

FACT SHEET

Quick Response: Quantification of Research Benefits

RESEARCH PROJECT TITLE

Quantification of Research Benefits

STUDYTIMELINE

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PRINCIPAL INVESTIGATOR

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MORE INFORMATION

https://www.newenglandtransportationconsortium.org/wp-content/uploads/NETC_Qr17-2_final.pdf

The New England Transportation Consortium, a cooperative effort of the transportation agencies of the six New England States, funded this research. Through the Consortium, the states pool professional, academic and financial resources for transportation research leading to the development of improved methods for dealing with common problems associated with the administration, planning, design, construction, rehabilitation, reconstruction, operation and maintenance of the region's transportation system.

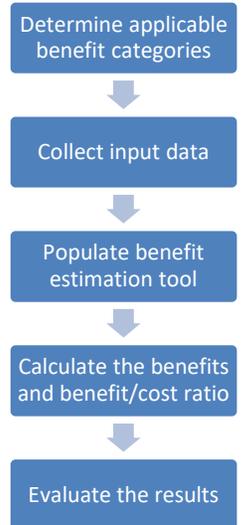
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What was the Problem?

Quantifying research benefits and evaluating economic effectiveness of research projects are becoming increasingly important to agencies. With limited research funds, agencies must evaluate and justify the economic effectiveness and contributions of research projects to the agencies and other stakeholders. Quantifying research benefits can allow agencies to understand and improve the effectiveness of their research. The six States comprising the NETC were interested in developing a consistent way to evaluate and quantify the monetary benefits from research projects. It is important to have a tool that can analyze different types of transportation research projects and quantify their benefits in comparable financial terms. Additionally, having all New England States use the same estimation tool will allow the NETC to better collaborate and coordinate joint research.



What was done?

The objective of this project was to develop a tool with guidelines for quantifying the benefits of NETC's research projects. This objective was achieved by adapting an estimation tool developed by the Minnesota Department of Transportation's (MnDOT) with updates and enhancements to fit NETC's needs and improve its usability. The results are an updated guidelines for research benefit quantitation and a companion Excel-based tool for performing the calculation. The research benefit quantification guidelines are structured as a five-step process with nine potential benefit categories:

- Engineering/administrative costs, construction/installation costs, operation/maintenance costs, road user costs, environmental costs, lifecycle costs, insurance/risk management costs, and all other costs.
- The companion Excel tool provides a set of calculation templates with color-coded sections for inputs and outputs that help guide users through the process, from determining applicable benefit categories to collecting required input data and performing the analysis. The tool was refined and the process was demonstrated through two NETC's example research projects.

What are potential impacts?

The Benefit Estimation Tool provides the NETC with a consistent way of evaluating and financially justifying its research projects. The results can be a key piece of input for assessing the effectiveness of agency's research program and make informed decisions to implement or not implement research findings. The development of this tool also provides information that can help NETC with more detailed research questions for its future requests for proposals (RFP). The Excel-based tool provides a user-friendly approach with the flexibility to adapt the tool in the future as needed.