

City of Oceanside

Traffic Impact Analysis Guidelines for

Vehicle Miles Traveled (VMT) and Level of Service Assessment



August 2020
Final Version

TABLE OF CONTENTS

1.0	PREFACE	1
2.0	INTRODUCTION	1
3.0	WHAT IS VEHICLE MILES TRAVELED (VMT)?	5
4.0	WHAT IS A LOCAL TRANSPORTATION STUDY AND LOCAL TRANSPORTATION ASSESSMENT?.....	5
5.0	SUMMARY OF PROCESS	7
6.0	TRIP GENERATION/DISTRIBUTION PROCEDURE	8
7.0	SCREENED OUT PROJECTS	9
8.0	DETERMINING PROJECT STUDY REQUIREMENTS.....	10
9.0	SAN DIEGO REGIONAL GUIDELINES FOR VMT.....	12
10.0	MITIGATION MEASURES AND STRATEGIES FOR VMT REDUCTION	14
11.0	LOCAL TRANSPORTATION STUDY AND LOCAL TRANSPORTATION ASSESSMENT GUIDELINES	20
12.0	TRANSPORTATION DEMAND MANAGEMENT (TDM) STRATEGIES.....	25
13.0	RESOURCES.....	26

LIST OF TABLES

Table 1 – City of Oceanside Relevant Adopted Goals and Policies	3
Table 2 – Screened Out Projects	10
Table 3 – Threshold for VMT Analysis for Projects Consistent with the Adopted General Plan	12
Table 4 – Threshold for VMT Analysis for Projects Inconsistent with the Adopted General Plan	12
Table 5 – City of Oceanside Project Threshold	14
Table 6 – Additional VMT Reduction Strategies for Employers.....	17
Table 7 – OPR Recommended Mitigation Measures	18
Table 8 – Threshold for LTS for Projects Consistent with the Adopted General Plan	20
Table 9 – Threshold for LTS for Projects Inconsistent with the Adopted General Plan	21
Table 10 – HCM Level of Service Description for Signalized Intersections	23
Table 11 – HCM Level of Service Description for Unsignalized Intersections	23
Table 12 – Circulation Element Roadway Classification LOS & Capacity.....	24
Table 13 – Determination of the Need for Roadway Improvements.....	25
Table 14 – Potential TDM Improvement Measures.....	25

LIST OF FIGURES

Figure 8-1 Project Study Requirements	11
Figure 10-1 Mobility Management Strategies.....	16

APPENDICES

Appendix A – Project Information Form (PIF)

Appendix B – San Diego Forward Regional Plan Transit Priority Areas and SANDAG Smart Growth Opportunity Areas Maps

Appendix C – VMT Analysis Example

Appendix D – SANDAG Mobility Management Guidebook

Appendix E – SANDAG VMT Reduction Calculator Tool

LIST OF ACRONYMS

ADT.....	Average Daily Traffic
CAP.....	Climate Action Plan
CAPCOA.....	California Air Pollution Control Officers Association
CARB.....	California Air and Resources Board
CEQA	California Environmental Quality Act
HCM.....	Highway Capacity Manual
ITE.....	Institute of Transportation Engineers
LOS	Level of Service
LTA	Local Transportation Assessment
LTS	Local Transportation Study
NEPA	National Environmental Protection Agency
OPR	Office of Planning and Research
PIF	Project Information Form
SANDAG	San Diego Association of Governments
SB 743	Senate Bill 743
TIS.....	Traffic Impact Study
VMT	Vehicle Miles Traveled

1.0 PREFACE

The City of Oceanside has adopted several documents over the years that outline the goals, policies, strategies, and objectives for the City in order to help guide development and future growth. As of July 1, 2020, public agencies are required to adhere to Senate Bill 743 which replaces the analysis of level of service (LOS) with vehicle miles traveled (VMT) for projects qualifying to meet documentational requirements under the California Environmental Quality Act (CEQA).

This document serves as a guide to analyzing transportation impacts to ensure local and state legislative requirements are met. This document serves as an update to the Traffic Impact Study (TIS) guidelines outlined in the City of Oceanside's Circulation Element adopted in 2012.

This document provides:

- a framework for transportation analysis based on the City's transportation policies and the General Plan
- the transportation analysis significance criteria, screening criteria, and thresholds of significance for environmental clearance for development projects, City transportation projects, and General Plan amendments
- the appropriate methodologies, procedures, and process for the preparation of a transportation analysis report within the context of CEQA.

Information provided in this document may be updated at the discretion of City Staff and based on CEQA policy updates.

2.0 INTRODUCTION

Traffic impact studies are prepared typically by private consulting firms for developers or cities when new development projects are proposed. The purpose of the traffic impact study is to identify traffic impacts of the proposed development. In the past these impacts have been measured in terms of delay, capacity, and level of service (LOS). This document explains the shift in analysis required under state law and how that will affect development in the City of Oceanside.

Purpose

The purpose of this document is to provide general instructions for analyzing the potential transportation impacts of proposed development projects (e.g., Development Plans, Conditional Use Permits, Coastal Permits, etc.). These guidelines present the recommended format and methodology that should be utilized in the preparation of transportation impact studies. In order to provide consistency with the City's adopted General Plan's Circulation Element (2012) while adhering to CEQA law, the City considers both vehicle miles traveled (VMT) and level of service (LOS) to be relevant and necessary measurements for transportation impacts. Depending on the project, the City may require VMT documentation and either a

Local Transportation Study (LTS) or Local Transportation Assessment (LTA). Specific documentation and study requirements are provided in Section 8.0 and subsequent sections.

California Environmental Quality Act (CEQA)

The California Environmental Quality Act was enacted in 1970 to ensure environmental protection through review of discretionary actions approved by all public agencies. The California Office of Planning and Research (OPR) develops the CEQA Guidelines to interpret CEQA statute and published court decisions. A traffic impact study (TIS) conducted for a development project, a City transportation project, or a General Plan amendment identifies potential CEQA transportation impacts and mitigation which results in a public document used to inform decision makers and the public. Therefore, a TIS should provide sufficient information to properly evaluate the impacts and the required project mitigation.

State Senate Bill 743 (SB 743)

In 2013, Governor Jerry Brown signed Senate Bill (SB) 743 (Steinberg) into law and started a process that changes transportation impact analysis as part of CEQA compliance. SB 743 directs the California Office of Planning and Research (OPR) to establish new CEQA guidance for jurisdictions that removes automobile vehicle delay and other similar measures of vehicular capacity or traffic congestion from CEQA transportation analysis. Rather, vehicle-miles traveled (VMT), or other measures that “promotes the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses,” shall be used as a basis for determining significant transportation impacts in California. The intent of the change is to appropriately balance the needs of congestion management with statewide goals related to infill development, the promotion of public health through active transportation, and the reduction of greenhouse gas emissions.

In December 2018, the California Natural Resource Agency certified and adopted the CEQA Guidelines update, which identifies VMT as the most appropriate measure of transportation impacts. With these changes, automobile delay, as measured by “level of service” and other similar metrics, generally no longer constitutes a significant environmental effect under CEQA.

SB 743 changes how potential transportation impacts are analyzed from a CEQA perspective and changes the metric of significance from delay to vehicle miles traveled. Recognizing the inconsistency between the adopted City guidelines and new legislation, the City of Oceanside has prepared this document to guide developers and their consultants when analyzing potential transportation impacts for their project.

SB 743 Relevance to City Policy

The City of Oceanside currently has several policies that have been adopted through the General Plan (adopted in 1986) and the Climate Action Plan that is supported with the implementation of SB 743. Additionally, the City has prepared Bicycle and Pedestrian Master Plans that identify areas of connectivity deficiencies and opportunities for improvements. These planning documents are supported with SB 743

as the City strives to reach development goals. **Table 1** identifies several goals and policies the City has adopted that are supported by SB 743.

Table 1 – City of Oceanside Relevant Adopted Goals and Policies

LAND USE ELEMENT	
Goal 1	The consistent, significant, long term preservation and improvement of the environment, values, aesthetics, character and image of Oceanside as a safe, attractive, desirable, and well-balanced community
1.1 Community Values - Objective	To ensure the enhancement of long term community and neighborhood values through effective land use planning.
Policy A	Land uses shall be attractively planned and benefit the community.
1.11 Balanced Land Use - Objective	To develop and use lands for the long-term provision of a balanced, self-sufficient, and efficient community.
Policy A	The City shall establish and enforce a balanced distribution of land uses to organize the City in a hierarchy of activity centers and land use so as to foster a sense of neighborhood, community, and regional identity.
Policy B	The City shall analyze proposed land uses for assurance that the land use will contribute to proper balance of land uses within the community or provide a significant benefit to the community.
Policy C	The City shall continuously monitor the impact and intensity of land use and land use distribution to ensure that the City’s circulation system is not overburdened beyond design capacity.
LAND USE ELEMENT - HOUSING	
Policy B	The City shall strive to produce opportunities for affordable housing in a pleasant environment for all of Oceanside’s citizens.
Policy C	The City shall ensure that housing is developed in areas with adequate access to employment opportunities, community facilities, and public services.
LAND USE ELEMENT - PUBLIC FACILITIES MANAGEMENT	
Objective	To provide a consistent and high level quality of public services and facilities to the residents of the City.
Policy A	Residential, commercial, and industrial development throughout the City shall be coordinated to ensure that adequate public services and facilities are provided to serve future development.
Policy D	Compact and in-fill development should be encouraged to concentrate expenditures for public services.
HOUSING ELEMENT	
Goal 1	Facilitate the development of a variety of housing types for all income levels to meet the existing and future needs of residents, including the homeless and persons with special needs.
Goal 4	Encourage new housing growth patterns that conform to local, regional and state policies for sustainable development and energy use.

Table 1 – City of Oceanside Relevant Adopted Goals and Policies

CIRCULATION ELEMENT	
Goal 1	A multimodal transportation system, which allows for the efficient and safe movement of all people and goods and which meets current demands and future needs of the population and projected land uses with minimal impact to the environment.
Goal 2	Alternative modes of transportation to reduce the dependence on the automobile.
Goal 3	Alternative transportation strategies designed to reduce traffic volumes and improve traffic flow.
Goal 4	A citywide transportation system that integrates with the regional transportation system.
Goal 5	A multimodal transportation system that creates a balance with preserving community values and maintaining public acceptance.
CLIMATE ACTION PLAN	
TL1 - Smart Growth Policies	The City will establish a smart growth development goal of locating the majority of new housing units and employment generating land uses developed between 2017 and 2030 within existing and potential Smart Growth Opportunity Areas (Strategy 1).
TL4 - Expand Complete Streets Programs	Require new developments to provide connections and/or extensions of the bicycle and pedestrian networks where applicable. Other bicycle improvements would be supported by TL4 – Transportation Demand Management Plans and General Plan Circulation Element Policies.
TL5 - Transportation Demand Management Programs	Provide incentives and marketing promotion through Green Oceanside Business Network for businesses that incorporate TDM measures.
LOCAL ROADWAY SAFETY PLAN (IN DEVELOPMENT)	
The Local Roadway Safety Plan identifies areas of high crash frequency and identifies safety improvements. Through SB 743 safety improvements are streamlined and would not require VMT analysis.	
SAFE ROUTES TO SCHOOL (IN DEVELOPMENT)	
The Safe Routes to School program identifies safety improvements around schools to improve connectivity and access for students. Projects identified in this program are streamlined and would not require VMT analysis.	

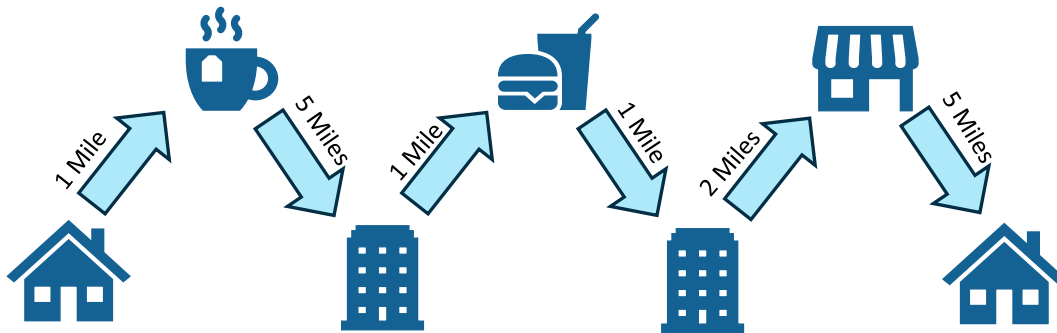
Table 1 demonstrates the adopted documentation in place the City of Oceanside has envisioned for the community. SB 743 will help support these documents and achieve the goals set forth by the City.

National Environmental Protection Agency (NEPA)

The federal requirements for projects qualifying under NEPA remain unaffected by the state’s CEQA policy update and will require projects to utilize level of service based analysis for federal environmental documents.

3.0 WHAT IS VEHICLE MILES TRAVELED (VMT)?

Vehicle miles traveled (VMT) refers to the distance a vehicle travels from each origin to destination. The following graphic demonstrates how VMT is derived.



In this example there is a total of 15 vehicle miles traveled.

A VMT analysis for CEQA purposes will be required if a project exceeds 1,000 average daily trips (ADT) and is consistent with the adopted General Plan. If a project is inconsistent with the adopted General Plan, a VMT analysis will be required if the project exceeds 500 ADT.

Screened out Projects

Some projects for CEQA purposes qualify as screened out. If a project is screened out that means the project has VMT reducing characteristics and is assumed to decrease VMT. A screened out project would not have to complete a VMT analysis under CEQA. Additional information regarding VMT is provided in this document beginning with Section 7.0.

4.0 WHAT IS A LOCAL TRANSPORTATION STUDY AND LOCAL TRANSPORTATION ASSESSMENT?

The Transportation Engineering Section in coordination with the Planning Division determines the need for a transportation analysis in conformance with the CEQA guidelines and City policies. The City recognizes the changes to CEQA regarding SB 743 implementation and may require VMT analysis. Additionally, the City recognizes the need to maintain consistency with the most recently adopted Circulation Element and may require a Local Transportation Study (LTS) or Local Transportation Assessment.

A Local Transportation Study will analyze the projects influence on the surrounding intersections and roadway network utilizing level of service (LOS) for all project scenarios. The document also includes the identification of pedestrian, bicycle, and transit amenities. The purpose of a Local Transportation Study is to ensure the goals, objectives, and policies adopted by the City are supported and implemented while monitoring the capacity for the roadway networks.

A Local Transportation Study (LTS) will be required if a project exceeds 1,000 ADT and is consistent with the adopted General Plan. If a project is inconsistent with the adopted General Plan, an LTS will be required if the project exceeds 500 ADT.

The following scenarios comprise a Local Transportation Study and may be modified in agreement with the City Traffic Engineer.

- Existing Conditions
- Existing Conditions Plus Project
- Existing Conditions Plus Near-Term Cumulative Projects
- Existing Conditions Plus Near-Term Cumulative Projects Plus Project
- Buildout Conditions (2030)
- Buildout Conditions Plus Project

What is a Local Transportation Assessment (LTA)?

A Local Transportation Assessment helps the City monitor development impacts on the transportation network and is similar to a Local Transportation Study (LTS). The main difference between the two studies is a Local Transportation Assessment (LTA) analyzes fewer scenarios than a Local Transportation Study (LTS). A Local Transportation Assessment (LTA) will be required if a project is less than 1,000 ADT but is anticipated to influence the surrounding environment. A project may be required to complete either a Local Transportation Study or Local Transportation Assessment based on the City's discretion but not both.

A Local Transportation Assessment (LTA) will be required to analyze the following scenarios based on the thresholds identified for the project's ADT.

- **A project that generates between 200-500 ADT will be required to analyze existing conditions and existing conditions plus project.**
- **A project that generates between 500-1,000 ADT will be required to analyze existing conditions, existing conditions plus project, existing conditions plus near-term cumulative projects, and existing conditions plus near-term cumulative projects plus project**

The study requirements are subject to the discretion of the City Traffic Engineer. Additional information is provided in Section 11.0.

City and Interagency Coordination

Early consultation between the developer and the City is strongly recommended to establish the base input parameters, assumptions, and analysis methodologies for the transportation study. To avoid unnecessary delays or revisions and to streamline document preparation and the review process, the applicant should submit and have approved a Project Information Form (PIF) prior to the preparation and

application of a draft CEQA or LTS/LTA document. The Project Information Form can be found in **Appendix A**.

The applicant will be responsible for coordinating with external agencies if a proposed project is expected to affect another agency or jurisdiction such as NCTD, Caltrans, Vista, Carlsbad, or other entities. This should be identified early on in the process and is the responsibility of the project applicant to ensure the transportation analysis will fulfill necessary requirements for all agencies involved.

Similar to previous guidelines, transportation studies must be prepared under the supervision of a registered California Traffic Engineer who has demonstrated knowledge and experience preparing transportation analysis. All applications to the City must be stamped by a registered California Traffic Engineer or equivalent as approved by the City Traffic Engineer. It is expected any report submitted to the City for review contains objective analyses and upholds engineering ethics and standards.

5.0 SUMMARY OF PROCESS

The following diagram summarizes the typical process for completing a transportation study in the City of Oceanside.



The City of Oceanside is available to meet and coordinate any concerns the project applicant may have throughout the process. It is important that the project applicant or consultant coordinate with City Staff early on in the planning process to determine local and State requirements are met.

Recommended Developers Conference

The initial step to attend Developer's Conference or similar meetings held by the City prior to project application is highly recommended, but not mandatory. These meetings allow all departments to provide preliminary feedback, determine the likely requirements for the project, and provide the opportunity to help answer any questions by the developer and Staff. Staff is available for consultation outside of these meetings that can be coordinated with the developer.

Step 1: Study Initiation

The City has developed a Project Information Form (PIF) that helps guide the requirements for a project. This form helps identify the study requirements and shall include the project location and description. Additionally, the PIF should include the estimated trip generation, trip distribution, and trip assignment. The PIF is provided in Appendix A and is subject to change at the City's discretion.

Step 2: City Confirmation

Once the PIF has been submitted to the City, the City will review and let the project consultant or developer know if additional information is needed. Depending on the project, the City may request information or documentation not outlined in the PIF.

Step 3: Submit Draft Report

Subsequent to the City's approval of the PIF, the project consultant shall conduct the transportation study. Once a draft report is prepared, it shall be submitted to the City in PDF and hardcopy for the City's review. The City shall provide the consultant with comments and revisions to the study as appropriate. The consultant shall address the City's comments and provide a comment/response matrix to the City along with a revised draft report. This may take several rounds of comments and/or meetings.

Step 4: Submit Final Report

The consultant will submit a final transportation study report to the City with all comments addressed. A comment/response matrix of all comment/responses and any decisions made shall accompany the final application.

The City of Oceanside conducts regular Developer's Conference and Application Review Committee (ARC) meetings in an effort to better understand projects and facilitate feedback. It is recommended the applicant submit a Project Information Form (PIF) prior to these meetings in order to give Staff time to review the project and determine the type of documentation required, if any. If necessary, the City Traffic Engineer is also available for individually scheduled meetings at the request of the project applicant or consultant.

6.0 TRIP GENERATION/DISTRIBUTION PROCEDURE

The traffic consultant for the project applicant shall identify the number of trips generated by the project using SANDAG's *"Not so Brief Guide of Vehicular Traffic Generation Rates for San Diego Region (2002)"* trip generation rates. The trip generation rates from the Institute of Transportation Engineers (ITE) Trip Generation Manual may be used with approval from the City Traffic Engineer. The most recent versions of the aforementioned documents should be used.

In the event the land use is unique, the project applicant, in agreement with the City Traffic Engineer, should collect trip generation data at a minimum of two similar project sites. The project sites and method of collection shall be approved by the City Traffic Engineer prior to data collection initiation. The City Traffic Engineer has the discretion to request additional sites to be studied.

Trip Reduction

Based on the project improvements in relation to bicycle, pedestrian infrastructure and proximity to transit, trip reductions may be applicable and should be discussed with the City Traffic Engineer. If the project is eligible for a trip reduction, the reduction rates outlined in SANDAG's *Not So Brief Guide To Vehicular Traffic Generation Rates for the San Diego Region (2002)* or ITE's Trip Generation Manual shall be utilized unless another methodology is justified and more appropriate. Project backup documentation related to trip reduction rates shall be provided to the City.

Trip Distribution / Assignment Procedure

Typically, two methods are used to determine trip distribution and assignment for transportation analysis and are considered acceptable by the City.

- The first method utilizes engineering judgement based on existing traffic data and land use patterns. This method requires the consultant to provide a map with project distribution and trip assignments to the City for review prior to conducting analysis.
- The second method utilizes the SANDAG Regional Travel Demand Model to perform a select zone or link analysis. **This approach is typically used for larger projects and shall be used for any project that generates over 2,400 ADT.**

Once trip distribution and assignment assumptions are submitted to the City, the City will review and provide feedback on assumptions. If necessary, the developer or consultant may coordinate with the City Traffic Engineer to discuss trip distribution and assignment for any clarification or considerations to travel patterns that are not readily apparent.

7.0 SCREENED OUT PROJECTS

SB 743 eliminates the need for some projects to be analyzed for CEQA purposes that support VMT reduction, these projects are considered screened out for VMT analysis. Screened out is defined as projects not needed to be analyzed for CEQA purposes that already support VMT reduction.

The projects listed in **Table 2** are presumed to be considered VMT-reducing projects. The projects listed are either locally serving or are based on substantial evidence provided by the OPR Technical Advisory Committee supporting SB 743 implementation. A project may be required to conduct a VMT analysis at the discretion of City Staff if it is unclear the project qualifies as screened out or based on the City Traffic Engineer's discretion.

Table 2 – Screened Out Projects

Project Type
Projects located in a Transit Priority Areas (TPA) or Smart Growth Opportunity Area as identified in the most recent SANDAG San Diego Forward Regional Plan and is consistent with the General Plan at the time of project application. ⁽¹⁾⁽²⁾
Projects located in a low-VMT generating area identified on the most recent SANDAG SB 743 VMT Screening map
Locally serving K-12 schools
Day care centers
Local parks
Locally serving retail uses less than 50,000 square feet, including: gas stations, banks, restaurants, grocery stores, and shopping centers
Community institutions (Public libraries, fire stations, local government)
Locally serving hotels (e.g. non-destination hotels, non-regionally serving)
Student housing projects on or adjacent to college campuses
Local serving community colleges that are consistent with the assumptions noted in the most recent SANDAG Regional Transportation Plan/Sustainable Communities Strategy
Affordable housing projects ⁽³⁾
Assisted living facilities
Senior housing (as defined by HUD)
Transit projects
Bike projects
Pedestrian projects
Safety improvement projects (e.g. RRFBs and high visibility crosswalks at uncontrolled locations, pedestrian count down timers, additionally projects identified through the Highway Safety Improvement Program)
Safe Routes to School
Projects generating less than 500 daily vehicle trips (if inconsistent with adopted General Plan)
Projects generating less than 1,000 daily vehicle trips (if consistent with adopted General Plan)

(1) Projects located in a TPA must be able to access the transit station within a ½ mile walking distance or 6 minute walk continuously without discontinuity of sidewalk or obstructions to the route. Qualifying transit stops means a site containing an existing rail transit station 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 (OPR, 2017). A high-quality transit corridor may also be considered if a corridor with fixed route bus service has service intervals no longer than 15 minutes during peak commute hours (OPR, 2017).

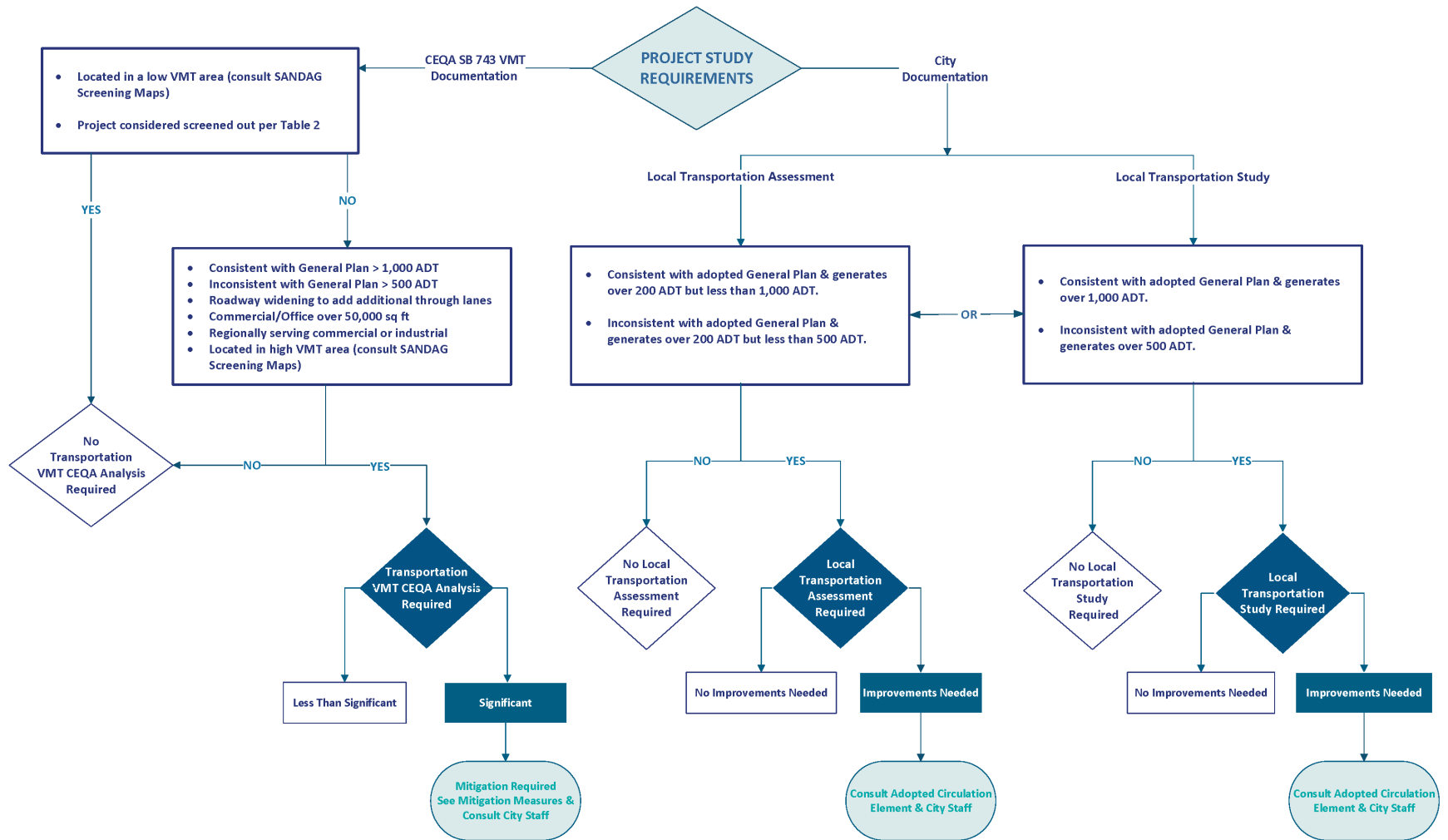
(2) Smart Growth Opportunity Area Map is provided in **Appendix B**. The most recent version available shall be used.

(3) If a project is a mix of affordable housing and market rate housing or unscreened use, only the affordable housing component would qualify as screened out. Additionally, any removal of affordable housing automatically requires CEQA VMT analysis.

8.0 DETERMINING PROJECT STUDY REQUIREMENTS

Figure 8-1 helps guide development projects in determining the requirements from a local and state perspective in order to help determine study requirements. The screening flowchart indicates an overview of the circumstances where a detailed CEQA VMT analysis would or would not be required and when a project would require a Local Transportation Study or Local Transportation Assessment. The City maintains the discretion to require a project to conduct additional analysis if needed.

Figure 8-1 Project Study Requirements



* Projects are not confined to what is listed above and will need to be coordinated with City Staff to determine study requirements for developments not listed. This flowchart is a generalization, it is up to the City's discretion to determine if additional analyses will be required and if potential mitigation or improvements are acceptable.

9.0 SAN DIEGO REGIONAL GUIDELINES FOR VMT

The City of Oceanside utilizes the Institute of Transportation Engineers (ITE) San Diego Regional Guidelines (May 2019) to establish thresholds and methodology for VMT analysis. For analysis purposes the most recent version of these guidelines shall be utilized. The following sections summarize the VMT thresholds requirements for Oceanside in alignment with ITE. Thorough analysis explanation can be found in the most recent ITE guidance.

Minimum Threshold for VMT Analysis

Based on the recommendations of the Institute of Transportation Engineers (ITE) for the San Diego section, **Table 3** indicates when a VMT analysis for CEQA is required. This is based on keeping consistent with the thresholds previously used and *SANDAG’s Not So Brief Guide Trip Generation (2002)*. These thresholds are based on the understanding that SANDAG trip generation rates differ from ITE trip generation rates which OPR’s recommendations are based on.

Projects Consistent with the Adopted General Plan

The City’s adopted General Plan represents the vision and goals the City has for the community. Projects that support these goals will adhere to the following VMT analysis thresholds identified in Table 3.

Table 3 – Threshold for VMT Analysis for Projects Consistent with the Adopted General Plan

	VMT Analysis Not Needed	VMT Analysis Needed ⁽¹⁾
Average Daily Traffic Volume (ADT)	Less than 1,000 ADT	Greater than 1,000 ADT

(1) If ADT is equal to 1,000 ADT, VMT analysis is required.

Projects Inconsistent with the Adopted General Plan

The City’s adopted General Plan represents the vision and goals the City has for the community. Projects that are not in support of the General Plan have a lower VMT threshold and will require a General Plan Amendment. The following VMT analysis thresholds for projects that are inconsistent are identified in **Table 4**.

Table 4 – Threshold for VMT Analysis for Projects Inconsistent with the Adopted General Plan

	VMT Analysis Not Needed	VMT Analysis Needed ⁽¹⁾
Average Daily Traffic Volume (ADT)	Less than 500 ADT	Greater than 500 ADT

(1) If ADT is equal to 500 ADT, VMT analysis is required.

The thresholds identified in Table 3 and Table 4 stem from the professional expertise and judgement of the ITE San Diego section. These thresholds reflect what is appropriate for the San Diego region to use for VMT and have previously helped determine LOS impacts.

VMT Thresholds

This section identifies what type of VMT analysis is required based on the land use and thresholds identified in the previous section. If a project qualifies for a VMT analysis, the VMT analysis can be compared based on City-wide, Regional, or community basis. The method of comparison shall be agreed upon by the City Traffic Engineer and shall be appropriate based on the use of the site.

The following defines the metrics identified in **Table 5**. It is important the appropriate metrics are applied for each project.

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.

Small Projects

Small projects, under 2,400 ADT, shall utilize the most recent version of the SANDAG SB 743 Concept Maps. SANDAG has prepared an online mapping system that calculates average VMT/capita and VMT/employee at the census tract level. This tool determines the project's VMT/employee or VMT/capita to be compared to community, city, and/or regional averages. **Appendix C** provides an example of how to use the SANDAG Concept Maps to determine the project's VMT.

Large Projects

Projects consisting of 2,400 ADT or higher will require the use of the most recent SANDAG model to determine VMT. The SANDAG transportation model provides a systematic analytical platform so that different alternatives and inputs can be evaluated in an iterative and controlled environment.

Table 5 identifies the significance thresholds for proposed land uses. Projects that exceed the significance thresholds are considered significant and will require VMT analysis and mitigation.

Table 5 – City of Oceanside Project Threshold

Project Type	Metric	Significance Threshold ⁽¹⁾
Residential	Resident VMT / Capita	15 % below regional average
Commercial	Employee VMT / Employee	15 % below regional average
Industrial	Employee VMT / Employee	15 % below regional average
Retail ⁽²⁾	Net increase in the regional VMT	Net increase in regional VMT
Mixed-Use	Evaluate each land use separately	Based on proposed land use
Redevelopment ⁽³⁾	Based on the proposed land use	Based on the proposed land use

(1) The City may request the applicant to analyze VMT using a more localized threshold if the project requires.

(2) Locally serving retail is presumed to decrease VMT however retail projects over 50,000 square feet are considered regionally serving.

(3) A redevelopment project that reduces VMT is presumed to have less than a significant impact and is screened out. The removal of affordable housing will require VMT analysis.

10.0 MITIGATION MEASURES AND STRATEGIES FOR VMT REDUCTION

A project that exceeds the thresholds identified in the previous tables is considered to have a significant impact and will require mitigation measures and strategies. With appropriate mitigation the project may be able to apply VMT reductions to part or all of the project depending on the land use and strategy chosen. It is critical to implement strategies that are appropriate for the land use, for example, a residential project would not implement a telecommute strategy but may include providing a bike facility and amenities on-site.

SANDAG MOBILITY MANAGEMENT GUIDEBOOK

The purpose of the mitigation measures and strategies is to reduce the VMT generated by the project through a reduction of the distance driven or reducing the number of vehicle trips. It is recommended the SANDAG Mobility Management Guidebook (2019) be consulted to determine mitigation measures for the project site.

The guidebook consists of the following resources:

- Mobility Management Guidebook
- VMT Reduction Calculator Tool
- Calculator Design Document
- Recommendations for Application
- User Training Videos

Figure 10-1 identifies the potential mobility management strategies included in the guidebook that are recommended for a project exceeding the VMT thresholds. It is also recommended the SANDAG iCommute and MTS programs be utilized for projects generating employment. Several opportunities included in these programs are identified in **Table 6. Appendix D** contains the SANDAG Mobility Management Guidebook for reference.

The VMT Reduction Calculator Tool evaluates the VMT impact of more than 20 mobility management strategies. The calculator can be utilized to determine how a strategy, when implemented, can reduce a project's VMT. **Appendix E** contains the SANDAG VMT Reduction Calculator Tool for reference, the calculator is available on the SANDAG website. All VMT reduction strategies utilized should be discussed with the City and provided with backup documentation. Any changes or overrides to input parameters should be discussed and approved by the City.

Figure 10-1 Mobility Management Strategies

	Strategy Type	Strategy Name	Included in VMT Calculator?
Project/ Site Level	Employer Commute Programs	Comprehensive Employer Commute Program	✓
		Employer Carpool Program	✓
		Employer Transit Pass Subsidy	✓
		Employer Vanpool Program	✓
		Employer Telework Program	✓
		Employer Guaranteed Ride Home Program	
	Land Use Strategies	On-Site Bike Amenities	
		Higher-Density Development	
		Transit-Oriented Development	✓
	Parking Management	Mixed-Use Development	✓
		Parking Pricing	✓
		Parking Cash-Out	✓
		Reduced Parking	
		Unbundled Parking	
		Smart Parking	
Shared Parking			
Shared Mobility Parking			
Community/ City Level	Neighborhood Enhancements	Flexible Curb Space	
		Street Connectivity Improvement	✓
		Pedestrian Facility Improvement	✓
		Bikeway Network Expansion	✓
		Bike Facility Improvement	✓
		Bikeshare	✓
		Carshare	✓
		Community-Based Travel Planning	✓
	Transit Strategies	Transit Service Expansion	✓
		Transit Frequency Improvements	✓
		Transit-Supportive Treatments	✓
		Transit Fare Reduction	✓
		Microtransit NEV Shuttle	✓
		Microtransit Commuter Shuttle	
		Adaptive Traffic Signal Systems	
	Transportation System Management	Smart Signals and Intersections	
		Optimized Signal Timing for Bicycles	
		Advanced Bicycle Detection	
		Real-Time Traveler Information	
		Active Traffic Management	
Traffic Incident Management			
Roadway Weather Management			

Source: SANDAG Mobility Management Strategy Guidebook, June 2019

Table 6 – Additional VMT Reduction Strategies for Employers

Additional VMT Reduction Strategies for Employers
Establish and maintain participation in SANDAG’s iCommute services for employers
Provide a monthly employer subsidy/pretax payroll deduction toward transit passes, carpool, or vanpool.
Encourage employees to register in SANDAG’s iCommute program for rideshare matches.
Provide a monthly employer subsidy or incentives for employees or patrons who regularly commute by bicycle.
Host or sponsor regional events such as Bike to Work day, Rideshare Month
Participate in MTS promotions such as Free Ride Day and EcoPass
Implement an internal carpool program for employees
Designate an on-site point of contact for employee commute inquiries.

OPR MITIGATION MEASURES

Table 7 identifies additional mitigation measures provided by the Office of Planning and Research (OPR).

Table 7 – OPR Recommended Mitigation Measures

Additional Mitigation Measures
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.
Implement or provide access to a commute reduction program.
Provide parking cash-out programs.
Unbundle parking costs.
Provide bicycle parking.
Limit or eliminate parking supply.
Provide traffic calming as a way to incentivize bicycling and/or walking.
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.

The City may decide to implement a VMT mitigation fee bank to fund projects that would help the City reduce GHG emissions and promote VMT reduction. This would need to be developed specifically for VMT reduction projects for the City and cannot be preexisting to this document. Mitigation measures are not limited to this document and may be discussed with the City Traffic Engineer providing appropriate reduction methodologies are applied using documentation published by SANDAG, the California Air Resources Board (CARB), or the California Air Pollution Control Officers Association (CAPCOA). These resources provide quantifiable measures that may be used for project mitigation. Mitigation and reduction measures utilized should be documented and easily referenced in the document’s appendix.

SIGNIFICANT AND UNAVOIDABLE IMPACTS

Projects that are unable to mitigate to a less than significant level of impact must provide a detailed statement of overriding considerations in accordance with CEQA Guidelines Sections 15091 and 15093. The following are direct quotes from the legislation to help project applicants understand CEQA law.

Section 15091 Findings:

“ (a) No public agency shall approve or carry out a project for which an EIR has been certified which identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings for each of those significant effects, accompanied by a brief explanation of the rationale for each finding.

The possible findings are:

(1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the final EIR.

(2) Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.

(3) Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR.

(b) The findings required by subdivision (a) shall be supported by substantial evidence in the record.

(c) The finding in subdivision (a)(2) shall not be made if the agency making the finding has concurrent jurisdiction with another agency to deal with identified feasible mitigation measures or alternatives. The finding in subdivision (a)(3) shall describe the specific reasons for rejecting identified mitigation measures and project alternatives.

(d) When making the findings required in subdivision (a)(1), the agency shall also adopt a program for reporting on or monitoring the changes which it has either required in the project or made a condition of approval to avoid or substantially lessen significant environmental effects. These measures must be fully enforceable through permit conditions, agreements, or other measures.

(e) The public agency shall specify the location and custodian of the documents or other material which constitute the record of the proceedings upon which its decision is based.

(f) A statement made pursuant to Section 15093 does not substitute for the findings required by this section.”

Section 15093 – Statement of Overriding Considerations:

“ (a) CEQA requires the decision-making agency to balance, as applicable, the economic, legal, social, technological, or other benefits, including region-wide or statewide environmental benefits, of a proposed project against its unavoidable environmental risks when determining whether to approve the project. If the specific economic, legal, social, technological, or other benefits, including region-wide or statewide environmental benefits, of a proposal project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered “acceptable.”

(b) When the lead agency approves a project which will result in the occurrence of significant effects which are identified in the final EIR but are not avoided or substantially lessened, the agency shall state in writing the specific reasons to support its action based on the final EIR and/or other information in the record. The statement of overriding considerations shall be supported by substantial evidence in the record.

(c) If an agency makes a statement of overriding considerations, the statement should be included in the record of the project approval and should be mentioned in the notice of determination. This statement does not substitute for, and shall be in addition to, findings required pursuant to Section 15091.”

11.0 LOCAL TRANSPORTATION STUDY AND LOCAL TRANSPORTATION ASSESSMENT GUIDELINES

The City of Oceanside utilizes the Institute of Transportation Engineers (ITE) San Diego Regional Guidelines (May 2019) to establish thresholds and methodology for a Local Transportation Study (LTS). A Local Transportation Study is different from VMT analysis for CEQA purposes and may be required in addition to the VMT analysis or individually. A Local Transportation Study will analyze the projects influence on the surrounding intersections and roadway network utilizing level of service (LOS) for all project scenarios. The purpose of the LTS is to help quantify the local impact of the development and expected changes in transportation conditions. The LTS should include roadway, bicycle, pedestrian, and transit evaluations. The following sections identify the project requirements for a Local Transportation Study. The Local Transportation Study helps the City ensure the goals, objectives, and policies adopted by the City are supported and implemented while monitoring the capacity for the roadway networks.

Data should be collected during typical operation hours. Data should be recent and no more than 2 years old for an LTS. **The acceptable level of service for the City of Oceanside that is consistent with the adopted Circulation Element is LOS D.**

Minimum Threshold for Local Transportation Study

Based on the recommendations of the Institute of Transportation Engineers (ITE) for the San Diego section, **Table 8** indicates when a Local Transportation Study is required for the City. This is based on keeping consistent with the thresholds previously used and *SANDAG's Not So Brief Guide (2002) Trip Generation*.

Projects Consistent with the Adopted General Plan

The City's adopted General Plan represents the vision and goals the City has for the community. Projects that support these goals will adhere to the following LTS thresholds identified in Table 8.

Table 8 – Threshold for LTS for Projects Consistent with the Adopted General Plan

	LTS Analysis Not Needed	LTS Analysis Needed ⁽¹⁾
Average Daily Traffic Volume (ADT)	Less than 1,000 ADT	Greater than 1,000 ADT

(1) If ADT is equal to 1,000 ADT, an LTS is required.

A Local Transportation Study (LTS) will be required if a project exceeds 1,000 ADT and is consistent with the adopted General Plan.

Projects Inconsistent with the Adopted General Plan

The City's adopted General Plan represents the vision and goals the City has for the community. Projects that are not in support of the General Plan have a lower LTS threshold and will require a General Plan Amendment. The following LTS analysis thresholds for projects that are inconsistent are identified in **Table 9**.

Table 9 – Threshold for LTS for Projects Inconsistent with the Adopted General Plan

	LTS Analysis Not Needed	LTS Analysis Needed ⁽¹⁾
Average Daily Traffic Volume (ADT)	Less than 500 ADT	Greater than 500 ADT

(1) If ADT is equal to 500 ADT, an LTS is required.

A Local Transportation Study (LTS) will be required if a project exceeds 500 ADT and is inconsistent with the adopted General Plan.

The thresholds identified in Table 7 and Table 8 stem from the professional expertise and judgement of the ITE San Diego section. These thresholds keep consistent with regional practice and will help ensure developments will not overburden the transportation network.

If a project would add peak hour trips to any existing on- or off-ramp it is recommended to consult with the City and Caltrans to determine if an LTS would be required.

Study Scenarios

The following scenarios are included in an LTS and may be modified in agreement with the City Traffic Engineer.

- Existing Conditions
- Existing Conditions Plus Project
- Existing Conditions Plus Near-Term Cumulative Projects
- Existing Conditions Plus Near-Term Cumulative Projects Plus Project
- Buildout Conditions (2030)
- Buildout Conditions Plus Project

Local Transportation Assessment (LTA)

A Local Transportation Assessment (LTA) may be required instead of a Local Transportation Study depending on the size of the project. A helps the City monitor development impacts on the transportation network and is similar to a Local Transportation Study(LTS). The main difference between the two studies is a Local Transportation Assessment (LTA) analyzes fewer scenarios than a Local Transportation Study (LTS). A Local Transportation Assessment (LTA) will be required if a project is less than 1,000 ADT but is anticipated to influence the surrounding environment.

A Local Transportation Assessment (LTA) will be required to analyze the following scenarios based on the thresholds for identified for the project’s ADT.

- **A project that generates between 200-500 ADT will be required to analyze existing conditions and existing conditions plus project.**

-
- **A project that generates between 500-1,000 ADT will be required to analyze existing conditions, existing conditions plus project, existing conditions plus near-term cumulative projects, and existing conditions plus near-term cumulative projects plus project.**

Transportation Modes to be Included for Discussion in the LTS/LTA

Pedestrian:

- The LTS/LTA shall include pedestrian infrastructure available including any opportunities or deficiencies such as path obstructions or missing sidewalk for ½ mile walking distance from project pedestrian access points.
- All pedestrian facilities directly connected to project access points or adjacent to the project development, extending in each direction to the nearest intersection with a classified roadway or connection with a Class I path
- Facilities connecting to transit stops within two blocks of the project
- Only facilities on the side of the project or along the walking route to transit stop
- Additional geographic areas may be included in certain cases to address special cases such as schools or retail centers

Bicycle:

- The LTS/LTA shall include a discussion of bicycle infrastructure available including any opportunities or deficiencies such as bike lanes, bike buffers, or bike boxes. This section must also include discussion of what is planned based on City and regional documentation. The extents are as follows:
 - All roadways adjacent to the project, extending in each direction to the nearest intersection with a classified roadway or with a Class I path
 - Both directions of travel should be evaluated

Transit:

- The LTS/LTA shall identify any transit stops or routes existing and planned near the project site. This section shall also include a discussion and evaluation of transit stop amenities within ½ mile of each pedestrian access point.

Vehicle:

All signalized intersections and signalized project driveways shall be analyzed if:

- The project will add 50 or more peak hour (final cumulative) trips in either direction

All unsignalized intersections and unsignalized project driveways shall be analyzed if:

- The project will add 50 or more peak hour (final cumulative) trips in either direction

All freeway ramp intersections and signalized project driveways shall be analyzed if:

- The project will add 20 or more peak hour (final cumulative) trips in either direction

Intersection Level of Service analysis should be conducted using the Highway Capacity Manual (HCM) Methodology. For signalized intersections, the methodology described in the HCM for signalized intersections is used. With this methodology, the average control delay per vehicle is estimated for each lane group and aggregated for each approach and for the intersection as a whole. The relationship between control delay per vehicle and LOS for signalized intersections is summarized in **Table 10**.

Table 10 – HCM Level of Service Description for Signalized Intersections

Level of Service	Description of Traffic Conditions	Control Delay (sec/veh)
A	Insignificant delays: no approach phase is fully utilized and no vehicle waits longer than one red indication	≤ 10
B	Minimal delays: an occasional approach phase is fully utilized. Drivers begin to feel restricted.	> 10 – 20
C	Acceptable delays: major approach phase may become fully utilized. Most drivers feel somewhat restricted.	> 25 – 35
D	Tolerable delays: Drivers may wait through more than one red indication. Queues may develop but dissipate rapidly without excessive delays.	> 35 – 55
E	Significant delays: Volumes approaching capacity. Vehicles may wait through several cycles and long vehicle queues form upstream.	> 55 – 80
F	Excessive delays: Represents conditions at capacity, with extremely long delays. Queues may block upstream intersections.	> 80

Source: Highway Capacity Manual, Transportation Research Board, 2010.

For unsignalized intersections, the methodology described in the HCM for unsignalized intersections is used. With this methodology, LOS is related to the control delay for each stop-controlled movement. The relationship between control delay per vehicle and LOS for unsignalized intersections is summarized in **Table 11**.

Table 11 – HCM Level of Service Description for Unsignalized Intersections

Level of Service	Description of Traffic Conditions	Control Delay (sec/veh)
A	No delay for stop-controlled approaches.	≤ 10
B	Operations with minor delay.	> 10 – 15
C	Operations with moderate delays.	> 15 – 25
D	Operations with some delays.	> 25 – 35
E	Operations with high delays and long queues.	> 35 – 50
F	Operation with extreme congestion, with very high delays and long queues unacceptable to most drivers.	> 50

Source: Highway Capacity Manual, Transportation Research Board, 2010.

Table 12 provides guidance on the levels of ADT that can be accommodated on various types of roadways, based on level of service.

Table 12 – Circulation Element Roadway Classification LOS & Capacity

Class	Lanes	Cross Section ⁽¹⁾	Level of Service (LOS)				
			A	B	C	D	E
Expressway	6	102/160 122/200	30,000	42,000	60,000	70,000	80,000
Expressway	4	102/160 122/200	25,000	35,000	50,000	55,000	60,000
Prime Arterial	6	104/124	25,000	35,000	50,000	55,000	60,000
6-Lane Major Arterial	6	104/124	20,000	28,000	40,000	45,000	50,000
5-Lane Major Arterial ⁽²⁾	5	102/122	17,500	24,500	35,000	40,000	45,000
4-Lane Major Arterial	4	80/100	15,000	21,000	30,000	35,000	40,000
Secondary Collector (4 lanes with 2-way left turn lane)	4	64/84	10,000	14,000	20,000	25,000	30,000
Secondary Collector (4 lanes without 2-way left-turn lane, with left turn pockets)	4	54/74, 60/80	9,000	13,000	18,000	22,000	25,000
Collector (commercial fronting, 2-lanes with 2-way left turn lane) ⁽³⁾	2	50/70	5,000	7,000	10,000	13,000	15,000
Collector (residential streets in the Circulation Element or industrial fronting)	2	40/60, 50/70	4,000	5,500	7,500	9,000	10,000
Local Street (residential streets NOT in the Circulation Element)	1	36/56, 40/60	–	–	2,400	–	–

(1) Cross sections are listed as curd-to-curb width/total right of way width, in feet.

(2) Vandegrift Boulevard is the only Circulation Element roadway designated as a 5-lane Major Arterial. It is not intended that other roadways be build to 5-lane Major Arterial standards.

(3) This capacity will also be assumed for a two-lane one-way collector.

Table 13 indicates when a project's effect on the roadway system is considered to justify the need for roadway improvements. That is, if a project's traffic effect causes the values in this table to be exceeded, roadway improvements should be considered as follows on a case by case basis:

- Improvements should be consistent with the General Plan
- Improvements for transit, bike and pedestrian facilities should be given priority in Transit Priority Areas or Smart Growth Opportunity Areas as identified by SANDAG.
- Projects in Transit Priority Areas or Smart Growth Opportunity Areas as identified by SANDAG, that are consistent with the General Plan at the time of project application, should not be denied due to the inability to provide roadway improvements (i.e. existing right of way is constrained, etc.)

Table 13 – Determination of the Need for Roadway Improvements

Level of Service with Project*	Allowable Change Due to Project Effect**					
	Freeways		Roadway Segments		Intersections	Ramp Metering
	V/C	Speed (MPH)	V/C	Speed (MPH)	Delay (Sec.)	Delay (Min.)
E & F (or ramp meter delays above 15 min)	0.01	1	0.02	1	2	2

12.0 TRANSPORTATION DEMAND MANAGEMENT (TDM) STRATEGIES

In general, the goal of City Staff is to help Oceanside increase connectivity and level of comfort for pedestrians, bicyclists, and transit users. Project improvements may come from the City’s adopted General Plan or other City policies that help improve the overall quality of life for the community. **Table 14** identifies some TDM improvement measures that may be considered for a project.

Table 14 – Potential TDM Improvement Measures

Potential TDM Measures	
Transit Facilities	Telecommuting
Bike Facilities	Rideshare Programs
Walkability	Flex-time
Carpool Incentives	Parking Cash-Out
Subsidized Transit Passes	Shuttle Service

A measure that is not listed may be considered if the mitigation is appropriately applied and reasonable. Additional improvement measures may be identified as future technologies and policies evolve or with consultation by City Staff.

13.0 RESOURCES

The following resources were used in the development of these guidelines. It is recommended the consultant develop a plan of action that aligns with the City Traffic Engineer's expectation prior to conducting any analyses.

City of San Diego. "Transportation Study Manual (TSM) Draft." September 2019.

Institute of Transportation Engineers (San Diego Section). "Guidelines for Transportation Impact Studies (TIS) in the San Diego Region." May 2019. Accessed April 1, 2020.

Governor's Office of Planning and Research (OPR). "Technical Advisory on Evaluating Transportation Impacts in CEQA." December 2018. Accessed April 1, 2020.

Governor's Office of Planning and Research (OPR). "Key Resources on SB 743: Studies, Reports, Briefs, and Tools." April 2018. Accessed April 1, 2020.

California Air Resources Board (CARB). "2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals." January 2019. Accessed April 1, 2020.

California Air Pollution Control Officers Association (CAPCOA). "Quantifying Greenhouse Gas Mitigation Measures." August 2010. Accessed April 1, 2020.

San Diego Association of Governments (SANDAG). "TDM Planning Resources." 2019. Accessed April 1, 2020.

APPENDIX A

PROJECT INFORMATION FORM (PIF)

PROJECT INFORMATION FORM (PIF)

THE FOLLOWING IS TO BE COMPLETED BY THE PROJECT APPLICANT:

PROJECT INFORMATION FORM			
1.	PROJECT DESCRIPTION:		
2.	PROJECT LOCATION:		
3.	LAND USE: _____ SIZE/DENSITY: _____		
4.	ZONING AND LAND USE CONSISTENT WITH ADOPTED GENERAL PLAN?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
5.	PROJECT LOCATED IN TRANSIT PRIORITY AREA ¹ , SMART GROWTH AREA ² , OR LOW VMT AREA ³ ?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
6.	PROJECT TRIP GENERATION: _____ ADT	<input type="checkbox"/> < 200 ADT <input type="checkbox"/> ≥ 200 ADT <input type="checkbox"/> ≥ 1,000 ADT <input type="checkbox"/> ≥ 2,400 ADT	
ATTACHMENTS			
A.	PROJECT LOCATION MAP	<input type="checkbox"/> Attached	
B.	PROJECT TRIP DISTRIBUTION	<input type="checkbox"/> Attached	
C.	PROJECT TRIP ASSIGNMENT	<input type="checkbox"/> Attached	

1) Projects located in a TPA must be able to access the transit station within a ½ mile walking distance or 6 minute walk continuously without discontinuity of sidewalk or obstructions to the route. Qualifying transit stops means a site containing an existing rail transit station 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 (OPR, 2017). A high-quality transit corridor may also be considered if a corridor with fixed route bus service has service intervals no longer than 15 minutes during peak commute hours (OPR, 2017).

(2) See Appendix B.

(3) Based on the most recent SANDAG SB 743 Screening Map. Example shown in Appendix C.

TO BE COMPLETED BY CITY STAFF AND RETURNED TO PROJECT APPLICANT

PROJECT STUDY REQUIREMENTS				
1)	Does the project require a CEQA VMT analysis?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Incomplete ⁽¹⁾
	A. If yes, does the project require a SANDAG Model Run?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
2a)	Does the project require a Local Transportation Study?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Incomplete ⁽¹⁾
OR				
2b)	Does the project require a Local Transportation Assessment?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Incomplete ⁽¹⁾

⁽¹⁾ Incomplete application or additional information is needed to determine study requirements.

APPENDIX B

San Diego Forward Regional Plan Transit Priority Areas and SANDAG
Smart Growth Opportunity Areas Maps

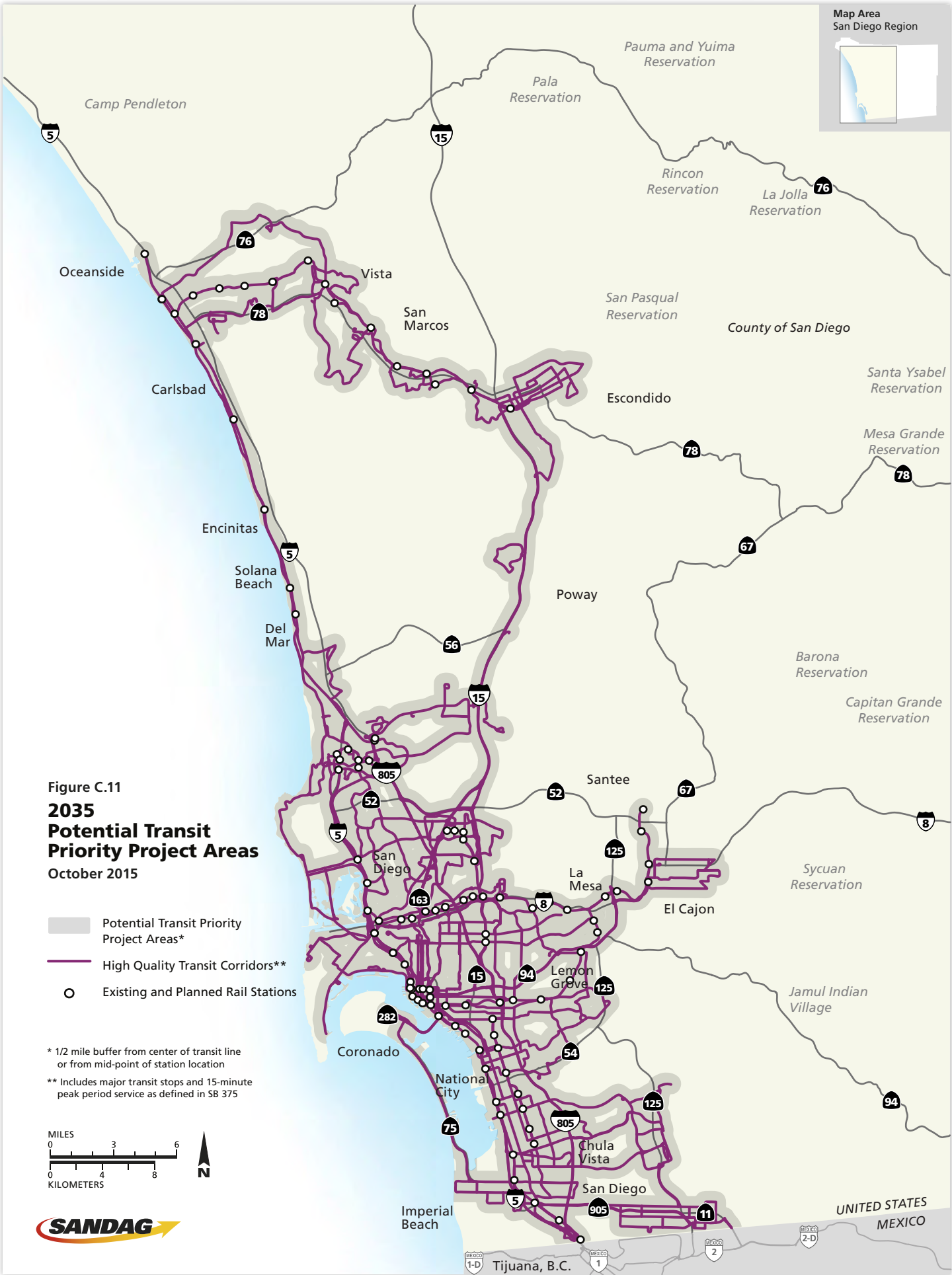



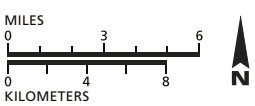


Figure C.11
2035
Potential Transit
Priority Project Areas
 October 2015

-  Potential Transit Priority Project Areas*
-  High Quality Transit Corridors**
-  Existing and Planned Rail Stations

* 1/2 mile buffer from center of transit line or from mid-point of station location
 ** Includes major transit stops and 15-minute peak period service as defined in SB 375



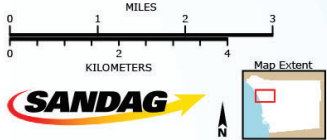
NORTH COUNTY SUBREGIONAL MAP



- Smart Growth Opportunity Areas**
- Existing/Planned Potential
 - Metropolitan Center
 - Urban Center
 - Town Center
 - Community Center
 - Rural Village
 - Special Use Center
 - Mixed Use Transit Corridor

- 2050 Transit Network* from San Diego Forward: The Regional Plan**
- COASTER/AMTRAK/Metrolink
 - Trolley/SPRINTER
 - SPRINTER Express
 - Rapid Transit
 - Streetcar/Shuttle
 - High Frequency Local Bus
 - Local Bus

**SMART GROWTH CONCEPT MAP
NORTH COUNTY SUBREGION**
May 2016



All Smart Growth Opportunity Areas shown on the map have been identified and recommended for inclusion on the map by local jurisdictions.
*Transit network generalized for cartographic purposes.

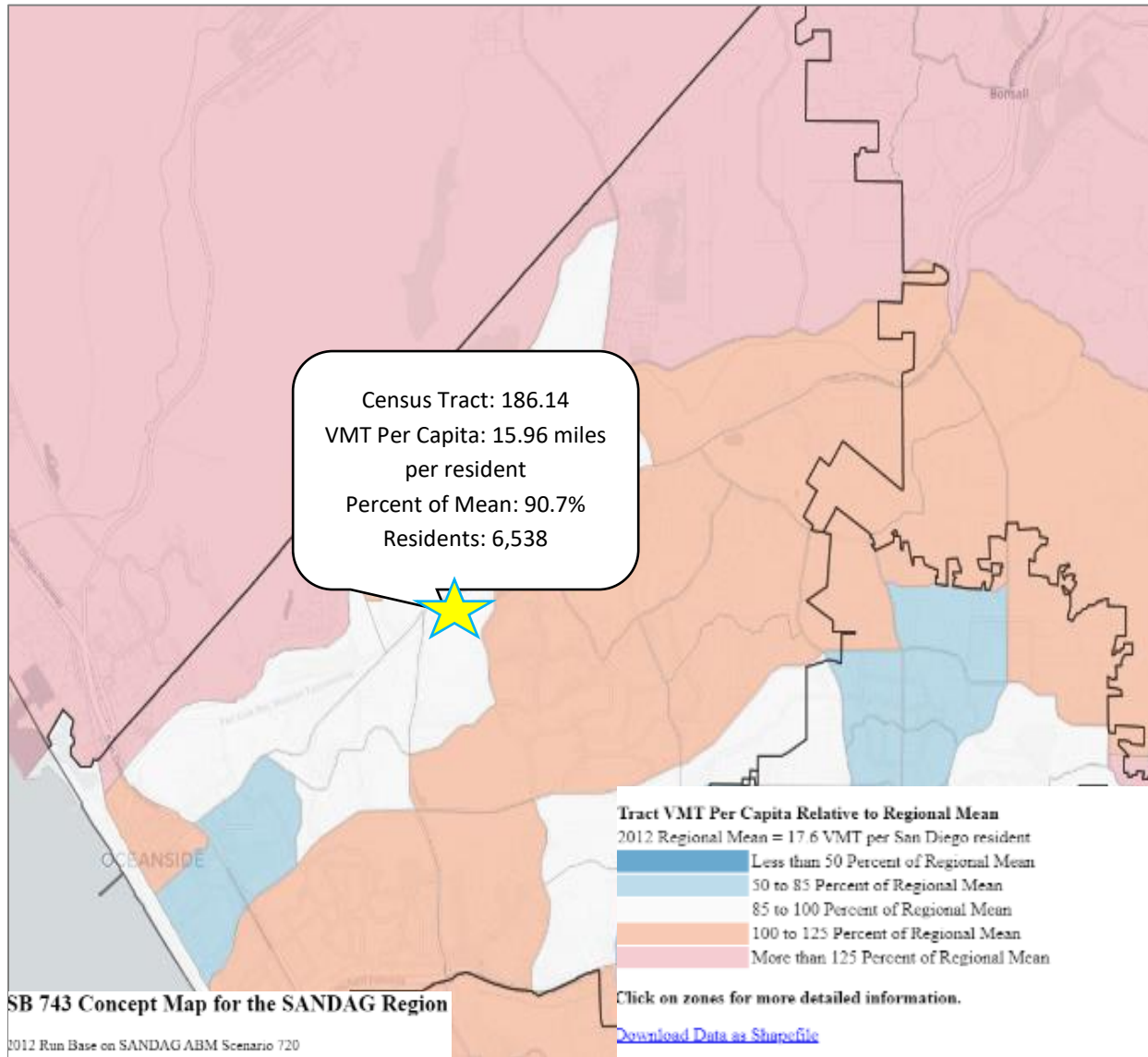
Note:
All Smart Growth Opportunity Areas shown on the map have been identified and recommended for inclusion on the map by local jurisdictions.
The OC-8 North River area is no longer applicable.

APPENDIX C

VMT ANALYSIS EXAMPLE

VMT Example Project

SANDAG is in the process of updating the SANDAG model and will be updating these maps. The most recent version of the screening maps and model shall be utilized unless otherwise directed by City Staff. SANDAG currently has two maps, one representing per capita (for each person) and one for employee per capita.



VMT STEPS FOR A RESIDENTIAL PROJECT HYPOTHETICAL EXAMPLE (PER CAPITA)

Step 1 : Determine the Project’s Trip Generation utilizing the SANDAG *Not So Brief Trip Generation Guide (2002)*:

Proposed Land Use	Size	Unit	Rate	Daily Trips (ADT)
Single Family Residential	200	Dwelling Unit	10/Unit	2,000

*Based on SANDAG Not So Brief Guide (2002)

A VMT analysis for CEQA purposes will be required if a project exceeds 1,000 average daily trips (ADT) and is consistent with the adopted General Plan. If a project is inconsistent with the adopted General Plan, a VMT analysis will be required if the project exceeds 500 ADT.

Since this example generates 2,000 ADT, a VMT analysis is required based on the threshold of 1,000 ADT.

Step 2: Utilize the SB 743 Concept Map provided by SANDAG for the appropriate metric.

Locate the project’s location and click the census tract. An information callout pops up that identifies the characteristics of the project’s location (based on the existing land use).

For this example, VMT Per Capita is utilized and compared to the Regional mean. Based on the screening map, the project location is not located in a low VMT area and will require further evaluation. The following table identifies the project and regional VMT. Additionally, it demonstrates how to interpret the SANDAG SB 743 Concept map.

Proposed Land Use	Project VMT	Regional VMT	% of Regional Mean
Single Family Residence (200 units)	15.96 per resident	17.6 per resident	90.7


Step 3: Is the project 15 % below regional average? In other words is the percent of the regional mean less than 85%?

For this example no, the project is 90.7% of the regional mean, therefore mitigation will be required.

Projects above the 2,400 ADT will need to use the SANDAG model to complete the VMT analysis.

VMT STEPS FOR A RESIDENTIAL PROJECT HYPOTHETICAL EXAMPLE (PER CAPITA) - MITIGATION

Since this hypothetical example is to develop single family homes, the use is not VMT reducing in nature. In order to reduce VMT for the project location improvements would need to implement VMT reducing strategies. The Mobility Management VMT Reduction Calculator Tool available on the SANDAG website VMT reducing strategies can be utilized for this effort. The tool is an Excel spreadsheet available for download that calculates the VMT reduction of several strategies. The spreadsheet is based on the SANDAG model input parameters and contains information for each jurisdiction in the San Diego Region. The tool is available for download at the following link: <https://www.icommutesd.com/planners/TDM-local-governments>

MOBILITY MANAGEMENT VMT REDUCTION CALCULATOR TOOL


I. Overview

The Mobility Management VMT Reduction Calculator Tool estimates the percent reduction in vehicle miles traveled (VMT) resulting from the application of mobility management strategies. This Excel-based tool is intended to act as a resource for identifying and evaluating the impacts of mobility management strategies as part of the development review and transportation analysis process. The tool supports the goals of SB 743 (Steinberg, 2013) by providing jurisdictions and developers with a resource to quantify VMT reductions resulting from implementation of a variety of mitigation strategies at various scales. The tool also supports local government planning efforts including implementation of general and community plans, transportation demand management (TDM) ordinances, and climate action plans.

The tool operates at two geographic scales: project/site-level and community/city-level. Depending on the project location and project type, users can select appropriate strategies of interest for mitigating transportation impacts. Some strategies reduce VMT only from employee commute trips. Other strategies reduce VMT from all project-generated trips or all community/city trips. The type of VMT affected is shown on the Results pages and on the individual strategy pages. Each strategy requires that the user inputs values that are used to calculate the percent reduction in VMT. For many strategies, the tool offers default parameters that can be replaced with user-provided values if available.

This tool was developed as part of a project funded by a Caltrans Strategic Partnerships Planning Grant. The tool is available as a resource for local jurisdictions. Local jurisdictions are under no obligation to use this tool in their development approval processes or transportation analyses under SB 743. Users of the tool should exercise their professional judgment in reviewing, evaluating and analyzing VMT reduction estimate results from the tool.

The Mobility Management Strategy Guidebook serves as a complement to this tool. The Guidebook includes summary descriptions and resources for a variety of mobility management strategies, including all strategies contained in the tool as well as others for which VMT reductions cannot be reliably estimated.

[For more information, visit ICommuteSD.com/localGov.](http://www.icommutesd.com/localGov)

II. Instructions

III. Legend

Follow the steps below:

- Under the "Project Information" section below, select the scale of analysis.
- Select the location of analysis, using the drop-down menus below. If San Diego City or Unincorporated Diego County is selected, the user has the ability to select the Community Plan Area (CPA) location.
- Depending on the scale of analysis, different mobility management strategies are available for consideration. Click on a strategy of interest by selecting the strategy name. The hyperlink will take the user to that strategy page. Each strategy page requires the user to input data into cells to estimate the percent VMT reduction. See the **Legend** for a display of the different cell styles present in the strategy pages.
- Using hyperlinks, the user can navigate to the appropriate Results page to see the individual strategy and cumulative results.
- Additional strategies can be selected, and the Results page will reflect the combined impact of multiple strategies. If the user does not want to include a strategy with the cumulative results, click "Exclude from Results" on the strategy page (see **Legend**).

Below are the different cell styles the user will see in the formulae of the strategy pages. Not all strategies use each cell style.

constant, coefficient, or default	= constant, coefficient, or default value, locked
user input	= required user input, values may be restricted, unlocked
user input, optional	= optional user input, values may be restricted, unlocked
overridden default	= if optional input entered, then default will be overridden, locked
help text	= hidden help text visible if user hovers cursor over cell, locked
calculation	= intermediate calculation in formula, locked
% change in VMT	= strategy output, locked
% change in VMT, max decr	= strategy output, max achievable reduction, may be capped, locked
% change in VMT, increase	= strategy output, VMT increase, may be capped, locked
<input type="checkbox"/> Exclude from Results	= optional user input, check box to exclude a strategy output from results

Using the same hypothetical example, VMT mitigation is required. To mitigate this project, the project will need to reduce VMT by at least 5.7% for a project VMT of 14.96.

Proposed Land Use	Project VMT	Regional VMT	% of Regional Mean
Single Family Residence (200 units)	15.96 per resident	17.6 per resident	90.7

On the first page of the tool, the user provides project information and chooses the land use and scale of the analysis (Project/Site or Community/City). Depending on the user's selection, the tool will supply a variety of mitigation measures to choose from and lock improvements that are not applicable given the land use and scale of analysis.

IV. Project Information

Project Name (optional):

Project Address (optional):

Project Type (optional):

Scale of Analysis:

Analysis Location:

CPA (if applicable):

Not applicable if scale of analysis is city/community.
E.g., residential, commercial

That occur at the scale of a parcel, employer, or development project.
City/community refers to strategies that occur at a scale of a neighborhood, corridor, an entire municipality.

If necessary, determine location using SANDAG's online [Parcel Lookup Tool](#). Be sure to turn on the Jurisdiction and Community Plan Area layers.

If the Analysis Location is in a CPA in San Diego City or Unincorporated San Diego County, select the CPA from the drop-down list. See the Parcel Lookup Tool above for more information. If the Analysis Location is in the entire San Diego City or entire Unincorporated San Diego County, leave the CPA input blank. Follow hyperlinks below for list of CPAs in San Diego City and Unincorporated County.

Is analysis in a rural area? See Question #11 of the FAQ page for information about the CPA. [San Diego City](#) [Unincorporated County](#)

Project level strategies available are highlighted based on the scale of analysis selection.

The strategies at this scale are employer commute programs, land use strategies, and parking management strategies.

V. Mobility Management Strategies

Project/Site-Level Strategies

Project-Level Results

Employer Commute Programs

Strategies implemented by employers that encourage workers to commute by modes other than auto

- 1A [Voluntary Employer Commute Program](#)
- 1B [Mandatory Employer Commute Program](#)
- 1C [Employer Carpool Program](#)
- 1D [Employer Transit Pass Subsidy](#)
- 1E [Employer Voucher Program](#)
- 1F [Employer Telework Program](#)

Land Use Strategies

Strategies that modify the location or characteristics of land development projects to encourage non-auto travel modes

- 2A [Transit Oriented Development](#)
- 2B [Mixed Use Development](#)

Parking Management

Strategies that discourage auto travel by modifying the price or supply of vehicle parking

- 3A [Parking Pricing](#)
- 3B [Parking Cash Out](#)

Community/City-Level Strategies

Community-Level Results

Neighborhood Enhancements

Strategies that improve or encourage neighborhood-level bicycle, pedestrian, and other multimodal travel options:

- 4A [Street Connectivity Improvement](#)
- 4B [Pedestrian Facility Improvement](#)
- 4C [Bikeway Network Expansion](#)
- 4D [Bike Facility Improvement](#)
- 4E [Bike Share](#)
- 4F [Car Share](#)
- 4G [Community-Based Travel Planning](#)

Transit Strategies

Strategies that improve transit service and cause a mode shift from auto to transit

- 5A [Transit Service Expansion](#)
- 5B [Transit Frequency Improvement](#)
- 5C [Transit Supportive Treatment](#)
- 5D [Transit Fare Reduction](#)
- 5E [Microtransit/NEV Shuttle](#)

IV. Project Information

Project Name (optional):

Project Address (optional):

Project Type (optional):

Scale of Analysis:

Analysis Location:

CPA (if applicable):

Not applicable if scale of analysis is city/community.
E.g., residential, commercial

That occur at the scale of a parcel, employer, or development project.
City/community refers to strategies that occur at a scale of a neighborhood, corridor, an entire municipality.

If necessary, determine location using SANDAG's online [Parcel Lookup Tool](#). Be sure to turn on the Jurisdiction and Community Plan Area layers.

If the Analysis Location is in a CPA in San Diego City or Unincorporated San Diego County, select the CPA from the drop-down list. See the Parcel Lookup Tool above for more information. If the Analysis Location is in the entire San Diego City or entire Unincorporated San Diego County, leave the CPA input blank. Follow hyperlinks below for list of CPAs in San Diego City and Unincorporated County.

Community level strategies available are highlighted based on the scale of analysis selection.

The strategies at this scale are neighborhood enhancements and transit strategies.

V. Mobility Management Strategies

Project/Site-Level Strategies

Project-Level Results

Employer Commute Programs

Strategies implemented by employers that encourage workers to commute by modes other than auto

- 1A [Voluntary Employer Commute Program](#)
- 1B [Mandatory Employer Commute Program](#)
- 1C [Employer Carpool Program](#)
- 1D [Employer Transit Pass Subsidy](#)
- 1E [Employer Voucher Program](#)
- 1F [Employer Telework Program](#)

Land Use Strategies

Strategies that modify the location or characteristics of land development projects to encourage non-auto travel modes

- 2A [Transit Oriented Development](#)
- 2B [Mixed Use Development](#)

Parking Management

Strategies that discourage auto travel by modifying the price or supply of vehicle parking

- 3A [Parking Pricing](#)
- 3B [Parking Cash Out](#)

Community/City-Level Strategies

Community-Level Results

Neighborhood Enhancements

Strategies that improve or encourage neighborhood-level bicycle, pedestrian, and other multimodal travel options:

- 4A [Street Connectivity Improvement](#)
- 4B [Pedestrian Facility Improvement](#)
- 4C [Bikeway Network Expansion](#)
- 4D [Bike Facility Improvement](#)
- 4E [Bike Share](#)
- 4F [Car Share](#)
- 4G [Community-Based Travel Planning](#)

Transit Strategies

Strategies that improve transit service and cause a mode shift from auto to transit

- 5A [Transit Service Expansion](#)
- 5B [Transit Frequency Improvement](#)
- 5C [Transit Supportive Treatment](#)
- 5D [Transit Fare Reduction](#)
- 5E [Microtransit/NEV Shuttle](#)

Using the same hypothetical example, VMT mitigation is required. To mitigate this project, the project will need to reduce VMT by at least 5.7% for a project VMT of 14.96.

Proposed Land Use	Project VMT	Regional VMT	% of Regional Mean
Single Family Residence (200 units)	15.96 per resident	17.6 per resident	90.7

Based on the strategies listed and the hypothetical example, the project is not able to implement project level improvements and will implement community level strategies instead to reduce VMT. For this oversimplified example, due to the proximity of the San Luis Rey trail, pedestrian and bicycle improvements have been chosen. Using a combined strategy, the strategies of **4B. Pedestrian Facility Improvement (max VMT reduction of 1.4%)** and **4C, Bikeway Network Expansion (max VMT reduction of 5.0%)** have been identified. The maximum VMT reduction possible with the combined strategies for this project is **6.4%**. The maximum VMT reduction is identified in the top left corner of the spreadsheet.

The following is a breakdown of both strategies implemented for the hypothetical project.

Using the calculator, the user fills in the sheet with the applicable information for strategy 4B Pedestrian Facility Improvement.

4B. Pedestrian Facility Improvement

Level of application: **City/CPA**

Type of VMT affected: **All city/CPA trips**

Max VMT reduction: **1.4%**

[Return to Main](#)

[Results Summary](#)

Description: Enhancing pedestrian facilities (e.g. streetscape and pedestrian crossing improvements) within the jurisdiction or community helps to encourage walking and reduce the reliance on the single occupancy vehicle. This strategy applies to sidewalk enhancements that improve the existing streetscape and is not inclusive of greenfield developments with new roadways.

Existing sidewalk length in Oceanside (miles)	10.0	user input
Existing street length in Oceanside (miles)	30.0	user input
Ratio of sidewalk length to street length	0.3	calculated
Sidewalk length in Oceanside with project (miles)	15.0	user input
Ratio of sidewalk length to street length with strategy	0.5	calculated
% change in ratio of sidewalk length to street length	50%	calculated
Elasticity	-0.05	constant, source (1, 2)
Change in VMT	-1.4%	<input type="checkbox"/> Exclude from Results

Formula: % Change in VMT = % change in ratio of sidewalk length to street length * elasticity

VMT change capped at 1.4%, assuming one-way walk trip length of 0.83 mile and maximum 10% of auto trips can shift to walking

Sources:

(1). Frank, L., Greenwald, M., Kavage, S. and Devlin, A. 2011. "An Assessment of Urban Form and Pedestrian and Transit Improvements as an Integrated GHG Reduction Strategy." WSDOT Research Report WA-RD 765.1, Washington State Department of Transportation. www.wsdot.wa.gov/research/reports/fullreports/765.1.pdf

(2). Handy, Susan, et al, 2014. "Impacts of Pedestrian Strategies on Passenger Vehicle Use and Greenhouse Gas Emissions: Policy Brief." www.arb.ca.gov/cc/sb375/policies/ped/walking_brief.pdf

Note: The entered numbers are not based on Oceanside data and are for hypothetical example purposes.

Using this strategy and providing ample sidewalk the project is able to reduce VMT by 1.4%. The 1.4% VMT reduction is not enough to mitigate the project to below the significance threshold so another strategy is needed.

Using the calculator, the user fills in the sheet with the applicable information for 4C. Bikeway Network Expansion.

4C. Bikeway Network Expansion

Level of application: **City/CPA** [Return to Main](#)
 Type of VMT affected: **All city/CPA trips** [Results Summary](#)
 Max VMT reduction: **5.0%**

Description: A bikeway network includes an interconnected system of bike lanes, bike paths, and cycle tracks (Class I, Class II, and Class IV facilities). Bike facilities may share the roadway with vehicles or provide a dedicated pathway that separates bikes from cars or pedestrians. Increasing the network of bike facilities help to encourage biking as a safe and convenient alternative to driving. **If this strategy is selected, strategy 4D (Bike Facility Improvement) cannot be analyzed as part of the total VMT reduction.**

Would the project expand a network of bikeways or add a single bikeway?	Network of bikeways	user input
Default Oceanside bicycle mode share (all trips)	1.3%	coefficient, source (1), overridden
User override of existing bicycle mode share	5.0%	user input, optional
Existing bicycle mode share used for calculation	5.0%	calculated
Default Oceanside auto mode share (all trips)	88.5%	coefficient, source (1), overridden
User override of existing auto mode share	75.0%	user input, optional
Existing auto mode share used for calculation	75.0%	calculated
Are any of the current or proposed bikeways in Oceanside classified as Class III? For Caltrans' guide to bikeway classifications click here .	yes	user input Warning: VMT reduction can only be calculated for Class I, II, and IV bikeway. Class III bike lane miles should be left out of the below user inputs.
Existing bikeway miles (only Class I, II, and IV) in Oceanside	1.0	user input
Additional bikeway miles (only Class I, II, and IV) in Oceanside with project	6.0	user input
% change in bikeway miles (only Class I, II, and IV)	600%	calculated
Regional average one-way bicycle trip length (miles)	2.9	constant, source (1)
User override of one-way bicycle trip length (miles)		user input, optional
Bicycle trip length used for calculation (miles)	2.9	calculated
Regional average one-way auto trip length (miles)	6.5	constant, source (1)
User override of one-way auto trip length (miles)		user input, optional
Auto trip length used for calculation (miles)	6.5	calculated
Elasticity of bike commuters with respect to bikeway miles per 10,000 population	0.25	constant, source (2)
Change in VMT	-4.4%	<input type="checkbox"/> Exclude from Results

Formula: % Change in VMT = (-1) * % change in bikeway miles * elasticity * existing bike mode share * bike trip length / (existing auto mode share * auto trip length)
 VMT change capped at 5.0%, assuming 10% maximum of auto trips can shift to bicycle and one-way bike trip length of 2.9 miles

Sources:
 (1). SANDAG. 2016. Activity Based Model. (v14.0.1, scenario ID 232)
 (2). Pucher, J. and R. Buehler. 2011. "Analysis of Bicycling Trends and Policies in Large North American Cities: Lessons for New York." Report for U. S. Department of Transportation, Research and Innovative Technology Administration, Washington, D.C. and UTRC II New York.

Using this method and providing key bicycle connections to increase the number of bikeway miles (excluding Class III) the project is able to reduce VMT by 4.4%.

SUMMARY OF RESULTS

The total VMT reduction with the implementation of these strategies is 5.8% which exceeds the minimum VMT reduction needed for the project and moves the project to below 85% of the regional average for VMT. The calculator provides several summary sheets for the user to export as evidence.

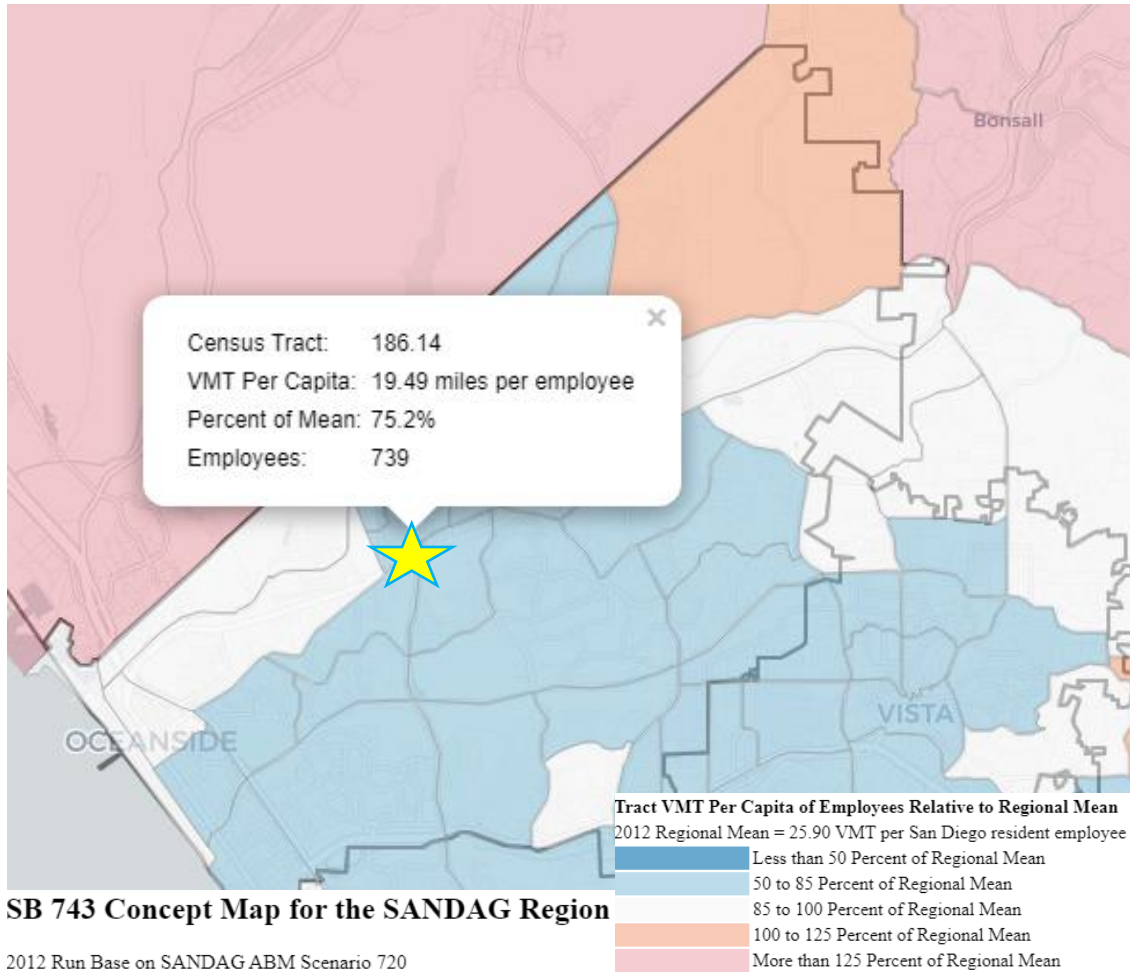
Community/City Results				
Community/City-Level Strategies		VMT Type	Change in VMT	Exclusions
Neighborhood Enhancements				
4A	Street Connectivity Improvement	All city/CPA trips		
4B	Pedestrian Facility Improvement	All city/CPA trips	-1.4%	
4C	Bikeway Network Expansion	All city/CPA trips	-4.4%	
4D	Bike Facility Improvement	Trips on roadway with bikeway addition		Strategy 4C selected
4E	Bikeshare	All city/CPA trips		
4F	Carshare	All city/CPA trips		
4G	Community-Based Travel Planning	All city/CPA trips	0.0%	
Transit Strategies				
5A	Transit Service Expansion	All city/CPA trips		
5B	Transit Frequency Improvements	All city/CPA trips		
5C	Transit-Supportive Treatments	All city/CPA trips		
5D	Transit Fare Reduction	All city/CPA trips		
5E	Microtransit NEV Shuttle	All city/CPA trips		
All City/CPA Trips - Total Change in VMT			-5.8%	
Trips on Roadway Affected by Bikeway Addition - Total Change in VMT				

The following link documents the overall methodology, inputs, and data sources used to develop the VMT Reduction Calculator Tool:

https://www.icommutesd.com/docs/default-source/planning/tool-design-document_final_7-17-19.pdf?sfvrsn=ec39eb3b_2

VMT Example Project (Office)

SANDAG is in the process of updating the SANDAG model and will be updating these maps. The most recent version of the screening maps and model shall be utilized unless otherwise directed by City Staff. SANDAG currently has two maps, one representing per capita (for each person) and one for employee per capita.



VMT STEPS FOR AN OFFICE PROJECT HYPOTHETICAL EXAMPLE (PER EMPLOYEE)

Step 1 : Determine the Project’s Trip Generation utilizing the SANDAG *Not So Brief Trip Generation Guide (2002)*:

Proposed Land Use	Size	Unit	Rate	Daily Trips (ADT)
Office	200 SF	Square Feet	10 /1,000 SF	2,000

*Based on SANDAG Not So Brief Guide (2002)

A VMT analysis for CEQA purposes will be required if a project exceeds 1,000 average daily trips (ADT) and is consistent with the adopted General Plan. If a project is inconsistent with the adopted General Plan, a VMT analysis will be required if the project exceeds 500 ADT.

Since this example generates 2,000 ADT, a VMT analysis is required based on the threshold of 1,000 ADT.

Step 2: Utilize the SB 743 Concept Map provided by SANDAG for the appropriate metric.

Locate the project’s location and click the census tract. An information callout pops up that identifies the characteristics of the project’s location (based on the existing land use).

For this example, VMT Per Employee is utilized and compared to the Regional mean. Based on the screening map, the project location is located in a low VMT area and will not require further evaluation. The following table identifies the project and regional VMT. Additionally, it demonstrates how to interpret the SANDAG SB 743 Concept map.

Proposed Land Use	Project VMT	Regional VMT	% of Regional Mean
Office	19.49 per employee	25.9 per resident	72.2

Step 3: Is the project 15 % below regional average? In other words is the percent of the regional mean less than 85%?

For this example yes, the project is 72.2% of the regional mean, therefore no further analysis required.

Projects above the 2,400 ADT will need to use the SANDAG model to complete the VMT analysis.

APPENDIX D

SANDAG Mobility Management Guidebook

Mobility Management

Guidebook

JUNE 2019



APPENDIX E

SANDAG VMT Reduction Calculator Tool

MOBILITY MANAGEMENT VMT REDUCTION CALCULATOR TOOL



I. Overview

The Mobility Management VMT Reduction Calculator Tool estimates the percent reduction in vehicle miles traveled (VMT) resulting from the application of mobility management strategies. This Excel-based tool is intended to act as a resource for identifying and evaluating the impacts of mobility management strategies as part of the development review and transportation analysis process. The tool supports the goals of SB 743 (Steinberg, 2013) by providing jurisdictions and developers with a resource to quantify VMT reductions resulting from implementation of a variety of mitigation strategies at various scales. The tool also supports local government planning efforts including implementation of general and community plans, transportation demand management (TDM) ordinances, and climate action plans.

The tool operates at two geographic scales: project/site-level and community/city-level. Depending on the project location and project type, users can select appropriate strategies of interest for mitigating transportation impacts. Some strategies reduce VMT only from employee commute trips. Other strategies reduce VMT from all project-generated trips or all community/city trips. The type of VMT affected is shown on the Results pages and on the individual strategy pages. Each strategy requires that the user inputs values that are used to calculate the percent reduction in VMT. For many strategies, the tool offers default parameters that can be replaced with user-provided values if available.

This tool was developed as part of a project funded by a Caltrans Strategic Partnerships Planning Grant. The tool is available as a resource for local jurisdictions. Local jurisdictions are under no obligation to use this tool in their development approval processes or transportation analyses under SB 743. Users of the tool should exercise their professional judgment in reviewing, evaluating and analyzing VMT reduction estimate results from the tool.

The Mobility Management Strategy Guidebook serves as a complement to this tool. The Guidebook includes summary descriptions and resources for a variety of mobility management strategies, including all strategies contained in the tool as well as others for which VMT reductions cannot be reliably estimated.

[For more information, visit iCommuteSD.com/LocalGov.](http://www.icommutesd.com/LocalGov)

II. Instructions

Follow the steps below:

- Under the "Project Information" section below, select the scale of analysis.
- Select the location of analysis, using the drop-down menus below. If San Diego City or Unincorporated San Diego County is selected, the user has the ability to select the Community Plan Area (CPA) location.
- Depending on the scale of analysis, different mobility management strategies are available for consideration. Click on a strategy of interest by selecting the strategy name. The hyperlink will take the user to that strategy page. Each strategy page requires the user to input data into cells to estimate the percent VMT reduction. See the **Legend** for a display of the different cell styles present in the strategy pages.
- Using hyperlinks, the user can navigate to the appropriate Results page to see the individual strategy and cumulative results.
- Additional strategies can be selected, and the Results page will reflect the combined impact of multiple strategies. If the user does not want to include a strategy with the cumulative results, click "Exclude from Results" on the strategy page (see **Legend**).
- Once the user has reviewed the individual strategy and cumulative results on the appropriate Results page, click the "Print Results" hyperlink to go to a printable page with a summary of project information, percent VMT reduction, and literature citations for the calculations at the selected scale of analysis.

III. Legend

Below are the different cell styles the user will see in the formulae of the strategy pages. Not all strategies use each cell style.

constant, coefficient, or default	= constant, coefficient, or default value, locked
user input	= required user input, values may be restricted, unlocked
user input, optional	= optional user input, values may be restricted, unlocked
overridden default	= if optional input entered, then default will be overridden, locked
hidden help text	= hidden help text visible if user hovers cursor over cell, locked
calculation	= intermediate calculation in formula, locked
% change in VMT	= strategy output, locked
% change in VMT, max decrease	= strategy output, max achievable reduction, may be capped, locked
% change in VMT, increase	= strategy output, VMT increase, may be capped, locked
<input type="checkbox"/> Exclude from Results	= optional user input, check box to exclude a strategy output from results

IV. Project Information

Project Name (optional):

Project Address (optional):

Project Type (optional):

Scale of Analysis:

Analysis Location:

CPA (if applicable):

Not applicable if scale of analysis is city/community.

E.g., residential, commercial

"Project/site" refers to strategies that occur at the scale of a parcel, employer, or development project. "City/community" refers to strategies that occur at a scale of a neighborhood, corridor, an entire municipality.

If necessary, determine location using SANDAG's online [Parcel Lookup Tool](#). Be sure to turn on the Jurisdictions and Community Plan Areas layers.

If the Analysis Location is in a CPA in San Diego City or Unincorporated San Diego County, select the CPA from the dropdown list. See the [Parcel Lookup Tool](#) above for more information. If the Analysis Location is the entire San Diego City or entire Unincorporated San Diego County, leave the CPA input blank. Follow hyperlinks below for lists of CPAs in San Diego City and Unincorporated County.

CPAs: [San Diego City](#) [Unincorporated County](#)

Is analysis in a rural area? See Question #11 of the FAQ page for information about tool applicability.

V. Mobility Management Strategies

Project/Site-Level Strategies

Project-Level Results

Employer Commute Programs

Strategies implemented by employers that encourage workers to commute by modes other than auto

- 1A [Voluntary Employer Commute Program](#)
- 1B [Mandatory Employer Commute Program](#)
- 1C [Employer Carpool Program](#)
- 1D [Employer Transit Pass Subsidy](#)
- 1E [Employer Vanpool Program](#)
- 1F [Employer Telework Program](#)

Land Use Strategies

Strategies that modify the location or characteristics of land development projects to encourage non-auto travel modes

- 2A [Transit Oriented Development](#)
- 2B [Mixed Use Development](#)

Parking Management

Strategies that discourage auto travel by modifying the price or supply of vehicle parking

- 3A [Parking Pricing](#)
- 3B [Parking Cash Out](#)

Community/City-Level Strategies

Community-Level Results

Neighborhood Enhancements

Strategies that improve or encourage neighborhood-level bicycle, pedestrian, and other multimodal travel options

- 4A [Street Connectivity Improvement](#)
- 4B [Pedestrian Facility Improvement](#)
- 4C [Bikeway Network Expansion](#)
- 4D [Bike Facility Improvement](#)
- 4E [Bikeshare](#)
- 4F [Carshare](#)
- 4G [Community-Based Travel Planning](#)

Transit Strategies

Strategies that improve transit service and cause a mode shift from auto to transit

- 5A [Transit Service Expansion](#)
- 5B [Transit Frequency Improvements](#)
- 5C [Transit Supportive Treatments](#)
- 5D [Transit Fare Reduction](#)
- 5E [Microtransit NEV Shuttle](#)