

March 11, 2021

Mr. Jack Robson  
Cornerstone Communities  
4365 Executive Drive, Suite 600  
San Diego, CA 92121

LLG Reference: 3-20-3306

Subject: **Laurel Heights Project, VMT Assessment**

Dear Mr. Robson:

Linscott, Law & Greenspan, Engineers (LLG) has prepared this Vehicle Miles Traveled (VMT) Assessment for the subject project. The project site is located south of Mission Gorge Road and west of SR 125 in the City of Santee. It is proposed to develop the site (located at 7737 and 7739 Mission Gorge Road) with 80 condominiums and access to Mission Gorge Road will be via Aubrey Glen Drive. **Figure A** shows the project area map and **Figure B** shows the project's site plan.

**Table A** shows a trip generation summary. The project is calculated to generate 640 ADT.

The City of Santee does not have published guidelines for conducting either screening level or full VMT analysis. Therefore, the San Diego Region Guidelines (May 2019) prepared by the Institute of Transportation Engineers (ITE) were utilized. Page 4-3 of these guidelines discusses the ADT threshold for determining when a VMT Analysis needs to be prepared. **Two Alternatives are discussed:**

**Alternative 1** states that if a project is consistent with the City General Plan and generates under 1,000 ADT, a VMT analysis is not required.

**Alternative 2** discusses a 200 ADT threshold and projects generating more than this amount would require a VMT Analysis. **Appendix A** contains the ITE guidelines.

The project is located in close proximity to many services that will cut down on the length of travel necessary for drivers on a daily basis. These include a grocery store only 2.6 miles away, the Town Center only 3.2 miles away and schools only a short distance away (Chet F. Harritt Elementary / Middle School – 1 mile and West Hills High School – 1.8 miles).

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In addition, the project is located only 0.3 miles from the nearest bus stop (route 834) and 3.2 miles from the MTS Trolley Stop at the Mission Gorge / Cuyamaca Road intersection. (*see Figure C*)

Finally, it should be noted that the property site was previously used as by Pure Flow. This use generated many truck trips per day, many of them long distances. Eliminating this high VMT use is a positive.

In conclusion, for the reasons stated above, the recommended threshold for determining the need for a VMT Analysis is Alternate 1 (1000 ADT).

The project should be screened out from VMT Analysis and presumed to have a less than significant impact.

Please call me if you have any questions.

Sincerely,  
Linscott, Law & Greenspan, Engineers



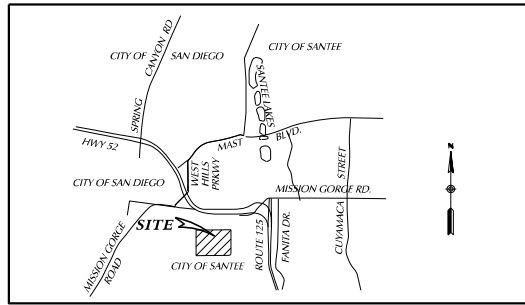
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**Table A**  
**Trip Generation Table**

| Land Use & Size                | Trip Rate & Credits              | ADT | AM Peak Hour |              |        |     |       | PM Peak Hour |              |        |     |       |
|--------------------------------|----------------------------------|-----|--------------|--------------|--------|-----|-------|--------------|--------------|--------|-----|-------|
|                                |                                  |     | % of ADT     | In:Out Split | Volume |     |       | % of ADT     | In:Out Split | Volume |     |       |
|                                |                                  |     |              |              | In     | Out | Total |              |              | In     | Out | Total |
| Proposed Project               |                                  |     |              |              |        |     |       |              |              |        |     |       |
| Condominium Multi-Family Units |                                  |     |              |              |        |     |       |              |              |        |     |       |
| 80 units                       | Trip Rate <sup>a</sup> : 8 / KSF | 640 | 8%           | 20 : 80      | 10     | 41  | 51    | 10%          | 70 : 30      | 45     | 19  | 64    |

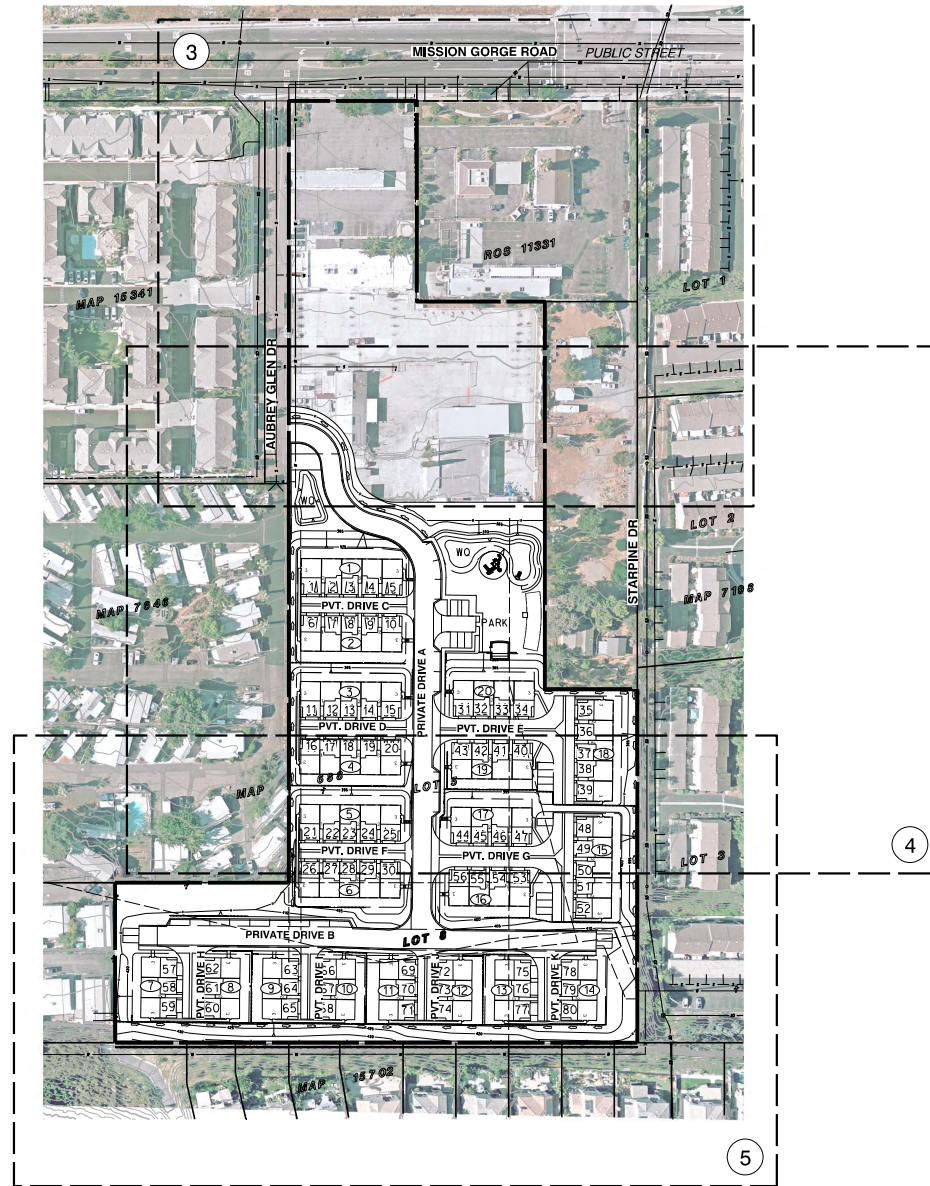
SOURCE: SANDAG, Rate is based on the Multiple Dwelling Units (6-20 units/acre).



VICINITY MAP  
NO SCALE

### LEGEND

|                            |          |
|----------------------------|----------|
| PROJECT BOUNDARY           | —        |
| EXIST TOPO CONTOUR         | ~        |
| LOT LINE                   | —        |
| PAD ELEVATION              | PE 384.0 |
| RESIDENTIAL BLDG NUMBER    | ⑤        |
| RESIDENTIAL UNIT NUMBER    | 5        |
| SD CLEANOUT                | □        |
| SD INLET                   | □        |
| PVT STORM DRAIN            | —SD—     |
| PVT SEWER MAIN (8")        | —S—      |
| SEWER MANHOLE              | ○        |
| WATER MAIN (8")            | —W—      |
| FIRE HYDRANT               | ⊕        |
| SLOPE (2:1 MAX.)           | —V—      |
| STREET GRADIENT            | —2%—     |
| STREET ELEVATION           | 350.4    |
| BROW DITCH                 | —>—      |
| RETAINING WALL             | —        |
| TOP OF WALL ELEVATION      | TW       |
| FINISHED SURFACE ELEVATION | FS       |



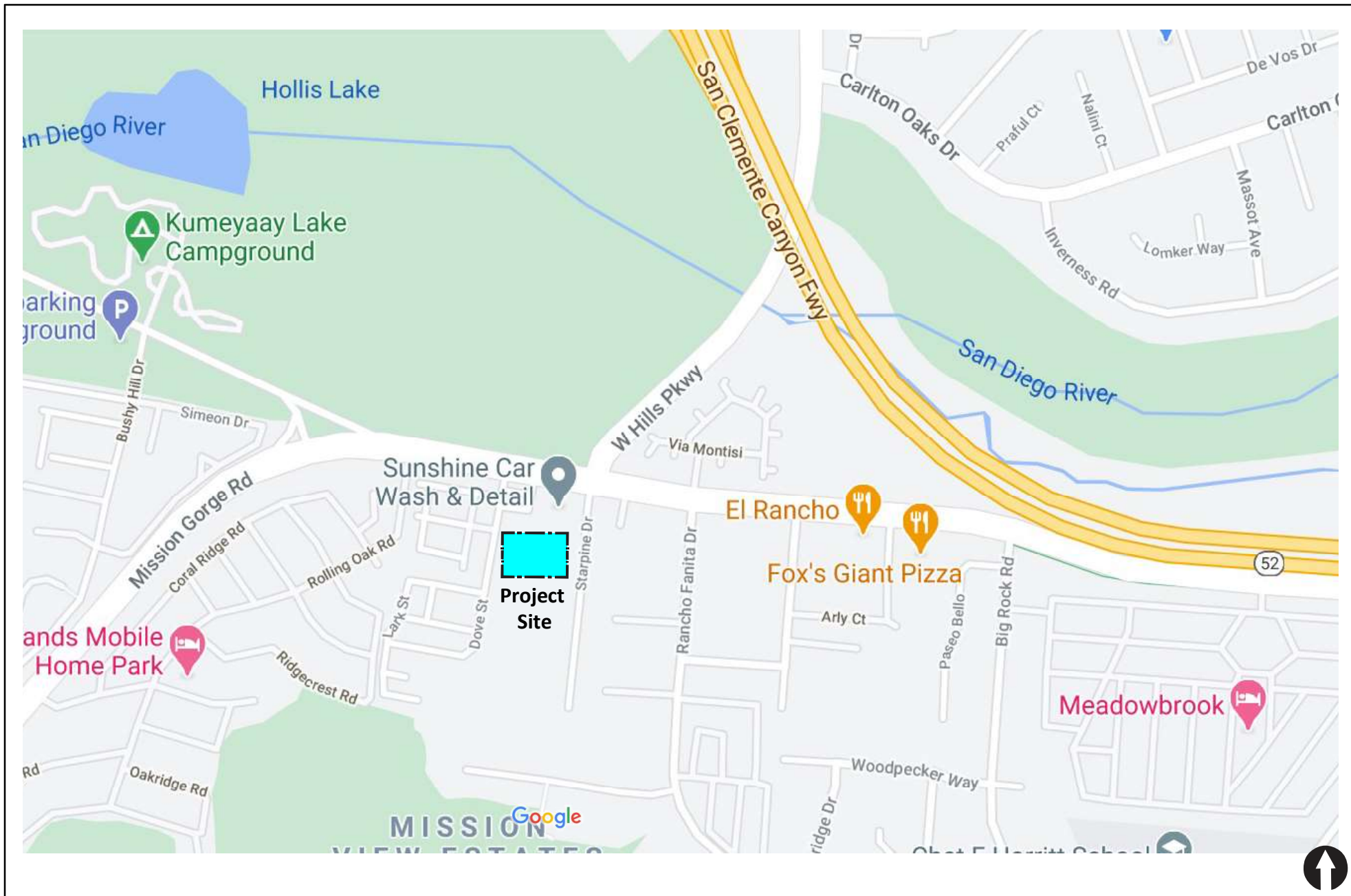


Figure B

## Project Area Map

LAUREL HEIGHTS

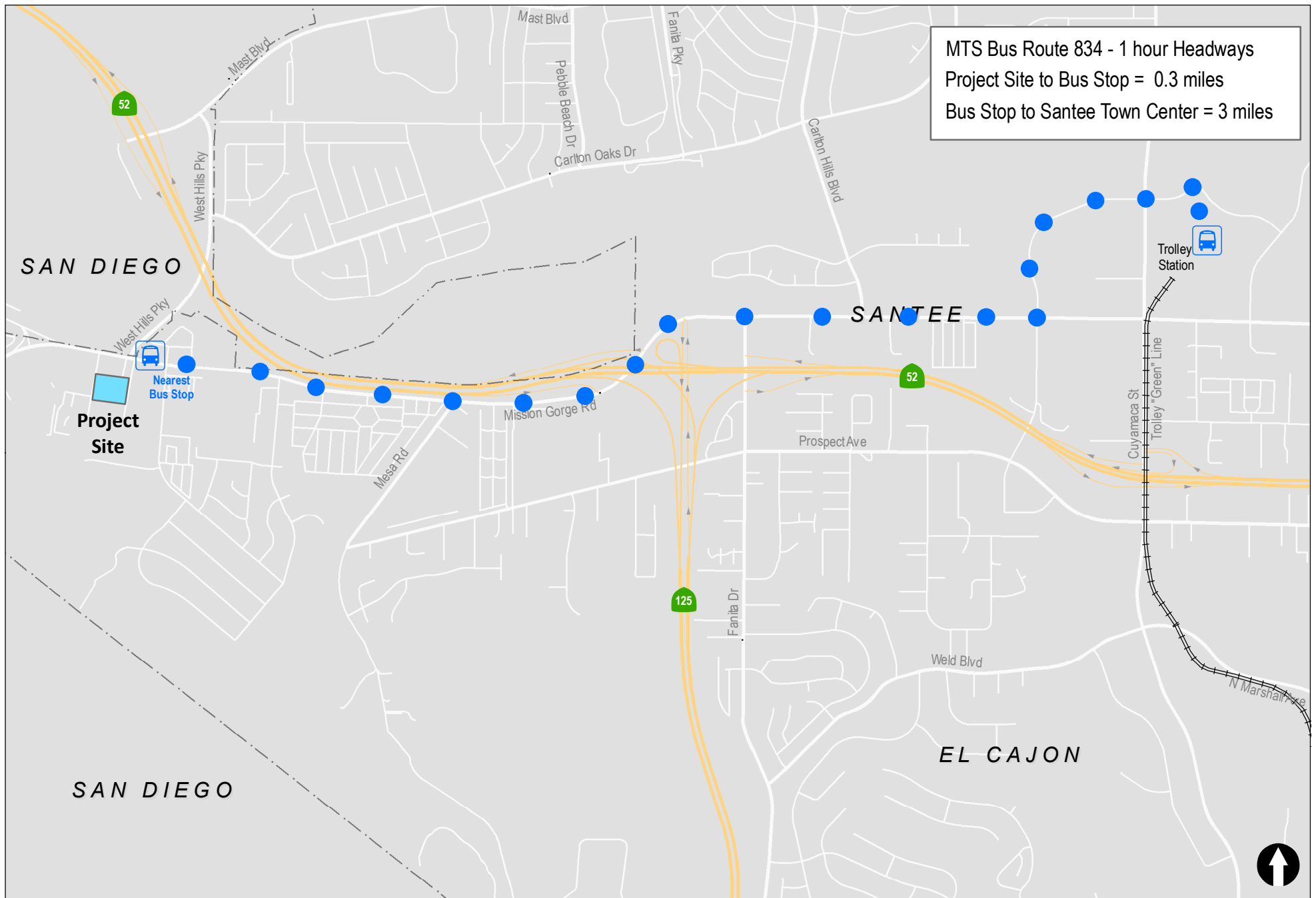


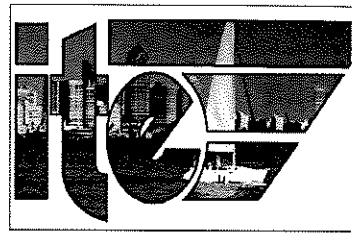
Figure C

## Existing Bus Stops

LAUREL HEIGHTS

# **APPENDIX A**

## **ITE GUIDELINES**



**GUIDELINES FOR TRANSPORTATION IMPACT STUDIES  
IN THE SAN DIEGO REGION**

**May 2019**

## **ACKNOWLEDGEMENTS**

This technical paper was prepared by members of the Institute of Transportation Engineers, San Diego Section, Transportation Capacity and Mobility Task Force, SB 743 Subcommittee.

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# **GUIDELINES FOR TRANSPORTATION IMPACT STUDIES (TIS) IN THE SAN DIEGO REGION**

## **1.0 BACKGROUND**

The original Guidelines for Traffic Impact Studies in the San Diego Region (ITE/SANTEC, 2000) have been in use for over 19 years. They were developed by a group of volunteers from the San Diego Section of the Institute of Transportation Engineers (ITE) and the San Diego Traffic Engineers Council (SANTEC). The guidelines were later incorporated into the region's Congestion Management Program (CMP) prepared by the San Diego Association of Governments (SANDAG, 2008). Although inclusion in the Congestion Management Program (CMP) increased the visibility of the guidelines for a period of time, SANDAG has since opted out of the CMP process.

The intent in preparing the year 2000 guidelines was to promote consistency in the methodology for traffic impact studies used by different agencies in the San Diego region. While these guidelines were not intended to be used as a standard or a requirement, they provided a methodology for traffic impact studies that was similar to the methodology used by most agencies within the region. Some agencies in the region have "adopted" the guidelines by specifying that traffic impact studies follow the procedures recommended by the guidelines. Other agencies, including San Diego County and the City of San Diego, prepared their own guidelines, which included some elements in common with the regional guidelines.

The impetus to develop a revised set of regional transportation impact study guidelines is primarily related to the passage of Senate Bill 743 (SB 743) in the fall of 2013. This legislation led to a change in the way that transportation impacts are measured under the California Environmental Quality Act (CEQA). Starting on July 1, 2020, automobile delay and level of service (LOS) may no longer be used as the performance measure to determine the transportation impacts of land development projects under CEQA. Instead, an alternative metric that supports the goals of the SB 743 legislation will be required. Although there is no requirement to use any particular metric, the use of vehicle miles traveled (VMT) has been recommended by the Governor's Office of Planning and Research (OPR). This requirement does not modify the discretion lead agencies have to develop their own methodologies or guidelines, or to analyze impacts to other components of the transportation system, such as walking, bicycling, transit, and safety. SB 743 also applies to transportation projects, although agencies were given flexibility in the determination of the performance measure for these types of projects.

The intent of SB 743 is to bring CEQA transportation analyses into closer alignment with other statewide policies regarding greenhouse gases, complete streets, and smart growth. Using VMT as a performance measure instead of LOS is intended to discourage suburban sprawl, reduce greenhouse gas emissions, and encourage the development of smart growth, complete streets, and multimodal transportation networks.

## **2.0 PURPOSE OF GUIDELINES**

The guidelines described in this report were prepared to provide methodologies for transportation engineers and planners to conduct CEQA transportation analyses for land development and transportation projects in compliance with SB 743. Lead agencies may opt-in to using VMT at any time but will be required to use it for analysis of transportation impacts of land development projects starting July 1, 2020. In addition, methodologies are provided to evaluate automobile delay and LOS outside of the CEQA process. Although no longer incorporated in CEQA (starting July 1, 2020), automobile delay and LOS continue to be of interest to transportation engineers and planners who plan, design, operate, and maintain the roadway system. In addition, delay experienced due to traffic congestion is a concern to drivers and passengers of vehicles using the roadway system.

Given the need to prepare VMT-based CEQA transportation impact analyses to satisfy the requirements of SB 743 as well as the need to evaluate the performance of the roadway system based on delay and LOS, these guidelines are divided into separate parts. Part I is focused on CEQA transportation impact analyses, while Part II is focused on the more traditional LOS-based transportation analyses, called local transportation analysis for the purpose of these guidelines. Local transportation analysis includes evaluation of any multimodal transportation improvements (transit, bicycle, pedestrian) that are recommended to support a land development project but may or may not be required as mitigation measures for a project's significant VMT impacts. Background information for each is provided below with more detail included in the sections that follow.

### **CEQA TRANSPORTATION IMPACT ANALYSIS**

The SB 743 legislation specified that the Governor's Office of Planning and Research (OPR) prepare guidelines for the implementation of SB 743. During the period from the passage of SB 743 in 2013 to the fall of 2018, OPR prepared various sets of guidelines and sought public comments from stakeholders. At the time of preparation of these transportation impact study guidelines, guidance regarding the changes to CEQA initiated by SB 743 were contained in the following documents:

- **CEQA Guidelines Revisions:** Revisions to the CEQA Guidelines were adopted into CEQA in December 2018 through a formal process conducted by the Natural Resources Agency. Additional changes can only be made through a future CEQA update process.
- **Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Advisory):** The technical advisory provides recommendations for the preparation of transportation impact analyses under SB 743. It is not formally included in CEQA and can be revised by OPR at any time without going through a formal process. Updated versions of the technical advisory are expected to be issued by OPR as new information becomes available and as California agencies gain experience in applying SB 743 to actual projects. As of the time of preparation of these transportation impact study guidelines, the current version of the technical advisory was dated December 2018.

In addition to the differences described above, the CEQA Guidelines revisions and the technical advisory also differ in the extent to which they must be followed by local agencies. The CEQA Guidelines revisions are rules that must be followed in order to prepare an adequate CEQA document. In contrast, the technical

advisory provides statewide guidance based on evidence collected by OPR that can be refined or modified by local agencies with appropriate justification and substantial evidence. (Refer to CEQA Guidelines Section 15384 for a definition of substantial evidence). As an example, the CEQA Guidelines revisions specify that a land development project's effect on automobile delay does not cause a significant environmental impact. The use of VMT is suggested as a performance metric, but there is no indication of what level of VMT increase would cause a significant environmental impact. The technical advisory suggests various thresholds for the significance of VMT impacts but does not require the use of a particular threshold. Therefore, lead agencies would be prohibited from using automobile delay to determine significant transportation impacts and would be required to use VMT instead. Lead agencies have discretion to select their preferred significance thresholds and could choose to use the thresholds suggested in the technical advisory or develop alternative thresholds. Either decision should be supported by substantial evidence that considers the legislative intent objectives of SB 743 and the specific direction the statute provides regarding setting thresholds (per the excerpts below):

SB 743 Statute - Legislative Intent – Senate Bill No. 743, Section (b)(2)

*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.*

SB 743 Statute – Section 21099(b)(1)

*Those criteria shall promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses.*

Regardless of the changes described above, SB 743 is clear in its intent that CEQA documents continue to address noise, air quality, and safety (per the excerpt below):

SB 743 Statute – Section 21099(b)(3)

*This subdivision does not relieve a public agency of the requirement to analyze a project's potentially significant transportation impacts related to air quality, noise, safety, or any other impact associated with transportation. The methodology established by these guidelines shall not create a presumption that a project will not result in significant impacts related to air quality, noise, safety, or any other impact associated with transportation.*

Although State CEQA Guidelines section 15064.3 states that generally vehicle miles traveled is the most appropriate measure of transportation impacts, other relevant considerations may include the project's impact on transit and non-motorized travel. A complete environmental review will generally consider how projects effect VMT in addition to effects on walking, bicycling, transit, and safety.

The CEQA transportation impact analysis described in these transportation impact study guidelines is based on the technical advisory prepared by OPR, but refinements and clarifications have been added to reflect local conditions. For any subsequent revisions of the SB 743 technical advisory prepared by OPR, it would need to be determined whether the new information would suggest a change in the methodologies for conducting CEQA transportation impact studies in the San Diego region.

## **LOCAL TRANSPORTATION ANALYSIS**

As stated above, localized traffic congestion remains a concern to transportation engineers and planners as well as the traveling public. It is recommended that consideration be given to preparation of a local

transportation analysis for all land development and transportation projects which evaluate a project's access and circulation within and nearby the project site. The local transportation analysis would provide analysis of roadway conditions where there is the potential that substantial worsening of traffic congestion would result due to implementation of the project. In addition, it would analyze the need for multimodal improvements in cases where there is the potential for the project to cause a substantial worsening of conditions for multimodal travel. Since any increases in traffic congestion or vehicular delay would not constitute a significant environmental impact, the local transportation analysis could be included in the project's CEQA document for information only or it could be provided in a separate document. The purposes of the local transportation analysis may include, but are not limited to the following:

- Recommendations for any roadway improvements that should be built/implemented by the project (or should be built/implemented by the project in coordination with other nearby land development projects) based on the project's expected effect on vehicular delay and LOS.
- Recommendations for any multimodal transportation improvements (transit, bicycle, pedestrian) that should be built/implemented by the project (or should be built/implemented by the project in coordination with other nearby land development projects). Recommended multimodal transportation improvements may be required as mitigation measures for transportation impacts related to VMT increases or they may be recommended for other reasons.
- Transportation analysis needed to determine the appropriate level of fees for multimodal transportation improvements if the local jurisdiction has a fee program in place.
- Documentation of the project's expected effect on vehicular delay and level of service in the nearby transportation system.

The roadway analysis methodologies recommended for conducting local transportation analysis, as detailed in Part II of these guidelines, are based on the previous regional traffic impact study guidelines, with changes to reflect evolution in the practice that has occurred. Users of these guidelines should note that transportation analysis advances occur each year as documented through key conferences, including the Transportation Research Board (TRB) Annual Meeting. Further, new data vendors, and new mobility options continue to evolve. As such, the recommended methodologies in this document may require ongoing updates and refinements. The recommended methodologies for multimodal transportation analysis generally reflect new procedures that were not included in the previous guidelines.

The intent of these guidelines is that agencies in the San Diego region be encouraged to implement Part I – CEQA guidelines to promote consistency in methodology and the pursuit of VMT reductions to meet regional and state goals. It is recognized that agencies may wish to make specific exceptions to these guidelines to account for local conditions. Agencies may also desire to have additional analyses conducted outside of the CEQA analyses to help inform staff and decision makers in reviewing a project. To that end, Part II – Local Transportation Analyses reflects an update to the previous regional Traffic Impact Study Guidelines.

### **3.0 PROJECT COORDINATION AND STAFF CONSULTATION**

TIS preparers are encouraged to discuss the project with the lead agency's staff at an early stage in the planning process. An understanding of the level of detail and the assumptions required for the analysis should be reached. While a pre-submittal conference is highly encouraged, it may not be a requirement. For straightforward studies prepared by consultants familiar with these TIS procedures, a telephone call or email, followed by a verification of key assumptions, may suffice. Transportation impact studies should be prepared by a qualified transportation professional. Lead agencies should consider requiring that all transportation impact studies be prepared by or reviewed under the supervision of a licensed traffic engineer.

## **PART I – CEQA TRANSPORTATION ANALYSIS**

## **4.0 INDIVIDUAL LAND DEVELOPMENT PROJECTS AND SPECIFIC PLANS**

The recommended methodology for conducting a VMT analysis is based on guidance prepared by the California Governor's Office of Planning and Research (OPR) as provided in the published Technical Advisory on Evaluating Transportation Impacts in CEQA. At the time of writing of these guidelines, the current version of OPR's technical advisory was dated December 2018. The guidance recommended by OPR has been modified to be better suited to local conditions in the San Diego region. These modifications are noted in the details described later in this chapter.

The basic process is to compare a project's estimated VMT/capita or VMT/employee to average values on a regional, citywide, or community basis. The target is to achieve a project VMT/capita or VMT/employee that is 85% or less of the appropriate average based on suggestions in these guidelines. Note that lead agencies have discretion for choosing a VMT metric and threshold. The selection should represent how VMT reduction is balanced against other objectives of the lead agency and be supported by substantial evidence.

The methodology for determining VMT/capita or VMT/employee is related to the project's expected daily trip generation. The process for determining appropriate methodology to be used for conducting a VMT analysis for individual land development projects and specific plans is summarized in Figure 4-1.

The remainder of this section of the guidelines is divided into individual components that describe different aspects of the methodology. Other methodologies for VMT analysis could be considered at the discretion of the lead agency. However, it is recommended that any VMT methodologies within a particular analysis use consistent methodologies and that VMT analysis consider the differences between trip-based VMT analysis methodologies and tour-based VMT methodologies, as described in OPR's technical advisory.

### **MINIMUM PROJECT SIZE**

It is recommended that lead agencies determine a minimum project size, below which VMT impacts are presumed to be less than significant. Two alternative approaches for determining minimum project size are described below.

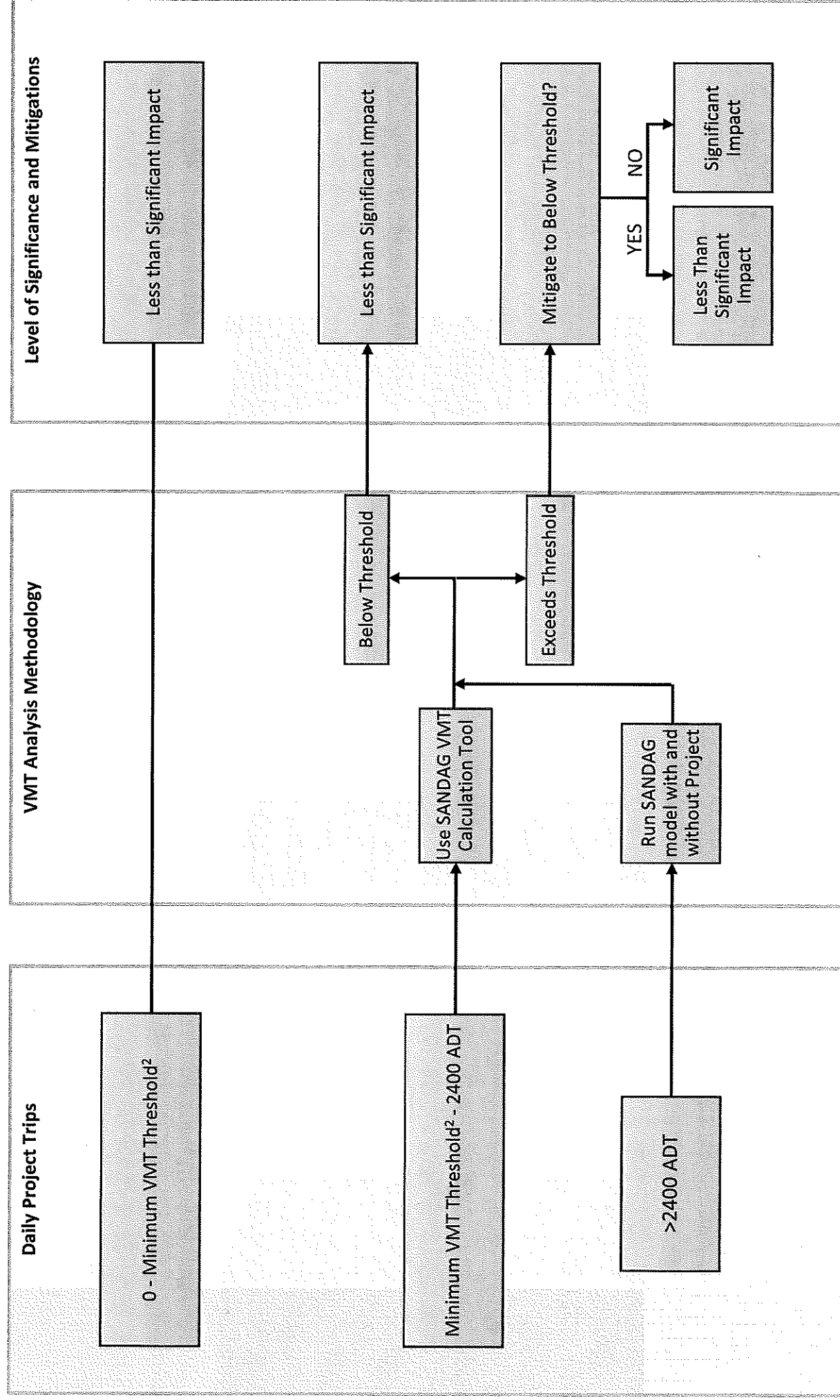
#### **Alternative 1 – Minimum Project Size Based on Previous TIS Guidelines**

Under this alternative, projects would be subjected to different levels of VMT analysis, depending on the size of the project and whether the project is consistent with the local jurisdiction's General Plan or Community Plan. Projects that are consistent with the General Plan or Community Plan are also considered to be consistent with the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).

The determination of minimum project size for VMT analysis described below differs from the statewide guidance provided by OPR. It is based on regional standards for transportation analyses that were documented in the Guidelines for Traffic Impact Studies in the San Diego Region (ITE/SANTEC, 2000) and have been in use for over 19 years.

The following level of VMT analysis is recommended based on project size (expressed in terms of Average Daily Trips generated by the project; also known as ADT) and zoning:

Figure 4-1  
VMT Analysis for Individual Land Development Projects<sup>1</sup>



**Footnotes:**

1. VMT impacts presumed to be less than significant for certain local-serving retail projects, affordable housing projects, and projects within transit priority areas. See text.
2. Minimum VMT threshold to be determined by lead agency.

### **Projects Inconsistent with General Plan or Community Plan**

| <u>ADT</u>      | <u>Level of Analysis</u>                                           |
|-----------------|--------------------------------------------------------------------|
| 0 – 500         | VTM Analysis Not Needed/VTM Impacts Presumed Less Than Significant |
| 500 and Greater | VTM Analysis Recommended                                           |

### **Projects Consistent with General Plan or Community Plan**

| <u>ADT</u>        | <u>Level of Analysis</u>                                           |
|-------------------|--------------------------------------------------------------------|
| 0 – 1,000         | VTM Analysis Not Needed/VTM Impacts Presumed Less Than Significant |
| 1,000 and Greater | VTM Analysis Recommended                                           |

The advantage of this alternative for determining minimum project size is that it is based on the engineering judgment of professionals who are experts in determining the effect of projects on the transportation system. It has been used successfully for over 19 years in the San Diego region and has received wide acceptance from the transportation profession, decision makers, and the public. Transportation engineers and planners who support this alternative for determining minimum project size consider it to be equally valid for the current LOS-based transportation analyses as well as the new VMT-based analyses taking effect on July 1, 2020.

### **Alternative 2 – Minimum Project Size Based on Statewide Guidance**

Under this alternative, the minimum project size for VMT analysis would be based on statewide guidance provided by OPR. In OPR's technical advisory, the minimum project size is based a categorical exemption in CEQA that allows expansion of existing structures under certain circumstances. On page 12 of the December 2018 technical advisory, footnote 19, the following language describes the situation: "CEQA provides a categorical exemption for existing facilities, including additions to existing structures of up to 10,000 square feet, so long as the project is in an area where public infrastructure is available to allow for maximum planned development and the project is not in an environmentally sensitive area. [CEQA Guidelines, § 15301, subd. (e)(2).]"

OPR uses a general office building as the appropriate project type for the determination of minimum project size based on the exemption described above. Typical ITE trip generation rates are then applied to a 10,000 square-foot general office building which yields a minimum project size based on 110 daily trips.

If this alternative is used in the San Diego region, it is recommended that the use of regional or local trip generation rates be considered in addition to the typical trip generation rate used by OPR. For example, using the SANDAG trip generation manual (Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, April 2002), a standard commercial office would generate 20 daily trips per 1,000 square feet. Therefore, a 10,000 square-foot office would be expected to generate 200 daily trips and projects that generate less than 200 daily trips would not require a VMT analysis and would be presumed to have less than significant VMT impacts.

One advantage of this alternative is that it is based on statewide guidance with a reference to CEQA provisions. A second advantage is that it was developed in consideration of VMT as the performance measure for the determination of the transportation impacts of land development projects.

## PROJECTS LOCATED NEAR TRANSIT STATIONS

OPR's technical advisory contains the following guidance regarding projects located near transit stations:

- Proposed CEQA Guideline Section 15064.3, subdivision (b)(1), states that lead agencies generally should presume that certain projects (including residential, retail, and office projects, as well as projects that are a mix of these uses) proposed within ½ mile of an existing major transit stop or an existing stop along a high quality transit corridor will have a less-than-significant impact on VMT. This presumption would not apply, however, if project-specific or location-specific information indicates that the project will still generate significant levels of VMT.

An existing major transit stop is defined as "a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods."

For the purposes of these guidelines, the distance between the project site and the transit station is typically based on direct walking distance without missing sidewalks or physical barriers.

Typically, a major transit stop would be considered to be applicable for this purpose if the transit stop were assumed to be in place in SANDAG's RTIP scenario (see Methodology for VMT analysis for further discussion of this scenario).

## METHODOLOGY FOR VMT ANALYSIS

As mentioned above, it is recommended that VMT thresholds for SB 743 analysis will be developed by comparisons to average VMT/capita (for residential projects) or VMT/employee (for employment projects). The analysis can be conducted by comparing either the project VMT/capita or VMT/employee to both the San Diego regional average and the average for the city or community in which the project is located. It is recommended that if the project average is lower than either 85% of the regional average or 85% of the average for the city or community in which the project is located, the VMT impacts of the project can be presumed to be less than significant. Since this is the basis for the presumption of "less than significance," it will be up to each city in the San Diego region and the County to adopt this recommended presumption and either define its jurisdiction as a single community for the purposes of determining VMT thresholds or subdivide its jurisdiction into smaller communities for the purpose of SB 743 analysis.

It should be noted that OPR's technical advisory includes special considerations for affordable housing and these considerations are also recommended for use in the San Diego area. Projects that include 100% affordable housing in infill locations can be presumed to have a less than significant VMT impact. Infill locations will typically have better than average access to transit and/or greater opportunities for walking and bicycling trips. The exact definition of infill locations will need to be determined based on local conditions.

The VMT methodology recommended above differs from the statewide guidance recommended by OPR in the following ways:

- OPR recommends that VMT/capita comparisons for residential projects be made both on a regional and citywide basis. These guidelines recommend that a city may choose to do

comparisons at a community level rather than at the citywide level. This recommendation applies to all cities within San Diego County and provides the lead agencies flexibility and discretion for selecting the threshold that is appropriate for their agency, based on their values and substantial evidence. Many communities within cities in the San Diego Region have a size and population that is comparable to a typical city on a statewide basis. The unincorporated area of San Diego County also has a governing structure in place for its communities, and the choice to do VMT/capita comparisons at a community level is also recommended to be extended to the unincorporated area of the County. The Cities of Encinitas and Chula Vista are also examples of cities that have distinct communities which have been treated differently for various historical planning considerations.

- OPR recommends that VMT/employee comparisons for employment projects be conducted at a regional basis only, as compared to VMT/capita comparisons that are made both at a regional and citywide basis. These guidelines recommend that VMT/employee comparisons be made at both the regional and at the citywide level (or community level as described above). The San Diego Region is the third largest region in California (after the Los Angeles Area and the San Francisco Bay Area). While some employment trips are made across the region (or even outside the region), there is a large incentive to live and work within a relatively short distance, even within the same city or community, to avoid the relatively long commute distances that can be experienced by traveling across the region during peak commute hours.
- OPR recommends that the VMT/capita comparisons for projects in unincorporated county areas be based on the region's VMT/capita or the average VMT/capita of all cities within the county. These guidelines recommend that VMT/capita and VMT/employee comparisons for projects in the unincorporated area of San Diego County be made to the overall average VMT/capita and VMT/employee for the unincorporated area of the county (or for individual communities if the County decides to use individual communities rather than the entire unincorporated area for VMT comparisons). San Diego County is one of the largest counties in California in terms of geography and also one of the most diverse in terms of topography and climate. While the VMT/capita comparison recommended by OPR may make sense for some counties in California, the comparisons between unincorporated areas and averages of the cities make less sense in San Diego County, where there are great differences in terms of distance and other factors between rural and urban areas of the county.

It is recommended that once the SB 743 analysis communities have been defined by local jurisdictions, SANDAG should then calculate the average VMT/capita (for residential projects) and the average VMT/employee (for employment projects) for each city or community. This calculation can be based on the Regional Transportation Improvement Plan (RTIP) scenario for future land use and transportation network, which includes expected growth through the end of the RTIP scenario and transportation network improvements that are considered to be funded through the RTIP. It is recommended that the RTIP scenario used for VMT analysis purposes will be held constant once it is created and will only be changed with each update of the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), typically every four years. It is recommended that the SANDAG online VMT analysis tool (described below) also be held constant and be updated on the same schedule as the RTP is updated and a new regional model is produced by SANDAG. If an online VMT analysis tool is not available for the RTIP scenario, it is recommended that analysts use the online VMT analysis tool published by SANDAG that most closely approximates the RTIP scenario.

Retail development falls into a category which is neither considered to be residential nor employment-based. For retail projects, these guidelines are based on the methodology recommended by OPR for retail projects. It is recommended that local-serving retail projects be presumed to have less than significant VMT impacts and regional-serving retail projects be presumed to have significant VMT impacts if they increase VMT above the level that would occur for conditions without the project. OPR's technical advisory recommends that lead agencies determine which retail projects are local-serving, but it does include a general guideline that retail projects larger than 50,000 square feet might be considered regional-serving rather than local-serving.

For some land development projects, it may not be immediately obvious whether the project is a residential project or an employment project. For these projects, the preferred methodology is to analyze the trip-making characteristics of the project and then use either the residential or employment methodology. For example, a hotel may be considered to have trip-making characteristics closer to an employment project, and therefore the employment methodology could be used for this land use category.

The recommended methodology for calculation of VMT depends on the size of the project as determined by the project's trip generation calculated in terms of ADT. The project's trip generation should be calculated using standard practice. For projects with a trip generation of less than 2,400 ADT, the recommended VMT analysis methodology is the SANDAG VMT calculation tool. SANDAG has prepared an online tool that calculates average VMT/capita and VMT/employee at the census tract level. Analysts would use this tool to determine the project's VMT/employee or VMT/capita to be compared to community, city, and/or regional averages.

Definitions of VMT/capita and VMT/employee that are used in SANDAG's VMT calculation tool are as follows:

- VMT/Capita: Includes all vehicle-based person trips grouped and summed to the home location of individuals who are drivers or passengers on each trip. It includes home-based and non-home-based trips. The VMT for each home is then summed for all homes in a particular census tract and divided by the population of that census tract to arrive at Resident VMT/Capita.
- VMT/Employee: Includes all vehicle-based person trips grouped and summed to the work location of individuals on the trip. This includes all trips, not just work-related trips. The VMT for each work location is then summed for all work locations in a particular census tract and divided by the number of employees of that census tract to arrive at Employee VMT/Employee.

The recommended methodology for projects over 2,400 ADT is to run the regional transportation model with and without the project to determine the project's net increase in VMT and then use that value to determine VMT/employee or VMT/capita to be compared to community, city, and/or regional averages.

## **REDEVELOPMENT PROJECTS**

Recommendations for VMT analysis of redevelopment projects are based on guidance provided by OPR with the clarifications provided below.

Redevelopment projects represent a special case since the recommended VMT thresholds for SB 743 implementation represent an efficiency metric. Under SB 743, the primary goal is for all new land

development projects to achieve efficiency from a VMT point of view. The efficiency or lack of efficiency of the existing land use is typically not relevant per OPR.

The following methodology is recommended:

- A redevelopment project that reduces absolute VMT (i.e. the total VMT with the project is less than the total VMT without the project) would be presumed to have less than significant VMT impacts.
- If a project increases absolute VMT, it is recommended that the VMT analysis methodology described above be applied to the proposed land use, as if the project was proposed on a vacant parcel (i.e. the existing land use didn't exist).

OPR's technical advisory includes specific recommendations that relate to redevelopment projects that replace affordable residential units with a smaller number of market-rate residential units. Those recommendations are also considered applicable for the purposes of these guidelines.

## **MIXED-USE PROJECTS**

Recommendations for VMT analysis of mixed-use projects are based on guidance provided by OPR with additional clarifications recommended for use in the San Diego region.

The following steps are recommended:

- Calculate trip generation separately for each component of the mixed-use project using standard practice.
- Determine the reduction in external vehicle trips due to internal capture based on guidance provided in the ITE Trip Generation manual, MXD methodologies or other techniques.
- Apply the reduction in trips to the individual land uses so that the total trip generation of the individual land uses is equal to the total project trip generation, including internal capture.
- Using the reduced trip generation, determine the VMT/capita or VMT/employee for applicable land uses. SANDAG's online VMT calculation tool may be used to determine an average trip length for the land uses within a mixed-use development based on the reported VMT/capita or VMT/employee in the census tract where the project is located. The number of residents or employees will need to be estimated for each applicable land use. When using SANDAG's VMT calculation tool to estimate average trip length, analysts should be aware that the data produced by the SANDAG VMT calculation tool is based all resident VMT/capita, so it includes the VMT associated with all trips made by the resident for the day, for example trip from home to daycare to office; office to meeting to office; office to store to home. The ITE trip generation rate for residential is only home-based trips, i.e. trips that start or end at the residence. The effect of the distinction between ITE's data and the data produced by the SANDAG VMT calculation tool will vary by location, type of project, and other factors.
- Compare the VMT/capita or VMT/employee values calculated using the reduced trip generation to applicable VMT thresholds to determine whether the individual components of the mixed-use development would be expected to have a significant VMT impact. If any component of the mixed-

use development would be expected to have a significant VMT impact, the project as a whole would be considered to have a significant VMT impact.

- Local-serving retail within a mixed-use development can be presumed to have a less than significant VMT impact.

## **PROJECTS IN RURAL AREAS**

Land development projects in rural areas may be given special consideration due to their unique trip-making characteristics. OPR's technical advisory contains the following guidance regarding projects in rural areas:

- "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."

If interpreted literally, this guidance would not apply to the San Diego region since it is an MPO County. However, rural areas are considered to have similar trip-making characteristics regardless of whether they are located in an MPO County or not. Therefore, different thresholds than described above could be considered for the rural areas of San Diego County. In order to apply this concept, local agencies would designate a portion of their jurisdiction as rural and then establish a separate threshold for the determination of significant VMT impacts.

## **PHASED PROJECTS**

For projects proposed to be built in phases, it is recommended that each phase of the project be evaluated separately. This evaluation would include a determination of whether significant VMT impacts would occur and whether mitigation is recommended. The evaluation of VMT for each phase would include consideration of the previous project phases. For example, a project with three phases would include the following analyses:

- VMT Analysis of Phase 1: Assumes development of Phase 1 only.
- VMT Analysis of Phase 2: Assumes development of Phases 1 and 2.
- VMT Analysis of Complete Project: Assumes development of Phases 1, 2, and 3.

## **LAND DEVELOPMENT PROJECTS WITH A ROADWAY COMPONENT**

Some individual land development projects and specific plans include the implementation of roadways as a component of the project. This requires additional consideration since land development and roadway projects are likely have different significance thresholds for VMT analysis. See Chapter 6 for recommendations for VMT analysis of roadways and other transportation projects. Land development projects may also include transit, bicycle, and pedestrian facilities as components of the project, but these

types of projects would generally not be considered to increase VMT and would normally not need to be considered in the VMT analysis of a land development project.

For land development projects and specific plans with a roadway component, the following recommendations are provided:

- If it can be demonstrated that the roadway component of the project built on its own would have a less than significant impact, the roadway component of the project can be ignored and the VMT analysis can proceed based on analysis of the VMT aspects of the land development component of the project.
- If it can be demonstrated that the project as a whole would cause a net decrease in VMT, the VMT impact of the project may be considered less than significant.
- For projects with both land use and roadway components that are outside the circumstances described above, it is recommended that the VMT analysis be based on consideration of the net increase or decrease in VMT with the project implemented as compared to conditions without the project. For projects that would be expected to cause a net increase in VMT, the project would be expected to provide mitigation measures to reduce VMT to the level of the no project condition in order to have a less than significant impact. For projects in which the roadway component would require analysis of induced travel demand (see Chapter 6), the VMT generated by the induced travel should also be considered in the analysis.

## **MITIGATION**

If a project's VMT exceeds the thresholds identified above for individual land development projects and specific plans, it may have a significant transportation impact. According to the OPR's technical advisory, when a significant impact is determined, feasible mitigation measures must be identified that could avoid or substantially reduce the impact. Lead agencies are generally given the discretion to determine what mitigation actions are "feasible," but they must rely on substantial evidence in making these determinations. In addition, CEQA requires the identification of feasible alternatives that could avoid or substantially reduce a project's significant environmental impacts.

Not all mitigation measures are physical improvements to the transportation network. A sample mitigation measure might include telework options for employees to reduce vehicular travel. Examples of other mitigation measures based on OPR's technical advisory include but are not limited to the following:

- Improve or increase access to transit.
- Increase access to common goods and services, such as groceries, schools, and daycare.
- Incorporate affordable housing into the project.
- Incorporate a neighborhood electric vehicle network.
- Orient the project toward transit, bicycle, and pedestrian facilities.
- Improve pedestrian or bicycle networks, or transit service.
- Provide traffic calming as a way to incentivize bicycling and/or walking.
- Provide bicycle parking.
- Limit or eliminate parking supply.
- Unbundle parking costs.
- Provide parking cash-out programs.

- Implement or provide access to a commute reduction program.
- Provide car-sharing, bike sharing, and ride-sharing programs.
- Provide partially or fully subsidized transit passes.
- Shift single occupancy vehicle trips to carpooling or vanpooling by providing ride-matching services or shuttle services.
- Provide telework options.
- Provide incentives or subsidies that increase the use of modes other than a single-occupancy vehicle.
- Provide on-site amenities at places of work, such as priority parking for carpools and vanpools, secure bike parking, showers and locker rooms, and bicycle repair services.
- Provide employee transportation coordinators at employment sites.
- Provide a guaranteed ride home service to users of non-auto modes.
- Contribute to a mobility fee program that funds multimodal transportation improvements, such as those described above.

Additional mitigation measures may become acceptable as agencies continue to innovate and find new ways to reduce vehicular travel.

Changes to the project design or location could potentially reduce VMT. Project alternatives based on OPR's technical advisory that may reduce vehicle miles of travel include but are not limited to the following:

- Locate the project in an area of the region that already exhibits low VMT.
- Locate the project near transit.
- Increase project density.
- Increase the mix of uses within the project or within the project's surroundings.
- Increase connectivity and/or intersection density on the project site.

OPR's technical advisory notes that because VMT is largely a regional impact, regional VMT-reduction programs may be an appropriate form of mitigation. In-lieu fees and development impact fees have been found to be valid mitigation where there is both a commitment to pay fees and evidence that mitigation will actually occur.

Fee programs are particularly useful to address cumulative impacts. The physical improvements that constitute the mitigation program as a whole must undergo CEQA evaluation, and the imposition of development impact fees or in-lieu fees shall be in accordance with applicable regulations, such as the Mitigation Fee Act. Other mitigation must be evaluated on a project-specific basis. That CEQA evaluation could be part of a larger program, such as a regional transportation plan analyzed in a Program EIR.

Quantifying the reduction in VMT associated with potential mitigation measures for land development projects and specific plans is a relatively new endeavor for transportation engineers and planners. Therefore, these guidelines do not recommend a methodology that has been in practice or has generally been accepted for local use.

One current resource that has been identified to quantify the reduction in vehicle miles traveled associated with a particular mitigation measure is the latest edition of California Air Pollution Control Officers Association's *Quantifying Greenhouse Gas Mitigation Measures, A Resource for Local Government to Assess Emission Reductions from Green Gas Mitigation Measures* (CAPCOA, August 2010), also known

as the CAPCOA Report. This report provides a methodology to quantify the reductions in vehicle miles traveled for many of the mitigation measures listed above. At the time of preparation of these guidelines, new research was underway that would provide an update to the CAPCOA Report.

The following elements should be considered when utilizing the CAPCOA Report:

- The CAPCOA VMT reduction strategies include built environment changes and transportation demand management (TDM) actions. The built environment changes are scalable from the project site to larger geographic areas and are often captured in regional travel forecasting models such as the SANDAG model. Prior to any application of a built environment change to a project as mitigation, the project analyst should verify that the project VMT forecasting tool or model is appropriately accurate and sensitive to built-environment effects and that no double counting will occur in the application of the mitigation measure. The TDM actions are sensitive to the project site and ultimate building tenants. As such, VMT reductions associated with TDM actions cannot be guaranteed through CEQA mitigation without ongoing monitoring and adjustment.
- There are rules for calculating the VMT reduction when applying multiple mitigation measures. The CAPCOA Report rules should be considered.
- Only “new” mitigation measures should be included in the analysis to prevent double counting. For example, if the project is located near transit, the VMT reduction cannot be applied if the project utilized a model that factored in the project’s proximity to transit. In addition, telecommuting is included in SANDAG’s base model.
- Mitigation measures should be applied to the appropriate user group (employees, guest/patrons, etc.). If a certain measure applies to multiple user groups, the weighted average should be considered as the effect of the mitigation measure will vary based on the user group.

A second resource that is available is the VMT calculation tool that was provided as part of SANDAG’s Mobility Management Toolbox project.

Additional VMT calculation tools are currently available or under development by several local agencies in California. Although these tools are being developed for specific jurisdictions, they could be adopted or modified for use in individual jurisdictions in San Diego County. At the time of development of these guidelines, the following calculation tools were publicly available.

- City of San Jose: A VMT calculation tool and other information can be found at the following website: <http://www.sanjoseca.gov/vmt>.

## 5.0 COMMUNITY PLANS AND GENERAL PLANS

The recommended methodology for conducting a VMT analysis for community plans and general plans is to compare the existing VMT/capita for the community plan or general plan area with the expected horizon year VMT/capita. The recommended target is to achieve a lower VMT/capita in the horizon year with the proposed plan than occurs for existing conditions.

The calculation of VMT for a planning area requires different considerations than the calculation of VMT for an individual project or a specific plan. Generally, the use of a computerized travel forecasting model (such as the SANDAG regional model) would be needed. For details on the calculation of VMT for a planning area, analysts are referred to ITE's paper on VMT calculations (Vehicle Miles Travelled Calculations Using the SANDAG Regional Model, 2013).

If VMT analysis for a community plan or general plan requires consideration of mitigation measures to mitigate significant VMT impacts, potential mitigation measures would be similar to those used for land development projects with some modifications. The following measures could be considered:

- Modify the land use plan to increase development in areas with low VMT/capita characteristics and/or decrease development in areas with high VMT/capita characteristics.
- Provide enhanced bicycle and/or pedestrian facilities.
- Add roadways to the street network if those roadways would provide shorter travel paths for existing and/or future trips.
- Improve or increase access to transit.
- Increase access to common goods and services, such as groceries, schools, and daycare.
- Incorporate a neighborhood electric vehicle network.
- Provide traffic calming to incentivize bicycling and walking.
- Limit or eliminate parking supply.
- Unbundle parking costs.
- Provide parking or roadway pricing or cash-out programs.
- Implement or provide access to a commute reduction program.
- Provide car-sharing, bike sharing, and ride-sharing programs.
- Shift single occupancy vehicle trips to carpooling or vanpooling by providing ride-matching services or shuttle services.
- Provide telework options beyond those already assumed in current plans.
- Provide incentives or subsidies that increase the use of modes other than a single-occupancy vehicle.
- Provide employee transportation coordinators at employment sites.
- Provide a guaranteed ride home service to users of non-auto modes.

Additional mitigation measures may become acceptable as agencies continue to innovate and find new ways to reduce vehicular travel.

## **6.0 TRANSPORTATION PROJECTS**

### **STATEWIDE GUIDANCE**

Statewide guidance for the analysis of transportation projects after the implementation of SB 743 is based on the revisions to CEQA guidelines adopted in December 2018 and OPR's technical advisory dated December 2018. This guidance may be summarized as follows:

- The revised CEQA guidelines allow lead agencies the discretion to choose a performance measure and significance thresholds for the determination of the significant impacts of transportation projects, including the continued use of level of service as a performance measure.
- OPR's technical advisory recommends the use of VMT as the appropriate performance measure for transportation projects, but it does not include a recommendation for significance thresholds. It also states that transit, bicycle, and pedestrian projects can generally be presumed to have less than significant VMT impacts.
- If VMT is selected as the performance measure for roadway projects, OPR's technical advisory recommends the inclusion of induced travel demand in the VMT calculations for roadway projects. Induced travel demand is the travel demand that would be generated by new land development projects that are built as a result of reduced travel times provided by a new roadway project.

### **RECOMMENDATIONS FOR THE SAN DIEGO REGION**

The approach to analysis of transportation projects recommended for use in the San Diego Region is summarized as follows:

- Transit, bicycle, and pedestrian projects can generally be presumed to have less than significant VMT impacts since they will tend to reduce VMT, as suggested by OPR's technical advisory.
- For roadway projects, VMT is the recommended performance measure. This performance measure is considered to be best suited to meeting the intent of SB 743, since focusing on VMT tends to encourage smart growth development, a reduction in vehicle trips, and the construction of multimodal transportation networks.
- VMT analysis for roadway projects can best be considered at regional, citywide, and community levels prior to the consideration of individual projects. Most roadway projects are included in the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), city circulation elements of the general plan, and/or in the circulation elements of community plans. A typical process would be for a roadway to be added to a citywide or community plan first, then incorporated into the RTP/SCS prior to the initiation of a CEQA analysis for the project. Inclusion in the citywide or community plan is considered to be a point at which the project has been accepted into the future planning process. Therefore, inclusion of a project in the citywide or community plan is recommended as the threshold of significance for VMT analysis. It is recommended that projects included in the citywide or community plan may be presumed to have less than significant VMT impacts.

- Individual roadway projects that are not included in the citywide or community plan could be presumed to have less than significant VMT impacts if they have no net increase in VMT compared to the no project condition or if they provide mitigation measures that would reduce VMT to levels at or below the no project condition.

Additional details are provided below.

VMT is the recommended performance measure for the analysis of transportation projects. The recommended methodology for conducting a VMT analysis for transportation projects is to compare the project with the community plan or general plan in which the project is located to determine whether the project would increase VMT as compared to the VMT that would be expected to occur with the community plan or general plan. This is summarized in Figure 6-1. The analysis would vary depending on the mode of travel associated with the project and based on whether the project is currently included in the community plan or general plan.

- Transit, bicycle, and pedestrian projects that would encourage the use of these modes of travel would be expected to reduce VMT, would not require a detailed VMT analysis, and would be presumed to have a less than significant impact on transportation. For these project types, the presumption of less than significant impact would apply even if the project was not in the community plan or general plan.
- Roadway projects (or multimodal projects that include roadways) that are included in the community or general plan would be presumed to have less than significant VMT impacts. In the case of some projects, a similar project may have been included in the community plan or general plan, but revisions or refinements have been incorporated. If the revisions or refinements are expected to cause increases in VMT, analysis should be conducted to compare the proposed project to the project description in the community plan or general plan. Projects that cause VMT increases, in comparison to similar projects proposed in the community plan or general plan, would need to reduce VMT levels below the level of VMT expected in the community plan or general plan in order to avoid a significant VMT impact.
- Roadway projects (or multimodal projects that include roadways) that are not included in the community or general plan would need a detailed analysis of VMT to determine whether the project would be expected to increase or decrease VMT as compared to VMT levels in the community plan or general plan. For small projects, the VMT analysis could be conducted using sketch planning techniques. For large projects, the analysis would generally require the use of a computerized travel forecasting model (such as the SANDAG regional model). For very large projects (i.e. projects that would reduce travel time by five minutes or more for any individual trips), consideration should be given to conducting an analysis of induced demand as described in OPR's technical advisory. The five-minute threshold for analysis of induced demand is based on a research paper published by the Transportation Research Board (Effects of Increased Highway Capacity: Results of Household Travel Behavior Survey, Richard G. Dowling and Steven B. Colman, Transportation Research Record 1493, Transportation Research Board, 1995). This research concluded that projects that decrease travel time by more than five minutes for a large number of trips would probably warrant an upward adjustment of travel demand.

The statewide guidance for VMT analysis of transportation projects is less specific than the guidance provided for land development projects. In the case of transportation projects, new CEQA guidance allows

lead agencies the discretion to choose the performance measure for transportation analysis, including the use of level of service and delay as a performance measure. OPR's technical advisory provides guidance indicating that VMT is the preferred measure of effectiveness for transportation projects but it has no authority to require the use of VMT as a performance measure. Although OPR's technical advisory encourages the use of VMT as a performance measure, it does not recommend a particular threshold of significance for VMT.

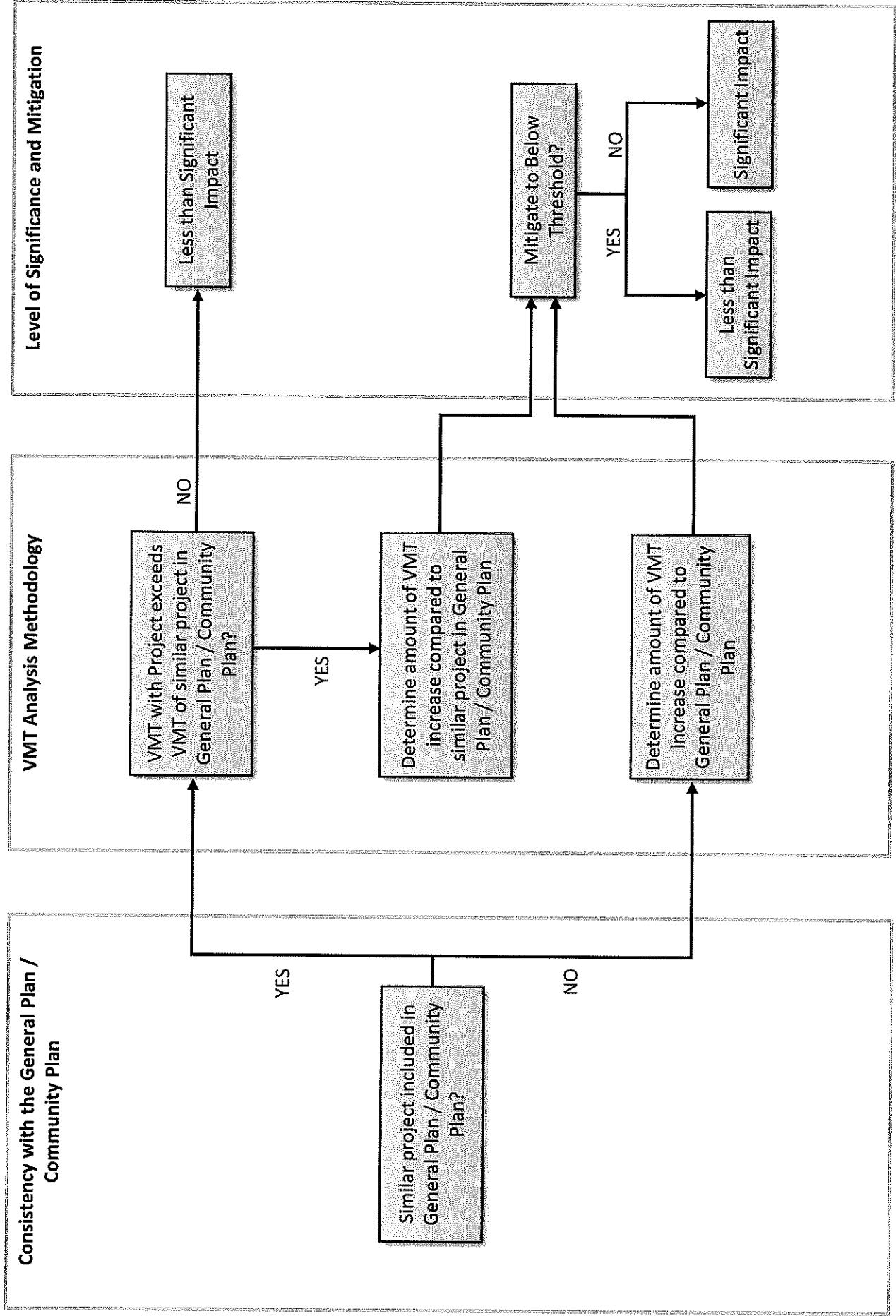
Given the available statewide guidance, these guidelines recommend the use of VMT as the performance measure for transportation projects. The recommended significance threshold is the level of VMT expected based on the community plan or general plan in which the project is located. This methodology is recommended for the following reasons:

- Although the new CEQA guidance allows for the use of any appropriate performance measure for the analysis of transportation projects, the intent of the SB 743 legislation was taken into consideration in the selection of a performance measure. SB 743 is intended to promote multimodal transportation networks, encourage infill development, and promote reduction of greenhouse gases. VMT is considered to be the performance measure that best reflects this intent.
- OPR's technical advisory encourages the use of VMT as a performance measure. Although this recommendation is not binding, the intent of these guidelines is to follow OPR's guidance, except in cases where there are regional characteristics or other factors that suggest a revision or clarification.
- The use of community plan or general plan consistency as a VMT threshold is based on the process by which transportation projects are incorporated into a community plan or general plan. In order for a transportation project to be incorporated into a community or general plan, a considerable amount of analysis is typically conducted. Community plans and general plans typically include the preparation of an Environmental Impact Report that considers a variety of environmental impacts, including transportation impacts. Since community plans and general plans are considered to represent sound urban planning decisions, consistency with these plans is considered to be a reasonable benchmark for the determination of a VMT significance threshold.

While the guidance described above is considered to be appropriate for larger transportation projects, smaller projects would be presumed to have less than significant VMT impacts based on their size or other considerations. Following is a list of projects considered to be in this category. This list is based on information in OPR's technical advisory, with revisions and clarifications based on local conditions:

1. Rehabilitation, maintenance, replacement and repair projects designed to improve the condition of existing transportation assets (e.g., highways, roadways, bridges, culverts, tunnels, transit systems, and assets that serve bicycle and pedestrian facilities) and that do not add motor vehicle capacity
2. Roadside safety devices or hardware installation such as median barriers and guardrails

Figure 6-1  
VMT Analysis Flow Chart for Transportation Projects



3. Roadway shoulder enhancements to provide "breakdown space," dedicated space for use only by transit vehicles, to provide bicycle access, or otherwise to improve safety, but which will not be used as automobile vehicle travel lanes
4. Addition of an auxiliary lane of less than two miles in length
5. Installation, removal, or reconfiguration of traffic lanes at intersections that are intended to provide operational or safety improvements
6. Addition of roadway capacity on local or collector streets provided the project also includes appropriate improvements for pedestrians, cyclists, and, if applicable, transit
7. Conversion of existing general purpose lanes (including ramps) to managed lanes or transit lanes, or changing lane management in a manner that would not substantially increase vehicle travel
8. Addition of a new lane that is intended to be restricted to use only by transit vehicles
9. Reduction in number of through lanes
10. Grade separation to separate vehicles from rail, transit, pedestrians or bicycles, or to replace a lane in order to separate preferential vehicles (e.g., HOV, HOT, or trucks) from general vehicles
11. Installation, removal, or reconfiguration of traffic control devices, including Transit Signal Priority (TSP) features
12. Installation of traffic metering systems, detection systems, cameras, changeable message signs, and other electronics designed to optimize vehicle, bicycle, or pedestrian flow
13. Timing of signals to optimize vehicle, bicycle, or pedestrian flow
14. Installation of roundabouts or traffic circles
15. Installation or reconfiguration of traffic calming devices
16. Adoption of or increase in tolls
17. Addition of tolled lanes, where tolls are sufficient to mitigate any potential VMT increase
18. Initiation of new transit service
19. Conversion of streets from one-way to two-way operation with no net increase in number of traffic lanes
20. Removal or relocation of off-street or on-street parking spaces
21. Adoption or modification of on-street parking or loading restrictions (including meters, time limits, accessible spaces, and preferential/reserved parking permit programs)

22. Addition of traffic wayfinding signage
23. Addition of new or enhanced bike or pedestrian facilities on existing streets/highways or within existing public rights-of-way
24. Addition of Class I bike paths, trails, multi-use paths, or other off-road facilities that serve non-motorized travel
25. Installation of publicly available alternative fuel/charging infrastructure
26. Addition of passing lanes, truck climbing lanes, or truck brake-check lanes in rural areas that do not increase overall vehicle capacity along the corridor
27. Roadway striping modifications that don't change the number of through lanes

Regardless of the project type and analysis method, projects that would be expected to have a significant VMT increase would be expected to consider mitigation measures. Potential mitigation measures would include the following:

- Deploy management strategies (e.g., pricing, vehicle occupancy requirements) on roadways or roadway lanes.
- Improve pedestrian or bicycle networks, or transit service.

Additional mitigation measures may become acceptable as agencies continue to innovate and find new ways to reduce vehicular travel.