



# Memorandum

Date: May 11, 2020  
To: Billy Gross, Tony Rozzi, and Chris Espiritu, City of South San Francisco  
From: Taylor McAdam, Daniel Jacobson, and Teresa Whinery, Fehr & Peers  
Subject: **Proposed VMT Threshold and Analysis Methods**

SF19-1040

The following memorandum is meant to summarize the proposed approach for the City of South San Francisco to assess VMT under CEQA. The contents of the memorandum are as follows:

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## SB 743 Essentials

New statewide legislation requires changes to how agencies analyze transportation impacts under the California Environmental Quality Act (CEQA). Historically, many cities used vehicle Level of Service (LOS) to analyze the environmental effects of a project on traffic congestion. California Senate Bill 743 (SB 743) requires CEQA assessment based on vehicle miles traveled, a measure of how much driving is generated by a project, to better align with state greenhouse gas (GHG) reduction goals. In short, the new CEQA law changes the focus of transportation impact analysis in CEQA from measuring impacts *to* drivers, to measuring the impact *of* driving.

The California Governor's Office of Planning and Research (OPR) has issued a *Technical Advisory* that includes general guidance for agencies to implement SB 743. Lead agencies have until July 1, 2020 to fully comply. This memorandum outlines the recommendations for VMT impact thresholds and analysis methods for the City of South San Francisco.

### What Does SB 743 Change in South San Francisco?

SB 743 has ramifications for a range of city processes, including but not limited to the General Plan, CEQA process, the entitlements review process, transportation impact fee programs, and the TDM Ordinance. VMT thresholds and methods need to be adopted by the City for land use projects, land use plans, and transportation projects. More detail on changes to the development review process are outlined below in Part I: Changes to the Development Review Process.

### VMT Metric

Different project types will require the use of different VMT metrics, including residential VMT, work VMT, and total VMT. These metrics measure how many miles South San Francisco residents travel by vehicle (residential VMT), how many work-based miles employees who work in South San Francisco travel by vehicle (work VMT), or how many total vehicle miles include an origin and/or destination in South San Francisco (total VMT). OPR guidance recommends assessing residential projects using residential VMT and office projects using work VMT. Mixed use or institutional land use projects are more nuanced and VMT recommendations are outlined below in Part II: Project & Plan Examples.

In order to compare the plan's or project's relative transportation efficiency to the regional average, OPR recommends presenting VMT as a per capita metric; residential VMT per resident, work VMT per employee, and total VMT per service population.

### Comparison Geography

OPR recommends using a regional geography for office project comparisons and either a regional or city geography for residential project comparisons. Given South San Francisco's central location in the region, we believe that the city geographic area is not robust enough to capture the full



length of most trips or evaluate the interaction of the project or plan in a regional setting. Fehr & Peers recommends using the nine-county Bay Area region as the default comparison geography for VMT assessment. The nine-county Bay Area region will capture the full length of work trips and would be most consistent with OPR's guidance. As described in Part II: Project & Plan Examples, there are a few "local-serving" land uses for which we recommend using San Mateo County as the comparison geography.

### **VMT Accounting Methodology**

A trip-based model looks at each trip in isolation while tour-based models look at a chain of trips including multiple stops. Although both can be used to calculate VMT, OPR recommends using a tour-based VMT accounting method that is based on a chain of trips. The MTC model is the sole tour-based travel demand model available for South San Francisco. However, the MTC model lacks the level of local roadway network and land use detail that is necessary for this assessment. Instead, Fehr & Peers recommends using the C/CAG Regional Model, a trip-based model, plus the South San Francisco Subarea Model to calculate both regional VMT and local VMT for the plan or project in question.

### **VMT Impact Threshold**

Different project types require different thresholds. For office, residential, and mixed-use projects, OPR suggests a reduction in VMT of 15 percent below the regional average. Exceptions to this recommendation are discussed below in Part II: Project & Plan Examples.

For retail projects and capacity-increasing roadway projects the impact should be based on the net increase in total VMT. This means that an assessment of total VMT without the project and an assessment with the project should be made; the difference between the two is the amount of VMT attributable to the project. Following OPR's guidance, any transportation project that results in a net increase in VMT would constitute a significant impact.

### **VMT Impact Mitigation Options**

The available methods of mitigating a VMT impact are to either 1) change the project or 2) implement physical or programmatic mitigations designed to reduce VMT. South San Francisco's current TDM Ordinance does not enforce implementation to the degree necessary for TDM programs to qualify under the new law. TDM mitigation is described in more detail in Part I: Changes to the Development Review Process.



## Regional VMT Benchmarks

**Table 1** shows the work, residential, and total VMT for the nine-county Bay Area region and the per capita metric for the respective populations. Equivalent metrics are presented for South San Francisco. As shown, South San Francisco has a work VMT per employee that is 14 percent *higher* than the regional average, a residential VMT per resident that is 27 percent *lower* than the regional average, and a total VMT per service population that is two percent *lower* than the regional average. This means that most employment projects in South San Francisco will have a significant VMT impact while many residential projects will likely have a less than significant impact. Mixed use and other unique land use projects will fall somewhere in between as described below in Part II: Project & Plan Examples.

San Mateo County VMT summary statistics are also presented as a point of comparison. South San Francisco exhibits lower work VMT per employee, residential VMT per resident, and total VMT per service population compared with county averages.

**Table 1: DRAFT Work, Residential and Total VMT, by Location**

Location	Total Work VMT	Total Employment	Work VMT per Employee	Total Residential VMT	Total Residential Population	Residential VMT per Resident	Total VMT	Total Population (Emp + Residents)	Total VMT per Service Population
Bay Area Region	60,757,237	4,285,001	14.2	116,114,466	8,198,636	14.2	345,789,041	12,483,637	27.7
South San Francisco	910,023	56,347	16.2	689,853	67,166	10.3	3,362,564	123513	27.2
<b>Percent Difference</b>			<b>+14%</b>			<b>-27%</b>			<b>-2%</b>
San Mateo County	6,860,036	394,228	17.4	9,098,066	742,380	12.3	33,946,470	1,136,608	29.9

Source: C/CAG-VTA Bi-County Transportation Demand Model, 2019; South San Francisco Subarea Model, Fehr & Peers, 2020.



## Part I: Changes to the Development Review Process

### Screening

One of the biggest changes with the implementation of SB 743 is the ability to “screen” or skip the VMT analysis based on project characteristics associated with lower levels of VMT. Screening is determined by proximity to transit, existing zone VMT, project size, and project type.

#### *Screening on Project Size and Type*

According to OPR, projects attracting fewer than 110 trips per day are presumed to have a less than significant transportation impact.

The City may also screen “local-serving” uses such as K-12 schools, banks, and parks. The City may also screen “local-serving” retail at a size less than 50,000 square feet. Because of the unique nature of local-serving retail and smaller projects, in that they tend to attract trips that would otherwise go a longer distance, most small projects can be assessed qualitatively and do not require a quantitative VMT analysis.

Finally, evidence supports a presumption of less than significant impact for a 100 percent affordable residential development (or the residential component of a mixed-use development) in infill locations.

#### *Location-Based Screening*

*Proximity to Transit:* CEQA statute explicitly states that projects within ½ mile of an existing or planned high-quality transit corridor or major transit station should be presumed to have no impact on VMT. In South San Francisco, major transit stations include the South San Francisco BART station, South San Francisco Caltrain station, and the San Bruno BART station. The South San Francisco Ferry Terminal does not qualify due to its lower service levels. High-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours. In South San Francisco, this includes existing bus stops along the SamTrans ECR route (along El Camino Real) and SamTrans 130 route (along parts of Grand Avenue, Linden Avenue, and Hickey Boulevard).

South San Francisco has a unique circumstance where privately operated transit service may also meet the screening criteria of a high-quality transit corridor: Genentech’s Glen Park BART shuttle operates every 12 minutes during peak periods, serving over 1,100 riders per day. The service is open to the public, and a schedule is posted on the SamTrans website. A key consideration is whether this shuttle constitutes a “fixed route” service: unlike transit agencies, Genentech does not publish any planning documents that commit to providing service for a given amount of time; however, it has operated high service levels on this route for over a decade. One possibility is to recognize the Glen Park BART shuttle as a high-quality transit route only if 1) a five year



commitment is made to serving stops at 15 minute or better frequency (similar to a transit agency's Short Range Transit Plan); and 2) the service is open to the public with a published map and schedule.

Upcoming changes to the SamTrans bus network (Reimagine SamTrans) and East of 101 shuttle services may change the transit screening process. The City should ensure its screening process reflects the latest service levels.

Fehr & Peers recommends screening based on *existing* ½-mile walksheds, as shown in **Figure A**, unless a project includes new pedestrian connections that would change the walkshed. If a project qualifies for screening based on existing walksheds, but these walksheds still present a barrier to pedestrian access, the City may consider adding offsite improvement measures for pedestrian access during entitlement review.

*Low-VMT Zones:* OPR's *Technical Advisory* presents a method for "map-based" screening, where projects located in existing low-VMT zones (assessed at the TAZ-level) require only a qualitative discussion of VMT.

Map-based screening would only apply to residential projects in South San Francisco given that work VMT is so much higher than the regional average. Attached **Figure B** shows that residential low-VMT zones cover all but the most auto-oriented corners of the City.

#### Infill Best Practice

Location-based screening is only valid if proposed projects comply with planning best practices for infill development. Disqualifications include a Floor Area Ratio (FAR) of less than 0.75, parking ratios higher than required by the City, inconsistency with Plan Bay Area, or replacement of affordable residential units with a smaller number of market-rate units. The City may still consider requiring physical improvement measures during entitlement review to further support pedestrian access to transit as described above.

#### *Transportation Project Screening*

The City may screen transportation projects based on whether they result in increased or decreased vehicle capacity on a roadway in the regional Congestion Mitigation Program. Certain transportation projects may be presumed not to increase vehicle capacity, and therefore not to contribute to increased VMT. Example projects include installation of bicycle, pedestrian, or transit facilities, or projects designed to address a local circulation concern. As such, transportation projects that do not result in an increase in vehicle capacity or are not located on a roadway in the regional CMP may be discussed qualitatively only.



## Mitigations

Mitigations should exhibit a nexus with the Project's VMT impact, focusing on physical and programmatic measures to shift project-related trips to transit and active transportation. The following types of mitigations may be considered:

- Offsite bike lanes and trails to improve access to transit stations and connect a project with the City's existing and planned bike network.
- Offsite sidewalk and crosswalk additions/improvements, bulbouts, median refuges, slip lane removals, road diets, and other pedestrian improvements to provide a direct path to transit stops/stations and support mode shift to walking for short trips.
- Offsite bus and shuttle infrastructure or service improvements, such as on-street stops, transit lanes, queue jumps, transit signal priority, or increased frequency along with access improvements described above.
- Site plan modifications to improve project connectivity to transit and active transportation.
- Fully subsidized transit fares and participation in local employer shuttle programs, if not already included in a project's TDM program.
- Provision of on-site amenities such as childcare, gym equipment, and food service to reduce off-site trips.

Recent South San Francisco CEQA studies with VMT impact analyses have approached mitigations in this manner, emphasizing building out planned citywide improvements that may intersect with or serve a large share of project-related trips.

Even with such mitigations, it is likely that most VMT impacts for employment projects will be significant and unavoidable due to the City's high VMT and lack of available evidence to quantify reductions below the threshold of significance. Nonetheless, by accepting a significant and unavoidable impact, it is still incumbent on the City and project sponsor to implement all reasonable and feasible measure available to partially mitigate the impact.

## Citywide Planning Considerations

### *What about the TDM Ordinance?*

The City's TDM Ordinance functions primarily as a traffic management measure and does not provide "substantial evidence" to mitigate VMT impacts under CEQA. The TDM Ordinance focuses on managing drive alone mode share, resulting in performance consistent with countywide averages.<sup>1</sup> VMT is also shaped by vehicle trip generation and vehicle trip lengths, which are not

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<sup>1</sup>In 2017, the TDM Ordinance covered about 19,000 of the City's 57,000 employees. Drive-alone mode shares vary by employer, with Genentech having the lowest (59 percent for 12,000 employees) while other



monitored by the TDM Ordinance. Data collected for the General Plan and recent transportation impact analyses suggest that South San Francisco employers tend to have average trip generation rates and above-average vehicle trip lengths, which contribute to above-average VMT. Therefore, the effects of TDM programs consistent with the TDM Ordinance requirements should already be reflected in VMT thresholds described in this document.

#### *What about Impact Fees?*

SB 743 does not change anything about the Mitigation Fee Act, so there is no inherent legal contradiction between the City's existing impact fee programs and the upcoming switchover to using VMT as a CEQA metric. The City currently has two transportation impact fees funding general project expenditures – an East of 101 Traffic Impact Fee, which funds projects targeting intersection LOS, and a Bicycle & Pedestrian Impact Fee, which provides a small funding stream for pedestrian and bicycle projects.

However, the City may still want to reconsider its approach to impact fees in the context of the General Plan and citywide planning processes. While projects in the East of 101 Traffic Impact Fee have acted as a de-facto source for intersection LOS mitigations in EIRs, analysis conducted in the Mobility 20/20 Study suggests these projects are increasingly ineffective at addressing corridor-wide transportation issues and often counterproductive in supporting mode shift and VMT goals.

#### *What role does LOS play?*

While SB 743 removes vehicle delay from the assessment of environmental concerns, it continues to allow cities to set standards for local roadways as part of their General Plan and Circulation Element. Essentially, should the City wish to retain LOS as part of its development review process, vehicle delay and traffic concerns would be addressed during the entitlements and development application process rather than as an environmental concern. LOS may also be addressed in an Impact Fee program as described above.

If the Circulation Element of the General Plan includes an LOS-based standard, the environmental analysis of the General Plan may find a significant impact to VMT, because such a standard would likely require roadway capacity improvements that increase total VMT in the City.

A hybrid approach by some cities has been to maintain an LOS policy goal, but to supersede this goal with a complete streets policy that prioritizes safety and multimodal accessibility over LOS. The City of South San Francisco's already has a Complete Streets Policy, but in practice it has typically been superseded by the LOS policy goal in the past.

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office/R&D averaging 73 percent (encompassing 6,00 employees) . The citywide and countywide drive alone commute mode share is 71 percent, suggesting the TDM Ordinance helps the City match county averages.



## Part II: Project and Plan Examples

This section examines the transportation impact analysis process for five hypothetical projects.

### Project 1: 200-Unit Multi-Family Building Downtown

Upon confirming that the proposed project meets infill best practices, the City could use map-based screening to dismiss VMT impacts. This is because the project would be assessed using residential VMT per resident and Downtown is in a low residential-VMT zone. VMT would be discussed qualitatively alongside project impacts on geometric design hazards, emergency vehicle access, bicycle and pedestrian connectivity, and transit.

### Project 2: 500,000-Square Foot Office Development East of 101

Upon confirming that the proposed project falls outside of the high-quality transit screening buffer, the City would require a quantitative VMT analysis to be performed. The office development is large enough to necessitate a local model run to assess work VMT per capita. The model would first be calibrated to existing conditions, at which point the relevant analysis area would be modified to include the proposed land use. The model would be run for No Project and Plus Project scenarios, and total VMT for the project site would be divided by the projected number of employees. If the total is at least 15 percent below the regional average for work-based VMT per worker, there would be a finding of a less-than-significant impact on VMT; otherwise, there would be a significant impact to VMT.

### Project 3: City-Led Mixed-Use Specific Plan in Lindenville

City-led area plans cannot be screened out of VMT impact analysis. A specific plan would be analyzed using a local model run to assess total VMT. The difference in VMT would be compared with and without the project on both a total VMT basis and a per capita VMT basis. Per capita VMT would be assessed per service population and would be the total VMT for each scenario divided by the total number of daily employees, residents, and visitors for each scenario.

The specific plan would need to be fully assessed for its effects on VMT. If the plan increases both total VMT *and* VMT per service population is more than 15 percent above the regional average, it would have a significant impact on transportation; otherwise, it will have a less-than-significant impact on transportation. This plan could also be assessed by looking at each population separately (i.e., residential VMT per resident, work VMT per employee, other (non-home or work) VMT per visitor).

If VMT were increased with the specific plan, the sole mitigation would be to change the plan until the land use changes did not result in a VMT increase. However, once VMT impacts have been discussed and accepted, future projects within the Plan would be able to proceed without necessarily requiring an EIR.



#### **Project 4: New Primary School**

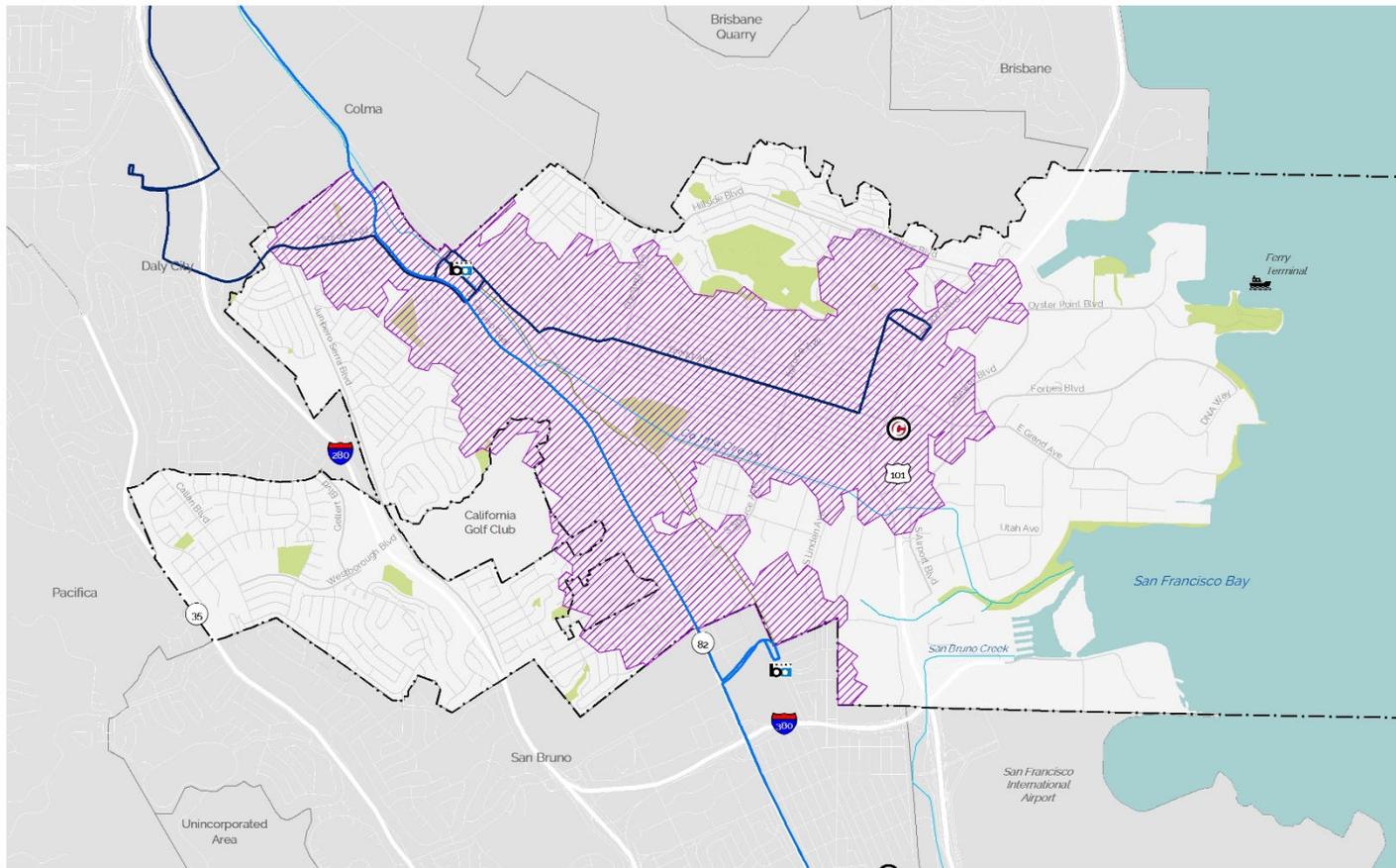
OPR guidance states that increasing access to “common goods and services, such as groceries, schools, and daycare” is a potential measure to reduce VMT. Adding a school or grocery store to a neighborhood that does not have one, can reduce the trip length for residents in that neighborhood to access those good and services. OPR only suggests quantitative thresholds for office, residential, and retail projects; it leaves discretion of these “other” land use types to lead agencies. The City could choose to identify a list of “local serving” land uses for exemption from quantitative VMT analysis.

This list should be specific, however, in defining “local serving” for each land use category. Some grocery stores may serve a more regional purpose (Costco, for example), as may also be the case for some schools (a private school, for example). The list of local serving uses can be a guide and evaluated on a project-by-project basis at the City’s discretion. Upon confirming that a project is local serving, the project can proceed with a qualitative discussion of VMT only. Should there be concern that a retail, institutional, entertainment, or other use possibly create a regional draw, VMT should be evaluated quantitatively.

If a project is large enough, its effect on VMT can be evaluated using the South San Francisco Subarea Model. For smaller projects, VMT per capita can be compared to a County or Regional average using an off-model comparison. For a private school project, for example, school-based VMT per student for the project could be compared to the countywide school-based VMT per student. The intent of this comparison is to prove that the private school is also “local serving” and that the VMT per student is not any higher than the countywide average. This is different than the threshold of 15 percent below the regional average because unlike with office trips and residential trips, local-serving schools or retail are already the best-case scenario. It would be unreasonable to ask a project to reduce its VMT impact below the best-case scenario.

#### **Project 5: Intersection Expansion on El Camino Real**

Transportation projects are assessed using total VMT and not compared on a per capita basis. An intersection expansion—such as adding a left-turn pocket—would require a qualitative discussion of VMT, unless it was located on, or would have capacity effects on, a roadway in the CMP (in South San Francisco this is restricted to El Camino Real or a freeway). Thus a roadway project on El Camino Real would need to be studied quantitatively by using the South San Francisco Subarea Model to assess total VMT with and without the additional roadway capacity. If the intersection expansion resulted in no change in VMT, or a change in VMT less than the margin of error of the model, there would be no significant impact to transportation. If the change increased VMT, there would be a significant impact to transportation. If the model shows an increase in VMT, the primary mitigation would be to change the project.



- 15-min Samtrans Service**
- Route 130
  - ECR/ECR Rapid
- Existing High Quality Transit Areas**
- Half-mile walkshed

0 0.25 0.5 1 Miles



Spring 2020

Figure A - High Quality Transit Screening Map

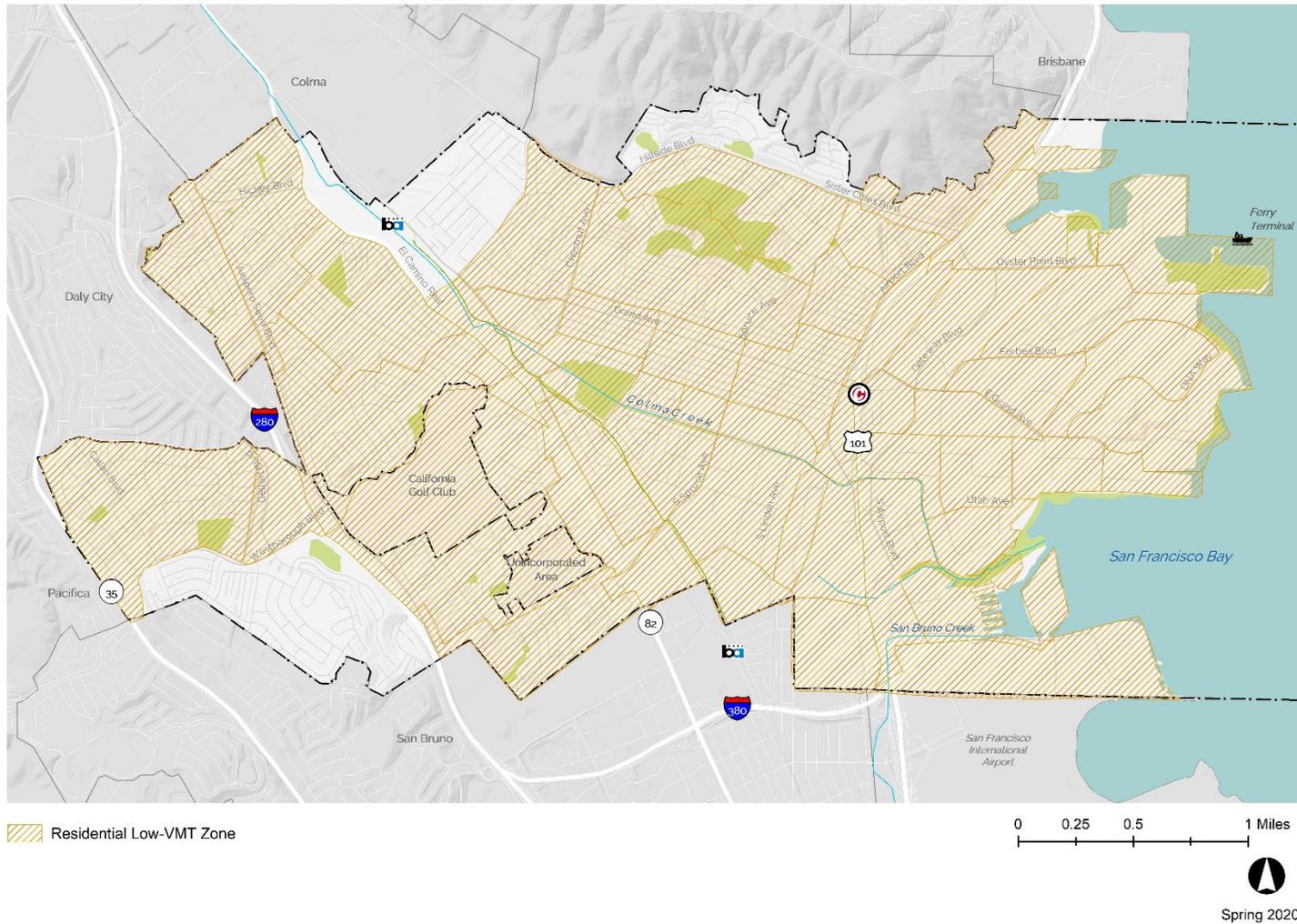


Figure B - Low VMT Screening Map