak Hour	Long Term		Long Term Plus Project	
	Meter Rate (Vehicles/Hour)	Calculated Queue (Feet)	Meter Rate (Vehicles/Hour)	Calculated Queue (Feet)
AM	240	107	240	142
PM	375	420	375	968
Mid	400	227	400	951

Source: Kittelson & Associates 2018

IMPACT 4.3-15: Cumulative Decrease in Performance or Safety of Public Transit, Bicycle, or Pedestrian Facilities. *The proposed project is expected to minimally increase transit ridership in the study area. The project would minimally increase pedestrian and bicycle traffic in the study area off-site. This cumulative impact would be less than significant.*

Cumulative Short-Term plus Project

The proposed project would provide pedestrian facilities on-site, linking with public facilities along the site frontages on Sierra College Boulevard and Brace Road to provide connectivity with existing facilities. In addition, the project would provide bicycle parking on-site for both members and employees. Because of the nature of products and services provided by the proposed project, the project would minimally increase pedestrian and bicycle traffic in the study area. The impact of the project on pedestrian and bicycle services under Cumulative Short-Term plus Project conditions would be **less than significant**.

Because of the nature of products and services provided by the proposed project and the limited transit connectivity provided adjacent to the project site, the project would minimally increase transit ridership in the study area. The impact of the project on transit services under Cumulative Short-Term plus Project conditions would be **less than significant**.

Cumulative Long-Term plus Project

The proposed project would provide pedestrian facilities on-site, linking with public facilities along the site frontages on Sierra College Boulevard and Brace Road to provide connectivity with existing facilities. In addition, the project would provide bicycle parking on-site for both members and employees. Because of the nature of products and services provided by the proposed project, the project would minimally increase pedestrian and bicycle traffic in the study area. The impact of the project on pedestrian and bicycle facilities under Cumulative Long-Term plus Project conditions would not be cumulatively considerable.

Because of the nature of products and services provided by the proposed project and the limited transit connectivity provided adjacent to the site, the project would minimally increase transit ridership in the study area. The impact of

the project on transit services under Cumulative Long-Term plus Project conditions would not be cumulatively considerable.