

TRB Committee on Performance Measurement (A5022)

Report for Annual Meeting: January 12, 2004

Subcommittee on Research

Members

Joe Zietsman (Chair)
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Activities During 2003

The subcommittee on research was formed to fulfill “Strategy 1” of the Performance Measurement Committee Action Plan: *Define transportation research needs in performance measurement and advocate for the conduct of research and the development of syntheses for these research problem areas.*

The following actions were completed during 2003:

Topics Proposed for 2003 NCHRP Syntheses

The subcommittee prepared the following 6 synthesis statements that were submitted by the January 31, 2003 deadline:

- How to Use Weights in Decision-Making With Performance Measures
- Effectively Communicating Performance Measure Impacts
- Performance Measurement in Budgeting and Resource Allocation
- Customer Based System/Service Delivery Reliability Measures
- Methods for Making Decisions with Transportation Performance Measures
- Effective Organization and Management of the Performance Measurement Function

Unfortunately, none of these statements were eventually selected. The statements chosen by NCHRP fell outside the realm of conventional transportation projects. We may, therefore, want to take this into consideration for future research project proposals.

Listing of NCHRP and TCRP Projects

The subcommittee prepared a list containing the project number, year, project name, and URL for completed and ongoing performance measurement-related projects. At the end of this report there is table containing the ongoing and recently completed NCHRP research projects on performance measurement.

Initial Information for FHWA Knowledge-Communities Website

The subcommittee prepared some initial information for the “Case Studies and Performance Measurement” section of the Knowledge Communities Website.

Develop Research Ideas

The 2000 TRB Conference on Performance Measurement produced several pages of topic areas and research ideas (more than 50). The subcommittee on research summarized this work and then asked the full committee to suggest any additions and deletions. The net result was 27 research ideas summarized into 7 topic areas.

The members of the full committee also ranked the research ideas and topic areas on a 3-point scale (high, medium, and low importance). Ten members provided their ratings and the following could be concluded from the rating exercise:

- Almost 80% of the research ideas rated above medium importance on average, indicating that the majority of ideas were viewed as important.
- The top 12 ideas had relatively high average ratings.

After the rating exercise, the committee re-examined the list of research ideas to create a more manageable list and to ensure that the topics were not too detailed. As a result, the top 12 research ideas were combined and simplified into 6 research areas, each with a specific focus area (see the table below):

Research Area	Specific Focus
• Tools and techniques	• Develop analysis tools for managers and policy makers to be used with performance measures.
• Decision making	• Develop performance measures for cross-discipline and cross-modal decision making.
• Decision making	• Perform case studies on successful applications of performance measurement and decision making.
• Outcomes	• Develop a way to incorporate community goals into the performance measurement process.
• Communication	• Develop methods to communicate system performance to the various stake holders
• Education	• Educate the stakeholders with regard to performance measurement.

Activities Proposed for 2004

- Complete the work to define the research focus areas.
- Develop liaison with appropriate committees to foster joint research projects.
- Respond to calls for problem statements through TRB, FHWA, FTA, and other sponsors.
- Enhance the compendium of ongoing and completed research.
- Continue to support the Knowledge Communities website.

Feedback on Ongoing and Recently Completed NCHRP Research Projects

Number	Project Name	Status
20-24	Using Performance Measures to Manage Change in State Departments of Transportation	The report is available
8-43	Methods for Forecasting Statewide Freight Movements and Related Performance Measures	No products are available
20-57	Analytic Tools to Support Transportation Asset Management	Interim reports are available
3-68	Guide to Effective Freeway Performance Measurement	No products are available
17-26	Methodology to Predict the Safety Performance of Urban and Suburban Arterials	No products are available
20-24	Performance Measurement in Context Sensitive Design	No products are available
20-60	Performance Measures and Targets for Transportation Asset Management	No products are available
7-15	Cost-Effective Measures and Planning Procedures for Travel Time, Delay and Reliability	No products are available
20-63	Performance Measurement Tool Box and Reporting System for Research Programs and Projects	No products are available
88	A Guidebook for Developing a Transit Performance-Measurement System	TCRP Report 88 has been published
31-04	Performance Measures for Research, Development and Technology Programs	Synthesis 300 has been published
311	Performance Measures of Operational Effectiveness for Highway Segments and Systems	Synthesis 311 has been published