Humboldt County VMT Study

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1. Introduction

On September 27, 2013, Governor Jerry Brown signed Senate Bill (SB) 743 into law and started a process intended to fundamentally change transportation impact analysis as part of California Environmental Quality Act (CEQA) compliance. These changes include elimination of auto delay, level of service (LOS), and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts. Further, parking impacts will not be considered significant impacts on the environment for select development projects within infill areas served by frequent transit service. According to the legislative intent contained in SB 743, these changes to current practice were necessary 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."

As part of its amendments and additions to the CEQA Guidelines, auto delay was eliminated for CEQA purposes and vehicle miles traveled (VMT) was identified as the preferred CEQA transportation metric. To implement a VMT policy that incorporates the changes and additions to the CEQA Guidelines, jurisdictions in Humboldt County needed to select VMT analysis methodologies, set new VMT thresholds for transportation impacts, and determine what mitigation strategies are most feasible.

1.1 This report:

- Provides an overview of SB 743 and related policies and how VMT may be measured.
- Summarizes available VMT data for Humboldt County
- Discusses alternatives for VMT measurement methods and thresholds.
- Recommends VMT methods and thresholds for lead agencies in Humboldt County
- Uses recent projects in Humboldt County to demonstrate how these methods and thresholds would be used.
- Recommends transportation demand management (TDM) strategies for reducing VMT on projects in Humboldt County

2. Background

This chapter summarizes SB 743 and related policies and discusses how VMT may be measured.

2.1 Definitions

CEQA refers to the California Environmental Quality Act. This statute requires identification of any significant environmental impacts of state or local action including approval of new development or infrastructure projects. The process of identifying these impacts is typically referred to as the environmental review process.

LOS refers to "level of service," a metric that assigns a letter grade to network performance. The typical application of LOS in cities is to measure the average amount of delay experienced by vehicle drivers at an intersection during the most congested time of day and to assign a report card range from LOS A (fewer than 10 seconds of delay) to LOS F (more than 80 seconds of delay).

VMT refers to "vehicle miles traveled," a metric that accounts for the number of vehicle trips generated and the length or distance of those trips. For transportation impact analysis, VMT is commonly expressed as total VMT, total VMT per service population (residents plus employees), home-based VMT per resident (or capita), and home-based work VMT per employee for a typical weekday.

2.2 VMT Policy Overview

To implement the above intent, SB 743 required the Governor's Office of Planning and Research (OPR) to update the CEQA Guidelines and establish criteria for determining the significance of transportation impacts of projects within transit priority areas. The new criteria shall promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses. OPR and the Natural Resources Agency completed their responsibilities under SB 743 as of December 2018.

The focus of SB 743's changes can be found in the following two legislative intent statements:

> Ensure that the environmental impacts of traffic, such as noise, air pollution, and safety concerns, continue to be properly addressed and mitigated through the California Environmental Quality Act.
>
> 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.

The changes to the CEQA Guidelines identify automobile[1] VMT as the preferred CEQA transportation metric and, upon their certification on December 28, 2018, eliminated use of auto delay and LOS statewide for CEQA transportation analysis. The new guidelines and the OPR technical advisory include specifications for VMT methodology and recommendations for significance thresholds and mitigation. As noted above, SB 743 requires impacts to transportation network performance to be viewed through a filter that promotes "*the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses*." VMT can help identify how projects (land development and infrastructure) influence accessibility (i.e., lower VMT may indicate increased multimodal access to places and people) and emissions, so its selection is aligned with the objectives of SB 743.

SB 743 does not prevent an agency from continuing to analyze delay or LOS as part of other plans (i.e. a general plan), fee programs, or ongoing network monitoring, but these metrics will no longer constitute the sole basis for CEQA impacts. Agencies that have determined continued use of vehicle LOS is an important part of transportation analysis can still use vehicle LOS outside of the CEQA process. The most common applications will likely occur for jurisdictions wanting to use vehicle LOS to size roadways in their general plan or determine nexus relationships for their impact fee programs. Jurisdictions can also continue to condition projects to build transportation improvements through the entitlement process in a variety of ways, such as using general plan consistency findings.

2.3 VMT Assessment

This section explains how VMT may be estimated and forecasted.

2.3.1 VMT Measurement

VMT can be measured in a variety of ways depending on whether the intent is to capture the amount of automobile travel generated by a project (i.e., number of vehicle trips multiplied by their corresponding trip lengths) or a project's effect on VMT within a defined study area (i.e., a measure of absolute VMT). Information on a project's effect is more meaningful for VMT analysis because land use projects and land use plans often influence the vehicle travel associated with neighboring land uses and may displace other existing trips within the region. VMT is a preferred metric for environmental effects because it indirectly captures how a project influences the environment related to greenhouse gas emissions and air quality pollution. VMT may also play a role in assessing impacts to pedestrians, bicyclists, transit riders, and travel safety. Low VMT generating areas tend to have higher mode splits for walking, bicycling, and transit. These areas also benefit from less severe collisions often due to less vehicle travel and lower travel speeds.

VMT growth associated with land use and transportation projects is evaluated as part of adopted regional transportation plans (RTPs) and general plans. These plans and their EIRs typically consider the impacts of

[1] While SB 743 did not define the term "automobile," OPR's Technical Advisory defines "automobile" as excluding heavy-duty trucks, i.e., automobile is defined as "on-road passenger vehicles, specifically cars and light trucks." (OPR Technical Advisory, p. 4.) However, OPR did note that "[h]eavy duty truck VMT could be included for modeling convenience and ease of calculation (for example, where models or data provide combined auto and heavy truck VMT)."

VMT growth at a regional or jurisdiction-wide level, usually through the effect that VMT growth has on air quality and greenhouse gas (GHG) emissions. Additional VMT reduction may be achieved at the project level especially through TDM strategies, which are not fully accounted for in local or regional-level travel forecasting models.

While VMT is focused on vehicle travel, the goal of reducing VMT growth focuses upon changing development patterns (e.g., land use mix and density) together with providing more pedestrian, bicycle, and transit infrastructure. These factors contribute to people living closer to their destinations and having multiple travel choices. Efforts to reduce VMT may also include TDM strategies that encourage more efficient forms of travel or vehicle use. TDM strategies are discussed further in the VMT Reduction Strategies section.

2.3.2 VMT Estimates and Forecasts

VMT can be expressed in a variety of forms depending on the specific objectives of the analysis. Examples of these forms are described below and shown in a graphical form:

- Daily total VMT – All VMT generated by trips with at least one trip end in the jurisdiction for a typical weekday.
- Daily home-based VMT per resident – VMT generated by residents of households within the jurisdiction with at least one trip end at a dwelling unit for a typical weekday.
- Daily home-based VMT per employee – VMT generated by workers within the jurisdiction traveling between work and home for a typical weekday.
- Daily total VMT per service population – All VMT generated by residents, workers, student, and visitors within the jurisdiction for a typical weekday.

Metric	Definition	Visualization
Total VMT	All vehicle-trips (i.e., passenger and commercial vehicles) or passenger only vehicle-trips with at least one trip end in the jurisdiction for a typical weekday.	
Total VMT per service population	Same method as above (Total VMT) to estimate VMT and then divide by the population and employment of the block group or groups of study.	
Home-based VMT per resident	All automobile (i.e., passenger cars and light-duty trucks) vehicle-trips that start or end at the home are traced, but non-home-based trips made by residents elsewhere on the network are excluded.	
Home-based work VMT per employee	All automobile trips between home and work are traced.	

Estimates of current VMT and forecasts of future VMT are inherently dependent on the methodology used. These estimates and forecasts use trip generation rates based on observations of current travel behavior. Forecasts may need to account for future changes in travel associated with internet shopping, increases in economic activity, changes in different modes of travel, such as transportation network companies (TNCs), e.g. Uber and Lyft, or future trends such as autonomous vehicles (AVs). Prior to COVID-19, expectations about the influence of these factors were that vehicle travel may increase over time as the human driving function is reduced or eliminated, operating and parking costs are reduced, and access to a variety of vehicle types becomes more ubiquitous. VMT trends will need to be monitored over time as COVID-19 economic outcomes have dampened many of these expectations. Thus, the current expectation is that these factors will not have a significant effect in the immediate future. While VMT is currently linked to greenhouse gas emissions and air pollution, increases in vehicular fuel efficiency and electrification may eventually reduce these relationships, which may also necessitate updates to VMT methodology and significance thresholds.

3. Baseline VMT

This section summarizes the process of establishing baseline VMT for Humboldt County and the cities and unincorporated county areas within it. As part of this process, a detailed review of the existing Humboldt County travel forecasting model (TFM) was conducted to assess its suitability to perform VMT estimation and forecasting for CEQA transportation impact analysis. The County's TFM was updated in January 2013 per the information available from Caltrans District 1. The model was calibrated and validated to 2010 base year conditions. Fehr & Peers discussed changes since the last update to the TFM with County staff and found that a lot has changed with respect to land-use, travel behavior, travel patterns, etc. Changes have been substantial enough that the model no longer represents current or expected future conditions. As such, use of the model in its current form would not comply with the following expectations associated with CEQA compliance.

CEQA compliance has two basic elements:

- The legal risk of challenges associated with inadequately analyzing impacts due to use of models that do not meet benchmark expectations.
- The mitigation risk of mis-identifying the impact and the mitigation strategies to reduce the impact.

Agencies with a high risk of legal challenges will likely be concerned about both elements while agencies with less legal risk should still be concerned about the second element since it is also relevant for all other transportation analysis based on model forecasts.

3.1.1 CEQA Expectations for Environmental Impact Analysis

The CEQA Guidelines contain clear expectations for environmental analysis as noted below; however, the Guidelines are silent about what data, analysis methods, models, and mitigation approaches are adequate for transportation impacts.

§ 15003 (F) = fullest possible protection of the environment…

§ 15003 (I) = adequacy, completeness, and good-faith effort at full disclosure…

§ 15125 (C) = EIR [Environmental Impact Report] must demonstrate that the significant environmental impacts of the proposed project were adequately investigated…

§ 15144 = an agency must use its best efforts to find out and disclose…

§ 15151 = sufficient analysis to allow a decision which intelligently takes account of environmental consequences…

All of these sections suggest accuracy is important and have largely been recognized by the courts as the context for judging an adequate analysis. So, then what is the basis for determining adequacy, completeness, and a good faith effort when it comes to forecasting and transportation impact analysis? A review of relevant court cases suggests the following conclusions.

- CEQA does not require the use of any specific methodology. Agencies must have substantial evidence to support their significance conclusions. (Association of Irritated Residents v. County of Madera (2003) 107 Cal.App.4th 1383.)
- CEQA does not require a lead agency to conduct every test or perform all research, study, and experimentation recommended or demanded by commenters. (CEQA Guidelines, § 15204, subd. (a))
- CEQA does not require perfection in an EIR but rather adequacy, completeness and a good faith effort at full disclosure while including sufficient detail to enable those who did not participate in the EIR preparation to understand and consider meaningfully the issues raised by the project. (Kings County Farm Bureau v. City of Hanford (1990) 221 Cal.App.3d 692)
- Lead agencies should not use scientifically outdated information in assessing the significance of impacts. (Berkeley Keep Jets Over the Bay Comm. v. Board of Port Comm. (2001) 91 Cal.App.4th 1344.)
- Impact analysis should improve as more and better data becomes available and as scientific knowledge evolves. (Cleveland National Forest Foundation v. San Diego Association of Governments, Cal. Supreme Ct. S223603, 2017).

These conclusions tend to reinforce the basic tenet of CEQA that requires substantial evidence to support all aspects of the impact analysis and related decisions. Further, analysis should produce accurate and meaningful results. This expectation is grounded in the basic purpose behind environmental regulations like CEQA that attempt to accurately identify and disclose potential impacts and to develop effective mitigation. Reasonable and reliable travel forecasts are essential for meeting these expectations. In setting specific CEQA expectations for travel forecasting models, an important consideration is that expectations may vary based on the variety of factors listed below.

To meet the above CEQA expectations, it was decided in conjunction with County staff that the best approach to establishing existing baseline VMT data was to rely on estimates derived from 'big data' offered through StreetLight, Fehr & Peers used the StreetLight data to develop a tool called VMT+ that includes home-based VMT per resident and home-based VMT per employee estimates by census block group, city, and county. For Humboldt County, the VMT estimates represent 2022 conditions and are accessed through an ArcGIS web map. StreetLight (in cooperations with Fehr & Peers) published an SB 743 VMT Metric Methodology and Validation White Paper[2] in December 2021 which documents the data sources, methodology, and validation processes used by StreetLight Data during the data development process. The methodology to estimate VMT metrics using Location Based Data (LBS) approach is in

[2] https://www.fehrandpeers.com/wp-content/uploads/2023/01/SB_743_White_Paper_Final_December_2021.pdf

accordance with OPR guidelines. Fehr & Peers conducted an independent validation of the results, which is documented in the white paper.

Table 1 summarizes the average VMT per capita for each of the jurisdictions within the County including areas that are within unincorporated county. As shown in the table, cities such as Arcata, Eureka and Fortuna generally have a lower average VMT compared to other cities such as Blue Lake, Trinidad and unincorporated areas of the County, which have generally higher average VMT per capita. This could be due to a variety of factors influencing vehicular trip making. These factors include population density, proximity of jobs and other destinations, demographics, availability and quality of transit and/or active transportation infrastructure, diversity of land uses, etc.

Table 1. Humboldt County VMT Estimates, Year 2022

Jurisdiction	Average Home-based Work VMT per Employee (HBW)	Average Home-Based VMT per Resident (HBX)
Arcata	12.16	17.4
Blue Lake	23.15	23.53
Eureka	9.54	13.68
Ferndale	11.04	27.94
Fortuna	10.46	19.72
Rio Dell	13.44	25.52
Trinidad	15.75	19.95
Unincorporated Humboldt County	14.7	22.1

Figures 1 and 2 illustrate the average VMT per employee and average VMT per resident, respectively on a map of the county.

Figure 1. Average VMT Per Employee (Home Based Work)

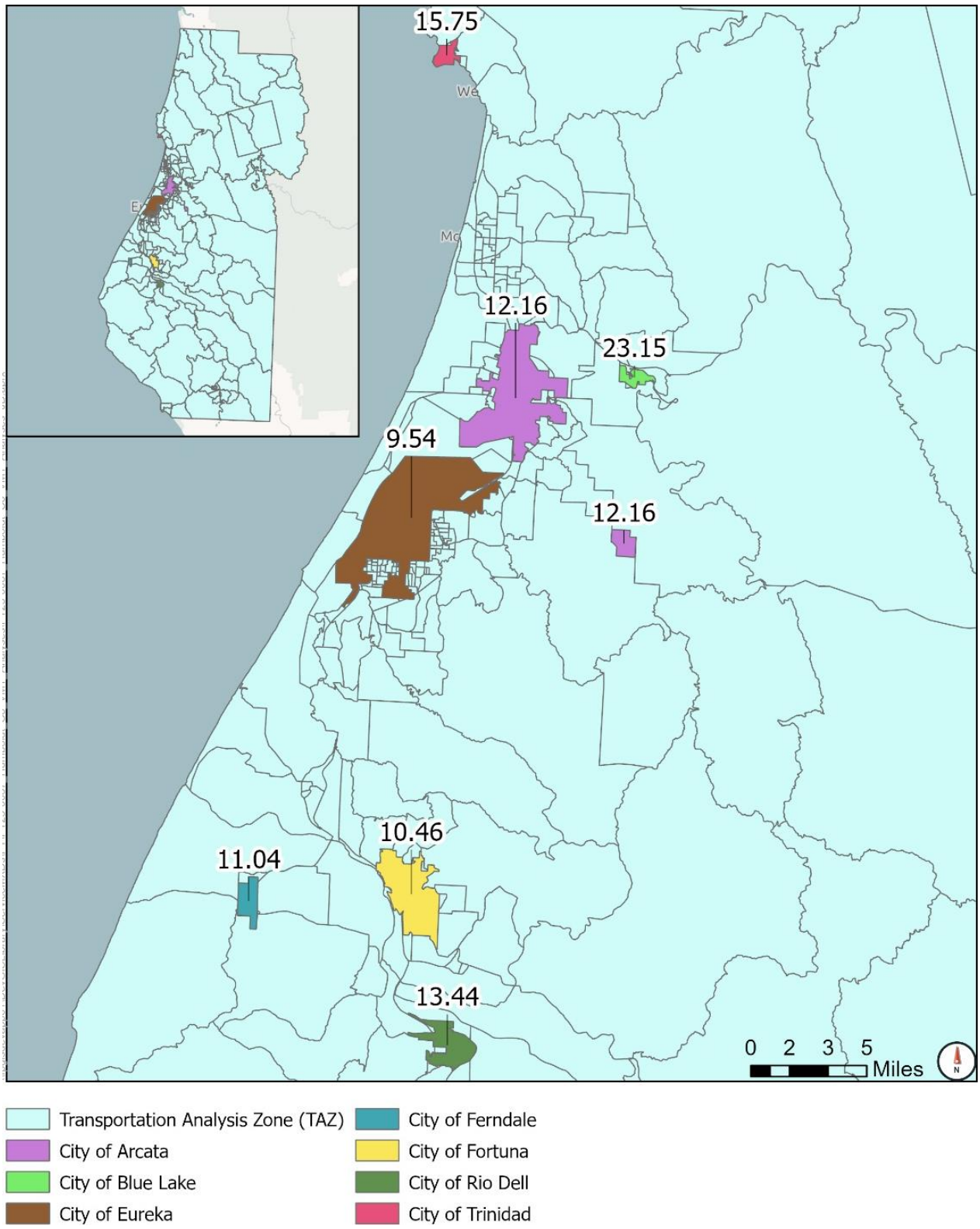
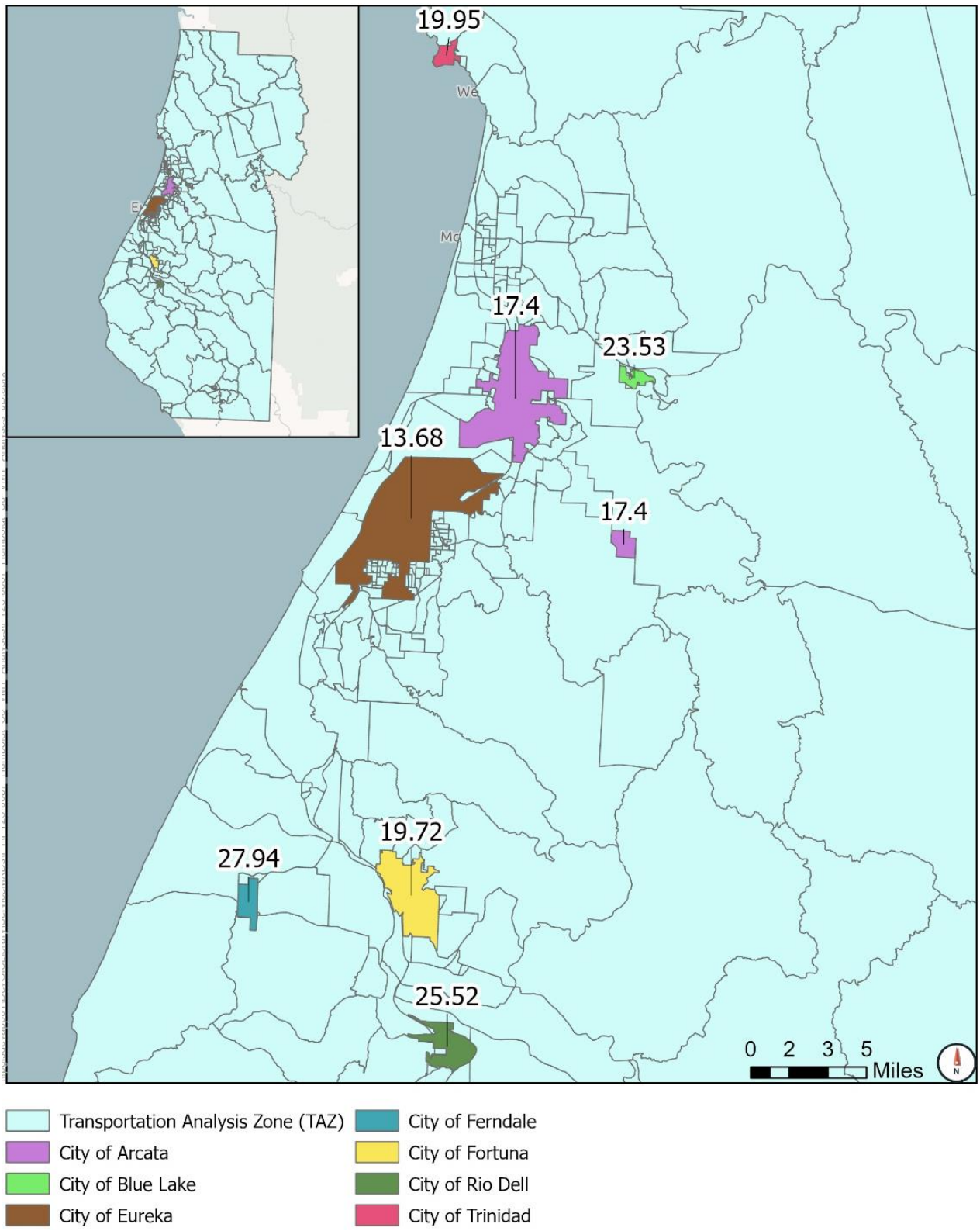


Figure 2. Average VMT Per Resident (Home Based Others)



4. VMT Thresholds

4.1 Background on CEQA Thresholds

Establishing CEQA thresholds for VMT requires complying with the statutory language added by SB 743, as well as guidance contained in CEQA Guidelines Section 15064, 15064.3, and 15064.7. The excerpts below highlight the amendments to the two CEQA Guidelines Sections that were certified by the California Natural Resources Agency and the Office of Administrative Law at the end of 2018.

§ 15064. Determining the Significance of the Environmental Effects Caused by a Project.

(a) Determining whether a project may have a significant effect plays a critical role in the CEQA process.

(1) If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, the agency shall prepare a draft EIR.

(2) When a final EIR identifies one or more significant effects, the lead agency and each responsible agency shall make a finding under Section 15091 for each significant effect and may need to make a statement of overriding considerations under Section 15093 for the project.

(b) **(1)** The determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data. An ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting. For example, an activity which may not be significant in an urban area may be significant in a rural area.

(2) Thresholds of significance, as defined in Section 15064.7(a), may assist lead agencies in determining whether a project may cause a significant impact. When using a threshold, the lead agency should briefly explain how compliance with the threshold means that the project's impacts are less than significant. Compliance with the threshold does not relieve a lead agency of the obligation to consider substantial evidence indicating that the project's environmental effects may still be significant.

Source: Final Adopted Text for the 2018 Amendments and Additions to the State CEQA Guidelines. California Natural Resources Agency (page 8), http://resources.ca.gov/ceqa/

§ 15064.7. Thresholds of Significance.

(a) ~~Each public agency is encouraged to develop and publish thresholds of significance that the agency uses in the determination of the significance of environmental effects.~~ A threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant.

(b) **Each public agency is encouraged to develop and publish thresholds of significance that the agency uses in the determination of the significance of environmental effects.** Thresholds of significance to be adopted for general use as part of the lead agency's environmental review process must be adopted by ordinance, resolution, rule, or regulation, and developed through a public review process and be supported by substantial evidence. **Lead agencies may also use thresholds on a case-by-case basis as provided in Section 15064(b)(2).**

(c) When adopting **or using** thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence.

(d) Using environmental standards as thresholds of significance promotes consistency in significance determinations and integrates environmental review with other environmental program planning and regulation. Any public agency may adopt or use an environmental standard as a threshold of significance. In adopting or using an environmental standard as a threshold of significance, a public agency shall explain how the particular requirements of that environmental standard reduce project impacts, including cumulative impacts, to a level that is less than significant, and why the environmental standard is relevant to the analysis of the project under consideration. For the purposes of this subdivision, an "environmental standard" is a rule of general application that is adopted by a public agency through a public review process and that is all of the following:

(1) a quantitative, qualitative or performance requirement found in an ordinance, resolution, rule, regulation, order, plan or other environmental requirement;

(2) adopted for the purpose of environmental protection;

(3) addresses the environmental effect caused by the project; and,

(4) applies to the project under review.

Source: Final Adopted Text for the 2018 Amendments and Additions to the State CEQA Guidelines. California Natural Resources Agency (pages 14-15), http://resources.ca.gov/ceqa/

As noted in the CEQA sections above, lead agencies have the discretion to select thresholds on a case-by-case basis or develop and publish thresholds for general use. The remainder of this section focuses on guidance related to adopting thresholds for general use.

When developing and adopting new thresholds, the CEQA Guidelines are clear that thresholds must be supported by substantial evidence. For SB 743, the specific metric of focus is the change a project will cause in VMT, which is an indirect measure of greenhouse gas emissions and air pollution. Since VMT is already used in the analysis of air quality, energy, and GHG impacts as part of CEQA compliance, the

challenge for lead agencies is to answer the question, "What type or amount of change in VMT constitutes a significant impact for transportation purposes?" CEQA Guidelines Section 15064(b)(1) allows lead agencies the discretion to select their own thresholds and allow for differences in thresholds based on context such as urban versus rural areas. Additional Information is provided in Appendix B.

4.1.1 CEQA Guidelines Section 15064.3

> *(b) Criteria for Analyzing Transportation Impacts.*
>
> *(1) Land Use Projects. Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be presumed to have a less than significant transportation impact.*
>
> *(2) Transportation Projects. Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact. For roadway capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, such as in a regional transportation plan EIR, a lead agency may tier from that analysis as provided in Section 15152.*

4.1.2 Technical Advisory on Evaluating Transportation Impacts in CEQA

> *Based on OPR's extensive review of the applicable research, and in light of an assessment by the California Air Resources Board quantifying the need for VMT reduction in order to meet the State's long-term climate goals, OPR recommends that a per capita or per employee VMT that is fifteen percent below that of existing development may be a reasonable threshold.*

4.1.3 Technical Advisory on Evaluating Transportation Impacts in CEQA – Rural Projects Outside of Metropolitan Planning Organizations (MPOs)

> *In rural areas of non-MPO counties (i.e., areas not near established or incorporated cities or towns), fewer options may be available for reducing VMT, and significance thresholds may be best determined on a case-by-case basis. Note, however, that clustered small towns and small-town main streets may have substantial VMT benefits compared to isolated rural development, similar to the transit-oriented development described above.*

The majority of the area in Humboldt County can be categorized as a rural area. The recognition that rural areas are different is consistent with the flexibility provided by CEQA Guidelines Section 15064(b)(1). In these areas, VMT per resident or per worker tends to be higher than in urban areas due to longer distances between origins and destinations and limited travel mode choices. Further, the value that rural

jurisdictions place on VMT reduction may be lower than urban areas given the nature of rural economies and land use patterns.

These (and the other) threshold recommendations in the Technical Advisory are intended to help achieve the state's GHG reduction goals and targets considered in development of OPR's Technical Advisory as follows.

- Assembly Bill 32 (2006) requires statewide greenhouse gas reductions to 1990 levels by 2020 and continued reductions beyond 2020.
- Senate Bill 32 (2016) requires at least a 40 percent reduction in greenhouse gas emissions by 2030.
- Pursuant to Senate Bill 375 (2008), the California Air Resources Board establishes greenhouse gas reduction targets for MPOs to achieve based on land use patterns and transportation systems specified in Regional Transportation Plans and Sustainable Community Strategies. At the time the Technical Advisory was released, target reductions by 2035 for the largest MPOs ranged from 13% to 16%. The current targets for these MPOs are 19%.
- Executive Order B-30-15 (2015) sets a GHG emissions reduction target of 40 percent below 1990 levels by 2030.
- Executive Order S-3-05 (2005) sets a GHG emissions reduction target of 80 percent below 1990 levels by 2050.
- Executive Order B-16-12 (2012) specifies a GHG emissions reduction target of 80 percent below 1990 levels by 2050 specifically for transportation.
- Senate Bill 391 requires the California Transportation Plan to support 80 percent reduction in GHGs below 1990 levels by 2050.
- The California Air Resources Board's 2022 Climate Change Scoping Plan Update describes California's strategy for reducing greenhouse gas emissions from vehicles and quantifies VMT growth compatible with achieving state targets. The plan identifies a path to keep California on track to meet its SB 32 GHG reduction target of at least 40 percent below 1990 emissions by 2030.
- Executive Order B-55-18 (2018) establishes an additional statewide goal of achieving carbon neutrality as soon as possible, but no later than 2045, and maintaining net negative emissions thereafter.

Lead agencies should note that the OPR-recommended VMT thresholds are focused upon contributing to the state of California's GHG reduction goals and do not consider local preferences or values as established in adopted general plans. As OPR's Technical Advisory (p. 8) explains,

> *The VMT metric can support the three statutory goals: "the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." (Public Resources Code, § 21099, subdivision (b)(1), emphasis added.) However, in order for it to promote and support all three, lead agencies should select a significance threshold that aligns with state law on all three. State law concerning the development of multimodal transportation networks and diversity of land uses requires planning for and prioritizing increases in complete streets and infill development but does not mandate a*

> *particular depth of implementation that could translate into a particular threshold of significance. Meanwhile, the State has clear quantitative targets for GHG emissions reduction set forth in law and based on scientific consensus, and the depth of VMT reduction needed to achieve those targets has been quantified. Tying VMT thresholds to GHG reduction also supports the two other statutory goals. Therefore, to ensure adequate analysis of transportation impacts, OPR recommends using quantitative VMT thresholds linked to GHG reduction targets when methods exist to do so.*

While this is one of the SB 743 legislative intent objectives, a less clear connection is made to the other legislative intent objectives to encourage infill development and promote active transportation. SB 743 [Section 21099(b)(1)] also makes it explicit that criteria for determining the significance of transportation impacts shall promote "…the reduction of greenhouse gas emissions, the development of multimodal networks, and a diversity of land uses." If GHG impacts are already being adequately addressed in another CEQA section, then more evidence may be desired about VMT threshold relationships to the other criteria. In particular, how should lead agencies balance the accommodation of housing needs that contribute to land use diversity but also contribute to VMT increases? Given the status of housing supply shortages and affordability in California, this is not a small issue. The use of VMT as a new impact metric will likely trigger more significant impacts in suburban and rural areas that have the highest VMT generation rates and limited or costly mitigation options. Adding more impact mitigation costs to suburban and rural housing projects may be counterproductive to land use diversity and adequate/affordable housing goals.

4.2 OPR Technical Advisory

OPR recommended the following VMT thresholds for residential, office (work-related), and retail land uses as part of a Technical Advisory to meet the GHG reduction goals described in the 2017 California Air Resources Board (CARB) Scoping Plan and Mobile Source Strategy

- Residential projects – A proposed project exceeding a level of 15 percent below existing (baseline) VMT per capita may indicate a significant transportation impact. Existing VMT per capita may be measured as regional VMT per capita, a citywide VMT per capita, or as geographic sub-area VMT per capita.
- Office projects – A proposed project exceeding a level of 15 percent below existing (baseline) regional VMT per employee may indicate a significant transportation impact.
- Retail projects – A net increase in total VMT may indicate a significant transportation impact.
- Mixed-use projects – Lead agencies can evaluate each component of a mixed-use project independently and apply the significance threshold for each project type included (e.g., residential and retail). Alternatively, a lead agency may consider only the project's dominant use. In the analysis of each use, a project should take credit for internal capture.
- Other non-residential project types – OPR recommends using the quantified thresholds above (page 17), thus a proposed project exceeding a level of 15 percent below existing regional VMT per employee for the proposed non-residential project type or resulting in a net increase in total VMT

may be considered significant. Lead agencies, using more location-specific information, may develop their own more specific thresholds, which may include other land use types.

- Redevelopment projects – Where a project replaces existing VMT-generating land uses, if the replacement leads to a net overall decrease in VMT, the project would lead to a less than-significant transportation impact. If the project leads to a net overall increase in VMT, then the thresholds described above should apply.

As shown above, OPR did not make consistent recommendations for employment land use projects. In some cases, OPR recommended a 15-percent reduction in per capita VMT, in some cases no increase in total VMT, and in some cases OPR left threshold selection to jurisdiction discretion. Evidence is lacking on what justifies different treatments across different land use types. The 15 percent reductions specified in the Technical Advisory are based on light-duty vehicle VMT (i.e., passenger cars and light trucks). They were also included before completion of the California Air Resources Board (CARB) modeling of MPO regional transportation plan/sustainable communities' strategies (RTP/SCSs). The CARB Scoping Plan and Mobile Source Strategy identifies that a 14.3 percent reduction in total VMT or a 16.8-percent reduction in light-duty vehicle VMT per capita from 2018 baseline levels is necessary to meet state GHG reduction goals by 2050. These reduction values are based on a fair share estimate of new development's responsibility for VMT reduction and presume that all 2050 California residents will be performing at the reduced VMT levels. If existing residents (those present in 2018) do not change their travel behavior and the full reduction in VMT was allocated to new growth, then the reduction goal would be much higher. Further, if VMT per capita trends continue to increase as noted in the 2018 Progress Report California's Sustainable Communities and Climate Protection Act, California Air Resources Board, November 2018, then these reduction percentage values will have to increase. Also, the recommendation above for mixed-use projects to rely on the" dominant use" in VMT analysis may present new challenges. The term "dominant use" is not defined in the CEQA statute or CEQA Guidelines. As such, there are many ways to define it, which could simply create more legal arguments for challenging projects.

In 2022, California ARB released an updated Scoping Plan, which lays out a path to achieve targets for carbon neutrality and reduce anthropogenic greenhouse gas emissions by 85% below 1990 levels no later than 2045, as directed by AB 1279. This plan includes updated action for reduction in VMT per capita by 25% below 2019 levels by 2030, and 30% below 2019 levels by 2045. While CARB has included VMT reduction targets and strategies in the Scoping Plan and appendices, these targets are not regulatory requirements, but would inform future planning processes. CARB has not set regulatory limits on VMT in the 2022 Scoping Plan. The scoping plan states that the authority to reduce VMT largely lies with state, regional, and local transportation, land use, and housing agencies, along with the Legislature and its budgeting choices.

OPR has not released updated guidance with respect to the reduction in VMT corresponding to the 2022 scoping plan. Therefore, lead agencies should be prepared to justify their reasoning when making threshold decisions and be able to explain it to project applicants, decision makers, and the public.

The CEQA Guidelines explain "A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure." (Emphasis added); CEQA Guidelines, § 15064.3(b)(4) OPR's guidance also recommends measuring VMT in absolute terms, which measures the total VMT in an area with and without the project. This approach is consistent with traditional CEQA analyses which measures impacts in comparison to existing conditions and with OPR's CEQA Guidelines amendments and Technical Advisory, which state that (1) "Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be presumed to have a less than significant transportation impact." (CEQA Guidelines § 15064.3(b)(1).) (2) "Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact." (CEQA Guidelines § 15064.3(b)(2).) (3) "Where development decreases VMT, lead agencies should consider the impact to be less than significant," (OPR Technical Advisory, p. 16.), (4) "Where a project replaces existing VMT-generating land uses, if the replacement leads to a net overall decrease in VMT, the project would lead to a less-than-significant transportation impact." (OPR Technical Advisory, p. 17.)

For rural areas outside MPOs, *the Technical Advisory* explains that VMT mitigation options are limited so thresholds may need to be set on a case-by-case basis. This rationale may not provide the best rationale for threshold setting. The intent of threshold setting is to determine what change in VMT would constitute a significant environmental impact considering SB 743's statutory goals and the associated CEQA Guidelines. While land use context is a valid consideration when setting thresholds, so are these goals.

The *Technical Advisory* also makes specific VMT threshold recommendations for analyzing the impact of project generated VMT on baseline conditions but also recommends that VMT analysis consider a project's long-term effects on VMT. The *Technical Advisory* states (p. 6):

> [W]here methodologies exist that can estimate the full extent of vehicle travel from a project, the lead agency should apply them to do so. Where those VMT effects will grow over time, analyses should consider both a project's short-term and long-term effects on VMT.

Another factor for consideration is whether the project is consistent with the applicable regional transportation plan (RTP). Although OPR recommends that such consistency not be the sole basis for impact analysis, it can be considered in conjunction with other factors especially whether a project would jeopardize the RTP's air quality conformity, which is tied directly to VMT. These recommendations raise key questions for lead agencies, as addressed in the next section.

4.3 Options for Setting VMT Thresholds

Given the above information, Humboldt County has at least six options for setting VMT thresholds.

- Option 1: Rely on CEQA guidelines
- Option 2: Rely on OPR Technical Advisory
- Option 3: Rely on OPR Technical Advisory on rural thresholds guidance

- Option 4: Set thresholds consistent with air quality, GHG reduction, and energy conservation goals as expressed in the applicable General Plan
- Option 5: Set thresholds consistent with the applicable General Plan or future year VMT projections
- Option 6: Set thresholds based on baseline VMT performance, measured in absolute or efficiency metrics
- Option 7: Rely on a qualitative threshold related to project interference with the State's Ability to Meet VMT/GHG Reduction Goals

Each of these options is discussed below.

4.3.1 Option 1 – CEQA Guidelines

The following are the general expectations of the CEQA Guidelines for adopting or using thresholds of significance.

> *15064.7 Thresholds of Significance.*
>
> (a) A threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant.
>
> (b) Each public agency is encouraged to develop and publish thresholds of significance that the agency uses in determination of the significance of environmental effects. Thresholds of significance to be adopted for general use as part of the lead agency's environmental review process must be adopted by ordinance, resolution, rule, or regulation, and developed through a public review process and be supported by substantial evidence. Lead agencies may also use thresholds on a case-by-case basis as provided in Section 15064(b)(2).
>
> (c) When adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts.

These general expectations help define a threshold and establish the process for creating them, but they do not help address the basic question above related to VMT change. For that guidance, some details are available in the original SB 743 statue and in the CEQA Guidelines Sections cited below.

> *Public Resources Code (PRC) 21099(b)(1) The Office of Planning and Research shall prepare, develop, and transmit to the Secretary of the Natural Resources Agency for certification and adoption proposed revisions to the guidelines adopted pursuant to Section 21083 establishing criteria for determining the significance of transportation impacts of projects within transit priority areas.* ***Those criteria shall promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses.*** *In developing the criteria, the office shall recommend potential metrics to measure transportation*

impacts that may include, but are not limited to, vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated. The office may also establish criteria for models used to analyze transportation impacts to ensure the models are accurate, reliable, and consistent with the intent of this section.

21099(e) ***This section does not affect the authority of a public agency to establish or adopt thresholds of significance that are more protective of the environment.***

15064.3(b)Criteria for Analyzing Transportation Impacts. (1) Land Use Projects. Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. ***Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be presumed to have a less than significant transportation impact.***

(2) Transportation Projects. ***Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact.*** *For roadway capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, such as in a regional transportation plan EIR, a lead agency may tier from that analysis as provided in Section 15152.*

This background material indicates that projects that would reduce baseline VMT should be presumed to have a less than significant impact. Whether this means that projects that cause an increase in VMT would have an automatic significant VMT impact is not clearly stated but could be implied. Projects locating in transit priority areas (TPAs) are called out separately as potentially deserving of the presumption for a less than significant VMT impact, but no evidence was provided to demonstrate why their added VMT would not result in the same adverse environmental effects of projects outside a TPA.

4.3.2 Option 2 – OPR Technical Advisory

The OPR Technical Advisory contains VMT threshold recommendations that vary by type of project and type of land use as follows.

- Residential projects – A proposed project exceeding a level of 15 percent below existing (baseline) VMT per capita may indicate a significant transportation impact. Existing VMT per capita may be measured as regional VMT per capita or as city VMT per capita.3
- Office projects – A proposed project exceeding a level of 15 percent below existing (baseline) regional VMT per employee may indicate a significant transportation impact.
- Retail projects greater than 50,000 square feet – A net increase in total VMT may indicate a significant transportation impact.

- Mixed-use projects – Lead agencies can evaluate each component of a mixed-use project independently and apply the significance threshold for each project type included (e.g., residential and retail). Alternatively, a lead agency may consider only the project's dominant use. In the analysis of each use, a project should take credit for internal capture.
- Other project types – The OPR Technical Advisory recommends that lead agencies consider the CEQA statute and CEQA Guidelines sections cited above in the development of thresholds for other project types. In addition, the Technical Advisory advises avoiding projects or actions that would increase total VMT or encourage development in less travel-efficient locations. This information may indicate that any increase in total VMT could constitute a significant transportation impact.
- Redevelopment projects – Where a project replaces existing VMT-generating land uses, if the replacement leads to a net overall decrease in VMT, the project would lead to a less-than significant transportation impact. If the project leads to a net overall increase in VMT, then the thresholds described above should apply.

The OPR Technical Advisory relied heavily on aligning its threshold recommendations with the 2017 ARB Scoping Plan and its GHG reduction goals for the state. ARB updated the Scoping Plan in 2022 and included new VMT reduction recommendations that are more aggressive than the OPR thresholds. If lead agencies want to rely on the Technical Advisory threshold recommendations, they should provide clear evidence to justify their reasoning.

4.3.3 Option 3 – OPR Technical Advisory Rural Thresholds Guidance

The OPR Technical Advisory states, "In rural areas of non-MPO counties (i.e., areas not near established or incorporated cities or towns), fewer options may be available for reducing VMT, and significance thresholds may be best determined on a case-by-case basis. Note, however, that clustered small towns and small-town main streets may have substantial VMT benefits compared to isolated rural development…." When determining thresholds on a case-by-case basis, the lead agency could consider the following factors when making a significance determination.

- What does the applicable general plan require for VMT reduction?
- What are the state policy considerations for VMT reduction from rural areas?
- Is the amount of new VMT generated small enough that it would not interfere with the state's ability to achieve desired VMT and GHG emissions reductions?
- What is the land use context and associated lead agency policy for VMT reduction?
- Since the CEQA Guidelines allow for thresholds to vary based on land use context, **the lead agency may consider sensitivity to VMT reduction in different land use contexts (i.e., rural areas, small towns, and unincorporated community centers).**
- Is the project displacing other less efficient development? For example, is the project diverting trips from more distant stores, which results in a net (absolute) VMT reduction, e.g. constructing a grocery store in a food desert? (OPR Technical Advisory p. 30) However, because the Caltrans Transportation Impact Study Guideline (TISG) is supportive of the specific OPR Technical Advisory guidance, less restrictive thresholds are unlikely to be accepted for state highway facilities.

4.3.4 Option 4 - Set thresholds consistent with air quality, GHG reduction, and energy conservation goals

This option sets a threshold consistent with local air quality, GHG reduction, and energy conservation goals. This approach assumes that local air quality and GHG reduction goals in general plans, climate action plans, or GHG reduction plans comply with the GHG reduction legislation and policies.

- GHG reduction target of at least 40 percent below 1990 emissions by 2030
- Achieve carbon neutrality by 2045 and a reduction of anthropogenic emissions to 85% below 1990 levels by 2045.

The ARB Scoping Plan provides analysis related to how the state can achieve the legislative and executive goals while the Caltrans Strategic Management Plan and Smart Mobility Framework provide supportive guidance and metrics. One benefit of relying on ARB for a threshold recommendation is the CEQA Guidelines provision in Section 15064.7(c) highlighted below.

15064.7. THRESHOLDS OF SIGNIFICANCE.

(a) A threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant.

(b) Each public agency is encouraged to develop and publish thresholds of significance that the agency uses in the determination of the significance of environmental effects. Thresholds of significance to be adopted for general use as part of the lead agency's environmental review process must be adopted by ordinance, resolution, rule, or regulation, and developed through a public review process and be supported by substantial evidence. Lead agencies may also use thresholds on a case-by-case basis as provided in Section 15064(b)(2).

(c) When adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence.

(d) Using environmental standards as thresholds of significance promotes consistency in significance determinations and integrates environmental review with other environmental program planning and regulation. Any public agency may adopt or use an environmental standard as a threshold of significance. In adopting or using an environmental standard as a threshold of significance, a public agency shall explain how the particular requirements of that environmental standard reduce project impacts, including cumulative impacts, to a level that is less than significant, and why the environmental standard is relevant to the analysis of the project under consideration. For the purposes of this subdivision, an "environmental standard" is a rule of general application that is adopted by a public agency through a public review process and that is all of the following:

(1) a quantitative, qualitative or performance requirement found in an ordinance, resolution, rule, regulation, order, plan or other environmental requirement;

(2) adopted for the purpose of environmental protection;

(3) addresses the environmental effect caused by the project; and,

(4) applies to the project under review.

Note: Authority cited: Section 21083, Public Resources Code. Reference: Sections 21000, 21082 and 21083, Public Resources Code; *Communities for a Better Environment v. California Resources Agency* (2002) 103 Cal.App.4th 98; *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal. App. 4th 1099.

Source: 2024 CEQA, California Environmental Quality Act Statute & Guidelines, Association of Environmental Professionals, https://www.califaep.org/statute_and_guidelines.php

ARB meets the criteria of being a public agency and having noted expertise in the areas of VMT and climate policy.

One other agency threshold to consider is based on Caltrans guidance. The Local Development Review (LDR) Branch at Caltrans seeks to reduce potential adverse impacts of local development on the state transportation system. As part of its responsibilities, each district branch performs reviews of CEQA

environmental documents for local land use projects. These reviews include providing recommendations for transportation impact analysis such as metrics and thresholds.

When Caltrans reviews CEQA documents, they may function as a reviewing agency or a responsible agency. In a responsible agency role, Caltrans has approval authority over some components of the project such as an encroachment permit for access to the state highway system. Comments from Caltrans should be adequately addressed, and special attention should be paid to those comments when Caltrans serves as a responsible agency because an adequate response may be required to obtain their required approval.

Caltrans released a update to their VMT Focused TISG in May 2020 (VMT Focused TISG (ca.gov). Key points from this TISG include the following:

- Caltrans recommends use of OPR's recommended thresholds for land use projects.
- Caltrans supports CEQA streamlining for land use projects in transit priority areas and areas with existing low VMT, as described in OPR's *Technical Advisory*.
- Caltrans recommends following the guidance on methods of VMT assessment found in OPR's *Technical Advisory*. A lead agency has discretion to choose the most appropriate methodology to evaluate a project's VMT. Caltrans will review an agency's VMT calculator or VMT calculation for consistency with technical considerations in OPR's Technical Advisory.
- Caltrans comments on a CEQA document may note methodological deviations from those methods and may recommend that significance determinations and mitigation be aligned with state GHG reduction goals as articulated in that guidance, ARB's *Scoping Plan (2022)*, and related documentation.
- In rural areas, Caltrans may comment requesting VMT-reducing strategies for the rural area be included programmatically, including at the General Plan level, for example. Caltrans will also recommend the establishment of programs or methods to reduce VMT and support appropriate bicycle, pedestrian, and transit infrastructure, services or incentives.

With Caltrans endorsement of the recommended OPR thresholds, a state VMT threshold may have been established for impacts to the state highway system. Lead agencies can differ from 'state' recommendations for VMT thresholds but need to explain why as noted in court decisions like the one below.

> *League to Save Lake Tahoe v. County of Placer (2022) 75 Cal.App.5th 63*
>
> *The Court noted, however, that CEQA grants the lead agency discretion to accept or reject the threshold of significance standard that a trustee agency uses to determine an impact's significance so long as the lead agency identifies the "areas of controversy" between the agencies per CEQA Guidelines section 15123(b)(2), (3). Here, the Court found that the EIR adequately responded to*

TRPA's comments, explained why it did not employ TRPA's threshold of significance, and disclosed the disagreement.

4.3.5 Option 5 – Set thresholds consistent with the General Plan or travel demand model future year VMT projections

VMT is a composite metric that is created as an output of combining a community's long-term population and growth projections with its long-term transportation network (i.e., the general plan). Other variables are also in play related to travel behavior, but land use changes and transportation network modifications are the items largely influenced or controlled by cities and counties. As such, to the extent total VMT across the model area network has been estimated in General Plan EIRs or other studies, each jurisdiction already has a total VMT growth "budget." This is the amount of absolute VMT change that is forecast to be caused from implementing the jurisdiction's General Plan. This VMT growth has already been planned for and determined to be "acceptable" by the jurisdiction. Regional planning agencies also incorporate the general plan growth as part of their RTPs and associated environmental impact analysis. This level of VMT could serve as the basis of a VMT threshold expressed as absolute VMT growth or as a VMT efficiency metric based on the future year VMT per capita. Projects that would result in exceedances of projected future VMT would be considered to have a significant impact. **The measurement of VMT could occur at the geographic subregion level, considering areas of comparable context** (governmental jurisdiction and developmental intensity).

Potential limitations of this approach relate to the lack of a "baseline plus project" analysis and travel forecasting model sensitivity, which is especially true in Humboldt County's case where the most recent travel forecasting model is from Year 2013 with a base year 2010. If a general plan includes policies or implementation programs designed to reduce VMT through transportation demand management (TDM) strategies, the current travel demand model may not include these effects. Further, the current model does not capture major disruptive trend effects such as TNCs, AVs, internet shopping, or the recent COVID-19 effects.

4.3.6 Option 6 - Set thresholds based on baseline VMT performance, measured in absolute or efficiency metrics

An impact under CEQA begins with a change to the existing or baseline environment. There are a range of approaches to using this starting point for VMT impact analysis. At one end of the spectrum is "total daily VMT" generated under baseline conditions. Setting this value as the threshold for a jurisdiction basically creates a benchmark where any increase would have a significant impact. **Alternatively, the baseline VMT per capita or VMT per employee could be used to establish an efficiency metric basis for impact evaluation.** Using this form of VMT would mean that future land use projects would be expected to perform no worse than existing land use projects and only projects that cause an increase in the rate of VMT generation would cause significant impacts. Since VMT will increase or fluctuate with population and employment growth, changes in economic activity, and expansion of new vehicle travel choices (i.e., Uber, Lyft, autonomous vehicles, etc.), expressing VMT measurement in an efficiency metric form allows for more direct comparisons to baseline conditions for land use projects and land use plans.

Under this option, baseline plus project analysis may suffice for both project and cumulative purposes unless VMT trends are increasing over time. At a minimum, a qualitative assessment of RTP and General Plan consistency should still be included to verify the project avoids jeopardizing the air quality conformity and GHG reduction performance of other relevant plans.

The ARB *Scoping Plan* did not identify a scale at which VMT per capita reductions necessary to meet statewide goals should be measured, but instead provided the results of a statewide analysis. Larger scales (regional and up) will provide greater benefit to urbanized areas, as these areas generally have less VMT per capita. Subregional scales may provide greater benefit to less urbanized areas and less benefit to urban areas. However, subregional scales may provide greater incentive for VMT reductions in more urbanized areas than if a larger scale were used. The scale at which the baseline is measured (and thus how subregions are defined) may be subject to a future legal test.

4.3.7 Option 7 – Interference with State Ability to Meet VMT/GHG Reduction Goals

Expectations for VMT reduction are largely coming from the state as part of GHG reduction goals but without a specific legal requirement that a local agency reduce VMT levels. Local jurisdictions may value VMT reduction differently than the state, which could influence their decision about what amount of VMT change should be deemed unacceptable such that a significant impact would occur. Lead agencies have discretion to set their own thresholds as outlined in CEQA Guidelines Section 15064.

> *15064.(b)(1) The determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data.* ***An ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting. For example, an activity which may not be significant in an urban area may be significant in a rural area.***

Therefore, the following VMT significance threshold is designed to help lead agencies balance local and state expectations.

- The proposed project will cause a significant VMT impact if its implementation substantially interferes with the achievement of VMT reduction goals of the state consistent with the latest adopted ARB Scoping Plan.

This threshold recognizes that VMT reduction is tied to state GHG reduction goals and allows a lead agency to assess VMT impacts of local projects based on whether they would interfere or prevent the state from taking actions necessary to reduce VMT consistent with state goals. The state has the authority to implement a wide variety of actions that could effectively reduce VMT such as higher gas taxes, a new VMT tax, new tolls, etc. Local projects that do not interfere with this authority could reflect that outcome as part of their VMT impact analysis using this threshold. The project's environmental review document should still disclose relevant information about how the project's VMT performance compares to

applicable threshold recommendations from state agencies such as OPR and ARB, but this information would not be used as the basis for a significance conclusion.

4.4 Selecting Thresholds

Absent federal or state laws mandating VMT reduction goals from local agencies, VMT goals that the lead agency sets should be consistent with adopted plans. Adopting a VMT threshold is a discretionary action and should be consistent with the general plan in particular. Based on our review of local planning documents including the RTP, Variety in Rural Options of Mobility (VROOM 2022 – 2042), Humboldt County has expressed policies related to VMT reduction, whether directly through reduction of VMT or vehicle travel, or in related goals pertaining to reducing air quality impacts, reducing greenhouse gas emissions, or improving energy efficiency. Therefore, a VMT thresholds approach which includes VMT reduction is appropriate. Lead agencies should also reconcile how their VMT threshold contributes to state goals for GHG reduction mentioned above and discuss how it is helping to meet these goals.

Determining an appropriate VMT threshold may depend on whether the courts treat VMT more like air pollution and less like level of service (LOS). If VMT causes adverse effects to human health similar to air pollution, then the threshold should be tied to substantial evidence (i.e., scientific studies) that relate VMT to human health (or human welfare or safety). If this effect varies by area type, then the different thresholds may be appropriate. The limited scientific evidence related to VMT changes and their potential for causing adverse effects on humans is presented in the ARB 2022 Scoping Plan. This analysis did not differentiate by area type so a change in rural VMT has no different effect on humans than a change in urban VMT. The VMT would still generate the same amount of GHG emissions (and air pollutant emissions plus other indirect adverse effects) that would still have the same contribution to climate change.

On the other hand, if VMT is treated more like LOS, then lead agencies would have a similar level of discretion to establish thresholds based on context (i.e., sensitivity to the amount of vehicle travel). Past practice allowed lead agencies to set LOS thresholds based largely on the local community's sensitivity to travel delay. This is consistent with CEQA Guidelines Section 15064: "…An ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting. For example, an activity which may not be significant in an urban area may be significant in a rural area." Rural areas that were more sensitive were allowed to establish LOS thresholds that equated to lower levels of delay. Using this analogy, a lead agency could set VMT thresholds based on a community's sensitivity to the amount of vehicle travel or its associated effects.

If a lead agency wants to treat VMT like LOS, they should consult with their CEQA counsel. The basic rationale would be that VMT is simply another way of measuring transportation network performance and that the lead agency is granted the discretion to measure network performance expectations and their effects on humans. These effects are not limited to GHG, air pollution, and energy, but should also consider the other legislative intents of CEQA emphasized with italics below. This approach may require that the lead agency demonstrate compliance with state goals for GHG reduction, air quality conformity, and energy consumption.

Chapter 1: Policy

§ 21000. LEGISLATIVE INTENT

The Legislature finds and declares as follows:

(a) The maintenance of a quality environment for the people of this state now and in the future is a matter of statewide concern.
(b) It is necessary to provide a high-quality environment that at all times is healthful and pleasing to the senses and intellect of man.
(c) There is a need to understand the relationship between the maintenance of high-quality ecological systems and the general welfare of the people of the state, including their enjoyment of the natural resources of the state.
(d) The capacity of the environment is limited, and it is the intent of the Legislature that the government of the state take immediate steps to identify any critical thresholds for the health and safety of the people of the state and take all coordinated actions necessary to prevent such thresholds being reached.
(e) Every citizen has a responsibility to contribute to the preservation and enhancement of the environment.
(f) The interrelationship of policies and practices in the management of natural resources and waste disposal requires systematic and concerted efforts by public and private interests to enhance environmental quality and to control environmental pollution.
(g) It is the intent of the Legislature that all agencies of the state government which regulate activities of private individuals, corporations, and public agencies which are found to affect the quality of the environment, shall regulate such activities so that major consideration is given to preventing environmental damage, while providing a decent home and satisfying living environment for every Californian.

§ 21001. ADDITIONAL LEGISLATIVE INTENT

The Legislature further finds and declares that it is the policy of the state to: (d) Ensure that the long-term protection of the environment, consistent with the provision of a decent home and suitable living environment for every Californian, shall be the guiding criterion in public decisions.

A potential challenge to any VMT threshold is that the ARB 2018 Progress Report includes evidence that VMT per capita is increasing and so are GHG per capita emissions. Further, the ARB Vision modeling of VMT used in these reports did not consider the influence of TNCs or AVs and made several assumptions about future outcomes related to fuels and electric vehicles that may not meet a CEQA reasonably foreseeable definition. While this background condition exists, the requirement to consider "other substantial evidence" when making a significance finding may result in significant VMT impacts unless the threshold is no increase in total VMT.

Another potential challenge is that an increase in VMT is a possible detriment to overall safety. The OPR 2017 General Plan Guidelines summarize research indicating that "higher total amounts of motor vehicle travel create higher crash exposure," and "reducing vehicle miles traveled reduces collision exposure and improves safety."

Regardless of the specific threshold a lead agency selects, they will still need to consider other substantial evidence related to VMT impacts when analyzing specific projects and making VMT impact significance determinations. This includes information such as the OPR and ARB VMT thresholds, the AB 32 scoping plan, the 2022 Progress Report, California's Sustainable Communities and Climate Protection Act report on SB 375 and the recent COVID-19 effects. How a lead agency considers this information may vary depending on their specific approach to CEQA and their sensitivity to project opposition and legal risk.

One approach to using thresholds and "other substantial evidence" when analyzing a project could follow the steps below.

1. Use the threshold to make initial significance determination.
2. Summarize the "other substantial evidence" that is relevant to making a VMT significance determination.
3. Recommend that the lead agency consider the other substantial evidence when making a final significance determination.
4. Upon receiving a written confirmation from the lead agency about the final impact determination, develop mitigation measures if appropriate.

4.5 Screening

Analysis of smaller, less complex projects can be simplified by using screening criteria. The OPR *Technical Advisory* suggests that screening thresholds may be used to identify when land use projects should be expected to cause a less-than-significant impact without conducting a detailed study. Screening is an option but is not mandatory. Because it requires limited substantial evidence to support its use on a project, it benefits project applicants and agencies wanting to streamline development review. However, the presumption of less than significant impact using screening of a project is based on limited information, and therefore screening adds some legal risk if challenged. The alternative is to do a full analysis for each project, trading more work for increasing the substantial evidence supporting an agency's VMT impact decisions.

The following screening thresholds are most applicable in Humboldt County jurisdictions:

- Projects consistent with an RTP or General Plan that generate less than **725 VMT per day**. This value is based on the CEQA exemptions allowed for projects up to 10,000 square feet as described in CEQA Guidelines Sections 15303. The specific VMT estimate relies on the vehicle trip generation rate contained in the OPR *Technical Advisory* for small project screening (110 Trips a day) and average vehicle trip lengths (6.58 mi average one-way trip length) for Humboldt County based on the 2012 California Household Travel Survey (CHTS). Converting this value to an equivalent number of

residential households would indicate that residential projects up to 12 single family units or 16 multifamily units in Humboldt County could be screened out of analysis. Another option for residential projects is to simply rely on the CEQA Guidelines Section 15315 exemption for minor land divisions of four or fewer parcels. Four households would generate approximately 108 VMT per day in Humboldt County based on the 2012 CHTS.

- Residential and office projects that are located in areas below threshold VMT that incorporate similar features (i.e., density, mix of uses, transit accessibility).
- The OPR *Technical Advisory* also notes that local-serving retail projects, typically less than 50,000 square feet, improve retail destination proximity and thus shorten trips and reduce VMT. If defined in local zoning codes, lead agencies may use this definition to screen such projects. However, OPR also notes that lead agencies should also consider any project-specific information, such as market studies or economic impacts analyses, which might bear on customers' travel behavior. Such studies may be particularly relevant when retail projects larger than 50,000 square feet are evaluated.

Note that screening is also possible for transit priority areas (TPAs); however, no such areas exist in Humboldt County. TPAs are defined as areas within one-half mile of a major transit stop. Major transit stops[3] are typically defined as transit serving rail stations, ferry terminals, bus rapid transit, or transit stops on bus routes with headways of 15 minutes or less. For rural areas, transit headways are much longer than 15 minutes but the concept of concentrating growth around fixed route bus stops is still desirable to help reduce VMT. Since the state's goals around VMT and GHG reduction are not intended to reduce future population and employment growth, lead agencies in rural areas could also consider whether land use projects that concentrate growth around fixed route bus stops should be presumed to have a less than significant VMT impact.

Other screening criteria, such as for affordable residential projects, may be developed, but would need to be supported by substantial evidence consistent with CEQA Guidelines Section 15064.7, thus considering data, facts, research, and analysis.

If a project qualifies for screening, VMT may still be calculated for other analysis purposes such as air quality, GHG, and energy analysis. If a change in VMT by speed bin is desired, then the applicable travel demand model should be updated to incorporate the project and determine this output.

To summarize:

- Analysis of smaller, less complex projects can be simplified by using screening criteria.
- The following screening thresholds are those recommended by OPR as applicable to Humboldt County:
    - Projects consistent with the applicable General Plan that generate less than 725 VMT per day.
    - Residential and office projects that are located in areas below the threshold VMT incorporate similar features.

[3] Public Resources Code Section 21064.3.

- Local-serving retail projects, typically less than 50,000 square feet, improve retail destination proximity and thus shorten trips and reduce VMT. If defined in local zoning codes, lead agencies may use this definition to screen such projects.
- Other screening criteria, such as for affordable residential projects
- If a project qualifies for screening, VMT may still be calculated for other analysis purposes such as air quality, GHG, and energy analysis.

5. Recommendations for Humboldt County

The following measures and thresholds are recommended for Humboldt County jurisdictions. These recommendations are based on a presumption that future travel behavior will be consistent with recent travel behavior. However, any subsequent changes including changes in usage of TNCs such as Uber and Lyft, lower fuel prices, and public availability of AVs may change future travel behaviors, resulting in future VMT differing from current forecasts. As these trends evolve, models will need to be updated to reflect them.

Two measures and thresholds are specified **for project VMT** and **project effect on VMT**. Project VMT is required in all cases; project effect on VMT may be required if VMT per capita is increasing over time.

5.1 Land Use Project VMT

For screening purposes, two VMT measures are recommended:

- For residential land use projects, home-based VMT per resident
- For work-related land use projects, home-based work VMT per employee

Threshold: "X" percent below subregion baseline VMT per capita

A specific reduction "X" below baseline VMT may be selected by each jurisdiction based on key factors such as the setting (as noted in CEQA Guidelines Section 15064(b)(1)), evidence related to VMT performance, and policies related to VMT reduction as adopted in the General Plan or/and Regional Transportation Plan. Additional considerations can include related goals pertaining to reducing air quality impacts, reducing greenhouse gas emissions, or improving energy efficiency. Each jurisdiction has stated goals or policies to some extent for these other considerations. Therefore, a threshold which includes VMT reduction is likely appropriate.

The *Technical Advisory* notes that in rural areas of non-MPO counties, fewer options may be available for reducing VMT, but that clustered small towns and small-town main streets may have substantial VMT benefits compared to isolated rural development. Therefore, a more modest reduction may be in line with general plan objectives and also appropriate for the land use context for rural Humboldt County.

However, when selecting a threshold, it is necessary to establish how natural and human environment harm is being avoided. Therefore, thresholds should not be tied to mitigation feasibility, and it is thus difficult to treat rural areas differently than urban areas. In this respect, VMT may be considered to be more like air quality, which generally uses specific thresholds used regardless of jurisdiction, and less like LOS, which generally uses thresholds based on local values and perceptions. The 14.3 percent reduction in total VMT per capita and the 16.8-percent reduction in light-duty vehicle VMT per capita recommended in

ARB's 2017 Scoping Plan were supported by substantial evidence. However, the ARB's 2022 Scoping Plan includes updated action for reduction in VMT per capita by 25% below 2019 levels by 2030, and 30% below 2019 levels by 2045. Selecting a lesser value for "X" should be supported by substantial evidence for it to be considered in the final impact determination.

Bicycle, pedestrian, and transit projects may be presumed to have no VMT impact. However, project impacts on these modes and facilities still must be analyzed. Similarly, impacts of projects on the safety of the transportation system still must be analyzed.

For each project or plan that does not meet the screening criteria discussed further below, a project analysis baseline year should acknowledge the growth and VMT projected by the general plans for each jurisdiction. Alternatively, in areas with little or no growth, use of the model base year as the project analysis baseline year may be acceptable.

In all cases, the project or plan should be consistent with the jurisdiction's general plan and the Humboldt County Regional Transportation Plan. There are multiple options for determining consistency, but the project effect analysis methodology presented below allows for a quantitative determination that is likely important for other environmental impacts including air quality and greenhouse gases.

Measure: Total VMT

The effect of the project on Countywide total VMT measured across the network should also be evaluated if VMT per capita in the region is increasing over time and cumulative year project VMT per capita does not meet the threshold determined for the base year. It is presumed that an updated Humboldt County model will be available in the future. Typically, this analysis includes the VMT disaggregated by speed bin for each of the following scenarios to be used as an input to air quality, GHG, and energy consumption impact analyses.

- Base year
- Base year plus project
- Cumulative year
- Cumulative year plus project

The project effect on VMT can then be calculated by the difference for each pair of scenarios (base year and cumulative year).

Threshold: Cumulative total VMT for the model area is reduced or unchanged with addition of the project

The project should also not increase the total VMT for the County and should not change the total VMT by speed bin such that the emissions or energy consumption would increase with the project.

5.1.1 Screening: Implement screening criteria to simplify analysis for smaller projects

Analysis of smaller, less complex projects can be simplified by using screening criteria. If a project meets any of the following criteria, it may be presumed to cause a less-than-significant VMT impact without

further study. This presumption is not a "safe harbor" but is subject to other substantial evidence verifying the presumption.

- The project generates less than **725 VMT per day** and is consistent with the jurisdiction's general plan and the Regional Transportation Plan.
- The project is a local-serving retail or other local serving employment project less than 50,000 square feet (larger retail projects may also qualify due to distance from other population centers) and is consistent with the jurisdiction's general plan and the Regional Transportation Plan.
- The project is a residential or work-related land use, located in a block group with similar land uses and travel demand characteristics, and the block group VMT per capita is equal to or less than x% below the sub-regional mean. The project should also be consistent with the jurisdiction's general plan and the RTP.
- The project is a residential-related land use and the block group home-based VMT per resident is equal to or less than x% below the sub-regional mean. The project should also be consistent with the jurisdiction's general plan and the Regional Transportation Plan.
- The project is a work-related land use and the block group home-based work VMT per employee is equal to or less than x% below the sub-regional mean. The project should also be consistent with the jurisdiction's general plan and the Regional Transportation Plan.

To simplify the determination if a project meets the last three criteria, the baseline total weekday VMT per capita, home-based VMT per resident, and home-based VMT per employee can be calculated for each block group and subregion. block groups with a result lower than the sub-regional threshold can then be identified and mapped for use by planning department staff.

5.2 Transportation Projects: Jurisdiction discretion

Transportation projects have the potential to change travel patterns and may lead to additional vehicle travel on the roadway network, also referenced as induced vehicle travel (OPR *Technical Advisory*, pp. 1923). This is particularly true for roadway capacity expansion projects. Under CEQA Guidelines Section 15064.3(b)(2), lead agencies have the discretion to select their own metrics for all modes. Lead agencies can consider retaining current practices such as using LOS thresholds as identified in the General Plan but should evaluate whether use of LOS still complies with the new CEQA Guidelines expectations in Sections 15064.3, 15064, and 15064.7. Lead agencies that do not choose VMT will still need VMT as an input to air quality, GHG, and energy impact analysis. For transportation projects that increase roadway capacity, the VMT estimates and forecasts will also need to include induced travel effects that lead agencies may not have included in past practice. However, not all roadway projects will lead to induced travel.

Project types that would likely lead to a measurable and substantial increase in vehicle travel generally include addition of through lanes on existing or new highways, including general purpose lanes, HOV lanes, peak period lanes, auxiliary lanes, or lanes through grade separated interchanges. The OPR

Technical Advisory discussion about projects that increase roadway capacity (page 24) may imply that any increase in total VMT may indicate a significant impact. Preliminary Caltrans information states the following (emphasis added):

> C. Thresholds
>
> C1. What will Caltrans use as the CEQA threshold of significance? What is considered a VMT significant impact?
>
> CEQA does not require that a lead agency adopt thresholds of significance. As a statewide agency with projects in a variety of environmental settings, Caltrans has stated that the determination of significance will be based on the projection of induced travel attributable to the project. Within the MPO areas (including RTPAs within MPOs), a project that results in an increase in VMT when comparing the future build alternative to the future no-build alternative (i.e., the VMT is higher under the future build scenario) will generally be considered significant, and mitigation will be required.
>
> Source: Transportation Analysis under CEQA (https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/sb-743/2020-09-10-1st-edition-tac-fnl-a11y.pdf)

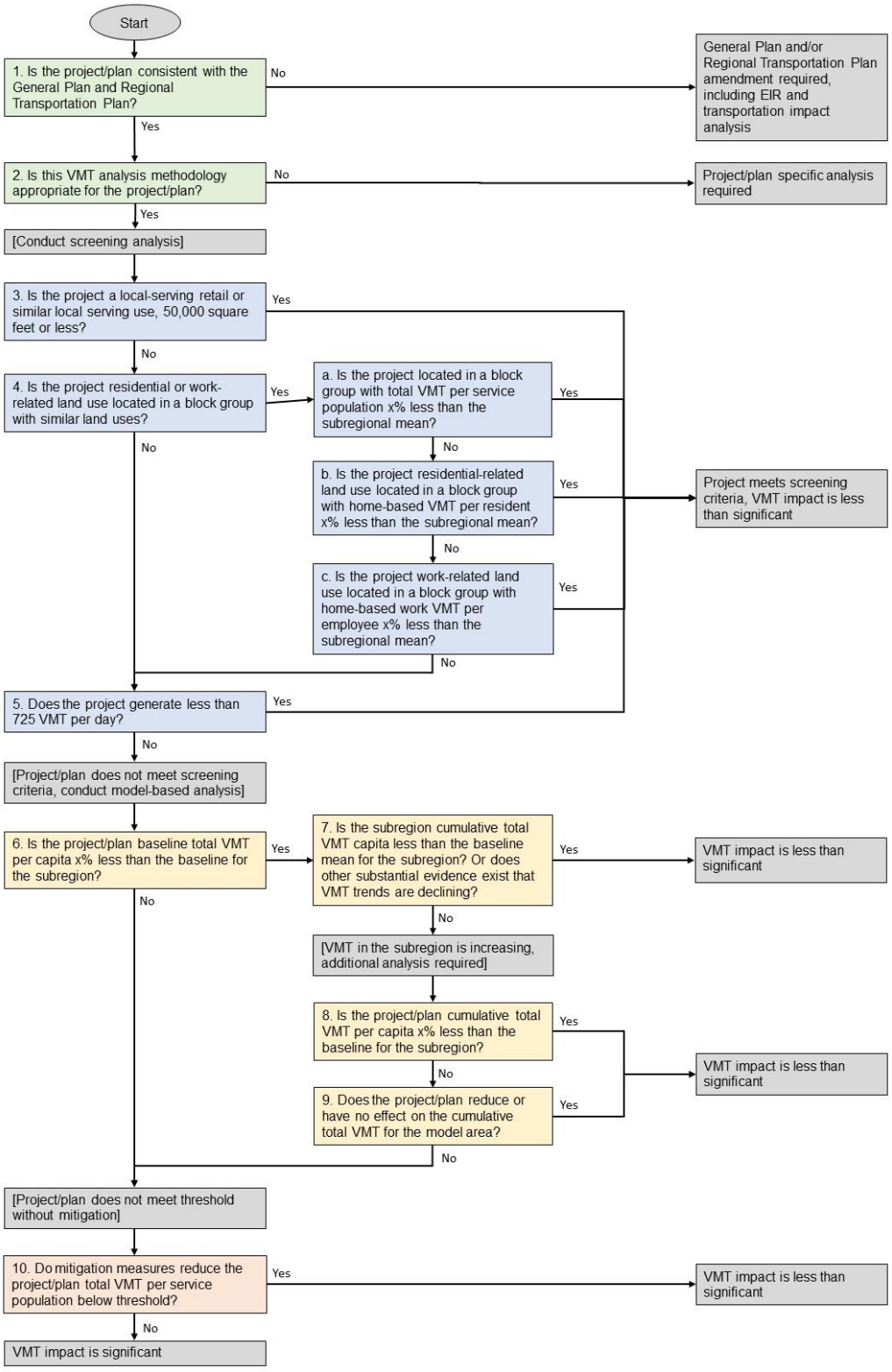
OPR's *Technical Advisory* provides an extensive list of projects which are unlikely to lead to induced travel, including addition of roadway capacity on local or collector streets provided the project also substantially improves multimodal conditions. (OPR *Technical Advisory*, pp. 20-21.) OPR's *Technical Advisory* provides specific guidance on calculating induced vehicle travel.

Assuming VMT is used as the metric, transit (except for on-demand transit) and active transportation projects may be considered to have less than significant impact.

5.3 Option for General Plan EIR Coverage of Land Use and Transportation Projects

Rather than analyzing VMT for each proposed land use and transportation project individually, a jurisdiction may choose to complete VMT impact analysis as part of the General Plan EIR and make specific use of CEQA Guidelines Section 15183 or other CEQA streamlining methods as noted above. Setting a threshold for the general plan itself and analyzing VMT impacts in the general plan EIR could preclude projects consistent with the general plan from further VMT impact analysis. The jurisdiction may adopt a threshold option from above or one that is based on substantial evidence, use it in the general plan EIR, determine if VMT impacts are significant, mitigate to the extent feasible, and adopt a statement of overriding consideration if determined to be appropriate. The lead agency can then tier off the general plan EIR for projects consistent with the general plan without doing additional VMT impact analysis.

5.4 Process Flowchart



6. Test Cases for VMT Analysis

The following section documents test cases for the proposed VMT analysis methodologies and thresholds for SB 743 implementation in Humboldt County and its municipalities. Test cases were based on recent or current projects in Humboldt County.

For each test case, the project was assessed to determine if the methodology included earlier was appropriate, or if more detailed analysis was required. If the methodology was determined to be appropriate, the flowchart included earlier was used to analyze the test case.

Each test case is discussed below. Analysis results are shown in italics.

6.1 Nordic Aquafarms California, LLC Land-Based Aquaculture Project

This proposed project consists of the construction of a land-based finfish recirculating aquaculture system (RAS) facility, which includes the development of five buildings totaling approximately 766,530 square feet and the installation of 4.8 megawatt (MW) solar panel array mounted on building rooftops.

6.1.1 Analysis

The questions in the flowchart were evaluated:

Is the project consistent with the General Plan and Regional Transportation Plan (RTP)?

Yes: The project is consistent with General Plan Map Coastal Dependent Industrial (CDI) designation.

Is this VMT analysis methodology appropriate for the project?

Yes.

Is the project a local-serving retail project, 50,000 square feet or less?

No.

Is the project residential or work-related land use located in a TAZ with similar land uses?

Yes.

Is the project located in a TAZ with total VMT per service population 15% less than the subregional mean?

Yes.

This project meets screening criteria. This evidence supports the conclusion that the project would have a VMT impact that is less than significant.

6.2 Cutten Development Project

This proposed 81-acre mixed-use project will add up to 320 residential units and 22,000 square feet of commercial space in Cutten.

6.2.1 Analysis

The questions in the flowchart were evaluated:

Is the project consistent with the General Plan and Regional Transportation Plan (RTP)?

> *No: The project is not consistent with General Plan Map low-density residential (LDR) designation. The project will be required to prepare and EIR and process a general plan amendment. A screening analysis will be conducted to determine if the project is screened out for VMT analysis or requires detailed VMT analysis. Since it is primarily a residential project, the project's home based VMT per resident will be compared to subregional VMT to determine if the project is located in a block group with x% below Countywide average.*

Is this VMT analysis methodology appropriate for the project?

> *Yes.*

Is the project a local-serving retail project, 50,000 square feet or less?

> *The project has an ancillary retail up to 22,000 square feet, which is less than 50,000 square feet. Per screening criteria, the retail component of the project is screened out.*
>
> *The project is located in a low VMT block group with Home based VMT per resident at 15.84 per resident compared to Unincorporated County average of 22.10 per resident. Therefore, the residential component of the project is screened out of detailed VMT analysis.*

This project meets screening criteria. This evidence supports the conclusion that the project would have a VMT impact that is less than significant.

6.3 McKinleyville Housing Development

This proposed project will split a 2.47-acre parcel into 19 individual parcels. The development will include 61 units – four three-bedroom single-family homes, six townhome-style fourplexes with 24 two-bedroom units and eight one-bedroom apartments, also in a fourplex configuration – and shared parking facilities.

6.3.1 Analysis

The questions in the flowchart were evaluated:

Is the project consistent with the General Plan and Regional Transportation Plan (RTP)?

Yes: The project is consistent with General Plan Map medium-density residential designation.

Is this VMT analysis methodology appropriate for the project?

Yes.

Is the project a local-serving retail project, 50,000 square feet or less?

No. The project is single-family and multi-family housing.

Is the project residential or work-related land use located in a TAZ with similar land uses?

Yes.

Is the project located in a TAZ with total VMT per 15% less than the subregional mean?

No.

Is the project residential-related land use located in a TAZ with home-based VMT per resident 15% less than the subregional mean?

Yes. The project is located in a block group with home based VMT per resident which is 15% less than the Countywide average.

This project meets screening criteria. This evidence supports the conclusion that the project would have a VMT impact that is less than significant.

7. VMT Reduction Strategies

An important consideration for the effectiveness of these VMT reducing transportation demand management (TDM) strategies is the appropriate scale of implementation. The strategies described in this section include regional, city, and community-scale transportation infrastructure strategies (for example, expanding the transit or bicycle network) and project-level strategies (for example, building site TDM strategies, such as parking pricing). The largest reductions in VMT (and resulting emissions reductions) derive from regional and city policies related to land use location efficiency and infrastructure investments that support transit, walking, and biking. While there are many measures related to site design and building operations that can influence VMT, they typically have smaller effects that are often dependent on building tenants.

In order to understand the level of VMT reductions for each high-priority strategy, a detailed review was conducted of the Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity (California Air Pollution Control Officers Association, August 2021).

7.1 High-Priority Mitigation Measures

We identified ten strategies most likely to be effective in Humboldt County. Note that disruptive transportation trends, including but not limited to, transportation network companies (TNCs), autonomous vehicles (AVs), internet shopping, micro-transit, and the recent COVID-19 effects may affect the future effectiveness of these strategies. For example, the COVID-19 pandemic has precipitated a shift in travel patterns that could dampen the effectiveness of strategies that are focused on work commutes. Post-pandemic, more people are telecommuting and using a car to drive to destinations other than the workplace. Increased levels of internet shopping and food and grocery delivery also increase car use by those delivering packages or food.

7.1.1 Community-scale strategies

1. Provide pedestrian network improvements – This strategy focuses on creating a pedestrian network. Increasing sidewalk coverage across the community can improve access to key destinations, which can encourage people to walk instead of drive. Implementation could occur through an impact fee program (discussed in more detail below) or benefit/assessment district targeted to various areas in the County designated for improvements through local or regional plans. Implementation of this strategy may require regional or local agency coordination and may not be applicable for all individual land use development projects.
2. Provide low-stress bicycle network improvements –Building a low-stress bicycle network is more conducive to walking and bicycling. One potential change in this strategy over time is that e-bikes (and e-scooters) could extend the effective range of travel on the bicycle network, which could enhance the effectiveness of this strategy. Implementation options are similar to strategy 1 above.

Implementation of this strategy may require regional or local agency coordination and may not be applicable for all individual land use development projects.

3. Increase transit service frequency and speed – This strategy focuses on improving transit service convenience and travel time competitiveness with driving. Given land use density in Humboldt County, this strategy may be limited to traditional commuter transit where trips can be pooled at the start and end locations or require new forms of demand-responsive transit service. The demand-responsive service could be provided as subsidized trips by contracting private TNCs or taxi companies. Alternatively, a public transit operator could provide the subsidized service but would need to improve on traditional cost effectiveness by relying on TNC ride-hailing technology, using smaller vehicles sized to demand, and flexible driver employment terms where drivers are paid by trip versus by hour. Implementation of this strategy would require regional or local agency implementation and/or substantial changes to current transit practices, and therefore would not likely be applicable to individual development projects.

7.1.2 Project-scale strategies

4. Provide transit-oriented development – In areas adjacent to commuter rail stations with service to major employment centers, compact, walkable areas with a mix of uses, including housing, retail offices, and community facilities, can encourage transit ridership and reduce the number of SOV trips.
5. Increase residential and job densities – Increasing residential density and job density can result in shorter and fewer trips by single-occupancy (SOV) vehicles.
6. Use cleaner-fuel vehicles – This strategy requires use of cleaner-fuel vehicles in lieu of similar vehicles powered by gasoline or diesel fuel. This strategy should require the provision of fueling infrastructure to ensure that electric vehicles have adequate access to charging infrastructure, making the capital costs quite high.
7. Implement car-sharing programs and ride-sharing programs – This strategy reduces the need to own a vehicle or reduces the number of vehicles owned by a household by making it convenient to access a shared vehicle for those trips where vehicle use is essential. Implementation of this strategy may require regional or local agency implementation and coordination and may not be applicable for all individual development projects. School-pools (ridesharing programs for school children and college students/employees) and voluntary employer-based trip reduction programs could also be encouraged. This strategy also focuses on encouraging carpooling and vanpooling by project site/building tenants, which depends on the ultimate building tenants; this should be a factor in considering the potential VMT reduction.
8. Provide employer-sponsored vanpool – This strategy provides groups of 5 to 15 people with a cost-effective and convenient rideshare option for commuting. The mode shift from long-distance, single-occupied vehicles to shared vehicles reduces overall commute VMT, thereby reducing GHG emissions.
9. Implement parking management – This strategy focuses on the management of parking to influence vehicle travel. Free and ubiquitous parking supply tends to increase vehicle use while reducing parking supply and pricing spaces can help reduce vehicle travel. A reduction in parking supply can also be used to incentivize infill development and higher density development by reducing the cost of building parking spaces. This strategy may be less effective in small-town and rural settings such as Humboldt County but will depend on the specific project site and the surrounding parking supply.

10. Implement electric bikeshare program and provide subsidies to e-bikes – This strategy provides users with on-demand access to electric pedal assist bikes for short-term rentals. Long bike share trips and trips that start in non-commercial locations are likely to be a substitute for car modes, which reduces VMT. As an example, the Redwood Coast Energy Authority (RCEA) launched an e-bike incentive program in April 2024. This program offers a $500 e-bike voucher for income-qualified Humboldt County residents.

All ten strategies are suitable for use in Humboldt County. However, based on discussion with the Humboldt County Association of Government (HCAOG) advisory group, the most effective strategies for the rural context are more long-term in nature, such as building out investments in active transportation and transit networks. Additionally, the most effective strategies are community scale and would likely require a program approach to implementation, such as an impact fee program, mitigation bank, or mitigation exchange. These approaches are discussed below. Project site mitigation effectiveness is more limited given the land use context.

Table 2 shows the estimated level of VMT reductions for the high-priority mitigation measures. These reductions are based on research conducted, shown in **Table 4.**

Table 2. Estimated Level of VMT Reductions for High-Priority Mitigation Measures

Mitigation Measure	VMT Reduction
Provide pedestrian network improvements	6.4%
Provide low-stress bicycle network improvements	0.8%
Increase transit service frequency and speed	11.3%
Provide transit-oriented development	31%
Increase residential and job densities	30%
Use cleaner-fuel vehicles	N/A
Implement car-sharing programs and ride-sharing programs	6.4%

Table 2. Estimated Level of VMT Reductions for High-Priority Mitigation Measures	
Mitigation Measure	**VMT Reduction**
Provide employer-sponsored vanpool	0.3%-13.4%
Implement parking management	15.7%
Implement electric bikeshare program and provide subsidies to e-bikes	0.06%

Source: Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity (California Air Pollution Control Officers Association, August 2021).

7.2 Limitations of Quantification

To be effective, TDM strategies must have sufficient evidence to quantify the level of VMT reduction that a strategy could achieve for a given project site. In general, TDM strategies can be quantified using CAPCOA calculation methodologies but there are some important limitations for project site applications and combining strategies as explained below.

7.2.1 Project Site Applications

TDM research has a variety of limitations but two that stand out are:

- If research findings scale to individual project sites, and
- If land use context should be used to set maximum caps for individual projects.

Research that measures the effect of TDM strategy on VMT reduction often measures the effect at a scale that is larger than a single project or building site. Therefore, the transferability of the measured effect to a project site may be uncertain.

Another important consideration is the influence of the land use context surrounding a project site. The density and mix of surrounding land uses, plus the quality of available transit service, are all examples of land use context factors that influence vehicle trip making. Therefore, the CAPCOA methodology identifies VMT reduction maximums based on community types tied to land use context. The caps are applied at each step of the VMT reduction calculation (at the strategy scale, the combined strategy scale, and the global scale). However, these caps are not based on research related to the effectiveness of VMT reduction strategies in different land use contexts. Instead, the percentages were derived from a limited comparison of aggregate citywide VMT performance for Sebastopol, San Rafael, and San Mateo, where VMT performance ranged from 0 to 17 percent below the statewide VMT/capita average based on data

collected prior to 2002. Little to no evidence exists about the long-term performance of similar TDM strategies in different land use contexts. Therefore, VMT reductions from TDM strategies cannot be guaranteed in most cases.

7.2.2 Combining VMT Reduction Strategies

Each of the CAPCOA TDM strategies can be combined with others to increase the effectiveness of VMT mitigation; however, the interaction between the various strategies is complex and sometimes counterintuitive. Generally, with each additional measure implemented, a VMT reduction is achieved, but the incremental benefit of VMT reduction may diminish. To quantify the VMT reduction that results from combining strategies, the formula below can be applied absent additional knowledge or information:

$$Total\ VMT\ Reduction = (1 - Pa) * (1 - Pb) * (1 - Pc) * \dots$$

where

$$P_x = percent\ reduction\ of\ each\ VMT\ reduction\ strategy$$

This adjustment methodology is a mathematical approach to dampening the potential effectiveness and is not supported by research related to the actual effectiveness of combined strategies. The intent of including this formula is to provide a mechanism for dampening to minimize the potential to overstate the VMT reduction effectiveness.

Additional data is needed to support and refine the above approach for quantifying the effects of combining TDM strategies. Analysts should consider the available substantial evidence at the time a study is prepared to determine the most appropriate approach for California Environmental Quality Act (CEQA) review.

7.2.3 Affected Population

The CAPCOA strategies only include the VMT reduction for the affected population. By reducing their VMT, new VMT from other people could increase due to induced vehicle travel effects or what is referred to as a the 'backfill' effect. This effect needs to be accounted for in the final calculation of VMT reduction effectiveness.

7.3 Limitations for Implementation

Physical project site TDM strategies often involve increasing land use density, changing the mix of uses, or altering the transportation network. However, a potential limitation of these physical design changes is that they may result in a project that no longer resembles the original applicant submittal. CEQA is intended to disclose the potential impacts of a project and mitigate those impacts but has limitations with regards to using mitigation to fundamentally change the project. Therefore, these strategies may result in an inconsistency with the project description when applied on an ad hoc basis.

Another common strategy is to add a TDM program to the project as a condition of approval. While evidence exists that TDM programs can reduce VMT, their success depends on the performance of future building tenants that can change over time. Hence, an effective TDM mitigation program will require ongoing monitoring and adjustment to ensure long-term VMT reduction is achieved. The cost to provide this monitoring may not be feasible for all projects. Without monitoring to ensure effectiveness, significant VMT impacts may remain significant and unavoidable.

7.3.1 Addressing Limitations

In response to the limitations of focusing exclusively on project site TDM strategies, new mitigation concepts are emerging that cover larger areas and rely on region- or city-scale programs to achieve VMT reductions. These program-based concepts are outlined below. As with all VMT mitigation, these programs require substantial evidence to demonstrate that the projects included in the programs would achieve the expected VMT reductions. Additionally, the discretionary action to adopt the program may require CEQA review.

- VMT Impact Fee Program – This concept resembles a traditional impact fee program in compliance with the mitigation fee act and uses VMT as a metric. The nexus for the fee program would be a VMT reduction goal consistent with the CEQA threshold established by a lead agency for SB 743 purposes. The main difference from a fee program based on a metric such as vehicle level of service (LOS) is that the VMT reduction nexus results in a capital improvement program (CIP) consisting largely of transit, bicycle, and pedestrian projects. These types of fee programs are time consuming to develop, monitor, and maintain but are recognized as an acceptable form of CEQA mitigation if they can demonstrate that the CIP projects will be fully funded and implemented. The City of Los Angeles is the first city in California to complete a nexus study for this type of program.
- VMT Exchanges – This concept (along with VMT banks) borrows mitigation approaches from other environmental analysis such as wetlands. The concept relies on a developer agreeing to implement a predetermined VMT reducing project or proposing a new one in exchange for the ability to develop a VMT-generating project. The mitigation projects may or may not be located near the developer's project site. The concept requires a facilitating entity (such as the lead agency) to match the VMT generator (the development project) with the VMT reducing project and ensure through substantial evidence that the VMT reduction is valid. Another requirement is a determination of the necessary time period to demonstrate a VMT reduction. For example, how many years of VMT reduction are required to declare a VMT impact less than significant? A final requirement is that mitigation projects would not have otherwise occurred without the Exchange, which is a condition known as "additionality."
- VMT Banks – This concept attempts to create a monetary value for VMT reduction (for example, credits) such that a developer could purchase VMT reduction credits. The money exchanged for credits could be applied to local, regional, or state level VMT reduction projects or actions. This program is more complicated than an exchange and would require more time and effort to set up and implement. It would include the requirements above for an exchange, such as mitigation time

periods and additionality determinations, while also tackling the unique challenge of estimating how much VMT reduction is associated with each credit and whether this value would change over time based on mitigation performance and new mitigation offerings.

Table 3 compares the pros and cons of these three programs. Although implementation of these programs would require an upfront cost, they have several advantages over project site TDM strategies.

- CEQA streamlining – These programs provide a funding mechanism for project mitigation and may require less project-site monitoring to demonstrate that significant impacts are reduced to a less-than-significant level. Additionally, projects could be screened from completing a quantitative VMT analysis; or, if a quantitative VMT analysis is required, the cost would be somewhat less than the cost for analyzing LOS impacts.

- Greater VMT reduction potential – Since these programs coordinate citywide land use and transportation projects, they have the potential to result in greater VMT reduction potential than site-level TDM strategies applied on a project-by-project basis. Additionally, these programs expand the amount of feasible mitigation for reducing VMT impacts.

- Legal compliance – The VMT reduction programs can help build a case for a nexus between a VMT impact and funding for capital improvement programs.

Table 3. VMT Mitigation Program Type Comparison

Program Type	Pros	Cons
Impact Fee Program	• Common and accepted practice • Accepted for CEQA mitigation • Adds certainty to development costs • Allows for regional scale mitigation projects • Increases potential VMT reduction compared to project site mitigation only	• Time consuming and expensive to develop and maintain • Requires clear nexus between CIP projects and VMT reduction • Increases mitigation costs for developers because it increases feasible mitigation options
Mitigation Exchange	• Limited complexity • Reduced nexus obligation • Expands mitigation to include costs for programs, operations, and maintenance • Allows for regional scale mitigation projects • Allows for mitigation projects to be in other jurisdictions • Increases potential VMT reduction compared to project site mitigation only	• Requires additionality • Potential for mismatch between mitigation need (project site) and mitigation project location • Increases mitigation costs for developers because it increases feasible mitigation options • Unknown timeframe for mitigation life

Table 3. VMT Mitigation Program Type Comparison

Mitigation Bank	• Adds certainty to development costs • Allows for regional scale projects • Allows for mitigation projects to be in other jurisdictions • Allows regional or state transfers • Expands mitigation options to include costs for programs, operations, and maintenance • Increases potential VMT reduction compared to project site mitigation only	• Requires additionality • Time consuming and expensive to develop and maintain • Requires strong nexus • Political difficulty distributing mitigation dollars/projects • Increases mitigation costs for developers because it increases feasible mitigation options • Unknown timeframe for mitigation life

Source: Fehr & Peers, 2024

However, program-based approaches also have at least one disadvantage: they may lead to increased development costs. Adding impact mitigation costs to suburban and rural housing projects may be counter to lead agency land use diversity and adequate/affordable housing goals.

Table 4 shows a summary of potential reductions in VMT from a list of high priority strategies.

Table 4: VMT Reductions from High Priority Strategies

CAPCOA Category	CAPCOA #	CAPCOA Strategy	CAPCOA Reduction	Strength of Substantial Evidence for CEQA Impact Analysis?	Applicable to Individual Land Use Projects?
Neighborhood Design	T-18	Provide Pedestrian Network Improvements	Up to 6.4% reduction in GHG emissions for creating a connected pedestrian network within the development and connecting to nearby destinations	Adequate	**No** - this strategy would require a project to integrate into a larger overall network of pedestrian facilities that would require local and/or regional agency coordination to implement. Current research supports city and neighborhood level VMT reductions, but none of the literature reviewed contains an evaluation of project-specific reductions.
Neighborhood Design	T-19-A	Construct or Improve Bike Facility	Up to 0.8% of GHG emissions	Adequate	**Potentially yes** - The requirements for the project level definition must be met. In general, this strategy would require a project to integrate into a larger overall network of bicycle facilities that would require local and/or regional agency coordination to implement.
Transit	T-25	Increase Transit Service Frequency	Up to 11.3% of GHG emissions reduction due to reduced headways and increased speed and reliability	Adequate	**No** - increasing the quality of transit service would require local and/or regional agency coordination to implement.
Land Use	T-3	Provide Transit-Oriented Development	Up to 31% of GHG emissions reduction due to locating a project near high quality transit	Adequate	**Yes** - the project must include the TOD design features.
Land Use	T-1, T-2	Increase Residential Density, Increase Job Density	Up to 30% of GHG emissions	Adequate	**Yes** - however, the project must increase residential or employment density by at least 10%.
Neighborhood Design	T-20-A	Implement Conventional Carshare Program	Up to 6.4% of GHG emissions due to lower vehicle ownership rates and general shift to non-driving modes	Adequate	**No** - this strategy would require local and/or regional agency coordination to implement.
Trip Reduction Programs	T-10	Provide Employer-Sponsored Vanpool/Shuttle	0.3%-13.4% commute VMT reduction due to employer-sponsored vanpool and/or shuttle service	Adequate - Effectiveness is building/tenant specific.	**Yes** - however, the effectiveness of the employer-sponsored vanpool/shuttle program is dependent on the building tenant specific, and the quality of the vanpool/shuttle service being provided. This reduction strategy may require monitoring to evaluate the program's effectiveness.
Neighborhood Design	T-21-B	Implement Electric Bikeshare Program	Up to 0.06% of GHG emissions	Adequate	**No**

Trip Reduction Programs	T-7	Provide Ride-Sharing Programs	Up to 8% of GHG emissions reduction due to employer ride share coordination and facilities	Adequate - Effectiveness is building/tenant specific. Do not use with "TRT-1 Implement CTR Program - Voluntary" or "TRT-2 Implement CTR Program - Required Implementation/Monitoring."	**Yes** - however, the effectiveness of the ride-sharing programs is building tenant specific and may require monitoring to evaluate the program's effectiveness.
Parking or Road Pricing/Management	T-15	Unbundle Parking Costs from Property Cost	Up to 15.7% of GHG emissions reduction due to decreased vehicle ownership rates	Adequate - conditional on the agency not requiring parking minimums and pricing/managing on-street parking (i.e., residential parking permit districts, etc.).	**Yes** - however, the project must be in a location that does not require parking minimums and has priced or permitting on-street parking.
Clean Vehicles and Fuel	T-28	Use Cleaner-Fuel Vehicles	Up to 100% of GHG emission	Weak - not recommended without supplemental data.	**No** - the evidence supporting this strategy is limited.

8. VMT Tool and User Guide

As part of this study, a web-based mapping tool was developed to allows users to compare two types of VMT for each Block Group to the local, regional, and statewide VMT averages. This dashboard tool allows users to select, filter and compare VMT across cities, and unincorporated county areas of Humboldt County.

As discussed earlier, this tool uses Year 2022 VMT estimates derived from a custom application of StreetLight Data. More information about this application and the use of StreetLight Data is provided here: https://www.fehrandpeers.com/project/find-my-vmt/

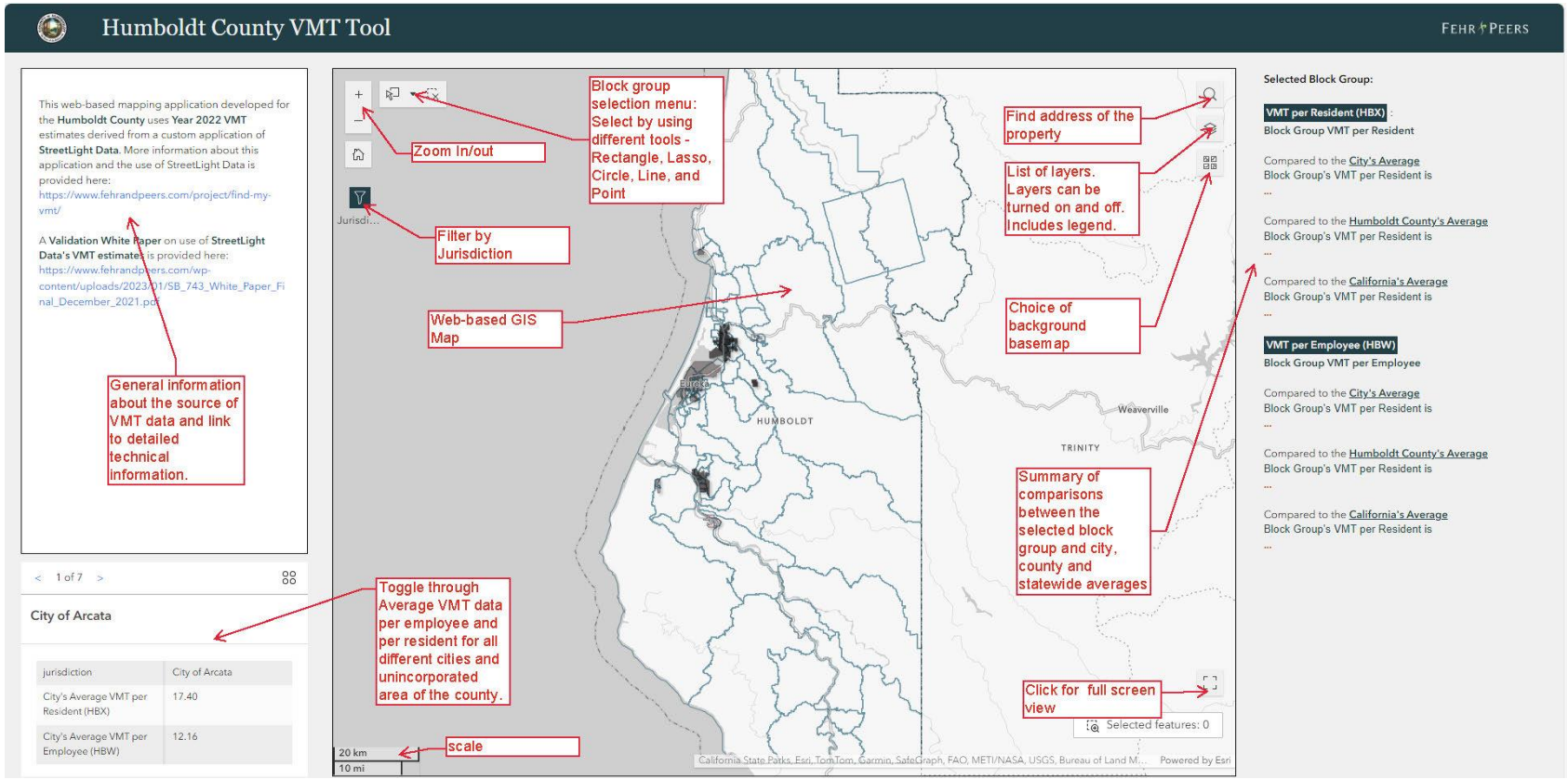
A Validation White Paper on use of StreetLight Data's VMT estimates is provided here:

https://www.fehrandpeers.com/wp-content/uploads/2023/01/SB_743_White_Paper_Final_December_2021.pdf

The tool is currently configured to compare average VMT per employee and per resident of the block group within which a project is located against a threshold of 15% below, 0% – 15%, or higher than city, county and statewide averages. A user can search for the address or zoom in on the project's location within the County, then click within the block group boundary to generate a detailed summary of VMT averages and comparative analysis.

Provided below is a link to the tool following by a step-by-step guide on how to use the tool:

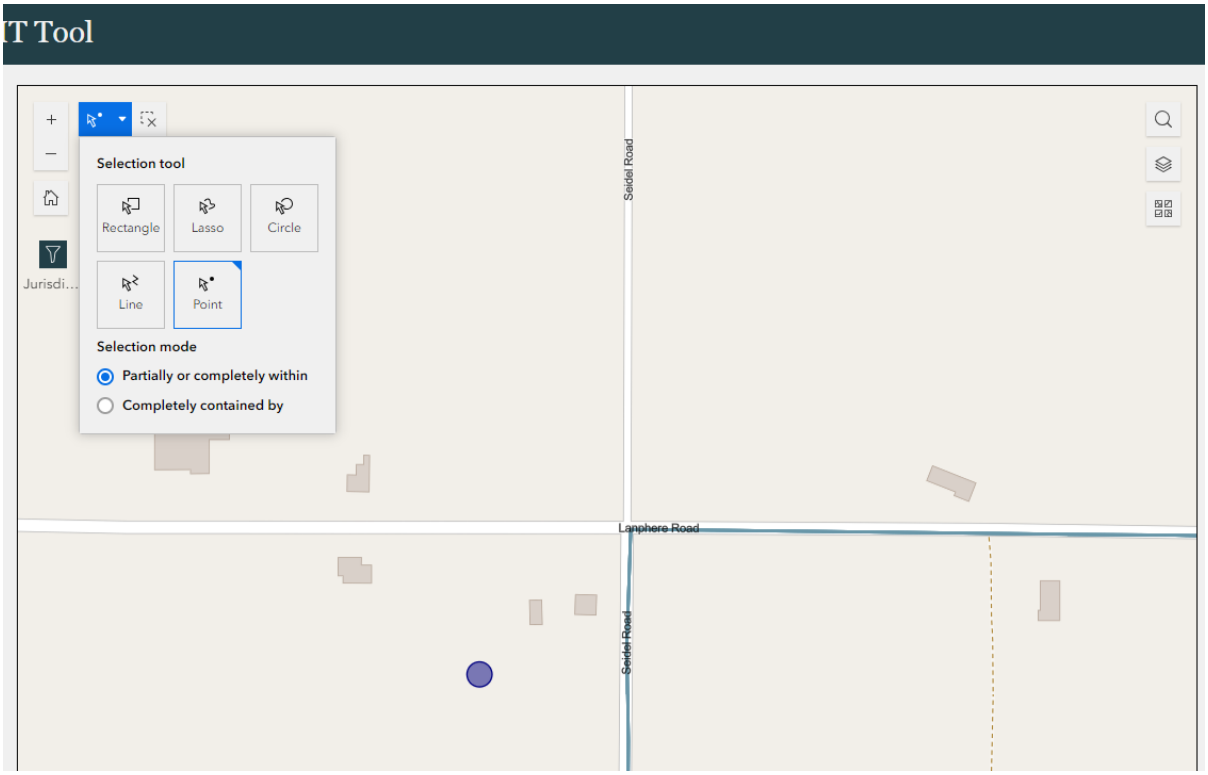
https://experience.arcgis.com/experience/2b3ee805cda1443986643b2da9458dc7/



For the purpose of this user guide, a hypothetical project was assumed to be located at the southwest corner of the intersection Miller Lane and Parton Lane. This site is located just west of the City of Arcata within unincorporated county area. Provided below is a step-by-step description of how to use the tool:

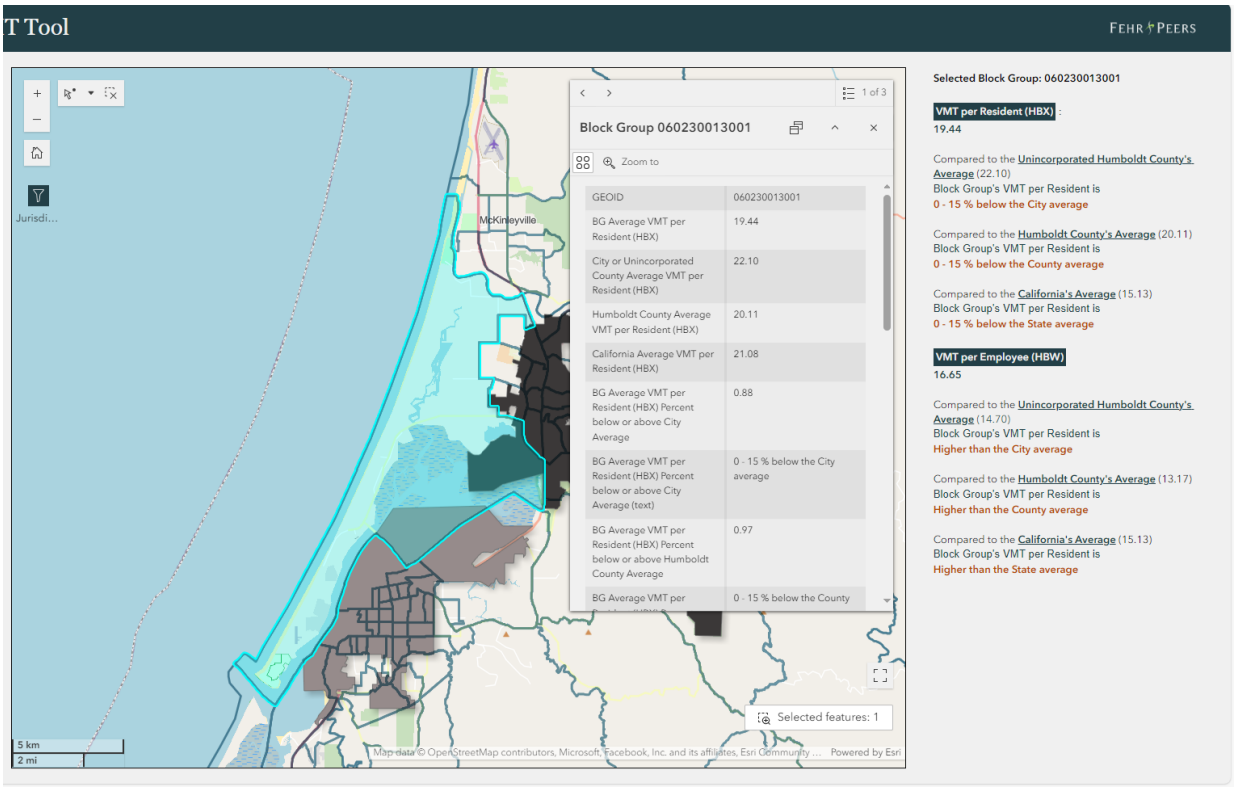
Step 1: Locate project site and select block group.

Using the selection menu, draw or point to the location of the project site on the map as shown in the image below.



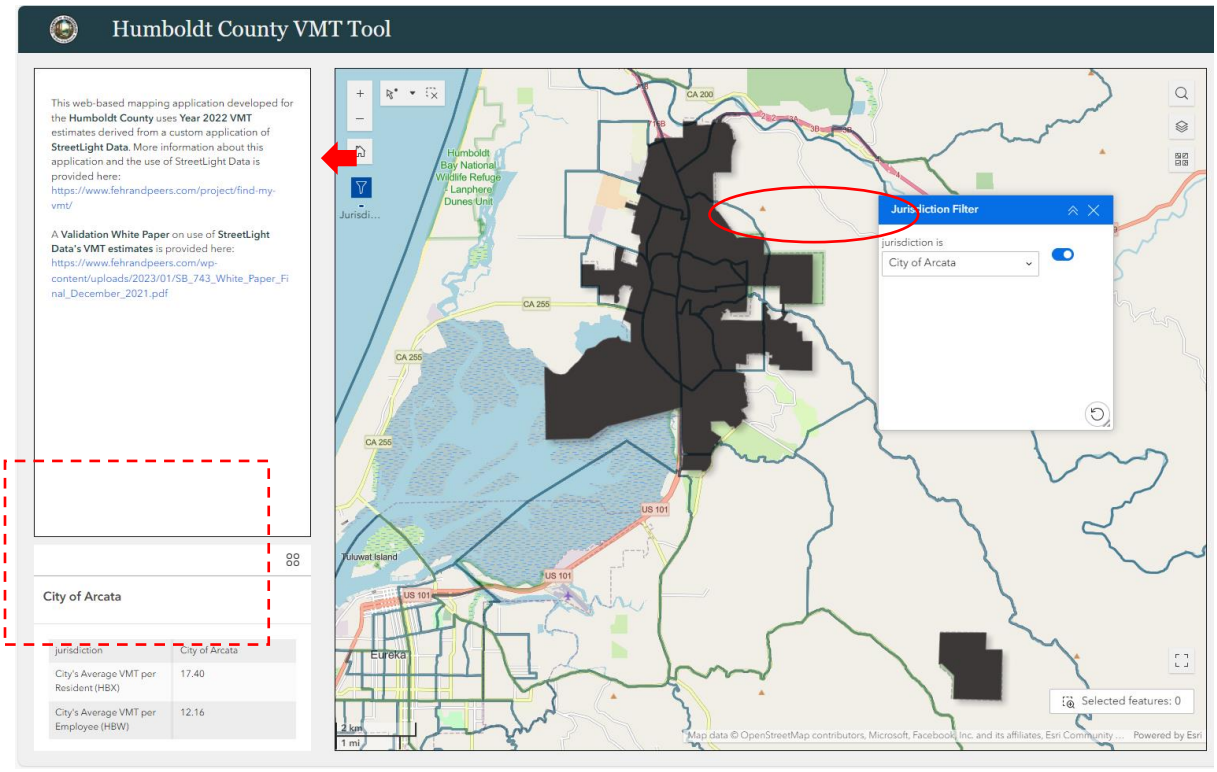
Step 2: Review Block Summary and Comparison

When you select, the entire block group will be selected (shown in the cyan color) and a block group summary table will be visible. This summary table will include a comparison of VMT using selected thresholds again city/unincorporated county, county, and statewide averages. The section on the right will briefly summarize the information in the table.



Step 3: Review Citywide VMT data.

Users can also toggle through the VMT data for the entire city by clicking the filter icon pointed by the red arrow. It will pop up a menu with a drop-down list of all cities within Humboldt County. The data for the city is summarized in the bottom left corner of the tool.



9. Appendices

9.1 Appendix A. Local Planning Document Review

This memorandum summarizes our literature review and establishing existing baseline VMT data to inform our development of VMT mitigation measures and thresholds, methodologies, and forecasting tools as part of Tasks 3 and 5. Our literature review included review of relevant planning documents including long-range transportation plans, general plans, environmental impact reports from cities within Humboldt County and recent documents summarizing analysis or/and adoption of VMT thresholds in neighboring counties. We also summarized relevant technical guidance and information from the California Office of Planning and Research (OPR) as part of SB743 rulemaking and implementation.

9.1.1.1 Humboldt County General Plan – Circulation Element

Key focus area of our review involved summarizing County's current standards vehicular traffic, transit, bicycle, and pedestrian facilities. We also reviewed the County's stated goals, policies, standards, and implementation measures for circulation.

The County has the following standards that are relevant to capacity thresholds and level of service standards:

- **Traffic Thresholds of Significance**: Apply objective measures, such as roadway capacity and level of service from the Transportation Research Board Highway Capacity Manual or its equivalent, to make determinations on the significance of traffic impacts for CEQA purposes.
- **Transit, Bicycle, and Pedestrian Quality/Level of Service Standards**: Bicycle and pedestrian Quality of Service and Level of Service Standards shall be specified in County code land use planning purposes. The County shall reference Transit Level of Service standards specified in the Public Transit Service Element of the Regional Transportation Plan as amended.
- **Developer's Preference**: Developer's preference shall be considered by the Planning Commission or the Board of Supervisors in determining whether developers mitigate impacts on the circulation system by installing the required improvements or paying a development fee that will result in construction of the required improvements.

For Transportation Demand Management, the County must amend the Zoning Regulations to include criteria for the development and implementation of transportation demand management programs as required by the General Plan.

To plan for congestion relief, County should use the best available traffic information, including the Humboldt County Travel Demand Model, other models and plans, and transportation impact analyses to identify roads that are currently capacity constrained or projected to become capacity constrained at some point as a result of General Plan implementation. The County shall also work cooperatively with HCAOG, Caltrans, applicable cities, HTA, or other agencies to implement a coordinated traffic management strategy to plan and prioritize transportation demand measures and roadway improvements to reduce roadway congestion along such roadways.

To address capacity limitations, the County should monitor modal trips regularly and identify transportation demand management (TDM) measures that could reduce peak-hour vehicle trips and congestion. This plan recommends a number of roadway and intersection improvements, such as public education, signage, and bulb-outs, to accommodate additional traffic volumes and provide a safe multi-modal circulation system. If the TDM measures and capacity improvements prove to be inadequate, the County should consider accepting a lower level of service or increasing capacity by adding additional travel lanes.

Humboldt County General Plan – Revised Draft Environmental Impact Report (EIR)

This document provides background information regarding the circulation system within the County including the multimodal use of roads; marine, rail, and air transportation; public transportation; non-motorized transportation; and an assessment of the potential impacts resulting from implementing the proposed General Plan Update (GPU).

This analysis uses the significance criteria from the CEQA Checklist Appendix G. The traffic impacts resulting from GPU land uses were evaluated using the latest Humboldt County Travel Demand Model. The base year for the model is 2010, with a forecast year of 2040. The traffic impact analysis examined only roadway segment LOS for the EIR.

Where circulation measures are not established, an increase in vehicle miles traveled (VMT) was recommended as a measure of effectiveness. The General Plan Update (GPU) anticipates growth, which would boost both the total VMT in the County and the VMT per dwelling unit. While GPU policies and mitigation efforts aim to alleviate these effects, they may not bring them below a significant threshold.

As noted above, the growth projected to occur during the General Plan Update planning period has the potential to exceed the level of service standards for certain roads and highways. The HCAOG Regional Transportation Plan does not specify a level of service standard for designated roads or highways.

Humboldt County Regional Transportation Plan (RTP): VROOM 2022-2042 - Variety in Rural Options of Mobility

The RTP has the following goals and objectives.

Goal: Grow communities equitably and efficiently to create safe, sustainable access to places and opportunities, while conserving or utilizing land respectfully so that future generations can also enjoy optimal land uses and value. All our communities benefit from having quality transportation choices for getting to jobs, services, and home.

Objectives:

- Active transportation Mode Share/Complete Streets
    - Policy Land-1 – Reduce driving.
    - Policy Land-2 – Expand transit ridership.
- Economic Vitality

    - Policy Land-3- Sustainable tax base
    - Policy Land-4 – Nearby access to essential services
- Efficient & Viable Transportation System
    - Policy Land-5 – Transportation for compact, mixed-use development
    - Policy Land-6 - Repurpose for compact, mixed-use development.
    - Policy Land-7 - Reduce subsidized parking costs.
- Environmental Stewardship & Climate Protection
    - Reduce transportation-related fossil fuel consumption in Humboldt.
    - Conserve open space by redirecting urban and rural sprawl towards better, more transportation-efficient land use patterns.
- Equitable & Sustainable Use of Resources
    - Expand equitable and sustainable access to jobs, education, and essential services.
    - Increase percentage of electric vehicle charging stations installed equitably.
    - Increase the percentage of attainable housing units and distribution of county residents who live in homes/ apartments/dorms where they can safely, comfortably, and conveniently travel to everyday destinations by walking, biking, rolling, or transit/micro-transit.
    - Policy-Land-8 – Integrated Long-range planning
    - Policy-Land-9 – Prioritize community needs.
    - Policy-Land-10 – Anti-Displacement

Depending on the type of facility, Humboldt County accepts LOS C or LOS D as the minimum acceptable grade. Projects that would worsen traffic conditions below this threshold are considered to have a significant impact.

The HCAOG Board adopted VROOM's Safe and Sustainable Transportation (SST) Targets. HCAOG will apply the SST Targets to measure the progress that VROOM's projects and programs make towards regional goals to:

- reduce regional VMT,
- increase transit ridership,
- transition to zero-emission fleets,
- improve accessibility through better land use,
- achieve zero pedestrian and bicyclist fatalities, and
- increase active transportation education.

The document provides a matrix of performance measures, regional targets, metrics of effectiveness, available data sources and data schedule. One of the many performance measures is to reduce VMT by Car with a regional target to reduce VMT per capita by at least 25% by 2030, and 40% by 2050 (VMT includes zero-emission trips). Metrics identified included VMT per population, VMT per number of households, and Ratio between the number of light vehicles registered to residents of Humboldt County

vs. the number of households or licensed drivers. Data sources include California Public Road Data, Caltrans Highway Performance Monitoring System (HPMS), and data from DMV.

9.2 Appendix B. Lead Agency Discretion in Setting VMT Thresholds

Prior to SB 743 implementation, CEQA Guidelines Section 15064.7 allowed lead agencies the discretion to select their own transportation impact metrics although substantial evidence was required to support their decisions. For transportation impact metrics, SB 743 deleted vehicle delay as a metric, and CEQA Guidelines Section 15064.3 provided that VMT is generally the most appropriate metric for land use projects. As to thresholds, additional questions have arisen as listed below.

- Question 1: Do lead agencies have discretion to set a different VMT threshold than recommended by OPR?
- Question 2: Do lead agencies need to establish VMT thresholds for cumulative impacts?
- Question 3: Do lead agencies need to use the same VMT methodology for setting thresholds and for conducting project VMT forecasts?

The answers to the first two questions require a legal perspective and were informed by a memorandum prepared by Remy Moose Manley (RMM) as part of the WRCOG SB 743 Implementation Pathway project, whose opinion is summarized below. Their full opinion is available as part of the WRCOG documentation at http://www.fehrandpeers.com/wrcog-sb743/ while a summary of their selected findings is presented below.

Question 1: Do lead agencies have discretion to set a different VMT threshold than recommended by OPR?

Setting a threshold that is different than recommended by OPR in their Technical Advisory is likely legally defensible, so long as the threshold is supported by substantial evidence. The substantial evidence is critical in the threshold setting process and should explain why the OPR-recommended threshold is not appropriate for the lead agency or project, and why another threshold was selected. This evidence will be the basis for supporting the recommended threshold and should carefully consider the definition of substantial evidence contained in Humboldt County February 2024 Page 13 of 26 Section 15384 of the CEQA Guidelines. This answer considers the fact that the 15-percent reduction is not included in the statute or the updated CEQA Guidelines; rather it is only included in OPR's Technical Advisory. However, it is unknown how much weight future courts may give OPR's Technical Advisory since this is where OPR complies with Section 21099(b)(1) to develop recommendations for significance criteria.

The revisions to the CEQA Guidelines only include statements about what land use project types and locations may be presumed to have a less than significant VMT impact. Additional evidence allowing for a different threshold (i.e. lower than OPR's guidance) is also found in the discussion above about the recognition of land use context influencing VMT performance.

Question 2: Do lead agencies need to establish VMT thresholds for cumulative impacts?

In addition to direct impact analysis, lead agencies should address VMT impacts in the cumulative context.

The CEQA Guidelines (and the case law) are clear that consideration of cumulative impacts is important to CEQA compliance. That said, a separate quantitative threshold may not be required if the threshold

applied for project-specific impacts is cumulative in nature. VMT thresholds based on an efficiency form of the metric such as VMT per capita, can address both project and cumulative impacts in a similar manner that some air districts do for criteria pollutants and GHGs.

As explained in OPR's Technical Advisory, when using an absolute VMT metric, i.e., total VMT (as recommended below for retail and transportation projects), analyzing the combined impacts for a cumulative impacts analysis may be appropriate. A project that falls below an efficiency-based threshold that is aligned with long-term environmental goals and relevant plans would have no cumulative impact distinct from the project impact. Accordingly, a finding of a less-than significant project impact would imply a less than significant cumulative impact, and vice versa. (OPR Technical Advisory, p. 6.)

A key consideration for cumulative scenarios is whether the rate of VMT generation gets better or worse in the long-term. If the rate is trending down over time, then the project level analysis may suffice. However, the trend direction must be supported with substantial evidence. Per the ARB's 2022 Scoping Plan, recent events may change how factors such as the changes to the relationship between employment trends, adoption of electric vehicles, and commute travel since COVID-19 pandemic could influence achievement of the targets in the future.

For some projects, measuring project-generated VMT will only tell part of the impact story especially if they exceed a project threshold based on VMT per capita or similar efficiency metric. Measuring the "project's effect on VMT" may be necessary to fully explain the project's impact especially under cumulative conditions. This occurs because of the nature of discretionary land use decisions. Cities and counties influence land supply through changes to general plan land use designations and zoning for parcels. These changes rarely, if ever, influence the long-term amounts of regional population and employment growth. Viewed through this lens, a full disclosure of VMT effects requires capturing how a project may influence the VMT generated by the project and nearby land uses. Also, some mitigation strategies that improve walking, bicycling, or transit to/from the project site can also reduce VMT from neighboring land uses (for example, installing a bike share station on the project site would influence the riding behavior of project residents and those living and working nearby).

Question 3: Do lead agencies need to use the same VMT methodology for setting thresholds and for conducting project VMT forecasts?

Lead agencies need to use consistent methods when forecasting VMT for threshold setting and project analysis to ensure an apples-to-apples comparison for identifying potential impacts. The project team has confirmed through case study comparisons that failure to comply with this approach, as recommended by the Technical Advisory, can lead to erroneous impact conclusions. This is an important finding since the

Technical Advisory also accepts that VMT analysis can be performed using sketch planning tools. Off-the-shelf sketch planning tools for VMT analysis do not contain trip generation rates or trip lengths consistent with local and regional travel forecasting models. These models are the most likely source for city-wide and region-wide VMT estimates used in setting thresholds because sketch planning tools cannot produce these aggregate-level VMT metrics. The *Technical Advisory* partially recognizes this issue by recommending that sketch planning tools use consistent trip lengths as the models used to produce thresholds, but it does not include a similar recommendation for trip generation rates. Both input variables, trip lengths and trip generation rates, need to be consistent with the travel forecasting model to produce accurate project impact analysis results.

The table below shows the results of using different VMT methods. The green numbers under city and region are the threshold values (15% below the black values). If the travel demand model was used to set the italicized threshold values in the first row and the model was also used for the project analysis, then no impact would occur. If the project analysis instead used Institute of Transportation Engineers (ITE) trip generation rates and California Household Travel Survey (CHTS) trip lengths, then the project's 11.26 estimate would be higher than the model threshold values for both the City and Region resulting in a significant impact. Using thresholds derived from the ITE+CHTS data would have reversed this impact finding demonstrating that consistent methodology is essential for avoiding erroneous impact conclusions.

VMT Method	Existing Home-Based VMT Capita per		
	City	Region	Project
Travel demand model	9.86 (*8.38*)	11.97 (*10.17*)	5.46
ITE + CHTS	23.90 (*20.32*)	25.67 (*21.82*)	11.26