

City of Berkeley VMT Criteria and Thresholds

June 29, 2020

Table of Contents

Introduction	1
Background	2
Traditional CEQA Practice Prior to SB 743.....	2
Changes in CEQA Practice.....	2
Approach to VMT Analysis in Berkeley	4
VMT Forecasting Methods.....	4
VMT Metrics.....	5
VMT Screening.....	5
VMT Significance Thresholds.....	7

Introduction

Signed into law by Governor Jerry Brown in 2013, Senate Bill (SB) 743 initiated a process intended to fundamentally change transportation impact analysis under the California Environmental Quality Act (CEQA). Most significantly, the legislation eliminated *automobile delay, level of service (LOS), and other similar measures of vehicular capacity or traffic congestion* as a basis for determining significant impacts. Recent amendments and additions to the CEQA Guidelines (in particular, new Section 15064.3) have eliminated auto delay for CEQA purposes and identified vehicle miles traveled (VMT) as a required CEQA transportation metric.

Local jurisdictions that serve as lead agencies under CEQA, such as the City of Berkeley, must adapt their analytical methods and approach to implement the requirements of SB 743. This report provides background information about the legal requirements and briefly describes the VMT methods and thresholds that the City of Berkeley has incorporated into their environmental review process. The procedures described here are focused on evaluation of land use projects; VMT analysis is also required for CEQA review of transportation projects, which will be addressed separately.

Background

CEQA was enacted in 1970 with the goal of providing a mechanism for disclosing to the public the environmental impacts of proposed actions. Before taking a discretionary action, lead agencies (such as the City of Berkeley) must determine if that action is subject to CEQA and conduct a review of the effects of that action on the physical environment. The State Office of Planning and Research (OPR) prepares and maintains a set of guidelines to help agencies implement CEQA.

Traditional CEQA Practice Prior to SB 743

Under CEQA, lead agencies must determine whether a proposed project has the potential to cause significant environmental impacts. This determination must be based, to the extent possible, on factual data and scientific methods of analysis. The project's effect on transportation is one of the areas that must be analyzed. For many years, the City has used vehicle Level of Service (LOS) as the primary measure of a project's transportation impacts.

LOS is a qualitative description of traffic flow based on factors of speed, delay, and freedom to maneuver. Six levels are defined, from LOS A, which reflects free-flow conditions where there is very little interaction between vehicles, to LOS F, where the vehicle demand exceeds the capacity and high levels of vehicle delay result. LOS E represents "at-capacity" operations. When traffic volumes exceed an intersection's capacity, stop-and-go conditions result, and a vehicle may wait through multiple signal cycles before passing through an intersection; these operations are designated as LOS F. The calculation of vehicle LOS is done through the application of specialized software and is based on traffic counts, observations of vehicle interactions, and data about traffic signal operations (at those intersections that are signalized).

Under CEQA, agencies must decide what constitutes a significant environmental impact. The CEQA Guidelines encourage the use of thresholds of significance; they can be quantitative or qualitative performance standards by which the agency can measure the amount of impact the project causes and thereby determine if the project's impacts are significant. In Berkeley, the typical practice has been to apply a threshold of LOS D for signalized intersections.

Mitigating an LOS impact typically involves making changes to the physical transportation system in order to accommodate additional vehicles and reduce delays. These mitigation measures may involve actions such as installing traffic signals, adding turn lanes, or widening roads, among other options.

Changes in CEQA Practice

In September 2013, the State Legislature passed and Governor Jerry Brown signed into law SB 743. One major change resulting from the statute is the elimination of automobile delay or other similar measures of traffic congestion as a basis for determining significant impacts. According to the legislative intent

contained in SB 743, these changes to current practice are intended to *"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."*

In December 2018, OPR completed an update to the CEQA Guidelines to implement the requirements of SB 743. The Guidelines state that VMT must be the metric used to determine significant transportation impacts. This requirement applies statewide effective July 1, 2020. For reference, the new CEQA Guidelines can be found at <http://opr.ca.gov/ceqa/updates/guidelines/> and technical guidance is available from OPR at [http://opr.ca.gov/docs/20190122-743 Technical Advisory.pdf](http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf).

VMT is a measure of the total amount of vehicular travel. One vehicle traveling ten miles would equal 10 VMT. Four vehicles traveling ten miles would equal 40 VMT. Typically, development located at greater distances from other land uses or in areas with few transportation options generates more vehicle trips and trips of greater length (and therefore more VMT) than development located in close proximity to other land uses or in areas with many transportation choices. VMT is an important input in the analysis of air quality and greenhouse gas (GHG) emissions and has been used for that purpose within CEQA documents for years. What has changed with SB 743 is that VMT is now being used to measure transportation impacts.

Mitigating a VMT impact involves different types of actions than mitigating an LOS impact. VMT mitigation requires actions that reduce the number or the length of vehicle trips generated by a project. This might involve modifying the project's characteristics or location so that it generates fewer vehicle trips or trips of shorter distance; options may include locating the project closer to public transit facilities, changing the project's characteristics to include a broader mix of complementary land uses, requiring that it provide amenities to support bicycling and walking, or adopting paid parking, among other possibilities.

Many jurisdictions find that travel time and system delay are still important issues for their residents, and SB 743 does not prevent an agency from continuing to analyze vehicle delay or LOS as part of their planning processes outside of CEQA. The City of Berkeley intends to continue to use LOS analysis for some purposes, such as evaluating the need for adding or modifying traffic signals.

Approach to VMT Analysis in Berkeley

As part of the City of Berkeley's implementation of SB 743, the City has developed the following approach to the major elements of addressing VMT impacts under CEQA. Note that the City will also be updating its Transportation Impact Study (TIS) Guidelines, which will contain detailed descriptions of how to scope, conduct, and review a VMT analysis for proposed development projects in the City, as well as a description of other transportation analysis topics that must be addressed.

VMT Forecasting Methods

VMT is typically calculated and forecasted using a travel demand model, which can estimate the total number and length of vehicle trips for a given geographic area, although some jurisdictions have developed their own tools for forecasting VMT. The OPR *Technical Advisory* recommends that the method used to define a VMT threshold should be the same method that is used to evaluate a project's VMT impact against that threshold.

For the City of Berkeley, the travel model maintained by the Alameda County Transportation Commission (Alameda CTC) is the tool most commonly used for transportation planning and forecasting purposes. The Alameda CTC model is regularly updated and validated, and it contains a script that calculates estimates of VMT per resident and VMT per worker at the geographic level known as the Traffic Analysis Zone (TAZ). The City of Berkeley will use the Alameda CTC model as the primary source of information for VMT forecasts for proposed projects in Berkeley.

It should be noted that a limitation of the VMT estimates produced by the Alameda CTC model script is that they do not account for the distance of trips that occur outside of the model boundaries. The OPR guidance recommends that VMT forecasts not truncate trip lengths based on political or model boundaries, and should capture the full length of all trips (even those that are interregional). To this point, the Alameda CTC model-produced VMT estimates do not account for the outside-the-region portion of interregional trips (i.e., trips that have one end outside of the nine-county Bay Area plus San Joaquin County which is also included in the Alameda CTC model).

However, this limitation should not be a substantial concern for the City of Berkeley VMT estimates, because Berkeley is near the core of the Bay Area and is unlikely to have substantial numbers of travelers coming to Berkeley from places outside the region's boundaries. Even for travelers coming to Berkeley from Davis or Modesto, only a relatively small portion of those trips (typically less than 20% of the total distance) would occur outside the boundaries of the Alameda CTC model, so to the extent there are interregional trips to Berkeley, the model will capture most of the trip length associated with those trips.

VMT Metrics

VMT can be measured in several ways. For the purposes of VMT analysis in Berkeley, the City will use the metrics of Household VMT per Capita (which will apply to residential uses), and Home-Work VMT per Worker (which will apply to employment-generating uses). These VMT metrics are consistent with those recommended in the OPR *Technical Advisory* and are the metrics that the Alameda CTC model directly produces. The Household VMT per Capita measures all of the trips associated with a residential use and divides that distance by the number of residents in the study area. The Home-Work VMT per Worker measures all of the commute trips between homes and workplaces and divides that distance by the number of workers in the study area.

Both metrics described above are “efficiency” metrics, in which the level of VMT is expressed in “per person” terms. This form of the metric speaks to how efficiently the people at a given location travel. A project that contributes to a more efficient use of the transportation system would reduce the VMT per person as compared to a no-project scenario. Some amount of overall VMT growth is always expected to occur when there is overall growth in population and economic activity; many development projects will cause an increase in total VMT, but the VMT per person can decrease if the new residents travel in more efficient ways.

VMT Screening

Analysis of smaller, less complex projects can be simplified by using a screening process. OPR suggests that screening criteria may be applied to identify when land use projects can be expected to cause a less-than-significant impact, without needing to conduct a detailed study. Screening is an option but is not mandatory. Because it requires limited evidence to support its use on a project, screening benefits project applicants and agencies wanting to streamline development review, with the trade-off of the potential for somewhat more legal risk if the screening process is challenged.

In the City of Berkeley, land use projects that meet at least one of the following screening criteria are presumed to cause a less-than-significant VMT impact and would not require VMT analysis in order to address the question on the Appendix G CEQA checklist: “Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?” The other CEQA checklist items related to transportation impacts should still be reviewed and evaluated. Although calculation of VMT may not be required to evaluate transportation impacts, preparation of VMT estimates may still be needed for other environmental analysis topics, such as energy and greenhouse gas emissions, if such are necessary for the project being studied. City staff will review the screening conclusions for each project and may request additional transportation analysis at their discretion.

- **Transit Priority Areas (TPA)**: Projects located within a ½-mile walkshed around major transit stops¹ (i.e., the BART stations and the Amtrak station) or within a ¼-mile walkshed around high-quality transit corridors². Maps that show the TPAs within Berkeley are attached to this report. This TPA screening would not apply if the project has any of the following characteristics:
 - Has a Floor Area Ratio (FAR) of less than 0.75 for office uses; or
 - Includes more than 200,000 square feet of office or commercial space; or
 - Includes more parking supply than the project’s estimated demand; or
 - Is inconsistent with the City’s *General Plan*, an applicable Specific Plan, or an applicable Sustainable Communities Strategy (as determined by the City, with input from MTC); or
 - Replaces affordable residential units with market-rate residential units; or
 - Has project-specific or location-specific information that indicates that the project will generate significant levels of VMT.
- **Low-Income Housing**: Low-income housing units typically generate less VMT than market-rate units of similar sizes and can contribute to improving jobs-housing balance. As such, projects that contain 100% restricted units affordable to Low-Income Households and Very Low-Income Households, as defined in Berkeley Municipal Code 22.20.065, are presumed not to require transportation VMT analysis for CEQA, as long as the projects do not include more parking supply than the project’s estimated demand.
- **Small Projects**: Projects defined as generating 836 daily VMT or less. Based on recent data from the California Household Travel Survey, this level of VMT would equate to 20 units of residential use or up to 10,000 square feet of non-residential use³.
- **Locally Serving Public Facility**: Locally serving public facilities generally encompass government, civic, cultural, health, and infrastructure uses which contribute to and support community needs and mostly generate trips within the local area. Locally serving public facilities include, but are not

¹ “Major transit stop” is defined in Public Resources Code 21064.3 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.

² “High-quality transit corridor” is defined in Public Resources Code 21155 as a corridor with fixed-route bus service with service intervals no longer than 15 minutes during peak commute hours. For purposes of this section, the service intervals must be no longer than 15 minutes during peak commute times for at least one individual transit route.

³ This threshold ties directly to the OPR Technical Advisory which notes that CEQA provides a categorical exemption for existing facilities, including additions to existing structures of up to 10,000 square feet, so long as the project is in an area where public infrastructure is available to allow for maximum planned development and the project is not in an environmentally sensitive area. (CEQA Guidelines, § 15301, subd. (e)(2).) Using statewide average data from the California Household Travel Survey (CHTS), the amount of daily VMT associated with 10,000 square feet of non-residential space is 836 VMT. Also using statewide average CHTS data, this level of VMT is associated with 20 housing units. Therefore, absent substantial evidence otherwise, it is reasonable to conclude that the addition of 20 housing units or 10,000 square feet of non-residential space could be considered not to lead to a significant impact.

limited to, public schools, passive parks (parks designed for use in an informal way and typically less developed), libraries, community centers, police stations, fire stations, and public utilities.

- **Projects in Low VMT Areas:** Projects that are located in low-VMT areas and that have characteristics similar to other uses already located in those areas can be presumed to generate VMT at similar rates. The low-VMT areas in Berkeley are defined based on the results of the Alameda CTC model, and maps of these areas are attached to this report:
 - Residential projects will be screened out if located in an area that has household VMT per capita that is 15% lower than the baseline regional average.
 - Office and industrial projects will be screened out if located in an area that has home-work VMT per worker that is 15% lower than the baseline regional average.

Each component of a mixed-use project is considered separately; therefore, each of the project's individual land uses should be compared to the screening criteria with considerations for internal capture between uses. It is possible for some of the mixed-use project's land uses to be screened out and some to require further analysis.

VMT Significance Thresholds

Since SB 743 introduces a new mandatory metric for use in CEQA analysis, lead agencies will need to determine what constitutes acceptable and unacceptable levels of VMT. This process is generally referred to as establishing significance thresholds and is governed by CEQA Guidelines Section 15064.7. Lead agencies have the discretion to define thresholds of significance to apply to projects under their jurisdiction, based on evidence and data and reflecting the careful judgment of the lead agency.

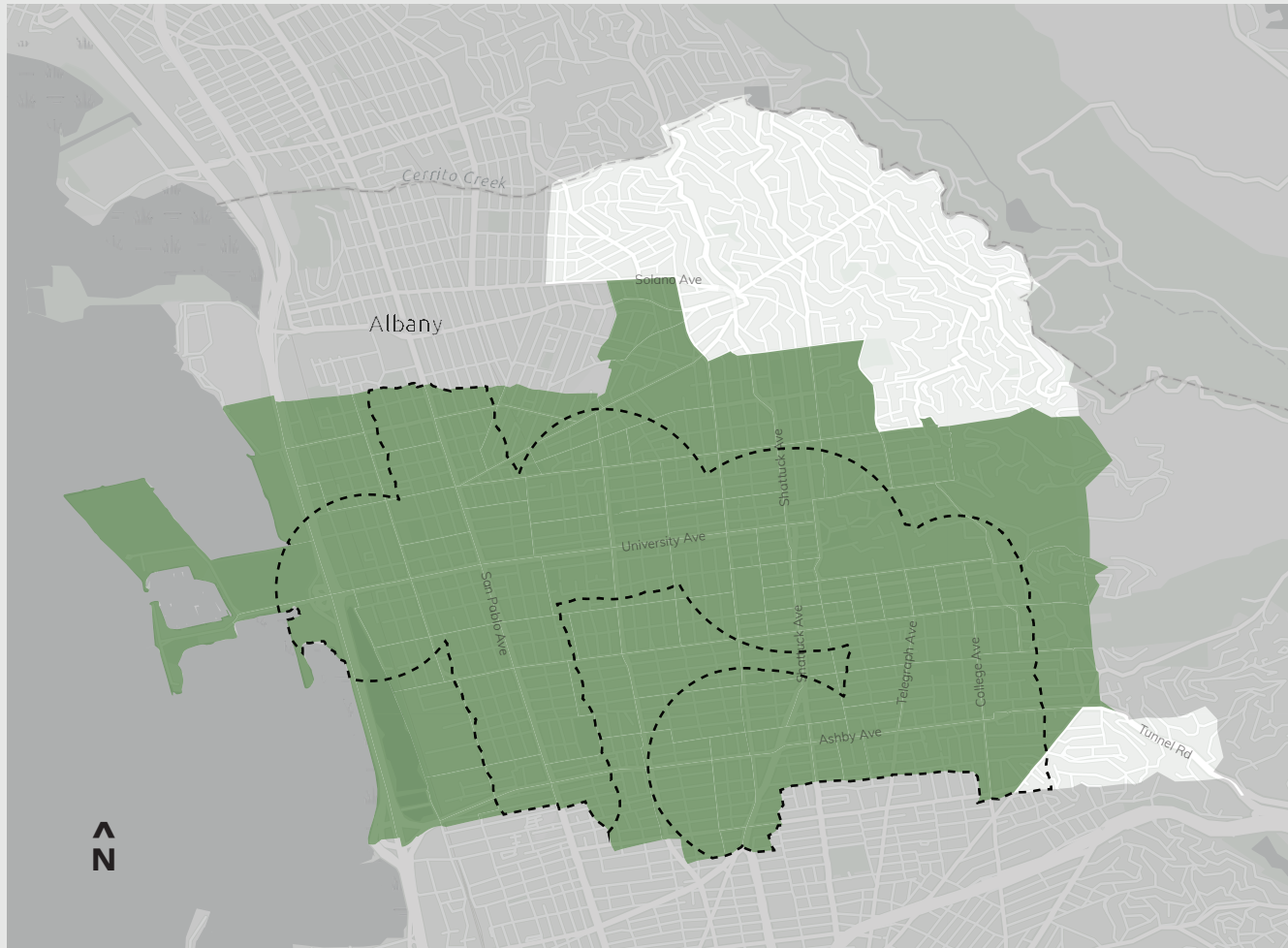
The OPR recommendations suggest that a VMT reduction target of 15% below baseline levels is consistent with the achievement of the state's climate goals. The City of Berkeley is relying upon the evidence and data presented by OPR in its recommendations for VMT thresholds, and is applying the following significance thresholds within Berkeley:

- A residential project's VMT impact is considered less-than-significant if its Household VMT per Capita is at least 15% below the regional average Household VMT per Capita.
- An employment-generating project's VMT impact is considered less-than-significant if its Home-Work VMT per Worker is at least 15% below the regional average Home-Work VMT per Worker.


For projects that are not able to meet the established threshold, the VMT impact would be considered significant and preparation of an Environmental Impact Report (EIR) would be required. Feasible mitigation would be identified; if the feasible mitigation measures do not fully mitigate the impact, it would be considered significant and unavoidable. In that case, approval of the project would require the adoption of a Statement of Overriding Considerations.




Household VMT Per Capita, 2020



VMT per Resident:

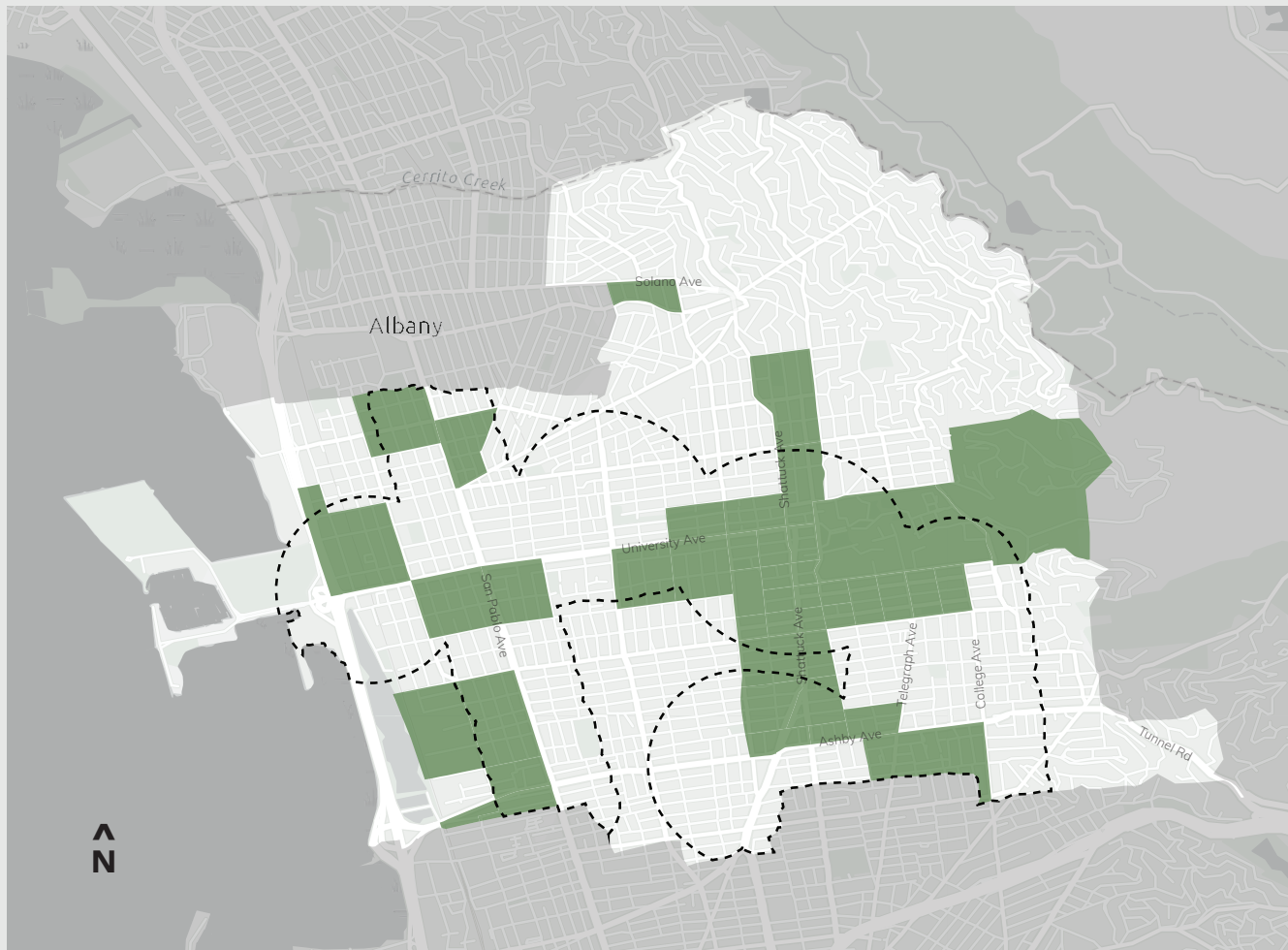
 at least 15% below Bay Area average

Transit Priority Areas:


 ½ mi from rail stations or ¼ mi from bus stops with service at least every 15min




Home-Work VMT Per Worker, 2020



VMT per Worker:

 at least 15% below
Bay Area average

Transit Priority Areas:

 1/2 mi from rail stations or
1/4 mi from bus stops with
service at least every 15min