

PREPARED FOR:

**CITY OF FAIRFIELD** 



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# **BACKGROUND AND INTRODUCTION**

In accordance with Senate Bill 743 (SB 743) and the resulting changes to the CEQA Guidelines published by the Natural Resources Agency, local agencies may no longer use measures of vehicle delay such as Level of Service (LOS) to quantify transportation impacts on the environment. While agencies may continue to maintain LOS standards and similar measures as a matter of local policy and for project analysis, Vehicle Miles Traveled (VMT) has been codified in the CEQA Guidelines as the most appropriate measure for measuring transportation impacts under the California Environmental Quality Act. This change applies statewide as of July 1, 2020.

The change from LOS to VMT for CEQA purposes requires revision of the City's Transportation Impact Report guidelines, which should address VMT thresholds of significance, screening, and mitigation procedures. This report summarizes previously provided technical material on recommended thresholds of significance and mitigation strategies. Proposed screening and analysis procedures as well as integration into the City's Transportation Impact Report guidelines are also discussed.

The recommendations on VMT thresholds and mitigation strategies in this report draw heavily on technical guidance published by the Governor's Office of Planning and Research (OPR) and an evaluation of greenhouse gas and VMT mitigation strategies from the California Air Pollution Control Officers Association (CAPCOA). These documents are listed in the References section. Standards of practice will evolve as jurisdictions use the revised CEQA guidelines and it is expected that the City of Fairfield will refine its procedures over time.

#### **OVERVIEW AND REPORT ORGANIZATION**

Evaluation of projects for potential VMT impacts will take place in parallel with the City's existing transportation analysis procedures.

**Section 1** summarizes the recommended thresholds of significance for VMT and approaches to VMT analysis for several types of projects.

**Section 2** describes screening of land use projects for VMT impacts. Projects that meet at least one of the screening criteria would not need to perform a formal VMT analysis. Among other screening options, residential and office projects located in low VMT generating areas may be presumed to have less than significant impacts. Rates of VMT per land use unit across different parts of the City have been calculated and can be compared to the recommended thresholds of significance, which are discussed in Section 1.

**Section 3** covers VMT mitigation strategies for those projects that have been analyzed and found to have VMT impacts. Methods for assessing the effectiveness of mitigation strategies are also addressed in this section.

# SECTION 1. APPROACH TO VMT ANALYSIS AND THRESHOLDS OF SIGNIFICANCE

Projects that are not screened out (see Section 2) will require a formal VMT analysis. Projects that are not screened or those that would significantly alter existing or planned land uses will require project specific VMT calculations. These projects can be analyzed by incorporating the project land uses into the Fairfield travel demand model and running a project scenario. Scripts and a VMT analysis spreadsheet have been developed to aid in this process. Alternatively, and with approval from the City, projects can be assessed with a stand-alone analysis (e.g. VMT based on the market area of a retail establishment) or use other available tools such as the Napa-Solano Activity Based Model.

#### RESIDENTIAL AND OFFICE PROJECTS

**Table 1** summarizes VMT thresholds calculated as described in Tech Memo #4 – Baseline VMT calculations. *The proposed thresholds are 85 percent of the existing baseline VMT per land use unit, as calculated over the Fairfield model area for office and residential uses.* These recommendations are consistent with OPR guidance. Projects expected to daily generate VMT per unit under the applicable threshold could be presumed to have a less than significant transportation impact for CEQA purposes. Projects expected to generate VMT over the applicable threshold of significance would have to show how VMT could be mitigated to avoid a finding of impact.

For example, a single-family residential development expected to generate 50 VMT per unit could be presumed to have a less than significant impact and no further analysis would be necessary. A single-family residential project expected to generate 70 VMT per unit would need to reduce VMT per unit by 8.2 VMT per unit (12% or 8.2/70). Similarly, a multifamily residential project generating 40 VMT per unit could be presumed to have a less than significant impact while one generating 50 VMT per unit would have to propose 5.9 VMT (12%) per unit in mitigations to avoid an impact. Office projects would be compared to the applicable threshold of significance (54.3 VMT per 1000 square feet) in a similar manner.

Note that for residential and office uses, the thresholds of significance are given in terms of VMT rates and the effectiveness of mitigation measures will be given in terms of percent decrease. More information on the estimation of VMT rates and mitigation measures may be found in the final section of this memorandum.

TABLE 1: RECOMMENDED VMT THRESHOLDS OF SIGNIFICANCE

(RECOMMENDED THRESHOLDS IN BOLD)

LAND USE (UNIT)	AVERAGE VMT PER LAND USE UNIT <sup>a</sup>	85% AVG. VMT/UNIT	85% AVG. VMT/CAPITA OR EMPLOYEE <sup>b</sup>
SINGLE FAMILY RESIDENTIAL (SFDU)	72.7	61.8	22.2
MULTIFAMILY RESIDENTIAL (MFDU)	51.9	44.1	18.9
OFFICE (1000 SQUARE FEET)	63.9	54.3	17.7

Notes: a) The VMT rates shown account for VMT that occurs outside the Fairfield area, where are applicable.

b) Conversion from VMT per land use unit as calculated from model output to VMT/capita or VMT/employee is shown for reference and comparison purposes. Occupancy factors are derived from the American Community Survey 2012-2016 Five-Year Estimates. Office employment assumes 325 square feet per employee.

#### OTHER LAND USE PROJECT TYPES

**Retail** - The recommended threshold for retail projects is any increase in total VMT that occurs as a result of the project (i.e. any increase in VMT that occurs anywhere as a result of the project). The OPR technical advisory gives 50,000 square feet for an individual retail establishment as a general guideline to distinguishing local from regional serving retail. Projects consisting of multiple spaces totaling more than 50,000 square feet might also be considered local serving retail if no single establishment is larger. For example, neighborhood centers<sup>1</sup> -convenience oriented centers of up to 125,000 square feet leasable area and typically anchored by a supermarket -could be considered local-serving.

**Medical** – While calculation of baseline VMT rates for medical land uses is possible using the model outputs, we recommend that medical projects be analyzed in terms of net VMT impacts in a manner similar to retail projects. As with retail, providing additional opportunities for healthcare may reduce the lengths of trips made for this purpose. By this line of reasoning, most freestanding clinics, medical practices, and nursing homes could be assumed less than significant with respect to VMT impacts. Larger or regional-serving facilities such as hospitals would likely require an environmental document that considers employee and patient VMT separately.

**Industrial** – The CEQA guidelines specify that the VMT to be considered when analyzing transportation impacts is passenger vehicle VMT. Truck trips, often the predominant type at industrial facilities, would not come into play as a transportation impact (although they would be considered under noise or air quality). While baseline VMT rates can be developed for industrial

<sup>&</sup>lt;sup>1</sup> International Council of Shopping Centers, U.S Shopping Center Classification and Characteristics. (January 2017), https://www.icsc.com/uploads/research/general/US\_CENTER\_CLASSIFICATION.pdf.

land uses using the Fairfield travel demand model, the model does not distinguish between heavy and light duty vehicle traffic and a threshold of significance set using the model is likely to be unnecessarily restrictive. Instead, industrial land uses can be analyzed on a case-by-case basis to determine the net light-duty VMT impacts of proposed projects. If employee travel is the predominant source of light duty trips at a facility, this component might be assessed against the equivalent VMT per employee threshold for office land uses.

**Mixed Use Projects** - For mixed use projects, OPR recommends either analyzing each component of the proposed project separately or focusing on the predominant land use. For example, a multifamily residential project with some convenience retail might focus on the VMT impacts of the residential use, especially since the retail component could potentially be presumed less than significant if small enough.

**Redevelopment Projects** –Analysis of redevelopment projects should consider the VMT of the previously existing use to account for the net impact.

### TRANSPORTATION INFRASTRUCTURE PROJECTS

This section discusses the approach to estimating VMT impacts of transportation infrastructure projects. Addition of through lanes or new roadways may induce vehicular travel and thus have a potentially significant VMT impact. The recommended approach for estimating the VMT impacts of such projects is to assess the net change over the area that the new or expanded facility is expected to influence. This calculation may be done with a travel demand model or applying an elasticity of demand as described in the OPR guidelines.

Note that new local roadways built primarily to provide access to individual properties would not need to be analyzed separately as their VMT impact is accounted for in the analysis of the new land use. Also note that there are a wide variety of infrastructure projects that are not expected to induce VMT per OPR guidance. Transportation infrastructure projects that are presumed not to have a significant VMT impact include:

- Maintenance and rehabilitation projects
- Reduction in the number of through lanes (i.e. road diets)
- Addition of capacity on local or collector streets in conjunction with pedestrian, bicycle or transit improvements
- Traffic signal retiming
- Installation of roundabouts or traffic circles
- Facilities for non-motorized travel (bike paths or trails)

Caltrans has published documents related to SB 743 implementation as it applies to state highway system. These include the draft Caltrans Transportation Impact Study Guidelines (Draft TISG, February 28, 2020), the draft Caltrans Transportation Analysis Under CEQA (TAC) and the draft Caltrans Transportation Analysis Framework (TAF).

# SECTION 2. SCREENING PROCEDURES AND THE TIR GUIDELINES

Screening procedures will play an important part in streamlining project analysis. First, projects may be presumed to have less than significant VMT impacts due to size, proximity to high quality transit, and housing affordability. Second, projects may be screened according to location (see Figures 1-3). Projects located in areas that have been shown to generate VMT below the selected threshold of significance may be presumed to have less than significant impacts and no further analysis or mitigation would be required.

The City will likely want to retain its existing LOS standards for the time being for consistency with the current General Plan. Therefore, projects may be screened from requiring VMT analysis for CEQA purposes but still require analysis of LOS, safety, access, site circulation, and other topics to meet local requirements. These analyses, which will occur in parallel or in addition to CEQA VMT analysis, can continue to inform conditions of project approval by the City. The flowchart shown as **Figure 1** illustrates how the screening process would work in conjunction with local transportation analysis required by the City.

Currently, the City's Transportation Impact Report Guidelines require only a trip generation memo for smaller projects, defined as those with fewer than 100 peak hour project trips for non-residential uses or 50 peak hour trips for residential uses. Projects generating 50 or 100 peak hour trips or more will continue to require additional local transportation analysis topics to be addressed, including trip distribution, assignment, LOS, and sight distance. **Table 2** shows the project size for typical land uses that would fall under the local transportation analysis thresholds.

Once a project's local transportation analysis requirements are determined, VMT analysis requirements can be determined, following the process shown in the flowchart. The VMT screening criteria are further described below.

# SCREENING CRITERION: SMALL OR INFILL PROJECTS

OPR advises that *projects generating fewer than 110 trips per day* could be presumed to have less than significant VMT impacts. **Table 3** shows the maximum project size that would correspond to this threshold based on average ITE trip generation rates for selected land uses. This criterion could be applied in conjunction with the City's current guidelines that require only a trip generation memorandum for smaller projects.

#### SCREENING CRITERION: LOW INCOME HOUSING

OPR advises that residential *projects consisting of 100 percent affordable housing units* may be presumed to have less than significant VMT impacts. The City may wish to specify additional criteria such as proximity to high quality transit or location within a priority development area for application of this screening option.

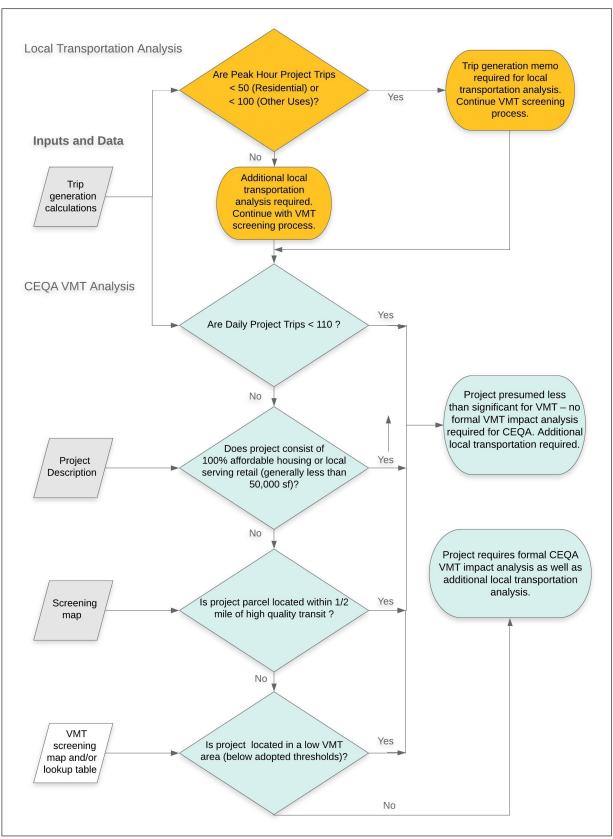


FIGURE 1. SCREENING PROCESS FOR TRANSPORTATION IMPACTS

TABLE 2: PROJECT SIZE THRESHOLDS FOR LOCAL TRANSPORTATION ANALYSIS SCREENING (PROJECTS GENERATING NO MORE THAN 50 PEAK HOUR TRIPS)

LAND USE	ITE CODE	SIZE THRESHOLD	AM PEAK HOUR TRIPS	PM PEAK HOUR TRIPS
SINGLE FAMILY RESIDENTIAL	210	50 units	37	50
MULTIFAMILY RESIDENTIAL - LOW RISE	220	90 units	41	50
MULTIFAMILY RESIDENTIAL - MID RISE	221	113 units	41	50
MULTIFAMILY RESIDENTIAL - HIGH RISE	222	138 units	43	50
MID-RISE RESIDENTIAL WITH 1ST FLOOR COMMERCIAL	231	138 units	41	50
SMALL OFFICE BUILDING a	712	5,000 SF	10	12

Source: ITE Trip Generation 10th Edition (https://itetripgen.org/

a) Houses single tenant and is no more than 5,000 sf

TABLE 3: PROJECT SIZE THRESHOLDS FOR VMT SCREENING

(GENERATION OF 110 OR FEWER DAILY TRIPS)

LAND USE	ITE CODE	SIZE THRESHOLD	DAILY TRIP GENERATION
SINGLE FAMILY RESIDENTIAL	210	11 units	104
MULTIFAMILY RESIDENTIAL - LOW RISE	220	15 units	110
MULTIFAMILY RESIDENTIAL - MID RISE	221	20.0 units	109
MULTIFAMILY RESIDENTIAL - HIGH RISE	222	24 units	107
MID-RISE RESIDENTIAL WITH 1ST FLOOR COMMERCIAL	231	32 units	110
SMALL OFFICE BUILDING	712	5,000 square feet	81
SINGLE TENANT OFFICE BUILDING	715	9,750 square feet	110

Source: ITE Trip Generation 10<sup>th</sup> Edition (https://itetripgen.org/)

#### SCREENING CRITERION: LOCAL SERVING RETAIL

The OPR technical guidance recommends that retail projects be analyzed in terms of net VMT impacts (i.e. total VMT that would occur with and without the project). By increasing retail opportunities closer to homes and workplaces, local serving retail may decrease overall VMT if it substitutes for longer trips. OPR advises that **projects of 50,000 or fewer square feet for an individual retail establishment** may be used to distinguish local serving retail from more regional establishments that draw customers from greater distances.

### **SCREENING CRITERION: PROXIMITY TO TRANSIT**

Section 15064.3 of the CEQA Guidelines specifies that residential or office *projects within one-half mile of an existing major transit station or stop along an existing high-quality transit corrido*r can be presumed to have a less than significant transportation impact. Per OPR guidance and Public Resources Code § 21064.3, major transit stops are defined as a site containing an existing rail transit station or the intersection of at least two bus routes with a frequency of service interval of at least 15 minutes during the morning and afternoon peak commute periods. High-quality transit corridors are defined as having fixed route bus service with service intervals no longer than 15 minutes during the peak commute hours. In Fairfield, the two rail stations would meet the definition of major transit stop. None of the bus routes in Fairfield currently operate at 15-minute frequencies but in combination may meet this criterion at the Fairfield Transit Center.

**Figure 2** shows parcels with at least 25 percent of their area falling within one-half mile of a major transit stop or rail station. Office or residential projects located within these parcels may be presumed to have less than significant VMT impacts. The City may wish to set additional criteria such as provision or availability of active transportation infrastructure for application of this screening option.

#### PROJECT LOCATION SCREENING

The OPR technical guidance discusses screening of residential and office projects based on location. Residential and office projects that locate in areas with low VMT, and that incorporate similar features will also tend to generate similarly low VMT. Maps showing areas of the City that exhibit low VMT characteristics can be used to screen residential and office projects from needing to prepare a CEQA VMT analysis.

Baseline VMT maps have been prepared for the City of Fairfield using the City's travel demand model. Development of the 2020 land use scenario and technical procedures for calculating baseline VMT rates per unit of land use are described in the technical memos compiled as appendices to this report.

**Figures 3-5** show the VMT generation rates for **residential** and **office** uses across the City with respect to the recommended thresholds of significance. These VMT rates have been calculated for the entire area covered by the Fairfield travel demand model and incorporate estimates of VMT that occurs outside the Fairfield area.

The maps show the VMT generation rates for each land use type by Transportation Analysis Zone (TAZ):

• Projects located in TAZs that are shown in **green** would be presumed to generate VMT at 85 percent or less of the baseline average rate for the Fairfield area, have less than significant transportation impacts, and would require no further VMT analysis.

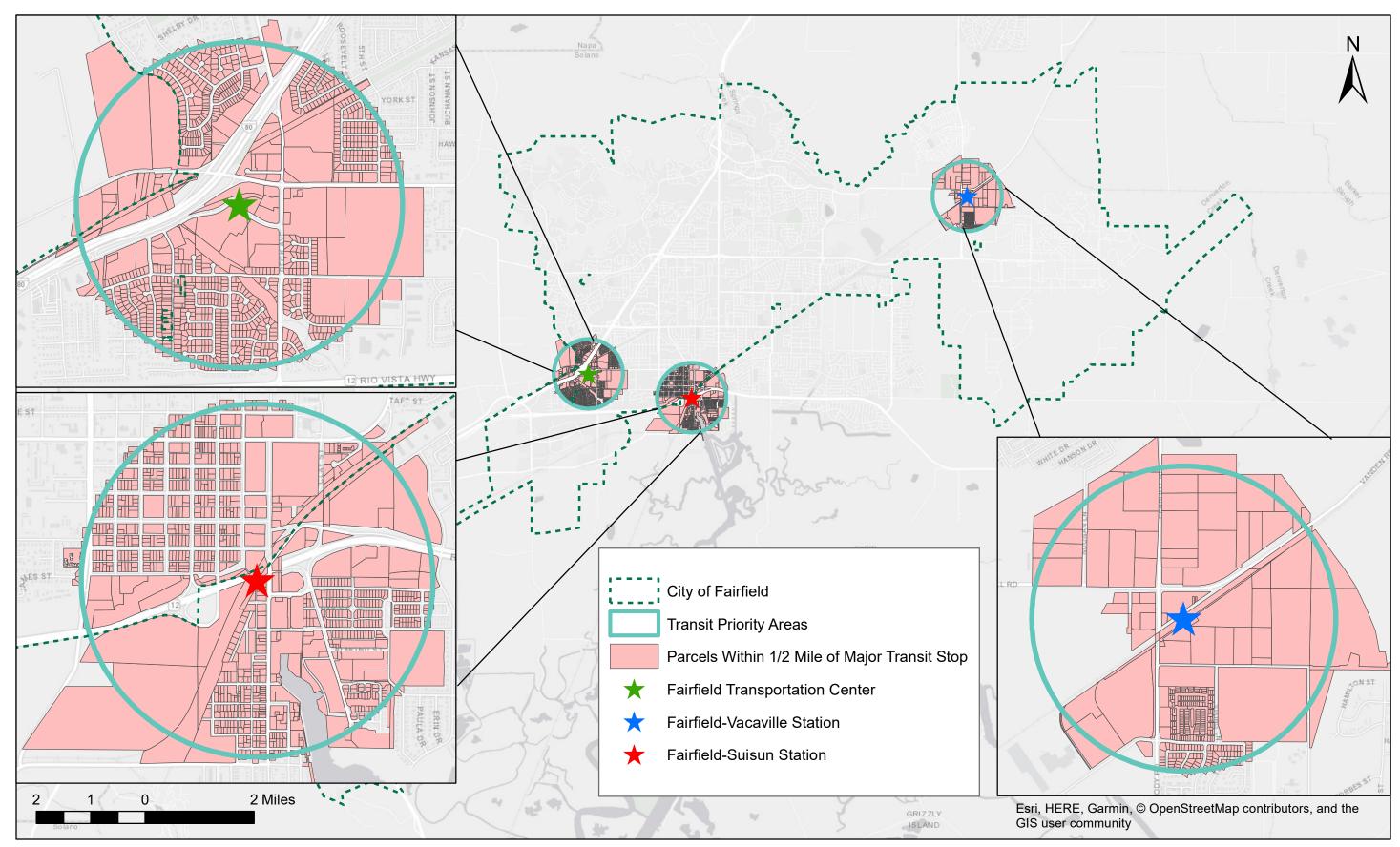


FIGURE 2. PARCELS WITHIN A HALF MILE OF MAJOR TRANSIT STOPS

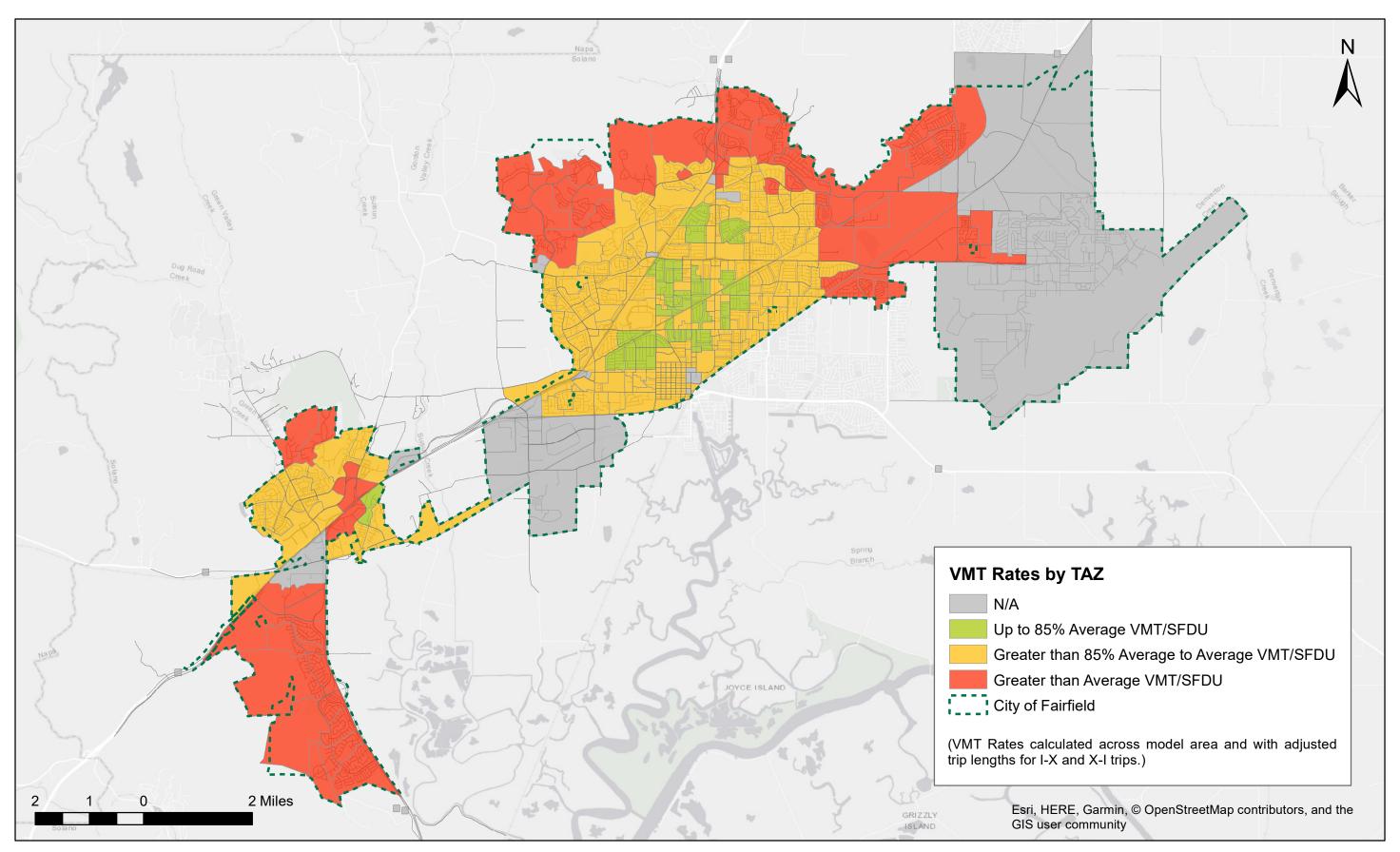


FIGURE 3. SINGLE FAMILY RESIDENTIAL VMT BY TAZ

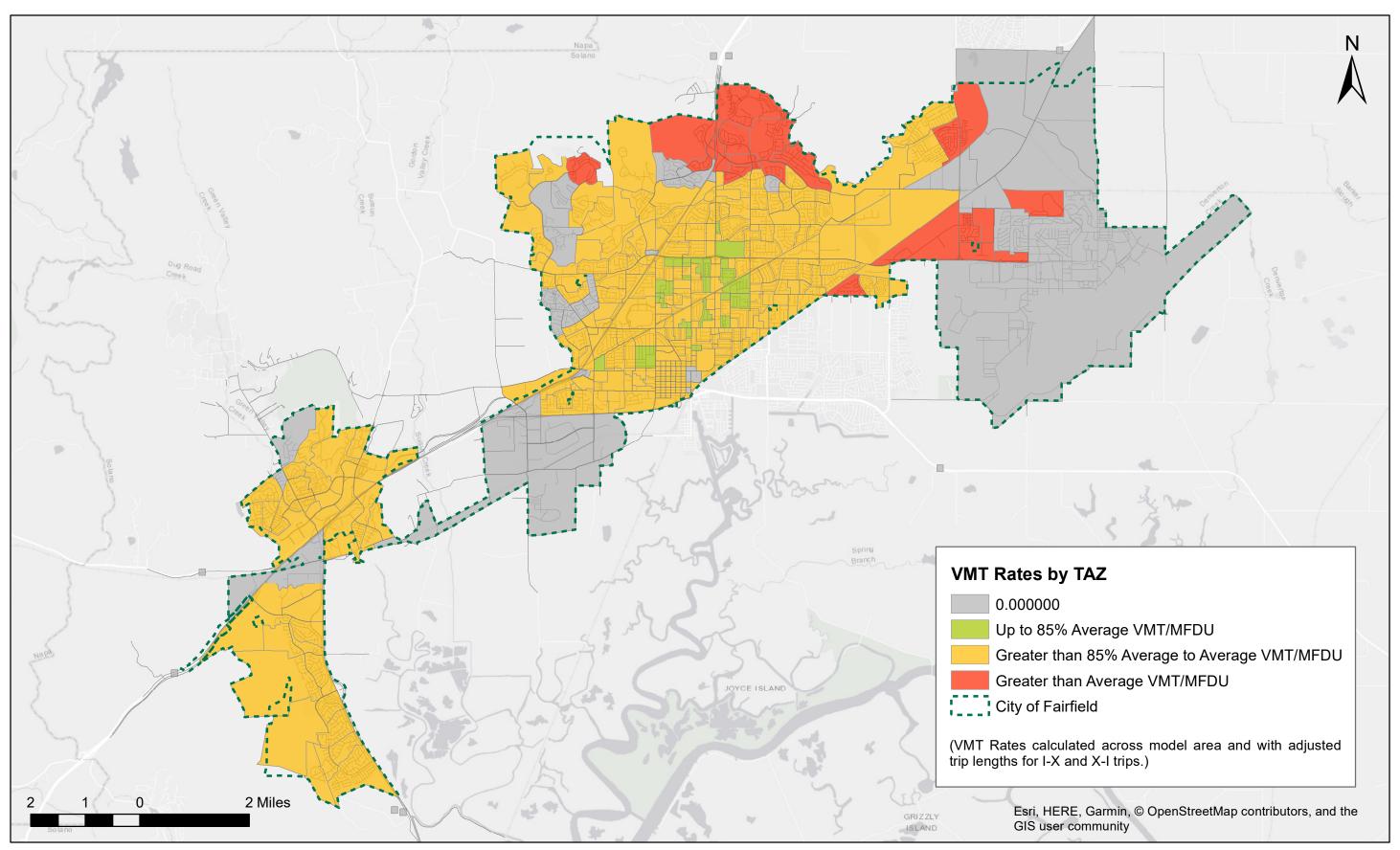


FIGURE 4. MULTIFAMILY RESIDENTIAL VMT BY TAZ

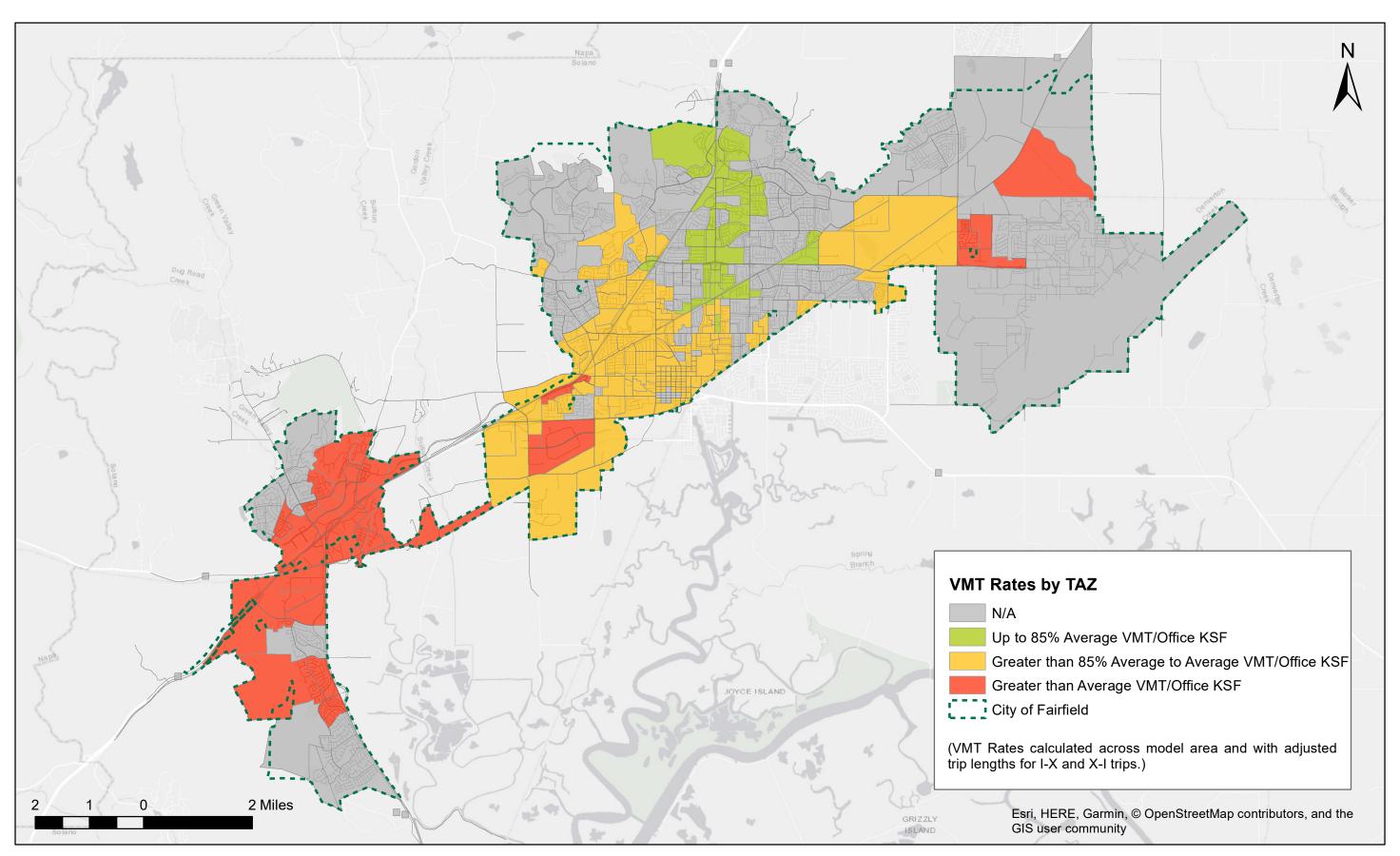


FIGURE 5. OFFICE VMT BY TAZ

- Projects located in the TAZs shown in **yellow** would be presumed to generate VMT at more than 85 percent but less than the baseline average rate for the Fairfield area (i.e. above the recommended threshold) and would require VMT analysis.
- Projects located in the TAZs shown in **red** would be presumed to generate VMT above the
  baseline average rate for the Fairfield area and would require VMT analysis. Projects located
  in the "red" TAZs, especially those in suburban greenfield sites, would be the most
  challenging to mitigate.

Note that many of the parcels within the Train Station Specific Plan (TSSP) area may be presumed to have less than significant VMT impacts due to proximity to the train station. Most of the remaining TSSP parcels falling outside the half mile radius do not have a VMT rate calculated directly from the model. These have been left undefined (shown in gray on the map) since the Train Station Specific Plan has an adopted Environmental Impact Report (EIR). Whether or not projects tiering from a previously adopted environmental document require additional analysis if VMT impacts were not examined is a question that has not been definitively answered from a legal standpoint. Therefore, a conservative approach would be to require VMT analysis for projects in the TSSP area that cannot otherwise be presumed less than significant due to size or transit proximity, or as a local serving retail or affordable housing project.

### **SECTION 3. VMT MITIGATION AND EFFECTIVENESS**

#### **VMT MITIGATION**

The CAPCOA report on the effectiveness of various VMT mitigation strategies was used as the operable resource document for identifying the most suitable project level VMT mitigation strategies for the City of Fairfield. **Table 4** summarizes the recommended measures and their documented range of effectiveness. Additional detail on the evaluation of effectiveness for each method may be found in the appendix to this report.

Although the effect of multiple mitigation strategies is additive, CAPCOA establishes overall caps on maximum effectiveness when more than one mitigation strategy is applied. The recommended caps vary by land use context as follows:

- Urban settings 75 percent maximum VMT reduction
- Compact infill settings 35 percent maximum VMT reduction
- Suburban settings 15 percent maximum VMT reduction

Consequently, for some very high VMT locations (red TAZs on screening maps), projects could potentially be unmitigable if located within suburban and/or greenfield settings.

### **MITIGATION FEE PROGRAMS**

VMT mitigation banks or exchanges would provide an alternative to mitigating VMT impacts at the project site level. With a mitigation bank, developers would pay a fee in lieu of specific on-site mitigation measures. The combined fees would then be used to pay for mitigation projects across the City. With a mitigation exchange, developers would select from a pre-approved list of mitigation projects throughout the City.

Any such mitigation fee program or exchange would need to support its mitigation estimates with rigorous analysis and would be subject to the legal requirements of CEQA (i.e., CEQA mitigation monitoring requirements) and the California Mitigation Fee Act. As such, this option would not be a quick or easy undertaking.

# **CASE STUDY CALCULATIONS**

**Table 5** provides example projects subject to VMT mitigation under the proposed thresholds. As shown, two of the four example projects are not mitigatable with the candidate strategies and would result in a significant and unavoidable impact under CEQA. The examples illustrate the challenges of mitigating VMT at the project site level. This may have the intended effect for applicants to modify their projects by size, type or location to generate less VMT and align with state objectives for greenhouse gas reduction, land use efficiency, energy efficiency, and less overall reliance on the automobile.

TABLE 4. MITIGATION STRATEGIES

STRATEGY	DESCRIPTION	REPORTED RANGE OF EFFECTIVENESS	NOTES		
LAND USE MEASURES					
INCREASE DENSITY	This measure involves increasing the density of the proposed project.	0.8-30%	Project density will be somewhat determined by zoning. Also, increased project densities may result in LOS or other effects during local transportation analysis.		
INCREASE DIVERSITY OF URBAN AND SUBURBAN DEVELOPMENTS (MIXED USE)	Involves including more than a single land use(s) in the proposed project.	9-30%			
INTEGRATE AFFORDABLE AND BELOW MARKET RATE HOUSING	While housing developments that are 100 percent affordable may be presumed less than significant, this method provides credit for partially affordable developments.	10.2 - 32.5%	Based on percent affordable by income category.		
IMPROVE DESIGN OF DEVELOPMENT (INCREASING NETWORK CONNECTIVITY)	This measure is only appropriate for larger developments and should be implemented in conjunction with complete sidewalk coverage, pedestrian crossings, street trees and other design elements that support a pedestrian-oriented environment	3-21%	Based on intersections per square mile.		
	NEIGHBORHOOD/SITE ENHANCE	MENTS			
PEDESTRIAN NETWORK IMPROVEMENTS	Provide a pedestrian access network that internally links all uses and connects to all existing or planned external streets and pedestrian facilities contiguous with the project site, minimize barriers to pedestrian access and interconnectivity, eliminate physical barriers such as walls, landscaping, and slopes that impede pedestrian circulation.	1-2%	Would need to develop set of standards for pedestrian connections that go "above and beyond" existing requirements.		

**TABLE 4. MITIGATION STRATEGIES** 

STRATEGY	DESCRIPTION	REPORTED RANGE OF EFFECTIVENESS	NOTES
PROVIDE TRAFFIC CALMING MEASURES	Project design will include pedestrian/bicycle safety and traffic calming measures in excess of jurisdiction requirements.	0.25-1%	Depends on percent of project intersections and streets where improvements are provided.
PROVIDE BIKE PARKING IN NON-RESIDENTIAL PROJECTS	A non-residential project will provide short- term and long-term bicycle parking facilities to meet peak season maximum demand.	0.63%	Not recommended as a stand- alone strategy in the CAPCOA report but alternative literature cites a modest 0.625% reduction.
	PARKING POLICY/PRICING	G	
LIMIT PARKING SUPPLY	The project will change parking requirements and types of supply within the project site to encourage "smart growth" development and alternative transportation choices by project residents and employees.	5-12.5%	May conflict with existing parking requirements.
UNBUNDLE PARKING COSTS	This project will unbundle parking costs from property costs. Unbundling separates parking from property costs, requiring those who wish to purchase parking spaces to do so at an additional cost from the property cost.	2.6-13%	Unbundle costs for parking from building rent. Fairfield market may not support this measure.
VOLUNTARY PARTICIPATION IN COMMUTE TRIP REDUCTION PROGRAM	Sites participating in a commute trip reduction program apply strategies such as preferential carpool parking and subsidized transit passes.	1-6.2%	Fairfield has a trip reduction ordinance for work sites of more than 100 employees. This program could potentially be offered as an option for mitigation but requires ongoing monitoring on part of City.

Source: California Air Pollution Control Officers Association. Quantifying Greenhouse Gas Mitigation Measures, August 2010

TABLE 5. SAMPLE MITIGATION CALCULATIONS

PROJECT:	1. MULTIFAMILY RESIDENTIAL, 830-848 GREAT JONES	2. WISEMAN OFFICE BUILDING	3. 100 UNIT SINGLE FAMILY RESIDENTIAL PROJECT IN TAZ 354	4. 200 UNIT APARTMENT COMPLEX IN TAZ 347
BASELINE VMT PER UNIT	44.5	72.1	71.8	47.7
THRESHOLD	44.1	54.3	61.8	44.1
VMT REDUCTIONS (PERCENT):				
INCORPORATE AFFORDABLE HOUSING				0.083
IMPROVE NEIGHBORHOOD CONNECTIVITY			0.013	
PEDESTRIAN NETWORK IMPROVEMENTS	0.020	0.006	0.020	
PROVIDE TRAFFIC CALMING MEASURES			0.008	0.010
PROVIDE BIKE PARKING		0.006		
UNBUNDLED PARKING COSTS <sup>1</sup>		0.136		
VOLUNTARY TRIP REDUCTION PROGRAM <sup>2</sup>		0.054		
TOTAL VMT REDUCTION <sup>3</sup>	0.020	0.202	0.041	0.093
VMT RATE AFTER MITIGATION	43.6	57.5	68.9	43.3
MITIGATED IMPACT?	Yes	No	No	Yes

# Notes:

- 1. Assumes \$200 monthly parking charge and \$6,000 annual ownership cost
- 2. Assumes suburban center effectiveness rate and 100% eligibility
- 3. CAPCOA report recommends capping total reductions at 15% for suburban locations

# REFERENCES

Office of Planning and Research. Technical Advisory on Evaluating Transportation Impacts in CEQA, December 2018.

California Air Pollution Control Officers Association. Quantifying Greenhouse Gas Mitigation Measures, August 2010.