

GUIDELINES FOR ANALYSIS OF VEHICLE MILES TRAVELED (VMT)

**Prepared by the City of Cotati
Community Development Department**

Adopted September 22, 2020 (Resolution No. 2020-58)



INTRODUCTION/BACKGROUND

Under the California Environmental Quality Act (CEQA), lead agencies (such as the City of Cotati) must determine whether a proposed project has the potential to cause significant environmental impacts. This determination must be based, to the extent feasible, on factual data and scientific methods of analysis. In order to conform to Senate Bill (SB) 743, Section 15064.3 of the California Environmental Quality Act (CEQA) Guidelines specifies that, as of July 1, 2020, Vehicle Miles Traveled (VMT) is the appropriate metric to evaluate transportation impacts on the environment.

In December 2018, the California Governor's Office of Planning and Research (OPR) published the *Technical Advisory on Evaluating Transportation Impacts in CEQA* (referred to herein as the OPR Technical Advisory), which provides guidelines on the implementation of SB 743. The OPR Technical Advisory's guidelines state that VMT must be the metric used to determine if there is a transportation impact on the environment and provides recommendations for evaluating transportation impacts that may result from the various types of projects that a jurisdiction may undertake or approve.

INTENT OF CEQA TRANSPORTATION IMPACT (VMT) ANALYSIS GUIDELINES

CEQA transportation analysis requires an evaluation of a project's potential impacts related to VMT and other significance criteria. This information is essential for decision makers and the public when evaluating individual projects. These guidelines address key elements required for preparing and reviewing transportation analysis studies with respect to CEQA and provide guidelines for documentation of the findings, conclusions, and recommendations required of a VMT transportation analysis.

The City expects these guidelines to result in studies that provide comprehensive and accurate analysis of potential transportation impacts on the environment. This document is intended to be a resource applied in conjunction with the professional judgment of the City's Engineering/Public Works Department and/or Community Development Department. The following topics are addressed in this document:

- Situations and thresholds that commonly trigger the need for a CEQA transportation analysis
- Scope and extent of the required study
- Transportation analysis methodology and VMT metrics to utilize
- Criteria to determine if the transportation related impacts of a proposed project are significant under CEQA
- Project screening criteria
- VMT mitigation and reduction strategies

The City will primarily review VMT impact studies based on the guidelines presented in this document. However, each project is unique and not all criteria described in this document will apply to every project. Early and consistent communication with the Engineering/Public Works Department and/or the Community Development Department is encouraged to confirm the type and level of analysis required on a case-by-case basis. Ultimate determination of the criteria and analysis required for a project shall be determined by the City Engineer/Public Works Director and/or the Director of Community Development or his/her/their designee(s).

PROJECT CONSIDERATIONS

The following types of projects may require a VMT transportation analysis:

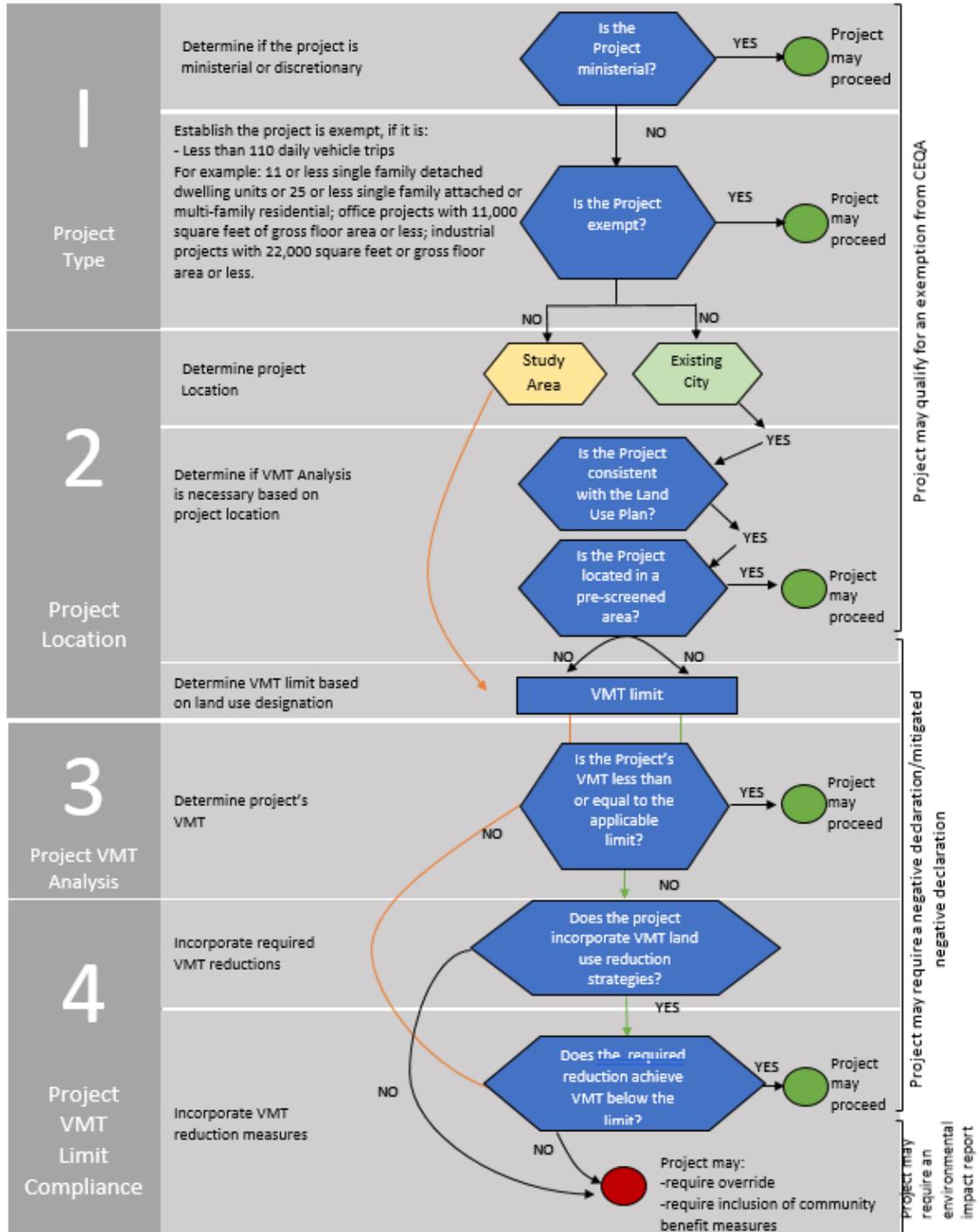
- Land use entitlements requiring discretionary approval, which include but are not limited to annexations, general plan amendments, specific plan amendments, zoning changes, conditional use permits, and tentative subdivision maps.
- Transportation infrastructure modification or expansion, including Capital Improvement Program (CIP) projects on city roads and state highways.
- Land use activity advanced by agencies other than the City of Cotati that is subject to jurisdictional review under State and Federal law, and/or may be inconsistent with the City's General Plan.
- Projects that conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadways, and bicycle and pedestrian facilities.
- Projects that are inconsistent with the General Plan shall conduct a VMT analysis.
- A proposed project which has the potential to create a significant environmental transportation impact under CEQA (see below criteria).

VMT ANALYSIS PROCESS

The City will conduct an initial assessment of each project based on the project description, project location, and proposed uses. Figure 1, on the following page, summarizes the typical VMT analysis process for land use development projects; however, the process may be modified at the discretion of the City Engineer/Public Works Director and/or the Director of Community Development or his/her/their designee(s) depending on the specific project.

Figure 1

Land Use Project VMT Analysis Process



VMT METRICS

CEQA Guidelines Section 15064.3(b)(4) establishes that the lead agency has discretion to choose the most appropriate methodology to evaluate a project's VMT. The OPR's Technical Advisory covers residential, office and retail land uses. For all VMT estimates, the method should capture the full trip length to the extent feasible and reasonable. A VMT analysis should use the following VMT metrics based on information from the Sonoma County Travel Model maintained by the SCTA:

- Residential land uses: the OPR Technical Advisory recommends using residential VMT per capita for home-based trips. Further, the City recommends using *city* residential VMT per capita (rather than *regional* VMT per capita) for analysis of residential projects.
- Office land uses: the OPR Technical Advisory recommends using employment VMT per worker for work-related trips only. For office projects, *regional* employment VMT per worker (as opposed to *city* VMT per worker) shall be used in the analysis.
- Retail land uses: the OPR Technical Advisory recommends evaluating changes in total VMT.
- Mixed-Use: apply the VMT significance threshold for each component separately, taking credit for internally-captured trips; a mixed-use project that has a dominant use with a very small secondary use may evaluate only the dominant use.
- Light/medium industrial; cannabis manufacturing/cultivation: apply employment VMT per worker (employees commuting to workplace)
- Hotels: apply employment VMT per worker (for employees commuting to workplace) and changes in total VMT (for hotel guests)

CEQA TRANSPORTATION PERFORMANCE METRICS

Vehicles Mile Traveled (VMT)

VMT is the total miles of travel by personal motorized vehicles that a project is expected to generate in a day. VMT is calculated using projections and data outputs from the most recent Sonoma County Travel Model maintained by the Sonoma County Transportation Authority (SCTA). The Sonoma County Travel Model allows for trip-based (as opposed to tour-based) assessment of VMT.

Residential VMT per Capita

When assessing a residential project, the project's home-based VMT is divided by the number of residents expected to occupy the project to determine the VMT per capita of the project.

Employment VMT per Worker

When assessing an office or industrial project, the project's total VMT associated with home-based work (commute) trips is divided by the number of employees expected to occupy the project to determine the VMT per worker of the project.

Net Change in Total VMT (Retail, Hotel, or School Projects)

When assessing a retail, hotel or school project, the project's total VMT, as opposed to a residential VMT per capita or employment VMT per worker metric is measured. Further separation of uses may also be applied. For example, in a hotel project there is an employee component that would be analyzed using employment VMT per worker and a hotel guest component that would be analyzed using net changes in Total VMT.

THRESHOLDS OF SIGNIFICANCE

Since SB 743 introduces a new mandatory metric for use in transportation impact analysis, the City is required to determine what constitutes acceptable versus unacceptable levels of VMT for CEQA analysis. This process is generally referred to as establishing significance thresholds and is governed by CEQA Section 15064.7.

The City will rely on VMT threshold recommendations contained in the OPR *Technical Advisory on Evaluating Transportation Impacts in CEQA* (December 2016). OPR recommends that VMT thresholds for residential and employment-based land use projects be set at fifteen percent below the existing baseline city residential VMT/capita or regional (countywide) employment VMT/worker. The VMT limits are based on the SCTA's Sonoma County Travel model using an Origin Destination methodology. Below is a table showing jurisdiction and countywide Residential VMT per Capita and Employment VMT per Worker.

Table 1 - Vehicle Miles Traveled countywide and in each jurisdiction within Sonoma County

Jurisdiction	Residential VMT (all home based)	Employment VMT (commute only)	Total Population	Total Employment	Residential VMT/Capita	Employment VMT/Worker
Cotati	147,607	50,876	7,599	3,771	19.42	13.49
Cloverdale	123,965	44,909	8,878	1,915	13.96	23.45
Healdsburg	169,085	107,324	12,908	8,000	13.10	13.42
Petaluma	1,009,873	721,180	60,755	41,306	16.62	17.46
Rohnert Park	582,716	274,428	42,717	18,710	13.64	14.67
Santa Rosa	2,403,030	736,396	193,006	78,243	12.45	9.41
Sebastopol	138,664	62,022	7,768	5,354	17.85	11.58
Sonoma	272,844	91,454	11,248	5,810	24.26	15.74
Windsor	355,269	119,604	27,849	9,563	12.76	12.51
Unincorporated	2,591,720	523,642	129,164	40,962	20.07	12.78
Countywide	7,810,430	2,737,796	501,892	213,634	15.56	12.82

Table 1 provides data generated by SCTA as of March 10, 2020. Estimates of VMT impact shall be based on the latest data available from the Sonoma County Travel Model (maintained by the SCTA) at the time the traffic analysis is prepared.

The following are thresholds of significance related to additional VMT:

- For residential projects, a project would cause significant additional VMT if it exceeds existing *citywide* average residential (home-based) VMT per capita, minus 15 percent
- For office and industrial projects, a project would cause significant additional VMT if it exceeds existing *countywide (regional)* average employment (commute based) VMT per worker, minus 15 percent
- For retail projects, a project would cause significant additional VMT if it results in a net increase in regional total VMT
- For redevelopment projects, the replacement land use would cause significant additional VMT if it results in a net increase in regional total VMT
- For other development projects, the appropriate VMT threshold of significance shall be determined by the City on a case-by-case basis.

Projects with VMT less than or equal to the established limits will likely be found to have less than significant transportation impacts under CEQA. A proposed project with VMT exceeding the established

limits that is unable to reduce VMT through mitigation strategies may be found to have significant and unavoidable transportation impacts, requiring preparation of an Environmental Impact Report. Projects are still required to mitigate transportation impacts to the extent feasible.

PROJECT SCREENING

Some projects have characteristics that readily lead to the conclusion that they will not cause a significant VMT impact, and therefore those projects may be screened out of completing a detailed VMT analysis.

For example, CEQA Guidelines section 15064.3(b) provides the following criteria for analyzing transportation impacts:

- 1) Land Use Project. Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within ½ mile of either an existing major transit stop (ex. SMART station) or a stop along an existing high-quality transit corridor should be presumed to cause a less than significant transportation impact. Certain projects that decrease vehicle miles traveled in the project area compared to existing conditions may 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 Environmental Impact Report (EIR), a lead agency may tier from that analysis.

Land Use Project Screening

Land use projects may also be screened out of further analysis if they are very small or can be demonstrated to primarily attract trips that would have otherwise been traveled at a longer distance. Additionally, certain projects that decrease vehicle miles traveled in the project area compared to existing conditions may be presumed to have a less than significant transportation impact. Table 2 lists categories of projects that will generally be assumed to have less than a significant impact.

The OPR Technical Advisory also presents a method for “map-based” screening, where projects located in low-VMT areas may require only a qualitative discussion of their VMT effects.

Notwithstanding these screening provisions, the City may determine that a VMT analysis is required for any discretionary project where evidence indicates the project may result in a significant increase in VMT. Land use projects must also show consistency with the General Plan. Projects that are inconsistent with the General Plan shall conduct a VMT analysis.

Table 2 – Screening criteria for land use projects

TYPE	SCREENING CRITERIA
Small Infill Projects	110 or fewer daily vehicle trips. Project sponsors should consult the latest published trip generation tables, or demonstrate that the project will generate less than 110 daily vehicle trips (OPR Technical Advisory)
Map-Based Screening for Residential and Office Projects	Low-VMT generating areas as shown on the screening maps that follow (OPR Technical Advisory)
Near transit station (i.e. SMART)	Within ½ mile of an existing major transit stop or an existing stop along a high-quality transit corridor (CEQA Guidelines section 15064.3(b)(1)) (OPR Technical Advisory)
Affordable Housing	100% affordable (OPR Technical Advisory)
Local-Serving Retail	Projects including retail uses up to a combined total of 10,000 gross square feet (OPR Technical Advisory)
Mixed-Use Projects	Evaluate each component independently and apply the significance threshold for each project type (residential /retail). (OPR Technical Advisory)
Local-Serving Public Facilities (excluding schools)	Publicly-owned local-serving facilities such as: Library, Community Center, City Hall, Public Safety Station, Passive Parks, Public Utilities Offices or Infrastructure. (OPR Technical Advisory)

Figure 2 – Residential screening map

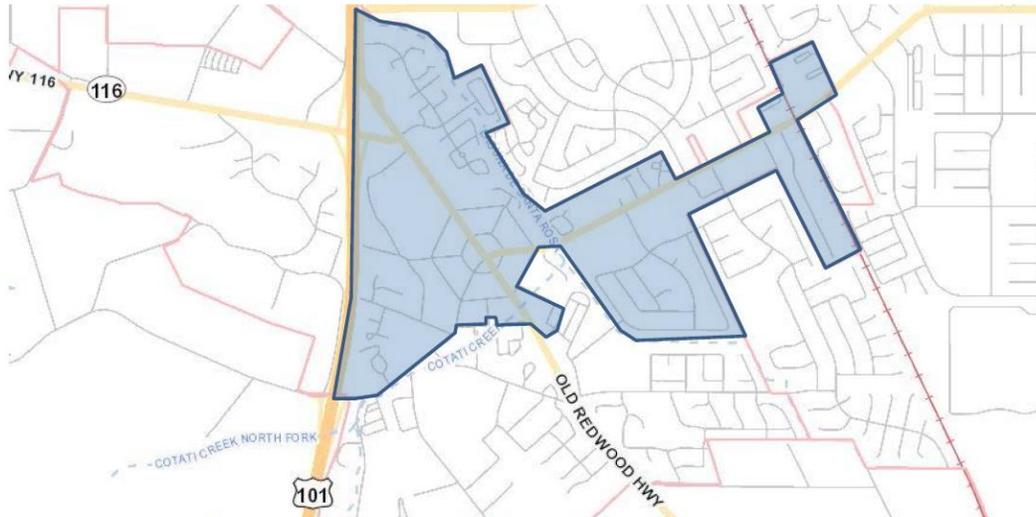


Figure 2 shows the Residential VMT per Capita Screening Map that identifies the area in the City that may be exempt from quantitative VMT analysis. These include sites that have been pre-screened through citywide VMT analysis using SCTA’s 2015 Sonoma County travel model. Residential projects in pre-screened areas will likely result in VMT that are 15 percent or below the city average VMT per capita established for that land use designation if built consistent with the General Plan. This map may change over time and project sponsors should contact the City for the latest residential screening map.

Figure 3 – Employment (office & industrial) screening Map

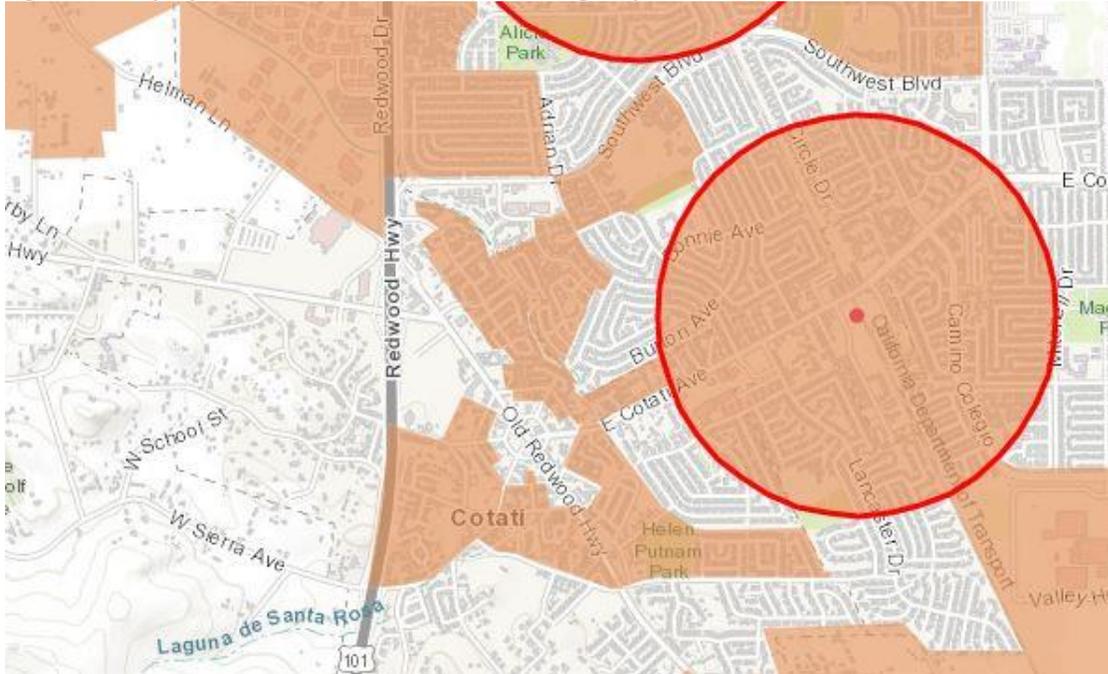


Figure 3 shows the Employment VMT per Worker Screening Map based on VMT per worker that identifies areas in the City that may be exempt from quantitative VMT analysis. These include sites that have been pre-screened through regional VMT analysis using SCTA’s 2015 Sonoma County travel model. Office and industrial projects in pre-screened areas will likely result in VMT that are 15 percent or below the countywide or regional average VMT per worker established for that land use designation if built consistent with the General Plan. This map may change over time and project sponsors should contact the City for the latest employment screening map.

Transportation Project Screening

The City will conduct an initial assessment to determine if the proposed transportation project is likely to significantly increase VMT, as determined by the City Engineer or Director of Community Development or his/her/their designee(s). Projects that are anticipated to significantly increase VMT due to induced automobile travel or increased travel length, for example, will likely be subject to a quantitative VMT analysis. Projects that are not likely to lead to a substantial or measurable increase in VMT include, but are not limited to, the following:

- Public transit (establishing new routes or services or modifying existing routes or services)
- Addition of active transportation improvements (bicycle lanes, shared use paths, sidewalks, pedestrian pathways)
- Addition of roadway capacity on local and collector roadways for the purpose of improving conditions for pedestrians, cyclists, and transit users
- Resurfacing, rehabilitating, maintenance, preventive maintenance, replacement and repair projects that do not add additional roadway capacity
- Installation, removal, or modification of turn lanes
- Installation, removal, or modification of traffic control devices, including traffic signals, wayfinding, and traffic signal priority systems
- Installation of roundabouts
- Installation or modification of traffic calming devices
- Lane reductions
- Addition of auxiliary lanes that do not add additional roadway capacity
- Removal of off-street parking and addition, adoption, or modification of parking devices and management strategies
- Safety improvements, including roadway shoulder enhancements and auxiliary lanes, and grade separations for rail, transit, pedestrian and bicycle facility enhancements
- Sidewalk infill, removing barriers to accessibility, and ADA improvements
- Other improvements to the circulation system that do not add additional roadway capacity

PROJECT IMPACT ANALYSIS - Method for Forecasting VMT

VMT is typically calculated and forecasted with a travel demand model utilizing an Origin Destination methodology, which can estimate the total number and length of vehicle trips for a given geographic area. Using a travel demand model is typically preferred over other methods because the travel model is better able to account for both project generated VMT and the project's effect on total area wide VMT, both of which are important in a CEQA analysis. The OPR Technical Advisory recommends that the method used to define a VMT threshold should be the same method that is used to evaluate a project's VMT against that threshold.

There are two primary travel demand models available for the purposes of VMT analysis in Sonoma County: the Metropolitan Transportation Commission (MTC) model and the Sonoma County Transportation Authority (SCTA) model. The SCTA model includes a more detailed representation of Sonoma County and its cities transportation network and land use patterns, and is the model typically used for most land use project specific applications for jurisdictions in the county.

The SCTA has recently completed the calibration of the travel model to a base year of 2015. In 2019, the Sonoma County Travel Behavior Study was completed. The City of Cotati will be using the latest Sonoma County Travel Model as the forecasting method for VMT. However, the City has the discretion, where appropriate, to request other methods to determine VMT (such as a VMT calculator tool once it has been established for Sonoma County).

CEQA requires environmental analysis to reflect a “good faith effort at full disclosure” (CEQA Guidelines Section 15151). Therefore, VMT analysis should not be truncated at jurisdictional or other boundaries. The City’s VMT thresholds were developed using the SCTA travel model and estimated for the entire model network. Further, recent enhancements to the SCTA model account for the lengths of “gateway” trips made beyond the County boundaries. Consequently, CEQA analysis should use the SCTA model network for consistency of evaluation.

CUMULATIVE ANALYSIS

Cumulative impact analysis is required per CEQA Guidelines Section 15130. As defined in Section 15355, “Cumulative impacts” refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.

- a) The individual effects may be changes resulting from a single project or a number of separate projects.
- b) The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

VMT CALCULATOR TOOL OPTIONS

A few jurisdictions in the state have already developed VMT calculator tools, such as San Jose, Los Angeles, and SANDAG. An objective of these calculators is to evaluate a project’s VMT and quantify VMT reduction associated with proposed mitigation measures. The SCTA will begin developing a VMT calculator tool in 2020. It is anticipated that the SCTA will model the County calculator tool after the SANDAG approach. Once the SCTA creates the VMT Calculator Tool, the City is expected to utilize it for local land use projects. The City’s VMT Guidelines will be updated to incorporate the Tool once it is finalized.

MITIGATION – VMT REDUCTION STRATEGIES

Projects should be designed to address VMT reduction strategies. This can be a combination of providing access to active transportation modes and transit stations for an example. The project must also comply with the current Bicycle and Pedestrian Master Plan and may include closing gaps in bicycle and pedestrians networks or installing traffic calming techniques.

When VMT mitigation is required to reduce a project’s impact to a less than significant level, the VMT analysis should include a quantitative assessment of possible VMT reduction strategies. In some cases, if a quantitative assessment is not practicable, a qualitative assessment may be used in accordance with CEQA guidelines.

Below is a list of several strategies that could be utilized to help mitigate increases in VMT:

- Increase the diversity of land uses
- Incorporate mixed uses into a development project
- Designate all or a portion of a residential development as deed-restricted affordable housing
- Increase the residential density of a project within the parameters established by the General Plan
- Provide on- and/or off-site pedestrian and/or bicycle network enhancements
- Provide traffic calming measures and low stress bicycle network enhancements
- Increase transit service frequency and speed
- Increase access to transit, including bus stop improvements
- Unbundle parking
- Provide bicycle parking
- Provide first/last mile connections to transit
- Provide transit fare subsidies
- Implement paid parking programs
- Optimize intersection signal timing for bicycles
- Provide for telecommuting and alternative work schedules
- Provide in-lieu fees (if a city or regional VMT mitigation bank is established)
- Other travel reducing strategies – provide for rideshare, car sharing, bike share, shuttle programs, education/training