

March 6, 2020

An Overview of the SANDAG Modeling Tools Used to Assess Travel Behavior and Resulting Greenhouse Gas Emissions and Vehicle Miles Traveled

Overview

At the joint Board of Directors, and Transportation and Regional Planning Committees meeting, on February 14, 2020, panelists from the Governor’s Office of Planning and Research, the California Air Resources Board, and Caltrans discussed state laws related to greenhouse gas emissions (GHG) and vehicle miles traveled (VMT), and how they apply to the 2021 Regional Plan. Staff will provide an overview on the modeling tools SANDAG uses to estimate travel behavior and associated GHG and VMT.

Action: Discussion/Possible Action

An overview of SANDAG modeling tools used to assess travel behavior and resulting greenhouse gas emissions and vehicle miles traveled will be presented.

Fiscal Impact:

None.

Schedule/Scope Impact:

None.

Key Considerations

SANDAG Modeling Tools

The SANDAG transportation model is an activity-based model (ABM) that simulates individual and household transportation decisions that compose a daily travel itinerary. People travel outside their home for activities such as work, school, shopping, healthcare, and recreation, and the ABM predicts where, when, and how this travel occurs. The result is a forecasting and alternatives analysis tool that can help gain insight into future travel behavior and demand.

SANDAG transportation modeling is extremely complex and uses a wide range of sources of data. These data sets include information on land use, how people travel, algorithms, mode choice, synthetic populations, demographic distribution, housing, jobs, and much more.

The SANDAG ABM is state of the practice for large Metropolitan Planning Organizations and has powerful analytic capabilities. The model has been tailored specifically to meet SANDAG analytical needs, considering current and future plans, and also taking into account unique sources of travel demand that exist in the San Diego region. Prior to use in the development of a Regional Plan the model is peer reviewed by national experts.

Staff will provide an overview of the tools used by SANDAG that help show how various projects, programs, and technologies impact travel behavior and the resulting VMT throughout the region. These tools help implement and support the use of VMT as one of the metrics for determining transportation impacts.

Information will include why we use an ABM, how the model works, how people travel in the region, and how different variables affect modeling results.

Pat Landrum, Acting Director of Data and Modeling

Key Staff Contacts: Pat Landrum, (619) 595-5602, pat.landrum@sandag.org
Rick Curry, (619) 699-1949 rick.curry@sandag.org
Elisa Arias, (619) 699-1936, elisa.arias@sandag.org