

California Senate Bill 743

Vehicle Miles Traveled Documentation

Metadata

Attribute Name	Description
Geography	Census tract or city/Community Planning Area (CPA) depending on layer chosen
Name	Census tract number (2010 Tracts) City name (2016 Boundaries) CPA name – CPA's reported for County of San Diego and City of San Diego (2016 Boundaries)
Residents/Employees	Resident or employee depending on layer chosen
Persons	Number of residents or employees in geography area
Vehicle Miles Traveled (VMT) per Capita	Average VMT by residents or employees throughout the day. Description of the data queries found below.
Percent of Mean	The percent of the geographic areas VMT per capita as compared to the regional VMT per capita

Overview

The California Senate Bill 743 (SB 743) (Steinberg, 2013) VMT maps provide an estimate of personal vehicle travel by residents and employees within the San Diego region. The California Office of Planning and Research released a Technical Advisory on Evaluating Transportation Impacts in CEQA (<http://opr.ca.gov/ceqa/updates/sb-743/>) and the maps provided by SANDAG are an interpretation of the guidelines provided as a resource to the jurisdictions in our region to use as they see fit.

The estimated data in these maps are an analysis of travel using SANDAG's Activity-Based Model (ABM). The currently approved ABM version is ABM2 using Land Use Series 14 data source version 17. ABM1 Series 13 maps and data are provided as historical reference for projects. These maps and data are subject to change as new estimates are produced using updated inputs and methodologies.

Local jurisdictions are under no obligation to use the data in their development approval processes or transportation analyses under SB 743. Users of the data should exercise their professional judgment in reviewing, evaluating, and analyzing VMT reduction estimate results from the tool. Each agency should consult with California Environmental Quality Act (CEQA) experts and legal counsel regarding their own CEQA practices and updates to local policies.

The estimated data are provided at three geographic scales: City, City/County CPA, and Census Tract. For each geography SANDAG provides the VMT data per capita and per employee. VMT per capita represents the average amount of personal, non-commercial, vehicle travel made on an average weekday by each resident who lives within that geographic boundary. VMT per employee represents the average amount of personal, non-commercial, vehicle travel made on an average weekday by each resident employee whose employment/work location is within that geographic boundary and it includes all travel made by the employee, not just commuting to work, and includes those individuals who telecommute to their work location.

Important Considerations

- Both VMT per capita and VMT per employee only include travel made by residents within the San Diego region. Employees that live outside the region and commute in from elsewhere in California or from Mexico are not included in the calculations. Residents who travel outside the region do not have their travel outside of the region included. SANDAG will provide data on the amount of travel those individuals make within the region as estimated by the ABM.
- The VMT performance measures sum up all trips made for all purposes or reasons throughout the entire day, not just those originating from or destined to the geography. For VMT per employee that means the calculations include trips made for reasons other than commuting to or from work. The calculations do not include, however, trips made by employed residents while on their employers' clock (commercial/business travel).
- Since commercial travel is not included, the VMT is for personal vehicles only (such as light duty automobiles) and does not include heavy duty trucks.
- Residents who travel to the airport to leave the region or return to the region are not included in the VMT calculations.
- Employees who have a primary workplace but choose to work from home are included in the employee VMT for the primary workplace. This means all their travel, such as going to the local coffee shop, is included as VMT for the workplace location.

FAQs

What is the SANDAG transportation model?

The SANDAG transportation model is an ABM that simulates individual and household transportation decisions that compose their daily travel itinerary. People travel outside their home for activities such as work, school, shopping, healthcare, and recreation, and the ABM attempts to predict whether, where, when, and how this travel occurs. The result is a forecasting and alternatives analysis tool that can help gain insight into potential future outcomes of land use growth, transportation network investments, and travel policies.

What is the SANDAG transportation model used for?

SANDAG plans for complex mobility issues facing the San Diego region through the development of the Regional Plan, which is typically updated every four years. In preparation of each Regional Plan, SANDAG uses transportation and land use models to forecast potential future scenarios of where people will live and how they will travel. These models provide planners and decision makers with information to help them equitably allocate scarce resources.

The ABM was developed to produce an average spring/fall weekday forecast of travel in the San Diego region. However, travel over the course of a year has a great deal of variation from seasonal fluctuations, school session schedules, special events, and other occurrences (wildfires, rain, etc.); therefore, the ABM should not be used to monitor observed trends in traffic. Rather, the ABM is a forecasting and alternatives analysis tool that can help gain insight into potential future outcomes of land use growth, transportation network investments, and travel policies.

In addition to its primary application in development of the Regional Plan, the ABM is used to generate estimates of VMT for a given year, which are used to inform other related analyses in the region, including Community Plan Updates, General Plan Updates, and development of Climate Action Plans.

What data is included in the SANDAG transportation model and how often is this data updated?

SANDAG continuously updates the ABM and releases a new version for use in development of the Regional Plan, which typically occurs every four years. The ABM is calibrated to the latest observed data, such as jurisdiction vehicle traffic counts and transit passenger counts.

Other data included in updates to the ABM for new version releases include:

- Transportation networks
- Land use and demographics
- Surveys of travel behavior
- Forecasts of external variables
- Changes to the components and computer code that make up the ABM

What are some of the key differences between the two most recent SANDAG transportation models?

As of February 2020, the current SANDAG transportation model is referred to as “ABM2,” which was applied in development of the 2019 Federal Regional Transportation Plan¹. The previous model is referred to as “ABM1,” and was applied in the San Diego Forward: The 2015 Regional Plan (2015 Regional Plan)².

Differences between any of these models are related to changes in the data inputs described in the previous question. For example, the ABM is updated with the latest travel data (through surveys, travel costs, and network changes such as transit routes and roadway changes) and is then calibrated to observed data.

One of the more significant differences between ABM1 and ABM2 has been attributed to changes in the land use and demographics forecast³ between the Series 13 forecast (with a base year of 2012) and the Series 14 forecast (with a base year of 2016). The Series 13 forecast was completed during the recovery period of the Great Recession. It has been widely discussed and acknowledged that the Series 13 forecast, which was peer reviewed by local and national experts prior to release, did not foresee the depth and severity of the recession recovery and was slightly optimistic in future year growth. Additionally, ABM2 does not include impacts from COVID-19.

Other differences between models are reflected in changes to the data inputs described in the previous question, such as future gas prices and observed vehicle traffic and transit passenger counts in the base year.

How can the SANDAG transportation model data be accessed?

Data can be accessed through the SANDAG Transportation Forecast Information Center at <http://tfic.sandag.org/>. Pursuant to SANDAG Board Policy No. 012, SANDAG Service Bureau⁴, SANDAG member agencies, non-member government agencies, and private organizations and individuals may request specific services, including modeling, through the [SANDAG Service Bureau](#).

¹ For more information about ABM2 as used in the 2019 Federal Regional Transportation Plan: https://sdforward.com/docs/default-source/2019federalrtp/draftfinal/app-t---sandag-travel-demand-model-and-forecasting-documentation.pdf?sfvrsn=8047ff65_2

² For more information about ABM1 as used in the 2015 Regional Plan: sdforward.com/pdfs/Final_PDFs/AppendixT.pdf

³ Note: the forecast includes the base year as well as future years, out to 2050.

⁴ SANDAG Board Policy No. 012: sandag.org/organization/about/pubs/policy_012.pdf