NELSON
NYGAARD

MEMORANDUM

To: City of Fremont

Metropolitan Transportation Commission

From: Nelson\Nygaard Team

Date: September 30, 2019

Subject: Task 4.1 – VMT Thresholds of Significance Best Practices

INTRODUCTION

In December2018, the Governor's Office of Planning and Research (OPR) published their latest Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Advisory) to assist lead agencies in implementing SB 743. This document included methods for determining screening thresholds and significance thresholds. Prior to the release of the final OPR Technical Advisory, multiple cities adopted VMT-based analysis requirements, providing case studies of practical approaches to establishing VMT-based thresholds for environmental review.

This memorandum presents a review of the VMT thresholds of significance and screening thresholds for both land use and transportation projects. It examines best practices implemented by other cities and OPR's recommendations for the City of Fremont's consideration. The cities examined included:

- Pasadena (adopted in 2015)
- Oakland (adopted in 2017)
- San José (adopted in 2018)

THRESHOLDS OF SIGNIFICANCE FOR LAND USE PROJECTS

Lead agencies have discretion in setting thresholds of significance for what constitutes a significant impact in CEQA. Per Section 21099 of the Public Resources Code, the criteria for determining the significance of transportation impacts must promote the reduction of greenhouse gas (GHG) emissions, develop multimodal transportation networks, and create a greater diversity of land uses. Meeting the above criteria requires a reduction in VMT. OPR recommends cities adopt quantified thresholds for residential, office, and retail

land use projects since those land uses have the greatest influence on VMT.[1] Figure 1 shows the thresholds of significance by land use that have been adopted by San José, Oakland, and OPR.

Figure 1 Thresholds of Significance for Residential and Office Projects

	San José	Oakland	OPR
Residential	Whichever is lower: ▪ 15% below existing citywide average VMT per capita, or ▪ 15% below existing regional average VMT per capita	15% below existing regional average VMT per capita	15% below existing average VMT per capita. Existing VMT per capita may be measured as regional VMT per capita or as city VMT per capita.
Office	▪ *General employment*: 15% below existing regional average VMT per employee ▪ *Industrial Employment:* below existing regional average VMT per employee	15% below existing regional average VMT per employee	15% below existing regional average VMT per employee.

Residential and Office Land Use Projects

Meeting State targets for GHG emission reduction goals will require a statewide reduction in VMT, which does not translate directly to VMT thresholds for individual projects. Therefore, OPR recommends lead agencies use an efficiency metric (reduction per capita or employee) to determine the threshold of significance for residential and office land use projects. OPR suggests that a 15% VMT reduction is achievable at the project level in a variety of place types and also is consistent with achieving State climate goals.

Oakland followed OPR's recommendations for thresholds for residential and office uses. As a city with lower VMT per capita than the region, Oakland opted to use regional VMT per capita to create a threshold that is less restrictive than using the city's VMT per capita. Generally, lead agencies have adopted the less restrictive residential threshold.

San José generally followed OPR's recommendations for all uses with one exception: employment land uses. San José created a distinct threshold for industrial land use because areas zoned for industrial use were disconnected from other land uses and tended to have a high VMT. Therefore, the threshold was adjusted to acknowledge that industrial projects could not relocate to an area with a greater mix of land uses or better transit that would have low VMT.

[1] Governor's Office of Planning and Research, Technical Advisory on Evaluating Transportation Impacts in CEQA, December 2018, p 17.

Retail Land Use Projects

For retail projects, OPR recommends that any net increase in VMT indicates a significant impact since retail trips are typically diverted from another existing retail site. Local serving retail is exempted from further analysis since trips redirected to/from these sites tend to be shorter. Cities can use existing definitions of local serving or regional serving retail, taking into consideration any project specific information, such as market studies or economic impacts analysis that might provide information about customers' travel behavior. Alternatively, cities can use 50,000 square feet as the size threshold; projects below this threshold would be considered local-serving and projects above this threshold would be considered regional serving.

Figure 2 Thresholds of Significance for Retail Land Use

	San José	Oakland	OPR
Retail	Net increase in total VMT	15% below existing regional average VMT per employee	Net increase in total VMT

Oakland uses 15% below regional average VMT per employee as the threshold of significance. This threshold was adopted before OPR published its final Technical Advisory. In addition, Oakland's threshold was informed by an existing market study that showed the entire city was underserved with retail and therefore nearly any size of retail project would shorten trips for residents. Using VMT per retail employee as the significance threshold provides an assessment of the location efficiency of a retail project.

San José uses the recommended threshold from OPR. However, they define local serving retail as 100,000 square feet based on the finding from a market study they commissioned.

Additional Land Use Categories

Lead agencies can determine thresholds of significance for additional land use categories that are not listed in Figure 1, by creating a significance threshold using more location-specific information. For example, San José created two separate "employment" land use thresholds, one for office (general employment) and one for industrial employment. For other uses, San José's policy states that the project should use a threshold is in accordance with the most appropriate type(s) determined by Public Works Director. In practice, the City creates a methodology to convert the project into its most similar land use. For example, a hotel would be converted into an equivalent residential project using a formula that takes local context into account and then the projects VMT would be analyzed using residential per capita VMT. For projects where the methodology is

challenged, the City uses a trip cap to condition the development to ensure the mitigations are effective at reducing VMT.

Mixed-use Projects

Lead agencies can evaluate mixed-use projects based on each separate land use or by considering the dominant use. Since the thresholds are typically efficiency metrics (per capita or per employee), each land use can be analyzed separately. The per capita VMT of a residential mixed-use project is not increased by additional onsite land uses, it is only decreased due to internal trip capture. If a lead agency elects to consider only the dominant use, they can disregard all other uses. For instance, if the mixed-use project contains mostly housing with some local serving retail, the lead agency should only analyze the residential use.

SCREENING THRESHOLDS FOR LAND USE PROJECTS

Under SB 743, it is assumed that some types of development can be exempt from a transportation impact analysis (TIA) due their inherent less than significant impact on VMT. A less than significant impact on VMT may result from a project's location, size, or the land use of the development. A project only needs to meet one of four screening criteria to "screen out" of the requirement to complete a transportation impact analysis. The Technical Advisory provides guidance on screening the following four types of projects:

- Small projects
- Development in low VMT zones
- Development near transit stations
- Affordable housing

Lead agencies are encouraged to develop screening thresholds to determine when detailed analysis is needed. Screening thresholds allow for a greater degree of certainty for both the lead agency and the public. Additional analysis, including a full environmental impact report, can be required for projects that do not meet the screening threshold.

Small Projects

Under CEQA before implementing SB 743, most lead agencies used peak hour trip generation to determine the need for a TIA. Peak hour trip generation is determined based on the project size and land use type. Each city that has adopted VMT-based analysis requirements has reduced the project size threshold for residential and employment land use compared to Fremont's current one of 100 peak hour p.m. trips. The Alameda County Congestion Management Agency's (CMA) threshold is also 100 peak hour trips and projects with more than 100 peak hour trips are currently considered to have a regional impact.

Absent substantial evidence that a project would generate a significant level of VMT, OPR recommends that projects that generate less than 110 total trips per

day generally may be assumed to cause a less-than significant transportation impact.[2] In addition, the project must be consistent with the City's general plan and regional Sustainable Communities Strategy (*Plan Bay Area* for Fremont). Figure 2 lists the small project screening thresholds that have been adopted by San José, Pasadena, and Oakland, as well as OPR's recommendation.

Figure 3 Small Project Screening Thresholds

Land Use	San José	Pasadena	Oakland	OPR
Residential	Detached housing: 15 units Attached housing: 25 units	10 dwelling units	Single family: 50 units Multi-family: 120 units	Single family: 12 units Multi-family: 20 units
Employment	Office: 10,000 SF Industrial: 30,000 SF	10,000 SF[1]	35,000-40,000 SF depending on specific office type	Approximately 10,000 SF[2]
[1] 10,000 SF or 300 daily trips [2] 10,000 SF or 110 daily trips				

OPR recommends that lead agencies treat retail land use differently than residential and employment uses. As described in the previous section, cities should determine what is considered local-serving retail based on market studies that assess local context, retail need, and travel patterns. Absent such research, the lead agency should adopt OPR recommendations.

Development in Low VMT Areas

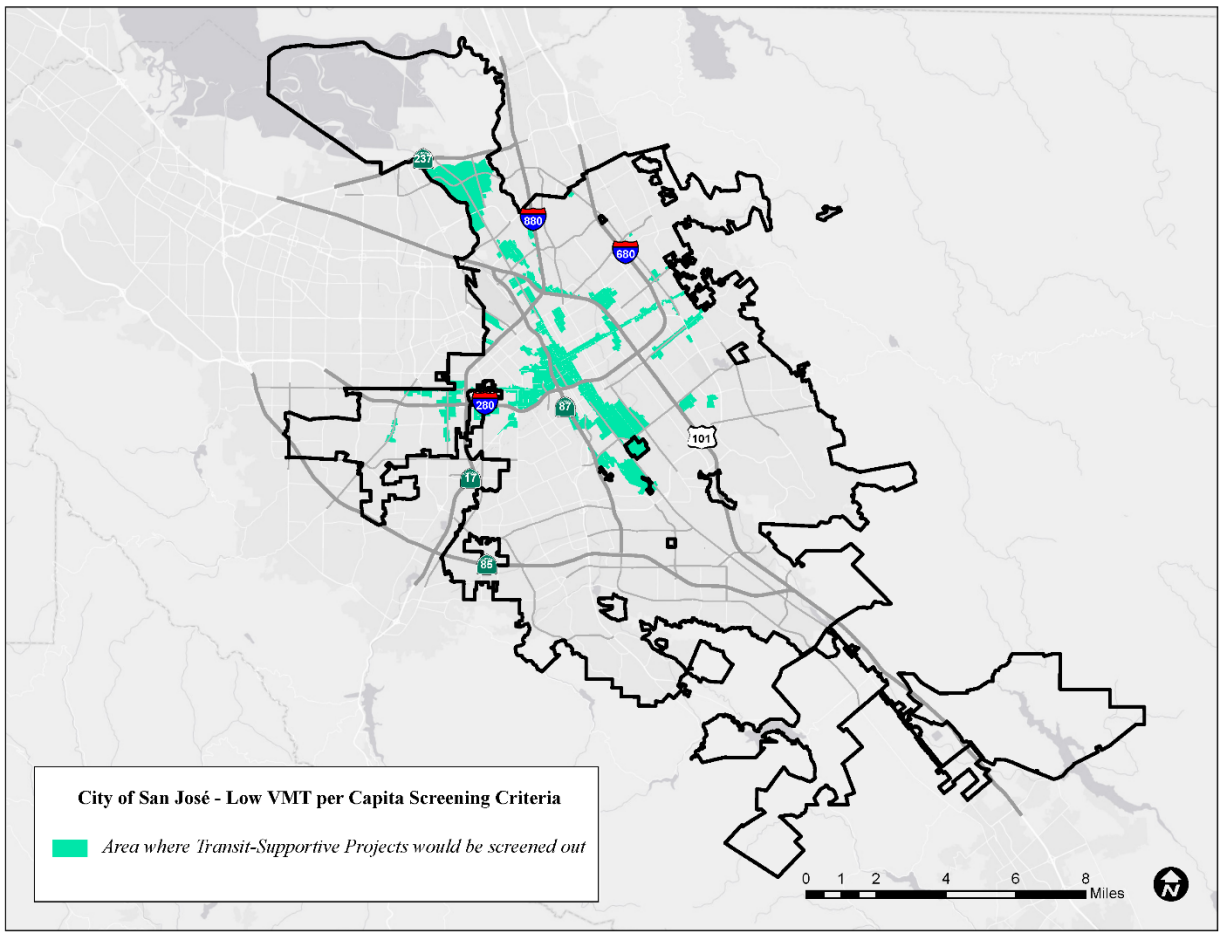
OPR guidance recommends streamlining low VMT office and residential development projects as an effective method of reducing VMT and meeting GHG reduction goals. Projects that locate in areas with low VMT, and incorporate similar features (i.e., density, mix of uses, transit accessibility) will exhibit similarly low VMT. Adopting a map-based screen clearly communicates where projects that meet minimum VMT requirements can be screened out from detailed VMT analysis under CEQA. Low VMT areas can be determined using household travel surveys or a travel demand model.

The City of Oakland has a map-based screen for projects in low VMT areas, however, the process requires downloading GIS layers and is therefore not as useful a model as San José. Pasadena does not have map based screens and relies on staff to review project applications with their local VMT model to assess whether a project is above or below the VMTP per capita threshold.

[2] Governor's Office of Planning and Research, Technical Advisory on Evaluating Transportation Impacts in CEQA, December 2018, p 12.

The City of San José has adopted a clear and easy to use map-based screen. Figure 3 shows low VMT areas in San José (in green) where residential development is assumed to have no significant transportation impact.

Figure 4 City of San José – Residential Project Screen



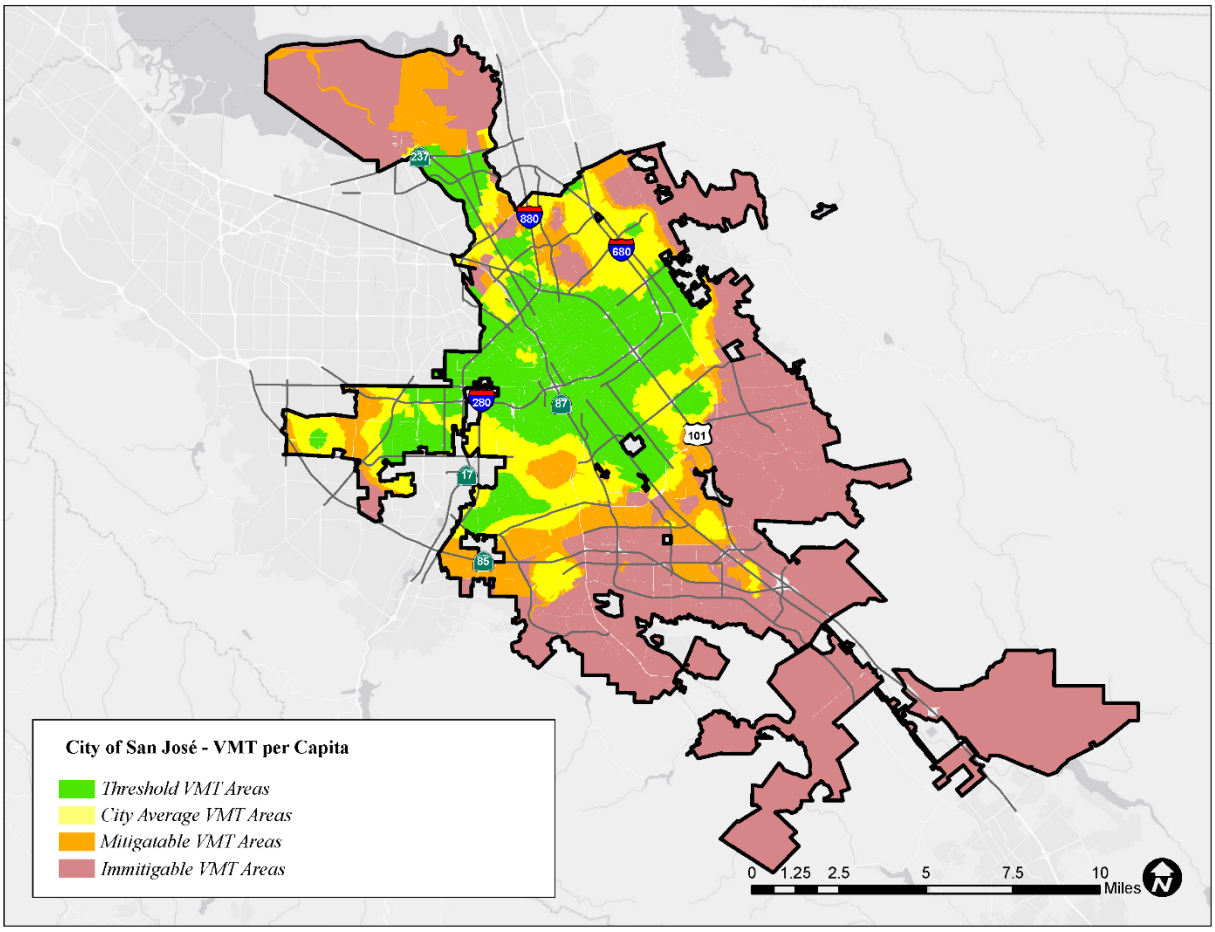
City of San José, Map downloaded from: http://www.sanjoseca.gov/vmt

To develop the map shown in Figure 2, San José staff worked with the CMA for the County of Santa Clara, the Valley Transportation Authority (VTA), to update the City's travel model. Staff felt that the initial transportation analysis zones (TAZ) were too blunt, with contrasting low VMT zones adjacent to high VMT zones without a middle VMT zone between them.[3] To address this issue, staff built a custom algorithm to smooth out the map at the parcel level. This algorithm calculates a weighted average of VMT in a parcel based on the VMT in TAZs within a half mile of the parcel. The resulting map is shown in Figure 4.

[3] City of San José presentation, accessed at: https://www.youtube.com/watch?v=FDExFFBf1gA&feature=youtu.be

Compared to the map in Figure 3, the map below identifies much more land area as low VMT zones. This is because City staff determined that the low VMT areas in the model output included areas that are auto-oriented and lack frequent transit, and therefore are not desirable to screen out from additional transportation impact review and VMT mitigation.[4] To address this concern, the City adopted a screen that overlaid high quality transit areas on the low VMT zones, which resulted in the map shown above in Figure 3.

Figure 5 City of San José - VMT per Capita (2018)



City of San José, Map downloaded from: http://www.sanjoseca.gov/vmt

Development Near Transit Stations

OPR's Technical Advisory recommends that residential, retail, office, and mixed-use projects located within a half-mile of an existing major transit stop should be assumed to have less than significant impact on VMT. A major transit stop is

[4] City of San José presentation, accessed at: https://www.youtube.com/watch?v=FDExFFBf1gA&feature=youtu.be

defined as a rail station or the intersection of two or more major bus routes with service every 15 minutes or less during morning and evening commute periods.

A project also should meet additional criteria that support transit-oriented development (TOD), such as:

- A Floor Area Ratio (FAR) of at least 0.75
- Does not include more than the minimum number parking spaces required by the jurisdiction (only applicable if the jurisdiction requires the project to supply parking)
- Is consistent with the applicable Sustainable Communities Strategy as determined by the lead agency, with input from the Metropolitan Planning Organization (MTC). In Fremont the Sustainable Communities Strategy is *Plan Bay Area*. TOD development should align with development density ranges or minimums established by Plan Bay Area, transit agency access and TOD policies, and Fremont Community Plans (e.g. Warm Springs/South Fremont Community Plan).
- Does not replace affordable residential units with a smaller number of moderate- or high-income residential units

The City of San José incorporated TOD-related criteria into its map-based screen; these are reflected in the map shown in Figure 3. Other cities, such as Oakland, also allow projects within half a mile of transit stations to have a presumed less-than-significant impact; however, they have not developed a map-based screen for the public to see those areas.[5]

Affordable Housing

Research cited by OPR supports the presumption that affordable housing generates a lower than average VMT.[6] Therefore, a project consisting of a high percentage of affordable housing is assumed to have a less than significant impact. Lead agencies have discretion in developing screens for affordable housing.

The City of San José uses a map-based screen, shown in Figure 5. The screen is a combination of Priority Development Areas (PDAs) and high-quality transit, defined as a bus or train at least every 15 minutes during peak. In order to meet the screening criteria, a project must be 100% deed-restricted affordable housing and meet minimum density, parking maximum, and active transportation requirements.

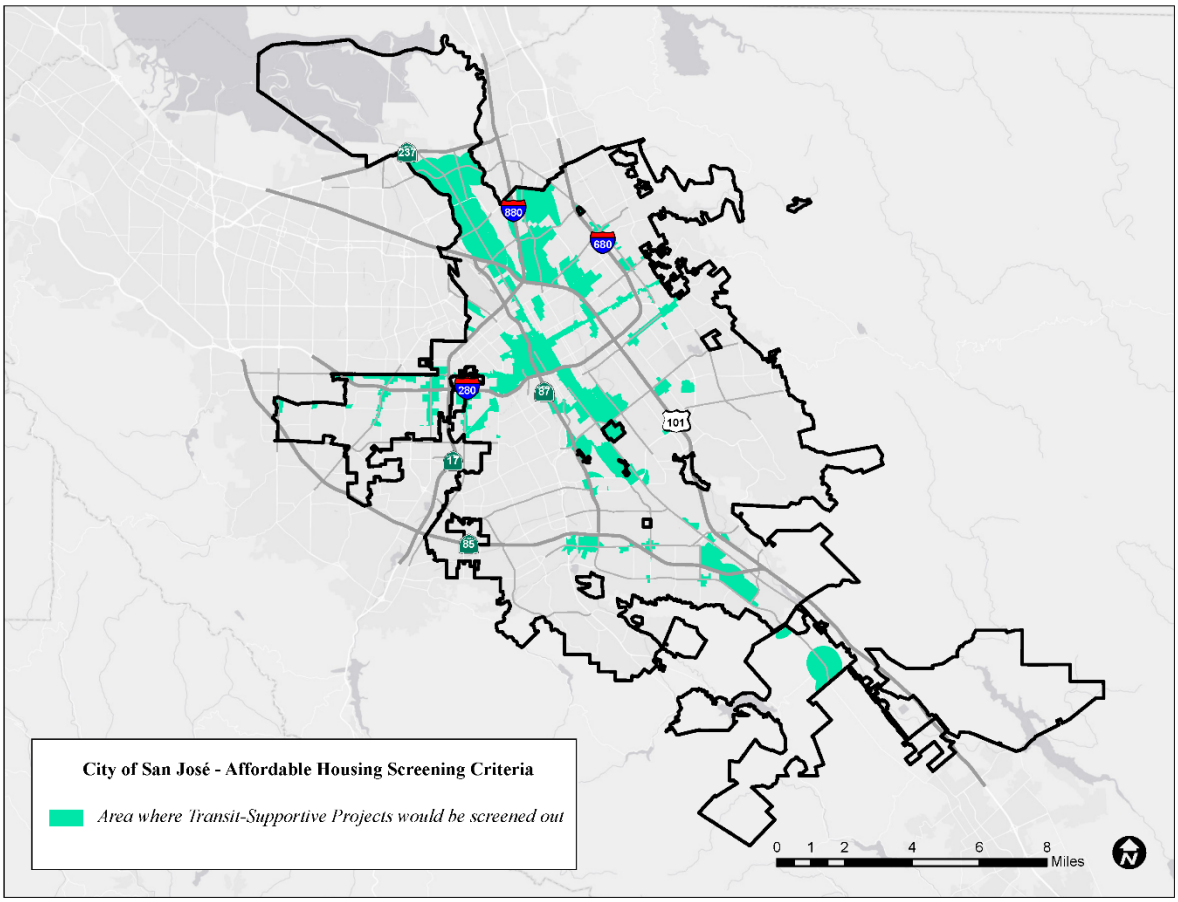
Oakland and Pasadena do not have screens that exempt affordable housing projects in their TIA guidelines.

---

[5] City of Oakland, Transportation Impact Review Guidelines, Section 5.4.3, page 22. Accessed from: http://www2.oaklandnet.com/oakca1/groups/ceda/documents/report/oak063581.pdf

[6] Governor's Office of Planning and Research, Technical Advisory on Evaluating Transportation Impacts in CEQA, December 2018, p 15.

Figure 6 City of San José – Affordable Housing Project Screen



City of San José, Map downloaded from: http://www.sanjoseca.gov/DocumentCenter/View/77336

CONTINUED USE OF LEVEL OF SERVICE

SB 743 prohibits the use of level of service (LOS) as a metric used to analyze transportation impacts in CEQA. However, cities can still use LOS for operational purposes, such as in their own transportation analysis and traffic signal operations. During the development process, LOS analysis can be required outside of CEQA. Project conditions of approval can require changes to the project, transportation demand management (TDM) strategies, or other measures to address LOS analysis outside of CEQA. Project conditions of approval cannot induce vehicle travel or increase VMT, both of which are impacts that conflict with SB 743. San José, Pasadena, and Oakland all provide examples of continuing to use LOS outside of CEQA.

San José

San José requires a Local Transportation Analysis (LTA) for all projects other than those that the City defines as Small Infill Projects, the small project screen

used in their CEQA streamlining. An LTA is an evaluation of the effects of a development project on transportation outside of CEQA.[7] An LTA ensures functional local transportation systems, encourages reduction in vehicle trips, and addresses issues related to operations and safety for all transportation modes based on General Plan street typologies.

The LTA includes an Intersection Operations Analysis (IOA) that measures LOS. A project is required to analyze two scenarios: background conditions and background plus project conditions. A cumulative impact analysis is not required as part of the LTA. Intersections that operate below LOS D with the addition of project vehicle trips to baseline conditions are considered an adverse effect. To address the adverse effect, a project can reduce projected vehicle trips, construct improvements to the intersections, or implement a trip cap.

Pasadena

Projects of community-wide significance (that do not pass the small project screen) in Pasadena are required to conduct a TIA with a CEQA report and a non-CEQA report. The non-CEQA transportation analysis has the following caps in place of thresholds of significance:

- **Street Segment Analysis**. An increase of 10-15% above existing average daily traffic (ADT) on streets with more than 1,500 ADT would trigger conditions of approval to reduce project vehicular trips.
- **Auto Level of Service.** A decrease beyond LOS D citywide or LOS E within transit-oriented districts would trigger conditions of approval to reduce project vehicular trips.

Conditions of approval to reduce project trips must be consistent with the City's Guiding Principles to encourage multimodal transportation and reduce VMT. Typical measures include contributions to build more complete streets or implementation of TDM strategies.[8]

Oakland

At the City's discretion, Oakland can require intersection operations analysis. The City also requires operations analysis for projects that generate more than 800 peak hour vehicle trips[9]. A standard cap or adverse effect, like those defined by Pasadena and San José, is not defined in Oakland's *Transportation Impact Review Guidelines*. TDM and trip reduction strategies and multimodal improvements can be required as conditions of approval.

---

[7] City of San José, Transportation Analysis Handbook, April 2018.

[8] City of Pasadena, Transportation Impact Analysis Guidelines, 2015. Accessed from: https://ww5.cityofpasadena.net/transportation/wp-content/uploads/sites/6/2015/12/Current-Practice-and-Guidelines.pdf

[9] City of Oakland, *Transportation Impact Review Guidelines*, Section 7.2, page 29. Accessed from: https://cao-94612.s3.amazonaws.com/documents/oak063581.pdf

THRESHOLDS OF SIGNIFICANCE FOR TRANSPORTATION PROJECTS

The California Air Resources Board (CARB) has determined the limits to VMT growth statewide that are required for California to meet its GHG reduction goals. While the modeling suggests that the State can still meet its GHG targets with VMT growth, the per capita VMT still needs to decrease since jobs and population are projected to grow faster than VMT. Within long range planning and CARB's modeled VMT limit, regional planning bodies can create a VMT "budget" and projects that go over that budget would have a significant impact. A potential budget process, as described by OPR, is as follows:[10]

1. Estimate the fair share allocation for each jurisdiction using population or another method for proportioning
2. Determine the amount of VMT growth estimated to result from background population growth incorporated into the long-range plan
3. Allocate a jurisdiction's share between VMT-increasing transportation projects, using whichever criteria the lead agency prefers

Lead agencies can adopt a threshold of significance or evaluate transportation project impacts on a case-by-case basis. Analysis should address the following criteria:

- Direct, indirect, and cumulative effects
- Near-term and long-term effects
- Consistency with state GHG reduction goals
- Impact on the development of multimodal transportation networks
- Impact on the development of a diversity of land uses

San José provides an example of a way to use the VMT "budget" to create a transportation project threshold of significance. San José evaluates transportation projects in relation to the regional transportation plan, *Plan Bay Area*. The City uses the County-level VMT allocations in *Plan Bay Area* to estimate its VMT "budget." Accordingly, the City has determined that the allowable VMT incremental increase from 2015 to 2040 for San José is 23% with a planned increase of roadways miles by 3% over 25 years. The equation used to determine the allowable VMT incremental increase is shown in Figure 6.

[10] Governor's Office of Planning and Research, Technical Advisory on Evaluating Transportation Impacts in CEQA, December 2018, p 22.

Figure 7 City of San José's Total Allowable VMT Incremental Increase[11]

$$\text{Total Allowable VMT Incremental Increase} = \frac{\text{23\% Increase in Total VMT from 2015 to 2040}}{\text{3\% Increase in Lane Miles} * \text{25 Years}} = \frac{\text{0.3\% Incremental Increase in Total VMT}}{\text{1\% Increase in Lane Miles}}$$

The calculation in Figure 6 is used to determine the transportation project thresholds. As shown in Figure 7, a project that results in a greater than 0.3% percent increase in VMT per 1% increase in lane-miles would require mitigation or project alteration.

Figure 8 San José Thresholds of Significance for City Transportation Projects[12]

Significance Criteria	Threshold
Percent increase in total VMT for roadways within Sphere of Influence	0.3% for every percent increase in lane-miles for roadways within Sphere of Influence
Percent increase in total VMT for roadways within Santa Clara County	0.3% for every percent increase in lane-miles for roadways within Santa Clara County

SCREENING THRESHOLDS FOR TRANSPORTATION PROJECTS

Since transportation projects are typically public, while land use development projects are typically private, the need to develop screening tools for transportation projects is less critical. Expanding through lane capacity on highways or arterials is the primary type of project that requires an environmental review. Transit and active transportation projects are presumed to cause a less than significant impact and thus do not require an environmental review. Roadway projects that do not increase roadway capacity do not require an induced travel analysis.

Some of the most common projects relevant to the City of Fremont that are considered unlikely to lead to a substantial increase in vehicle travel include:

- Maintenance and repair
- Intelligent transportation systems (ITS)
- Turn pockets
- Transit signal upgrades or timing
- Removal or relocation of parking (on or off-street)

[11] City of San José, Transportation Analysis Handbook, April 2018, p 53.

[12] City of San José, Transportation Analysis Handbook, April 2018, p 52.

The complete list of projects that are considered unlikely to lead to a substantial increase in vehicle travel can be found in OPR's Technical Advisory.[13]

[13] Full list of project types available on p 21. Governor's Office of Planning and Research, Technical Advisory on Evaluating Transportation Impacts in CEQA, December 2018, p 15.