

DRISI

CALTRANS DIVISION OF RESEARCH,
INNOVATION AND SYSTEM INFORMATION

Research Notes

Advancing Active Transportation Project Evaluation

Incorporating local data on walking and bicycling levels into project evaluation frameworks

Planning, Policy
and
Programming

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Project Title:
Advancing Active Transportation
Project Evaluation

Task Number: 3383

Start Date: January 1, 2024

Completion Date: December 31, 2024

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WHAT IS THE NEED?

California is making substantial investments in active transportation (AT), including the statewide Active Transportation Program (ATP). Evaluation is critical for understanding the return on these investments. The research team's recent literature review found mounting evidence for the ways AT projects achieve benefits, yet limited tools to evaluate benefits. Through collaboration with Caltrans, University of California, Davis (UCD) developed the California AT Benefit-Cost Tool (hereafter referred to as "the BC Tool") to fill this gap. Today the California Transportation Commission (CTC) is assessing the BC Tool for ATP program-level estimates of changes in safety, physical activity, local pollutants, and greenhouse gas (GHG) emissions. The BC Tool is also an available framework and model for uniform project-level ATP assessments across the State. However, the tool currently does not consider local data on walking and bicycling, limiting its usefulness for estimating realized benefits of completed projects. In this project, we propose to conduct data collection and analysis to supplement the BC tool.

To improve the BC Tool for local scale ATP evaluation, we will incorporate local data on walking and bicycling levels into the framework and model. It is critical that the models of bicycle and/or pedestrian activity are validated at the local project scale and that evaluation criteria utilized in the tool match the needs of decisionmakers. This project will also serve as a first external validation of the BC Tool.

This project parallels a contract under development between Caltrans and UCD to expand the capability of the BC Tool for ATP program evaluation. That contract includes internal validity checks and tool enhancements. This project's results will help to inform some of those enhancements, and help to communicate the validity and limitation of the BC Tool for program and project level AT evaluation.



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WHAT ARE WE DOING?

This study will focus on (1) validating the most critical component to the BC Tool, the estimates of walking and bicycling activity, and (2) estimating project specific benefits using local data and the BC Tool. In this project we will accomplish these goals by collecting active travel data in the cities of Santa Cruz and Santa Barbara. Collecting, cleaning, and unifying the data collected locally will be the first project task.

After collecting local data, we will evaluate the BC Tool model of walking and bicycling activity. This model includes several inputs that are already available statewide: access metrics, Strava data, land use characteristics, socio-demographics, and weather data. We propose to evaluate the existing model by factoring available local short-term counts based on local long-term counts to estimate daily volumes and then calculate the model-predicted error at the network link level for bicycling and at the intersection crossing volume level for walking. Because the bicycling models for the BC Tool were developed with only training data from Caltrans District 1 and the cities of San Francisco and San Diego, the model is expected to produce large errors in the project locations in this study. The estimates of the error are crucial for understanding the applicability of the BC Tool for statewide evaluation and help to target new data collection for improving the tool.

WHAT IS OUR GOAL?

The outcomes of this project will be to inform estimates of a sample of real-world bike and pedestrian focused transportation investments, and to use that knowledge to improve the existing BC tool for future project and program evaluation.

WHAT IS THE BENEFIT?

This project will help to improve the communication of the BC Tool validity and limitations, inform enhancement decisions in the parallel development contract, both of which will

help the state to make more informed decisions about funding active transportation investments including which projects to fund and how much funding to allocate to the ATP. The project also has the potential to help inform local planning by improved decision making on project design, type, and location.

WHAT IS THE PROGRESS TO DATE?

Project to begin in January 2024.

IMAGES



Image 1: People walking and biking on multi-use pathways