NCHRP 20-111(G)
Best Practices for State DOT Peer Exchanges

Prepared for:

AASHTO Research Advisory Committee

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CHAPTER 1

Introduction and Project Summary

State DOT Research Peer Exchanges

Since the mid-1990s, state departments of transportation (DOTs) have conducted research peer exchanges focused on their research, development, and technology (RD&T) programs. The peer exchange requirement was included in the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and has been included in subsequent legislation codified in the Federal Code of Regulations for State Planning and Research (SP&R) programs [23 CFR 420.207/420.209]. These peer exchanges vary in complexity, theme, and ultimate implementation of programmatic recommendations. At their outset, peer exchanges were designed to provide RD&T programs "the opportunity to examine and evaluate their own programs through a collaborative team of peers, experts, and persons involved in the process, where the exchange of vision, ideas, and best practices could be fostered to benefit both their program and the program of the peer team participants" (as re-affirmed and noted in the June 2010 Federal Highway Administration State Planning and Research Guide for Peer Exchanges).

Each state DOT research program must participate on a periodic basis—currently recommended by the Federal Highway Administration (FHWA) to be no greater than 5 years between events. States prepare written reports of the findings, and these are voluntarily collected through a repository posted on the American Association of State Highway and Transportation Officials (AASHTO) Research Advisory Committee (RAC) website (http://research.transportation.org/Pages/PeerExchangeProgram.aspx). The RAC supports the AASHTO Special Committee on Research and Innovation (R&I). RAC members have regularly discussed the benefits and opportunities emanating from research peer exchanges and rely on a peer network for assistance in developing and scheduling these activities. No recent comprehensive assessment of the peer exchange program had been completed.

In 1998, under National Cooperative Highway Research Program (NCHRP) Project 20-38A, "Documenting Research Peer Exchange Experiences," the authors provided the administrative experiences of host states and the peer exchange teams for 13 peer exchanges conducted before 1997. In 2001, the AASHTO RAC Task Force on Peer Exchanges completed a survey of RAC members on their use and observations on peer exchanges. In 2016, the AASHTO RAC Task Force on Program Management and Quality identified a need to study the peer exchange process and provide updated information. With new members joining the transportation research ranks, a collection and assessment of best practices for conducting such peer exchanges is warranted.

Research peer exchanges are not to be confused with topical peer exchanges in programmatic areas. This report focuses on research program peer exchanges. Topical peer exchanges in a variety of subject areas have been completed by states with Federal support. Samples of these topical peer exchanges include peer exchanges on connected and automated vehicles, work zone management, asset management, transportation performance management, environmental planning, and other discipline or topic specific discussions engaging peers from various states and local governments. In addition, the NCHRP Domestic Scan (NCHRP Project 20-68) and International Information Sharing (NCHRP Project 20-36) programs address topical areas using a peer-to-peer learning format. This report does not address these types of activities.

Purpose and Objectives of NCHRP 20-111(G) Best Practices for Research Peer Exchanges

The purpose of this project was to produce a comprehensive document on best practices for conducting state DOT peer exchanges. The panel overseeing the discussion identified three areas of particular interest:

- Planning for peer exchanges.
- Conducting peer exchanges.
- Implementing the products of peer exchanges.

The remainder of this report will provide the findings in each of these three areas and the mechanisms used to develop these findings. The project included a literature review, including an analysis of the reports uploaded into the peer exchange repository (described in Chapter 2), an online survey of research managers and administrators (Chapter 3), and interviews with a smaller subset of selected research managers (Chapter 4). Chapter 5 provides summary observations and potential next steps. A presentation on this material was made at the 2017 AASHTO RAC Annual Meeting in Louisville, Kentucky.

What is a Research Peer Exchange?

Research peer exchanges take a variety of forms and processes. Typically, these peer exchanges involve a handful of persons holding similar positions from other states or members from the larger research community, engaged in a dialogue about current and successful practices. The purpose, as described in the FHWA[1], is to regularly review and monitor program activities to enhance and improve research management processes. The average length of a peer exchange is 2 days, with some extending as many as 3.5 days. Generally, travel costs associated with the peer “reviewers” are covered by the host state (as part of the SP&R work plan), and no payment is made to the state peers for their service. The research peer exchange agenda will include opportunities for interaction and discussion among participants, ultimately culminating in a final report including several takeaways and lessons learned. In many cases, the peer exchange team will make a presentation to senior and executive management highlighting the findings and proposed next steps.

In the past several years, some alternative formats have been introduced, including the use of multi-state peer exchanges (where credit for hosting the peer exchange accrues to more than a single host state), virtual peer exchanges (completed without any or limited face-to-face interaction), and regional peer exchanges (limited to a group of geographically adjacent states). Each of these formats attempts to achieve the same overall goals for the research peer exchange program. Ultimately, since the research peer exchange is an FHWA requirement, the relevant FHWA division offices will approve the peer exchange agenda, format, and participants. FHWA participation in the actual peer exchange varies, although most peer exchanges include FHWA division or headquarters officials.

[1] Federal Highway Administration, State Planning and Research Guide for Peer Exchanges, FHWA-HRT-10-048, June 2010.

Types of Peer Exchanges

As noted above, there are several types of peer exchanges, and, as the survey completed during this project effort also showed, there appears to be an appetite for using a variety of models for completing the research peer exchange objectives. This section describes the typical formats used in peer exchanges. The survey findings in Chapter 2 detail the research community's attitudes and opinions about these various models and formats.

Traditional Format

In a traditional format, the host state will select a topic and invite a small number of peers (four to seven) from other agencies. Typically, the pool of potential team members is drawn from fellow AASHTO RAC representatives, although in recent years efforts have been made to include several non-traditional participants, including staff-level research personnel, university representatives, transportation industry professionals, FHWA representatives, Transportation Research Board (TRB) staff, and others.

The peer exchange will generally allow time for each state to present a basic overview of their particular research program and their initial observations on the topic that has been selected in advance. An introduction to key personnel within the host state, processes and procedures of the host state, and open observations are included.

Peer exchanges often make use of state facilities, with a small conference room being the most likely choice. However, hotels, university meeting spaces, and non-DOT facilities are also used for the interactions. In many cases, some accommodation for teleconference is provided to off-site attendees.

At the conclusion of the meeting, the team will draw its recommendations together and prepare a closeout summary report. A final document will be edited and posted to the AASHTO RAC repository within 6 to 8 weeks following the completion of the event.

A summary presentation is generally prepared and presented at the AASHTO RAC summer meeting or during the Annual Meeting of the Transportation Research Board in January.

The largest recognized disadvantage of the traditional peer exchange is the time and travel efforts required. It remains one of the costlier formats, as travel can command large parts of the budget.

By far, however, as shown in the survey results, the traditional format provides the most opportunity for meaningful dialogue among participants. Face-to-face interactions and the opportunity to have interactive networking activities develop a cohort of peers that are available well after the event ends.

Virtual Peer Exchange

A virtual peer exchange attempts to meet the same objectives as above, but with remote access. A distance-based technology is used to facilitate the presentations and participation among the team members. A combination of audio teleconference and PowerPoint is the most common format, although some use of video has been used with varying degrees of success.

A number of disadvantages have been identified, including the inability to ensure lasting focused participation, and nearly all virtual peer exchanges have encountered moments of technical difficulties, including but not limited to dropped slides, document versioning control, microphone and other miscellaneous audio challenges, and meeting room access. Virtual peer exchanges also provide little social interaction aside from opening conversations and dialogue.

Positive features include the ability to provide inexpensive connectivity to all parties, enabling participation in times of travel approval authorization difficulty, and an ability to allow interaction without requiring time "away from the office."

FHWA notes the following on its website:

> A virtual peer exchange may be feasible in rare instances, but should not be used as an easy way to fulfill the regulatory requirement. While technology continues to improve to have electronic exchanges, such as in a webinar or video conference, the technologies have not progressed to a point that gives the same advantages as a face-to-face exchange, particularly when an agenda would extend to the desirable length of a single or multistate peer exchange. Participants should include the same array of representatives as for other formats; that is, host State, other State research programs, FHWA, universities, or others. In no instance should back-to-back virtual peer exchanges be held by a State to fulfill the regulatory requirement.

Multi-State Peer Exchanges

As with the above formats, the multi-state peer exchange is used to meet the Federal requirement and draw a common issue forward. The key difference is that multiple states receive the "host" credit. In this format, several states pursue the same topic and work together to generate a final report. Aside from agreeing to the common topic, there is not any additional further connection between the states prior to the event.

Primary disadvantages include the inability to provide detailed and customized responses to individual states as the focus is on the topic. Advantages include division of labor efficiency for staffing responsibility and allowing for efficient use of resources—in these cases, states have shared costs associated with travel and organization.

According to FHWA guidance, participants at a multi-state peer exchange should include panelists beyond the representative peer exchange states, and there should be an equal or greater number of representatives from organizations other than the peer exchange states.

Regional Peer Exchanges

The final format commonly undertaken is a regional peer exchange. The regional peer exchange is a specific form of the multi-state peer exchange. These peer exchanges gather states in a particular geography to discuss common issues based on geography.

Some of the advantages noted in the regional peer exchange rely on the inability to provide in-depth analysis for common issues in a particular geography, essentially providing cost-effective and efficient compliance with the Federal requirements. Another advantage is the ability to meet travel policy restrictions. In many states, trips to bordering states receive expedited travel approvals. Many of these peer exchanges are also held in border locations, allowing for easy access.

Primary disadvantages include an inability to provide the same level of analysis when a single state is hosting and issues related to the lack of similarity between some geographic neighbors. For example, some regional states have drastically different programs (size, scope, availability of resources, political structures) and, as a result, do not share as many common areas of interest.

Suggested Topic Areas for Peer Exchanges

Each peer exchange has a particular focus and anticipated outcomes. These are developed by the host state(s) as plans for the exchange are finalized (in the case of multi-state peer exchanges, there is a collaboration among many research leads to identify a common theme).

Several research peer exchange common topics have been identified, and the repository of peer exchange reports is organized around these topical areas. As noted on the RAC repository, the intent of “these topic categories was to improve the findability of relevant reports within the Peer Exchange Reports database.” They are not intended to be exhaustive, nor are they presented as a required set of topic areas. The common topic areas are:

1. Research Project and Program Management
2. Alignment of the Research Function with Departmental Missions and Goals
3. Research Staffing Needs, Capacity Building, and Skill Sets
4. Research Collaboration and Partnerships
5. Optimizing the Value and Quality of Research
6. Implementation/Deployment of Results/Technology Transfer
7. Information and Knowledge Management
8. Research Performance Measures and Communicating the Value of Research

All themes and/or topics, coupled with the proposed peer exchange review team makeup and expected outcomes are approved by FHWA.

Pooled Fund Support Services for Peer Exchanges

In 2014, a Transportation Pooled Fund (TPF) project was started to support peer exchange services. It is currently funded by 12 states and has over $140,000 in committed funding. The service is intended to provide research programs with the option to procure services to help with the logistical and administrative aspects of organizing and holding an RD&T Peer Exchange, as described under 23 CFR 420.203. The pooled fund is led by the Oregon DOT and uses staff from the Texas A&M Transportation Institute to provide the work efforts.

Project Summary

This project provides a mechanism to analyze and review preferred practices for hosting, organizing, and running peer exchanges and implementing peer exchange findings. The findings are supplemented by conversations and discussions with peer exchange participants and retired state DOT personnel. The remaining chapters provide specific summaries of the products developed during the course of the study—a set of survey results, information based on a literature review, and commonalities and differences identified through a set of in-depth interviews with current research managers.

This report is presented as an exchange tool to further the peer exchange process and assess its continued utility. The purpose is, foremost, to document the shared experiences from the states having conducted exchanges—to convey what was successful, what was not productive, the challenges involved, and other informative aspects of the planning, conducting, and implementing activities.

Secondly, this document is a record of the information presented in the surveys and interviews. It is a historical snapshot in time allowing for the continual improvement of the processes within the transportation research community. It is hoped that this material will present an opportunity for states to identify ways to continue to be a value-added activity for overall transportation efforts.

CHAPTER 2

Literature Review

Peer Exchanges

This chapter provides a brief literature summary and analysis of the use and importance of peer exchanges. It draws from several sources, including non-transportation focused peer-to-peer learning, the AAHSTO RAC peer exchange repository, and general information provided by peer exchange participants, hosts, and consultants.

Generally speaking, the peer exchange process grew out of the original concept of peer review as conducted by organizations such as the American Society of Civil Engineers, the American Consulting Engineers Council, and the Association of Soil and Foundation Engineers. Peer review differs substantially from a peer exchange. In a peer review, "organizations seek independent assessment of their firms and a comparison with industry norms." (Harder 2001) A peer exchange, and in particular, a research peer exchange, allows for the sharing of information and often involves knowledge transfer from all participants. Harder noted in 2001 that the move from peer review to peer exchange was a substantial opportunity and allowed for program quality improvement at a high level.

Overview

As noted in Chapter 1, the research peer exchange process is an FHWA requirement of the SP&R program. The general intent of the Federal regulation for peer reviews is to enhance quality and performance of the state's RD&T management through peer involvement. Research peer exchanges are a practical and effective tool to foster improvement and provide an opportunity for participants to share ideas, best practices, and management innovations (Kamga, 2015). Peer exchanges offer structured opportunities to learn from each other's practice (CLRA, 2007a). Peer-to-peer exchange allows the transfer of knowledge, skills, and technology among similar groups (United Nations Office for South-South Cooperation, 2014). Research peer exchanges have clearly provided such transfer in a variety of settings over the past decades.

Peer exchanges can be most beneficial among peers who are part of the same "community of practice"—people who share similar job roles or functions, and therefore face similar challenges or purposes (Wegner, 2003). Wegner also posited that bringing people together is not enough to ensure that transfer will take place as there are many barriers, including but not limited to trust, ownership of ideas, and insecurity that need to be overcome. Knowledge transfer occurs after personal relationships have been developed between group members so that they know, understand, and trust each other. This then leads to a natural desire to help each other; that is, the community of practice needs to become a social construction before knowledge transfer can commence. Ultimately, peer learning should be mutually beneficial and involve the sharing of knowledge, ideas, and experience between the participants (Panda, 2015).

This learning involves individuals exchanging knowledge and experience with each other through structured conversations over a defined period of time. In practice, the "diffusing" of this learning extends long beyond the actual event and follows representatives from both host and panel back to their home agencies to ensure some lasting impact or new initiatives. While peer-to-peer learning entails logistics challenges, including arranging multiple schedules and travel arrangements, it avoids the risk of focusing on process rather than product (CLRA 2007b). It recognizes that, ultimately, learning takes place between individuals and it facilitates interpersonal exchanges.

Use of Peer Exchanges

The research peer exchange supports interaction among peers and fosters fruitful learning because peers often share a deep understanding of each other's common challenges, experiences, and practices and have developed valuable expertise in their fields.

The use of peer exchanges provides state DOT RD&T programs with the opportunity to examine and evaluate their own programs with a collaborative team of peers, experts, and persons involved in the process, where the exchange of vision, ideas, and best practices could be fostered to benefit their program and the program of the participants (FHWA 2010).

Peer learning is most effective when learning objectives are clear and peer engagements are structured to maximize these objectives. When individual peers are matched appropriately and the structure is established to engage each other effectively, peer learning is expanded. For this reason, most literature identifies a best practice for peer to peer learning to be regular, but not overly frequent, exchanges (Bittner 2015, Wegner 2003, CLRA 2007a).

Learning is best facilitated when peers do things together and reflect regularly on what they are learning. Other driving factors for successful peer-to-peer learning—and of particular importance in the research peer exchange setting—are that:

- Peers engage with each other in honest and committed manners, allowing for a unvarnished assessment of the research programs.
- They engage with each other outside of the event as well as over a medium to long run period.
- They engage in multiple ways, including through shared work and site visits (Panda 2015).

Several authors noted that it is important that the peer-to-peer learning ensures that some gains are made. This is enabled when the peer agencies bring their learnings back into their own agencies and structure a strategy to implement findings. Use of the peer exchange portends that peers should be encouraged and empowered to share their learning. Panda argued that this process is facilitated if the agency's leadership is not only involved in the actual peer exchange process in the host state, but that executives in peer agencies are also aware of the activity.

"Really isn't much commonality between programs"

Even while states face similar challenges and operate with a common set of practices, there is a wide range of programmatic differences and unique elements of structure and activity (FHWA, 1999). The peer exchange is not an attempt to standardize practice across agencies, but rather an attempt to encourage program quality improvement among each program. Deming argued that you cannot rely on inspection alone to improve a product and that process needs to be explored.

In this way, the important lessons are drawn around process improvements and elements of the peer exchange that can provide the greatest returns. Long noted that, at the end of the day, each program is unique and that there "isn't much commonality between programs (Long, 2017). For the research peer exchange to continue to be successful, these differences need to be embraced and each participant needs to extract their own observations from the process.

Important Lessons

Several lessons can be drawn from the literature on conducting high-quality peer exchanges. While the subject of peer exchanges has not been extensively studied, the practice is used in a variety of settings in multiple disciplines.

Pre-Exchange Work

When designing peer-to-peer exchanges, one of the most important tasks for hosts is to prepare peer participants in advance. Clearly defined expectations prove to be a key factor in overall peer exchange success. Since the intended purpose of FHWA research peer exchanges is to focus on improving practice, individually or organizationally, there are many benefits to such "pre-work."

Panelists come to the meeting more informed, or having already completed some preliminary assignments. This preparation encourages stronger engagement because they have already thought about how their experience can influence emerging practice and address other challenges. All participants gain an opportunity to bring a richer set of ideas and questions to any discussion or learning that is going to take place. By prompting a group of peers to share early ideas and questions with each other in advance, via e-mail or other mechanisms, host states and their facilitators can foster a sense of curiosity and community (CLRA, 2007a). In addition, the preparatory work allows for more detailed discussion and helps create a resource for participants upon completion of the exchange.

In ideal scenarios, approximately 1 month before the exchange takes place, panelists and peer exchange team members are given comprehensive documentation about the host state program. Often emphasis areas for discussion during the exchange are presented to the team in a pre-meeting telephone conference call. Team members arrive at the exchange with a degree of understanding of the issues to be discussed and the operations of the host state (Harder 2001).

An important element of this preparatory work includes the need to clearly identify the outcomes and expectations. Implementation activities need to be clearly defined at the start of project cycle for a peer exchange as well as for research projects (FDOT 2014). These clear expectations set the standard for future successful activities.

Encourage Storytelling

Wegner and others noted that engaging the participation of panel members through storytelling is critical (Wegner 2003). Storytelling triggers listeners to respond with other stories, building new understanding. Stories can capture and hold our attention, increasing the likelihood of hearing and learning (KS Toolkit, 2017). Most peer exchanges are based on shared stories and information rooted in individual experiences and organizational anecdotes. In many of the research peer exchange summaries reviewed for this report, highlighted stories and anecdotes emerged to guide the discussions.

Storytelling also provides an ability to provide for rich engagement and peer networking. These stories, when presented in the context of a community of practice, allow panelists to develop a deeper conversation with each other. Stories also help ideas stick and provide for longer term learning opportunities (Heath and Heath, 2007). Stories encourage mental simulation or reenactment on the part of the other panelists—this burns the ideas and concepts into the mind.

Stories provide a mechanism for dealing with changes in the form and function of a research program. Baumeister and Newman (1994) found that there are four drivers that lead people to tell and use stories about themselves and their agencies to better describe the challenges and opportunities that they face. Stories help to:

- Interpret professional and personal experience as linked to a wider sense of purpose or goals.
- Seek value and justification, to show actions taken or events as being “right.”
- Seek a sense of efficacy, demonstrating how the program is achieving desired results.
- Show them as attractive or competent to the listener.

When these techniques are used, more effective knowledge transfer can be attained. Anecdotes described through storytelling have proven to be strong mechanisms for improving learning and sharing best practices. Stories based on research performance, relationships between investigators and sponsors, and other vivid descriptions provide rich opportunities for deeper cohesion among team members. Everyone has a story to tell.

Keep Energy High

It is important for facilitators to simplify the process of peer engagement, to ensure peers find this process as easy as possible (with limited administrative demands and costs).
Wegner (2003) also noted that, during a peer exchange, there is a tendency to lose focus if the topics are not well-defined or if discussions become dominated by a few individuals. Among several tips: allowing for frequent breaks, ensuring that refreshments are available, tours, using a boost of outside “fresh” air, interactive activities and settings or informal conversations during an arranged meal, repositioning or breaking into small group works, and a mix of presentation and discussions. Keeping formal presentations short in the peer exchange setting is likely the most frequently cited aspect of peer to peer learning and engagement (Alexander 2013).

Other suggestions to keep energy levels high include adhering closely to the published agenda (with some allowance for important conversations), regular revisiting of the purpose of the peer exchange, and acknowledging progress and success. The facilitator and host provide the ultimate direction to the peer exchange participants and as such, bear the responsibility for ensuring that the discussions advance the expected topics and meet outcomes.

Opportunities for networking and interaction, including tours, dinners, and other activities, provide for a valuable energy enhancing devise and cohesion tool. One of the noted advantages of scheduling these additional activities is that it provides for group cohesion, offering the opportunity for more open and honest discussion. The long term impact may also influence the likelihood of follow-up opportunities as well.

Evaluations

A best practice that emerges from the literature relates to frequent evaluation opportunities. The literature appears to suggest that at the end of peer exchange conversations, or even during the exchange process, facilitators or peer exchange hosts should create mechanisms for people to express what they found most useful about the discussions and what they would have changed. This practice also allows feedback on critical topics or provides an opportunity to revisit and expand upon other thoughts. This is particularly important feedback for on-going groups because the feedback allows facilitators to make adjustments as they move forward (Applebaum 2016).

In general, the requirement that peer exchanges result in published discussion takeaways fulfils this evaluation requirement. In some cases, however, these takeaways lead to further questions and could provide additional information for future peer exchanges. Acting upon these takeaways leads directly to the follow-up requirements noted below.

Follow-Up

One of the key advantages of pulling together a peer exchange participant group is that it allows a mechanism to revisit the recommendations with a set of knowledgeable individuals. At present, none of the reviewed reports indicated a strong mechanism for accountability. Many concepts are introduced but without a mechanism or tool to revisit this information, the long term impact of the information presented is hard to measure. Use of cohort groups builds a stable community to enhance and expand learning, and the peer exchange participants form a strong bond during the event (Callaghan 2014). Cohorts are generally characterized as growth oriented, cooperative in nature and intensively and exclusively program focused—key characteristics common with the peer exchange process.

Documentation is critical for the peer exchange and follow-up (Andrews and Manning 2015). The requirement that research peer exchanges document the report is a valuable contribution and, as the survey noted, many transportation research managers are familiar with the database and its use.

Review of Posted Reports in AASHTO RAC Repository

As noted in Chapter 1, the AASHTO RAC hosts a repository for peer exchange reports. Eighty-eight reports are posted as of September 2017. Of these 88, several states are represented multiple times.

Key Findings

The composition of the peer exchange team, the breadth of the issues covered, and the duration of the exchange are at the host states' discretion (Harder 2001). As such, the range of the reports varies considerably. This section describes a high-level review of the posted documents.

Topic Selection. Most of the 88 posted peer exchange reports focus on research project and program administration and optimizing the value and quality of research. Table 1 shows the breakdown by topics identified in the published report.

Table 1: Peer Exchange Topics

Subject	Number of Reports
Research Project and Program Management	30 (34%)
Alignment of the Research Function with Departmental Missions and Goals	20 (23%)
Research Staffing Needs, Capacity Building, and Skill Sets.	14 (16%)
Research Collaboration and Partnerships	29 (32%)
Optimizing the Value and Quality of Research.	62 (70%)
Implementation/Deployment of Results/Technology Transfer.	57 (65%)
Information and Knowledge Management	5 (6%)
Research Performance Measures and Communicating the Value of Research	50 (57%)
Other	3 (2%)

Note: Reports can be assigned multiple topics.

Formats. The most common format is the traditional format. Nearly all of the summary reports reviewed traditional format. The 2010 tri-state peer exchange between Vermont, Maine, and New Hampshire and the West Virginia/Virginia Co-Peer exchange in 2014 were regional, multi-state exchange. The 2015 Four State Virtual Peer Exchange involved Idaho, Nevada, South Dakota, and Wyoming DOTs. Figure 1 shows a screen shot of the web-enabled format, which was held in four distinct segments on four separate days.

Figure 1: Screen Capture from Virtual Webinar

Some peer exchanges posted to the repository focused on specific activities, including a peer exchange on automated and connected vehicle research and a NCHRP focused peer exchange in 2009.

Logistics. More than half of the reports posted were authored exclusively by the host and participating panelists. Third party services, including universities and consultants, also provided extensive documentation. Use of third parties to address meeting logistics and travel arrangements were noted in two dozen of the documents.

This review of the reports—backed up by survey responses and interviews noted later—did not identify documented issues related to the third party facilitation of these logistics. However, these interactions have noted the time commitment and burden that organizing and arranging a peer exchange does have on the host state. Many noted that having an event planner handle the travel arrangements (including reimbursement to participants) and meeting room reservations (including payments to vendors) would be a great help.

The most common logistics providers were university-based transportation centers, university staff provided through the use of a pooled fund mechanism, and private consultants. Guidance on how to select and deliver a peer exchange remains a sought-after product among DOT research managers.

Many reports noted the “mammoth” undertaking to put together a peer exchange (Seeber 2017). To accommodate the organization and facilitation of the peer exchange events, several states have chosen to engage private consultants and third parties to provide for facilitation and logistics coordination.

Implementation. Nearly two-thirds of the reports showed that general implementation of research work is an important topic for peer exchanges. The structure for encouraging implementation, best practices for implementation, and strategies to encourage implementation highlighted these activities. Among primary findings, found in at least eight reports, was that implementation needs dedicated funding (e.g., Virginia Center for Transportation Research $10M) and that principal investigators must be engaged in the implementation plan; researchers can no longer just “throw it [research products] over the wall.” Some reports highlighted the need to consider developing a Research Implementation Assessment Report system, or to engage the implementation staff as early as possible within a project. Other common implementation themed activities included identifying tools that will be used to measure implementation, the data needed for evaluation, and who will be responsible for data collection at the beginning of the project.

Notably absent from the reports is a review and implementation plan for the findings of the peer exchanges themselves. As noted in the section recommendations on follow-up in the prior section, this post-exchange activity is vital. A review of the Mississippi peer exchange in 2015 showed a bulleted list of findings from the 2009 peer exchange and how the actions were implemented (Sulbaran 2015). Florida DOT explored in its 2013 peer exchange a host of opportunities for implementation and provided a summary of how those activities were acted upon. One of the key opportunities for improvement is that program managers/project directors need to be committed to the project and champion its implementation. In the case of a peer exchange, that person is often the research manager hosting the peer exchange itself.

Conclusions

The study of peer exchange as an effective tool to convey knowledge and information across multiple agencies is underrepresented in the literature on policy analysis. Research peer exchanges have been used effectively in the transportation research community to improve the management and administration of research programs. Challenges remain in the implementation of peer exchange recommendations, namely how to take the results and make changes to practices. Ultimately, the required process can be used both as a performance improvement and accountability tool and as an opportunity to enhance capacity of the state based research programs throughout the nation.

The next chapter provides a summary of the survey that was conducted to gauge the state of the practice for research peer exchanges.

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CHAPTER 3

Survey

Survey on State DOT Peer Exchange Practices

To complete this project, a 32-question survey was developed and administered during the spring of 2017. The survey instrument is presented in Appendix A. The survey included a range of multiple choice and open-ended questions. This chapter provides an overview of the primary findings and observations included from this survey.

The 2001 survey and analysis of state DOT research peer exchanges completed by the AASHTO RAC served as a starting point for the 2017 survey. Several questions from the survey were repeated in 2017 to provide some baseline of assessment.

Survey Distribution and Response

The survey was distributed through the AASHTO RAC distribution list and a link was distributed via email from AASHTO staff to the RAC. Using this distribution allowed the states to receive the survey from a known email source and helped ensure a positive response rate. A second email including a reminder was sent approximately three days prior to the survey closing.

The survey was distributed on April 6, 2017, and responses were due on April 21, 2017. The survey was officially closed on April 24, 2017.

A total of 43 individual survey responses were initiated. Of these, 34 completed the entire survey.

Thirty-three of the survey respondents indicated they were the state research manager. Thirty self-identified state DOT research managers completed all questions on the survey. As noted in the introduction, the 2001 AASHTO RAC survey included 39 state DOT research managers.

The results presented here represent the individual responses to each of the questions. When available, a comparison to the 2001 results is presented.

General Information

The first set of questions in both the 2001 and 2017 survey addressed the general experience of survey respondents.

How long have you been the research manager/director/administrator for your State?

Time	2001	Percent	2017	Percent
2 years or less	7	17.9%	9	27.3%
3 -5 years	11	28.2%	5	15.2%
5-10 years	**13**	**33.3%**	**11**	**33.3%**
10-20 years	7	17.9%	6	18.2%
More than 20 years	1	2.6%	2	6.1%
TOTAL	39	100%	33	100%

A plurality in each year showed respondents in the 5 to 10 years of experience range.

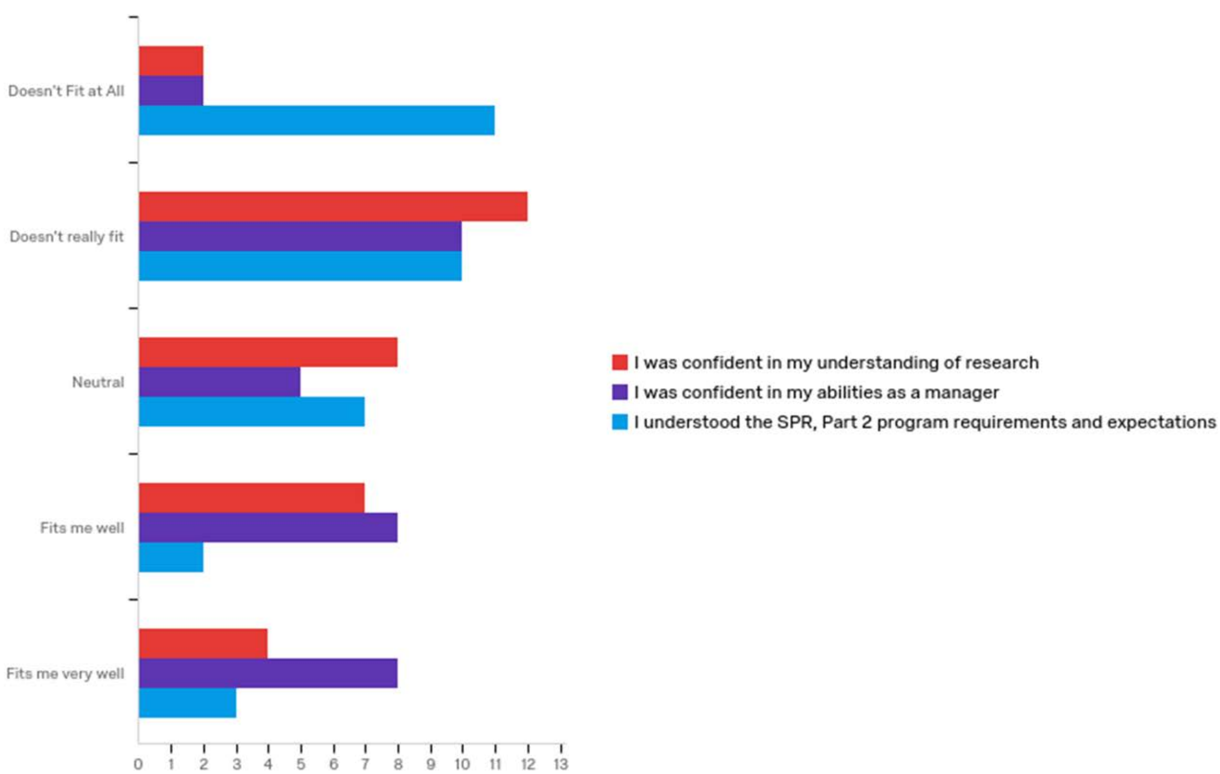
In all your work experience, how many years were in each of the following?

Experience Types	Minimum	Maximum	Mean	Responses
Transportation in General	2	30	17.67	33
Any Kind of Research	0	30	11.87	31
Any Kind of Management	1	30	14.43	30
Transportation Research	1	30	11.21	33

The mean years of experience showed over a decade of experience in research.

On my first day in the research program…

The survey asked respondents to identify their fit with transportation research, general management, and specifically the SP&R Program Part 2.



At the present time, 100% of respondents indicated that they were confident in their understanding of research, their abilities as a manager, and their understanding of the SP&R Program Part 2 requirements and expectations. Many noted that AASHTO RAC helped substantially with developing this understanding.

Peer Exchange Experience

The next selection of questions focused on the experiences of survey respondents with DOT research peer exchanges.

Twenty-four subjects (71%) indicated they had hosted a peer exchange, with 14 noting that they had hosted more than 1 (and 11 indicating that they had hosted more than 2 during their careers).

Eighteen responders (53%) participated in a peer exchange panel, with 17 of the 18 indicating they had served more than once. Five surveyed people have participated in more than four peer panels.

Thirty-three (94%) indicated that they were familiar with the guidance for peer exchanges that is posted on the AASHTO website (http://research.transportation.org/Pages/PeerExchangeProgram.aspx).

Seven (20%) noted that they had participated in a virtual peer exchange. All seven research managers indicating their participation in a virtual peer exchange also had participated in more than one peer exchange (of any format).

Peer Exchange Experience (34 responses)	Percent	Responses
I have hosted (or helped host) my own peer exchange	**71%**	**24**
I have hosted (or helped host) more than one peer exchange	41%	14
I have hosted (or helped host) more than two peer exchanges	32%	11
I have served on a peer exchange panel for another state	**53%**	**18**
I have served on more than one peer exchange panel for another state	50%	17
I have served on more than four (4) peer exchange panels for other states	15%	5

Ninety-five percent of respondents noted that they are familiar with the guidance materials for peer exchanges provided on the SCOR/RAC website. Only two of the survey respondents indicated a lack of familiarity with these hosting resources.

Narrative comments were also collected with respect to the virtual peer exchanges and overall peer exchange hosting and participation. Generally, the comments provided by survey takers showed an appreciation for the concept of research peer exchanges, with some concern about the repetition evident in multiple state experiences. Other comments included concerns about the inability to extend longer discussions in virtual formats and what to do for implementation of results. The survey results also showed a desire to encourage additional participants and panelists.

The narrative comments received through the survey included the following:

- Some states have less participation attending fewer peer exchanges. FHWA should address this and make a minimum participation requirement (aside from hosting every 5 years).
- All of the peer exchanges I've attended, about 20, have been valuable. I particularly like the fact that state DOTs can determine the format, within guidelines, that works for them.
- Having research programs of varying sizes and good interaction/discussion was appreciated.
- Having guest presenters or guests attend topic discussions was beneficial.
- I feel that peer exchanges are a wonderful way to bring new ideas and processes back to our state programs, and to share what works well and what does not. All of the peer exchanges that I have attended have been really wonderful.
- Thus far, I have found peer exchanges to be well-organized and useful, but I've only attended two. However, after attending the two and hearing about successful practices from states at other TRB events, information is already starting to repeat itself.
- One of the host states attempted to cover too many topics in one peer exchange, rather than to address one well.
- We learned from the Peer Exchange members and they learned from our practices.
- Participants of a peer exchange should be asked to provide a presentation on how their state handles the topic of the peer exchange. They should share examples and lessons learned.
- Bring back information and action items to improve your program.
- Connect with other RAC members and establish friendships and contracts.
- Peer exchanges are a lot of work for the hosting state and the participants- make it worth your time to participate.
- Lots of engagement from all parties is important. Also, a clear understanding of virtual logistics is needed.
- Everything went very well. I received very valuable information to take home.
- Good opportunities to get ideas to improve your own program and discuss issues of common concern.
- Pre-meeting expectations could have been shared more clearly. Arrangements outside of the meeting itself were poor - location of hotel, lack of nearby restaurants/activities, etc.
- Meeting organization onsite was great - focused topics, shared information, and general eagerness to listen and learn from each of the states participating.
- I have gotten a lot out of both my own and other states' peer exchanges. However, we've now had several and have covered our most aspects of our program. Also, these days everyone has implementation and performance measures as a goal, so I'm not sure how unique (for lack of a better word) research peer exchanges will be going forward. Regional consortia, multi-state peer exchanges, and RAC task force and summer meetings will likely fulfill some of the traditional one-state peer exchange functions, with the virtual aspect becoming more common as well. Travel restrictions, political attitudes towards the perception of out-of-state travel (even though peer exchanges are 100% federally funded, some lawmakers do not know this or see it as an optics issue), and strained budgets may make accelerate these trends.
- Overall, I believe the peer exchanges provide valuable information that can assist the host state as well as the states that are attending. If I had one critique, I believe that the Peer Exchanges that we have hosted and attended, do not lend themselves to how to optimize research as a whole (meaning the products that we receive). Overall the peer exchanges are a valuable asset to our research program.

- The biggest question tends to be whether the organization is willing to act on the findings.
- Peer exchanges are valuable focused time to gather different perspectives and explore options. I am willing to have a peer exchange every year, if we have a defined topic with the time/energy to process the results. We have had three in six years; they are an effective use of our time and money.

Peer Exchange Hosting and Results

Specific to hosting a peer exchange, the survey included 14 questions related to hosting research peer exchanges.

Ease of Hosting

The following table shows the responses on ease of hosting a peer exchange.

	Extremely Easy		**Somewhat easy**		**Neither easy nor difficult**		**Somewhat difficult**		**Extremely difficult**		**Total**
Identifying a suitable focus/objective for my next peer exchange	3.13%	1	**50.00%**	**16**	21.88%	7	25.00%	8	0.00%	0	32
Obtaining participation from my agency's top management	16.13%	5	22.58%	7	16.13%	5	**35.48%**	**11**	9.68%	3	31
Obtaining participation of my FHWA Division office	**39.29%**	**11**	32.14%	9	17.86%	5	3.57%	1	7.14%	2	28
Obtaining participation of research program stakeholders	13.79%	4	**44.83%**	**13**	31.03%	9	10.34%	3	0.00%	0	29

In general, respondents felt that getting participation in research events from anyone not already in the research field is generally difficult. Other commenters noted that the use of third party facilitators and logistics providers was immensely valuable.

Among the comments received on hosting peer exchanges was advice to clearly define purpose and expectations, schedule to align with key DOTs involvement & availability, and get regional representation if possible.

Frequency of Peer Exchanges

The survey included questions on the frequency of peer exchanges. Noting that the expected interval from FHWA is at least once every 5 years, the survey asked for opinions on a 3-year cycle. Over 60% felt that 3 years is too frequent, and 3% noted that it was too infrequent.

Question	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree	Total
Holding peer exchanges every three years is appropriate, and should be retained.	6%	24%	18%	21%	30%	33
A peer exchange should be held just before or soon after a change in research program leadership.	9%	41%	26%	12%	12%	34
A peer exchange is a good idea soon after a change in agency leadership.	6%	12%	53%	24%	6%	34
For any one manager, the value of a peer exchange begins to diminish after two or three exchanges.	6%	15%	29%	29%	21%	34
Robust research programs with experienced leaders need less frequent peer exchanges.	9%	18%	24%	38%	12%	34
Scheduling of peer exchanges should consider the appropriate time to assess the impact of significant program changes	29%	41%	29%	0%	0%	34
Scheduling a peer exchange should support a research program leader in advancing specific program and policy objectives.	26%	50%	9%	15%	0%	34
A three year schedule for peer exchanges is awkward because of my state's biennial legislative and budget cycle.	6%	3%	50%	12%	29%	34
There are circumstances under which a new peer exchange might be needed sooner than three years.	18%	53%	21%	9%	0%	34
Research program managers should have discretion to negotiate the frequency of peer exchanges with their FHWA Division office.	44%	29%	21%	6%	0%	34

Narrative comments on Peer Exchange Frequency

The following narrative comments were received in response to an open-ended question on peer exchange frequency. Respondents were asked to provide their ideal frequency:

- 5 years as a general rule.
- I would say up to eight years. It really depends on when it makes sense to do so for each state.
- Every four to five years; or when there is a change in research program management
- Every 4-5 years
- 5 years per 23 CFR 420.209 (a)(7) indicates a "periodic basis" not every 3 years.

- on an as needed basis.
- 4 years
- 5 years or flexible
- 4 year seems to be a more realist cycle, but it really should be tied to when new research manager comes on board and identified a need. Experienced manager may not need to conduct peer exchange as frequently as new managers.
- 5 years may be better, assuming the same research manager is in the position
- 4-5 years
- I suggest opening it up to every TEN years, but allowing it more often. We've had continuing resolutions that have lasted three years!
- 5
- 5 years
- 5-6 years, or not fixed—whenever you have implemented previous items and feel it necessary to have a new one
- I think we're at about 4-5. But if our program were running more smoothly, every 3 years might seem more reasonable and feasible.
- Every 4 - 6 Years
- I believe 5-7 is a more realistic time interval. Not enough changes in three years to justify the need for another peer exchange. If a state has an urgent need that requires that soon, I think it should be allowed. However, I don't think it's necessary for all states to have them that often. RAC interacts often and regional conference calls are in a sense like mini peer exchanges. We raise issues and concern and hear from our colleagues how they handle it.
- Believe 5-7 is a more realistic time interval. Not enough changes in three years to justify the need for another peer exchange. If a state has an urgent need that requires that soon, I think it should be allowed. However, I don't think it's necessary for all states to have them that often. RAC interacts often and regional conference calls are in a sense like mini peer exchanges. We raise issues and concern and hear from our colleagues how they handle it.
- Really should be tied to when new research manager comes on board and identified a need. Experienced manager may not need to conduct peer exchange as frequently as new managers.

Formats

Respondents were asked to provide input as to alternative formats for peer exchanges, with particular attention paid to the virtual peer exchange. The following table shows responses and the interest in alternatives to the existing traditional research peer exchange formats.

Question	Extremely interesting	Very interesting	Moderately interesting	Slightly interesting	Not interesting at all	Total
Alternatives to a traditional 2.5 day format with face to face interactions	24%	27%	18%	24%	6%	33
Conducting a peer exchange via video conference, webinar, other distance based technology?	18%	18%	12%	24%	29%	34
A regional peer exchange, in which 3-or more states complete their peer exchanges collaboratively?	26%	35%	21%	18%	0%	34
Conducting your own fact finding on-site visit to other state research programs and comparing that against your program	18%	48%	27%	3%	3%	33
A two part peer exchange: first with some introductory challenges and then assessing results or changes 6 months to a year later, either in person or via remote technology	9%	32%	26%	18%	15%	34
A peer exchange with non-transportation professionals	15%	24%	15%	32%	15%	34
Multi-state peer exchange with more than 3 states hosting â€“ not limited to regional representation	12%	33%	27%	12%	15%	33
Completely document based self-assessment and analysis, similar to a 360-degree feedback review or multi source assessment	9%	21%	18%	29%	24%	34
Annual event where a set number of states are reviewed, similar to a project selection process identifying strengths and weaknesses based on pre-determined criteria	3%	12%	18%	21%	45%	33

States reported that they would prefer to have the maximum flexibility in their format choices. Based on state needs, a synthesis or literature review might also help. Additional narrative comments received on formats included:

- Travel is a real issue and getting permission. Why couldn't we take a conference such as RAC and extend it one day and then in that day, have multistate peer exchanges at the conference?
- Every state's needs at any specific point in time is going to be unique. Why are you attempting to place controls on such a fluid environment?
- Frankly, I'd like to leave it open to the lead state and their needs, with approval from their Division FHWA. Another option includes a synthesis, a state of the practice literature review and survey to identify improvements.
- Provide a half-day session at TRB or summer RAC meeting with an identified topic. Participating states could defer 3-year requirement by attending and submitting a lessons learned/implementation report to their FHWA division office.
- Virtual peer exchanges held over many weeks—90-120-minute web conferences held weekly over several weeks, and then a longer interval to allow implementation, followed by another session or two to discuss and adjust action steps. The number, length, and interval of sessions can be adjusted.
- None
- This is more of a comment when suggestion, on-line peer exchanges don't allow the manager to get away and participate the daily program demand will take precedence.
- Having facilitators that understand process improvement.
- Peer exchanges are opportunities, and it's a disservice to your agency and program to consider them a burden. The format should be what is appropriate to your agency and the topic focus. However it should prioritize total focus and engagement to maximize value and not prioritize the easiest way for multiple states to check the box.

Virtual Peer Exchanges

The following narrative comments were received with respect to virtual peer exchanges:

- Virtual peer exchange provided an opportunity to reduce the cost of personnel time and travel costs. Peer reviewers were likely more willing to participate in a focused discussion that did not require them to be away from their normal duties for an extended period of time.
- Excellent opportunity to exchange information with minimal cost of time and travel and logistics expense.
- The only thing lacking was the off-schedule contact that allowed for more casual conversation, which usually drifts toward work. (This was acknowledged at the end of our virtual peer exchange, and referred to as "beer time.") One definite strength was [the primary host staff]: he developed a format with carefully selected and designed PowerPoint slides to set expectations, and serve as a template for all participants. This foresight really set the bar for our exchange.
- While you don't have the advantage of networking and incidental discussions, I believe there is value and a place for virtual peer exchanges. I participated in [a] virtual peer exchange and found it very valuable.
- I appreciate the cost-saving aspects of this concept. I personally find it unpleasant (I can find no more accurate word) to participate in one, though, in comparison to an in-person experience. I compare it to sitting in a webinar for a solid day or two. I would like to see the practice expanded, but it may be more effective as a series of 90- to 120-minute meetings spread over days or weeks, rather than a compacted schedule.
- If on point and facilitated it will work well. Prior expectations are critical to a successful virtual exchange. If you hold a virtual exchange just to ticket punch a peer exchange it will not work.

- My virtual peer exchange was very positive. It allowed broad participation, and communication didn't seem hampered. I would recommend.
- I think there was value, but much less than face-to-face peer exchanges I have attended. More than one participant stepped away from the event to handle other work, etc.
- Ours worked well. One big advantage was that many more people from each DOT were able to participate.

Training

The final question in this section addressed training. Twenty-one respondents indicated they would probably or definitely receive training on how to conduct a peer exchange. This represents 62% of total responses. While 95% of respondents were familiar with the guidance materials, the large amount still interested in training on peer exchanges could be a valuable discussion item for AASHTO RAC to consider.

Preliminary Materials

As noted in the literature review and analysis, preliminary materials and pre-exchange readings have been shown to be very important.

Respondents were asked if pre-exchange materials, including a preliminary self-assessment and research manual, are vital for a successful peer exchange:

Answer	Percent	Count
Definitely yes	**20.59%**	**7**
Probably yes	**55.88%**	**19**
Probably not	20.59%	7
Definitely not	2.94%	1

Respondents were certain about identifying a recommended set of pre-reading materials:

Answer	Percent	Count
Definitely yes	**41.18%**	**14**
Probably yes	**44.12%**	**15**
Probably not	11.76%	4
Definitely not	2.94%	1

The survey asked respondents to rank their preference (1 to 8) for important items as part of this "read ahead" package. Respondents noted that these preliminary materials should include:

Preliminary Materials	Average Position
Proposed vision/outcomes for the peer exchange	1.96
Participant Expectations (e.g. presentations, discussion topics, report writing)	2.58
Targeted section of research manuals, guidelines, or policies to be discussed	3.58
Organizational Charts	4.58
List of Attendees	4.72
Briefing Self-Assessments	5.34
2-3 years of Recent Project Summaries	5.65
Other	7.55

Other materials identified by one respondent simply included "whatever fits each particular peer exchange." Invest time upfront to prepare materials and information to share.

Social Activities

The survey asked respondents to identify the importance of and use of social activities (defined as tours, group outings, or dinners) as part of the peer exchange. A scale of 0 to 100 was used to rate the importance. Responses varied substantially, with a minimum of 10 and a maximum of 100. The average across 33 responses was 51.52.

Some narrative comments included that hosts should keep participants informed: get agenda and travel established early, clearly state the timeframe commitment so attendees don't leave early, and plan an evening outing to connect on an informal basis (which likely will result in participants speaking more candidly about issues). They also noted that building in break times was essential.

One response noted, "I would like to eliminate the expectation that a host state entertain attendees for dinner and an evening out. I know that it is officially optional, but it seems to have become so the norm that I fear that not to do it would bring criticism."

Third Party Facilitators

The survey asked respondents to identify the importance of and use of third party facilitators (defined as those not directly affiliated with the research program) as part of the peer exchange. A scale of 0 to 100 was used to rate the importance. Responses varied substantially, with a minimum of 25 and a maximum of 100. The average across 34 responses was 70.15, noting that this was relatively very important to the success of the research peer exchange.

Narratives on Peer Exchange Formats and Consultant Support

Many states are using the TPF-5(301) pooled fund led by the Oregon DOT and other university or consultant support to help with peer exchanges.

Some highlighted comments included: “Hire someone to put together final report and facilitate the meeting—this is a low cost item that adds a lot of value” and “It really depends on the host state's objectives.” Other respondents noted that having an identified “facilitator is critical to allow you and staff to focus on the learning and content—not the logistics and flow.”

Additional narrative comments from the survey:

- My DOT cannot pay directly for other DOT personnel's travel expenses, so we have to contract with a university, which adds cost. If we did not have this wrinkle, we could have done the report in-house and saved the funds. I do realize we have the pooled fund mechanism available and will likely use that next time.
- The best experience at a peer exchange had a facilitator to manage, take notes, and assist with the flow of the exchange.
- In-house, third-party facilitators can be quite helpful
- Our state will be using the TPF for peer exchanges this fall, which should make the overall process much easier for our staff.
- Virtual format avoided many obstacles: we participated in the Oregon-led pooled-fund project, and nearly all of the administrative headache melted like the Wicked Witch of the West. Media/technology, notes, moderation, final report.... All of that was done for a very small cost, and was paid for via SPR2 funds.
- Consultant teams can provide excellent coordination
- It really depends on the host state objectives.
- Too much effort is required for the least important aspect of a peer exchange -- the logistics! How can we reduce this and keep our energy focused on the content?
- Hire someone to facilitate and write report so you and your staff can fully participate.
- Our state rules make it very difficult to pay for meals, refreshment and travel. However, it is easy since we use TPF-5(301) to manage that for us.

Peer Exchange Participants

The survey addressed several questions on choosing peer exchange participants and encouraging participation. Respondents were asked to identify what affiliations should be included in the exchange. The table below shows the results:

Affiliation	Must be included		Often should be included		Rarely should be included		Should not be included		Total
Agency research customers	15.63%	5	59.38%	19	18.75%	6	6.25%	2	32
Agency research staff	81.82%	27	18.18%	6	0.00%	0	0.00%	0	33
Agency leadership	40.63%	13	56.25%	18	3.13%	1	0.00%	0	32
University partners	12.50%	4	50.00%	16	31.25%	10	6.25%	2	32
Non-affiliated university partners	0.00%	0	32.14%	9	50.00%	14	17.86%	5	28
Non-transportation research managers	0.00%	0	25.00%	7	53.57%	15	21.43%	6	28
Peers from similarly sized programs	37.50%	12	56.25%	18	6.25%	2	0.00%	0	32
Peers from regional state DOT agencies	16.67%	5	66.67%	20	16.67%	5	0.00%	0	30
Private Sector	0.00%	0	26.92%	7	50.00%	13	23.08%	6	26

partners/stakeholders									
Diverse peers from organizations substantially different from yours	3.85%	1	38.46%	10	42.31%	11	15.38%	4	26

Regional peers and peers from similarly sized programs were the favored primary participants.

Number of Invited External Participants

Respondents were asked to address the ideal number of external reviewers to include in the exchange. There was some variance in responses, with a preferred mean size of 5.2 invited participants from outside the agency. The maximum was 10 and minimum response was only 1. Responses clustered around 4 to 7.

Participants or Process

Respondents were asked to identify whether the people or process was more important. The majority noted that both are equally important.

Answer	Percent	Count
Participants	28.13%	9
Process	0.00%	0
Both are equally important	71.88%	23

Non-DOT Participants

The survey asked respondents to identify the importance of including non-DOT participants in the peer exchange (e.g., universities, private sector representatives, or other agency representatives). A scale of 0 to 100 was used to rate the importance. Responses varied less substantially than other questions, with a minimum of 5 and a maximum of 90. The average across 34 responses was 53.

Narratives on Participation

Several comments focused specifically on participants. The following comments focused on panel composition:

- Only attend peer exchanges that address a need within your state.
- Participation in peer exchanges has been a valuable part of being a research manager and RAC member. It helps research managers get to know their RAC counterparts better and to learn new and different ways of handling the challenges we all face in managing DOT research programs. It’s well worth the time and effort.
- A research manager who has participated in many other states peer exchanges should be exempt from holding peer exchange
- I also think that involving too many agencies dilutes input so that participants can only gloss over their material and there is not enough time for discussion, which is the most valuable part.

- Choose non-DOT participants carefully to ensure that exchange is not disrupted.
- We have not had many non-DOT participants at our peer exchanges as we do not have programs such as the STIC [State Transportation Innovation Council] in our purview. We do generally have a university representative or two. FHWA personnel also are great to have.
- Strive for regional diversity in panel membership and research program size diversity.
- I stated I don't know for most of the above because, again, it depends on the scope and objectives for each individual peer exchange. The same is true for the size of the team.
- LTAP [Local Technical Assistance Program] directors.
- The "affiliations" listed above were, in too many cases, too unclear for me to answer appropriately, I fear.
- Focus on the people involved with the transportation research process.
- I think one rep from each region is good. Try to find similar size program and then a program you admire and then someone totally different
- Representative from each region with key expertise related to peer exchange purpose (I like how Utah handled the issue and let states provide input on topics and interest in participating), always invite a new RAC member, include some of your regional members, and representation from TRB, AASHTO and/or FHWA.
- Who is included on the team depends on host state objectives. I normally would not invite a private sector partner unless one of my objectives is to improve partnerships or management of research that involves private sector
- Beyond seven members becomes quite unwieldy.
- ZERO participation from my management or my FHWA division office was a very strong message about the perceived value of our peer exchange, and to some degree, our program.
- Depends on topic, goals, etc. Rather than "rarely" in the options above, which seems prohibitive, I read the third option as "sometimes" or "may be" included.
- We tend to have participants from similarly sized (small) programs since we face similar challenges. We have not included any private sector stakeholders. However, our intermodal group is getting interested in research, so this may change because many of these assets are privately owned. This may be a future direction for us. We also have not had other non-research DOT stakeholders, but may need to think about this next time.
- I think the ideal participants will vary depending on what the exchange topic is. One that is purely about program management will probably benefit most from having reviewers experienced in our types of programs and probably of a similar size to your state (e.g. our first peer exchange after the program was revived really needed people who know the intricacies of SPR Part 2), while ones looking at broader topics would probably benefit more from a broader range of participants.
- I don't believe there should be a set list of people to include - it depends. The invitee list should be based on the selected topic, and the diversity of perspectives, prior experience and stakeholders in that.

Logistics

Many of the respondents discussed the importance and difficulty in arranging participant logistics. As noted earlier, one responded that “too much effort is required for the least important aspect of a peer exchange—the logistics! How can we reduce this and keep our energy focused on the content?”

Consultant support for Logistics

The survey asked respondents to identify the importance of consultant support for travel and meeting logistics. A scale of 0 to 100 was used to rate the importance. Responses varied substantially, with a minimum of 6 and a maximum of 100. The average across 34 responses was 64.

Implementing Peer Exchange Results

The final set of questions addressed implementation.

Respondents were asked if they had made a change in their program as a result of the peer exchange.

Answer	Percent	Count
Yes	**90.91%**	**30**
No	9.09%	3

The panel had identified compiling and causing changes to occur as part of peer exchanges as an issue of particular importance. The survey asked respondents to rate statements and evaluate their ability to influence changes.

Question	Most of the time		Some of the time		Never		Total
It is in my control to make the changes recommended at the peer exchange.	**57.58%**	**19**	42.42%	14	0.00%	0	33
The resulting report from my peer exchange is read and disseminated effectively.	40.63%	13	**53.13%**	**17**	6.25%	2	32
Peer exchange results contribute to my personnel evaluation	3.13%	1	46.88%	15	**50.00%**	**16**	32
Recommendations from a peer exchange panel are implementable in my organization.	31.25%	10	**68.75%**	**22**	0.00%	0	32

Narrative responses

Several respondents included suggestions for improving the dissemination and implementation of peer exchange findings:

- Wrap-up meetings with executives can be helpful for host research group as in AHTD [Note: Unclear as to what agency this references]
- Sharing the results with executive management in person is probably better than providing them electronically or via hardcopy.
- Much of this really depends of the organization of each state DOT.
- Time you peer exchange around the time you can actually implement the suggestions.
- Add a two page summary of the findings. Most people don't read an entire report.

- It really depends on the latitude and flexibility you have within your program to administer the change and your leadership support. I try to tackle one issue each year to improve my program and challenge my staff to do the same. This does require staff resources to be dedicated to research program.
- I think tying implementing some peer exchange results to personnel evaluation has merit
- There are usually great ideas you take away from an exchange. The key I have found is to relate to your own organizations culture and figure out how and what can be placed in your organization for maximum impact.
- Nobody in most of the agency cares. Those who do, have the report and usually have participated (and have definitely been invited) to the peer exchange.
- Not applicable if you have not led a peer exchange
- Comment on above—peer exchange results could affect my evaluation, but not as a function of being a product of a peer exchange, per se.
- We did our last peer exchange around our draft research strategic plan. This put a framework in place to advance the peer exchange and other program goals after the exchange.
- I have not had this problem. If you define the topic and purpose of the peer exchange as something you are exploring and want to accomplish then it is a natural outcome to implement that. However, it you just check the box and get a document with random recommendations then they may be less implementable.

Conclusions

The survey provided a current snapshot of the state of the practice for state DOT research peer exchanges. The responses indicate a strong respect for the peer exchange goals and outcomes and offer valuable insights for both hosts and participants. Logistical support and long-term implementation of peer exchange recommendations remain the critical issues to address in future efforts.

There remains a strong affinity for the program, as was evident in the 2001 survey. In general, very few negative responses were received, and the majority of both participants and hosts have found some value in the program. There appears to be consensus that a 5-year cycle is ideal, although some opportunity to modify that could be considered as well.

With respect to logistics and participation, the survey findings generally show support for third party facilitation and support, even acknowledging the increased cost of such activity. Approximately two-thirds of respondents support this logistical support.

Implementation challenges remain and the survey responses did not provide a great amount of direction for improving the implementation of research peer exchange findings.

CHAPTER 4

Interviews

Personal Interviews and Conversations

This chapter provides an overview of the interviews completed for this project. Throughout the project, the research team and the panel identified the importance of anecdotes and stories for communicating preferred practices. As such, the project provided time to complete in-depth interviews with several key research leaders. This section provides summarized information from these conversations and interviews that reflect the opinions of those surveyed. The complete interview guide is attached and provided as Appendix B. This interview guide allowed for consistency in the responses to interviews; however, the authors provided ample opportunity for interviewees to expand upon their observations and responses to specific questions. The NCHRP Project 20-111(G) panel approved the interview list, which was culled from those who responded affirmatively in the survey described in Chapter 3. All interviewees indicated that they were willing to address additional topics in an open interview.

No individual quotations are personally identified, except as noted in the state summaries, per NCHRP guidelines.

Overview

Two types of interviews and conversations were completed for this project. To help frame the survey and the structure of peer exchanges, the author completed interviews with retired transportation research professionals, transportation research industry professionals, and current peer exchange facilitators. Additional follow-up interviews, using the defined interview guide, were completed with current state DOT research managers. As noted, participants for the current state DOT interviews self-identified in the survey whether they would be available for a follow-up detailed interview. A total of 24 survey respondents volunteered to be surveyed.

The intention of these follow-up interviews was not to repeat the findings already prepared on the survey, but rather to expand upon some of the critical items the panel was interested in with respect to hosting, running, and implementing peer exchange findings.

Introductory Conversations

To launch the project, and to supplement the information generated in the literature review, the author completed telephone based interviews and informal in-person conversations with several leading figures in the research community. These interviews and preliminary discussions included:

- A former research administrator for a large southern DOT, who participated in 15 to 20 peer exchanges during his career.

- A former research administrator for a rural DOT, who had participated in “about 10 peer exchanges.”
- A current associate with a private consulting firm, who has facilitated several peer exchanges under contract.

In addition, the author completed a conversation on the project with prior authors of NCHRP funded work on peer exchanges.

These conversations helped set the stage for the research effort and also provided background information for the surveys and interviews, and highlighted the needs for clearly outlining the logistics of the peer exchange and importance of well-defined follow up. Pre-reads and structured conversations also were encouraged.

Among the key holdings from these discussions: logistics, while seemingly a small part of the overall delivery of a research peer exchange, make a lot of difference to both the host’s satisfaction with the process and the participants’ perceptions. The long-term ability to implement any real change can be grounded with a well-prepared, well-organized facilitated discussion.

A well-run, well-designed, and well-served process, coupled with strong agenda management and adherence to published schedules allows for success. According to one former research administrator, selecting the “right” peer exchange participants is as critical as defining the overall process. He noted that the selection has to be based on what is important to the host state. He also cautioned against using the same reviewers over and over again, as it can create a sense of trying to “standardize” things rather than using the variety of programs as the strength of the program. Including participants from the FHWA and research partners adds valuable insight.

He also recognized the shift from a “peer review” to a “peer exchange” as vital for the continuing success of the program. This shift allowed less focus on what was going wrong and more on what was going well.

A key point frequently raised was the lack of commonality between individual state programs. With such a great amount of diversity in staffing, funding, organizational structure, and organizational culture, the peer-to-peer learning allows for a host of perspectives. As was identified in some of the reviewed peer exchange summaries, some topics provide value when incorporating both rural and urbanized states whereas other topics cannot lend themselves to the same detailed treatment with a mixed panel.

Others also noted the overall strength of the peer exchange program and its ability to focus state research programs on particular topics for continuous quality improvement.

There is a context for both a formal peer review and an exchange of information. In some cases, the former can be a valuable tool for research managers. The defining principle for a peer review, as noted earlier, seems to be focus on what went wrong. While these reviews have merit, they provide different information than that which is presented in a peer exchange (see commentary in Chapter 2).

Common Themes

Some common elements of the preliminary discussions included communication, quality improvement, logistics, and implementation or follow-up.

Communication

A key element for hosts is to ask what is going well and what can be improved upon. This question opens up conversations for process, structure, partnership, and product discussions. Central to these discussions is communication. This communication should be between panelists, hosts, and their partners. If the activities are discussed openly and honestly, the peer exchange provides great value. Listening is as important as presenting. Clearly defining expectations and the use of a pre-meeting can help establish lines of communication; even an email exchange can fulfill this critical need.

Quality Improvement

All identified critical areas where the reviews and peer exchange reports provide answers to benefit the research programs. Both host and participants can implement the improvements by using the process to incorporate new ideas and new practices or by slightly modifying existing practices to reflect the new requirements, expectations, or political climates in particular states.

Logistics

Many noted that the logistics of an event can be a time-consuming part of the peer exchange. Meeting state requirements and expectations, as well as ensuring that the meeting space, materials, presentations, copies, meals, and travel are covered occupies a lot of staff time. Coordinating schedules and defining the pre- and post-exchange documentation is critical. The separation of the note-taking and moderator roles is essential. The consultants also indicated that the note taker should be knowledgeable about the process and overall expectations and also cautioned against letting a few people dominate discussions.

Facilitators noted that providing “nice folders, logos, coordinated and professional materials” helps establish the climate and context for the exchange. With limited time available, contract services for these logistics can prove incredibly valuable. Others added that use of off-site facilities can provide some value for the host state as general “distractions” associated with a typical work day are less evident when using a hotel, university, or other non-DOT facility. Starting each day of the event with new thoughts or open stories and discussion is valuable.

Implementing and Following Up

Several preferred practices for implementation and dissemination of research peer exchange findings were offered. Chief among these was making the final report reader-friendly by using bulleted lists by topic. Sending out the final report draft to all participants within 3 weeks keeps the motivation and memory fresh. The host state should also take pictures and add these to the report to document the work effort as well as provide a record of the activities and processes.

Action items should be presented in specific timeframes. In many of the reports reviewed and discussed in Chapter 2, the documentation did not provide specific measured timeframes. Short, medium, and long-term opportunities should be highlighted.

State DOT Research Manager Interview Participants

The following state DOT research managers were selected for interviews. The selection attempted to balance a variety of factors, approved by the panel, including state sizes, gender, geographic representation, participants in peer exchanges, and willingness to participate.

These individuals were interviewed in May 2017.

1. Ken Chambers, Nevada
2. Cynthia Jones, Ohio
3. Cindy Smith, Mississippi
4. Alison Hardt, Maryland
5. Rick Kreider, Kansas
6. Aziz Khan and Gabriela Cornejo, Colorado

Each interview lasted approximately 1 hour and included detailed discussions on a variety of subjects. Interviews were recorded for note keeping purposes only. This section provides a summary of the key findings for planning, logistics, and implementing peer exchange findings.

All participants in the interviews had either hosted or participated in at least one peer exchange in the last 2 years. Participants' experience in transportation ranged from 6 to more than 30 years, averaging 12 years.

Several noted that the peer exchange is a professional networking opportunity and, as such, it helps build a set of contacts for solving future problems, even if they're not in the context of a formal peer exchange. It was noted that there are lots of opportunities for peer exchanges, regional calls, task forces, and other venues. Some participants noted that the AASHTO RAC provides a lot of opportunities for sharing information—in effect, peer exchanges are happening all the time.

Peer Exchange Planning

All interview subjects identified the importance of planning for the effort up front—clearly identifying a theme, topic, and potential participants. While each had a different approach when they hosted, all indicated that a clear definition of the plan for the peer exchange, including topics and format, at least 6 months in advance was preferred.

This planning allowed for the host to best identify critical participants, secure calendar availability, and identify facilities, key speakers, and interactive opportunities. While 6 months was seen as a preference by most respondents, it was not a ceiling. Some peer exchanges are planned with much longer time horizons.

With respect to formats, most interviews showed that format is dependent on what you want to do, and alternate formats can work for targeted themes and topics. Three interview subjects noted that use of traditional formats is ideal. Some further discussion resulted in a refrain of "if it isn't broke, don't fix it." Regardless, all interviewees felt that flexibility was essential in format choice. One important note was that constraints with state procurement also influence format choices. Some interview subjects identified a preference for the traditional format while recognizing the need to remain flexible from state to state.

With virtual peer exchanges, an observation was made that structure and presentation design are key elements. South Dakota was identified for its effort in organizing a common format for presentations in a virtual peer exchange held in 2015.

One subject noted that a peer exchange that becomes too big is a problem and offered an 80/20 rule for setting the participants. Eighty percent should be directly involved in the program or have the same role while 20 percent could come from a different field or insight. The ideal size hovered between five to nine invited participants.

One manager argued strongly for mixing both rural and urban states to add value. He also valued adding other expert opinions and consultant roles, but not necessarily for the entire event, dependent on the topic selected. Interviews generally showed that panel composition should be based on topic needs and purpose. Another individual noted that it is better to have a range of perspectives and participants if you are curious about a particular topic. She offered as an example that Iowa and Minnesota already have local research programs, and if the topic is local research, they would be obvious choices for panelists. Ideal choices on composition will look to a variety of characteristics with exposure to certain elements.

Interviews were mixed on the participation of FHWA representatives. It was noted that it can be a challenge to get the division offices to focus, as they are often overburdened.

Other thoughts on participants included using agency training officers as facilitators. It was noted that this DOT experience is a helpful thing and that their agency-wide insight is very valuable.

Peer Exchange Logistics

Logistics remain a large challenge for most states. One research managers stated that planning "needs to be done in advance and if you back burner the logistics, it doesn't come together." Another noted that logistics were "not very easy, so we did hire university to do it. Did have to do a lot of legwork. Also need to have participants take a week out of their lives to come since Mississippi is not an airport hub or easily accessible." An identified challenge to hosting was the administration requirements of peer exchange and travel reimbursement. Handling communications with the agency's accounting group and financial management proved challenging and particularly vexing to a state without easy access to major airports. Processing non-employee travel reimbursements also provided state challenges. Colorado and Mississippi both identified challenges with scheduling and engaging panelists and executive leadership. These logistical challenges require patience and perseverance to get the largest benefits from the program. Even with patience, and rescheduling, a host of logistics issues remain.

To alleviate some of these logistical issues, interviewees identified strong value in the use of third party logistics services, including the current Texas A&M Transportation Institute/Oregon DOT pooled fund, university partners, and private consultants. The use of these third parties allowed managers to "just relax." "Someone else can dance, let me participate in the content I designed," noted one interviewee.

Some states resorted to donated food and refreshments out of their own pockets to avoid reimbursement issues. As such, the use of these other parties seems very appropriate in certain states.

The subjects identified value in scheduled networking and interactive activities. Another added that, "over the years I have learned to appreciate the tremendous opportunity to interact during luncheons, breaks and social gatherings. Taking the time to understand another individual or group provides us with a key to unlock future conversations." These events clearly bring the assembled group closer together. It also provides an opportunity to make connections and build rapport so you can better interact later on. Others added that these activities provide the best opportunity to get to know each other short period of time. Discussions then appeared to be more open and forthright.

More than half of the interviewees identified a strong need to find a way to spend time outside of the conference room and allow more open conversations. An interview subject added that, "those are the times when people feel really well and free. Activity that the state is already doing ties in something happening locally." Due to the intensity of the format, by the last day, "everyone might be sick of each other," they added.

Some general concerns were presented on the overall cost of the activities, in light of other venues for information sharing.

Peer Exchange Implementation

Implementation and dissemination were also addressed in the interviews. Many identified some challenges in producing final reports. One participant noted that an exchange from 3 years ago still has not generated a final report. Again, the use of the pooled fund or private consultants was offered as a possible solution to this problem.

Few interviewees offered strong suggestions on how to move past the recommendations remaining unacted upon. Among the ideas noted were highlighting when particular peer exchange reports are being sent out (rather than simply posting reports, making lists and sending emails to interested parties), establishing a working group to take ownership of particular subjects, and revisiting past years' recommendations in advance of the next peer exchange cycle.

A research manager noted, "It is hard to implement anything over a defined period of time. Changes need to be evaluated and made on a case by case basis."

Many believed that the sooner after the peer exchange implementation goals and action items were identified the better. Ohio specifically was able to incorporate the findings into programmatic goals for the year as Ohio's program evolved. Generally all agreed that a rigid requirement for implementation or further FHWA guidance was not needed. Chambers reminded the authors that "lack of implementing everything recommended doesn't mean that the peer exchange was a failure."

Some participants identified implementation as the most challenging—and most important—part. The information identified in a peer exchange is not always transferable, as some things can't be done in small programs with minimal staff. A caveat for implementation was raised that there are different worlds in research programs and scale is very different.

Ultimately, the conveyance of knowledge relies upon stories. Each of the interviewed subjects was able to identify a particular activity that they engaged in following a peer exchange. These stories were presented as ways that they made programmatic changes based on either a recommendation from a hosted peer exchange or after they served as a participant for another state.

Nevada
To resolve a persistent question about the equitable distribution of research projects to Nevada's universities, Nevada DOT borrowed from Georgia DOT and revised its process. By taking specific lessons discussed in Georgia's peer exchange, Nevada revised its program to accept only internal problem statements once a year and established a day-long brainstorming and research prioritization forum. Now Nevada accepts only problem statements internally sourced from within DOT—a major change from past practice. The revised process takes noise about the initial problem statement sources out of the picture. Mr. Chambers identified it as successful in increasing transparency of the idea solicitations.

Mississippi
Mississippi identified changes to its proposal solicitation processes as well. Ms. Smith indicated that they were working on making changes already and borrowed some ideas from the exchange discussions she participated in. She also noted that identifying project champions and technical advisory committees as a best practice were substantial changes that she first discussed in peer settings. Problem statements are now crafted with implementation activities and tech transfer in mind.

Kansas

Kansas made changes to its implementation strategies. Mr. Kreider also developed a better understanding of what states were doing for electronic storage of contract information through peer exchange conversations. One item discussed was a particular software that provided a content management system and database to track projects from inception to completion. The software use helped reduce prices that they pay and eliminated delays. Kansas is now using this content management system to track material quantities and test results.

Maryland

Maryland identified project management best practices, including project close out forms, 2-page research summaries, and "lots of minor things." Ms. Hardt stated that they could have come from other ways, but the peer exchange provided a direct venue for sharing this information.

Ohio

Ms. Jones noted that their 2011 peer exchange on local research programs had a draft report and recommendations that was presented to the Chief Engineer. Over the course of the next 14 months, they created a locals group—Ohio now has a local program now that has completed over 12 projects and has a strong advocacy group. Ms. Jones noted that, "people really care about it." The program was implemented directly as a result of the peer exchange. Ms. Jones added that it would have been hard to do without the expertise of Iowa and Minnesota's experiences.

Colorado

Colorado hired an implementation engineer after hearing about the importance of defining this role in a peer exchange. While they were stymied initially and although they couldn't hire permanently, they went with a temporary implementation. They also were able to more effectively get the word out about the research-in-progress database, and it is now used more effectively in the agency. Mr. Khan worked closely with his library staff to make it happen.

Other Observations

All of the interviewed subjects noted that new research managers should participate in a peer exchange as soon as possible in their tenures. Some interviewees expanded that to all of new research staff, not simply the research administrator. Mr. Kreider stated that new staff should "attend several; with different participants and perspectives; and get to hear what things work and what things do not work, but first you have to get there!"

With the variety of options for information sharing, there is a possibility for information overload, but the peer exchange provides a strong mechanism for building tighter relationships. Identifying needs for a rebuilt program, including finding internal champions, was an early win suggested in several peer exchanges. One research administrator noted that there could be diminishing returns on hosting. As programs mature, there is a limit to how much change really is desired. As a requirement, states have go through a process that might not add much value. Several noted that the peer exchange program should be an option, and if it is required, it should be limited to new programs and staff turnover. Others argued that this is an "effective investment of time and money" and appreciated that they are a requirement. Another state noted that, through the pooled fund, the expenses are 100% Federal and it should be taken advantage of.

Other suggestions included recognition that published final reports on the exchanges are not always as useful as you might expect. Takeaways are often in an individual's own notes, and things that someone said might not be captured completely in the notes. More than one subject indicated that they had not spent a lot of time reading the report prepared from their own exchange. "Since you have already heard most of it, the report isn't as meaningful," commented one RAC member.

Key Interview Findings

In summary, some key observations and best practices recommendations from the individual interviews are:

- When a group of peers gathers together with common shared experiences providing for in-depth questions, deeper understanding emerges.
- Selecting a topic for a research peer exchange should be easier than it is.
- Be open to new ideas from neighbors; call them when they have a challenge.
- You get out of it what you put into it. PARTICIPATE!
- Peer exchanges on process lose value over time; there may be a limited need to repeat.
- There is substantial support for the administration pooled fund to address logistics, even among those who haven't used it.
- Implementation of peer exchange findings remains a challenge.
- Some mix of "old" and "new" participants makes for a good panel.
- A program improvement focus is vital for setting the peer exchange
- Use it as an opportunity to make professional connections with neighboring states.
- Make an effort to properly scope and set expectations at the start.

CHAPTER 5

Summary of Findings

Research Peer Exchanges Remain Vital for Program Quality Improvement

This chapter provides general findings and observations from the study and details several successful practices for hosting, organizing, administering, and implementing results from peer exchange opportunities. The primary observations were presented by the authors at the 2017 AASHTO RAC Annual Meeting in Louisville, Kentucky. In general, the information generated by research peer exchanges continues to be immensely valuable for the transportation research community.

While many RAC members have noted that a lot of time and other resources are needed to produce long-term benefits from the peer exchange, the vast majority of the respondents and interviewees find great value in the process. Some would like to see slight changes to the requirements but still find the concept valuable.

Survey Results

The survey, while collecting and identifying a substantial amount of relevant information, could have been enhanced by forcing answers to several questions. In some cases, surveyed research professionals did not provide responses to all questions, providing some inconsistency in total populations on particular subjects. That aside, the primary findings from the survey will serve as a valuable reminder of the state of the practice and the general acceptability of training, new potential formats, the use of third party facilitators and monitors, and the overall ability to make changes as a result of the information shared in the peer exchange setting.

Survey respondents generally expressed a preference for flexibility in the format and frequency of research peer exchanges. While most respondents preferred a 5-year window, some respondents preferred a longer interval.

The survey also identified a range of potential formats, with nearly all receiving some degree of support. Among the most often selected was the self-directed individual information gathering concept, potentially resulting in cost savings through limited travel. There is mixed support for virtual peer exchanges, although there is recognition that their cost-effectiveness and efficiency are a benefit. As technology improves, use of this format is likely to be expanded.

Interviews

Interviews generated a wide range of opinions on the peer exchange program and preferred practices. For the most part, interviewees were able to identify specific changes they made as a result of the programmatic discussions held at a peer exchange. Nearly all did identify the challenges associated with logistics and affirmed the need for some cohort building opportunities as part of a larger peer exchange schedule.

Improvements to the interview process could focus on collecting additional information to use as potential templates and identifying hosts separate from participants to gauge responses from both sides of the peer exchange team. An additional interview with a representative from FHWA or TRB could also enhance the selections if this study is repeated.

General Practices

Theme

In many circumstances, the theme and topic selection choice remains the most crucial decision in the context of a research peer exchange. It helps determine the participants, the setting, the pre- and post-exchange materials, and the implementation of exchange results.

Engage early; engage often

Research managers and panelists alike have found peer exchanges to be most successful when advance reading materials, surveys, and information collection occurs prior to arriving and beginning the proceedings. While this adds to the work that a host state needs to do, the benefits are substantial. Noted benefits included limited time required to start substantive discussions, focused conversations, ability to synthesize common information, and a framing of the conversation that is more difficult once on site. Communications matters.

Six months should be the minimum timeframe to plan and execute the exchange. Shorter timeframes are possible but can be constrained by scheduling issues and organizational capacity. Peer exchange planning in excess of 1 year may be “overkill” but also serves the purpose of building opportunities and anticipation around a specific topic area.

Process focus under new regimes, but after that look to specific topical challenges and dive deeper

Many peer exchange veterans postured that a process focus is essential when a research manager is first starting out. It is critical for that person to understand the Federal processes, how to engage within their own state, and how to develop their research program specific to the organizational culture of their agency. Many research professionals contacted during this study observed that a topical focus for peer exchanges is better and allows more in-depth conversations once one is “established” in the position.

Format and design should flow from clear initial objectives

“Format doesn’t matter” was a refrain presented by several research managers. Bad theme choices are not saved by a formatting decision. However, clearly outlining objectives and expectations provides participants and the host state with the opportunity to mold the discussions. Early exploration of topics and strict adherence to the subjects (agenda control) is vital for the peer exchange, regardless of the format chosen. Based on the information provided, there appears to be some appetite for alternative formats. The discussion of what would meet FHWA approval remains to be seen. The use of non-standardized opportunities for peer-to-peer learning, however, can be considered under the SP&R Program subject to pilot consideration.

Be open to changing if needed

Experienced peer exchange hosts noted that it is important to consider changing the topical discussion area if hurdles to organizing occur. Some of the noted hurdles included availability of key personnel, weather challenges, and technology failures. Openness to changes was seen as a critical component to being satisfied with the outputs.

Choose participants carefully, but not too conservatively

Ultimately, the participants will be the best indicator of the success of the research peer exchange. They should match the topic and theme selection and provide enough distance and expertise that they can participate effectively. They do not need to be expert in the particular topic but should be able to provide a perspective that is unique or educational for the host state. Private sector, university, and other industry research personnel can provide a great deal of beneficial information.

Logistics

Read-aheads are critical; a set of common items should be delivered to panelists in advance

Information about the size of the research program, staffing, scope, and research timelines is valuable for participants. It is also essential that clear expectations for panelists are distributed, including presentation requests, expectations, and other programmatic information. This allows ample time for preparing presentation materials, collecting sample documents, and delivering valuable information to the host. The use of read-aheads also jump starts the discussions and sets the tone for finding nuggets for further program improvement.

Err on the side of keeping it small and intimate

There is a point when too many participants creates diminishing returns. The ideal size for a traditional peer exchange panel appears to be five to nine members. A larger group reduces the opportunity for deep engagement and could provide some additional logistical hurdles. Composition should likely include no more than 10 invited participants, although allowance for certain interested and affected stakeholders can be made without disrupting the meetings.

Consider third party facilitators, logistics managers, report writers

Use of consultants to manage the logistics, prepare the reports, and provide follow-up communications is emerging as a preferred alternative for peer exchanges. There was no formal objection to the use of these independent bodies, and of those that had used consultants for all or part of the peer exchange facilitation and management, all indicated that they would use contracted services again should funding allow. Among the primary benefits cited were ability to focus on the event itself, ability to more rapidly reimburse panel members, on-site points of contact, and reduced burden on the staff. The use of a third party facilitator also could provide benefits as the recommendations are implemented, allowing some distance and ownership.

Let someone else worry about administrative tasks and facilities

Similar to the use of third party facilitators, many subjects noted that the research manager cannot effectively address all logistics, room coordination, catering, photocopying, and similar tasks and still be engaged in the conversations. Other staff, support personnel, hotel employees, or contracted assistants need to be responsible for meal service and facilities. It is too easy to become distracted by the details and last minute changes that come up (including but not limited to dietary restrictions, temperature, weather changes, dining schedules, and supply shortages).

Don’t let the show be about a particular panelist/member

Some panelists reported being strongly influenced by one or two panel members during discussions. A critical skill for facilitators that adds value to the results is securing a wide variety of input and participation from all team members. While it is sometimes challenging to adhere to strict time schedules and interrupt valuable conversations, the shared group learning is benefitted when participants engage regularly during the peer exchange discussions.

Consider having a preliminary discussion or pre-exchange questions and answers

Similar to the advantages presented by clearly defining expectations and preparing a set of read-aheads and associated information, starting the peer exchange with a teleconference or pre-exchange questions and answers focuses discussion early to efficiently use on-site time.

Use interactive opportunities and breaks to build cohesion and maintain energy

All of the interviewed subjects strongly supported the use of networking and interactive activities as part of the scheduled peer exchange activities. These informal discussion time periods allowed for an even deeper understanding of critical issues and also provide for some unscripted and unexpected recommendations.

Implementation

Acting upon peer exchange findings in a systematic way remains a key challenge. Most peer exchanges result in dozens of potential takeaways for host and participants. However, most subjects identified only one or two activities that they have taken from another state, discussed during the peer exchange, and now in use in their own program.

Limited support for implementation tracking

There is some support for developing implementation tracking tools similar to research project activities. At a minimum, the host state should revisit the recommendations on a quarterly basis to identify actions that could or might be taken to address program quality improvements. During a future peer exchange cycle, it is valuable to visit the prior recommendations and identify the successes and reasons for not acting upon other recommendations.

Re-convene the participants

Identifying a time horizon for recommendations is critical and allows a trigger point to re-assemble the participants to report on progress and extract any additional guidance. In many cases, recommendations made by the panelists are activities that they themselves are working on. This helps solidify the cohort group.

Include external partners

External research partners should be engaged in discussions on potential changes shortly following the completion of a research peer exchange. These external partners can be engaged within 2 months after the exchange to respond to new ideas and be engaged in implementation activities. Examples cited included risk assessments, new research idea collection forms and processes, and principal investigator involvement in implementation efforts.

Establish an internal working group to consider the recommendations

By identifying a core set of people with the responsibility to act on potential recommendations, assignments are clear. A working group can refine the recommendations and help identify specific challenges, obstacles, and accelerants for implementation and tailoring to specific agency needs.

Use time with upper management wisely

Engaging the executive leadership of the agency for program quality improvement is vital, but hosts should make sure to succinctly present concrete ideas for improvements and identify resources that could be accessed to make said changes. An “elevator speech” should be prepared to summarize the key items in less than 5 minutes’ time.

Consider linking to performance evaluations

Some research managers indicated that the review and peer exchange recommendations are included as goals or opportunities in performance evaluations. Linking these programmatic recommendations to an individual performance evaluation could help ensure that activities are moved from recommendation to practice.

Conclusion

Many participants throughout this process noted that participation in periodic peer exchanges is vital. It improves the research administrator personally and professionally and provides meaningful input for continuous improvement. The peer exchanges provide tailored opportunities to research managers and their staff at a fraction of the cost of an external review.

Encouraging continued and enhanced participation by states through the posting of their peer exchange reports in the AASHTO RAC repository and the use of existing tools like the Research Project and Program Management website (rppm.transportation.org) would provide additional opportunities to expand upon peer-to-peer learning.

The AASHTO RAC Task Force on Program Management and Quality could serve as a key discussion forum to advance discussions on format, frequency, and implementation tracking. The Task Force then would be able to pursue additional research on communication practices, technologies, and facilitation techniques.