



Technical communications for transportation professionals

NCHRP Project 20-44(21): Synthesis of State Peer Exchanges and RPPM Database

Brian Hirt and Chris Kline, Principal Investigators

AASHTO Research Advisory Committee 2020 Summer Meeting
July 21, 2020



Background

- ❑ Project developed to meet a need identified by the Implementation Subgroup of AASHTO Research Advisory Committee's Program Management & Quality Task Force
- ❑ Part of NCHRP 20-44: Moving Research into Practice

Background

- ❑ Oversight by TRB Senior Program Officer Sid Mohan, Implementation Program Manager
- ❑ NCHRP Panel:
 - Hafiz Munir, Minnesota Department of Transportation
 - Sue Sillick, Montana Department of Transportation
 - Joe Crabtree, Kentucky Transportation Center
- ❑ Contract period of 15 months (September 6, 2019 - December 5, 2020)

Goal

- ❑ Compile, synthesize, and present state DOT research implementation best practices and opportunities by examining underutilized resources:
 - State DOT peer exchange reports
 - Items in the Research Program and Project Management (RPPM) database

Tasks

1. Detailed synthesis of implementation-focused peer exchange reports from the past 10 years
2. Detailed synthesis of implementation-focused resources in RPPM from the past 10 years
3. Further identification and summary of implementation best practices
4. Development of a short summary reporting template for the effective communication of future peer exchange findings
5. Compilation of all deliverables and summary in a final report

- RAC Membership Roster
- RAC New Member Guide
- State DOT Research
- Meetings
 - Meeting Notes
- Peer Exchange Program
 - Peer Exchange Reports
 - Peer Exchange Reports Topics
- Programs
- RAC Task Forces
 - Administration
 - Coordination and Collaboration (CCTF)
 - Program Management and Quality (PM&Q)
 - Value of Research (VOR)
- RAC Surveys
- Resources for Research Managers
- FAQ
- Contacts
- Information for TRB State Representatives
- Getting Involved in Research

Search:

States	Reports	Topics	Participants	Year
Alabama DOT, Arkansas State Highway and Transportation Department, Kentucky Transportation Cabinet	2019_ALDOT_ARDOT_KTC_Peer_Exchange_Final_Report.pdf	6. Implementation Deployment of Results Technology Transfer 8. Research Performance Measures and Communicating the Value of Research Projects and Programs	Clark Graves, Cynthia Jones, Elisha Wright-Kehner, Jarrod Stanley, Jason Bittner, Joe Crabtree, Michelle Owens, Mike Fitch, Ron Johnson, Tyson Rupnow	2019
Wisconsin DOT	2018-WISDOT-peer-exchange-final-report.pdf	1. Research Project and Program Management 2. Alignment of the Research Function with Departmental Missions and Goals 6. Implementation Deployment of Results Technology Transfer 8. Research Performance Measures and Communicating the Value of Research Projects and Programs	Andy Eiter, Claire Randall, David Esse, Diane Gurtner, James Kuhr, Jarrod Stanley, Jason Siwula, Jennifer Harper, Joe Balice, John Moulden, John Overman, Karyn Vandervoort, Kristi Miller, Lynn Hanus, Steven Bolyard	2018
South Carolina DOT	SC_peer-report-final_2018.pdf	5. Optimizing the Value and Quality of Research 6. Implementation Deployment of	Allison Hardt, Anne Freeman, Claude Ipock, Erin Gary, Jeff Davis, Jim Burati, Jim Garling, Joe	2018

RPPM Research Program and Project Management for Transportation

Sign In

Search this site

Expenditure Management

Project and Program Databases

Project and Program Management Tools

Research Facilities

Research Portfolio Management

Delivering Results/ Communicating Value

Communication

Implementation

Intellectual Property

Program Evaluation

Project Evaluation

Value of Research

Collaborating in Research Activities

Collaboration Agreements

Collaborative Partnerships

Collaboration Successes

International Collaboration

Research Facilities

Implementation Documents

Actions ▾ 1 - 30 ▶

Document Type	Title	Year ↓	Organization Category	Organization Name	URL
Process	Implementation of Research Results - Begin with the End in Mind	2018	State/Province	Montana Department of Transportation	
Form	Implementation Planning and Documentation Form	2018	State/Province	Montana Department of Transportation	Form Link
Report	Synthesis of Implementation Survey Results	2018	State/Province	RAC-PM&Q Implementation Subgroup	
Report	GDOT 2017 Annual Research Implementation Report	2017	State/Province	Georgia Department of Transportation	
Survey	Implementation Survey Responses	2016	Non-Profit (AASHTO, TKNs, TRB, etc.)	PM&Q Implementation Subgroup	
Minutes/Notes	Research Implementation Facilitator's Meeting - 1/2015	2015	Non-Profit (AASHTO, TKNs, TRB, etc.)	AASHTO Research Advisory Committee (RAC)	
Report	Transportation Research Implementation: Application of Research Outcomes	2015	Non-Profit (AASHTO, TKNs, TRB, etc.)	Transportation Research Board	View report
Minutes/Notes	Research Implementation Facilitator's Meeting - 7/2015	2015	Non-Profit (AASHTO, TKNs, TRB, etc.)	AASHTO Research Advisory Committee (RAC)	
Report	Annual Implementation Report	2015	State/Province	Georgia Department of Transportation	View report

Tasks

1. Detailed synthesis of implementation-focused peer exchange reports from the past 10 years
2. Detailed synthesis of implementation-focused resources in RPPM from the past 10 years
3. Further identification and summary of implementation best practices
4. Development of a short summary reporting template for the effective communication of future peer exchange findings
5. Compilation of all deliverables and summary in a final report

Complete

Draft deliverables are online

□ <https://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=4831>

HOME MyTRB CONTACT US DIRECTORY E-NEWSLETTER FOLLOW US RSS

The National Academies of SCIENCES ENGINEERING MEDICINE
TRANSPORTATION RESEARCH BOARD

About TRB
Annual Meeting
Calendar
Committees & Panels
Programs
Projects
Publications
Resources & Databases

NCHRP 20-44(21) [Active]

Synthesis of State Peer Exchanges and RPPM [NCHRP 20-44 (NCHRP Implementation Support Program)]

Project Data	
Funds:	\$45,000
Research Agency:	CTC & Associates LLC
Principal Investigator:	Brian Hirt
Effective Date:	9/6/2019
Completion Date:	12/5/2020

Background
In conducting their periodic research peer exchanges required by Title 23 of the Code of Federal Regulations, state DOTs commonly select research implementation as a discussion topic. They seek to learn about best practices from among their peer agencies to help ensure that research results are implemented. Among 93 reports housed in AASHTO RAC's [peer exchange report database](#) dating back to 1997, fully 60 address the topic of "Implementation/Deployment of Results/Technology Transfer" (one of eight database categories) in whole or in part.

The 2017 publication [NCHRP 20-111\(G\): Best Practices for State DOT Peer Exchanges](#) analyzed these reports and noted common themes related to implementation: "Among primary findings, found in at least eight reports, was that implementation needs dedicated funding and that principal investigators must be engaged in the implementation plan...." However, that publication states further: "Notably absent from the reports is a review and implementation plan for the findings of the peer exchanges themselves."

More broadly, these peer exchange reports are lengthy and dense with information, and it takes users significant effort to identify and extract the most important findings and the actionable recommendations.

Beyond peer exchange reports, another AASHTO database, [Research Program and Project Management \(RPPM\)](#), contains 65 documents (reports, forms, lists, plans, guides and standards) addressing implementation at state DOTs. These too contain valuable information, but finding relevant and usable information requires drilling into resources one-by-one. As a result, these tools are likely underutilized.

Objective
NCHRP has selected a consultant to conduct a synthesis of practice and to develop tools related to state DOT research implementation.

The action plan to address this need consists of the following tasks.

Task 1. Synthesis of findings on implementation.
This task consists of a detailed review and compilation of recent peer exchanges that have implementation as a focus area. (Since this review would likely not go all the way back to 1997, the number of reports remains to be determined as part of the scope.) The synthesis would help identify and tabulate the more granular topics covered as well as the findings.

You can access the Task 1 draft report [here](#).

Task 2. Synthesis of RPPM findings on implementation
Publications related to implementation in RPPM would be similarly analyzed. By providing a snapshot of implementation findings to date, this synthesis will give other state DOTs a good understanding of what has been learned so far in this area. The synthesis will also point a user from a specific topic or finding back to its root sources (peer exchange reports and RPPM citations) to allow exploration of that finding in greater depth. This synthesis will also help inform the development of future peer exchanges on implementation and prevent duplication of effort.

You can access the Task 2 draft report [here](#).

Task 3. Implementation best practices.
In this task, further analysis of the findings of Task 1 will highlight best practices and key factors related to implementation. A short (four- to six-page) research publication will be practitioner-oriented, providing state DOT research staff and other users quick access to the best implementation tools and most important considerations from among the large existing body of peer exchange reports and RPPM database entries.

Peer Exchange Synthesis and RPPM Synthesis

- ❑ The syntheses address 31 peer exchange reports and 66 RPPM resources
- ❑ Investigators sought to identify practices, opportunities, and challenges related to research implementation, grouped by seven categories (some are broken further into subcategories):
 - Program Management
 - Roles and Staffing
 - Project Management and Process
 - Funding and Contracting
 - Tracking
 - Technology Transfer and Marketing (as these support/intersect implementation)
 - Demonstrations, Pilots, and Other Implementation Activities

Peer Exchange Synthesis and RPPM Synthesis

- ❑ Within each category are specific strategies, with examples/citations—typically several—pointing back to peer exchange reports and the RPPM citations
- ❑ Findings reinforced by a significant number of citations and states are tagged as KEY FINDINGS

Best Practices Guide

- ❑ Compiled top findings from deliverables into a six-page best practices guide
 - Selection of the most useful guidance from the two synthesis reports and the survey
- ❑ Highlighted guidance
 - Low-Cost, High-Impact Tactics
 - Transferable Tools
 - Advanced Recommendations
 - Priority Strategies

Overview

NCHRP initiated Project 20-44(21): “Synthesis of State Peer Exchanges and RPPM” to identify practices, opportunities, and challenges related to implementation of research conducted by state departments of transportation (DOTs). Best practices highlighted in this guide are drawn from three core data collection and synthesis tasks conducted for this project:

- A [synthesis of State Planning and Research peer exchanges](#) focused on those where the host state DOT addressed implementation as a theme for discussion.
- A [synthesis of the AASHTO Research Program and Project Management \(RPPM\) database](#) focused on documentation, processes, and reports tagged by submitter DOTs as related to implementation.
- A survey of research directors focused on state DOT experiences and perspectives related to research implementation practices, plans, and barriers.

Drawing from these sources, this guide serves not only to compile best practices but to present opportunities and next steps for agencies looking to put these findings to work. When additional details or expanded examples are available in the synthesis reports or survey responses, they are cited and linked in this guide. Users interested in more details are encouraged to refer back to these reports, which in turn include citations back to the source peer exchange reports and RPPM entries.

Strategies, Barriers, and Opportunities

Strategies are organized around seven functional areas that evolved from the synthesis reports and served as the basis for the survey:

- **Program Management**
- **Roles and Staffing**
- **Project Management and Process**
- **Funding and Contracting**
- **Tracking**
- **Technology Transfer and Marketing**
- **Demonstrations, Pilots, and Other Implementation Activities**

Discussion of each functional area closes with highlighted best practices for implementation (encompassing stand-alone implementation activities as well as implementation tasks included within a research project). These are grouped into three categories with increasing expectation of cost and level of effort:

1. **Low-Cost, High-Impact Tactics**—These are tactics to support research implementation that will be helpful for state DOT research programs that have particularly small or limited budgets and staff time.
2. **Transferable Tools**—These are tactics for enacting successful strategies that can be adopted readily by any state DOT research program.
3. **Advanced Recommendations**—These are tactics that have been proven successful for mature or advanced programs. While typically more involved than Transferable Tools—often requiring the development of new processes rather than easy-to-borrow ideas—they will be helpful for those state DOT research programs looking to advance research implementation to the next level.

In addition, this guide calls out **Priority Strategies**, approaches that surfaced as the most important and most widely deployed by state DOTs.

Best Practices Guide

- Points back to source material
 - These in turn cite the source peer exchange report or RPPM document
 - Balance distilling knowledge with letting people interested in more details have a way to go find it

TECHNOLOGY TRANSFER AND MARKETING strategies address how transfer of technology intersects implementation, and how marketing successful research promotes implementation.

- *Present research results directly to relevant DOT staff and local agencies; use webinars, videos, research briefs/summaries, conference presentations, conference posters, newsletters, email notifications, and/or annual reports.*

While agencies are using a [range of communication products and outreach efforts](#) to disseminate research findings (peer exchange synthesis, p. 33), some “would like and need to do more” and are interested in taking greater control over the process. This was the most widely used strategy in the entire survey.
- *Communicate research results and showcase implementation successes to communicate the value of implementation.*

Moving from an ad hoc approach to an organized and strategic effort is recommended, and annual poster sessions and showcases to highlight research program results are seen as effective ways to communicate the value of implementation.

Low-Cost, High-Impact Tactics	Require researchers to prepare a webinar, conference poster, and/or two-page brief as a final deliverable.
Transferable Tools	Assign research program staff to contribute to a periodic agency e-newsletter, or develop email notifications that highlight opportunities for implementation.
Advanced Recommendations	Learn more in the peer exchange synthesis (pp. 34-35) about New Jersey DOT’s annual research showcase to recognize innovative research projects, and Utah DOT’s annual research conference that couples researchers’ presentations with participant workshops.
Priority Strategy	Presentation of research results was the most frequently used strategy among every strategy in the survey, with three-quarters of respondents already engaging in this effort and 16% working toward it.

Tasks

1. Detailed synthesis of implementation-focused peer exchange reports from the past 10 years
2. Detailed synthesis of implementation-focused resources in RPPM from the past 10 years
3. Further identification and summary of implementation best practices
4. Development of a short summary reporting template for the effective communication of future peer exchange findings
5. Compilation of all deliverables and summary in a final report

**In
Progress**

Peer Exchange Summary Template

- ❑ Improve communication of future peer exchange findings
 - Fast access to top findings with pointers to full reports
 - Searchable information
 - Draft and alternative ideas have been discussed
 - Work to continue in August

Tasks

1. Detailed synthesis of implementation-focused peer exchange reports from the past 10 years
2. Detailed synthesis of implementation-focused resources in RPPM from the past 10 years
3. Further identification and summary of implementation best practices
4. Development of a short summary reporting template for the effective communication of future peer exchange findings
5. Compilation of all deliverables and summary in a final report

Forthcoming

Final Report

- ❑ Will package all of the deliverables
- ❑ To be completed by the end of 2020

Thank you...

- ❑ ...to the project panel
- ❑ ...to all who responded to the survey

What questions do you have?