

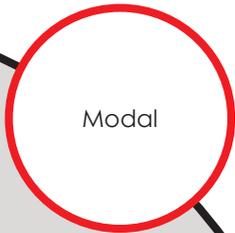


Caltrans Division of Research,
Innovation and System Information

Research



Results



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Project Title:

Quantifying Results of Key Transit Investments

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Quantifying Results of Key Transit Investments

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

WHAT WAS 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 (TIRCP), Low-Carbon Transit Operations Program (LCTOP), and Prop 1B Public Transportation Modernization, Improvement, and Service Enhancement Account Program (PTMISEA). Caltrans requests a product that identifies key transit investments that have been funded through these programs, determines the data that needs to be collected, and then establishes a methodology to monitor and quantify the results. Some of the transit investments funded through these programs are completed and others are just beginning. In the former, Caltrans would like to quantify the results to link the transit investments to outcomes. In the latter, Caltrans would like to be proactive in determining what evidence to collect at various stages of the project to link the transit investments to the desired outcomes.

WHAT WAS OUR GOAL?

The goal was to develop a framework to analyze and quantify specific transit investment results.

WHAT DID WE DO?

This research identifies measures and metrics that are quantified for various key project investments and describes appropriate approaches to quantifying identified measures for some sample projects. Based on the preliminary investigation, there were ten measures identified to determine the project-level impact of specific investments across various transit agencies in California. These measures are accessibility, costs, greenhouse gas (GHG) emissions, land use, mobility, safety and security, service quality, travel time, economic development, and resource utilization.



DRISI provides solutions and knowledge that improves California's transportation system

Seven sample projects along with reports and referenced webpages provided by Caltrans Division of Rail and Mass Transportation (DRMT) were reviewed in this research. Additional project-specific investment results were also collected based on resources collected through web searches. The research findings have been limited to assessing only short-term impacts of the project investments – i.e. immediately after the project is completed and the facility becomes functional. Assessment of long-term impacts of each investment will involve in-depth study and inclusion of various other factor determined through surveys and interviews from various stakeholders.

WHAT WAS THE OUTCOME?

Project reviews show that Caltrans should measure outcomes that can be directly quantified - defined as 'active' measures. Measures that cannot be directly quantified or estimated can be categorized into 'passive' measures. In addition, measures that can be classified as 'active' measures consist of those that are at the immediate geographical vicinity of the project. 'Passive' measures are those that have no fixed geographical boundaries that can be defined for their measurement - but are very important. Further, both 'short-term' and 'long-term' benefits resulting from a project should be tracked. A short-term assessment of measures could be after a day, a week, a month, a year or a few years after the project completion date. A long-term assessment of measures is usually after ten years of project completion. The determination of long-term projects can also be in the number of years that could be defined by stakeholders of the project.

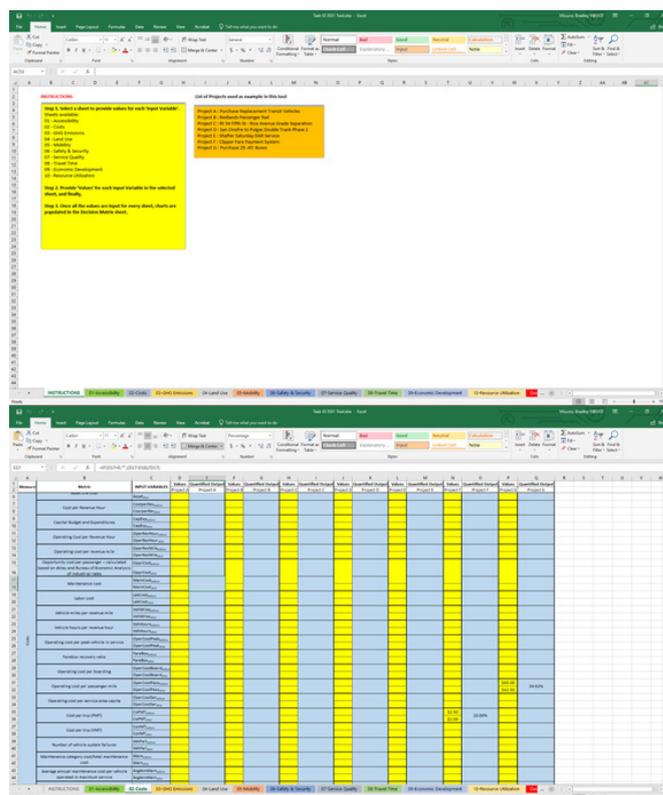
Based on this research, it is recommended that the assessment period (whether short-term or long-term) of a project should be defined when quantifying results of investments. This should be followed by defining appropriate measures for the assessment period considered for the quantification.

A spreadsheet-based tool in Microsoft Excel® which provides insights on investments and benefits assessed through quantifiable measures and metrics.

WHAT IS THE BENEFIT?

The deployment potential of this research is very high as is evident from the greater transparency and knowledge that will be developed with 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.

IMAGES



Screen captures of the Excel spreadsheet tool

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