



Caltrans Division of Research,
Innovation and System Information

Research



Notes



Transportation
Safety & Mobility

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Project Title:
Induced Travel Calculator
Improvements – SB 743 Outreach

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Induced Travel Calculator Improvements

The purpose of this project is to explore possible improvements to the Induced Travel Calculator developed by UC Davis researchers.

WHAT IS THE NEED?

The construction of new roadways and the addition of lanes to existing facilities are often justified at least in part on their ability to reduce traffic congestion. But studies examining that approach consistently show that adding roadway capacity in congested areas increases network-wide vehicle miles traveled (VMT) by a nearly equivalent proportion within a few years, reducing or negating the initial congestion relief. That increase in VMT is called “induced travel.”

Although the increase in VMT may bring economic benefits to the state, it works against the goal established under Senate Bill 375 to reduce VMT in the state. As a result, and in response to Senate Bill 743, Caltrans recently adopted guidelines for conducting VMT-based transportation impact analyses under the California Environmental Quality Act (CEQA) for proposed projects in the State Highway System. Caltrans published those guidelines in two companion documents, Transportation Analysis Framework and Transportation Impacts Analysis under CEQA for Projects on the State Highway System.

In its Transportation Analysis Framework, Caltrans discusses two types of methods for estimating induced travel from proposed highway projects, travel demand models and elasticity-based methods. The National Center for Sustainable Transportation (NCST) at UC Davis developed an online Induced Travel Calculator (Calculator) that employs an elasticity-based method to allow users to estimate the VMT induced annually as a result of expanding the capacity of roadways managed by Caltrans in California's urbanized counties. Caltrans recommends in its Transportation Analysis Framework (p. 14) that in “cases where the NCST Calculator can be directly used, it should either be used exclusively or used to benchmark results” from a travel demand model.



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With the Calculator assuming a potentially significant role in CEQA analyses for proposed projects in the State Highway System, it is important that the Calculator be updated and expanded where feasible and also be validated against other methods of estimating induced travel.

WHAT ARE WE DOING?

The project team will explore three types of improvements to the Calculator: (1) Improvements to the explanation and documentation of the Calculator on the website and in related resources; (2) Improvements to the Calculator itself, such as refinements to the calculations and/or the data used by the Calculator; and (3) Validation of the Calculator in different contexts.

The team will first work with Caltrans staff and other users to identify needed improvements to the documentation of the Calculator. The team will then explore possible technical improvements to the Calculator, both near-term improvements based on available research and data, as well as long-term improvements that would require additional research and/or data collection. The team will also explore opportunities for assessing the Calculator's validity. This might involve, for example, applying the Calculator to actual projects in a variety of contexts and comparing its estimates to those from travel demand forecasting models.

WHAT IS OUR GOAL?

The team will implement any improvements to the Calculator that are feasible with available resources, and develop recommendations for any further improvements that would require an investment of additional resources.

WHAT IS THE BENEFIT?

Pursuant to Caltrans' guidance in its Transportation Analysis Framework, the Calculator could

have a significant role in CEQA analyses for proposed projects in the State Highway System going forward. It is therefore important that the Calculator be updated and expanded where feasible and also be validated against other methods of estimating induced travel.

WHAT IS THE PROGRESS TO DATE?

During this quarter, a no cost time extension was completed through the end of March 31, 2022.

In addition to the time extension, the following items were completed:

- Continued updating the literature review.
- A meeting was held with Caltrans and the stakeholder group it assembled for this project.
- A brainstorming session was scheduled with induced travel experts.
- Continued work on the FAQ page for the website.
- Worked with RMI analysts to fix inconsistencies with the NCST induced travel calculator.
- Scoped out a plan for doing a quasi-validation of the calculator's estimates and obtained the data with which to do the analysis.

IMAGE

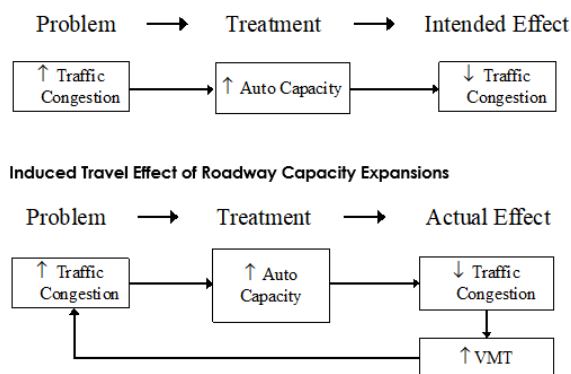


Image 1: Traditional Roadway Capacity Expansion Logic

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