Determining Value of Transportation Research: Methods, Measures, and Data Sources
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Introduction

- The ultimate purpose of transportation research projects is to improve various features of transportation systems, such as safety, quality, and cost effectiveness.
- However, the true impact of transportation research projects on the transportation system is generally unclear.

Major Problem

- Lack of awareness about existing quantitative and qualitative methods for determining the value of transportation research projects
- Lack of awareness about existing measures and data sources for determining the value of transportation research projects

Research Background

- Kentucky DOT (One research report) Research report: Value of research SFR projects (2001)
- Utah DOT (One research report) Measuring the benefits of transportation research in Utah
- Minnesota DOT (One research report) Economic benefits from road research (2008)
- National Cooperative Highway Research Program (NCHRP) Performance Measurement Tool Box and Reporting System for Research Programs and Projects, NCHRP Project 20-43
- Transportation Research Board Research Pays Off
- American Association of State Highway and Transportation Officials (AASHTO)
- Research Impact: Better - Cheaper - Faster

Research Objectives

- The overall objective of this project was 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 features, such as safety, quality and cost effectiveness.
  - Identifying methods used for determining the value of transportation research
  - Identifying various measures and data sources used for determining value of research.

Research Approach

- Review literature on determining value of research results
  - Conduct three fact-finding surveys
    - Survey 1 was conducted to capture state of knowledge and practice in determining value of research in DOTs
    - Surveys 2 and 3 were conducted to collect best examples for determining value of transportation research
  - Perform content analysis on the best examples for determining value of transportation research

Identified Methods to Determine Value of Research

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Identified Data Sources

The data sources for determining value of research in each area of benefit are identified. For example, in the area of safety:

- Literature (Scholarly papers, databases, reports, etc.)
- Data provided by DOTs, FHWA, TRB, AASHTO (Performance records, etc.)
- Data provided by manufacturers

Categories of Identified Data Sources

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<td>Developing a systematic and transparent approach to determine value of transportation research.</td>
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<td>• The proposed approach should be both scalable and flexible, and easy to understand and follow.</td>
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<td>• The proposed methods and measures should not prohibit innovative ways to objectively determine value of research.</td>
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Research Path Forward

- Developing a guidebook
  - Flexibility is the key to create such a guidebook.
  - A proper guidebook should facilitate communicating value of research.
  - Training is the key to succeed in implementing a proper guidebook

Acknowledgements

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