

Congestion Management Planning Using the Transportation Analysis Database

Erin Vaca and Stephen Decker, Cambridge Systematics, Inc.; and Jose Luis Moscovitch,
San Francisco County Transportation Authority

Abstract

The San Francisco County Transportation Authority (SFCTA) is responsible for implementing, updating, and monitoring the state of California-mandated Congestion Management Program (CMP) for the city and county of San Francisco. The SFCTA developed a geographic information system-based transportation analysis database (TAD) system designed to evaluate elements of the CMP as part of its biannual monitoring, updating, and reporting process. CMP elements include land use impacts related to travel demand, transportation system monitoring and reporting, and transportation system intersection and roadway deficiency analysis.

The Transportation Analysis Database was designed as a spatial framework for local and regional transportation and land use data, a tool for improving consistency between local and regional data, and as a platform for the incremental development of a future GIS-based transportation model system.

The SFCTA intends to use the TAD to evaluate not only specific CMP elements but also evaluate the transportation impacts of large land use development projects, the land use and transportation impacts of proposed transportation system improvements identified as part of Major Investment Studies and Light Rail Corridor Studies, and the travel demand impacts of potential highway closures. The TAD incorporates data from several local and regional sources including:

- Travel forecasts from Metropolitan Transportation Commission's regional travel model;
- Socioeconomic forecasts developed by the Association of Bay Area Governments;
- Commuter travel behavior collected by the Bay Area Air Quality Management District;
- Journey to work information from the Census Transportation Planning Package;
- Transit ridership estimates for BART, CalTrain, SamTrans, MUNI, and AC Transit; and
- Spatial data derived from Census TIGER files (including census tracts, blocks and traffic analysis zones).

This analysis tool has been applied to evaluate the potential travel and socioeconomic impacts of constructing a downtown Baseball Stadium for the San Francisco Giants, to identify the appropriate corridor alignment and travel demand impacts of proposed light rail in the Bayshore Corridor of San Francisco, and to identify the travel impacts of closing the Central Freeway in the downtown of San Francisco.