Quantifying Results of Key Transit Investments

Develop framework to monitor, analyze, and quantify the results of key transit investment programs.

WHAT IS THE NEED?

The State of California provides millions of dollars of funding annually to transit projects through programs such as Transit and Intercity Rail Capital Program, Low-Carbon Transit Operations Program, and Proposition 1B Public Transportation Modernization, Improvement, and Service Enhancement Account Program. Caltrans needs a product that can identify key transit investments that have been funded through these programs, determine the data that needs to be collected, and establish a methodology to monitor and quantify the results. Caltrans would like to quantify the results to link the transit investments to the outcomes of completed transit investment funded programs; and be proactive in determining what evidence to collect at various stages of the project to link the investments to the desired outcomes for the ongoing programs.

WHAT ARE WE DOING?

The Division of Rail and Mass Transportation (DRMT) staff and management need to be able to analyze expenditure on projects that it administers for the state and federal public transportation programs. This can be achieved by identifying metrics for key DRMT programs that are quantifiable, measurable, and comprehensible. However, currently this is seldom practiced due to a lack of tool or guidance for DRMT to follow or use. Thus, this research will identify key programs administered by DRMT and subsequently, quantify metrics to show how taxpayers' funds were spent for those key programs.

Based on the preliminary investigation, there are primarily nine main measures used to determine project-level impact of specific investments across various transit agencies in California. These measures are: accessibility, costs, greenhouse gas emissions, land use impacts, mobility, safety, service quality, transit ridership, and travel time. This research is divided into five interrelated tasks:

OCTOBER 2018

Project Title: Quantifying Results of Key Transit Investments
Task Number: 3151
Start Date: November 01, 2018
Completion Date: May 31, 2019
Task Manager:
Bradley Mizuno
Transportation Engineer (Electrical)
bradley.mizuno@dot.ca.gov
Task 1: Review Literature
The researchers will study reports, publications, and current practices on use of investments to quantify measures for success of any program that DRMT administers. Additionally, the research team will study metrics and measures used to gauge investments across various transit agencies nationally and internationally.

Task 2: Schedule Interview/In-Person Meeting
The research team will schedule meetings with the DRMT staff to identify potential projects to study from the 33 programs that DRMT administers.

Task 3: Identify Key Projects
The researchers will design and develop a methodology to identify and examine two representative projects.

Task 4: Match Investments to Benefits
The research team will develop a spreadsheet-based tool in Microsoft Excel®, which will provide insights on investments and benefits assessed through quantifiable measures and metrics.

Task 5: Draft Report
The research will culminate with a final report and manual for the spreadsheet-based tool developed in Task 4.

WHAT IS OUR GOAL?
The goal is to develop a framework to analyze and quantify specific transit investment results.

WHAT IS THE BENEFIT?
The deployment potential of this research is very high as it is evident for the greater transparency and knowledge that will be developed in this research about transit spending in California. The study’s deployable product will consist of a final report and a spreadsheet-based tool, which will identify benefits to public through measures and metrics for the expenditure of DRMT-funded projects.

WHAT IS THE PROGRESS TO DATE?
The contract is waiting to be executed.