



June 12, 2020

SUBJECT: REQUEST FOR PROPOSAL TO PREPARE A TRANSPORTATION ANALYSIS FOR THE UPPER WESTSIDE SPECIFIC PLAN PROJECT (PLNP2018-00284)

The Office of Planning and Environmental Review (PER) is seeking to contract with a transportation engineering firm (Consultant) for the preparation of a transportation analysis for the Upper Westside Specific Plan project in Natomas. A map showing the location and boundaries of the Upper Westside project (Attachment 1) and the proposed Land Use Plan (Attachment 2) are attached.

The County assumes that, at a minimum, the Scope of Work outlined in the Description of Proposal Requirements (Attachment 3) and the Sacramento Department of Transportation (SacDOT) Memo (Attachment 4) is necessary to obtain information for the transportation analysis of the Upper Westside project. Other services that the Consultant believes may be beneficial for the successful completion of the analysis should be identified in the Proposal, and described and listed as "proposed additional services" along with a separate itemization of the costs for each.

The Consultants do have the opportunity to meet with PER and SacDOT staff prior to submitting a proposal in order to answer questions and ensure the Consultant has a complete understanding of the Scope of Work.

If you have questions, please contact:

Todd Taylor, Associate Planner (taylor@SacCounty.net or 916-874-3125), or
Cameron Shew, Senior Civil Engineer (shew@SacCounty.net or 916-875-5940).

We look forward to hearing from you.

Sincerely,

A handwritten signature in blue ink, appearing to read "Todd Smith".

Todd Smith
Principal Planner

cc: Cameron Shew, SacDOT
John Lundgren, PER
Matt Darrow, SacDOT
Todd Taylor, PER

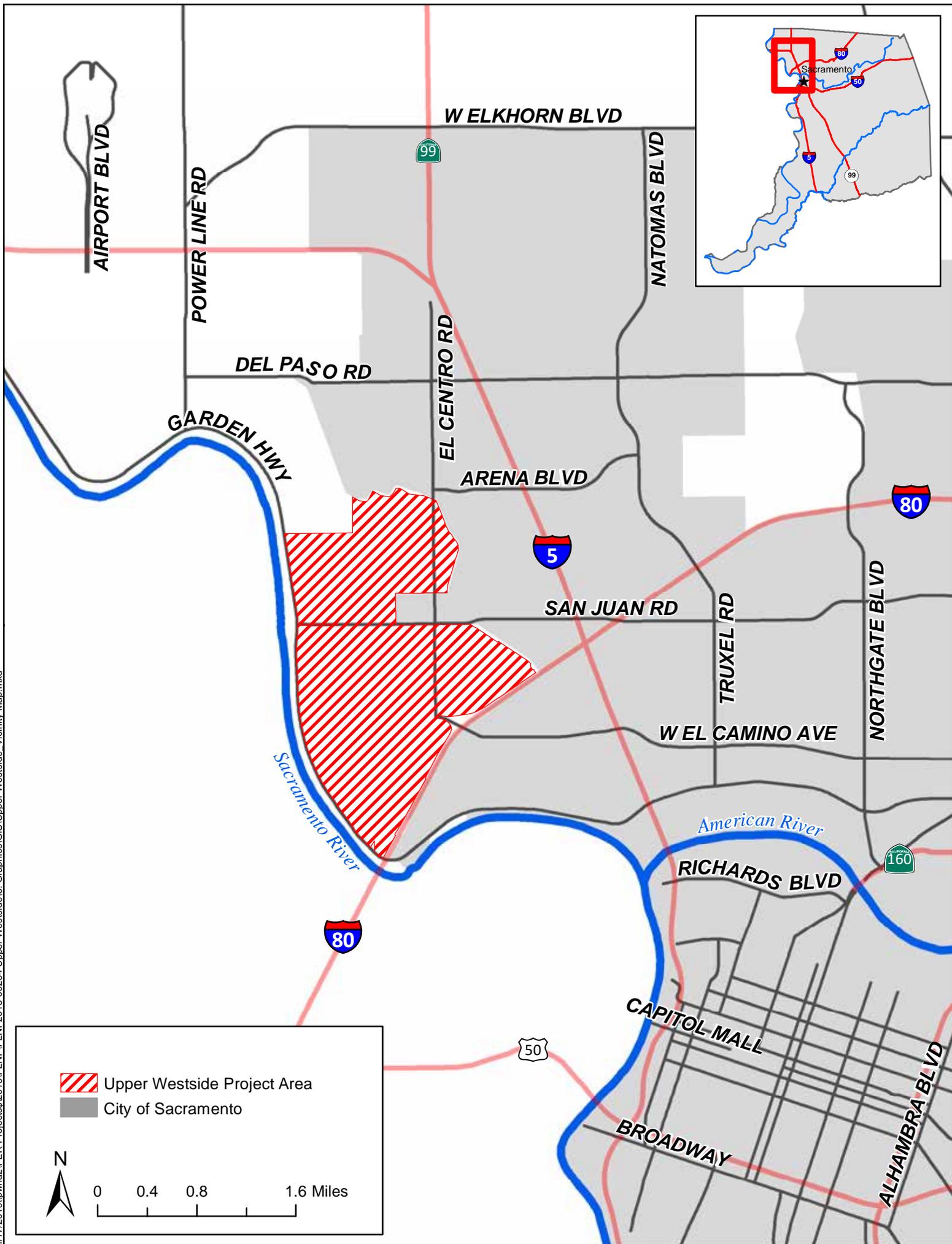
Attachments:

1. Project Vicinity Map
2. Draft Land Use Plan
3. Description of Proposal Requirements
4. SacDOT Memo
5. Sacramento County Draft Transportation Analysis Guidelines
6. Selection Criteria

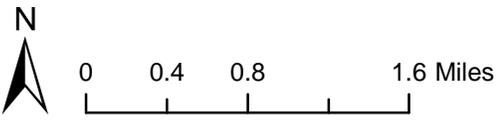
Attachment 1

Project Vicinity Map

1/17/2019 10:02:28 AM 2:PER-Projects\2018\PLN\PLN\2018-00284 Upper Westside\6. Graphics\GIS\Upper Westside_Vicinity_Map.mxd



-  Upper Westside Project Area
-  City of Sacramento



Attachment 2

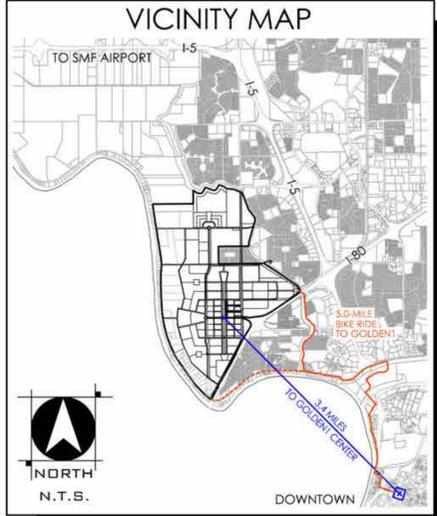
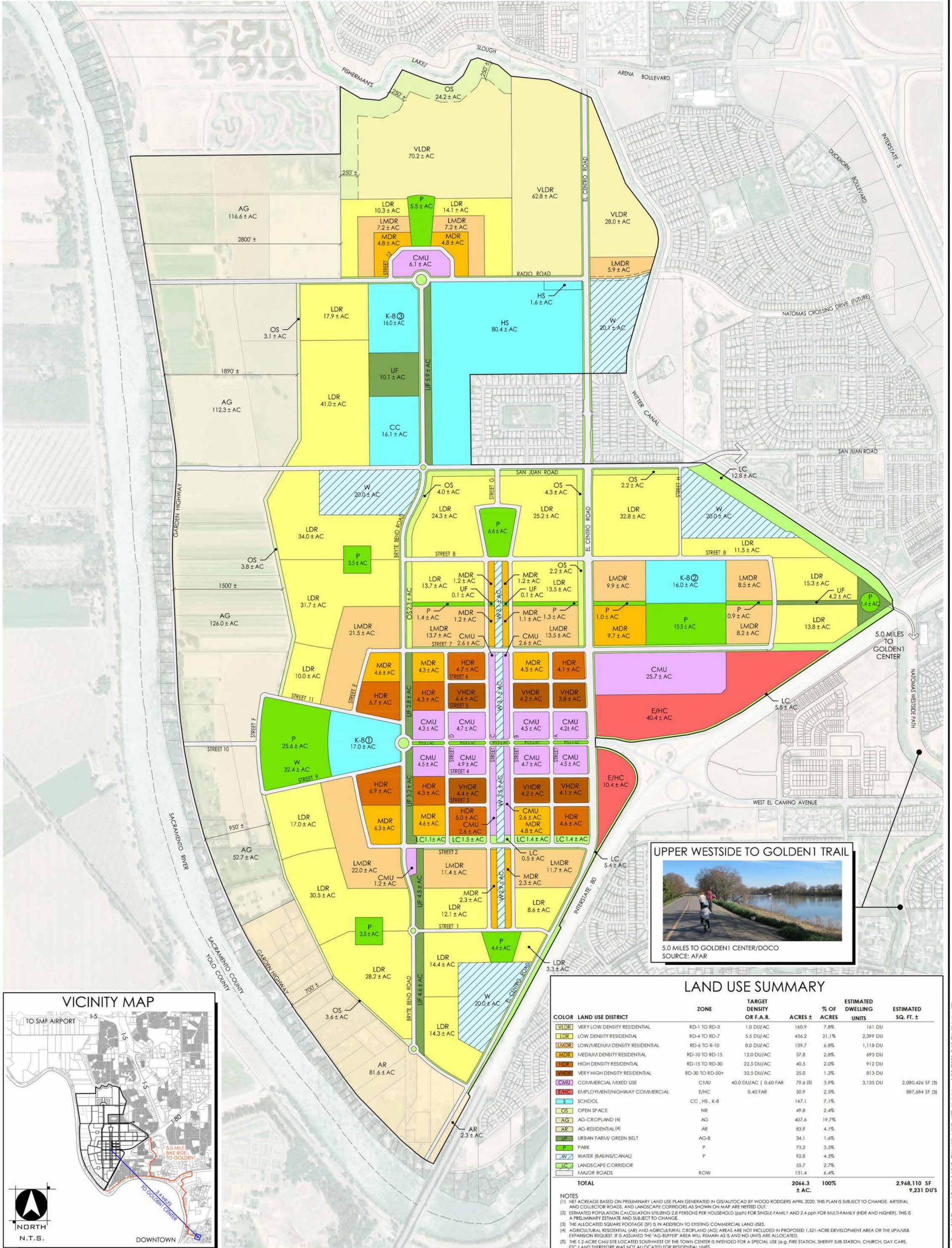
Draft Land Use Plan

PRELIMINARY LAND USE PLAN

UPPER WESTSIDE

COUNTY OF SACRAMENTO, CALIFORNIA

APRIL 2020

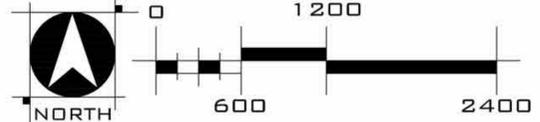


LAND USE SUMMARY

COLOR	LAND USE DISTRICT	ZONE	TARGET DENSITY OR F.A.R.	ACRES ±	% OF ACRES	ESTIMATED DWELLING UNITS	ESTIMATED SQ. FT. ±
VLDR	VERY LOW DENSITY RESIDENTIAL	RD-1 TO RD-3	1.0 DU/AC	160.9	7.8%	161 DU	
LDR	LOW DENSITY RESIDENTIAL	RD-4 TO RD-7	5.5 DU/AC	436.2	21.1%	2,399 DU	
LMDR	LOW/MEDIUM DENSITY RESIDENTIAL	RD-6 TO R-10	8.0 DU/AC	139.7	6.8%	1,118 DU	
MDR	MEDIUM DENSITY RESIDENTIAL	RD-10 TO RD-15	12.0 DU/AC	57.8	2.8%	693 DU	
HDR	HIGH DENSITY RESIDENTIAL	RD-15 TO RD-30	22.5 DU/AC	40.5	2.0%	912 DU	
VHDR	VERY HIGH DENSITY RESIDENTIAL	RD-30 TO RD-50+	32.5 DU/AC	25.0	1.2%	813 DU	
CMU	COMMERCIAL MIXED USE	CMU	40.0 DU/AC 0.60 FAR	79.6 (5)	3.9%	3,135 DU	2,080,426 SF (3)
E/H/C	EMPLOYMENT/HIGHWAY COMMERCIAL	E/H/C	0.40 FAR	50.9	2.5%		887,684 SF (3)
S	SCHOOL	CC, HS, K-8		147.1	7.1%		
OS	OPEN SPACE	NR		49.8	2.4%		
AG	AG-CROPLAND (4)	AG		407.6	19.7%		
AR	AG-RESIDENTIAL (4)	AR		83.9	4.1%		
UB	URBAN FARMS/ GREEN BELT	AG-B		34.1	1.6%		
P	PARK	P		73.2	3.5%		
W	WATER (BASINS/CANAL)	P		92.8	4.5%		
LC	LANDSCAPE CORRIDOR			55.7	2.7%		
ROW	MAJOR ROADS	ROW		131.4	6.4%		
TOTAL				2066.3 ± AC.	100%		2,968,110 SF 9,231 DU'S

NOTES

- NET ACREAGE BASED ON PRELIMINARY LAND USE PLAN GENERATED IN GIS/AUTOCAD BY WOOD RODGERS APRIL 2020. THIS PLAN IS SUBJECT TO CHANGE. ARTERIAL AND COLLECTOR ROADS, AND LANDSCAPE CORRIDORS AS SHOWN ON MAP ARE NETTED OUT.
- ESTIMATED POPULATION CALCULATION UTILIZING 2.8 PERSONS PER HOUSEHOLD (pph) FOR SINGLE-FAMILY AND 2.4 pph FOR MULTI-FAMILY (HDR AND HIGHER). THIS IS A PRELIMINARY ESTIMATE AND SUBJECT TO CHANGE.
- THE ALLOCATED SQUARE FOOTAGE (SF) IS IN ADDITION TO EXISTING COMMERCIAL LAND USES.
- AGRICULTURAL RESIDENTIAL (AR) AND AGRICULTURAL CROPLAND (AG) ARE NOT INCLUDED IN PROPOSED 1,521-ACRE DEVELOPMENT AREA OR THE UP/UBS EXPANSION REQUEST. IT IS ASSUMED THE "AG-BUFFER" AREA WILL REMAIN AS IS AND NO UNITS ARE ALLOCATED.
- THE 1.2-ACRE CMU SITE LOCATED SOUTHWEST OF THE TOWN CENTER IS INTENDED FOR A SPECIAL USE (e.g. FIRE STATION, SHERIFF SUB STATION, CHURCH, DAY CARE, ETC.) AND THEREFORE WAS NOT ALLOCATED FOR RESIDENTIAL UNITS.



WOOD RODGERS
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Sacramento, CA 95816 Fax 916.341.7767

Attachment 3

Description of Proposal Requirements

ATTACHMENT 3

DESCRIPTION OF PROPOSAL REQUIREMENTS

A. Scope of Work

Scope of Study: County staff has consulted with adjacent jurisdictions including the City of Sacramento and Caltrans to discuss a preliminary scope. The attached memo from SacDOT (Attachment 4) represents the results of this consultation and includes a preliminary scope of work for the CEQA transportation analysis (VMT analysis in compliance with SB 743) and a local transportation analysis (LTA).

Preliminary modeling should be performed to confirm the study facilities outlined in the scope of work. A final list of study facilities will be determined based on the preliminary model traffic assignment and in coordination with SacDOT, the City of Sacramento, and Caltrans staff.

1. **Identification of impacts (CEQA):** The study will need to identify impacts associated with the proposed project to vehicle miles traveled (VMT).
2. **Mitigation Measures (CEQA):** Recommend mitigation measures to reduce the impacts of the proposed project.
3. **Identification of significant transportation effects (LTA):** The study will need to identify proportional effects associated with the proposed project to transportation facilities.
4. **Transportation Improvements (LTA):** Recommend improvements to reduce the significant effects of the proposed project.
5. **CEQA Alternatives:** The Consultant should plan to include two quantitative and two qualitative alternatives to the proposed project. These alternatives are not yet known, but will be defined before the scope is finalized. This task should be included with a separate cost.
6. **LTA Alternatives:** The Consultant may assume that the proposed project will be the preferred alternative for purposes of conducting the LTA. However, the consultant should include a separate cost for a second LTA analysis in the event that one of the quantitative CEQA alternatives is chosen.

7. **Transportation Data for Air Quality Analysis:** For the proposed project, provide vehicle miles traveled (VMT), average trip lengths, total average daily traffic, number of freeway trips per day, number of local trips per day, average speeds, and other pertinent data for use in the air quality analysis.
8. **Greenhouse Gas Emission Data:** The proposed project's Environmental Impact Report (EIR) will include a section that will address greenhouse gas emissions. The Consultant will need to provide project-specific regional daily VMT data segregated by 5 mph speed bin for existing, existing plus project, cumulative, and cumulative plus project conditions.
9. **CEQA Report:** Prepare documentation of methodology, analysis and results. For CEQA transportation analysis, a VMT report shall be provided to PER and SacDOT for review and comment prior to finalization. The report form should be suitable for publication and reference as an appendix to the EIR to be prepared by PER staff. To assist in the EIR preparation, please include a provision for submitting hard copies (3) of the draft and final transportation analysis and electronic copies containing the text and graphics in Microsoft Word (or compatible format) to facilitate incorporation of the report into the EIR. All original graphics generated as part of the transportation analysis shall be submitted to the County in an easily reproducible hardcopy and electronic format subject to the approval of PER.
10. **LTA Report:** The LTA should be prepared as a standalone report and comply with the requirements in the County's current transportation analysis guidelines. The LTA shall be provided to SacDOT for review and comment prior to finalization. The LTA is not anticipated to be part of the CEQA document.
11. **Project Team Meetings:** The Consultant is expected to attend periodic meetings with County staff and other agencies (e.g., Caltrans, etc.). Although the EIR hearing schedule is speculative at this point, the proposal should include attendance at one public hearing for the proposed project.
12. **Optional Task – Responses to Comments:** Assist County staff in responding to transportation-related comments received during the public review period for the proposed project's EIR.

B. Compensation and Reimbursement of Expenses

The compensation for the services submitted in the proposal shall not exceed the total project costs. Reimbursement for expenses incurred by the Consultant shall be for actual costs incurred by Consultant to complete the work and shall be clearly defined in the proposal. Consultant shall submit for review and approval monthly invoices detailing the services provided, percent of work completed, and any unforeseen delays.

C. Proposal Content

The proposal shall include the following as a minimum:

1. **Transmittal Letter:** State the location where the work is to be performed, identify sub-consultants and responsibilities, and be signed by a principal of the firm. The Consultant shall be located within 2 hours travel time of downtown Sacramento.
2. **Cover Page:** Include the firm name, title, and date.
3. **Demonstration of Project Understanding:** Provide a detailed discussion of the proposed project showing the Consultant's understanding of the project requirements and constraints.
4. **Work Plan and Approach:** Provide a detailed description of the approach and methodology to be used to meet the objectives of the project. Specifically, identify the approach to coordinating Consultant work and interaction with County staff and the County's project team. The Consultant shall work with PER and SacDOT early in the process to establish a protocol for communication and maintenance of the administrative record (e.g., setting up a File Transfer Protocol site where all team members have access to the current documents).
5. **Modeling:** The latest version of SACOG's model (SACSIM19) is required for this project. The Consultant should discuss their experience applying the SACSIM model, including prior versions, to calculate transportation metrics such as regional VMT, VMT per capita, and VMT per employee.
6. **Consultant Team:** List the personnel directly assigned to the project, along with responsibilities on this project and resumes. Include an organizational chart of personnel involved in the project.

NOTE: The Consultant's project manager may not be changed without PER approval.

7. **Statement of Experience and Qualifications:** Briefly list current and past work on similar projects, staff who worked on these projects, and corresponding clients' names, titles, and phone numbers are to be included. For any projects referenced in the Statement of Experience and Qualifications, briefly list the involvement of the proposed Consultant Team members. Any examples should be submitted in electronic format only.
8. **Cost proposal:** Provide a detailed, task-related accounting of the estimated number of hours and hourly rates for each employee working on the proposed project, travel, report preparations, copying, office support, and all other overhead costs. Each proposed task should be accompanied by a "not to exceed" cap on costs.
9. **References:** Provide at least three written references from agencies/firms for whom you have performed comparable work. Include the phone numbers and/or e-mail addresses for contact persons with each of the references submitted.

NOTE: The County has contract provisions related to conflict of interest. Consultants' officers and employees shall not have a financial interest, or acquire any financial interest, direct or indirect, in any business, property or source of income which could be financially affected by or otherwise conflict in any manner or degree with the performance of services required under the contract for services.

D. Project Schedule

PER staff is operating on a schedule to complete the proposed project's EIR in a timely manner. As such the transportation analysis will be on a schedule. Please include a work schedule with the proposal for County staff to evaluate. A preliminary draft schedule is included below. Actual task completion times are subject to change.

1.	Proposals Due	July 13, 2020
2.	Select Consultant and Prepare Contract	August 2020
3.	Project Team Meeting with PER, SacDOT, and Consultant	September 2020
4.	Complete Draft Technical Study	February 2021
5.	County Review of Administrative Draft Technical Study	March 2021
6.	Final Technical Study	April 2021
7.	Responses to Public Comments on Draft EIRs	TBD

E. Proposal Submittal

Proposals submitted for the requested consultant services must meet the following criteria to be acceptable for consideration regarding this project:

1. Submit five (5) bound proposal copies no later than 5:00 p.m. on **Monday, July 13, 2020**, to the Sacramento County Office of Planning and Environmental Review, 827 7th Street, Room 225, Sacramento, CA 95814.
2. Proposals received incomplete or late, for any reason, shall not be accepted.

NOTE: The successful Consultant shall be expected to fully meet all representations made in their proposal, including demonstration of project understanding, work plan, project schedule, consultant team, and cost proposal.

F. Evaluation of Proposals

County staff will evaluate the proposals as defined below.

1. Proposals shall be opened and checked to ensure that each complies with the requirements of the RFP. The absence of required information may render the proposal non-responsive and may be cause for rejection.

2. Prior to final Consultant selection, qualified and responsive Consultants may be requested to participate in an interview. The purpose of the interview will be to provide an opportunity for each Consultant to present their qualifications and proposals in person and to answer any questions the County may have regarding the Consultant's submittal.
3. Consultants will be ranked based on the selection criteria (Attachment 6).
4. If the scope of work and contract cannot be finalized within 30 days with the top ranked consulting firm, the County will then have the option to contact the next highest firm and attempt to negotiate a contract scope of work and fee. This process will be continued until a contract scope of work and fee is successfully negotiated.

G. Terms of Request for Proposals

1. Acceptance of Proposals: The County reserves the right to reject any and all proposals and to waive any informality, technical defect, or clerical error in any proposal. This RFP is not an offer to contract.
2. Oral Communications: Any oral communication between the County and the Consultant is not binding, nor will it modify the RFP in any way.
3. Amendments: We expect that questions may arise through your work on the RFP. To handle these most effectively, and to ensure that everyone has the same information, we request that you immediately send a contact's email address to Todd Taylor (taylor@countysac.net) if you intend to submit a proposal. Answers to questions submitted to the County regarding the RFP will be provided.
4. Proposal Cost: The cost of developing the proposal is the sole responsibility of the Consultant; the County is not liable for any costs incurred by those submitting proposals.
5. Proposal Submission: Consultants may submit their proposal by any means (e.g., U.S. Mail, Fed Ex, courier, etc.). Proposals must be received at the address noted by the time noted.
6. Basis for Proposal: The RFP, and any amendments to it, represent the most definitive statement the County will make concerning

information upon which proposals are to be based. Consultants will be assumed to have thoroughly examined these documents. Any clarification to these documents shall be requested in writing by the Consultant at least one week before the deadline for proposal submission. Written interpretations or changes to the RFP made by the County will be furnished to all Consultants receiving the RFP.

Attachment 4

SacDOT Memo

COUNTY OF SACRAMENTO

Inter-Department Correspondence

June 12, 2020

TO: Todd Taylor
Planning and Environmental Review Division (PER)

Todd Smith
Planning and Environmental Review Division (PER)

FROM: Cameron Shew, P.E., T.E.
Department of Transportation

SUBJECT: TRANSPORTATION ANALYSIS SCOPE OF WORK FOR UPPER WESTSIDE SPECIFIC PLAN AREA

The Department of Transportation (SACDOT) has prepared a preliminary traffic study scope of work for the Upper Westside Specific Plan Area (PLNP2018-00284). The scope includes both CEQA transportation analysis (VMT analysis in compliance with SB 743) and a local transportation analysis (LTA). The scope is outlined below and may be subject to changes in the future, based on comments received during the NOP scoping process and the preliminary transportation analysis conducted by the consultant.

I. CEQA Transportation Analysis

The CEQA transportation analysis should comply with the latest version of the Sacramento County *Transportation Analysis Guidelines* (May 2020). Additional guidance and clarification are provided below.

A. Scenarios

Although projects that do not demonstrate a significant VMT impact under baseline conditions can be presumed to be less-than-significant in the cumulative year, the consultant should plan on analyzing the following scenarios:

- Existing plus Project
- Cumulative plus Project

Outside the project vicinity, the Cumulative scenario should be consistent with SACOG 2040 assumptions. Land use assumptions in the vicinity of the project (i.e. within 1/2 mile of the farthest outlying study intersections) should be verified by comparing the model assumptions with other

Todd Taylor, PER
Todd Smith, PER
June 12, 2020

sources (general plan, specific plans, and community plans). Reasonably foreseeable development within the project vicinity is not limited to, but anticipated to include:

- Grandpark Specific Plan (formerly Natomas North Precinct) (Sacramento County)
- Metro Air Park (Sacramento County)
- Panhandle south of Elkhorn Blvd (City of Sacramento)
- North Park (formerly Greenbriar) (City of Sacramento)
- Centene (City of Sacramento)
- Commercial proposed on NWC of Orchard Lane and West El Camino (City of Sacramento)
- The Cove (north of W. El Camino and east of Orchard Lane)
- Quads B, C and D of Alleghany Properties (City of Sacramento)
- Arena Reuse Project (City of Sacramento)
 - All Baseline Projects from Arena Reuse project
- Railyards Specific Plan (City of Sacramento)
- River District Specific Plan (City of Sacramento)
- State of California Office Complex (7th Street & Richards Blvd)
- Central City Specific Plan (City of Sacramento)
- West Broadway Specific Plan (City of Sacramento)
- Sutter Pointe Specific Plan (Sutter County)

The final list of cumulative projects should be verified with PER prior to proceeding with modeling.

The consultant should also budget for up to 2 qualitative and 2 quantitative project alternatives. Quantitative alternatives would include modeling land use and transportation network changes in SACSIM under both Existing and Cumulative conditions, and calculating VMT metrics. Qualitative alternatives would include describing the changes from the proposed project and how these changes would likely affect VMT metrics (i.e. whether the total/per capita/per employee VMT would be higher or lower than the proposed project). The consultant shall provide a budget for additional qualitative and quantitative scenarios.

B. Modeling

The current version of the regional travel demand model (i.e. SACSIM19) shall be used for both the CEQA transportation analysis and LTA.

Sufficient model detail should be provided to represent the study area and capture project effects. Modifications may include, but are not limited to, splitting TAZs, adding minor roadways, revising speeds/capacity classes, inputting turn penalties, modifying the transit line file, and adding bicycle and multi-use trail facilities. Centroid connectors should not load into study intersections. Model data should be carefully verified to ensure accurate project and “other” cumulative project representation.

Model assumptions and modifications should be verified with SACDOT; however, the Department does not provide modeling support. The consultant is responsible for modifying and running the travel demand model, including population generation, modifying parcel, household, and population files, editing the roadway and transit networks, and post-processing model outputs,

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including, but not limited to, tour data, trip lengths, ADT volumes, peak period/hour turning movement volumes, transit ridership, VMT by speed bin, VMT per capita, VMT per employee, net change in regional VMT, net change in VMT attributable to regional retail and regional public facilities/services). The consultant should have the ability to develop and run scripts, as some of these metrics may require additional functionality beyond SACOG's off-the-shelf model, or may need to be tailored to the project.

C. Significance Thresholds

Because of the mixed-use nature of this project, it is anticipated that the following significance criteria may apply:

Component	VMT Significance Criteria	Threshold
Residential	Project VMT per capita exceeds 85 percent of the regional average VMT per capita	>15.0 VMT per capita
Commercial	Project VMT per employee exceeds 85 percent of the regional average VMT per employee	>13.9 VMT per employee
Local-Serving Retail	Presumed to be less-than-significant	-
Local-Serving Public Facilities/Services	Presumed to be less-than-significant	-
Regional Retail	Net increase in regional VMT	VMT increase
Regional Public Facilities/Services	Net increase in regional VMT	VMT increase

Residential Component

It should be noted that the VMT per capita calculation excludes non-home-based trips.

Commercial Employment Component

The commercial employment VMT per employee calculation excludes non-commute and visitor trips. Commercial employees do not include those associated with *retail* or *public facilities/services* components of the project, so different employment components should not be mixed within a TAZ.

Local-Serving Retail

Local-serving retail is presumed to have a less-than-significant impact. Retail components may be presumed to be locally-serving if smaller than 125,000 square feet gross floor area in an infill setting, 200,000 square feet gross floor area in a greenfield setting, or with a market capture area less than 3 miles. The consultant shall determine which portions of the project, if any, are local-serving, considering size and trip length. Note that employees associated with retail components would not be counted in the commercial employment (VMT per employee) calculation.

Local Public Facilities/Services

Public facilities and services, such as transit centers, day care centers, K-12 public schools, libraries, neighborhood parks (developed or undeveloped), community centers, post offices, fire/police stations, branch libraries, government buildings (primarily providing in-person services), utility and communication facilities, water sanitation and waste management facilities,

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etc., are located within established communities and serve local needs. These services improve people's proximity to recreational, civic, and other necessary community needs, and are presumed to have a less-than-significant transportation impact. Note that employees associated with public facilities/services would not be counted in the commercial employment (VMT per employee) calculation.

D. Mitigation

If VMT analysis indicates a significant transportation impact, the consultant shall develop appropriate mitigation measures, in consultation with PER and the project applicant. These are not limited to, but could include:

- Modify the land use plan to increase development in areas with low VMT/capita characteristics and/or decrease development in areas with high VMT/capita characteristics.
- Provide enhanced bicycle and/or pedestrian facilities.
- Add roadways to the street network if those roadways would provide shorter travel paths for existing and/or future trips.
- Improve or increase access to transit.
- Increase access to common goods and services, such as groceries, schools, and daycare.
- Incorporate a neighborhood electric vehicle network.
- Provide traffic calming to incentivize bicycling and walking.
- Limit or eliminate parking supply.
- Unbundle parking costs.
- Provide parking or roadway pricing or cash-out programs.
- Implement or provide access to a commute reduction program.
- Provide car-sharing, bike sharing, and ride-sharing programs.
- Shift single occupancy vehicle trips to carpooling or vanpooling by providing ride-matching services or shuttle services.
- Provide telework options beyond those already assumed in current plans.
- Provide incentives or subsidies that increase the use of modes other than a single-occupancy vehicle.
- Provide employee transportation coordinators at employment sites.
- Provide a guaranteed ride home service to users of non-auto modes.

Only "new" mitigation measures should be included in the analysis to prevent double counting. For example, a reduction cannot be taken for proximity to transit, as the model already considers project location, relative to transit. However, a mitigation to relocate a transit line or land use to increase proximity may be proposed. The consultant shall test the efficacy of proposed mitigation measures using the model, if possible.

Some of the potential mitigation measures cannot be easily represented using the SACSIM model. In such cases, the consultant may quantify VMT reductions by citing generally accepted research, such as the latest edition of California Air Pollution Control Officers Association's Quantifying Greenhouse Gas Mitigation Measures, A Resource for Local Government to Assess Emission Reductions from Green Gas Mitigation Measures (i.e. the CAPCOA report). There are rules for calculating the VMT reduction when applying multiple mitigation measures, which should be followed.

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II. Local Transportation Analysis (LTA)

A. Scenarios

The Local Transportation Analysis (LTA) should comply with the latest version of the Sacramento County *Transportation Analysis Guidelines* (June 2020). Additional guidance and clarification are provided below.

The LTA should include an evaluation of, at minimum, the following scenarios:

- Existing
- Existing plus Project
- Cumulative No Project
- Cumulative plus Project

The LTA need only analyze the preferred alternative, not every alternative in the CEQA document. For budgeting purposes, the consultant may assume that the proposed project will become the preferred alternative. However, the consultant shall also submit a cost to perform LTA analysis for a second scenario, in the event one of the two quantitative CEQA alternatives is selected.

B. Modeling

Modeling of the project in SACSIM should be consistent between the CEQA transportation analysis and LTA. Thus, all of the modeling considerations discussed in Part I, Section B apply to Part II, Section B. A highly detailed TAZ structure is anticipated to be necessary to provide sufficient granularity for analyzing all minor street intersections, as shown in Appendix A. SACDOT will review the proposed network and provide feedback regarding access control assumptions at centroid connectors.

The consultant shall conduct a select link analysis for the Cumulative Plus Project model run, for purposes of calculating fair shares toward cumulative improvements. The select link analysis should include all study segments (based on daily volume) and study intersections (based total entering volume during each peak hour). Percentages are anticipated to be split out as existing, Upper Westside growth, Grandpark growth, other unincorporated growth, City of Sacramento growth, and through trip growth.

The consultant shall also conduct a select zone assignment for the Existing Plus Project model run, for purposes of developing a dynamic implementation tool. SACDOT will work with the applicant and consultant to develop a “district” mapping of the project, aggregating several TAZ’s. The select zone assignment should track the volume on every segment and turning movement output as: as existing, or attributed to districts 1 through n. A trip with one end inside the project and one end outside the project has both trip ends allocated to the project district. A trip between two project districts has two trip ends allocated to the origin and two trip ends allocated to the destination, due to the uncertainty in the order/phasing of development. This scope of work only includes preparing the select zone outputs in spreadsheet format. It is anticipated that SACDOT will develop the rest of the dynamic implementation tool.

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C. Methodologies

Post-processing should be consistent with the “difference method.” The forecast is calculated as the count plus the change in model volumes between two scenarios (e.g. with and without the project, or base and future year). If the study facility does not exist in the “no project” or baseline condition, raw model volumes are acceptable for forecasting. If the difference method would result in a negative forecast, the ratio of the model runs (e.g. future divided by base) times the count should be used instead. The intersection and segment post-processing spreadsheets shall be provided to SACDOT for use in developing the dynamic implementation tool.

Rather than the previous 3-hour time period, SACSIM19 models individual peak hours from 7-8, 8-9, 9-10 AM, as well as 3-4, 4-5, and 5-6pm. A uniform peak hour should be set for the study, as determined from the traffic counts.

County of Sacramento or Shared City/County Facilities

Methodologies for intersection, roadway segment, and functionality analysis, Synchro assumptions, and signal timing and optimization policy, as specified in the Transportation Analysis Guidelines, should be followed.

City of Sacramento Facilities

Similar to the County, the City of Sacramento has developed requirements for an operational study that would take place outside of CEQA.

For intersections completely within city limits, the City no longer requires delay or level of service (LOS) analysis. Operational concerns could arise when:

- a project causes queues to flow out of left or right turn storage pockets
- a project causes queues from through lanes to block an intersection
- project added traffic results in gridlock, hampering achievement of other goals, such as transit circulation.

Documentation should report the available storage and 95th percentile queue length for each movement.

For segments completely within city limits, the analysis should report the average daily traffic (ADT) for each scenario, including the change in volume caused by the project. The number of lanes, volume-to-capacity ratio, and LOS should be reported for informational purposes. The potential for neighborhood cut through traffic should be evaluated and reported.

Caltrans Facilities

Caltrans has developed a draft Transportation Impact Study Guide (TISG), which generally supports VMT-based analysis in lieu of capacity analysis. This document states that safety or operational analysis may still be requested, if circumstances dictate. Based on discussions with District 3 staff, known operational issues in the study area include ramp meter queueing and multimodal interactions at interchanges (i.e. difficulty for bicyclists and pedestrians to cross high-speed or multilane on-ramps). District 3 continues to be concerned with the potential for off-ramp queueing to spill back onto the mainline. The LTA should address these issues, as further outlined in Section D, Subsection 8 below.

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D. LTA Scope

The LTA scope presented below is based on the preliminary land use plan, *Upper Westside Traffic Conceptual Feasibility Analysis* (Wood Rodgers, March 6, 2020), and the County's desire to have detailed traffic information internal to the project.

As a first order of work, the consultant shall model the proposed project and review the assignment of project traffic. The consultant shall consider the project's potential to result in any significant effects to LOS, safety, rural roadway functionality or neighborhood cut-through traffic. The consultant shall prepare a "delta plot," showing volume changes in the model network between the no project and plus project scenario. The consultant shall confirm the study facilities outlined in this scope of work and provide documentation for consideration of either adding or eliminating study facilities. The final list of study facilities will be determined based on the delta plot and in coordination with stakeholders. For the purposes of this memorandum, stakeholders shall include appropriate County staff (such as SACDOT, PER, County Engineering, and County Counsel), the project proponents, and affected transportation-related public jurisdictions (such as Caltrans, the City of Sacramento, and Regional Transit).

1. Traffic Volume Information

Following preliminary modeling and confirmation of the final list of study intersections and segments, the County anticipates that the consultant will collect new 24-hour hose counts and new 2-hour AM and PM peak hour counts, including peak hour factor, heavy vehicle percentage, bicyclists, and pedestrians. Caltrans District 3 should be consulted regarding acceptable time frame and collection methodology for data used in analysis of its facilities. Due to the well-documented effects of COVID-19 lowering traffic volumes, it is anticipated that the consultant will either use reasonably recent (pre-COVID-19) count data and/or develop a count adjustment procedure, to the satisfaction of the County, City, and Caltrans. Such procedure may involve review of "big data" sources such as StreetLight or Inrix, or historical count data owned by the County, City, or Caltrans. Alternatively, the consultant may propose an entirely different procedure to develop traffic volume information. The consultant's recommended approach to data collection and providing valid traffic volume information should be discussed in the proposal.

2. Intersections

Please see Appendix A for a list of preliminary study intersections. SACDOT will provide timing sheets for signalized intersections operated by the County. The consultant should contact the City of Sacramento to obtain signal timing sheets for intersections operated by the City. The consultant shall conduct peak hour signal warrant analysis for all unsignalized intersections not meeting the applicable level of service policy. Any roundabouts proposed by the project, or proposed in lieu of installing a signal, shall be analyzed using SIDRA (HCM 6th edition).

Queuing analysis (i.e. storage capacity and 95th percentile queuing data) shall be provided for all movements in table form, in order to inform sizing of turn pockets or identify spillback conditions. LOS and delay results should be reported for intersections in the unincorporated county or shared between the County and the City of Sacramento.

Scope Item	County or Shared City/County	City of Sacramento
LOS/Delay Analysis	x	n/a
Signal Warrant Analysis	x	n/a
Queue Analysis	x	x

If microsimulation analysis (e.g. SimTraffic or VISSIM) is recommended by the consultant for any portion of the study area, the intersection(s) recommended for microsimulation should be identified by the consultant and included in the proposal. The delay/LOS and queuing for those intersections should be reported from the simulation output, rather than Synchro.

This scope of work also includes identifying appropriate intersection control (i.e. side-street stop, all-way stop, signal, or roundabout) at all new intersections. Such recommendations should be based on the volumes, operational analysis, CA MUTCD warrants, and the consultant’s professional judgment.

3. Roadway Segments

Please see Appendix B for a list of preliminary study segments.

The City of Sacramento has expressed concerns about cut-through traffic on the segment of Azevedo Drive from San Juan Road to El Camino Avenue. Whether or not listed as a study segment, the consultant should identify all segments where project traffic may cause substantial neighborhood effects (i.e. undesirable diversion) using the model or professional judgment.

Please also note that new residential streets carrying over 4,500 vehicles per day are not allowed to have front on driveway access.

4. Rural Roadway Functionality

Please see Appendix C for a list of preliminary rural roadway segments.

5. Bicycles

Identify and evaluate effects on existing or planned (Sacramento County Bicycle Master Plan) facilities adjacent to or within 1/4 mile of the project. The project’s connectivity to the surrounding bicycle/transit network and adequacy of bike parking should be addressed and connectivity to City bicycle facilities per City of Sacramento Bikeway Master Plan. Mode share and person trips by bicycle mode should be reported.

6. Transit

Discuss all existing and planned bus routes or rail lines that have, or will have, a station or stop inside or within 1/4 mile of the project, including route description, service area, hours of service, and headways. Transit ridership forecasts (i.e. boardings) for lines servicing the project should be provided. The project has indicated that on-demand service/microtransit

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and a looping shuttle system are being considered. The LTA should identify the type and frequency of service, operator, and funding sources. Depending on the operator, additional information (e.g. load factor, boardings per revenue hour) may be requested. Mode share and person trips by transit mode should be reported.

7. Pedestrians

Identify any existing or planned (Sacramento County Pedestrian Master Plan) pedestrian facilities that will be affected by the project. The project's connectivity to the surrounding pedestrian and transit network should be addressed. Mode share and person trips by walk mode should be reported.

8. Caltrans Facilities

Consistent with the requirements in subsection 2 above, report 95th percentile queues at all off-ramp locations in Appendix A and listed below. Additionally, the demand volume, metering rate, and queue should be reported at all metered on-ramp locations. Caltrans will provide INRIX data at some locations for validation purposes. Additional ramp locations not otherwise listed in Appendix A:

- I-5 southbound off-ramp to Richards Boulevard
- I-5 northbound on-ramp from Richards Boulevard
- I-5 southbound off-ramp to J Street

The consultant shall qualitatively evaluate the interchanges of I-80 and El Camino Avenue and I-5 and El Camino Avenue, with respect to bicycle and pedestrian crossings of high-speed or multilane ramps. The consultant shall make recommendations to better accommodate these users.

E. Evaluation of Significant Effects

County of Sacramento or Shared City/County Facilities

The LTA shall identify any significant effects caused by the project, as described in the LTA Guidelines. The consultant shall identify and propose improvements to address the significant effects. To be considered adequate, improvements should be specific, feasible actions that will actually improve adverse conditions. Improvements should be consistent with the County's General Plan Transportation Plan and the County's latest Improvements Standards. Some exceptions may occur where special circumstances warrant a General Plan amendment of a roadway facility or additional turn lane requirements above and beyond the standard intersection.

The LTA should provide a detailed and complete description of the proposed improvement. For example, rather than "provide westbound right turn lane," instead say, "provide the following geometry on the westbound approach: two left turn pockets, two through lanes, and a single right turn pocket." The LTA should discuss whether the measure reduces the effect to a less-than-significant level (i.e. below the threshold of significance), and should report the conditions after the implementation of the improvement. The project's responsibility (construction or fair share percentage) should be stated.

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City of Sacramento Facilities

Generally speaking, the City's current focus is on reducing the number of lanes on City roadways to align with climate change goals and provide bike lanes/buffered bike lanes. Needs must be balanced between users, and traffic congestion that would hamper transit operations or cause undesired neighborhood cut-through should be addressed. Intersections where the project causes or exacerbates queue spillbacks should be identified. Potential improvements to address these effects should be identified, and if desired by the City, documented as recommendations. Roadway segments where the project causes or exacerbates gridlock (i.e. LOS F conditions) should be identified. Potential improvements to address these effects should be identified, and if desired by the City, documented as recommendations.

Caltrans Facilities

Any locations that the project causes or exacerbates an off-ramp queue spillback onto the mainline should be identified, along with recommended improvements. Any locations that the project causes or exacerbates an on-ramp queue spillback onto a local roadway should be identified, along with recommended improvements.

F. Documentation

One copy of the LTA should be submitted to the Department of Transportation for review and comments. Technical calculations should be included in an attached or separate appendix, and should be submitted to the Department with the LTA. Synchro, SIDRA, and Excel files shall also be provided to the Department. The cover page of the final LTA is required to be stamped and signed by a California-licensed Professional Engineer (Traffic or Civil).

The selected traffic consultant shall meet with SACDOT staff to review the final scope of work and the study assumptions prior to initiating this traffic study.

If you have any questions, please contact me at shewc@saccounty.net or (916) 205-9324.

CHS:chs

Cameron Shew, P.E., T.E.
Senior Civil Engineer

c: Matt Darrow, DOT
Gary Gasperi, DOT

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Appendix A: Preliminary Study Intersections

The following intersections should be evaluated during the weekday a.m. and p.m. peak hours. All Caltrans ramp terminals shall include off-ramp and metered on-ramp queuing analysis.

Intersection No.	North South Street	East West Street
Existing Study Intersections		
1	Power Line Road	Bayou Way
2	Power Line Road	Del Paso Road
3	Power Line Road	Garden Highway
4	Garden Highway	San Juan Road
5	Garden Highway	Bryte Bend Road
6	Garden Highway	Orchard Lane
7	Garden Highway	Gateway Oaks Drive
8	Garden Highway	I-5 SB Ramps
9	Garden Highway	I-5 NB Ramps
10	Garden Highway	Natomas Park Drive
11	Garden Highway	Truxel Road
12	El Centro Road	Del Paso Road
13	El Centro Road	Duckhorn Drive
14	El Centro Road	Manera Rica Drive/ (Future Snowy Egret Drive)
15	El Centro Road	Arena Boulevard/ Natomas Central Drive
16	El Centro Road	San Juan Road
17	El Centro Road	El Camino Avenue
18	Hovnanian Drive	Del Paso Road
19	Natomas Central Drive	Del Paso Road
20	I-5 SB Ramps	Del Paso Road
21	I-5 NB Ramps	Del Paso Road
22	East Commerce Way	Del Paso Road
23	Truxel Road	Del Paso Road
24	Stemmler Drive	Arena Boulevard
25	Duckhorn Drive	Arena Boulevard
26	I-5 SB Ramps	Arena Boulevard
27	I-5 NB Ramps	Arena Boulevard
28	East Commerce Way	Arena Boulevard
29	South Entrance Road/Innovator Drive	Arena Boulevard
30	Truxel Road	Arena Boulevard

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Intersection No.	North South Street	East West Street
31	Duckhorn Drive	San Juan Road
32	Truxel Road	San Juan Road
33	I-80 WB Ramps	W. El Camino Avenue
34	I-80 EB Ramps	W. El Camino Avenue
35	Orchard Lane	W. El Camino Avenue
36	West River Drive	W. El Camino Avenue
37	Gateway Oaks Drive	W. El Camino Avenue
38	I-5 SB Ramps	W. El Camino Avenue
39	I-5 NB Ramps	W. El Camino Avenue
40	Natomas Park Drive	W. El Camino Avenue
41	Truxel Road	W. El Camino Avenue
Project-Only Intersections		
42	Garden Highway	Street 10
43	Garden Highway	El Centro Road
44	El Centro Road	Radio Road
45	El Centro Road	Street 8
46	El Centro Road	Street 7
47	El Centro Road	Street 6
48	El Centro Road	Street 5
49	El Centro Road	Street 4
50	El Centro Road	Street 3
51	El Centro Road	Street 2
52	El Centro Road	Street 1
53	El Centro Road	Bryte Bend Road
54	Bryte Bend Road	Radio Road
55	Bryte Bend Road	San Juan Road
56	Bryte Bend Road	Street 8
57	Bryte Bend Road	Street 7
58	Bryte Bend Road	Street 11
59	Bryte Bend Road	El Camino Avenue
60	Bryte Bend Road	Street 9
61	Bryte Bend Road	Street 2
62	Bryte Bend Road	Street 1
63	Street A	Street 7
64	Street A	Street 6
65	Street A	Street 5
66	Street A	Street 4
67	Street A	Street 3

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Intersection No.	North South Street	East West Street
68	Street A	Street 2
69	Street B	Street 8
70	Street B	Street 7
71	Street B	Street 6
72	Street B	Street 5
73	Street B	El Camino Avenue
74	Street B	Street 4
75	Street B	Street 3
76	Street B	Street 2
77	Street B	Street 1
78	Street C	Street 8
79	Street C	Street 7
80	Street C	Street 6
81	Street C	Street 5
82	Street C	El Camino Avenue
83	Street C	Street 4
84	Street C	Street 3
85	Street C	Street 2
86	Street C	Street 1
87	Street D	Street 7
88	Street D	Street 6
89	Street D	Street 5
90	Street D	El Camino Avenue
91	Street D	Street 4
92	Street D	Street 3
93	Street D	Street 2
94	Street E	Street 11
95	Street E	Street 9
96	Street F	Street 10
97	Street G	San Juan Road
98	Street G	Street B/Street C
99	Street H	San Juan Road
100	Street H	Street 8
101	Street 12 (W)	Radio Road
102	Street 12 (E)	Radio Road
Cumulative-Only Intersections		
103	Duckhorn Drive	Snowy Egret Drive

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Intersection No.	North South Street	East West Street
104	East Commerce Way	Snowy Egret Drive/West Entrance Road
105	East Commerce Way	San Juan Road

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Appendix B: Preliminary Study Segments

The following roadway segments should be evaluated during the weekday daily period.

Roadway Segment No.	Roadway Segments	From	To
Existing Roadway Segments			
1	Del Paso Road	Power Line Road	Hovnanian Drive
2	Del Paso Road	Hovnanian Drive	Natomas Central Drive
3	Del Paso Road	Natomas Central Drive	El Centro Road
4	Del Paso Road	El Centro Road	I-5 SB Ramps
5	Del Paso Road	I-5 SB Ramps	I-5 NB Ramps
6	Del Paso Road	I-5 NB Ramps	East Commerce Way
7	Del Paso Road	East Commerce Way	Truxel Road
8	Natomas Central Drive	Del Paso Road	Arena Boulevard
9	Arena Boulevard	Natomas Central Drive	Stemmler Drive
10	Arena Boulevard	Stemmler Drive	Duckhorn Drive
11	Arena Boulevard	Duckhorn Drive	I-5 SB Ramps
12	Arena Boulevard	I-5 SB Ramps	I-5 NB Ramps
13	Arena Boulevard	I-5 NB Ramps	East Commerce Way
14	Arena Boulevard	East Commerce Way	Truxel Road
15	San Juan Road	Garden Highway	El Centro Road
16	San Juan Road	El Centro Road	Duckhorn Drive
17	San Juan Road	Duckhorn Drive	Truxel Road
18	El Camino Avenue	El Centro Road	I-80 WB Ramps
19	El Camino Avenue	I-80 WB Ramps	I-80 EB Ramps
20	El Camino Avenue	I-80 EB Ramps	Orchard Lane
21	El Camino Avenue	Orchard Lane	Gateway Oaks Drive
22	El Camino Avenue	Gateway Oaks Drive	I-5 SB Ramps
23	El Camino Avenue	I-5 SB Ramps	I-5 NB Ramps
24	El Camino Avenue	I-5 NB Ramps	Natomas Park Drive
25	El Camino Avenue	Natomas Park Drive	Truxel Road
26	Power Line Road	Bayou Way	Del Paso Road

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Roadway Segment No.	Roadway Segments	From	To
27	Power Line Road	Del Paso Road	Garden Highway
28	Garden Highway	Power Line Road	San Juan Road
29	Garden Highway	San Juan Road	Bryte Bend Road
30	Garden Highway	Bryte Bend Road	Orchard Lane
31	Garden Highway	Orchard Lane	Gateway Oaks Drive
32	Garden Highway	Gateway Oaks Drive	I-5 SB Ramps
33	Garden Highway	I-5 SB Ramps	I-5 NB Ramps
34	Garden Highway	I-5 NB Ramps	Natomas Park Drive
35	Garden Highway	Natomas Park Drive	Truxel Road
36	El Centro Road	Del Paso Road	Duckhorn Drive
37	El Centro Road	Duckhorn Drive	Manera Rica Drive
38	El Centro Road	Manera Rica Drive	Arena Boulevard/ Natomas Central Drive
39	El Centro Road	Arena Boulevard/ Natomas Central Drive	San Juan Road
40	El Centro Road	San Juan Road	El Camino Avenue
41	El Centro Road	El Camino Avenue	Southerly Terminus
42	Azevedo Drive	San Juan Road	El Camino Avenue
Split Existing Roadway Segments with Project			
15.1	San Juan Road	Garden Highway	Bryte Bend Road
15.2	San Juan Road	Bryte Bend Road	Street G
15.3	San Juan Road	Street G	El Centro Road
16.1	San Juan Road	El Centro Road	Street H
16.2	San Juan Road	Street H	Duckhorn Drive
29.1	Garden Highway	San Juan Road	Street 10
29.2*	Garden Highway	Street 10	El Centro Road
30*	Garden Highway	El Centro Road	Orchard Lane
39.1	El Centro Road	Arena Boulevard/ Natomas Central Drive	Radio Road
39.2	El Centro Road	Radio Road	San Juan Road
40.1	El Centro Road	San Juan Road	Street 8

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Roadway Segment No.	Roadway Segments	From	To
40.2	El Centro Road	Street 8	Street 7
40.3	El Centro Road	Street 7	Street 6
40.4	El Centro Road	Street 6	Street 5
40.5	El Centro Road	Street 5	El Camino Avenue
41.1	El Centro Road	El Camino Avenue	Street 4
41.2	El Centro Road	Street 4	Street 3
41.3	El Centro Road	Street 3	Street 2
*The boundary between Segments 29 and 30 is redefined from the intersection with Bryte Bend Road to the intersection with El Centro Road with the project.			
Project-Only Segments			
43	El Centro Road	Street 2	Street 1
44	El Centro Road	Street 1	Bryte Bend Road
45	El Centro Road	Bryte Bend Road	Garden Highway
46	Bryte Bend Road	Radio Road	San Juan Road
47	Bryte Bend Road	San Juan Road	Street 8
48	Bryte Bend Road	Street 8	Street 7
49	Bryte Bend Road	Street 7	Street 11
50	Bryte Bend Road	Street 11	El Camino Avenue
51	Bryte Bend Road	El Camino Avenue	Street 9
52	Bryte Bend Road	Street 9	Street 2
53	Bryte Bend Road	Street 2	Street 1
54	Bryte Bend Road	Street 1	El Centro Road
55	Street A	Street 7	Street 6
56	Street A	Street 6	Street 5
57	Street A	Street 5	Street 4
58	Street A	Street 4	Street 3
59	Street A	Street 3	Street 2
60	Street A	Street 2	Street 1
61	Street B	Street G	Street 8
62	Street B	Street 8	Street 7

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Roadway Segment No.	Roadway Segments	From	To
63	Street B	Street 7	Street 6
64	Street B	Street 6	Street 5
65	Street B	Street 5	El Camino Avenue
66	Street B	El Camino Avenue	Street 4
67	Street B	Street 4	Street 3
68	Street B	Street 3	Street 2
69	Street B	Street 2	Street 1
70	Street C	Street G	Street 8
71	Street C	Street 8	Street 7
72	Street C	Street 7	Street 6
73	Street C	Street 6	Street 5
74	Street C	Street 5	El Camino Avenue
75	Street C	El Camino Avenue	Street 4
76	Street C	Street 4	Street 3
77	Street C	Street 3	Street 2
78	Street C	Street 2	Street 1
79	Street D	Street 7	Street 6
80	Street D	Street 6	Street 5
81	Street D	Street 5	El Camino Avenue
82	Street D	El Camino Avenue	Street 4
83	Street D	Street 4	Street 3
84	Street D	Street 3	Street 2
85	Street D	Street 2	Street 1
86	Street E	Street 7	Street 11
87	Street E	Street 9	Street 2
88	Street F	Street 11	Street 10
89	Street F	Street 10	Street 9
90	Street G	San Juan Road	Street B/Street C
91	Street H	San Juan Road	Street 8

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Roadway Segment No.	Roadway Segments	From	To
92	Street I	Street 8	Street 7
93	Radio Road	Garden Highway	Street 12
94	Radio Road	Street 12 (W)	Bryte Bend Road
95	Radio Road	Bryte Bend Road	Street 12
96	Radio Road	Street 12 (E)	El Centro Road
97	El Camino Avenue	El Centro Road	Street A
98	El Camino Avenue	Street A	Street B
99	El Camino Avenue	Street B	Street C
100	El Camino Avenue	Street C	Street D
101	El Camino Avenue	Street D	Bryte Bend Road
102	Street 1	El Centro Road	Street B
103	Street 1	Street B	Street C
104	Street 1	Street C	Bryte Bend Road
105	Street 2	El Centro Road	Street A
106	Street 2	Street A	Street B
107	Street 2	Street B	Street C
108	Street 2	Street C	Street D
109	Street 2	Street D	Bryte Bend Road
110	Street 2	Bryte Bend Road	Street E
111	Street 3	El Centro Road	Street A
112	Street 3	Street A	Street B
113	Street 3	Street C	Street D
114	Street 4	El Centro Road	Street A
115	Street 4	Street A	Street B
116	Street 4	Street C	Street D
117	Street 5	El Centro Road	Street A
118	Street 5	Street A	Street B
119	Street 5	Street C	Street D
120	Street 6	El Centro Road	Street A

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Roadway Segment No.	Roadway Segments	From	To
121	Street 6	Street A	Street B
122	Street 6	Street C	Street D
123	Street 7	Street I	El Centro Road
124	Street 7	El Centro Road	Street A
125	Street 7	Street A	Street B
126	Street 7	Street B	Street C
127	Street 7	Street C	Street D
128	Street 7	Street D	Bryte Bend Road
129	Street 7	Bryte Bend Road	Street E
130	Street 8	Street I	Street H
131	Street 8	Street H	El Centro Road
132	Street 8	El Centro Road	Street B
133	Street 8	Street B	Street C
134	Street 8	Street C	Bryte Bend Road
135	Street 9	Bryte Bend Road	Street E
136	Street 9	Street E	Street F
137	Street 10	Street F	Garden Highway
138	Street 11	Bryte Bend Road	Street E
139	Street 11	Street E	Street F
140	Street 12	Radio Road	Radio Road
Cumulative-Only Segments			
141	Snowy Egret Drive	El Centro Road	Duckhorn Drive
142	Snowy Egret Drive	Duckhorn Drive	East Commerce Way

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Appendix C: Preliminary Rural Roadway Segments

The following rural roadway segments should be evaluated using the County's rural roadway functionality criteria during the weekday daily period.

Roadway Segment No.	Roadway Segments	From	To
1	Del Paso Road	Power Line Road	1100' west of Hovnanian Drive
15	San Juan Road	Garden Highway	El Centro Road
16	San Juan Road	El Centro Road	Sacramento City Limit
26	Power Line Road	Bayou Way	Del Paso Road
27	Power Line Road	Del Paso Road	Garden Highway
28	Garden Highway	Power Line Road	San Juan Road
29	Garden Highway	San Juan Road	Bryte Bend Road
30	Garden Highway	Bryte Bend Road	Sacramento City Limit
40	El Centro Road	San Juan Road	El Camino Avenue

Attachment 5

Sacramento County Draft Transportation Analysis Guidelines

Introduction

1.0 Background

The previous version of the Sacramento County Traffic Impact Analysis Guidelines have been in use since 2004. The impetus to develop these revised guidelines is primarily related to the passage of Senate Bill 743 (SB 743) in the fall of 2013. This legislation led to a change in the way that transportation impacts are measured under the California Environmental Quality Act (CEQA). Starting on July 1, 2020, automobile delay and level of service (LOS) may no longer be used as the performance measure to determine the transportation impacts of land development projects under CEQA. Instead, an alternative metric that supports the goals of the SB 743 legislation will be required. Although there is no requirement to use any particular metric, the use of vehicle miles traveled (VMT) has been recommended by the Governor's Office of Planning and Research (OPR). This requirement does not modify the discretion lead agencies have to develop their own methodologies or guidelines, or to analyze impacts to other components of the transportation system, such as walking, bicycling, transit, and safety. SB 743 also applies to transportation projects, although agencies were given flexibility in the determination of the performance measure for these types of projects.

The intent of SB 743 is to bring CEQA transportation analyses into closer alignment with other statewide policies regarding greenhouse gases, complete streets, and smart growth. Using VMT as a performance measure instead of LOS is intended to discourage suburban sprawl, reduce greenhouse gas emissions, and encourage the development of smart growth, complete streets, and multimodal transportation networks.

Sacramento County would like to thank SACOG, its consulting team VRPA Technologies and Fehr & Peers, and other members of the local agency working group (LAWG) for technical input and regional coordination. The County would also like to acknowledge the work done by the Institute of Transportation Engineers, San Diego Section, Transportation Capacity and Mobility Task Force, SB 743 Subcommittee and the City of San Jose Public Works Department. The structure and much of the technical content in this document were adapted from recommendations in San Diego ITE's technical paper "Guidelines for Transportation Impact Studies in the San Diego Region" and the City of San Jose "Transportation Analysis Handbook."

2.0 Purpose of Guidelines

The guidelines described in this document were prepared to provide methodologies for transportation engineers and planners to conduct CEQA transportation analyses for land development and transportation projects in compliance with SB 743. Lead agencies may opt-in to using VMT at any time but will be required to use it for analysis of transportation impacts of land development projects starting July 1, 2020. In addition, methodologies are provided to evaluate automobile delay and LOS outside of the CEQA process. Although no longer incorporated in CEQA (starting July 1, 2020), automobile delay and LOS continue to be of interest to transportation engineers and planners who plan, design, operate, and maintain the

roadway system. In addition, delay experienced due to traffic congestion is a concern to drivers and passengers of vehicles using the roadway system.

Given the need to prepare VMT-based CEQA transportation impact analyses to satisfy the requirements of SB 743, as well as the need to evaluate the performance of the roadway system to comply with policies in the General Plan Circulation Element, these guidelines are divided into separate parts. Part I is focused on CEQA transportation impact analyses, while Part II is focused on the more traditional LOS-based transportation analyses, called local transportation analysis (LTA) for the purpose of these guidelines. LTA includes evaluation of any multimodal transportation improvements (transit, bicycle, pedestrian) that are recommended to support a land development project, but may or may not be required as mitigation measures for a project’s significant VMT impacts. An overview of the Transportation Analysis Process is shown in **Figure 2-1**. Background information for each part is provided below with more detail included in the sections that follow.

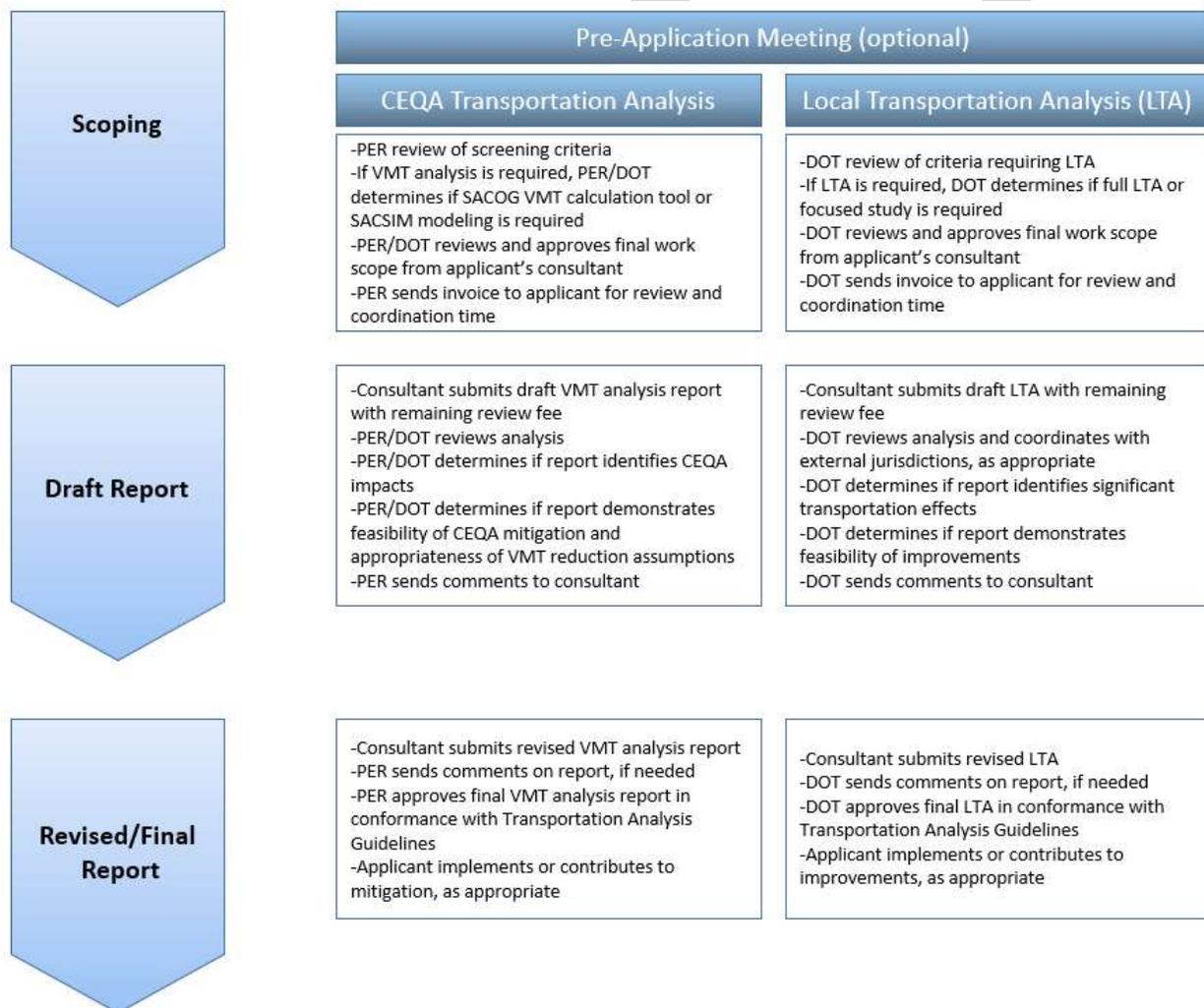


Figure 2-1: Transportation Analysis Process Overview

CEQA Transportation Impact Analysis

The SB 743 legislation specified that the Governor's Office of Planning and Research (OPR) prepare guidelines for the implementation of SB 743. During the period from the passage of SB 743 in 2013 to the fall of 2018, OPR prepared various sets of guidelines and sought public comments from stakeholders. At the time of preparation of these transportation impact study guidelines, guidance regarding the changes to CEQA initiated by SB 743 were contained in the following documents:

- **CEQA Guidelines Revisions:** Revisions to the CEQA Guidelines were adopted into CEQA in December 2018 through a formal process conducted by the Natural Resources Agency. Additional changes can only be made through a future CEQA update process.
- **Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Advisory):** The technical advisory provides recommendations for the preparation of transportation impact analyses under SB 743. It is not formally included in CEQA and can be revised by OPR at any time without going through a formal process. Updated versions of the technical advisory are expected to be issued by OPR as new information becomes available and as California agencies gain experience in applying SB 743 to actual projects. As of the time of preparation of these transportation impact study guidelines, the current version of the technical advisory was dated December 2018.

In addition to the differences described above, the CEQA Guidelines revisions and the technical advisory also differ in the extent to which they must be followed by local agencies. The CEQA Guidelines revisions are rules that must be followed in order to prepare an adequate CEQA document. In contrast, the technical advisory provides statewide guidance based on evidence collected by OPR that can be refined or modified by local agencies with appropriate justification and substantial evidence. (Refer to CEQA Guidelines Section 15384 for a definition of substantial evidence). As an example, the CEQA Guidelines revisions specify that a land development project's effect on automobile delay does not cause a significant environmental impact. The use of VMT is suggested as a performance metric, but there is no indication of what level of VMT increase would cause a significant environmental impact. The technical advisory suggests various thresholds for the significance of VMT impacts but does not require the use of a particular threshold. Therefore, lead agencies would be prohibited from using automobile delay to determine significant transportation impacts and would be required to use VMT instead. Lead agencies have discretion to select their preferred significance thresholds and could choose to use the thresholds suggested in the technical advisory or develop alternative thresholds. Either decision should be supported by substantial evidence that considers the legislative intent objectives of SB 743 and the specific direction the statute provides regarding setting thresholds (per the excerpts below):

SB 743 Statute - Legislative Intent – Senate Bill No. 743, Section (b)(2)
More appropriately balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of greenhouse gas emissions.

SB 743 Statute – Section 21099(b)(1)

Those criteria shall promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses.

Regardless of the changes described above, SB 743 is clear in its intent that CEQA documents continue to address noise, air quality, and safety (per the excerpt below):

SB 743 Statute – Section 21099(b)(3)

This subdivision does not relieve a public agency of the requirement to analyze a project's potentially significant transportation impacts related to air quality, noise, safety, or any other impact associated with transportation. The methodology established by these guidelines shall not create a presumption that a project will not result in significant impacts related to air quality, noise, safety, or any other impact associated with transportation.

Although State CEQA Guidelines section 15064.3 states that generally vehicle miles traveled is the most appropriate measure of transportation impacts, other relevant considerations may include the project's impact on transit and non-motorized travel. A complete environmental review will generally consider how projects effect VMT in addition to effects on walking, bicycling, transit, and safety.

The CEQA transportation impact analysis described in these transportation impact study guidelines is based on the technical advisory prepared by OPR, but refinements and clarifications have been added to reflect local conditions. For any subsequent revisions of the SB 743 technical advisory prepared by OPR, it would need to be determined whether the new information would suggest a change in the methodologies for conducting CEQA transportation impact studies in Sacramento County's jurisdiction.

Local Transportation Analysis (LTA)

Localized traffic congestion remains a concern to transportation engineers and planners, as well as the traveling public. Policies in the General Plan Circulation Element require that land development and transportation projects evaluate and mitigate adverse impacts to local and regional roadways. The LTA would provide that analysis, as well as evaluate the need for multimodal improvements in cases where there is the potential for the project to cause a substantial worsening of conditions for multimodal travel. Since any increases in traffic congestion or vehicular delay would not constitute a significant environmental impact, the local transportation analysis would be included in Conditions of Approval rather than as Mitigation Measures under CEQA. The purposes of the local transportation analysis may include, but are not limited to the following:

- Recommendations for any roadway improvements that should be built/implemented by the project (or should be built/implemented by the project in coordination with other nearby land development projects) based on the project's expected effect on vehicular delay and LOS.
- Recommendations for any multimodal transportation improvements (transit, bicycle, pedestrian) that should be built/implemented by the project (or should be

built/implemented by the project in coordination with other nearby land development projects). Recommended multimodal transportation improvements may be required as mitigation measures for transportation impacts related to VMT increases, or they may be recommended for other reasons.

- Ensure compliance with various General Plan Circulation Element Policies, including:
 - CI-7: *Plan and construct transportation facilities as delineated on the Transportation Plan of the Sacramento County General Plan...*
 - CI-8: *Maintain and rehabilitate the roadway system to maximize safety, mobility, and cost efficiency.*
 - CI-9: *Plan and design the roadway system in a manner that meets Level of Service (LOS) D on rural roadways and LOS E on urban roadways...*
 - CI-10: *Land development projects shall be responsible to mitigate the project's adverse impacts to local and regional roadways.*
 - CI-11: *To preserve public mobility, freeways and thoroughfares should have limited access and maintain functional characteristics that predominantly accommodate through traffic.*
 - CI-12: *To preserve public safety and local quality of life on collector and local roadways, land development projects shall incorporate appropriate treatments of the Neighborhood Traffic Management Program.*
 - CI-13: *Collaborate with regional transportation planning agencies and neighboring jurisdictions to provide cross jurisdictional mobility.*
 - CI-19: *Collaborate with transit service providers to provide transit services within the County that are responsive to existing and future transit demand.*
 - CI-32: *Develop a comprehensive, safe, convenient and accessible bicycle and pedestrian system that serves and connects the County's employment, commercial, recreational, educational, social services, housing and other transportation modes.*
 - CI-35: *The applicant/developer of land development projects shall be responsible to install bicycle and pedestrian facilities in accordance with Sacramento County Improvement Standards and may be responsible to participate in the fair share funding of regional multi-use trails identified in the Sacramento County Bicycle Master Plan.*
 - CI-39: *Plan and implement intelligent transportation system (ITS) strategies within the County's high-demand travel corridors and support efforts to deploy ITS strategies on a regional level.*
 - CI-40: *Whenever possible, the applicant/developer of new and infill development projects shall be conditioned to fund, implement, operate and/or participate in TSM programs to manage travel demand associated with the project.*
 - CI-43: *The County shall promote transit-supportive programs in new development, including employer-based trip-reduction programs (employer incentives to use transit or nonmotorized modes), "guaranteed ride home" for commute trips, and car-share or bikeshare programs.*

The roadway and multimodal analysis methodologies recommended for conducting local transportation analysis, as detailed in Part II of these guidelines, are based on the previous traffic

impact study guidelines, with changes to reflect evolution in the practice that has occurred since 2004. Users of these guidelines should note that transportation analysis advances occur each year. Further, new data vendors and new mobility options continue to evolve. As such, the recommended methodologies in this document may require ongoing updates and refinements.

DRAFT

Part I – CEQA Transportation Impact Analysis

3.0 Individual Land Development Projects

The recommended methodology for conducting a VMT analysis is based on guidance prepared by the California Governor’s Office of Planning and Research (OPR) as provided in the published Technical Advisory on Evaluating Transportation Impacts in CEQA. At the time of writing of these guidelines, the current version of OPR’s technical advisory was dated December 2018. The guidance recommended by OPR has been modified to be better suited to local conditions in the Sacramento region. These modifications are noted in the details described later in this section.

The process for determining appropriate methodology to be used for conducting a VMT analysis for individual land development projects and specific plans is shown in **Figure 3-1**. The remainder of this section of the guidelines is divided into individual components that describe different aspects of the methodology. Other methodologies for VMT analysis could be considered at the discretion of the lead agency. However, it is recommended that any VMT methodologies within a particular analysis use consistent methodologies and that VMT analysis consider the differences between trip-based VMT analysis methodologies and tour-based VMT methodologies, as described in OPR’s technical advisory. SACOG’s regional travel demand model, SACSIM, is an activity-based tour model.

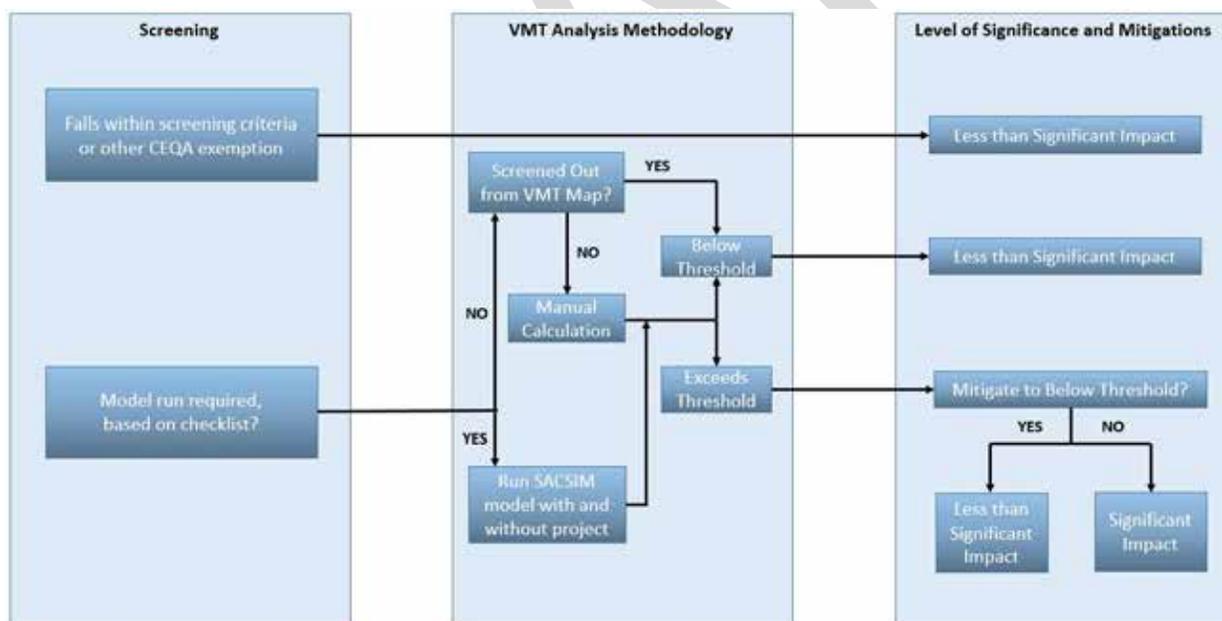


Figure 3-1: VMT Analysis for Individual Land Development Projects

A. Screening Criteria

A detailed CEQA transportation analysis would not be required if a project meets the County’s screening criteria. **Table 3-1** presents the screening criteria for projects that are expected to result in less-than-significant VMT impacts based on project description, characteristics, and/or location.

If a component of a mixed-use project meets these screening criteria, only the component, not the entire project, would be screened from CEQA transportation analysis.

Table 3-1	
Screening Criteria for CEQA Transportation Analysis for Development Projects	
Type	Screening Criteria
Small Projects	<ul style="list-style-type: none"> Projects generating less than 237 average daily traffic (ADT)
Local-Serving Retail ¹	<ul style="list-style-type: none"> 100,000 square feet of total gross floor area or less; <u>OR</u> if supported by a market study with a capture area of 3 miles or less; <u>AND</u> Local Serving: Project does not have regional-serving characteristics.
Local-Serving Public Facilities/Services	<ul style="list-style-type: none"> Transit centers Day care center Public K-12 schools Neighborhood park (developed or undeveloped) Community center Post offices Police and fire facilities Branch libraries Government offices (primarily serving customers in-person) Utility, communications, and similar facilities Water sanitation, waste management, and similar facilities
Projects Near Transit Stations	<ul style="list-style-type: none"> High-Quality Transit: Located within ½ a mile of an existing major transit stop² or an existing stop along a high-quality transit corridor³; <u>AND</u> Minimum Gross Floor Area Ratio (FAR) of 0.75 for office projects or components; <u>AND</u> Parking: Provides no more than the minimum number of parking spaces required⁴; <u>AND</u> Sustainable Communities Strategy (SCS): Project is not inconsistent with the adopted SCS; <u>AND</u> Affordable Housing: Does not replace affordable residential units with a smaller number of moderate- or high-income residential units; <u>AND</u> Active Transportation: Project does not negatively impact transit, bike or pedestrian infrastructure.

<p>Restricted Affordable Residential Projects</p>	<ul style="list-style-type: none"> • Affordability: Screening criteria only apply to the restricted affordable units; <u>AND</u> • Restrictions: Units must be deed-restricted for a minimum of 55 years; <u>AND</u> • Parking: Provides no more than the minimum number of parking spaces required⁴; <u>AND</u> • Transit Access: Project has access to transit within a ½ mile walking distance; <u>AND</u> • Active Transportation: Project does not negatively impact transit, bike or pedestrian infrastructure.
<p>¹ See Appendix A for land use types considered to be retail. ² Defined in the Pub. Resources Code § 21064.3 (“Major transit stop’ means a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods”). ³ Defined in the Pub. Resources Code § 21155 (“For purposes of this section, a high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours”). ⁴ Sacramento County Zoning Code Chapter 5: Development Standards</p>	

Small Projects

Projects that are too small to have any appreciable impact on VMT generation are screened out from analysis. The approach to developing minimum project size for analysis is based on guidance provided by SACOG, considering CEQA exemptions for small projects and information on VMT generation for the SACOG region from the 2012 California Household Travel Survey (CHTS). Minimum project size for VMT analysis is based on a maximum generation of 237 ADT/day, using the reasoning described below:

- OPR estimates that non-residential uses could generate 110-124 daily trips based on a project exemption size of 10,000 square feet.
- Using the lower end of this range to be conservative and the CHTS average trip length for office in the SACOG region (7.9 miles) results in a VMT generation of 869 VMT/day.
- A VMT of 869/day equates to approximately 20 single-family residential units based on a value of 42.9 VMT/household in the CHTS for the SACOG region.
- Based on the ITE Trip Generation Manual (10th Edition), 20 single-family homes would generate 237 daily trips, using the fitted curve methodology.

For informational purposes, this corresponds to the following equivalent single-uses, using current (10th Edition) ITE Trip Generation rates:

- Single-family detached housing of 20 units or less;

- Single-family attached or multi-family housing of 36 units or less;
- General office of 21,000 square feet of gross floor area or less
- General light industrial of 47,000 square feet of gross floor area or less

The above list are presented as examples. The ADT should be calculated using the ITE land use code(s) applicable to the project. Mixed-use projects should consider the combined trip generation of all components that are not screened out through another criteria (e.g. deed-restricted affordable housing).

Local-Serving Retail

New retail development typically redistributes existing shopping trips instead of creating new trips.¹ Local-serving retail projects shorten vehicle-trips and reduce VMT by diverting existing trips from established local retail to the new local retail without measurably increasing trips outside of the local area. Regional-serving retail projects, conversely, can lead to longer vehicle-trips and may increase VMT.

There is a large potential for greenfield development in unincorporated Sacramento County. Employment components typically lag behind residential components of development, leading to new growth being underserved by retail and services. Thus, it is critical to streamline and encourage local-serving retail to reduce VMT generation. Based on the County's experience, New neighborhood shopping centers in Sacramento County commonly develop around 100,000 square feet gross floor area (GFA). It is presumed that retail development less than 100,000 GFA is local-serving. This presumption may be extended to larger shopping centers if supported by a market study showing a market capture area that is less than 3 miles.

The presumption of being local-serving would not apply to a shopping center of any size with any of the following characteristics of regional retail:

- Greater than 100,000 square feet GFA and with a market capture area greater than 3 miles.
- Contains development with a regional draw (e.g. regional mall, entertainment complex).
- Expansion of existing regional-serving retail cannot be considered to be local-serving, even if less than 100,000 square feet GFA.

Local-Serving Public Facilities and Services

Public facilities and services, such as transit centers, day care centers, K-12 public schools, libraries, neighborhood parks (developed or undeveloped), community centers, post offices, fire/police stations, branch libraries, government buildings (primarily providing in-person services), utility and communication facilities, water sanitation and waste management facilities, etc., are located within established communities and serve local needs. These services improve people's proximity to recreational, civic, and other necessary community needs. If a public facility

¹ Lovejoy, et al. (2012). Measuring the impacts of local land-use policies on vehicle miles of travel: The case of the first big-box store in Davis, California. *The Journal of Transport and Land Use*.

or service is determined to be local-serving, the project would not require a detailed CEQA transportation analysis.

The following public facilities and services may **not** be screened out using the local-serving criteria:

- Airports
- Cemeteries
- Private K-12 schools
- Community colleges (public or private)
- Universities (public or private)
- House of Worship
- Regional park (developed or undeveloped)

Projects Located Near Transit Stations

OPR's technical advisory contains the following guidance regarding projects located near transit stations:

Proposed CEQA Guideline Section 15064.3, subdivision (b)(1), states that lead agencies generally should presume that certain projects (including residential, retail, and office projects, as well as projects that are a mix of these uses) proposed within ½ mile of an existing major transit stop or an existing stop along a high quality transit corridor will have a less-than-significant impact on VMT. This presumption would not apply, however, if project-specific or location-specific information indicates that the project will still generate significant levels of VMT.

An existing major transit stop is defined as “a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.”

For the purposes of these guidelines, the distance between the project site and the transit station should be based on direct walking distance without missing sidewalks or physical barriers.

Typically, a major transit stop would be considered to be applicable for cumulative analysis purposes if the future transit service/stop is included in the MTP/SCS.

Restricted Affordable Residential Projects

The project must have access to transit within a 1/2 mile walking distance. The project must wholly or have a portion that meets one of the following criteria: is affordable to persons with a household income equal to or less than 50% of the area median income (as defined by California Health and Safety Code Section 50093), housing for senior citizens [as defined in Section 143.0720(e)], housing for transitional foster youth, disabled veterans, or homeless persons [as defined in 143.0720(f)]. The units shall remain deed restricted for a period of at least 55 years. The project

shall provide no more than the minimum amount of parking per unit, per the Sacramento County Zoning Code. Only the portion of the project that meets the above criteria is screened out. For example, if the project is 100 units with 10 deed-restricted affordable housing units, transportation VMT analysis would not be necessary for the 10 affordable units but would be necessary for the remaining 90 units (unless they meet one of the other screening criteria). For purposes of applying the small project screening criteria, the applicant would only include the trip generation for the non-affordable housing portion of the project (since the affordable housing portion is screened out).

OPR's technical advisory contains the following guidance regarding affordable residential development projects:

Adding affordable housing to infill locations generally improves jobs-housing match, in turn shortening commutes and reducing VMT. Further, low-wage workers in particular would be more likely to choose a residential location close to their workplace, if one is available. In areas where existing jobs housing match is closer to optimal, low income housing nevertheless generates less VMT than market-rate housing. Therefore, a project consisting of a high percentage of affordable housing may be a basis for the lead agency to find a less-than-significant impact on VMT. Evidence supports a presumption of less than significant impact for a 100 percent affordable residential development (or the residential component of a mixed-use development) in infill locations. Lead agencies may develop their own presumption of less than significant impact for residential projects (or residential portions of mixed use projects) containing a particular amount of affordable housing, based on local circumstances and evidence. Furthermore, a project which includes any affordable residential units may factor the effect of the affordability on VMT into the assessment of VMT generated by those units.

Affordable residential projects generate fewer trips than market rate residential projects². The Sacramento County Zoning Code allows parking reductions for affordable housing. This supports the assumption that the rate of vehicle ownership is expected to be less for persons that qualify for affordable housing. Additionally, senior citizens, transitional foster youth, disabled veterans, and homeless individuals also have low vehicle ownership rates.

B. Residential Projects or Components

Definition

Residential projects include all single-family and multi-family developments, mobile homes, retirement/senior housing, and congregate care facilities.

Metric

VMT per capita is the metric used to evaluate residential projects or components. VMT for all vehicle tours starting or ending at the home is summed to the home location of individuals on the

² Newmark and Hass, "Income, Location Efficiency, and VMT: Affordable Housing as a Climate Strategy", The California Housing Partnership (2015).

tour. The calculation excludes non-home-based trips. The VMT for each home is then summed for all homes in a particular area (i.e. the project or the region) and divided by the population of that area to arrive at VMT per capita.

Significance Threshold

The project's VMT per capita is compared to the regional average of 17.6 VMT per capita. The target is to achieve a project VMT per capita that is 85% or less of the regional average, i.e. less than or equal to **15.0 VMT per capita**.

Other Considerations

It should be noted that OPR's technical advisory includes special considerations for projects near transit stations and affordable housing, and these considerations are recommended for use in Sacramento County. Infill locations have better than average access to transit and/or greater opportunities for walking and bicycling trips. Restricted affordable housing units typically generate fewer vehicle trips than non-restricted units. Qualified residential developments of both types can be presumed to have a less than significant VMT impact.

C. Commercial Employment Projects or Components

Definition

Commercial employment broadly covers all employment that is not retail, industrial, or related to public facilities/services. Some examples include agriculture, hospitals, industrial/business parks, scientific research and development, hotels, motels, resorts, military bases, commercial offices, single tenant offices, medical offices, and government offices (primarily used as offices for employees, not in-person customer service).

Metric

VMT per employee is the metric used to evaluate commercial employment projects or components. VMT for all commute tours starting or ending at the workplace is summed to the work location of employees. The calculation excludes non-commute and visitor trips. The VMT for each workplace is then summed for all workplaces in a particular area (i.e. the project or the region) and divided by the number of employees in that area to arrive at VMT per employee.

Significance Threshold

The project's VMT per employee is compared to the regional average of 16.4 VMT per employee. The target is to achieve a project VMT per capita that is 85% or less of the regional average, i.e. less than or equal to **13.9 VMT per employee**.

D. Industrial Employment Projects or Components

Definition

Industrial projects generally have a low employment density (higher square feet per employee). Examples of industrial employment include manufacturing/assembly, rental storage, truck terminal, warehousing, and high cube.

Metric

VMT per employee is the metric used to evaluate industrial employment projects or components. VMT for all commute tours starting or ending at the workplace is summed to the work location of employees. The calculation excludes non-commute and visitor trips. The VMT for each workplace is then summed for all workplaces in a particular area (i.e. the project or the region) and divided by the number of employees in that area to arrive at VMT per employee.

Significance Threshold

The project's VMT per employee is compared to the regional average of 16.4 VMT per employee. The target is to achieve a project VMT per capita that is equal to or less than the regional average, i.e. less than or equal to **16.4 VMT per employee**.

Justification

The OPR Technical Advisory provides that “of land use projects, residential, office, and retail projects tend to have the greatest influence on VMT. For that reason, OPR recommends the quantified thresholds described above for purposes of analysis and mitigation. Lead agencies, using more location-specific information, may develop their own more specific thresholds, which may include other land use types.” Purely industrial uses are desired to be located in locations that are less dense and not within urban areas which typically have higher VMT per employee. Industrial land uses are land intensive; therefore, placing industrial land uses in less urban areas characterized by having higher VMT per employee allows land in efficient VMT areas to be more effectively utilized as high density residential and commercial uses. This threshold is consistent with achieving an overall reduction in regional VMT, as it recognizes that industrial uses, which are relatively lower total VMT generating uses, are most appropriate in areas that have a lower potential to reduce VMT because it results in more available land within areas with a high potential to achieve VMT reductions available for more dense development.

E. Regional (Non-Locally Serving) Retail or Public Facilities/Services Projects or Components

Definition

Regional-serving retail is that which is not local-serving based on size or market capture area. Regional retail also includes uses with a potential for regional draw, including shopping malls, entertainment complexes, and golf courses. Similarly, regional public facilities/services include

airports, cemeteries, private K-12 schools, community colleges, universities, houses of worship, and regional parks.

Significance Threshold

When assessing a regional retail or public facilities/services project, the project's significance threshold is zero increase in total regional VMT.

F. Methods of VMT Calculation

Regional Change in VMT

The SACSIM model should be run without and with the project. The total VMT for the region is calculated for each model run. The difference between the two scenarios is the net change in total VMT that is attributable to the project. Alternate methods of calculating VMT change may be proposed by the applicant, subject to review and approval by the Department of Transportation and Planning and Environmental Review.

VMT Per Capita and VMT Per Employee

The project's VMT per capita (for residential projects) or VMT per employee (for employment projects) should be calculated using one of three methodologies:

- **Method 1 – Project-Specific SACSIM Model Run:** Method 1 is always allowable for any project, and may be required based on a checklist. The analyst models the project in SACSIM. A script is used to make calculations based on the following:
 - For VMT per Capita, sums the VMT resulting from all vehicle home-based tours to the home location of individuals who are drivers or passengers. The VMT for each home is then summed for all homes in the project boundary and divided by the population within that boundary to arrive at VMT per Capita.
 - For VMT per Employee, sums the VMT resulting from all vehicle commute trips starting or ending at the work location of individuals on the trip. The VMT for each work location is then summed for all work locations in the project boundary and divided by the number of employees within that boundary to arrive at VMT per Employee.
- **Method 2 – Screening Map:** Method 2 may only be used if the project is (1) located in a TAZ that is shown to be less than or equal to 85 percent of the regional average on a VMT screening map; AND (2) consistent with land use assumptions in the model. The VMT per capita/employee from the screening map is used, and the impact is determined to be less than significant.
- **Method 3 – Manual Calculation:** Method 3 may only be used if the project is generally consistent with land use assumptions in its TAZ in the model, or if a representative TAZ is identified and approved by the Department of Transportation. The average trip length for that TAZ is multiplied by an ITE trip generation calculation to determine project VMT.

Project VMT is divided by the number of residents or employees to calculate VMT per capita/employee.

Method 1 – Project-Specific SACSIM Model Run

The need for a model run is determined from a checklist considering a number of factors, including:

- (1) Project Type: Projects requiring a calculation of net change in VMT (e.g.; regional retail and public facilities/services) generally need to be modeled to account for redistribution.
- (2) Multiple TAZs: Projects spanning multiple TAZs generally require project-specific modeling, unless VMT efficiency metrics are below the significance threshold in all TAZs.
- (3) Insufficient Model Information: Projects developing in greenfield areas may not be able to make manual calculations, if sufficient trip length information is not available for the project's TAZ in the model, or a nearby, representative TAZ.
- (4) Plan Areas: General Plans, Specific Plans, and Community Plans.
- (5) Unusual Project Characteristics: For example, projects that have longer or shorter trip lengths than a typical project of its type, or projects that affect the trip-making behavior of the surrounding area such that VMT increases would result for nearby land uses.
- (6) Land Use and Roadway Components: Project includes land use and non-locally serving roadways that are not part of the General Plan or a Specific Plan.
- (7) Transit Interactions: Project is evaluating new transit service or may significantly increase demand on existing service.
- (8) Applicant Election: The project applicant elects to perform project-specific modeling in lieu of the VMT efficiency metrics provided on the screening map. For example, projects with a mixture of land use types may benefit from modeling that more accurately captures internal and multimodal trips.
- (9) Department of Transportation Requirement: The Department of Transportation, at its discretion, requires project-specific modeling. This may be done to ensure consistency with modeling performed for an LTA, likelihood of the project affecting regional travel patterns (i.e.; very large projects), or any other circumstances requiring project-specific modeling, as determined by the Department of Transportation.

If any of the above checklist criteria are met, a project-specific model run should be performed. The most current version of SACSIM should generally be used, unless consistency with modeling from a nearby project is required.

Sufficient model detail should be provided to represent the study area and capture project effects. Typical modifications include splitting TAZs, adding minor roadways, revising speeds/capacity classes, inputting turn penalties, modifying the transit line file, and adding bicycle and multi-use trail facilities. Model data should be carefully verified to ensure accurate project and "other" cumulative project representation, if applicable. Model assumptions and modifications should be

verified with the Department of Transportation; however, the Department does not provide modeling support. The consultant is responsible for modifying and running the travel demand model, including population generation, modifying parcel, household, and population files, editing the roadway and transit networks, and post-processing model outputs, including, but not limited to, tour data, trip lengths, VMT by speed bin, VMT per capita, VMT per employee, net change in regional VMT, and net change in VMT attributable to regional retail and regional public facilities/services. The consultant should have the ability to develop and run scripts, as some of these metrics may require additional functionality beyond SACOG's off-the-shelf model, or may need to be tailored to the project.

Note that commercial employees do not include those associated with retail or public facilities/services components of the project. To isolate the tripmaking characteristics of each employment type in the model, different employment components should not be mixed within a TAZ.

If an LTA is required, additional guidance for modeling and post-processing traffic volume information is provided in the LTA section of the document.

Method 2 – Screening Map

When a project-specific model run is not required based on the checklist, the analyst may check screening maps that provide VMT per capita and VMT per employee metrics at the TAZ level. Analysts would use the maps to determine if the project is located in an area with efficiency metrics below the threshold of significance. If the project is consistent with the assumptions in the model and in a VMT-efficient area, it would be presumed to have a less than significant transportation impact.

Method 3 – Manual Calculation

If the project is not located in a VMT-efficient area or is not consistent with model assumptions, a manual calculation procedure may be used. The County would provide average trip length information by TAZ for home-based and commute tours. ITE trip generation rates for the project can be multiplied by the trip length to calculate VMT generation. Pass-by and internal trip reductions may be applied per ITE's recommended practice. The VMT generation would be divided by a project's expected number of residents or employees to determine the VMT per capita or employee. The project can then be compared to the significance thresholds to make an impact determination.

Alternate Methods

If project characteristics pose challenges to the application of Methods 1 through 3, alternate methods of calculating VMT metrics may be proposed by the applicant. Such alternate methods are subject to review and approval by the Department of Transportation and Planning and Environmental Review. Alternate methods must demonstrate consistency with the assumptions used to develop the thresholds of significance.

G. Redevelopment Projects

Recommendations for VMT analysis of redevelopment projects are based on guidance provided by OPR with the clarifications provided below.

Redevelopment projects represent a special case since the recommended VMT thresholds for SB 743 implementation represent an efficiency metric. Under SB 743, the primary goal is for all new land development projects to achieve efficiency from a VMT point of view. The efficiency or lack of efficiency of the existing land use is typically not relevant per OPR.

The following methodology is recommended:

- A redevelopment project that reduces absolute VMT (i.e. the total VMT with the project is less than the total VMT without the project) would be presumed to have less than significant VMT impacts.
- If a project increases absolute VMT, it is recommended that the VMT analysis methodology described in the previous section of this document be applied to the proposed land use, as if the project was proposed on a vacant parcel (i.e. the existing land use didn't exist).

In order to be considered a redevelopment project, the existing or terminated land use must not have been terminated prior to six months before application submittal. Appropriate supporting documentation may be requested, such as copies of any building permit, certificate of occupancy, business license, lease agreement, affidavits, utility bills, or photographs, as well as documentation as to when the previous land use was terminated, if applicable. Documentation of any previous environmental review should be included in this submittal. The absence of documentation of previous environmental review may result in treating the parcel as vacant for VMT analysis purposes.

OPR's technical advisory includes specific recommendations that relate to redevelopment projects that replace affordable residential units with a smaller number of market-rate residential units. Those recommendations are also considered applicable for the purposes of these guidelines.

H. Mixed-Use Projects

Recommendations for VMT analysis of mixed-use projects are based on guidance provided by OPR with additional clarifications provided below.

Each component of a mixed use project should be evaluated independently, based on the applicable significance threshold. For purposes of applying the small project screening criteria, the applicant would only include the trip generation for portions of the project that are not screened out based on other screening criteria. For example, if a project includes residential and retail, and the retail component was screened out because it is locally serving, only the trip generation of the residential portion would be used to determine if the project meets the definition of a small project.

Analysis of mixed-use projects should account for internal trips, whether by use of the SACSIM model, MXD, or other methodology approved by the Department of Transportation.

I. Phased Projects

For projects proposed to be built in phases, each phase may be evaluated separately. This evaluation would include a determination of whether significant VMT impacts would occur and whether mitigation is recommended. The evaluation of VMT for each phase would include consideration of the previous project phases. For example, a project with three phases would include the following analyses:

- VMT Analysis of Phase 1: Assumes development of Phase 1 only.
- VMT Analysis of Phase 2: Assumes development of Phases 1 and 2.
- VMT Analysis of Complete Project: Assumes development of Phases 1, 2, and 3.

J. Land Development Projects with a Roadway Component

Some individual land development projects and specific plans include the implementation of roadways as a component of the project. This requires additional consideration since land development and roadway projects have different significance thresholds for VMT analysis.

For land development projects and specific plans with a roadway component, the following recommendations are provided:

- Locally-serving roadways (e.g.; local and collector roadways) are needed to provide adequate access and circulation for a development. The VMT on these roadways is primarily that generated by the project's land use, and is thus accounted for in the appropriate VMT metric (e.g.; VMT per capita, VMT per employee, net change in VMT). Locally-serving roadways should thus be defined as part of the project, subject to the same significance threshold as the land use component. If the development is found to have a less-than-significant impact or can be mitigated to a less-than-significant level, locally-serving roadways included as part of the development may be presumed to have a less-than-significant VMT impact.
- Regional roadways (e.g.; arterials) serving substantial traffic volumes unrelated to the project are occasionally constructed or widened as part of a development. For these roadways, the VMT analysis should follow the recommendations in Section 5 (VMT analysis of transportation projects). Transportation projects consistent with the General Plan or a specific or community plan may be presumed to have a less-than-significant VMT impact.
- Land development projects may also include transit, bicycle, and pedestrian facilities as components of the project, but these types of projects would generally not be considered to increase VMT and would normally not need to be considered in the VMT analysis of a land development project.

K. Cumulative Analysis

Projects must demonstrate consistency with the General Plan to address cumulative impacts. Factors that contribute to a determination of General Plan consistency include a project’s design, density, and conformance to General Plan goals and policies. If a project is consistent with the General Plan, it will be considered as part of the cumulative solution to meet the General Plan’s long-term transportation goals, and therefore will result in a less-than-significant cumulative impact.

Projects that are not consistent with development assumptions in the General Plan but do not demonstrate a significant VMT impact under baseline conditions can be presumed to be less-than-significant in the Cumulative year. This is because projects that fall under the County’s impact thresholds have already been shown to align with long-term VMT and greenhouse gas reduction goals in the MTP/SCS.

Projects that are not consistent with the General Plan and demonstrate a significant VMT impact under baseline conditions require a cumulative impact analysis to determine the project’s cumulative effect on regional air quality, greenhouse gas emissions targets, and other performance metrics of the General Plan. For residential, commercial employment, and industrial employment projects or components, VMT per capita and/or VMT per employee should be compared to the regional average in the cumulative year, based on the latest MTP/SCS model. For all other projects, the net VMT change in the cumulative year should be calculated between a “no project” and “plus project scenario”, based on the latest MTP/SCS model.

L. Summary of Significance Thresholds

Significance thresholds for development projects are shown below in **Table 3-2**. Appendix A contains specific land use designations assigned to each category. For some land development projects, it may not be immediately obvious whether the project should be subject to VMT per capita, VMT per employee, or net increase in VMT thresholds. For these projects, Sacramento County Planning and Environmental Review and the Department of Transportation should be consulted.

Project Type¹	VMT Significance Criteria²	Threshold
Residential	Project VMT per capita exceeds 85 percent of the regional average VMT per capita	>15.0 VMT per capita
Commercial	Project VMT per employee exceeds 85 percent of the regional average VMT per employee	>13.9 VMT per employee
Industrial	Project VMT per employee exceeds the regional average VMT per employee	>16.4 VMT per employee
Regional Retail	Net increase in regional VMT	VMT increase
Regional Public Facilities/Services	Net increase in regional VMT	VMT increase

Redevelopment	Projects that result in a decrease to existing regional total VMT are presumed to have a less-than-significant VMT impact; otherwise, apply the relevant threshold based on the proposed land use (treating existing use as vacant)	Relevant threshold above
Mixed Use	Apply the relevant threshold to each land use component individually	Relevant threshold above
Phased	Apply the relevant threshold to each phase independently	Relevant threshold above
Land Development with Roadway Component	For locally-serving roadways, the significance determination is based on the land use component. For regional roadways, apply thresholds of significance for transportation projects.	Appropriate thresholds above or per Table 5-2
¹ Refer to Appendix A ² If not presumed to be less-than-significant per Table 3-1		

M. Mitigation

If a project’s VMT exceeds the thresholds identified above for individual land development projects and specific plans, it may have a significant transportation impact. According to the OPR’s technical advisory, when a significant impact is determined, feasible mitigation measures must be identified that could avoid or substantially reduce the impact. Lead agencies are generally given the discretion to determine what mitigation actions are “feasible,” but they must rely on substantial evidence in making these determinations. In addition, CEQA requires the identification of feasible alternatives that could avoid or substantially reduce a project’s significant environmental impacts.

Not all mitigation measures are physical improvements to the transportation network. A sample mitigation measure might include telework options for employees to reduce vehicular travel. Examples of other mitigation measures based on OPR’s technical advisory are shown in **Table 3-3**.

Category	Measure
Parking	<ul style="list-style-type: none"> • Limit or eliminate parking supply • Unbundle parking costs • Provide parking cash-out programs • Price workplace parking
Transit	<ul style="list-style-type: none"> • Improve or increase access to transit • Reduce transit headways • Implement neighborhood shuttle • Provide partially or fully subsidized transit passes
ITS	<ul style="list-style-type: none"> • Deploy management strategies (e.g., pricing, vehicle occupancy requirements) on roadways or roadway lanes.

	<ul style="list-style-type: none"> • Implementing or funding intelligent transportation systems (ITS) strategies to improve passenger throughput on existing lanes.
Education and Encouragement	<ul style="list-style-type: none"> • Provide incentives or subsidies that increase the use of modes other than a single-occupancy vehicle • Voluntary travel behavior change program • Promotions and marketing
Commute Trip Reductions	<ul style="list-style-type: none"> • Implement or provide access to a commute reduction program • Provide telework options • Provide on-site amenities at places of work, such as priority parking for carpools and vanpools, secure bike parking, showers and locker rooms, and bicycle repair services • Employer or association-sponsored vanpool, circulator, or shuttle • Rideshare program • Provide employee transportation coordinators at employment sites • Provide a guaranteed ride home service to users of non-auto modes
Shared Mobility	<ul style="list-style-type: none"> • Provide car-sharing, bike sharing, and ride-sharing programs • Shift single occupancy vehicle trips to carpooling or vanpooling by providing ride-matching services or shuttle services • Other shared mobility devices • School carpool program
Active Transportation/ Neighborhood Enhancement	<ul style="list-style-type: none"> • Orient the project toward transit, bicycle, and pedestrian facilities • Improve pedestrian or bicycle networks • Include outdoor bike parking • Include secure bike parking and showers • Traffic calming • Shared use paths/paseos
Project Changes	<ul style="list-style-type: none"> • Locate the project in an area of the region that already exhibits low VMT. • Locate the project near transit. • Increase project density. • Increase the mix of uses within the project or within the project’s surroundings. • Increase connectivity and/or intersection density on the project site. • Increase access to common goods and services, such as groceries, schools, and daycare. • Incorporate affordable housing into the project. • Incorporate a neighborhood electric vehicle network.

Additional mitigation measures may become acceptable as agencies continue to innovate and find new ways to reduce vehicular travel. For example, OPR’s technical advisory notes that because VMT is largely a regional impact, regional VMT-reduction programs (e.g.; VMT impact fee programs) may be an appropriate form of mitigation.

Other mitigation must be evaluated on a project-specific basis. Quantifying the reduction in VMT associated with potential mitigation measures for land development projects and specific plans is a relatively new endeavor for transportation engineers and planners. Therefore, these guidelines do not recommend a methodology that has been in practice or has generally been accepted for local use.

One current resource that has been identified to quantify the reduction in vehicle miles traveled associated with a particular mitigation measure is the latest edition of California Air Pollution Control Officers Association's Quantifying Greenhouse Gas Mitigation Measures, A Resource for Local Government to Assess Emission Reductions from Green Gas Mitigation Measures (CAPCOA, August 2010), also known as the CAPCOA Report. This report provides a methodology to quantify the reductions in vehicle miles traveled for many of the mitigation measures listed above. The following elements should be considered when utilizing the CAPCOA Report:

- The CAPCOA VMT reduction strategies include built environment changes and transportation demand management (TDM) actions. The built environment changes are scalable from the project site to larger geographic areas and are often captured in regional travel forecasting models such as the SACSIM model. Prior to any application of a built environment change to a project as mitigation, the project analyst should verify that the project VMT forecasting tool or model is appropriately accurate and sensitive to built-environment effects and that no double counting will occur in the application of the mitigation measure. The TDM actions are sensitive to the project site and ultimate building tenants. As such, VMT reductions associated with TDM actions cannot be guaranteed through CEQA mitigation without ongoing monitoring and adjustment.
- There are rules for calculating the VMT reduction when applying multiple mitigation measures. The CAPCOA Report rules should be considered.
- Only "new" mitigation measures should be included in the analysis to prevent double counting. For example, if the project is located near transit, the VMT reduction cannot be applied if the project utilized a model that factored in the project's proximity to transit.
- Mitigation measures should be applied to the appropriate user group (employees, guest/patrons, etc.). If a certain measure applies to multiple user groups, the weighted average should be considered as the effect of the mitigation measure will vary based on the user group.

It should be noted that the Sacramento Metropolitan Air Quality Management District (AQMD) has received a Caltrans SB 1 Adaptation Grant to update the CACOA report on quantifying greenhouse gas reduction measures. As of 2020, this update is anticipated to be available within the next few years. Analysts should consider the available substantial evidence at the time a study is prepared to determine the most appropriate approach for CEQA review.

4.0 Community Plans and General Plans

A. General Plan Considerations

In their December 2018 Technical Advisory, the Governor’s Office of Planning and Research (OPR) recommends that a general plan may have a significant impact if its land uses in aggregate would exceed the OPR recommended thresholds used for individual land use projects. These thresholds are tied to a 15% reduction below baseline. This recommendation does require some interpretation because it focuses exclusively on the general plan’s land use element and does not consider the plan as a whole, which also includes the circulation element and its effects on VMT. That said, the guidance is clear that the comparison is to baseline for impact determination purposes, which is the appropriate CEQA expectation.

There is one other CEQA requirement to note for general plans related to plan-to-plan comparisons. The general plan EIR shall also discuss any inconsistencies between the proposed general plan and the currently adopted general plan per CEQA Guidelines Section 15125(d). These inconsistencies should consider CEQA Guidelines Section 15125(e), which requires analysis that examines potential future conditions in the adopted plan. Note the use of the wording “discuss” and “analysis that examines”. These requirements indicate that a comparison between general plan alternatives (especially no project and proposed project) is recommended, but is informational and does not serve as a basis for identifying impacts.

B. Guidance for Evaluating General and Specific/Community Plans

OPR guidance leads to the following conclusions regarding the analysis of General Plans and Specific/Community Plans under SB 743:

- The guidance in OPR’s Technical Advisory recommends the use of efficiency metrics related to VMT. Therefore, VMT per capita and VMT per employee are the recommended performance measures for the General Plan and specific/community plans. The reporting of total VMT may be useful for some purposes, but it does not seem to be appropriate for setting of significance thresholds.
- Comparison of horizon year conditions with the plan to baseline conditions is needed for CEQA impact analysis. For the General Plan, comparison between alternatives (including the no project condition) is recommended.

C. Thresholds of Significance

Transportation impacts should be evaluated based on the following procedures and thresholds of significance:

General Plan

For the General Plan, use of OPR’s recommendations leads to use of a VMT significance threshold for a General Plan horizon year condition 15% below baseline conditions. Consideration may be

given to use of other thresholds such as VMT per capita below the baseline condition (with appropriate justification).

- Residential – Aggregate all residential land uses and compare the resulting VMT per Capita between the baseline and horizon years. The threshold is exceeding 85% of the baseline VMT per Capita per Table 3-2.
- Commercial Employment – Aggregate all commercial employment land uses and compare the resulting VMT per Employee between the baseline and horizon years. The threshold is exceeding 85% of the baseline VMT per Employee per Table 3-2.
- Industrial Employment - Aggregate all industrial employment land uses and compare the resulting VMT per Employee between the baseline and horizon years. The threshold is exceeding the baseline VMT per Employee per Table 3-2.

Specific/Community Plans

Specific/Community Plans seek environmental clearance to construct the proposed land use. Similar to redevelopment projects, existing land use to be replaced is considered vacant for analysis purposes. The relevant threshold for the proposed land use is applied as shown in Table 3-2 and described below:

- Residential – Aggregate all residential land uses and compare the resulting VMT per Capita to the regional average. The threshold is exceeding 85% of the regional average VMT per Capita per Table 3-2.
- Commercial Employment – Aggregate all commercial employment land uses and compare the resulting VMT per Employee to the regional average. The threshold is exceeding 85% of the regional average VMT per Employee per Table 3-2.
- Industrial Employment - Aggregate all industrial employment land uses and compare the resulting VMT per Employee to the regional average. The threshold is exceeding the regional average VMT per Employee per Table 3-2.
- Retail and Public Facilities/Services – Evaluate the effect that adding these land uses has on regional VMT. The threshold is increasing total regional VMT.

D. Mitigations

If VMT analysis for the General Plan or a specific/community plan requires consideration of mitigation measures to mitigate significant VMT impacts, potential mitigation measures would be similar to those used for land development projects with some modifications. The following measures could be considered:

- Modify the land use plan to increase development in areas with low VMT/capita characteristics and/or decrease development in areas with high VMT/capita characteristics.
- Provide enhanced bicycle and/or pedestrian facilities.

- Add roadways to the street network if those roadways would provide shorter travel paths for existing and/or future trips.
- Improve or increase access to transit.
- Increase access to common goods and services, such as groceries, schools, and daycare.
- Incorporate a neighborhood electric vehicle network.
- Provide traffic calming to incentivize bicycling and walking.
- Limit or eliminate parking supply.
- Unbundle parking costs.
- Provide parking or roadway pricing or cash-out programs.
- Implement or provide access to a commute reduction program.
- Provide car-sharing, bike sharing, and ride-sharing programs.
- Shift single occupancy vehicle trips to carpooling or vanpooling by providing ride-matching services or shuttle services.
- Provide telework options beyond those already assumed in current plans.
- Provide incentives or subsidies that increase the use of modes other than a single-occupancy vehicle.
- Provide employee transportation coordinators at employment sites.
- Provide a guaranteed ride home service to users of non-auto modes.

Additional mitigation measures may become acceptable as agencies continue to innovate and find new ways to reduce vehicular travel.

5.0 Transportation Projects

Statewide guidance for the analysis of transportation projects after the implementation of SB 743 is based on the revisions to CEQA guidelines adopted in December 2018 and OPR's technical advisory dated December 2018. This guidance may be summarized as follows:

- The revised CEQA guidelines allow lead agencies the discretion to choose a performance measure and significance thresholds for the determination of the significant impacts of transportation projects.
- OPR's technical advisory recommends the use of VMT as the appropriate performance measure for transportation projects, but it does not include a recommendation for significance thresholds. It also states that transit, bicycle, and pedestrian projects can generally be presumed to have less than significant VMT impacts.
- If VMT is selected as the performance measure for roadway projects, OPR's technical advisory recommends the inclusion of induced travel demand in the VMT calculations for roadway projects. Induced travel demand is that which would be generated as a result of reduced travel times provided by a new roadway project or expanded capacity.

Most roadway projects are included in the General Plan Circulation Element and/or in the circulation elements of a community or specific plan. Inclusion in the General Plan or a community or specific plan is considered to be a point at which the project has been accepted into the future planning process. Thus, it is recommended that projects included in the General Plan or a community or specific plan be presumed to have less-than-significant VMT impacts. Transit, bicycle, and pedestrian projects can also be presumed to have less than significant VMT impacts, since they will tend to reduce VMT.

For individual roadway projects that are not included in the General Plan or a community or specific plan, VMT is the recommended performance metric for the analysis of transportation impacts. The SACSIM model should be run with and without the project. The regional (model-wide) VMT is calculated to determine the project's net effects on VMT. This inherently accounts for the effects of induced travel demand, as the model assignment iterates to minimize travel time. The project would have a significant transportation impact if there is a net increase in VMT compared to the no project condition. The VMT analysis process for transportation projects is shown in **Figure 5-1**.

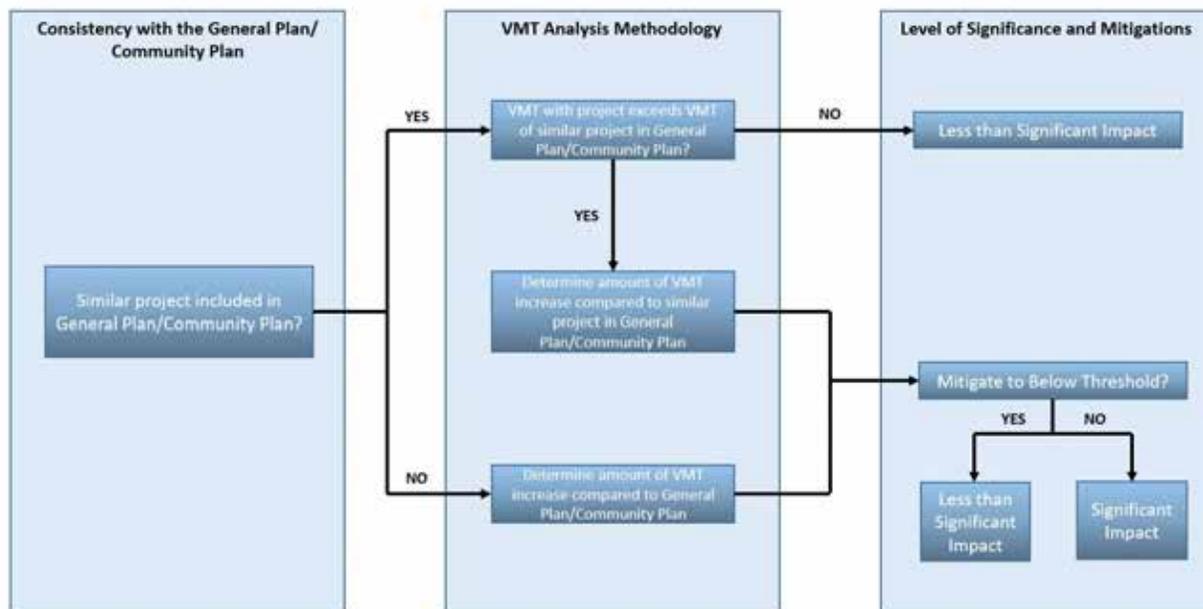


Figure 5-1: VMT Analysis for Transportation Projects

A. Screening Criteria

OPR’s technical advisory presents a list of projects that are not considered to be VMT-inducing, and therefore result in a less-than-significant impact. The list of screened-out projects is shown below in **Table 5-1**, with revisions and clarifications based on conditions specific to Sacramento County.

Category	Measure
Maintenance	<ul style="list-style-type: none"> Rehabilitation, maintenance, replacement and repair projects designed to improve the condition of existing transportation assets (e.g., highways, roadways, bridges, culverts, tunnels, transit systems, and assets that serve bicycle and pedestrian facilities) and that do not add motor vehicle capacity
Roadway Shoulder	<ul style="list-style-type: none"> Roadside safety devices or hardware installation such as median barriers and guardrails Roadway shoulder enhancements to provide “breakdown space,” dedicated space for use only by transit vehicles, to provide bicycle access, or otherwise to improve safety, but which will not be used as automobile vehicle travel lanes
Non-Through Lanes	<ul style="list-style-type: none"> Installation, removal, or reconfiguration of turn lanes at intersections that are intended to provide operational or safety improvements

	<ul style="list-style-type: none"> • Projects to bring an intersection or roadway into conformity with County design standards
Through Lanes	<ul style="list-style-type: none"> • Installation, removal, or reconfiguration of auxiliary through lanes (i.e. with a downstream lane drop) at intersections that are intended to provide operational or safety improvements • Addition of an auxiliary lane of less than two miles in length • Addition of roadway capacity on local or collector streets provided the project also includes appropriate improvements for pedestrians, cyclists, and, if applicable, transit • Reduction in number of through lanes • Grade separation to separate vehicles from rail, transit, pedestrians or bicycles, or to replace a lane in order to separate preferential vehicles (e.g., HOV, HOT, or trucks) from general vehicles • Addition of passing lanes, truck climbing lanes, or truck brake-check lanes in rural areas that do not increase overall vehicle capacity along the corridor • Conversion of streets from one-way to two-way operation with no net increase in number of traffic lanes • Roadway striping modifications that don't change the number of through lanes • Projects to bring an intersection or roadway into conformity with County design standards
Traffic Control Devices	<ul style="list-style-type: none"> • Installation, removal, or reconfiguration of traffic control devices, including Transit Signal Priority (TSP) features • Timing of signals to optimize vehicle, bicycle, or pedestrian flow
Traffic Circles	<ul style="list-style-type: none"> • Installation of roundabouts or traffic circles
Traffic Calming Devices	<ul style="list-style-type: none"> • Installation or reconfiguration of traffic calming devices
Parking	<ul style="list-style-type: none"> • Removal or relocation of off-street or on-street parking spaces • Adoption or modification of on-street parking or loading restrictions (including meters, time limits, accessible spaces, and preferential/reserved parking permit programs)
Traffic Wayfinding	<ul style="list-style-type: none"> • Addition of traffic wayfinding signage
Active Transportation	<ul style="list-style-type: none"> • Addition of new or enhanced bike or pedestrian facilities on existing streets/highways or within existing public rights-of-way • Addition of Class I bike paths, trails, multi-use paths, or other off-road facilities that serve non-motorized travel
Transit	<ul style="list-style-type: none"> • Initiation of new transit service • Addition of a new lane that is intended to be restricted to use only by transit vehicles

<p>Intelligent Transportation Systems/ Managed Lanes</p>	<ul style="list-style-type: none"> • Conversion of existing general purpose lanes (including ramps) to managed lanes or transit lanes, or changing lane management in a manner that would not substantially increase vehicle travel • Installation of traffic metering systems, detection systems, cameras, changeable message signs, and other electronics designed to optimize vehicle, bicycle, or pedestrian flow • Adoption of or increase in tolls • Addition of tolled lanes, where tolls are sufficient to mitigate any potential VMT increase
<p>Fuel/Charging Infrastructure</p>	<ul style="list-style-type: none"> • Installation of publicly available alternative fuel/charging infrastructure

B. Recommended Thresholds of Significance

The analysis would vary depending on the mode of travel associated with the project and based on whether the project is currently included in the General Plan or a community or specific plan.

Transit, Bicycle, and Pedestrian Projects

Transit, bicycle, and pedestrian projects that would encourage the use of these modes of travel would be expected to reduce VMT, would not require a detailed VMT analysis, and would be presumed to have a less than significant impact on transportation. For these project types, the presumption of a less than significant impact would apply even if the project was not in the General Plan or a community plan.

Roadway Projects

These guidelines recommend the use of VMT as the performance measure for roadway projects. The recommended significance threshold is the level of VMT expected based on the General Plan or community plan in which the project is located. This methodology is recommended for the following reasons:

- Although the new CEQA guidance allows for the use of any appropriate performance measure for the analysis of transportation projects, the intent of the SB 743 legislation was taken into consideration in the selection of a performance measure. SB 743 is intended to promote multimodal transportation networks, encourage infill development, and promote reduction of greenhouse gases. VMT is considered to be the performance measure that best reflects this intent.
- OPR’s technical advisory encourages the use of VMT as a performance measure. Although this recommendation is not binding, the intent of these guidelines is to follow OPR’s guidance, except in cases where there are regional or local factors that warrant a revision or clarification.
- The use of General Plan or community plan consistency as a VMT threshold is based on the process by which transportation projects are incorporated into the General Plan or a

community plan. In order for a transportation project to be incorporated into a community or general plan, a considerable amount of analysis is typically conducted. Community plans and General Plans typically include the preparation of an Environmental Impact Report that considers a variety of environmental impacts, including effects on vehicular travel, transit, and bicycle and pedestrian facilities. Since the General Plan and community plan are considered to represent sound urban planning decisions, consistency with these plans is considered to be a reasonable benchmark for the determination of a VMT significance threshold.

Roadway projects (or multimodal projects that include roadways) that are included in the General Plan or a community plan would be presumed to have less than significant VMT impacts. In the case of some projects, a similar project may have been included in the General Plan or a community plan, but revisions or refinements (e.g. a minor adjustment to alignment) have been incorporated. If the revisions or refinements are expected to cause increases in VMT, analysis should be conducted to compare the proposed project to the project description in the General Plan or community plan. Projects that result in VMT increases, in comparison to similar projects proposed in the General Plan or community plan, would need to reduce VMT levels below the level of VMT expected in the General Plan or community plan in order to avoid a significant VMT impact.

Roadway projects (or multimodal projects that include roadways) that are not included in the General Plan or a community plan would need a detailed analysis of VMT to determine whether the project would be expected to increase or decrease VMT as compared to VMT levels in the General Plan or community plan. For small projects, the VMT analysis could be conducted using sketch planning techniques. For medium or large projects, the analysis would generally require the use of the SACSIM model. Effects of induced demand are accounted for, as the model iteratively assigns traffic to minimize travel time. The model is sensitive to roadway capacity, volume, and uncongested and congested travel times.

Significance thresholds for transportation projects are shown below in **Table 5-2**.

Project Type	VMT Significance Criteria¹	Threshold
Roadway	(1) Project not included in the General Plan or a community plan, or (2) Project expected to result in higher VMT than project definition included in the General Plan or a community plan	Yes to any
¹ If not presumed to be less-than-significant per Table 5-1		

C. Mitigation

Regardless of the project type and analysis method, projects that would be expected to have a significant VMT increase would be expected to consider mitigation measures. Potential VMT mitigation measures could include the following:

- Reducing the scope of the capacity increase
- Deploy management strategies (e.g., pricing, vehicle occupancy requirements) on roadways or roadway lanes to encourage carpooling.
- Improve pedestrian or bicycle networks, or transit service.
- Implementing or funding off-site travel demand management.
- Implementing or funding intelligent transportation systems (ITS) strategies to improve passenger throughput on existing lanes.

Additional mitigation measures may become acceptable as agencies continue to innovate and find new ways to reduce vehicular travel.

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Appendix A – Land Use Classifications

Specific land use designations that fit within residential, commercial employment, industrial employment, local-serving public facilities/services, regional public facilities/services, retail, and regional retail are provided in **Table A-1** below.

Table A-1 Land Use Designations	
Residential	
	Congregate Care Facility
	Estate Housing
	Mobile Home
	Multiple Dwelling Unit (all sizes)
	Retirement/Senior Citizen Housing
	Single Family Detached
Commercial Employment	
	Agriculture
	Hospital: Convalescent/Nursing
	Hospital: General
	Industrial/Business Park
	Scientific Research and Development
	Hotel (with or without convention facilities/restaurants)
	Motel
	Resort Hotel
	Military Base
	Corporate Headquarters/Single Tenant Office
	Medical Office
	Government Offices (Use is Primarily Office with Employees; not Providing In-Person Customer Service)
Industrial Employment	
	Manufacturing/Assembly
	Rental Storage
	Truck Terminal
	Warehousing
	High Cube
Local Serving Public Facilities/Services	
	Day Care Center/Child Care Center
	Elementary School: Public
	Junior High/Middle School: Public
	High School: Public
	Branch library
	Government Offices (Providing Primarily In-Person Customer Service)
	Post Office
	Park & Ride Lot
	Transit Station

Neighborhood Park (developed or undeveloped)
Regional Public Facilities/Services
Airport
Cemetery
Private Elementary School
Private Junior High/Middle School
Private High School
Community College
University
House of Worship (with or without School or Day Care)
Regional Park
Retail (May be Local-Serving based on Size/Market Area)
Automobile Services
Convenience Market Chain
Discount Store/Discount Club
Drugstore
Furniture Store
Lumber/Home Improvement Store
Nursery
Restaurant
Neighborhood Shopping Center
Specialty Retail Center/Strip Commercial
Supermarket
Financial Institution (Bank or Credit Union)
Bowling Center
Movie Theater
Racquetball/Tennis/Health Club
Sport Facility (Indoor or Outdoor)
Regional Retail
Regional Shopping Center/Shopping Mall
Amusement Park
Entertainment Complex
Golf Course

Appendix B – Basis of Significance Thresholds

Calculations from the current version (2016) of the SACSIM model are provided below. **Table B-1** shows average round trip miles and VMT per capita for home-based tours. **Table B-2** shows average round trip miles and VMT per employee for commute tours.

Table B-1						
2016 and 2040 Residential Tour Lengths and VMT per Capita						
Model Scenario	Average Round Trip Miles Home-Based Tours of Residents			Average VMT per Capita Home-Based Tours of Residents		
	Commute	Non-Commute	All	Commute	Non-Commute	All
Regional 2016	28.1	21.8	23.7	6.3	11.3	17.6
Regional 2040	27.3	20.8	22.7	5.9	10.7	16.6
85% of Regional 2016						15.0

Table B-2		
2016 and 2040 Employee Commute Tour Lengths and VMT per Employee		
Model Scenario	Average Round Trip Miles Commute Tours of Workers	Average VMT per Capita Commute Tours of Workers
Regional 2016	28.6	16.4
Regional 2040	27.3	14.9
85% of Regional 2016		13.9

Part II – Local Transportation Analysis

A. Purpose

Sacramento County may require the preparation of a local transportation analysis (LTA) for both land development and transportation projects. The purpose of the LTA is to forecast, analyze, and describe how a development will affect existing and future circulation infrastructure for all users of the transportation system, including vehicles, bicycles, pedestrians and transit. The LTA assists transportation engineers and planners in both the development community and public agencies when making land use, infrastructure planning, and other development decisions. An LTA quantifies the expected changes in transportation conditions and evaluates the efficacy of potential improvements, if warranted.

These guidelines identify when an LTA is needed, what professional procedures should be followed, and what constitutes a “significant transportation effect” that would require improvements.

The transportation analysis included in an LTA is separate from the transportation impact analysis conducted as part of the environmental (CEQA) project review process, as described in Part I. The purpose of the local transportation analysis is to ensure that all projects provide a fair share of infrastructure improvements in order to accommodate their multimodal transportation demands.

The instructions outlined in these guidelines are subject to update as future conditions and experience become available. Special situations may call for variation from these guidelines. The scope of the LTA is subject to County review and approval. Caltrans and neighboring jurisdictions should be consulted on the specific methods to be used in LTA studies involving any facilities outside of the County’s jurisdiction.

B. Need for Study

Local Transportation Analysis

An LTA is typically required if any of the following are true:

1. The project will generate 100 or more new a.m. or p.m. peak hour vehicle trip-ends.
2. The project will generate 1,000 or more daily vehicle trip-ends.
3. New project traffic will substantially affect an intersection or a roadway segment already identified as operating at an unacceptable level of service.
4. The project may result in a decrease in public safety on any roadway for any mode of travel.
5. The project will substantially change the off-site transportation system or connections to it.
6. Any other land development or transportation project requiring an LTA, at the sole determination of the Department of Transportation.

A trip-end is defined as either an origin or destination of a trip. For example, a round trip between two locations (home-shopping) creates two trip-ends at each location.

The a.m. peak hour is defined as the peak consecutive hour during the 7-9 a.m. peak period, and the p.m. peak hour is defined as the peak consecutive hour during the 4-6 p.m. peak period. Both are on a weekday. Special time periods may be required depending on the land use.

Focused Transportation Studies

Even if the above threshold rates are not met, a “focused transportation study” may still be required. Projects that may require a focused transportation study include, but are not limited to, those for which site access, circulation (on-site or in the immediate vicinity), parking, or queuing have the potential for adverse safety, operational, or neighborhood effects. Focused transportation studies may be allowed when the effects of a project are expected to be localized, and typically consist of a smaller scope (extent of study facilities and/or level of analysis requested) than an LTA. The Department of Transportation has the sole discretion to allow, require, and define the scope of a focused transportation study.

Early consultation with the County through the pre-application meeting (PAM) process is strongly encouraged. Additional information is available:

<https://planning.saccounty.net/Pages/Planning-Applications.aspx>

C. Scope of Study

A proposal for the scope of services shall be prepared by the consultant and submitted for review to the Department of Transportation. If applicable, the Department of Transportation may reach out to neighboring jurisdictions, Caltrans, and neighborhood groups to solicit feedback on the scope of work. For large studies using the regional travel demand model, the Department may request that the applicant’s consultant conduct preliminary modeling (i.e. volume increase plots) to assist in scoping study facilities. The Department of Transportation will have final determination of the work scope of the LTA. Work on the traffic study should not commence until after the Department of Transportation has approved the scope of work. Please note that a review fee will be assessed and shall be collected prior to final approval.

In general, the scope of work should include the following:

1. **Site Access:** Review and evaluate access locations, driveway throat depths, and size of major on-site circulation facilities with respect to operations, safety and continuity with existing and planned facilities. The site plan review should include evaluation of sight distance, delivery truck routing, and emergency vehicles access.
2. **On-Site Circulation:** Review and evaluate the parking layout and circulation design, including for internal pedestrians. If applicable, evaluate drive through vehicle queuing, including adequacy of proposed storage and mitigation or management strategy for potential spillbacks. Identify any improvements (e.g. curb ramp upgrades, sidewalk reconstruction) needed to comply with the Americans with Disabilities Act (ADA). For

residential projects, livability on new residential streets should be addressed. Please note that new residential streets carrying over 4,500 vehicles per day are not allowed to have front on homes. The project should consult with County DOT staff prior to moving forward in these cases, as it would require a revision to the project's Site Plan.

3. **Off-Site Roadways:** Study all locations where: 1) the project circulation system intersects with the existing or planned surrounding street system; 2) project traffic may substantially affect the operation of a roadway or intersection; or 3) project traffic may cause substantial neighborhood effects, such as undesirable diversion. Traffic calming devices should be recommended to address speeding issues on neighborhood streets (either on-site or off-site). Please refer the Neighborhood Traffic Management Program (NTMP) on the County's webpage:
<https://sacdot.saccounty.net/Pages/NeighborhoodTrafficManagement.aspx>
4. **Freeway Facilities:** Study all freeway ramps that may be substantially affected by the project, including 95th percentile queue lengths. Evaluate basic, merge/diverge, and weaving segments, per current Caltrans requirements.
5. **Transit:** Discuss all existing and planned bus routes or rail lines that have, or will have, a station or stop within 1/2 mile of the project, including route description, service area, hours of service, and headways. For projects located greater than 1/2 mile from the project, (1) assess the potential for generating demand for such services; (2) large projects are encouraged to identify funding sources to provide public or private transit services; and (3) if there is an adopted plan to provide Bus Rapid Transit/Hi-Bus, the project may construct or contribute to buildout of the plan. Any permanent or temporary reduction of transit availability or interference with existing service should be discussed. If an existing or planned transit stop is located on the project frontage, transit stop improvements may be required as part of the project frontage improvements. If modeled using SACSIM, mode share and person trips by transit mode should be reported. Transit ridership forecasts for lines servicing the project should be provided (i.e. boardings by walk and drive access). If new transit service is proposed by the project, report the type and frequency of service, operator, usage metrics (e.g. load factor, boardings per revenue hour), and funding sources.
6. **Bicycle Facilities:** Identify and evaluate effects on existing or planned (Sacramento County Bicycle Master Plan) facilities adjacent to or within 1/4 mile of the project. The project's connectivity to the surrounding bicycle/transit network and adequacy of bike parking should be addressed. If modeled using SACSIM, mode share and person trips by bicycle mode should be reported.
7. **Pedestrian Facilities:** Identify any existing or planned (Sacramento County Pedestrian Master Plan) pedestrian facilities that will be affected by the project. The project's connectivity to the surrounding pedestrian and transit network should be addressed. If modeled using SACSIM, mode share and person trips by walk mode should be reported.
8. **Trucks:** For projects that are expected to generate substantial truck traffic (including, but not limited to, industrial, warehousing/distribution, and surface mining projects), identify the number of truck trips that will be generated, design accommodations necessary to support these trucks, and if any of the affected roadways are STAA routes. As directed by the Department of Transportation, evaluate the current condition of the roadway pavement and any needed improvements to support projected loading.

Other type of analyses that may be requested in the LTA include, but are not limited to:

- Median island or channelization island movement restrictions
- Signal coordination plans
- Signal warrant analysis
- Development phasing analysis
- Crash analysis/safety evaluation
- Neighborhood cut-through traffic analysis
- Construction activity traffic analysis
- Traffic index/pavement condition index/ESAL calculations

D. Study Scenarios

An LTA should incorporate the following scenarios, unless directed otherwise by the Department of Transportation:

1. **Existing Conditions:** Document existing traffic levels and peak-hour levels of service in the study area. Identify locations where roadways do not meet target levels of service for existing conditions.
2. **Existing Plus Project Conditions:** Analyze the effect of the proposed project in addition to existing conditions. This scenario identifies the effect of a project on the transportation network with no other changes in conditions.
3. **Cumulative Conditions:** Identify traffic forecasts, typically 20 years in the future, consistent with the current Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) and latest version of the SACSIM model.
4. **Cumulative Plus Project Conditions:** Analyze the additional project traffic effect to the horizon year condition. When justified, and particularly in the case of very large developments or new general/community plans, a transportation model should be run with, and without, the additional development to show the net effect on all parts of the area's transportation system.

Cumulative year studies may be waived at the discretion of the Department of Transportation. The Cumulative scenario is typically waived if the proposed project is substantially similar to development assumptions in the General Plan. If applicable, Cumulative land use and roadway infrastructure assumptions shall be coordinated and verified with Department of Community Development and Department of Transportation staff.

The determination of study time periods for each project shall be made in consultation with the Department of Transportation and be based upon the peaking characteristics of the project traffic and the surrounding street system. Even though most studies would include weekday a.m. and/or p.m. peak hour analysis, special circumstances may require mid-day or weekend analysis.

E. Forecasting Methodologies

1. **Traffic Counts:** The data (e.g. PeMS, hose counts, turning movement counts) used in the LTA should generally not be more than two years old and should not reflect a temporary interruption (special events, construction detour, flooded roadways etc.) in the normal traffic patterns. If recent traffic data is not available, current counts should be made by the project applicant's consultant. Weekday traffic counts should be conducted on Tuesdays, Wednesdays, or Thursdays (excluding weeks with a holiday). If possible, the counts should be conducted on days when schools are in session. Peak hour counts should be conducted for the two hours between 7 and 9 a.m. for the a.m. peak, and between 4 and 6 p.m. for the p.m. peak. Mid-day and weekend counts are project-specific and should be conducted after consultation with the Department of Transportation. A traffic count firm should secure necessary encroachment permits from the County prior to data collection. Further information regarding the encroachment permit process is available at the permit center at County's public counter.
2. **Trip Generation:** The latest edition of the Institute of Transportation Engineers' (ITE) *Trip Generation*, or the San Diego Association of Governments' *San Diego Traffic Generators*, shall be used for trip generation forecasts. Counts at comparable locations may be acceptable for specific or unique uses, subject to approval of the Department of Transportation. Whenever possible, these rates should have data from multiple study locations. Trip generation rates should be verified by the Department of Transportation prior to commencing traffic analysis. Projects with significant truck generation should apply appropriate passenger car equivalent (PCE) factors, generally 2.5 - 3.0. Mode split assumptions (i.e. person trip generation) from travel demand model for transit, bicycle, and pedestrian trip generation should reported in the traffic study.
3. **Pass-By Trips:** Professional sources are acceptable as sources for pass-by trip percentages. All pass-by trips should be distributed through the project driveways and be redistributed at adjacent intersections, as appropriate. All pass-by trip percentages should be verified by the Department of Transportation.
4. **Existing Terminated Use:** When estimating the Project's net new trips, any claim for trip credits for an existing or terminated land use generally requires that the use of land must not have been terminated prior to six months. To fully ensure that trip credit claims are validated, appropriate supporting documentation may be requested, such as copies of any building permit, certificate of occupancy, business license, lease agreement, affidavits, utility bills, or photographs, as well as documentation as to when the previous land use was terminated, if applicable. Documentation of any previous environmental review should be included in this submittal. The absence of documentation of previous environmental review may result in denial of the claim for trip credits.
5. **Trip Distribution:** Trip distribution patterns for a project can use existing traffic counts, a Sacramento Area Council of Governments (SACOG) model, or local knowledge. The trip distribution assumptions shall be reviewed by the Department of Transportation.

Where Cumulative assumptions would be expected to substantially change the existing trip distribution (e.g. new roadway connections, substantial trip attractions to nearby development), a separate Cumulative trip distribution should be proposed. The LTA must include map(s) showing project trip distribution percentages (inbound and outbound).

6. **Cumulative Year Forecasting:** Cumulative forecasts should include background growth consistent with the most current version of the SACOG transportation forecasting model (i.e. SACSIM). Land use assumptions in the vicinity of the project should be verified by comparing the model assumptions with the project assumptions and other sources (general plan, specific plans, and community plans). The analysis should account for all known developments within 1/4 mile of the farthest outlying study intersections.

The forecasting methodology shall be reviewed and approved by the Department of Transportation. For small projects, layering project traffic on top of an existing count or approved forecast is generally acceptable.

7. **Modeling Considerations:** For large projects that are likely to significantly affect regional travel patterns, as determined by the Department of Transportation, the project should be modeled in SACSIM. Sufficient model detail should be provided to represent the study area and capture project effects. Typical modifications include splitting TAZs, adding minor roadways, revising speeds/capacity classes, inputting turn penalties, modifying the transit line file, and adding bicycle and multi-use trail facilities. Centroid connectors should not load into study intersections. Model data should be carefully verified to ensure accurate project and “other” cumulative project representation, if applicable. Model assumptions and modifications should be verified with the Department of Transportation; however, the Department does not provide modeling support. The consultant is responsible for modifying and running the travel demand model, including population generation, modifying parcel, household, and population files, editing the roadway and transit networks, and post-processing model outputs, including ADT volumes, peak period/hour turning movement volumes, and VMT metrics (e.g. VMT by speed bin, VMT per capita or employee, net change in regional VMT). The consultant should have the ability to develop and run scripts, as some of these metrics may require additional functionality beyond SACOG’s off-the-shelf model, or may need to be tailored to the project.

Post-processing should be consistent with the “difference method.” The forecast is calculated as the count plus the change in model volumes between two scenarios (e.g. with and without the project, or base and future year). If the study facility does not exist in the “no project” or baseline condition, raw model volumes are acceptable for forecasting. If the difference method would result in a negative forecast, the ratio of the model runs (e.g. future divided by base) times the count should be used instead. SACSIM19 models individual peak hours from 7-8, 8-9, 9-10 AM, as well as 3-4, 4-5, and 5-6pm. A uniform peak hour should be set for the study, as determined from the traffic counts.

Care should be taken when post-processing around freeway interchanges, as multiple links (e.g. general purpose and HOV) may need to be added to represent one ramp, two-way

segments may split into a one-way couplet, and the right turn movement onto a loop ramp may be represented as a left turn in the model.

8. **Trip Reduction:** Any trip reductions associated with a Transportation Management Plan (TMP) should not be included in the determination of significant effects because the effectiveness of the TMPs is not sufficiently predictable or enforceable. However, a trip reduction program can be considered to address a significant transportation effect, provided that results can be demonstrated for comparable projects and that a monitoring/enforcement mechanism is clearly defined. A comparable physical improvement measure shall be identified for all locations that rely upon a trip reduction program. The physical improvement measure will serve as a contingency should the predicted trip reduction not be achieved. A deposit/bond will be collected to implement the improvements needed due to the project, should the trip reduction requirement not be met.

F. Traffic Impact Analysis Methodologies

1. **Signalized Intersections:** The most recent version of Highway Capacity Manual (HCM) methodology should be applied for County facilities. For Caltrans or other jurisdictions intersections, HCM assumptions should be coordinated with the respective jurisdictions.

Copies of existing traffic signal timing will be made available from the County and should be used for existing conditions and existing plus project conditions analysis to determine project effects.

The following assumptions should be used to code Synchro networks, unless special circumstances justify otherwise:

- **Peak Hour Factor:** A PHF of 1.0 should be used to represent average hourly conditions.
- **Truck Percentage:** Use default truck percentage (2%) unless special circumstances justify otherwise.
- **Control Type:** Traffic controller types are either actuated-uncoordinated or actuated-coordinated. For actuated-uncoordinated controllers, recall mode should be set to “none” for all approaches. Please contact our signal operations staff to determine the type of controller.
- **Detectors:** Code the detectors as per County improvement standards. Refer to Section 5: Street Light Design, drawing 5-19 for placement of detectors. All of detectors should be “call+extend.”
- **Recall mode:** For actuated-coordinated controllers, recall mode should be set to minimum for all approaches.
- **Minimum Green:** For new signals, minimum green should be assumed to be 3.0 seconds for all phases.
- **Yellow Intervals:** For new signals, the yellow interval should be determined based on the 90th percentile speed of the approach as shown in **Table E-1**. If not available, the posted speed limit plus five miles per hour may be assumed.

90th Percentile Speed	SACDOT Yellow (s)	Caltrans Yellow (s)*
25	3.5	3.0
30	3.5	3.2
35	3.9	3.6
40	4.3	3.9
45	4.6	4.3
50	4.8	4.7
55	5.0	5.0
60	5.4	5.4
65	5.8	5.8
70	6.1	6.1

*Applicable to state-owned intersections, i.e. state routes and ramp terminals.

- **Red Clearance Intervals:** For new signals, all-red intervals will be implemented using SACDOT’s methodology. For analysis purposes, assuming 0.5 seconds for through movements and 2.0 seconds for left turn movements is acceptable.
- **Pedestrian Timing:** For new signals, 7.0 seconds of walk time should be assumed. The “flashing don’t walk” (FDW) time should be calculated based on the center-to-center distance between curb ramps and an assumed walking speed of 3.5 feet per second (unless special circumstances justify a lower walking speed). If detailed plans are not available, the crossing distance may be estimated as the sum of the lane widths, median width, and bike lanes. There may be a few locations in the County where pedestrian push buttons do not exist, but pedestrian signal heads are present. In such cases, the walk time should be used as a minimum green for corresponding vehicle phase. Where push buttons are present, a minimum of 2 pedestrian calls per hour should be assumed for each pedestrian phase (or greater if higher pedestrian activity is expected, per the estimation procedure in the Synchro Manual).
- **Splits:** Minimum splits should be recalculated in Synchro after adjusting minimum green and pedestrian parameters. A minimum split less than walk+FDW (i.e. ped call throws the signal out of coordination) is acceptable for locations where pedestrian activity is light. Typically, “max 1” should be used for maximum green. In some cases, maximum green varies by time of day. Please confirm operations with our staff if more than one maximum green time exist on the timing sheets.
- **Cycle Length:** Cumulative no project conditions can assume optimized traffic signal timing with cycle lengths no less than 90 seconds (or the existing cycle length) and no greater than 150 seconds (or the existing cycle length), for intersections which are coordinated with adjacent signalized intersections. Coordinated intersections should all have the same cycle length (or half cycle length, if appropriate).
- **Optimization:** Once cumulative no project conditions signal timing is optimized, the same set of parameters should be used for cumulative plus project conditions to

determine the project’s significant transportation effects. The exception is where the project proposes to construct a physical improvement, such as a turn lane or through lane. In such cases, re-optimization is allowable.

- **Improvements:** Optimizing traffic signal timing shall not be used as the default recommended improvement. Physical improvements consistent with the County’s improvement standards (e.g. standard intersection turn lanes, maximum number of through lanes allowed by the general plan) should be identified that will improve operations to within acceptable thresholds. If standard improvements are not successful, alternative improvements (e.g. signal retiming, non-standard turn lanes, free turn movements, overlap phases) may be recommended. Where retiming is recommended, the consultant should be specific in describing the recommendation.

2. **Unsignalized Intersections:** The most recent HCM methodology should be applied. A signal warrant analysis should be prepared for all intersections and scenarios where the level of service of an intersection movement exceeds the County’s acceptable threshold. A PHF of 1.0 (to represent average hourly conditions), unless special circumstances justify otherwise.

SIDRA Intersection software should be used to evaluate existing or proposed roundabouts, based on the most recent HCM methodology.

3. **Roadway Segments:** Roadway segment analysis should be based on the daily traffic volume thresholds shown on **Table E-2**.

Facility Type	# of Lanes	Maximum Volume for Given Service Level				
		A	B	C	D	E
Residential	2	600	1,200	2,000	3,000	4,500
Residential collector with frontage	2	1,600	3,200	4,800	6,400	8,000
Residential collector without frontage	2	6,000	7,000	8,000	9,000	10,000
Arterial, low access control	2	9,000	10,500	12,000	13,500	15,000
	4	18,000	21,000	24,000	27,000	30,000
	6	27,000	31,500	36,000	40,500	45,000
Arterial, moderate access control	2	10,800	12,600	14,400	16,200	18,000
	4	21,600	25,200	28,800	32,400	36,000
	6	32,400	37,800	43,200	48,600	54,000
Arterial, high access control	2	12,000	14,000	16,000	18,000	20,000
	4	24,000	28,000	32,000	36,000	40,000
	6	36,000	42,000	48,000	54,000	60,000
Rural, 2-lane road, 24’ of pavement, 6’ paved shoulders	2	2,200	4,300	7,100	12,200	20,000
Rural, 2-lane road, <24’ of pavement, < 6’ shoulders	2	1,000	2,100	3,400	6,000	12,800

Facility Type	Stops/Mile	Driveway	Speed
Arterial, low access control	4+	Frequent	25-35 MPH
Arterial, moderate access control	2-4	Limited	35-45 MPH
Arterial, high access control	1-2	None	45-55 MPH

4. **Substandard Rural Roadway Functionality:** Of specific concern in various locations in the County is the functionality of substandard rural roadways. The County’s current rural

roadway standard consists of two-twelve foot wide travel lanes and six-foot wide paved shoulders. Any rural roadway not fitting this definition can be considered substandard.

The County expects that the functionality of these roadways will change over time with development, population increase, the introduction of various modes of travel, and the addition of traffic on these substandard roadways. With these changes in functionality of the roadway comes the possibility of increased interactions between varying modes of travel (i.e. pedestrians, bicyclists, etc.), as well as the increased interaction between a greater number of vehicles on substandard roads. Significant effects to these roadways are identified in Section G and improvements in Section H.

5. **Freeway Segments/Ramps:** The methodologies acceptable by Caltrans should be used when analyzing Caltrans facilities. These methodologies are listed in the Caltrans *Guide for the Preparation of Traffic Impact Studies*. Generally, Caltrans accepts the HCM and/or the Caltrans Highway Design Manual methodologies for analysis of freeway and highway segments, ramps and ramp junctions, weaving areas, and intersections.
6. **Connector JPA Facilities:** The latest guidance³ should be used to evaluate transportation effects on Connector facilities. These procedures, as of January 1, 2020, are summarized in this section.

The County’s General Plan-Transportation Plan defines the Connector designation as an Expressway Segment and Thoroughfare Segment. Please refer to the latest General Plan – Transportation Plan for the limits of the specific segment designations. Phase 1 is defined as a four-lane connector facility with at-grade signalized intersections. Phase 2 is defined as a multilane connector facility with grade separated interchanges.

Roadway segment analysis is not conducted on Connector facilities for which Phase 1 improvements have already been implemented. Rather, service volumes are used to screen segments for which a more detailed operational analysis should be conducted. Once 85 percent of the roadway LOS E service volume threshold for the ultimate facility is reached (see **Table E-3**), operational analysis should be undertaken using the latest edition of the Highway Capacity Manual.

Facility Type	Number of Lanes	Service Volume Threshold		85% Service Volume	
		Daily	Peak-Hour	Daily	Peak-Hour
Expressway	4	78,200	3,870	66,470	3,290
Arterial	4	36,800	1,820	31,280	1,550
	6	55,300	2,740	47,010	2,330

Source: Capital SouthEast Connector Planning and Evaluating Traffic Conditions White Paper, January 25, 2017.

³ Capital SouthEast Connector Transportation Impact Study Guidance.

Analysis assumptions are listed below and shown graphically in **Figure E-1**.

a. Existing Plus Project Scenario

- i) For a roadway segment/intersection that *Phase I Connector improvements have not been implemented*: County urban LOS E policy applies for both roadway segment and intersections analysis (unless a more conservative policy applies, if shared with another jurisdiction). Segment improvements, if needed, are capped at 4 lanes.
- ii) For a roadway segment/intersection that *Phase I Connector improvements have been implemented*: If roadway segment volumes are less than 85 percent of the service volume, no additional roadway segment analysis is performed. If roadway segment volumes exceed 85 percent of the service volume, a detailed operational analysis using the latest edition of the HCM is performed for the segment. Intersection analysis is conducted using the Connector LOS C policy (LOS D on Special Segments). Intersection improvements, if needed, can consist of up to three turn lanes (with no more than two for the same movement). If the significant effect cannot be improved with standard improvements, then a geometric or LOS exception should be considered (thoroughfare intersections), or a fair share payment for a grade-separated interchange should be made (expressway intersections).

b. Cumulative Plus Project Scenario

It is assumed that the Phase I Connector project has been implemented. If roadway segment volumes are less than 85 percent of the service volume, no additional roadway segment analysis is performed. If roadway segment volumes exceed 85 percent of the service volume, a detailed operational analysis using the latest edition of the HCM is performed for the segment. Intersection analysis is conducted using the Connector LOS C policy (LOS D on Special Segments). Intersection improvements, if needed, can consist of up to three turn lanes (with no more than two for the same movement). If the significant effect cannot be improved with standard improvements, then a geometric or LOS exception should be considered (thoroughfare intersections), or a fair share payment for a grade-separated interchange should be made (expressway intersections).

Visual Representation of Methods and Techniques for Capital SouthEast Connector Improvement Analyses

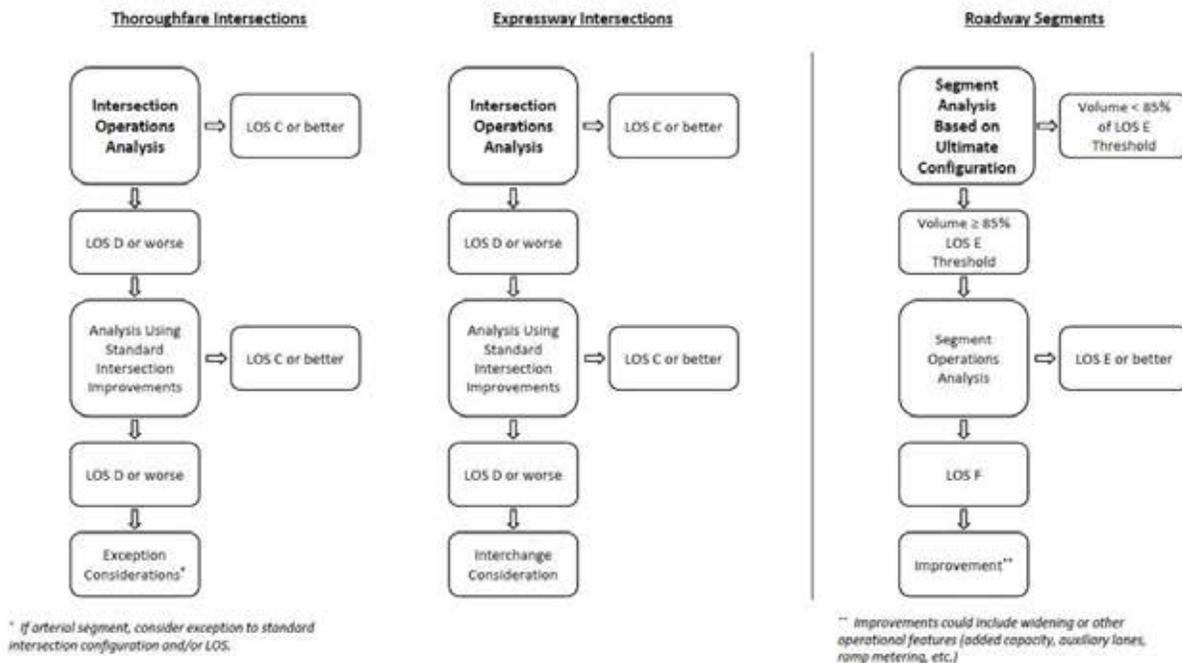


Figure F-1: Methods and Techniques for Capital SouthEast Connector Improvement Analyses

Source: Capital SouthEast Connector Planning and Evaluating Traffic Conditions White Paper, January 25, 2017.

- 7. Microsimulation:** The use of microsimulation (e.g. Simtraffic, VISSIM) to evaluate difficult or complex traffic conditions is acceptable, and may be required by the Department of Transportation. Examples of situations that may require microsimulation include closely-spaced intersections operating on one signal controller or known queue spillback between closely-spaced signals. The method of analysis and assumptions need to be approved by the Department of Transportation prior to use.
- 8. Vehicles Miles Travelled (VMT):** The methodology the County uses in greenhouse gas analyses of mobile emissions relies on vehicle miles traveled (VMT). As an output of the traffic study, the County will need daily vehicle miles traveled for all analysis scenarios. The mileage should be reported in speed bins, rather than as a single total, because vehicle emissions vary depending on the speed of travel. If using the SACSIM model, speed bin data should typically be calculated separately for freeways/rural roadways and urban/intrazonal roadways. Discussion of other VMT metrics for CEQA purposes, such as VMT per capita or employee, are included in Part I of this document.

G. Acceptable Levels of service

1. **County of Sacramento:** The County defines the minimum acceptable operation level for its roadways and intersections to be **LOS D for rural areas** and **LOS E for urban areas**. The urban areas are those areas that are dominated with urban type land uses and transportation infrastructure and are located within the Urban Service Boundary (USB), as shown in the Land Use Element of the Sacramento County General Plan and **Figure F-1**. The rural areas are those areas that are either outside the Urban Service Boundary or are dominated with rural type land uses and transportation infrastructure and are located within the USB.

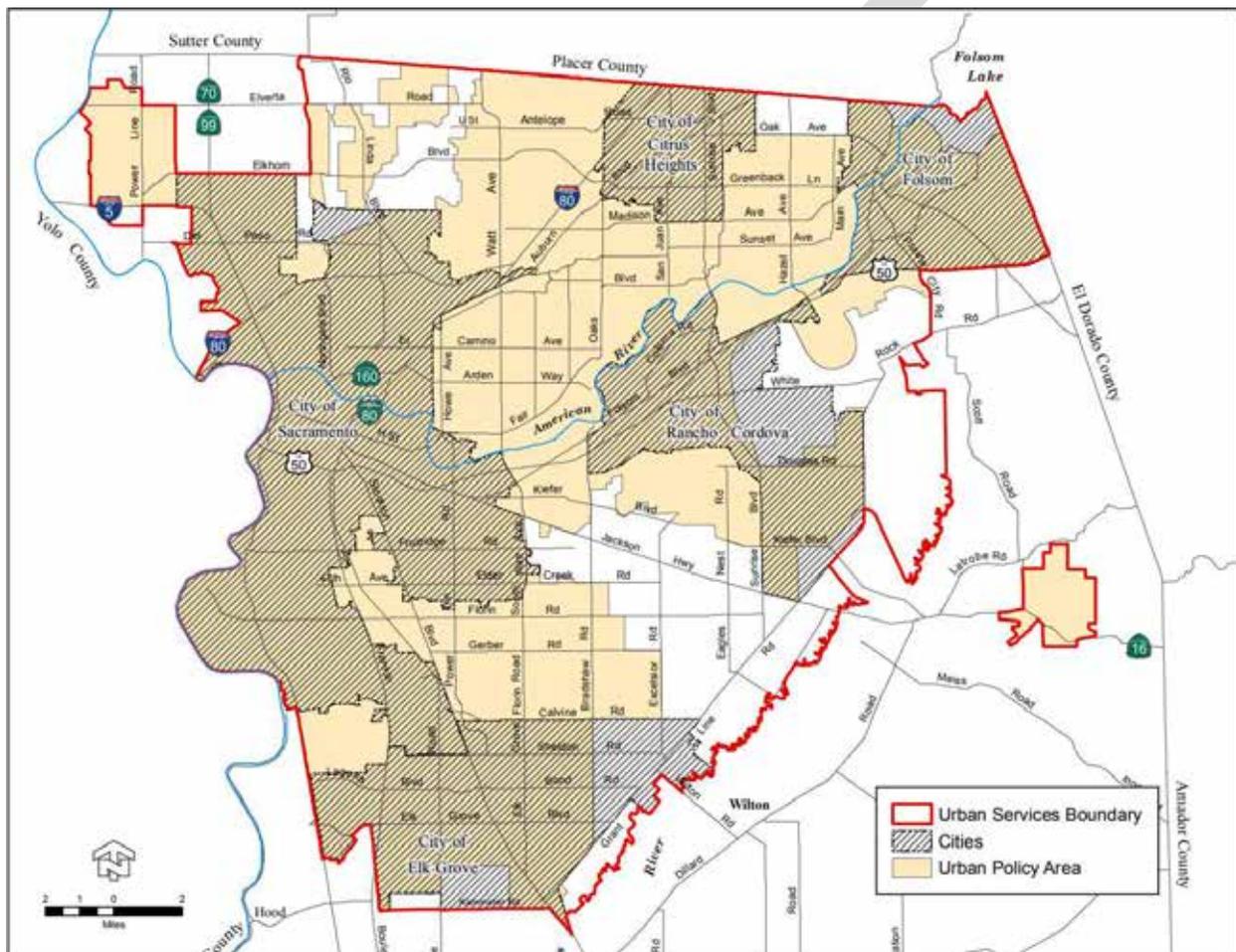


Figure G-1: Urban Services Boundary Map (as of January 1, 2020)

2. **Caltrans:** In District 3, ramp terminal intersections are typically analyzed using the LOS standard of the surrounding city or unincorporated county jurisdiction. For mainline analysis, Caltrans publishes a concept LOS in the facility’s transportation concept report (TCR). The LOS policy to be used in the LTA should be confirmed with the Department of Transportation and Caltrans.
3. **Other City/County Jurisdictions:** The LOS policy used in the LTA should be confirmed with the applicable jurisdiction.

4. **Connector JPA:** The JPA Guidelines⁴ require signalized intersections to operate at LOS C or better (except at Connector Special Segments where LOS D is considered acceptable). Special Segments are currently defined from Bond Road to Calvine Road in the Sheldon community. Analysis procedures for Connector JPA intersections and roadway segments were described in Section E and included in Appendix A.

H. Significant Transportation Effects

The LTA must identify the significant transportation effects of the proposed project. In describing the significant effects, the LTA should identify whether the effects can be improved to a less-than-significant level (through implementation of an improvement), or are unavoidable (where no feasible improvement is available).

The following thresholds of significance shall be used to determine if an effect is significant and requires improvements:

Roadways Segments: A project is considered to have a significant effect if it would:

- result in a roadway segment operating at an acceptable LOS to deteriorate to an unacceptable LOS; or
- increase the V/C ratio by more than 0.05 at a roadway segment that is operating at an unacceptable LOS without the project.

Signalized Intersections: A project is considered to have a significant effect if it would:

- result in a signalized intersection operating at an acceptable LOS to deteriorate to an unacceptable LOS; or
- increase the average delay by more than 5 seconds at a signalized intersection that is operating at an unacceptable LOS without the project.

Unsignalized Intersections: A project is considered to have a significant effect if it would:

- result in an unsignalized intersection movement/approach operating at an acceptable LOS to deteriorate to an unacceptable LOS, and also cause the intersection to meet a traffic signal warrant; or
- for an unsignalized intersection that meets a signal warrant, increase the delay by more than 5 seconds at a movement/approach that is operating at an unacceptable LOS without the project.

Freeway Ramps: A project is considered to have a significant effect if it would:

- result in or significantly lengthen ramp queues exceeding storage capacity.

Freeway Mainline Segments: A project is considered to have a significant effect if it would:

- result in a facility operating at an acceptable LOS to deteriorate to an unacceptable

⁴ Capital Southeast Connector JPA Project Design Guidelines, Version 4.0, February 13, 2016.

LOS, according to the LOS threshold defined in the Caltrans Route Concept Report for that facility.

Substandard Rural Roadway Functionality: A project is considered to have a significant effect if it would:

- cause the substandard rural roadway to exceed an average daily traffic volume of 6,000 daily vehicles; or
- add 600 or more new daily vehicle trips to a substandard rural roadway that already carries 6,000 or more daily vehicles.

Bicycle and Pedestrian Facilities: A project is considered to have a significant effect if it would:

- eliminate or adversely affect an existing bikeway or pedestrian facility in a way that would discourage its use;
- interfere with the implementation of a planned bikeway as shown in the Bicycle Master Plan, or be in conflict with the Pedestrian Master Plan; or
- fail to provide adequate access for bicyclists and pedestrians, resulting in unsafe conditions, including unsafe bicycle/pedestrian, bicycle/motor vehicle, or pedestrian/motor vehicle conflicts.

Transit: A project is considered to have a significant effect if it would:

- eliminate or adversely affect existing transit access, service, or operations; or
- interfere with the implementation of transit service as planned in the Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS); or
- substantially increase transit demand and fail to provide adequate transit service.

Safety: A project is considered to have a significant effect if it would:

- substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

I. Need for Improvements

For each significant transportation effect identified in the LTA, the study must discuss feasible improvements to avoid or substantially reduce the project's significant effects. To be considered adequate, improvements should be specific, feasible actions that will actually improve adverse conditions. Improvements should be measurable to allow monitoring of their implementation. The LTA should also discuss whether the measure reduces the effect to a less-than-significant level (i.e. below the threshold of significance), and should report the conditions after the implementation of the improvement. The LTA should also identify responsibility for implementation of each measure.

Note that improvements should be consistent with the County's General Plan Transportation Plan and the County's latest Improvements Standards. Some exceptions may occur where special circumstances warrant a General Plan amendment of a roadway facility or additional turn lane requirements above and beyond the standard intersection.

In general, the guidelines below can be used in discussing recommendations for improvements, and identifying responsibility for implementation of each measure:

Existing Condition: Existing deficiencies should be identified.

Existing Plus Project: If a project causes a facility to operate at an unacceptable level of service, then an improvement should be identified for which the project would be 100 percent responsible. If a project causes a significant effect to a facility operating at an unacceptable level of service, then an improvement should be identified for which the project should pay a “fair share.” The project’s fair share will be defined as its percentage of the facility’s total traffic. The LTA should calculate the project’s fair share of the improvement.

Cumulative: Projected deficiencies should be identified.

Cumulative Plus Project: If a project causes a significant effect to a facility, then an improvement should be identified for which the project should pay a “fair share”. The project’s fair share will be defined as its percentage of the facility’s growth (i.e. total cumulative traffic less existing traffic). The traffic study should calculate the project’s fair share of the improvement.

Substandard Rural Roadway Functionality: Where substandard rural roadways are affected as identified in Section G (substandard rural roadway functionality), improvements shall include the reconstruction of the substandard rural roadway to the County standard of 12-foot vehicle lanes with 6-foot paved shoulders.

J. Reports

One copy of the LTA should be submitted to the Department of Transportation for review and comments. Technical calculations should be included in an attached or separate appendix, and should be submitted to the Department with the LTA. Synchro files shall also be provided to the Department. The name, phone number, and address of a contact person who can respond to the Department’s questions should be provided. The cover page of the final LTA is required to be stamped and signed by a California-licensed Professional Engineer (Traffic or Civil).

Appendix C – Capital SouthEast Connector Transportation Impact Study Guidance

DRAFT

Attachment 6

Selection Criteria

ATTACHMENT 6
SELECTION CRITERIA

I. KNOWLEDGE AND EXPERIENCE

A. Years of Experience

Cumulative years of related experience of all identified team members, as well as individual years of experience of the identified Project Manager.

B. CEQA Experience

Knowledge of and demonstrated experience in preparing documents and technical information for inclusion within an Environmental Impact Report (EIR).

C. Experience With Large Master Plans

Demonstrated experience with analyzing the transportation impacts of large, complex, and long-range land use plans.

D. Experience With “Smart Growth” Analysis

Knowledge of and demonstrated experience in preparing analyses and technical information which support EIR discussions of the “smart growth” features of a project, and their relative effectiveness.

II. OVERALL APPROACH & ORGANIZATION

A. Consultant Availability

Firm’s location with respect to County offices, the size/stability of the firm, and the demonstrated accessibility of the firm and Project Manager for discussions and feedback. The firm must state whether subcontractors will be used.

B. Project Understanding

Demonstrate an understanding of the County’s needs and the general approach to the analysis.

C. Completeness

The proposal must address all of the salient points contained within the RFP and clearly articulate the firm’s proposed methodology, including the steps/information gathering which will be necessary prior to initiation of

modeling. The proposal should also describe the format in which the firm proposes to transmit the completed technical study to the County.

III. COST AND SCHEDULE

A. Cost Control

The County will consider the reasonableness of billing rates in relationship to other bids, the costs versus the demonstrated experience/quality of the firm, and the extent to which there have been cost adjustments on other projects which are unrelated to a change in the project description or requested scope. Describe the firm's time and materials tracking protocols and provide an example invoice.

B. Schedule

The schedule proposed by the firm should identify where action from others (e.g. applicant or County staff) is needed to proceed, so that areas of potential delay may be easily identified.

IV. OPTIONAL MEETING

Each firm will be given the opportunity to meet individually with County staff to discuss the RFP prior to submittal of proposals. Consultants may have questions about the new method of analysis; no points will be lost for asking questions.