3.3.2 Section B: Regional and Local Agencies

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3.3.2.1 Letter City of Rocklin, Daniel S. Cucchi, February 10, 2020

Letter City of Rocklin

ABBOTT & KINDERMANN, INC.
ATTORNEYS AT LAW

February 10, 2020

Via Hand Delivery and E-mail

Town of Loomis
c/o Costco Comments
3665 Taylor Road
P.O. Box 1330
Loomis, CA 95650
costcocomments@loomis.ca.gov

Re: Costco Recirculated Draft EIR (December 2019)(SCH# 2017052077)

To Whom It May Concern:

This letter is submitted on behalf of the City of Rocklin. Because the proposed Costco wholesale-to-public store (the "Project") is proposed on Rocklin's border, Rocklin has a critical interest in ensuring the Project will be properly analyzed and mitigated so that it does not directly and adversely affect City of Rocklin residents, streets and nearby commercial enterprises (existing and potential). While the City of Rocklin appreciates that the Town of Loomis has met with the City to address its concerns on numerous occasions; unfortunately, many outstanding issues and concerns remain. The City of Rocklin remains committed to working with the Town of Loomis for the purpose of resolving those concerns. City of Rocklin-1

Attached is a detailed analysis prepared by Fehr & Peers regarding the evaluation of traffic impacts. (**Exhibit 1**.) As discussed below and detailed further in the exhibits, the Recirculated Draft EIR ("RDEIR") includes critical errors in the identification, evaluation and mitigation of impacts. As a consequence, these analytical errors also undermine the accuracy of the analysis of other critical environmental issues such as Air Quality, Vehicle Miles Traveled ("VMT"), Greenhouse Gases ("GHG"), and Noise. City of Rocklin staff have also reviewed the RDEIR and detailed their additional comments for your review and consideration. (**Exhibit 2**.) As discussed below and detailed further in the exhibits, the RDEIR also includes critical analytical errors of Aesthetic Impacts, Air Quality, Alternatives, and Public Safety. The City of Rocklin requests that the RDEIR and Project be modified to address the issues identified in this letter, which includes the exhibits which are incorporated into this comment letter in full. City of Rocklin-2, City of Rocklin-3, City of Rocklin-4, City of Rocklin-5

I. The Traffic Impact Study Is Fundamentally Flawed And Traffic Impacts Must Be Re-Evaluated To Disclose Unidentified Significant Impacts Of The Project.

The Traffic Impact Study ("TIS") suffers from several fundamental flaws that undermine its conclusions that the significant impacts of the Project have been accurately identified and mitigated to the extent feasible as required by CEQA. These flaws, described more fully below and in the attached letter from Fehr & Peers outlining their analytical review of the TIS, include unsupported and implausible assumptions, as well as questionable modeling and analysis choices, all of which City of Rocklin-6

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have led to the failure to (1) identify numerous Level of Service and Queuing impacts of the Project; and (2) disclose those impacts to decision makers and the public.

City of Rocklin-6 (Cont.)

a. The TIS Is Premised On Several Flawed Assumptions That Lead To An Understatement Of The Project's Actual Impacts.

The RDEIR makes several problematic choices regarding traffic assumptions, such as traffic generation rates, pass-by trips, distribution routes, and growth projections, that undermine the subsequent analysis of the Project's impacts, no matter how rigorous and thorough the subsequent analysis may have been. The consequences of these flawed decisions are that the RDEIR's conclusions are inaccurate and substantially understate the Project's impacts on the area's streets and highways.

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i. Fueling Station Assumptions Are Not Supported By Substantial Evidence.

The RDEIR supports its trip-generation rate assumptions based upon a Costco-generated study of its own stores—which notably is not included in the TIS and, thus, cannot be independently verified for its rigor and comparative value to the Project—to conclude that its assumptions for overall trip generation, pass-by and diverted trip rates are reasonable (TIS, p. 59). As Fehr & Peers notes in its comments, however, there are serious defects in those assumptions.

While the TIS notes that the unidentified list of studied Costco sites included only Costco sites with fueling stations, there is no information about how many fueling pumps were included in the selected fueling station sites. Also, given that there are nearly 600 Costco sites with fueling stations, it's impossible to know if the studied sites were a true representative sample of operations similar to the Project. Attachment A to the Fehr & Peers letter shows that a 2011 study of 40 Costco sites around the country prepared by the Project's traffic engineer only included Costco sites that had 20 or fewer fueling pumps at each site—far fewer than the 30 fueling pumps proposed for the Project. The 2011 study also shows that every additional fueling pump adds an additional 27 Weekday PM peak hour trips. These trips are unaccounted for in the RDEIR's trip generation assumptions and ultimately lead to an understatement of the Project's actual impacts as a result.

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Furthermore, the TIS assumes, without evidence, that the same pass-by and diverted trip rates identified in this same undisclosed study applies to the weekday daily trips generation assumption. (Compare TIS, Table 11 ["no data"] to TIS, Table 12 ["(4,090)" and "(3,870)"].) This assumption is contradicted by the ITE Trip Generation Manual (2017) which demonstrates that the percentage would be lower during non-commute periods which means the RDEIR understates the daily trip generation rate for the Project.

City of Rocklin-9

The RDEIR similarly makes unsupported assumptions when analyzing vehicle queuing impacts of the fueling station operations. The TIS relies on data from five existing Costco fueling station operations, none of which exceed 24 fueling stations, to conclude that queuing from the Project's 30 fueling pump station operation would not impact Project Driveway operations (TIS, p. 90). It does so by

City of Rocklin-10

asserting, without evidence, that queuing would "be shorter given the ability to fuel more vehicles simultaneously at the Project site." Furthermore, the TIS relies on an average which includes a project site in Oregon which is operationally distinct from operations in California and should not have been included. In Oregon, motorists, by law, are not allowed to dispense their own fuel and operations are actively managed by store personnel.

City of Rocklin-10 (Cont.)

With the reasonable exclusion of the Oregon site, the average 95th percentile queue per pump would be 1.16 vehicles which equates to 35 vehicles in the queue, five vehicles more than the 30 queuing spaces relied upon in the TIS. And even under the TIS's analysis which assumes 1.042 vehicles per pump, when multiplied by the 30 pumps at the station would also exceed the queuing capacity of the fueling station and inevitably lead to queue spillback into the Project driveway. Any spillback into the Project driveway would be anticipated to cause additional spillback onto Sierra College Boulevard.

City of Rocklin-11

ii. Pass-By Trips Are Unsupported And Overstated.

The same reliance on undisclosed data is used to support the assumption of overly generous pass-by rates that lead to a dramatically understated number of new trips generated by the Project. A comparison of the assumptions to widely available demographic data demonstrates that these pass-by rate assumptions are simply not reasonable or realistic.

The top 20 zip codes projected to be served by the Project account for approximately 45,000 members, all who will need to travel an average of 22 miles to reach the Project site. For sake of analysis, we generously assumed one-third of Costco members that happen to be already driving on Sierra College Boulevard (on the way to their ultimate destination)(See TIS, p. 58), decides to stop into the Project site. In order for the RDEIR's pass-by rate assumptions to be reasonable, it would require that ***27%*** of all weekday PM peak hour vehicles and ***45%*** of all Saturday midday peak hour vehicles along Sierra College Boulevard are Costco members. This is supposed to be accepted as reasonable even when considering the fact that: (1) only approximately 20% of all adults in the top 20 zip codes to be served by the Project are projected to be members; and (2) these members would need to drive 22 miles away on average so they could happen to be driving down Sierra College Boulevard during these peak periods on their way to a different destination other than Costco. It is simply unreasonable to assume a sufficient number of Costco members, which account for only 20% of the adult population in the area, would consistently drive 22 miles away on average to a small section of Sierra College Boulevard every Saturday during the peak hour in order to account for nearly 50% of the total vehicle trips on that section of Sierra College Boulevard.

City of Rocklin-12

iii. The Share of Trips Leaving The Project On Brace Road Is Unrealistically Low.

The TIS assumes that only 3% of the vehicle trips leaving the Costco site will leave via the northern exit to eastbound Brace Road, and none of those trips are presumed to use the I-80/Horseshoe Bar Road interchange (TIS, Fig. 8A). This assumption seems extremely unlikely and will severely understate reasonably foreseeable impacts on the I-80/Horseshoe Bar Road interchange. Fehr & Peers conducted weekday PM peak hour travel time runs and prepared a micro-simulation analysis of the two primary options to reach eastbound I-80: (1) heading southbound on Sierra College Boulevard to the eastbound I-80 on-ramp; and (2) heading eastbound on Brace Road to Horseshoe Bar Road. (See Exhibit 1, paragraph 4.) This analysis shows that the net result of the travel time for Option 1 would be about 100 seconds longer than traveling via Option 2. With the proliferation of mobile phone travel apps and improved GPS that are designed to identify the quickest route to a user's next destination, it is extremely likely that the TIS's presumption that 35% of Project trips will leave for eastbound I-80 via Sierra College Boulevard and only 3% will leave through Brace Road is deeply flawed and fails to identify likely impacts on the I-80/Horseshoe Bar Road interchange.

City of Rocklin-13

iv. The Cumulative Buildout Assumptions Fail To Account For Several Reasonably Foreseeable Development Projects.

The cumulative long-term no project traffic forecast fails to account for at least four different reasonably foreseeable development projects that would add a substantively considerable amount of additional traffic volume to the system, undermining the accuracy of the RDEIR's analysis. The following buildout assumptions must be included in the RDEIR's cumulative scenarios:

1. *Granite Marketplace* – This is a currently pending project being considered by the City of Rocklin since August 2018, located just south of the Project site that consists of approximately 153,000 square feet of retail development that will be entirely accessed through the eastern leg of the Granite Drive/Sierra College Boulevard intersection. The RDEIR assumed only 100 PM peak hour vehicles which is far short of the ITE Manual's projection of 575 vehicles for this amount of development.

2. *Sierra College Master Plan* – Sierra College adopted an updated Facilities Master Plan in 2019 to accommodate a 50% increase in student population over the next 20 years. While the RDEIR does account for approximately 64% of the trips projected for the Campus' entrance off Sierra College Boulevard, there appears to be no justification for why the scenario did not account for the full amount of vehicle trips identified in the FMP's EIR.

3. *College Park Residential Project* – This project is a pending project being considered by the City of Rocklin since January 2017, and consists of up

City of Rocklin-14

to 425 dwelling units and commercial uses near the corner of Rocklin Road and Sierra College Boulevard. The residential portion of this project would access Sierra College Boulevard using a new fourth leg of the Sierra College Boulevard/Stadium Way intersection. Neither this fourth leg, nor its anticipated trips, are included in the cumulative conditions scenario.

4. *Undeveloped Commercially-Zoned Property West of Project Site* – It is unclear whether the RDEIR included any buildout of this site in the cumulative scenario, but it did assume 296 weekday PM peak hour vehicle trips would use the presumed west leg of the Project Driveway intersection. This decision to assign a relatively low number of trips to the site was apparently made in spite of the fact that this is expected to be the primary entrance for the commercially-zoned site given its direct access to Sierra College Boulevard. The City of Rocklin's 2030 Travel Demand Model expects the site to yield approximately 184,400 square feet of retail commercial space which the ITE Manual would project trip generation to be 855 weekday PM peak hour trips, nearly triple that assumed in the RDEIR.

City of Rocklin-14 (Cont.)

v. The Cumulative Lane Configuration Assumptions Fail To Account For Several Reasonably Foreseeable Circulation Network Improvements.

The cumulative circulation network assumptions failed to include several planned improvements within the study area and must now be re-run:

1. *Northbound Sierra College Boulevard Improvements* – The cumulative scenario incorrectly identifies northbound Sierra College Boulevard north of Rocklin Road to Bass Pro Drive as two-lanes when a third lane has long been planned for that stretch of Sierra College Boulevard and has been presumed in numerous City of Rocklin studies. Intersection Level of Service ("LOS") results at Sierra College Boulevard/Stadium Driveway and Sierra College Boulevard/Rocklin Road are therefore inaccurate.

2. *Pacific Street Improvements* – The City of Rocklin has long-planned to widen Pacific Street to four lanes from Midas Avenue to its easterly city limits. Intersection LOS results at the Pacific Street/Delmar Avenue/Dominguez Road intersection are therefore inaccurate.

3. *Pacific Street/Rocklin Road intersection* – A multi-lane roundabout is planned for this intersection, but it is not included in the cumulative scenario.

4. *Sierra College Boulevard/Taylor Road intersection and Sierra College Boulevard b/w Taylor Road & Brace Road* – The Town of Loomis recently released an Initial Study/Mitigated Negative Declaration** for this road improvement project which includes planned lane configurations which are inconsistent with the assumed improvements in the RDEIR.

City of Rocklin-15

Figure 3. Project Features

** *Sierra College Boulevard Widening between Brace Road and Taylor Road Project Initial Study/Mitigated Negative Declaration dated December 2, 2019.*

City of Rocklin-15 (Cont.)

b. <u>The TIS Relies On An Outdated Traffic Modeling Program And Fails To Complete A Micro-Simulation Analysis That Is Recommended By (1) The Readily Available And Widely Used Updated Version Of The Highway Capacity Manual; And (2) The Relevant Academic Literature On Corridors Like Sierra College Boulevard.</u>

City of Rocklin-16

The RDEIR's traffic impacts discussion relies on the TIS's use of the *2010 Highway Capacity Manual* ("2010 HCM") to analyze impacts on area roadways from the Project. But, even though the TIS was updated in 2019, it was not completed using the more recent version

of the *Highway Capacity Manual* that was updated and available for use since 2016 ("2016 HCM"). The RDEIR or the TIS should explain why the outdated 2010 HCM methodology more accurately describes the impacts of the Project than the widely available and widely used 2016 HCM would, since it was available for several years prior to the preparation of this TIS. In addition, both the 2016 HCM and academic guidance on traffic analyses recommend that the Sierra College Boulevard corridor should be analyzed using micro-simulation in order to accurately identify the impacts of the Project. This was not done and the RDEIR and TIS should explain why this widely available micro-simulation model—which was used in the TIS only for the limited purpose of identifying travel time and speeds in the Sierra College Boulevard corridor—was not properly used despite its industry-accepted superior ability to identify and evaluate LOS and Queuing impacts on corridors such as Sierra College Boulevard.

City of Rocklin-16 (Cont.)

City of Rocklin-17

To demonstrate the flaws in using the 2010 HCM and its deterministic methods for analyzing intersections, particularly in situations involving tight signalized intersection spacing on arterial roadways, one need only look to the TIS's description of existing weekday PM peak hour conditions at the intersection of Rocklin Road/Aguilar Road. The TIS states that this intersection operates at LOS A under existing conditions, while on the ground conditions of westbound traffic queues are known to routinely extend as far back as the Sierra College campus during the weekday PM peak hour. This is the result of upstream queue spillback and imbalanced lane utilization due to heavy use of the left-hand turn lane for the I-80 westbound on-ramp, something that can only be fully captured using micro-simulation. The fact that the TIS failed to accurately describe existing conditions raises serious concerns as to the accuracy of projected traffic conditions and impacts, particularly in and around the Sierra College Boulevard corridor.

City of Rocklin-18

In order to evaluate the accuracy of the TIS prepared for the Project, the City of Rocklin contracted with Fehr & Peers to perform a proper micro-simulation analysis of the corridor. The Fehr & Peers study used the same traffic volumes and lane configurations used in the RDEIR to ensure an accurate comparison, including use of the RDEIR's flawed pass-by trip rate assumptions which if fixed would likely identify even more undisclosed traffic impacts. The micro-simulation analysis demonstrates that Project impacts are substantially understated as the combined use of 2010 HCM and its deterministic analysis methods fails to identify numerous Queuing and LOS impacts of the Project.

City of Rocklin-19

i. Use Of The Outdated Modeling Program Led To The TIS's Failure To Identify Several Significant Queuing Impacts Of The Project.

Analyzing the traffic data and assumptions from the RDEIR in the micro-simulation model identified at least eight (8) instances in which the Existing plus Project scenario would have a 95th percentile queue that exceeds the available storage, all of which should have been considered significant impacts. The micro-simulation identified sixteen (16) such instances in the Cumulative Short-Term plus Project scenario, all of which should have been identified as significant impacts. The Cumulative Long-Term plus Project shows extensive queuing impacts throughout the Sierra College Boulevard corridor, including queuing impacts on Sierra College Boulevard south of Bass Pro Drive. One particularly noteworthy unidentified queuing

City of Rocklin-20

impact is on the I-80/Sierra College Boulevard Westbound Off-Ramp. The Fehr & Peers study demonstrates that the 2010 HCM understates the projected 95th Percentile weekday PM peak hour queue lengths by a factor of three (3) under the cumulative short-term scenario, and ***a factor of ten (10)*** under the cumulative long-term scenario.

City of Rocklin-20 (Cont.)

It is also important to note that the RDEIR's assertion that the Project will have less-than-significant queuing impacts at the Project Driveway are at odds with data from its own analysis. Both the TIS data (Table 72; pp. 1618 and 1723) and the Fehr & Peers analysis show that there will be significant queuing impacts at the Sierra College Boulevard/Project Driveway intersection for the NB-through, SB-through, and WB-left turn lanes under Cumulative Long-Term plus Project weekday PM peak hour conditions, without and with the recommended mitigation measures. The Fehr & Peers analysis further identified an undisclosed significant queuing impact even with mitigation at the NB-right turn lane as well. The Project will, thus, lead to substantial queue spillbacks into the Sierra College Boulevard/Granite Drive intersection, the Sierra College Boulevard/Brace Road intersection, and within the Costco site itself, all of which will create hazardous conditions on the Sierra College Boulevard corridor. The RDEIR must be revised to correctly identify these significant impacts and the Project must adopt additional mitigation to address them.

City of Rocklin-21

City of Rocklin-22

The City of Rocklin has previously proposed that Loomis require the Project to mitigate impacts on the Sierra College Boulevard corridor through modification of the proposed entryway. It does so again here. City staff proposes the following:

- Relocate the Project Driveway at least 100 feet to the north to more centrally locate the entrance into the Project site.
- Add a one-lane right-in only entrance at the same location as the existing Project Driveway to provide direct access to the fueling station.
- Construct dual SB-left turn lanes into the Project site with two receiving lanes into the parking lot.

These changes would directly address these previously unidentified and unmitigated significant impacts by:

- Providing additional storage for the NB-through lane;
- Providing more storage capacity for the NB-right turn lane;
- Improving overall traffic operations due to more balanced lane utilization;
- Adding an additional entry point to disperse traffic entering the site; and
- Addressing SB queue spillback issues, as well as increasing available green time for allocation to NB-through lane traffic.

City of Rocklin-23

This approach is not uncommon as is illustrated in the following examples in Northern California:

Ex. 1 – Sam's Club Retail Store in Yuba City, CA

Ex. 2 – Costco Retail Store in Rancho Cordova, CA

City of Rocklin-23 (Cont.)

ii. Use Of The Outdated Modeling Program Led To The TIS's Failure To Identify Several Significant LOS Impacts Of The Project.

Analyzing the traffic data and assumptions from the RDEIR in the micro-simulation model identified the following new, previously undisclosed significant Existing plus Project LOS impacts:

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

City of Rocklin-24

The micro-simulation analysis identified the following new, previously undisclosed significant Cumulative Short-Term plus Project LOS impacts:

- *Sierra College Boulevard/Taylor Road (Weekday PM Peak Hour)* – operations would worsen from LOS D to F with the addition of project trips.

City of Rocklin-25

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

City of Rocklin-25 (Cont.)

The micro-simulation analysis identified the following new, previously undisclosed significant Cumulative Long-Term plus Project LOS impacts:

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

City of Rocklin-26

iii. *Use Of The Outdated Modeling Program Led To The TIS's Failure To Identify Significant I-80/Sierra College Boulevard Interchange Queuing Impacts.*

Analyzing the traffic data and assumptions from the RDEIR in the micro-simulation model identified the following new, previously undisclosed significant queuing impacts on the I-80/Sierra College Boulevard westbound off-ramp:

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

City of Rocklin-27

In addition, the RDEIR and/or the Final EIR should disclose additional information on any past or planned future meetings with Caltrans officials to discuss details such as (but not limited to): the feasibility of the identified improvements, any design exceptions, type of approval process (i.e., encroachment permit versus

City of Rocklin-28

PA/ED), lead agency, schedule, cost, etc. This disclosure is necessary so that decision makers and the public can adequately evaluate the viability and timing of proposed mitigation in state rights-of-way.

City of Rocklin-28 (Cont.)

II. Flawed And Unsupported Assumptions In Daily Trip Generation Rates & Re-Directed Trips Lead To A Substantial Understatement Of Project VMT.

The VMT analysis is similarly defective due to inaccurate and unrealistic assumptions in total daily trip generation and pass-by and diverted trip rates. The first and most fundamental error in the VMT analysis is the misapplication of peak hour pass-by and diverted trip rate percentages to the daily trip generation rate assumptions (because VMT is the product of new daily trips and trip distance), as discussed above in Section I(a)(i). (Compare TIS, Table 11 ["no data"] to TIS, Table 12 ["(4,090)" and "(3,870)"].) Every mis-calculated daily pass-by trip improperly reduced Project VMT by an average of 22 miles, because pass-by trips do not account for any miles on a per trip basis and effectively reduce the total Projected-generated VMT by 22 miles per pass-by trip.

City of Rocklin-29

The second, and probably most impactful defect in the trip generation assumptions is demonstrated by necessary and inescapable economic conclusions that result from the VMT calculations. The TIS assumes that the addition of the Loomis Costco site would account for an addition of only 9,100 new Costco members when combined with the Roseville Costco store membership figures (TIS, p. 94). As a result, approximately 91.3% of new trips to the Loomis Costco store are assumed to be re-directed trips from the Roseville Costco store. But a closer look at the data reveals how the assumption is unreasonable. The Project's VMT analysis assumes that the re-direction of new trips from Roseville to Loomis would reduce new trips to Roseville from 3,815 to 190. This is so because the VMT analysis does not account for more than a minimal amount of newly induced trips generated at the Roseville site as a result of the reduced crowding at the Roseville store. This alone is unreasonable and demonstrates that the trip generation assumptions are erroneous. But, taking these erroneous assumptions to their logical conclusion demonstrates the underlying economic problem.

City of Rocklin-30

As cited by Fehr & Peers in its attached letter (See Exhibit 1, paragraph 3), the academic literature on VMT and economic output demonstrates a direct correlation between VMT and gross domestic product ("GDP"). Applying this principle to the VMT assumptions in the RDEIR leads to the inevitable conclusion that by opening the Loomis store, Costco would be *reducing* economic output by 35% on a square-foot basis. To put it more simply, Costco would be proposing to double their operating costs to serve less than 10,000 new members. This only makes economic sense if the new store would induce a sufficient number of new trips to either the Roseville or Loomis store from those existing and new members, neither of which are accounted for in the VMT analysis. Thus, the VMT assumptions must be understated.

City of Rocklin-31

III. Analytical Failures In The TIS And VMT Analyses Undermine The Accuracy Of Downstream Impact Analyses For Air Quality, GHG & Noise.

Failing to accurately identify Project trip generation and VMT have ripple effects throughout other sections of the EIR as well. When weekday daily trip rates and the VMT for each of those trips are understated, air quality impacts are understated because the conclusions are based upon factors that rely on correctly identifying the actual number of trips generated by a project and how far they

City of Rocklin-32

travel. The same goes for GHG, as fuel consumption is a major contributor to GHG emissions and, thus, any miscalculation of the amount of fuel burned by understating trips and travel lengths will necessarily lead to an understatement of corresponding GHG emissions calculations. Noise calculations must also be updated as roadway noise is understated when new trip generation rate assumptions inaccurately describe the projected number of vehicles that will be using the area roadways.

City of Rocklin-32 (Cont.)

IV. The Air Quality Analysis Improperly Ignores A Mandatory Loomis General Plan Policy, Fails To Account For Dramatically Lower Purported Emissions Despite No Material Change In Project Since 2018 DEIR.

Table 3.3-4 identifies that short-term construction impacts for the Project would generate NOx emissions in the amount of 76.1 lbs./day for rough grading and 29.8 lbs./day for base for paving. Given that these activities can overlap, the conclusion that NOx emissions would not exceed the 82 lbs./day threshold is questionable without mitigation that would ensure these activities would not otherwise occur on the same day, or other potential mitigation that reduces combined emissions to a less-than-significant level.

City of Rocklin-33

Regarding the RDEIR's lack of CO modeling (sometimes called hot-spot analyses) for mobile-source emissions at impacted intersections in Impact 3.3-3, the RDEIR dismisses the mandate to complete CO modeling for impacted intersections in the Loomis General Plan (Natural Resources and Open Space Policy 1.e) in favor of more recently adopted policy by the Placer County Air Pollution Control District ("APCD"). The RDEIR cannot simply ignore a mandatory policy in the Town's general plan and the RDEIR must be revised to include the required CO modeling. This is particularly important when compliance with the Town's policy would be more protective of the public than asserting compliance with the Placer County APCD policy which does not trigger such CO modeling for the Project.

City of Rocklin-34

Several other Impact Analyses assert dramatically lower emissions from the Project as compared to the conclusions in the 2018 DEIR (i.e., Impacts 3.3-1 (Generation of Temporary, Short-Term, Construction-Related Emissions of Criteria Pollutants and Precursors), 3.3-3 (Generation of Local Mobile-Source Carbon Monoxide Emissions), 3.3-4 (Exposure to Sensitive Receptors to Toxic Air Contaminant Emissions) and 3.3-5 (Exposure of Sensitive Receptors to Objectionable Odors). This is particularly shocking given the Project has not substantially changed, except to increase the number of fueling pumps, which one would normally expect to find greater impacts not fewer. The RDEIR should explain the discrepancy between the 2018 DEIR analysis and the 2019 RDEIR analysis.

City of Rocklin-35

V. The Aesthetics Analysis Fails To Evaluate Inconsistency With Applicable General Plan Policies and Regulations.

All inadequacies in the RDEIR's aesthetics analysis are discussed in more detail in Exhibit 2, prepared by Rocklin staff, but some are summarized below. The comments identify several failures to adequately comply with CEQA requirements.

City of Rocklin-36

a. The RDEIR Failed To Analyze The Project's Non-Compliance with GP Policies And Regulations As Required For Designated Urban Areas

The RDEIR correctly notes that the applicable threshold of significance of project impacts on viewsheds is whether that project conflicts with appliable regulations governing scenic quality. But, the RDEIR incorrectly asserts that the Town of Loomis is not located within an urbanized area. (See Impact 3.2-1.) CEQA Guidelines section 15387 defines "urbanized area" as "a central city or a contiguous group of cities with a population of 50,000 or more, together with adjacent densely populated areas having a population density of at least 1,000 persons per square mile." As discussed in the CEQA Guidelines, that determination can be made by looking to U.S. Census maps. City of Rocklin-36 (Cont.)

Both the 2000 Census Urbanized Area Map (https://www2.census.gov/geo/maps/urbanarea/uaoutline/UA2000/ua77068/ua77068_00.pdf) and the 2010 Census Urbanized Area Map (https://www2.census.gov/geo/maps/dc10map/UAUC_RefMap/ua/ua77068_sacramento_ca/DC10UA77068_000.pdf) identify Loomis as included in the Sacramento Urbanized Area. Thus, the Aesthetics analysis in the RDEIR is fundamentally flawed because it applied the wrong metric. The analysis must consider compliance with all applicable regulations governing scenic quality as required by CEQA. These include several Loomis General Plan policies identified in the regulatory setting, but never evaluated for project consistency and the potential impacts that could result from non-compliance. The analysis must also consider relevant Loomis General Plan policies that were not identified in the RDEIR including: City of Rocklin-37

- Community Design and Character Policy 3 – Each development project should be designed to be consistent with the unique local context of Loomis. (a) Design projects that fit their context in terms of building form, siting and massing. (b) Design projects to be consistent with a site's natural features and surroundings. City of Rocklin-38
- Community Design and Character Policy 5 – Design projects to minimize the need to use automobiles for transportation. (a) Emphasize pedestrian and bicycle circulation in all projects. (b) Give individual attention to each mode of transportation with potential to serve a project and the Town, including pedestrian, bicycle, transit, rail, and automobile. (c) Plan for trail systems, where appropriate to connect areas of development with natural and recreational resources. City of Rocklin-39
- Community Design and Character Policy 6 – Encourage an active, varied, and concentrated urban life within commercial areas. (a) Create and maintain pedestrian oriented centers of development within commercial areas that contain mixtures of retail, other employment, and other uses. (b) Create clustered and mixed use projects within the Downtown Core centers that combine residential, retail, office and other uses. City of Rocklin-40

- All Downtown/Town Center Area Goals & Policies given that the Project site is located within the Downtown/Town Center Area (Loomis GP, Land Use Element, Fig. 3-3) and is subject to Town Center Master Plan standards and regulations. City of Rocklin-41

b. The RDEIR Assumes, Without Evidence, That The Project Will Comply With An Applicable Specific, Numerical Standard In Town Regulations.

The RDEIR notes an explicit requirement in Loomis regulation 13.30.080 that requires outdoor lighting not to "produce an illumination level greater than one foot-candle on any property within a residential zoning district," and simply deems the Project consistent by pointing to shielding and cut-off lenses to assert, without evidence, that the Project will comply with the no more than one foot-candle requirement. (See Table 3.2-1.) The RDEIR should require a lighting study or other similar means of measuring light spill onto the adjacent residential properties in order to conclude that the project is compliant with this development standard. City of Rocklin-42

VI. Alternatives

The EIR's rejection of alternative sites analysis does not meet CEQA's requirements. The DEIR evaluates four other potential locations within the Town of Loomis. All come with obvious constraints such that the sites cannot be seriously considered as they are not "reasonable." None of the sites are consistent with the Town's General Plan (see analysis 6.3.1-6.3.4). All but one would meet the *optimal* lot size standard established by the applicant (which suggests the 16-acre lot size is *ideal*, but not *required*), though three of the sites (Opportunity Sites 2-4) were rejected, at least in part, for failing to meet the "minimum land area" or was "not conducive" because it failed to meet the 16-acre threshold, without providing any evidence to support the assertion that 13+ acres is insufficient. City of Rocklin-43

As to Offsite Opportunity sites 2 and 3, these are facially defective as neither is located near a functioning interchange, which directly pertains to two of the Town's five objectives. They are also both physically bisected by public roads making them less than desirable for potential project site layouts. These straw man alternatives were set up to fail from the outset. City of Rocklin-44

Thus, the adequacy of the RDEIR turns on what was actually studied. The studied alternatives included two no-project alternatives, along with a no fueling station alternative, a reduced floor space alternative, and a reduced floor space/no fueling station alternative. The RDEIR's attempt to reject these alternatives fails to meet the requirements of CEQA as the RDEIR (1) now includes revised project objectives that render the range of alternatives unreasonable because two of the four alternatives are not "potentially feasible"; and (2) makes material unsubstantiated assumptions and lacks substantial evidence and critical analysis to support the rejection of these alternatives. City of Rocklin-45

a. The Evaluation Of Alternative 1B Dramatically Overstates Its Traffic, Air Quality And GHG Impacts.

The discussion and analysis of Alternative 1B (No Project/Future Development) (Section 6.4.1.2) appears to be severely flawed. Despite representing the type of generic mixed use project that should have substantially reduced the number of vehicle trips that would be generated at the site, the analysis concludes that trip generation would be materially City of Rocklin-46

greater than a 155,000 square foot warehouse retail facility and 30 pump fueling station. This cannot be accurate. It appears as though the trip assumptions for Alternative 1B were overstated, because the pass-by and diverted trip assumptions that were applied to the Project were not applied to the future development scenario. This decision also led to an overstatement of air quality and greenhouse gas impacts, since they both rely on mobile source emissions from new daily trips. This may simply be an inadvertent error, since there is no established reasoning or factual basis to conclude that the future development scenario would not be eligible for similar pass-by and diverted trip assumptions. Nonetheless, the analysis is insufficient unless it either corrects the error or provides the necessary data and reasoning to support the RDEIR's failure to provide a similar credit for pass-by and diverted trips to Alternative 1B.

City of Rocklin-46 (Cont.)

City of Rocklin-47

City of Rocklin-48

b. Alternatives 2 and 4 Are No Longer Potentially Feasible Alternatives After Revision Of Project Objectives.

The DEIR sets forth eleven applicant objectives and five Town objectives (Section 6.2.1). When the prior DEIR concluded that the no-fueling-station alternative "would not go as far toward meeting the project objectives when compared to the proposed project," the City of Rocklin's previous comment letter noted that the DEIR used the wrong metric when it relied upon two applicant objectives and one Town objective to make that conclusion. The RDEIR, however, cleverly attempts to rectify this deficiency by adding the phrases "and a fueling station" and "and fuel" to three of the Town objectives, as well as a new Applicant objective ("Develop a fueling station and tire facility to serve customers of the retail warehouse"), to now be able to conclude that the no fueling station alternatives (Alts. 2 and 4) "would not meet the following [five] objectives." (Sections 6.4.2.8 and 6.4.4.8.)

City of Rocklin-49

While this may provide additional support for the rejection of this alternative, it now renders the inclusion of any alternative that does not include fueling stations into straw men alternatives and, thus, undermines the claim that the RDEIR included a reasonable range of alternatives. Every alternative that eliminates the fueling station can be summarily rejected for failure to meet the same five Project Objectives. By adding these new fueling station focused objectives, the RDEIR must review its prior list of alternatives to ensure the selected ones still represent a "reasonable range of potentially feasible alternatives." (CEQA Guidelines §15126.6(a).) Here, the list of reasonable alternatives should have been revised to include a reduced size fueling station, since the no fueling station alternative and the reduced floor space/no fueling station alternative are no longer "potentially feasible." A reduced fueling station alternative would be potentially feasible because its size would be consistent with: (1) the size of the fueling stations found in the 2011 Costco study (Attachment A to Fehr & Peers letter) which identified sites with no more than 20 fueling stations around the country; and (2) the TIS which relied on five western U.S. Costco sites to support its fueling station trip generation rates and queuing analyses where the largest operation only had 24 fueling pumps (TIS, p. 90).

City of Rocklin-50

In addition, the RDEIR's conclusion that the two no fueling station alternatives (Alts. 2 and 4) will not meet the applicant's objective to "Develop a Costco warehouse large enough to accommodate all uses and services that Costco provides to its members elsewhere" (Sections 6.4.2.8 and 6.4.4.8.) is in error, because the phrase is remarkably vague. Nothing in

City of Rocklin-51

the RDEIR supports the conclusion that fueling stations are a mandatory element of a Costco. In fact, Costco reports in its 2019 Annual Investor Report filing that it operates 593 fueling stations, even though there were 782 Costco stores operating at the end of 2019.[1] In other words, one-quarter of all Costco stores do not sell gasoline, demonstrating that petroleum is not a service that Costco provides to its members "elsewhere" in every location.

City of Rocklin-51 (Cont.)

c. The Determination That Alternative 3 Did Not Meet Every Project Objective Is Unsupported by Substantial Evidence.

The RDEIR also considers and then rejects the reduced floor space alternative even though Table 6-13 on pages 6-23 and 6-24 notes that the reduced floor space alternative, which reduces the warehouse structure by 20%, but includes the fueling station as proposed, meets all but 1 of the 16 project objectives. It concludes that this alternative would either not meet or only partially meet the project objective: "Develop a Costco warehouse large enough to accommodate all uses and services that Costco provides to its members elsewhere." (Section 6.4.3.8.) This analysis is devoid of any discussion of how the alternative fails to attain the basic objectives of the project and in fact, the RDEIR expressly assumes that "[a]ll activities planned for the proposed project would occur under Alternative 3." Costco's own website states that the average store is 145k square feet, ranging from 73K to 205K square feet, which undercuts any suggestion that there is a required minimum store size for Costco to be able to "accommodate all uses and services that Costco provides." (**Exhibit 3**.) It would appear that more likely than not this alternative meets *all* of the project objectives.

City of Rocklin-52

VII. The RDEIR Fails To Consider, Let Alone Evaluate Reasonably Foreseeable Impacts On Public Safety That Will Result From The Project.

The City of Rocklin has concerns relative to Public Safety Impacts that have not been acknowledged or addressed in the RDEIR. The RDEIR discusses and mitigates potential disruptions to emergency service response times during project construction through the requirement of a Traffic Control Plan (i.e., discussion of Temporary Construction Impact 3.7-4 on RDEIR page 3.7-34 and proposed Mitigation Measure 3.7-4 on page 3.7-35). Given the Project's location, however, it is reasonably likely that, the City of Rocklin Police Department will experience additional calls for service or requests to provide mutual response assistance to address items including, but not limited to shoplifting, auto break-ins, vehicle theft, just to name a few, as a result of the ongoing operations of the store. Increased traffic and congestion in the Sierra College Boulevard corridor is also likely to result in similar calls for police, fire, emergency medical and ambulance responses to address the likely increase in traffic accidents, as well as generate the need for enhanced traffic enforcement.

City of Rocklin-53

Such concerns need to be addressed in the RDEIR, so that a more informed analysis can be conducted and both the public and decision makers have a better understanding of the full range of impacts to Public Safety and Emergency Services created by the Project, as well as any associated mitigation proposals. These issues are only further exacerbated by the need for the Project to properly mitigate traffic impacts, discussed above, as increased traffic congestion in the area will undoubtedly impact all public safety and emergency response times. The long-term impacts of

City of Rocklin-54

[1] https://investor.costco.com/static-files/05c62fe6-6c09-4e16-8d8b-5e456e5a0f7e, pp. 3-4, accessed Feb. 6, 2020.

reduced emergency vehicle response due to increased traffic congestion during operation of the Project must be analyzed, let alone mitigated.

City of Rocklin-54 (Cont.)

VIII. Other Identified Issues Of Concern.

The exhibits to this letter also identify other concerns and suggestions to clarify identified impact analyses, such as Biological Impacts, Greenhouse Gases, Noise, Energy, Transportation, and Cumulative Impacts. We direct you to the exhibits for specific details about these other areas of concern.

City of Rocklin-55

IX. Conclusion.

As detailed above, the RDEIR contains significant flaws. The City of Rocklin anticipates that the Town of Loomis in addressing these concerns will be obligated to recirculate the RDEIR for additional public review and comment. In addition to the CEQA considerations, the City of Rocklin is engaged in ongoing consideration of general plan, zoning and project design considerations and will provide those comments by separate transmittal. The City of Rocklin is always committed to work with the Town of Loomis to successfully address the above concerns. Please contact the City Manager's office if you wish to arrange further engagement between the Town of Loomis and the City of Rocklin regarding the Project.

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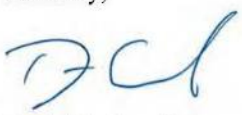
Sincerely,



Daniel S. Cucchi

DSC/wj
Enclosures
cc: Client (*w/encls.*)

FEHR PEERS

February 7, 2020

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

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

Dear Mr. Cucchi:

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

Our comments are provided below.

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

City of Rocklin-58

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

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

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

City of Rocklin-59

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

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3. **The project's net increase in VMT has been underestimated, which means that the analyses of project impacts on greenhouse gas emissions, air, and noise are incorrect insofar as they rely on VMT as an input**. This conclusion is based on the following points:

   a. Table 15 shows that the Loomis Site VMT is 8,420 miles. This is based on the following flawed or unsubstantiated assumptions:

      i. First, the proportion of daily trips that are pass-by or diverted from I-80 has been overstated, which effectively reduces VMT because their trip lengths are zero and one-half mile, respectively. In contrast, new trips average 22 miles in length.

      ii. Second, 91.3% of project trips are presumed to be redistributed from the existing Costco store in Roseville, with a mere 8.7% being new trips. This assumption stems from the conclusion on page 94 of the TIS that Costco membership is projected to increase from 95,100 members for the Roseville store to 104,200 members combined for the Roseville and Loomis stores.

   b. Table 16 shows that the opening of the Loomis Costco store would cause 2,375 miles of induced travel to the existing Roseville store (by virtue of it being less crowded). **Table 1** below puts these values into perspective (ignoring employee VMT).

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

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

Notes:

[1] All values in this table relate only to new trips and their VMT; pass-by and diverted trips are not considered here.

[2] The text on page 95 of the TIS describes trips being shifted from the Roseville to Loomis store, but does not quantify the change in VMT associated with that shift. Therefore, it is assumed here to be offset.

[3] This number demonstrates the technical flaw of this approach. It is entirely unreasonable to assume that the opening of the Loomis Costco store will cause the number of new daily trips attracted to the existing Roseville store to be reduced from 3,815 to 190.

[4] This value is calculated as: (27,468+8,250+2,375)/(136.9+155) = 130 VMT per KSF.

KSF = Thousand Square Feet.

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Footnotes 3 and 4 of the table illustrate the flawed technical approach taken to estimate the project's effect on VMT. Namely, the massive shift of 91% of the Roseville Costco store's new trips to the Loomis Costco Store, combined with very little new induced travel due to it being less crowded implies that the number of new trips at the Roseville site will be 5% of what it currently is. City of Rocklin-62

A fundamental component of the DEIR's VMT estimation methodology is that the number of new trips (and VMT) to the two stores is proportional to the total number of members, and *not to the frequency of member trips*. This approach ignores the basic premise that the addition of a second store will likely entice more frequent trips by both existing and new members. It could also shift trips from other discount club stores in the area. This disregard for likely changes in Costco member trip frequency represents a major oversight in the VMT estimation. City of Rocklin-63

Academic journals and stories (e.g., https://trid.trb.org/view/1127465) have reported on the relationship between VMT and gross domestic product (GDP), finding general correlation between the two. Given this, why would Costco take actions to reduce its VMT per KSF from 200 to 130, a 35% drop? In all likelihood, that it is not their intention, which can only mean that the VMT in the DEIR has been underestimated. City of Rocklin-64

4. **The usage of Brace Road east of the project site by outbound project trips has been underestimated. This results in project impacts on Loomis streets and at the I-80/Horseshoe Bar Road interchange being potentially not identified.** Travel time runs were performed during the weekday PM peak hour on Wednesday, January 8, 2020. Two sets of runs were performed for the following two routes:

   a. Route 1: Begin on southbound Sierra College Boulevard at proposed Costco Store signalized driveway and merge onto eastbound I-80, terminating travel time run east of the Horseshoe Bar Road interchange.

   b. Route 2: Begin on eastbound Brace Road at proposed Costco Store frontage, travel eastbound on Brace Road, northbound on Horseshoe Bar Road, and merge onto eastbound I-80, terminating travel time run east of the Horseshoe Bar Road interchange. City of Rocklin-65

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

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

   i. Added delay turning out of signalized project driveway: 29 seconds
   ii. Added delay on southbound Sierra College Boulevard at Granite Drive: 35 seconds
   iii. Added delay on southbound Sierra College Boulevard at WB Ramps: 22 seconds

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

City of Rocklin-65 (Cont.)

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

City of Rocklin-66

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

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

Notes:

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

[2] Ranked from lowest to highest queue.

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

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

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

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

City of Rocklin-66 (Cont.)

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

City of Rocklin-67

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

City of Rocklin-68

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

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

City of Rocklin-69

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

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

City of Rocklin-69 (Cont.)

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

City of Rocklin-70

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

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

City of Rocklin-71

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

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

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

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

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

City of Rocklin-71 (Cont.0

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

1. *Microsimulation is recommended for facilities with significant congestion and/or operational problems, whereas simpler tools, such as deterministic methods and macrosimulation, are recommended for less complex projects.*
2. *Many microsimulation models are used because the macroscopic deterministic analytical techniques do not fully capture the extent of congestion.*

City of Rocklin-72

(b) The Consultant who performed the TIS micro-simulation analysis (using the SimTraffic module within Synchro) for this study, but only used those results to describe corridor travel times and speeds. According to Table 21, the average delay per vehicle within the corridor during the weekday PM peak hour increased from 55 seconds (existing) to 94 seconds under existing plus project conditions. Table 22 indicates that during the weekday PM peak hour, northbound travel speed decreases from 21 to 14 miles per hour (mph), and southbound travel speed decreases from 26 to 16 mph. Independent analysis of these conditions by Fehr & Peers (using DEIR lanes and traffic volumes) confirm similar declines in operations. City of Rocklin-73

(d) Despite academic guidance that suggests microsimulation should have been applied in the Sierra College Boulevard corridor and analysis showing significantly worsened conditions when microsimulation is used, the DEIR nonetheless still relied on synchro results to identify impacts. Review of Table 17 for weekday PM peak hour conditions for Access Option 1a shows that using the deterministic HCM methods, the project would increase the average delay at Sierra College Boulevard intersections with Taylor Road, Brace Road, Granite Drive, I-80 WB Ramps, and I-80 EB Ramps from 22 to 25 seconds per vehicle (see Attachment B). This is a far different, less impactful conclusion than the 55 to 94 second worsening of corridor travel times (based on microsimulation results) reported in Table 21. City of Rocklin-74

(e) When describing the results of the simulation analysis of Sierra College Boulevard, Page 121 of the TIS states "the project increases delay, travel time, and reduces arterial speed for all peak hours and directions." Yet the official DEIR conclusions regarding significantly impacted under existing plus project conditions shows just three intersections, none of which are situated near the project site. However, the DEIR does identify (on page 3.7-30) queuing related impacts at the Sierra College Boulevard/Granite Drive and Sierra College Boulevard/I-80 WB Ramps intersections. The next comment evaluates the adequacy of the conclusion that adverse queuing effects are limited to those intersections. This is performed using the more appropriate microsimulation model for the corridor. City of Rocklin-75

11. **Impacts Statements 3.7-2 and 3.7-3 understate the degree of existing plus project impacts on facilities owned/operated by the City of Rocklin, Town of Loomis, and Caltrans.** The following pages includes **Tables 3 and 4** which summarize independent analysis results (see Attachment B for technical calculations) by Fehr & Peers for existing and existing plus project conditions using microsimulation for the segment of the Sierra College Boulevard corridor from Taylor Road to Rocklin Road. To facilitate direct comparisons, all analyses are performed for weekday PM peak hour and Saturday midday conditions using the traffic volumes and lane configurations contained in the DEIR for that particular scenario and time period. Intersection delay and LOS results are then compared (in Table 3) against the published values in the DEIR. In addition, an existing plus project 95th percentile queue table (Table 4) is City of Rocklin-76

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

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

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

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

City of Rocklin-76 (Cont.)

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

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

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

City of Rocklin-77

FEHR PEERS

Table 3: Intersection LOS Comparison for Existing Conditions

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

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

City of Rocklin-78

Table 4 : Vehicular Queuing Comparison under Existing Plus Project Conditions

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

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

City of Rocklin-78 (Cont.)

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

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

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

City of Rocklin-79

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

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

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

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

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

Source: Technical Appendix of TIS, and Fehr & Peers, 2020.
Notes: Shaded cells indicate queue spillbacks that extend back to an upstream signalized intersection that is considered a significant impact. In some instances in the table below, a "Y" value is shown in a cell but it is not highlighted This is because the queue may have already spilled back to the upstream intersection under 'no project' conditions and the project did not increase the approach volume by 5% or more.

City of Rocklin-80

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

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

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

City of Rocklin-80 (Cont.)

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

Southbound traffic spills back to Taylor Road due to:

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

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

City of Rocklin-80 (Cont.)

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

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

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

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

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

    City of Rocklin-81

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

    City of Rocklin-82

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

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

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

City of Rocklin-82 (Cont.)

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

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

City of Rocklin-82 (Cont.)

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

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

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

City of Rocklin-83

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

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

Source: Fehr & Peers, 2020 (see Attachment B for technical calculations).
Notes: Shaded cells indicate a significant impact based on DEIR significance criteria. Mitigations consist of list in Table 65 for Option 1A.

City of Rocklin-83 (Cont.)

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

City of Rocklin-84

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

City of Rocklin-85

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

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

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

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

City of Rocklin-85

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

City of Rocklin-86

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

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

Notes:

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

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

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

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

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

19. **The project would worsen queuing at the I-80 westbound off-ramp at the Sierra College Boulevard interchange. The DEIR and TIS fail to disclose these significant impacts. Table 11** below the 95th percentile queue length for the I-80 westbound off-ramp based on results from the TIS. It concludes that queued vehicles would not queue back onto the freeway under any scenarios. In contrast, the micro-simulation analysis performed as part of the independent peer review revealed the following project impacts:
    - Project would cause the vehicle queue to spill back onto the freeway during the PM peak hour under cumulative short-term conditions.
    - Under cumulative long-term conditions, the project would exacerbate queues that already extend a considerable distance onto the freeway.

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

City of Rocklin-87

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

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

Notes:

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

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

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

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

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

City of Rocklin-88

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

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

City of Rocklin-89

22. **Fehr & Peers and the City of Rocklin reiterate our previous comments that the proposed signalized Costco driveway be situated at least 100 feet north of its proposed location and have appropriately-sized turn lanes**. Reasons for locating the signal 100 feet or more north of its proposed location are three-fold, including:
    i. *It would enable the northbound right-turn lane (entering the Costco Store parking lot) to be increased from 160 feet to at least 250 feet.* Lengthening of this turn pocket will reduce queuing in the adjacent through lane due to vehicles otherwise being blocked from accessing the turn lane.
    ii. *It would enable the northbound left-turn lane (serving the undeveloped retail-zoned property on the west side of the street) to be increased from 160 feet to at least 250 feet.* Given the size of this parcel and the number of trips it would generate, the City of Rocklin would potentially need to prohibit this left-turn movement (if turn lane storage is limited as currently proposed) due to likely queuing out of the turn pocket. This could introduce a potential safety hazard due to motorists attempting to unlawfully turn into the site from the northbound through lane (since all other movements would be permitted).
    iii. *It would provide improved traffic operations by virtue of less frequent queue spillbacks into the Granite Drive intersection and greater distance to accomplish lane changing maneuvers (i.e., more balanced lane utilization).*

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

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

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

City of Rocklin-90

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

City of Rocklin-91

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

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

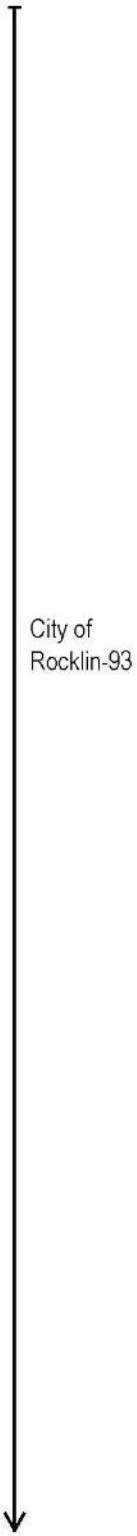
City of Rocklin-92

Respectfully Submitted,

FEHR & PEERS

John Gard, P.E.
Principal

Attachment A



FEHR PEERS

KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING / PLANNING
101 S Capitol Boulevard Suite 301, Boise, ID 83702 208 338 2683 208 338 7665

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

before and after expansion data

395

United States

LOCATION	FUELING POSITIONS	WEEKDAY AM PEAK TRIPS TOTAL TRIPS	WEEKDAY AM PEAK TRIPS RATE	WEEKDAY PM PEAK TRIPS TOTAL TRIPS	WEEKDAY PM PEAK TRIPS RATE	SATURDAY PEAK TOTAL TRIPS	SATURDAY PEAK RATE	WEEKDAY DAILY TOTAL TRIPS	WEEKDAY DAILY RATE	WEEKDAY DAILY TOTAL TRIPS	WEEKDAY DAILY RATE	
Milford, CT	12			358	29.83	412	34.33					
Waterbury, CT	12			362	30.17	360	30.00					
Bedford Park, IL	12							1404	117.00	1418.0	118.17	NOTE - pulled as a very small market sample
Merrillville, IN	12							1508	125.67	1730.0	144.17	NOTE - pulled as a very small market sample
Vancouver, WA	12			372	31.00	382	31.83	4740	395.00	4040	336.67	
Medford, OR	12	232	19.33									
Albany, OR	12			315	26.25							
Salem, OR	12			320	26.67	348	29.00	3982	331.83	3218	268.17	
Wilsonville, OR	12			306	25.50	340	28.33	3886	323.83	3244	270.33	
Missoula, MT	12			278	23.17	294	24.50					
Orem, UT	12			380	31.67	294	24.50	4478	373.17	2868	239.00	
Folsom, CA	12			354	29.50	376	31.33	4740	395.00	3977	331.00	
Corona, CA	12			307	25.58	316	26.33					
Chino Hills, CA	12			364	30.33	342	28.50					
Laguna Niguel HR, CA (1,704)	12					440	36.67					
Citrus Heights, CA	12					370	30.83					
Santa Clara, CA	12	256	21.33	378	31.50	386	32.17	5426	452.17	4294.0	357.83	
Redwood City, CA	12			400	33.33	430	35.83					
Kauai, HI	12			260	21.67	264	22.00	2730	452.17	2420.0	201.67	
Woodenville, WA	16			416	26.00							
Aurora Village, WA (Seattle)	16			414	25.88							
Vancouver, WA	16			474	29.63	492	30.75	5418	338.63	4776	298.50	
Eugene, OR	16	294	18.38									
Wilsonville, OR (counts)	16					381	23.81					
Hillsboro, OR	16					367	22.94					
Portland, OR	16					462	28.88					
Salem, OR	16			370	23.13	414	25.88	4446	277.88	3752	234.50	
Wilsonville, OR (transactions)	16			306	19.13	374	23.38	3548	221.75	3160	197.50	
Orem, UT	16			450	28.13	340	21.25	4780	298.75	3162	197.63	
Folsom, CA	16			432	27.00	484	30.25	5186	324.13	4640	290.00	
Simi Valley, CA	16			414	25.88	392	24.50					
NE San Diego, CA	16			362	22.63							
Rancho Del Ray, CA	16			414	25.88							
Oxnard, CA	16			392	24.50	410	25.63					
Moreno, CA	16			372	23.25							
Laguna Niguel HR, CA (3706)	16					502	31.38					
Fountain Valley, CA	16			467	29.19	464	29.00					
City of Industry, CA	16			466	29.13	476	29.75					
Carlsbad, CA	16			440	27.50							
Burbank, CA	16			416	26.00	468	29.25					
Garden Grove, CA	16					442	27.63					
Antioch, CA	16					380	23.75					
Vallejo, CA	16					440	27.50					
Santa Clara, CA	16	290	18.13									
San Diego (Morena), CA	16	230	14.38	440	27.50	500	31.25	5260	328.75			
El Camino (S San Fran), CA	16			500	31.25	516	32.25	6722	420.13	5866	366.63	
NE San Jose	16			474	29.63	494	30.88	6796	424.75	5650	353.13	
San Jose II	16			430	26.88	466	29.13	5486	342.88	4964	310.25	
Kona, HI	16			472	29.50	488	30.50	5488	343.00	4784	299.00	
Honolulu, HI	16			512	32.00	532	33.25	8218	513.63	7264	454.00	
Kapolei, HI	16			402	25.13	436	27.25	4350	271.88	4298	268.63	
Waipio, HI	20			536	26.80	606	30.30	7022	351.10	6774	338.70	
Tucson, AZ	20	134	6.70	344	17.20	440	22.00	4082	204.10	3504	175.20	
Scottsdale, AZ	20	130	6.50	498	24.90	570	28.50	4988	249.40	4374	218.70	
Total Average		224	14.96	399	26.99	421	28.50	4779	328.19	4094	272.56	

City of Rocklin-93 (Cont.)

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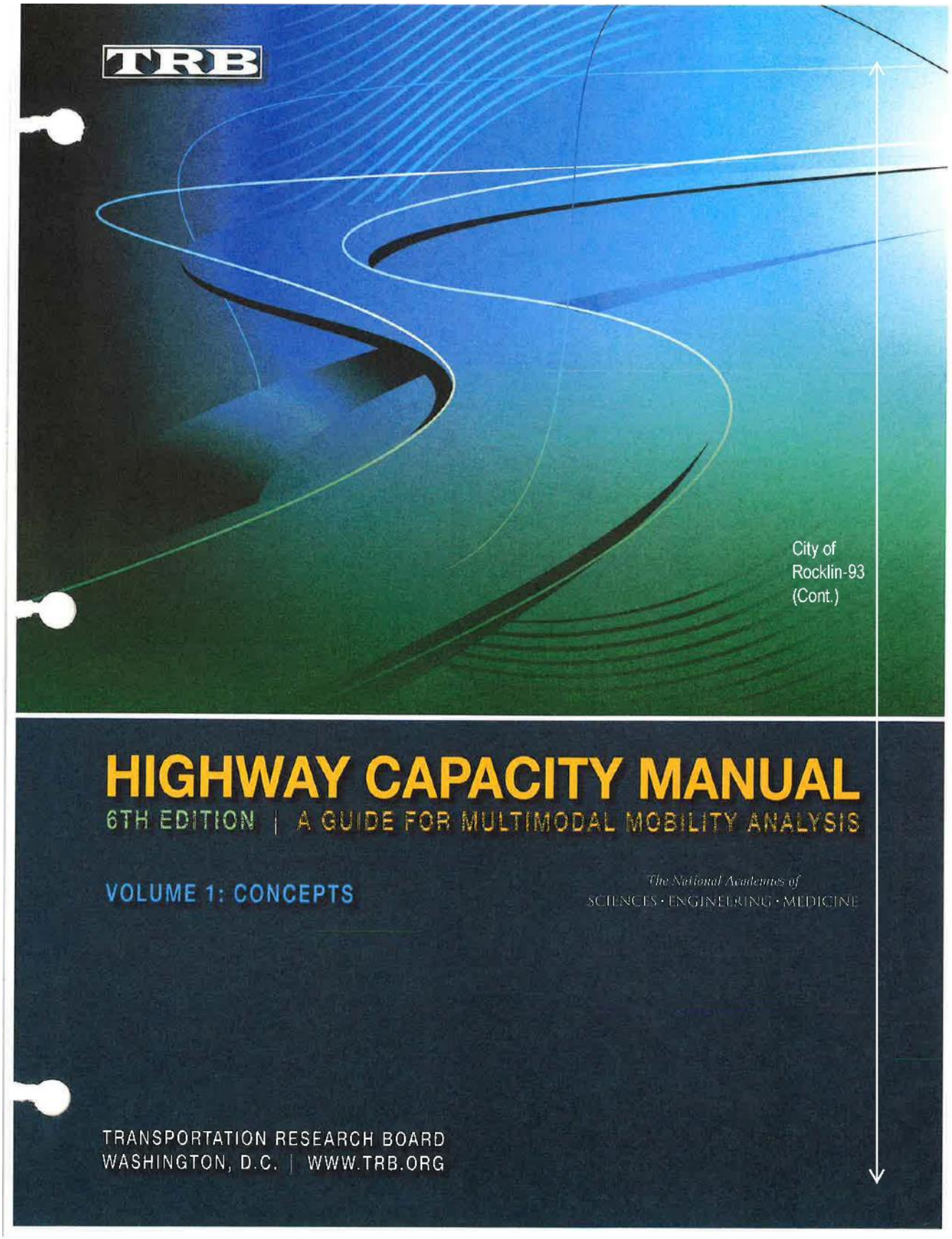
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- Are the tool's performance measures (output) defined and computed in a manner consistent with the specification given in Chapter 7, Interpreting HCM and Alternative Tool Results?

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

Exhibit 6-2
Typical Applications for Alternative Traffic Analysis Tools

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

City of Rocklin-93 (Cont.)

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

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

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

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

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

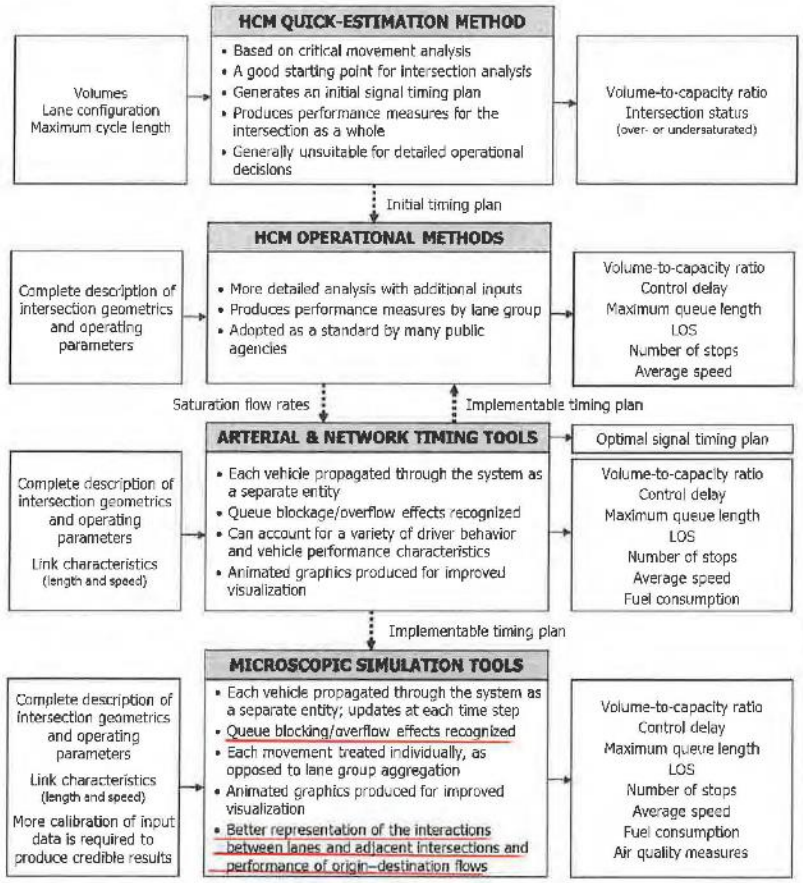


Exhibit 6-4
Urban Street Modeling Framework for the HCM and Alternative Tools

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

City of Rocklin-93 (Cont.)

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

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

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

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

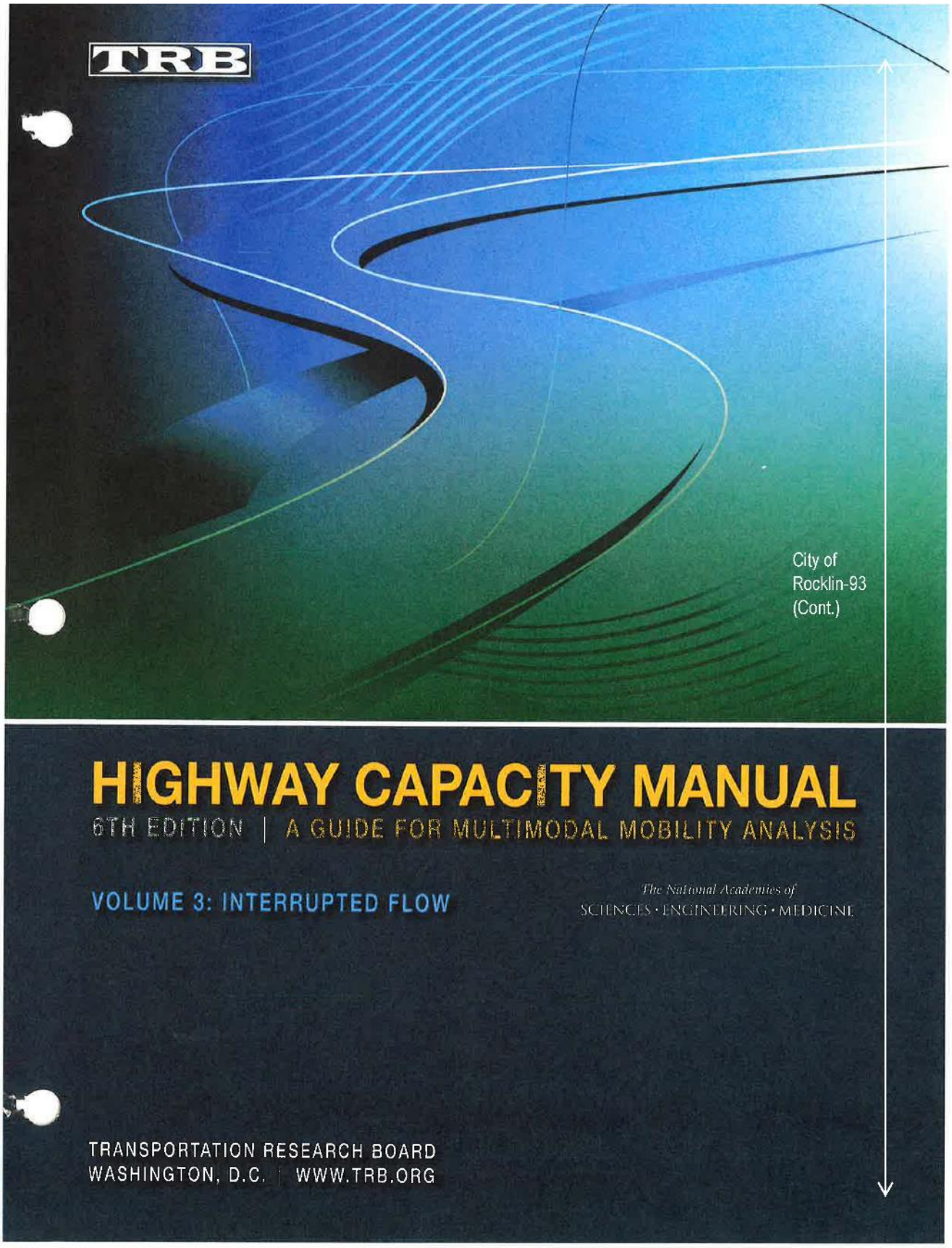
- *Microscopic simulation* provides more detail and more coverage than the HCM procedures. The additional detail comes from the microscopic nature of the model structure. The additional coverage comes from the ability to accommodate multiple links and nodes.
- *Mesoscopic simulation* provides more coverage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

City of Rocklin-93 (Cont.)

PERFORMANCE MEASURES FROM ALTERNATIVE TOOLS

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

Before the analyst can select the appropriate tool, the performance measures that realistically reflect attributes of the problem under study must be identified. For example, when oversaturated conditions are studied, use of a tool that quantifies the effects of queuing as well as stops and delay is necessary. If the methodologies presented in Volumes 2 and 3 do not provide a particular performance measure of interest to the analyst (e.g., fuel consumption and emissions), an alternative tool might be required. Exhibit 6-6 provides a summary of important performance measures for the procedures discussed in Volumes 2 and 3. The applicability of the HCM procedures and alternative tools is indicated for each chapter in this exhibit.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If evaluation of multiple analysis periods is determined to be important, then the performance estimates for each period should be separately reported. In this situation, reporting an average performance for the study period is not encouraged because it may obscure extreme values and suggest acceptable operation when in reality some analysis periods have unacceptable operation.

Performance Measures

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

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

Limitations of the Methodology

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

City of Rocklin-93 (Cont.)

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

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

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