RESEARCH
PROJECT CAPSULE [12-3PF]
September 2012
TECHNOLOGY TRANSFER PROGRAM

STC Synthesis of Best Practices for Determining Value of Research Results

JUST THE FACTS:

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12 months

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FHWA

Principal Investigator:
Baabak Ashuri, Ph.D.
Georgia Tech Research Corporation
404-385-7608

Administrative Contact:
Mark Morvant, P.E.
Associate Director, Research
225-767-9124

Technical Contact:
Kirk Zeringue
Senior Research Engineer,
Special Studies
225-767-9169

Louisiana Transportation
Research Center
4101 Gourrier Ave
Baton Rouge, LA 70808

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POINTS OF INTEREST:

Problem Addressed / Objective of Research / Methodology Used Implementation Potential

The RAC Region II has initiated a collaborative research program consortium through the Transportation Pooled Fund (TPF) Program. The research program is called the Southeast Transportation Consortium (STC) and is intended to encourage coordination among member states, as well as provide resources and management of collaborative studies. The consortium intends to address high priority transportation research topics of common interest to the southeastern and adjoining states. Louisiana serves as the lead agency in the STC.

PROBLEM

Transportation research projects are aimed at fostering innovation in different areas, such as safety, cost savings, quality, efficiency, project delivery, and policy. Transportation research projects funded by federal and state transportation agencies are investments that result in saved lives, money, and time. Nevertheless, for many state DOTs, the true impact of transportation research projects on the transportation systems' safety and the agencies' cost effectiveness is generally unclear. This is due to the lack of comprehensive and implementable quantitative and qualitative methods for determining the economic value of transportation research projects. These evaluation methods should go beyond considering the value of research projects in terms of operational costs saving and include the economic impact of the research projects on congestion, accidents, and fatalities. There is a need for research that identifies the best practices in using proper methodologies and metrics for demonstrating the true economic value of research projects in terms of transportation system safety, quality, and cost effectiveness. The application of these methods and metrics requires the identification and collection of relevant data on the benefits resulted from the implementation of research project findings and recommendations. Therefore, there is a need for a synthesis that identifies the best practices for determining the value of research results. This synthesis can be used as a basis for making the business case for transportation research.

The overall objective of this project is to synthesize the best practices for determining the value of research results, in order to demonstrate the impact that the research has on transportation system safety, quality, and cost effectiveness. The specific objectives of this research are to:

- Identify current research evaluation methodologies and (qualitative/quantitative) benefit metrics used by transportation agencies determining the value of research results.
- Identify relevant data and information currently used by transportation agencies for calculating the value of research results.
- Describe the process of computing research value through detailed case studies.
- Identify major areas of research; for each area, determine common methodologies, benefit metrics, and information required to reasonably determine benefits of implementing research results.
- For each evaluation methodology and benefit metric, identify capabilities and major issues for the accurate calculation of value of research results.
- Identify the critical knowledge gaps in the evaluation of research results that require further research.
- Identify the best practices for implementing research results and recommendations by transportation agencies.
- Identify current practices that prevent successful implementation of research results and strategize to overcome these barriers.
- Describe the best practices in communicating the value of research projects with various stakeholders.
- Identify the most exemplary research projects that clearly demonstrate the value of research results.

METHODOLOGY

The objectives of this synthesis will be met by conducting the following sequential set of tasks:

1. Review the literature on determining value of research results.
2. Design a survey to identify the best practices.
3. Distribute surveys and analyze the survey responses.
4. Conduct follow-up interviews and detailed case studies with selected agencies.
5. Draft the synthesis report; revise and finalize the best practices synthesis report.

IMPLEMENTATION POTENTIAL

The findings of this research will be reported in a synthesis of the best practices for determining the value of the research results. These findings will be presented at the STC Annual Conference. This synthesis is anticipated to help research divisions of transportation agencies evaluate the capabilities and major issues of current evaluation methodologies and benefit metrics regarding the documentation of research value. This synthesis identifies the critical knowledge gaps in the evaluation of research results that can be explored by researchers in future projects. The public relations division of transportation agencies may benefit from this research through the identification of best practices for communicating value of research results to different stakeholders.