



# OHIO DEPARTMENT OF TRANSPORTATION



**Improving the Usability of Research Reports  
June 2–4, 2015**

**Office of Statewide Planning and Research  
Research Section**

**1980 West Broad Street, MS 3280**

**Columbus, OH 43223**

**614-644-8135**

**[research@dot.ohio.gov](mailto:research@dot.ohio.gov)**

**[www.dot.state.oh.us/Research](http://www.dot.state.oh.us/Research)**

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# Table of Contents

<b>Introduction</b> .....	<b>4</b>
<b>Peer Exchange Participants</b> .....	<b>4</b>
<b>Focus</b> .....	<b>6</b>
<b>Process</b> .....	<b>6</b>
<b>Findings</b> .....	<b>7</b>
Best Practices and Challenges .....	7
Ohio .....	7
Arizona.....	8
Mississippi .....	8
Montana.....	9
Utah.....	10
TRB.....	10
FHWA .....	11
CTC & Associates.....	12
Recommendations for ODOT .....	12
Ohio Researcher Focus Group.....	13
<b>Next Steps for ODOT</b> .....	<b>14</b>
<b>Peer Exchange Panel Member Takeaways</b> .....	<b>14</b>
<b>Appendix A: Peer Exchange Agenda</b> .....	<b>18</b>
<b>Appendix B: Peer Exchange Team Contact Information</b> .....	<b>20</b>
<b>Appendix C: Draft Plan for Implementing Panel Recommendations</b> .....	<b>21</b>
<b>Appendix D: Resources</b> .....	<b>28</b>

## Introduction

From June 2 to 4, 2015, the Ohio Department of Transportation (ODOT) hosted a peer exchange to address best practices for improving the usability of research reports. The goal of the peer exchange was to develop actionable recommendations for improving final report quality and effectiveness, considering opportunities related to roles and responsibilities, documentation, project management, communication, and partnerships.

Representatives from four state DOTs (Arizona, Mississippi, Montana, and Utah); the National Cooperative Highway Research Program (NCHRP); Federal Highway Administration (FHWA); and CTC & Associates LLC (a technical communications consulting firm) participated in the peer exchange, which was held in Columbus, Ohio.

This report documents the discussions, outcomes, and recommendations of the peer exchange panel members. It includes brief summaries of each agency's research program along with the agency's best practices and challenges with research report implementation. Key outcomes resulting from brainstorming sessions during the peer exchange are also presented along with agency takeaways and next steps for ODOT.

## Peer Exchange Participants

### Panel Members

Arizona Department of Transportation

- Dianne Kresich

Mississippi Department of Transportation

- Cindy Smith

Montana Department of Transportation

- Susan Sillick

Ohio Department of Transportation

- Cynthia Jones
- Zona Kahkonen Keppler
- Kelly Nye

Utah Department of Transportation

- David Stevens

Federal Highway Administration,  
Ohio Division Office

- Frank Burkett

Transportation Research Board

- Chris Hedges

CTC & Associates

- Kimberly Linsenmayer

### Ohio Researcher Focus Group

Case Western Reserve University

- Bill Yu

Cleveland State University

- Jacqueline Jenkins

E.L. Robinson Engineering

- Kevin White

Ohio University

- Eric Steinberg

The University of Akron

- Anil Patnaik
- Bill Schneider

## Leadership Attendees to Final Presentation

Ohio Department of Transportation

- Scott Phinney, Administrator
- Shanshan Chi, Intern

## Facilitators

Texas A&M Transportation Institute

- John H. Overman
- Jordan Bertling



**(From left)** Zona Kahkonen Keppler, Kelly Nye, Dianne Kresich, Kim Linsenmayer, Chris Hedges, Cynthia Jones, Sue Sillick, Cindy Smith, David Stevens

## Focus

Panel members were invited to the peer exchange because of their experience and interest in creating effective final report guidelines, developing a range of research deliverables to support implementation, and using technical editing services to improve report quality.

The panelists discussed the challenges, strengths, and opportunities of their programs, and reflected on Ohio's state of practice. They were encouraged to take a creative and holistic approach during brainstorming sessions and as a result, they freely shared ideas and best practices that could be applied to strengthen the Ohio program.

The ultimate objective of this peer exchange was to develop actionable guidelines for improving the usability of research project final reports. The group reviewed ODOT's current processes, considering opportunities to better define roles and responsibilities, clarify and document the report writing process, and identify the needs of priority customers. The panel focused on improving the overall integrity and usefulness of research reports and incorporating technical editing into the process. Participants also discussed ways to improve the research program's communication strategy and how to ensure that expectations would be met with results. Finally, the panel suggested action items for ODOT to consider for putting recommendations into practice.

## Process

To prepare for the peer exchange, panel members received:

- A tentative meeting agenda (see Appendix A)
- Access to an online survey to further inform the peer exchange discussions
- Contact information for peer exchange panel members (Appendix B)
- Travel details

Technical liaisons and research partners were also asked to complete a survey to provide feedback about research report preparation and the report writing process.

## Presentations

On the first day of the peer exchange, ODOT staff presented on their program and the challenges they are facing related to final reports. The visiting panel members then presented on their programs, sharing experiences, strengths, and challenges related to the usability of final reports. Following these presentations, the group discussed potential recommendations for ODOT based on the best practices shared, including opportunities related to project management and processes, clarifying roles and responsibilities, and communicating expectations.

## Ohio Researcher Exchange Focus Group

On the second day of the peer exchange, the panel members met with six research partners from Ohio to invite their feedback on the recommendations developed by the panelists on day one. The group discussed potential implementation challenges related to the changes proposed for improving report usability and identified issues that will need further exploration following the peer exchange.

## Deliverables and Debriefing

At the end of the peer exchange, panel members solidified the actionable next steps for ODOT to consider and presented them to ODOT leadership. The panelists were enthusiastic about the processes that ODOT could adopt to ensure that its final deliverables would produce high-quality, usable, and readable reports.

Participants also shared lessons learned during the peer exchange—ideas that they would consider applying to the reporting process in their own agencies.

## Findings

### Best Practices and Challenges

This section provides an overview of each panelist's research program, including best practices and challenges. The discussion begins with a review of ODOT's current research program and the challenges it faces.

#### Ohio

##### **Cynthia Jones, Research Program Manager, Ohio Department of Transportation**

ODOT's research program has five staff members who have multiple duties and responsibilities. District research projects are overseen by a single project manager, and central office projects by another manager. This management process is new and is working well.



A detailed description of ODOT's research program is provided in the [Research, Development and Technology Transfer Manual of Procedures](#).

Available online, this manual is referenced in all standard research agreements and explains the policies and procedures that govern the program. Also available online are electronic forms to assist research partners and technical liaisons in various phases of the research process, such as writing RFPs, budgeting, preparing quarterly progress reports, and drafting final reports.

When new research ideas are proposed, they are submitted to a panel for approval. Once approved, the Research Section selects a research partner to do the work. State universities perform 85 percent of the research. Often, engineering students work on the project and use a written portion of the final report as their graduate thesis. ODOT requires quarterly progress reports, and an executive summary and final report are published for each project.

Below are some of the key challenges cited by the ODOT research program staff:

- The information provided in quarterly reports—both quality and quantity—is inconsistent.
- The executive summary is not meeting current needs. While technical staff are satisfied with the work, they aren't satisfied with the final report, which is often too long, and cumbersome to read.
- The research staff would like to explore more than one type of deliverable based on different users and audiences.
- ODOT would like to develop strategies to improve communication with researchers so that the agency gets the results it wants. There is an accountability issue, and ODOT needs to specify its requirements and stand behind them. Currently there are no repercussions for poor work.

- ODOT needs clear and concise general guidelines for running other aspects of the research program, not only report writing. For example, researchers may be unclear about the target audience of a project.
- Improving the usability of reports will reduce the chance of duplication of research.
- Although ODOT hosts a research summit every other year, it lacks a process for rewarding research champions or technical panel members.

## **Arizona**

### **Dianne Kresich, Research Project Manager, Arizona Department of Transportation**

At ADOT, research projects are developed with a focus on eventual implementation and with the involvement of a project manager and key stakeholders. The agency's research program uses the chapter-by-chapter delivery process. ADOT has had success tying the approved deliverable (chapter) to payment.



With strong project management, problems are recognized and addressed immediately. Involving people of a certain status on the technical panel improves project buy-in, which helps with implementation.

Shareable practices:

- Require the project manager to control and closely supervise each project.
- Tie deliverables to payment.
- Convey that there is prestige in doing research.
- Tie regulations that guide research to usability.
- Begin considering implementation at project conception.
- Keep research flexible because we learn things as we move along.
- Remember that SP&R, Part II, funding is not a grant program; its purpose is to help DOTs acquire information.
- Consider prepublishing critical findings.

Challenges:

- Recognizing issues before they become problems
- Keeping constant and close supervision over the research process
- Helping all to maintain focus on implementation through the duration of the research project

## **Mississippi**

### **Cindy Smith, Assistant State Research Engineer, Mississippi Department of Transportation**

MDOT's research program is headed by an engineer and consists of additional engineers and technical staff. Each year the program conducts a research meeting to approve the annual work and expenditures for any pooled fund work.



Research project ideas originate from within the agency or are solicited from universities. Ideas must go through a selective rating process and then be approved by a division head, and receive the ongoing support of a research champion. MDOT requires quarterly reports in which researchers comment on what percentage of the research is completed and report budget issues. MDOT believes that recognizing technical panel members goes a long way in strengthening relationships.

Shareable practices:

- Identify a research champion upfront.
- Use technology to track progress (such as work progress and implementation databases).
- Know your people and their strengths.
- Ask a division head to approve technical panel members.

Challenges:

- Anticipating problems—even after careful screening—can be difficult.
- Contract extensions are not allowed.
- Research results are not always implementable.
- Research champion or principal investigator leaves a project before completion.
- Unexpected shifts in priorities.

## **Montana**

**Susan Sillick, Research Programs Manager, Montana Department of Transportation**

The MDT research office has four staff members: the research programs manager, two project managers, and a librarian. Like other DOTs, MDT is committed to producing usable research reports and require products that will facilitate implementation, along with the final report.



A technical panel, led by a research champion, develops the scope of each research project, which is then divided into tasks. Once the scope is determined, MDT either issues an RFP or identifies a researcher from a public entity that has the expertise and time to complete the research. Funding is assigned once a proposal is accepted and approved by MDT.

For contracts for projects issued through an RFP (only): after the Consultant has provided the State with the draft final report, the State will conduct an internal review. Once the State has accepted the final report, the Consultant and State, upon mutual agreement, will schedule the final presentation, implementation meeting, and the Due Dates for the remaining final Deliverables to be completed within three (3) months of such acceptance. MDT requires task reports. These task reports become a part of the project final report, along with synthesis, conclusions, and recommendations. This allows MDT to ensure the project stays on scope throughout the research period and may allow for early implementation. Monthly progress reports are required for projects initiated through the RFP process.

The agency has found that time spent in the early phases of a project results in fewer surprises at the end. Quarterly reports are required for each project, which also helps to head off disasters early. Particular hardship occurs when the champion leaves before a project is completed.

Shareable practices:

- Allow sufficient time in the early stages of the project because it pays off in the end.

- Be honest in communication with all research partners and technical panel members. Provide room for a certain amount of flexibility and modification.
- Do not assign a budget until the project is securely supported.
- Identify barriers to implementation and usability early in the project.
- Focus on implementation from project inception, involve all stakeholders and implementers on each project technical panel, require proposers in their proposals to include information on how they will ensure the quality of deliverables, require a project champion and sponsor (project sponsor is a high level manager who agrees to ensure implementation, as appropriate), communicate expectations upfront, proposal template, report requirements, implementation meetings, and panel exit surveys.

Challenges:

- Timely delivery of projects.
- Getting buy-in for political projects that do not affect MDT or where MDT is not the implementer.

## **Utah**

### **David Stevens, Research Project Manager, Utah Department of Transportation**

Utah DOT's research program is headed by the research director who is also an engineer. Four other engineers in the division are project managers and manage contracts and research reports that represent technical, nontechnical and pooled fund projects. The division also includes a librarian who assists with research report publishing and distribution. The research project managers work with technical champions to kick off projects, keep them on track, and review interim and final deliverables. Tools that help in the process include a project management worksheet/checklist, research report guidelines, a research report template, and a final report process flow chart. Consultant/university researchers are provided with these tools early in the project. Significant effort is put into making the final reports accessible to those in the Department who could benefit for the results.



Shareable practices:

- Be organized.
- Identify research champions and empower them to identify others for project committees.
- Keep in mind that project management is a vital process in research, and communication is key.
- Rank proposed research projects by their implementation potential.

Challenges:

- Staying organized and communicating often with the project team.
- Stating clear objectives and enforcing them
- Producing research reports that are not too lengthy

## **TRB**

### **Chris Hedges, Manager, National Cooperative Highway Research Program**

NCHRP is involved with hundreds of research projects with a wide range of deliverables targeted to different audiences. The agency facilitates research but does not implement it.

One of the keys to achieving good deliverables lies in the reviewing process. To support this process, one editor is assigned to every 12 reports.

Empowering technical panels is also important. Their feedback is one way to keep communication channels open and projects focused. NCHRP selects technical panel members carefully since they can have a lot of influence in the research process. TRB has developed a procedural manual that many DOTs use for guidance.



Shareable practices:

- Keep in mind that what is measured gets done.
- Set the philosophy of implementation right from the start.
- Make sure the researcher is giving NCHRP what it asks for.
- Hold stakeholders responsible.
- Treat each task as a chapter.
- Establish a stable reviewing process.
- Enlist the help of both an editor and a communications staff member.

Challenges:

- Maintaining accountability among researchers
- Fitting the final deliverable to the scope of the project and intended audience
- Getting useful research products

## **FHWA**

**Frank Burkett, Senior Planning Specialist, Ohio Division, Federal Highway Administration**

FHWA's role at ODOT is supportive, ensuring that the agency selects eligible, risk-averse research projects with usable results.



Shareable practices:

- Be available to communicate with the DOT.
- Make every attempt to select eligible projects.

Challenges:

- Closing projects on time
- Helping the DOT avoid risk-based research

## **CTC & Associates**

**Kimberly Linsenmayer, COO, CTC & Associates LLC**

CTC & Associates provides technical communications services for state and national transportation research programs. The firm helps agencies share the results and impacts of their projects through a variety of communication products, such as briefs, newsletters, websites, and videos. CTC has experience with a range of DOT program management processes, style guides, and transportation subject areas.



Shareable practices:

- Consider requiring interim deliverables and check-in meetings to ensure the researcher is on the right track before the final report is submitted.
- Define the roles of those involved with the final report production (such as the principal investigator, DOT project manager, editor, and others). Consider their skills and time constraints and how best to leverage them.
- Define the purpose of the final report to ensure the project goal is achieved. Who is the audience? What will be done with the report? How will it get used or support use of the results?
- Consider additional communication products that will complement the final report. The report may be only one product that is needed to facilitate implementation.
- Communicate expectations for the final report format, style, structure, and content to ensure consistency and quality.

Challenges:

- Producing “field-ready” reports that support implementation
- Getting buy-in for the research from both leadership and end users

## **Recommendations for ODOT**

The peer exchange panel members agreed that the primary purpose of improving the usability of research reports is implementation—to effectively promote and support the use of research results in practice. With this goal in mind, panel members developed the following recommendations for ODOT to consider:

- Enhance final deliverable requirements
  - Request multiple final deliverables based on project or target audience.
  - Ensure readability (targeted to audience).
  - Create style and writing guidelines.
- Focus on implementation
  - Maintain implementation as a project goal from concept to conclusion.
  - Refocus the researcher’s final results presentation to implementation.
- Adopt a recognition/award/appreciation process for service on research technical panels

- Modify research project management and process approaches
  - Include quality assurance plans in RFPs.
  - Consider submission and review of deliverables by task.
  - Create an action plan for disseminating research results.
  - Engage technical staff in reviewing proposed process changes.
  - Issue RFPs with desired outcomes versus defined tasks.
  - Address final report needs and implementation focus during the project kickoff meeting.
  - Consider payment by task.

## Ohio Researcher Focus Group

On the second day of the peer exchange, six researchers representing universities and private companies met with panelists to provide feedback about the panel's recommendations (described above). Overall, the researchers indicated a strong interest in improving the usability of research reports and were willing to participate in changes.

Below is a summary of the key discussion points and the feedback provided by the researchers during this focus group.

- When the panel members presented the idea of requesting multiple final deliverables, the researchers expressed concern about the time and budget constraints imposed on them through the project and their organizations. More discussion is needed to understand the potential impact of this additional work.
- According to the researchers, research reports are frequently written by several writers, including students. The panelists expressed concern about how this can affect the structure of the report, the overall flow, and the voice. The researchers noted that all universities don't have the same resources available for reviewing and editing, which makes addressing this concern a challenge.
- The researchers asked that the intended audience for the final report be identified upfront. Who are they writing for? The audience must be communicated to all of the researcher's staff members who will be writing portions of the report.
- The data needs of a report were also discussed, specifically, which and how much data needs to be included in the body of the report. The researchers were concerned that leaving data out would lead to replicated research in the future, and the research results may not be fully used. The researchers said that bundling the data into the appendix would be admitting that the material is not useful and will not be reviewed.
- Another concern was the optimum length of a report. One of the researchers requested an example of an exemplary research report. The panelists were concerned that providing an example would make it the standard. The group agreed that several sample reports would need to be provided to illustrate several types of research projects. Regarding the appendices, the group suggested that providing a link to them would be sufficient instead of printing them with the report.
- The researchers asked ODOT to provide written guidelines for the use of the appendix.
- The researchers said requesting deliverables by task would work well for projects of longer duration, but would not be useful for shorter projects.

- The researchers suggested that technical editing be part of the project budget since not all universities have this support service available.
- According to the researchers, ODOT should be clear and consistent with both research and reporting requirements, including the intended use of the research and the timetable for deliverables.
- ODOT should also clarify the role of the technical panel in reviewing and editing the final reports.
- The researchers would like increased collaboration with the champions and other research partners who will share the responsibility of the project.

ODOT staff said that there will be sufficient lead-in time before changes are expected and any new processes are incorporated into the written research manual.

## Next Steps for ODOT

Following the peer exchange, ODOT's research team worked with CTC & Associates to develop a draft communication plan for implementing the peer exchange recommendations. See Appendix C.

## Peer Exchange Panel Member Takeaways

Members of the peer exchange panel were asked to share specific ideas that they planned to take back to their agency for consideration. These ideas are summarized below.

### **Frank Burkett, Senior Planning Specialist, Ohio Division, Federal Highway Administration**

- Research is about change.
- Positive change comes about in peer exchange.
- Excited to see what results will come out of this work and exchange of ideas.

### **Chris Hedges, Manager, National Cooperative Highway Research Program**

- Review the role of implementation champions. Find ways to increase their motivation and effectiveness. Consider incentives or recognition.
- Clearly define (in writing) the roles of panel members, AASHTO monitors, and staff project managers. Include guidance on what panel members should be looking for in their reviews.
- Add language to the RFP asking for proposers to indicate how they will guarantee a high-quality, well-written, readily usable and implementable product.
- On panel exit surveys, ask members to describe activities they are undertaking to implement the results of their project.
- Increase involvement in projects of higher-level management personnel who have the authority to require implementation of project results. Seek a commitment from them in advance.
- Find more and better ways to distribute promotional material such as the NCHRP Impacts on Practice series.

- If winning proposals do not have technical editors on their team, consider adding that requirement at the contract negotiation stage.
- Re-evaluate the value and benefits of project kickoff meetings to ensure effective communication between the research team and project panel from the beginning.
- Explore means of facilitating communication between team and panel to supplement regular progress reports.
- Re-evaluate the separation of various products (reports, guidelines, appendices, etc.) and resulting impacts on the usefulness of the results.
- Distribute examples of high-quality products (progress reports, project reports, etc.) to contractors to clearly indicate the level of detail and quality we are seeking.
- On a case-by-case basis, schedule implementation meetings of the project panel near the end of the research contract.
- Identify good practices for measuring the implementation, impacts, and benefits of completed research.

**Cynthia Jones, Research Program Manager, Ohio Department of Transportation**

- Will give thought to chapter/task process.
- Need to be sensitive to the diversity of research topics, our technical panel, and customer needs and desires.
- Staff the people-to-project ratio better to decide what goes into a project.
- Build a structure where we discuss what will go in the report versus appendices.
- Meet the challenge to take back our program and remember our partners are contracting with us.
- Decide what we own as a research program and what can be passed off through delegation.

**Zona Kahkonen Kepler, Library Administrator, Ohio Department of Transportation**

- Define our roles and goals as we envision them. Then communicate to all as a shared vision.
- Initiate a process to edit the research report as we go so there are fewer surprises in the end.
- Think about the role of the appendix.
- Turn inferior reports away and insist that they be reworked to our standards.
- State when implementation is the goal of the research and work to that end.

**Dianne Kresich, Research Project Manager, Arizona Department of Transportation**

- Consider implementation at the time of conceptualization.
- Consider not setting a budget in the RFP until the proposal from the researcher is received.
- Initiate some form of appreciation/recognition for technical panel members.
- Develop a new menu of research products tailored to each study and its audience.

**Kimberly Linsenmayer, COO, CTC & Associates LLC**

- Work with ODOT to apply the results of the peer exchange to its report development and editing process.

**Kelly Nye, Program Administrator, Ohio Department of Transportation**

- Clarify the roles of all members of the research team for better project management.
- Define true implementation projects upfront.
- Identify deliverables early on and modify throughout the project as needed.
- Be less accommodating with researchers so the final projects fit our needs as the customer.

**Susan Sillick, Research Programs Manager, Montana Department of Transportation**

- Formalize pooled fund studies.
- Consider customizing deliverables for different audiences.
- Consider providing researchers with a report template.
- Start requiring champions for pooled funds to report on progress when asking for additional funds. They will also be asked to present the results, how these results benefit the department, and how they will implement the results, as appropriate. These reports will be made to our high level research review committee.

**Cindy Smith, Assistant State Research Engineer, Mississippi Department of Transportation**

- Review TTI and TRB reporting guidelines.
- Interested in producing multiple final deliverables.
- Consider initiating a process for officially recognizing the TAC members. Their work is sometimes not given the respect it deserves, and without these champions, our program would not result in implementation and help to the DOT.
- Consider developing final report and proposal template files.
- Consider budgeting for technical editors.

**David Stevens, Research Project Manager, Utah Department of Transportation**

- See the value in clarifying guidelines and modeling expectations for research deliverables. This includes using clear and concise instructions and good project management.
- Match multiple research deliverables to applicable audiences. Plan these from the beginning and through the end of the project. Review and consider using the NCHRP deliverable matrix/menu.
- Be clearer and firm in the early stages of the RFP for better results.
- Keep in mind that the final report is only one part of the goal of research; all final deliverables are important.

- Focus on implementation goals and methods at the beginning and throughout the project.
- Consider holding an implementation meeting at the conclusion of the project to decide where they are and where they would like to go, and to determine a way forward.
- Be “tough” and consistent with expectations and communication. Consider upgrading report guidelines to requirements, specifications, or standards.

## Appendix A: Peer Exchange Agenda

### PEER EXCHANGE DRAFT AGENDA Improving Usability of Research Reports June 2–4, 2015 — Columbus, Ohio

#### DAY 1—TUESDAY, JUNE 2

	<b>WELCOME AND INTRODUCTION</b>	
8:30 a.m.	Welcome to Ohio DOT. Peer Exchange Focus: Improve Usability of Research Reports. Review agenda, schedule, roles, and expectations.	30 min.
	<b>CURRENT STATE AND PRACTICES</b>	
9:00 a.m.	Review current ODOT practices.	45 min.
<b>9:45 a.m.</b>	<b>Break</b>	15 min.
	<b>DEFINE RESEARCH FINAL REPORT NEEDS</b>	
10:00 a.m.	Describe final research report needs. Review results from survey of technical liaisons.	60 min.
	<b>PARTICIPANT PRESENTATIONS</b>	
11:00 a.m.	Cindy Smith, Mississippi DOT; David Stevens, Utah DOT; Susan Sillick, Montana DOT; Dianne Kresich, Arizona DOT; Kimberly Linsenmayer, CTC; Chris Hedges, TRB	30 min.
<b>12:00 p.m.</b>	Lunch (provided)	60 min.
1:00 p.m.	Continue participant presentations.	30 min.
	<b>BRAINSTORMING RECOMMENDATIONS</b>	
1:30 p.m.	Prepare recommendations to improve usability of research report.	120 min.
3:00 p.m.	<b>Break</b>	30 min.
3:30 p.m.	Continue brainstorming.	
<b>5:00 p.m.</b>	<b>Adjourn Day 2</b>	
6:00 p.m.	Columbus Clippers (Minor league baseball)	

#### DAY 2—WEDNESDAY, JUNE 3

	<b>INTRODUCTION AND REVIEW</b>	
8:30 a.m.	Review Tuesday accomplishments.	30 min.
	<b>EVALUATE RECOMMENDATIONS</b>	
9:00 a.m.	Prepare list of recommendations for researcher exchange.	60 min.
	<b>RESEARCHER FOCUS GROUP</b>	
10:00 a.m.	Researcher exchange to share recommendations on improving usability of research reports	120 min.

<b>12:00 p.m.</b>	Lunch (researchers are invited to stay)	60 min
	<b>MODIFY RECOMMENDATIONS</b>	
1:30 p.m.	Revise recommendations based on researcher feedback.	100 min
<b>5:00 p.m.</b>	<b>Adjourn Day 3</b>	
5:00 p.m.	North Market tour and dinner (1 block away)	

**DAY 3—THURSDAY, JUNE 4**

	<b>INTRODUCTION</b>	
8:30 a.m.	Logistics Report Review Process	30 min
	<b>DEBRIEF PARTICIPANTS</b>	
10:00 a.m.	Participants share takeaways and reflect on experience.	90 min.
	<b>PRESENTATION TO LEADERSHIP</b>	
	Presentation and review of peer exchange with leadership	60 min.
<b>12:00 p.m.</b>	<b>Lunch/Adjourn</b>	

## Appendix B: Peer Exchange Team Contact Information



### ODOT Research Peer Exchange

June 2-4, 2015  
Hampton Inn & Suites, Downtown  
501 N. High Street  
Columbus, Ohio 43215



#### Frank Burkett

Senior Planning Specialist  
Ohio Division  
Federal Highway Administration  
200 North High Street, Room 328  
Columbus, OH 43215  
[frank.burkett@dot.gov](mailto:frank.burkett@dot.gov)  
614-466-7170

#### Chris Hedges

Manager, NCHRP  
The National Academies  
500 Fifth Street, NW  
Washington, DC 20001  
[chedges@nas.edu](mailto:chedges@nas.edu)  
202-334-1472

#### Cynthia Jones

Research Program Manager  
Office of Statewide Planning and Research  
Ohio Department of Transportation  
1980 West Broad Street, Mail Stop 3280  
Columbus, OH 43223  
[cynthia.jones@dot.ohio.gov](mailto:cynthia.jones@dot.ohio.gov)  
614-466-1975

#### Zona Kahkonen Keppler

Library Administrator  
Office of Statewide Planning and Research  
Ohio Department of Transportation  
1980 West Broad Street, Mail Stop 3280  
Columbus, OH 43223  
[zona.kahkonen.keppler@dot.ohio.gov](mailto:zona.kahkonen.keppler@dot.ohio.gov)  
614-466-2882

#### Dianne Kresich

Research Project Manager  
Arizona Department of Transportation  
206 S. 17th Avenue  
Phoenix, AZ 85007  
[dkresich@azdot.gov](mailto:dkresich@azdot.gov)  
602-712-3134

#### Kimberly Linsenmayer

COO  
CTC & Associates  
4805 Goldfinch Drive  
Madison, WI 53714  
[kim.linsenmayer@ctcandassociates.com](mailto:kim.linsenmayer@ctcandassociates.com)  
608-628-3806

#### Kelly Nye

Program Administrator  
Office of Statewide Planning and Research  
Ohio Department of Transportation  
1980 West Broad Street, Mail Stop 3280  
Columbus, OH 43223  
[kelly.nye@dot.ohio.gov](mailto:kelly.nye@dot.ohio.gov)  
614-387-2710

#### Susan Sillick

Research Programs Manager  
Montana Department of Transportation  
2701 Prospect Avenue  
Helena, MT 59620  
[ssillick@mt.gov](mailto:ssillick@mt.gov)  
406-431-6383

#### Cindy Smith, P.E.

Assistant State Research Engineer  
Mississippi Department of Transportation  
Research Division 86-01  
P.O. Box 1850  
Jackson, MS 39215-1850  
[cjsmith@mdot.ms.gov](mailto:cjsmith@mdot.ms.gov)  
601-946-7734

#### David Stevens, P.E.

Research Project Manager  
Utah Department of Transportation  
4501 South 2700 West  
Salt Lake City, UT 84114  
[davidstevens@utah.gov](mailto:davidstevens@utah.gov)  
801-589-8340

## Appendix C: Draft Plan for Implementing Panel Recommendations

### Introduction

The Ohio Department of Transportation (ODOT) research program held a peer exchange from June 2 to 4, 2015, to discuss best practices for improving the usability of research reports. Representatives from four state DOT research programs (Arizona, Montana, Mississippi, and Utah); the National Cooperative Highway Research Program (NCHRP); Federal Highway Administration; and CTC & Associates LLC (a technical communications consulting firm) met in Columbus to learn about ODOT's current successes and challenges and to share their own experiences.

The final report for the peer exchange provides a full overview of the discussions, outcomes, and recommendations from the event. The purpose of this document is to zero in on the specific action items that ODOT will consider for putting those recommendations into practice.

### Peer Exchange Recommendations

The peer exchange panel members agreed that the primary purpose of improving the usability of research reports is to more effectively promote and support the use of research results in practice. With this ultimate goal of implementation in mind, the peer exchange attendees developed three key recommendations for ODOT to consider:

1. Revise the requirements for producing final research reports to ensure report clarity and usability.
2. Require additional final deliverables (beyond the final report) to better promote awareness and implementation of research results.
3. Modify research project management processes and guidelines to better support the production, evaluation, and use of research project deliverables.

### Proposed Action Items

Below are the specific action items that ODOT will consider in response to the recommendations of the peer panel. These action items are presented in the order they should be completed based on urgency and relative ease of implementation.

#### 1. Develop Report Writing Requirements (Supports Recommendation #1)

Although ODOT's research program provides some guidance to researchers on the expected format and content of final reports, many of the final reports delivered to ODOT lack the clarity and quality needed to be useful to either managers or practitioners. A more detailed document outlining final report requirements is needed to address the following:

- Intended audience and purpose of the report
- Desired sections of the report (including an executive summary and expected use of appendices)
- Style guidance (based on an evaluation of existing style manuals used by TRB and other state DOTs)
- Writing guidance (to emphasize the importance of readability/flow, clarity, and concise writing)
- Formatting guidance/template (to reinforce the ODOT brand and ensure consistency).

ODOT can draw from the guidance documents shared by the peer exchange panel members when developing requirements customized for ODOT.

## **2. Identify and Require Companion Deliverables (Supports Recommendation #2)**

The peer panel agreed that the final report for a research project is an important communication tool for sharing research results, but it should not be the only tool for encouraging implementation. ODOT's research program should consider a range of communication products aimed at senior managers, middle managers, and practitioners—all of whom have a role in putting results into practice. Chris Hedges (NCHRP) shared a draft table of potential dissemination products that ODOT could use as a starting point. When discussing this range of products, ODOT's research program needs to consider:

- Which dissemination products would be most effective, affordable, and manageable within ODOT's environment?
- Which dissemination products (or content for the products) should be required of the principal investigator (PI) versus produced by the research program?
- At which point in the research life cycle would the companion dissemination products be discussed and selected? At the peer exchange, ODOT staff raised the possibility of discussing these products with the PI at the project kickoff meeting. How would this impact the funding needed for the overall project? How should the RFP be modified to ensure that investigators are planning for additional deliverables when developing their proposals?
- How will the research program staff and technical liaisons (TLs) use the companion deliverables to promote implementation?

## **3. Revise ODOT's RFP Template (Supports Recommendation #3)**

The peer panel recommended the following change to ODOT's RFP template:

- Issue the RFP with desired "outcomes" versus defined tasks. This will encourage researchers to submit proposals that draw on their expertise and creativity when proposing a research strategy. It will also further underscore the purpose of the project in developing solutions to a problem rather than simply completing predefined tasks.

## **4. Revise ODOT's Proposal Submission Guidelines (Supports Recommendation #3)**

The peer panel recommended several specific changes to ODOT's *Proposal Formatting & Submission Guidelines* to further emphasize implementation and encourage submission of higher quality final reports:

- Require that proposers describe their plan for assuring the quality of the final report when submitting proposals. This should include who will be responsible for writing the report, reviewing the report and completing a technical edit of the report. (Refer to the sample language provided by Sue Sillick at Montana DOT.)
- Require selected investigators to submit interim report deliverables that will allow ODOT TLs and Research Section staff to review components of the final report in process. For example, interim reports could be required after each proposed task, such as the literature review, survey development, and data analysis.
- Beyond requiring proposers to identify potential implementation opportunities for ODOT, consider requesting that they include their ideas for developing dissemination products and tools that could help ODOT implement the results of the research.

- Revise the expectations for the research results presentation to emphasize a focus on recommendations and implementation rather than methodology and data analysis.

### **5. Refocus Project Kickoff and Closeout Meetings (Supports Recommendation #3)**

To ensure implementation planning is taking place throughout the life cycle of the project, the peer panel recommended the following actions:

- Expand topics addressed during the project kickoff call (after the PI is selected): Present expectations for final report quality and content, and discuss the potential range of final deliverables that will be needed to support implementation of results.
- Revise the purpose of the research results presentation (at the end of the project): Request that researchers focus these presentations on recommendations and implementation opportunities versus research methodology and data analysis.

### **6. Recognize the Contributions of ODOT TLs (Supports Recommendation #3)**

ODOT staff throughout the department provides subject matter expertise and guidance for all research projects funded through the research program. These individuals contribute significant time to ensure that the projects stay on scope and budget, and effectively address the agency's needs. To encourage a strong presence on each project and to elevate the importance of the TL role, the peer panel recommended that ODOT consider awarding certificates or in some other way formally showing appreciation for the service provided. This could take the form of recognition in newsletter articles, award certificates, and/or thank-you notes to TLs and their supervisors.

### **7. Update Roles and Responsibilities Guidance (Supports Recommendation #3)**

The *ODOT RD&T Manual of Procedures* details the roles and responsibilities of the Research Section, executive leadership, ODOT Standing Committee on Research, sponsoring divisions/offices/districts, TLs and researchers. The peer panel recommended an update to these guidelines (and/or development of a standalone guide) to more directly address TL participation in the development and review of final project deliverables. In particular, the current manual does not appear to address the critical role of an ODOT project champions in overseeing research projects and leading implementation efforts.

### **8. Consider Payment by Task (Supports Recommendation #3)**

To reinforce the importance of investigators providing interim deliverables for review by ODOT (see action item #4), the peer panel recommended that ODOT consider tying payments for work to the delivery of these interim task reports. Since this will require changes to how ODOT manages and tracks contracts and payments, the research program would need to evaluate if this change should be made and, if so, when.

## **Communicating Results of the Actions**

The research program collaborates with numerous individuals both inside and outside of ODOT to develop, conduct, and oversee research projects on behalf of the agency. Effective communication with all stakeholders regarding the changes described above will be important for maintaining these working relationships and ensuring that the changes are successful. Below are potential approaches the research program could take to communicate with each stakeholder group as the action items are completed. The goal is to communicate and implement as many changes as possible in the short term on current projects while establishing strategies for ongoing communication and support for future projects.

## **Audience: TLs on Current or Recently Completed ODOT Projects**

### Messages/Purpose:

- Make TLs aware of the successes and high-level outcomes of the peer exchange.
- Request TL feedback on the new report writing requirements and let them know when the new requirements are in place.
- Reiterate TL roles and responsibilities on research projects and how the research program will work with them to ensure successful projects.
- Emphasize the renewed focus on implementation throughout the project life cycle and the expected role of TLs in developing and using companion project deliverables to promote implementation.
- Recognize the importance and value of each TL's contribution to research projects.

### Potential Formats:

- Short email summary of the peer exchange successes, outcomes, and expected changes to come (which will improve the research results and support their role in overseeing the project). Thank them for completing the pre-peer exchange survey.
- New report writing requirements document (hard copy and email, posted on website when finalized).
- Concise standalone guide for TLs regarding their roles and responsibilities on research projects (hard copy and email, posted on website when finalized).
- Face-to-face update meeting with TLs to invite feedback on the new report writing requirements and the TL guide. Emphasize their important role in the research process and the support the research program will provide. Invite Q&A discussion.
- Identify the name and role of a TL (potentially with a quote) in any newsletter articles featuring their research projects or results.
- Certificate and thank-you letter recognizing a TL's leadership on an ODOT research project.

## **Audience: TLs on Future ODOT Projects**

### Messages/Purpose:

- Present TL roles and responsibilities on research projects and how the research program will work with them to ensure successful projects.
- Make TLs aware of the report writing requirements and their role in evaluating final deliverables.
- Emphasize the Research Section's focus on implementation throughout the project life cycle and the TL's role in developing and using companion project deliverables to promote implementation.
- Recognize the importance and value of each TL's contribution to research projects.

### Potential Formats:

- New report writing requirements document (hard copy and email, posted on website).

- Concise standalone guide for TLs regarding their roles and responsibilities on research projects (hard copy and email, posted on website).
- Updated RFP template to include the new outcome-based structure and expectations for deliverables by tasks (hard copy and email, posted on website). Ask the TLs to use the new template when developing RFPs.
- Updated *Proposal Submission Guidelines*, which will communicate new expectations for submitting deliverables by task, revised expectations for the research results presentation, the requirement to consider potential companion deliverables to support implementation, and the requirement to include a final report quality assurance plan in proposals (hard copy and email, posted on website).
- Face-to-face orientation meeting with *new* TLs every year to review roles and responsibilities for them, the PIs and the Research Section, along with the report writing requirements. Provide the standalone guide for TLs, the report writing requirements document, the updated RFP template, and the updated *Proposal Submission Guidelines* at the meeting. Invite Q&A discussion.
- Project kickoff meeting to ensure both panel members and the PI understand their roles and the specific requirements of the project at hand.
- Identify the name and role of a TL (potentially with a quote) in any newsletter articles featuring their research projects or results.
- Certificate and thank-you letter recognizing a TL's leadership on an ODOT research project.

#### **Audience: Investigators on Current/Active ODOT Projects**

##### Message/Purpose:

- Make PIs aware of the successes and high-level outcomes of the peer exchange. Emphasize the goal of improving implementation and enhancing the value of their work to the agency.
- Thank the PIs for their participation in the pre-peer exchange survey and the panel discussion during the peer exchange.
- Make the PIs aware of the new report writing requirements and the resources available to help them meet the requirements. (May not be applicable to PIs that have already substantially completed their reports.)
- Make the PIs aware of the new content requirements for the research results presentation.
- Make the PIs aware of potential additional deliverables (with additional compensation) that may be requested from them to support implementation.
- Emphasize the agency's renewed focus on implementation throughout the project life cycle.

##### Potential Formats:

- Short email summary of the peer exchange successes, outcomes, and expected changes to come. Emphasize the goals of improving the use of research results and improving collaboration and communication with them. Thank them for completing the pre-peer exchange survey and participating in the panel discussion at the peer exchange.
- New report writing requirements document (emailed and posted on website). Invite participation in a webinar to review the changes and answer questions.

- Webinar meeting with PIs to review the report writing requirements and answer questions.
- Email/phone call/panel meeting with PIs preparing for their final presentations to review the new results presentation requirements.
- Email/phone call/panel meeting with PIs to discuss potential additional deliverables that will be requested to support implementation. Ask for their ideas and discuss potential additional costs.

**Audience: Investigators on Future ODOT Projects**

Message/Purpose:

- Make the PIs aware of the report writing requirements and the resources available to help them meet the requirements.
- Make the PIs aware of the requirement to submit deliverables by task.
- Make the PIs aware of the content requirements for the research results presentation.
- Make the PIs aware of potential additional deliverables (with additional compensation) that may be requested to support implementation.
- Emphasize the renewed focus on implementation throughout the project life cycle.

Potential Formats:

- Updated RFP template to include the new outcome-based structure and expectations for deliverables by tasks. PIs would see the new template applied to RFPs that get posted.
- Updated *Proposal Submission Guidelines*, which will communicate new expectations for submitting deliverables by task, revised expectations for the research results presentation, the requirement to consider potential companion deliverables to support implementation, and the requirement to include a final report quality assurance plan in proposals (posted on website).
- New report writing requirements document (emailed and posted on website).
- Project kickoff meeting to ensure both panel members and the PI understand their roles and the specific requirements of the project at hand. Review the report writing requirements, expectations for the research results presentation, expectations for deliverables by task, and potential companion deliverables to support implementation.
- Email/phone call/panel meeting with PIs when they are close to wrapping up their projects to review the results presentation requirements.
- Email/phone call/panel meeting with PIs toward the project end to again discuss potential additional deliverables that will be requested to support implementation. Ask for their ideas and discuss potential additional costs.

**Audience: Executive Leadership and ODOT Standing Committee on Research**

Messages/Purpose:

- TBD

Format:

- TBD

## **Next Steps At A Glance**

### **Short-Term Steps (Actions and Communications) for Current Projects**

1. Email TLs and PIs separately regarding peer exchange successes, outcomes, and changes to come.
2. Develop new report writing requirements.
3. Develop a strategy for considering a range of potential companion deliverables to support implementation. Decide if companion deliverables would be a possibility for any of the projects in progress.
4. Develop a standalone guide for TLs regarding their roles and responsibilities, and the tools that will help improve usability of research findings.
5. Schedule a face-to-face meeting with TLs to invite feedback on the new report requirements and the TL guide. Inform them of the research program's plan for communicating changes with the PIs and how they can help.
6. Finalize the report writing requirements and the TL guide; post online.
7. Distribute the report writing requirements and the revised guidance on research results presentations to current PIs. Invite participation in a webinar to ask questions.
8. Hold a webinar with current PIs regarding the new report and final presentation requirements.
9. Develop and implement a strategy for recognizing the role of TLs on research projects.

### **Mid-Term Steps (Actions and Communications) for Future Projects**

10. Update the RFP template to include the new outcome-based structure and expectations for deliverables by tasks. Ask TLs to use the new template when developing RFPs.
11. Update the *Proposal Submission Guidelines*. Share with TLs during orientation and post online for use by proposers.
12. Hold a face-to-face orientation meeting with new TLs every year before new projects get underway.
13. At the project kickoff meetings, discuss the roles of both TLs and PIs; the range of new deliverables requirements (by task, quality final report, companion products); and expectations for the research results presentation.
14. Check in with PIs and TLs again when the project is nearing completion to discuss potential companion deliverables to support implementation.

### **Long-Term Step for Future Projects**

15. Consider tying payments for work to submission of deliverables by task.

## Appendix D: Resources

### Fostering Usability of Research Reports UDOT's Experiences, Practices, & Examples June 2015

#### Tools that help:

- Research Problem Statements (ranked based on importance and implementation potential)
- [Research Project Management Worksheet](#) (project planning)
- [Guidelines for Preparing UDOT Research Reports](#)
- [Template for UDOT Research Reports](#) (demonstrates the guidelines)
- [Final Report Process Flow Chart](#)

#### Other helpful practices (accessibility):

- Post research reports on our website and TRID, etc.
- Include project articles in our quarterly newsletter
- Announce completed UDOT research reports via email to the Research listserv
- Encourage researchers to give presentations and/or posters at the UDOT Annual Conference or in end-of-project library sessions
- Periodically send a list of recent UDOT and TRB/NCHRP research publications via email to everyone in UDOT along with links to the online, electronic versions

#### Challenges to usability:

- Unclear objectives, primary users and needs, and implementation plan
- Champions sometimes change position or priorities
- Long, detailed reports
- Delayed project schedule and reports
- Infrequent communication with researchers and champions

#### Example reports:

- [MEPDG implementation in Utah](#) ([user's guide](#) and implementation plan)
- [Effectiveness of wildlife crossings in Utah](#) (practical recommendations and visual format)