



Office of
Materials & Research

South Carolina
Department of Transportation

Research Peer Exchange

October 14-16, 2014
Clemson University
Clemson, SC



Report Prepared by:
South Carolina Transportation Technology Transfer Service



Executive Summary

The South Carolina Department of Transportation (SCDOT) hosted a peer exchange of its research program October 14-16, 2014. The peer exchange was held on the Clemson University campus in Clemson, SC. The peer exchange team included representatives from the Mississippi, New Hampshire, West Virginia, and South Carolina DOTs, as well as a representative from the Federal Highway Administration (FHWA). Personnel from the SC Transportation Technology Transfer Service (T³S) also attended.

The SCDOT selected the following focus areas for the peer exchange:

- 1. Monitoring Project Process**
- 2. Final Report Requirements**
- 3. Tracking Implementation and Determining Cost Benefit**

The discussions during the peer exchange identified both strengths of the SCDOT research program as well as possible opportunities for improving the program.

Some of the identified strengths include (not in prioritized order):

- ❑ Strong presence in SCDOT, especially support from upper management
- ❑ Strong, organized, and detailed selection process that includes input from all customers to ensure topics are identified and projects approved with the highest potential for benefit to SCDOT
- ❑ Requiring a one page summary for all projects highlighting the primary details of the research and obtaining posters for selected projects
- ❑ Strong project oversight committees which include representation from all areas affected by the topic as well as the champion as chair person
- ❑ Implementation is emphasized throughout the life of each project by requiring an implementation section in problem statements, proposals, and final reports
- ❑ Good relationship with FHWA that includes strong participation in oversight of the research program as well as on individual projects
- ❑ Practice of meeting with project oversight committee/chair person after the project is completed to follow-up on implementation

Improvement opportunities include (not in prioritized order):

- ❑ Explore level of involvement of outside participants on Steering and Implementation Committees. Consider allowing only SCDOT and FHWA representatives on Steering and Implementation Committees with others involved in an advisory capacity
- ❑ Simplify quarterly progress report form to better address activities conducted during the period
- ❑ Establish final report guidelines to provide uniformity in reports and to aid in ensuring findings are presented in a precise manner
- ❑ Explore options for obtaining a technical writer to aid in editorial review of research documents (including final reports), and to assist in preparing correspondence and other items related to the research program
- ❑ Enhance existing Access database to include ability to attach project documents and provide additional fields as needed
- ❑ Explore use of master agreement with universities

A research peer exchange is a focused event that requires extensive preparation not only by the host State, but also by the participating team members. The SCDOT is very grateful to the peer exchange team for their time and efforts in this endeavor and for the professionalism exhibited throughout the process. The information gathered during this peer exchange will greatly enhance the operations of the SCDOT research program.

Research Peer Exchange

Hosted by the
South Carolina Department of Transportation
October 14-16, 2014

Introduction

The SCDOT hosted a peer exchange of its research program October 14-16, 2014. The peer exchange was held on the Clemson University campus in Clemson, SC.

The members of the peer exchange team were:

- ❑ Ann Scholz, New Hampshire DOT
- ❑ Cindy Smith, Mississippi DOT
- ❑ Donny Williams, West Virginia DOT
- ❑ Jim Garling, FHWA
- ❑ Mike Sanders, SCDOT
- ❑ Terry Swygert, SCDOT
- ❑ Todd Steagall, SCDOT
- ❑ Merrill Zwanka, SCDOT

Others who participated in the peer exchange included:

- ❑ Jim Burati, South Carolina T³S
- ❑ Erin McChristian, South Carolina T³S
- ❑ Shaun Gaines, South Carolina T³S
- ❑ CJ Bolding, South Carolina T³S

Contact information for the peer exchange participants is included in Attachment 1.



Peer Exchange Participants (L to R): Jim Burati, Mike Sanders, Cindy Smith, Ann Scholz, Jim Garling, Donny Williams, Merrill Zwanka, Todd Steagall, Terry Swygert

Focus Areas

The focus areas that the SCDOT selected for the peer exchange were:

1. Monitoring Project Process
2. Final Report Requirements
3. Tracking Implementation and Determining Cost Benefit

1. Monitoring Project Process

SCDOT would like to know how other states monitor projects, including but not limited to:

- ❑ Who oversees individual projects (Champion, Committee, etc.)?
- ❑ Meetings?
- ❑ Progress reports?
- ❑ Invoicing?
- ❑ Software used for managing project progress (Access, Excel, etc.)?

2. Final Report Requirements

SCDOT would like to know the final report requirements of other states, including but not limited to:

- ❑ Do you have a template/guidelines?
- ❑ What is your review process?
- ❑ How do you handle distribution?

3. Tracking Implementation and Determining Cost Benefit

SCDOT would like to know how other states track implementation and determine cost benefit:

- ❑ Do you track implementation; and if so, how?
- ❑ Do you determine cost benefit; and if so, how?



Hard at Work: The team discussing opportunities for improvement.

Peer Exchange Format and Activities

To prepare for the peer exchange, the team reviewed documentation describing the SCDOT's research procedures and program. In addition to the printed documentation, SCDOT research personnel presented a 30-minute overview of the SCDOT's organizational structure, research budget, and the research management process. Each member of the peer exchange team also made short presentations of his/her agency's research program. During the peer exchange, the team discussed South Carolina's procedures, as well as those used in the other team members' respective agencies. The agenda for the peer exchange is shown in Attachment 2.

A general format for the peer exchange was agreed upon at the beginning of the meeting. It was decided that each of the three SCDOT focus areas would be addressed using the following procedure:

- ❑ SCDOT presented its interests, concerns and expectations regarding the focus area
- ❑ Each member of the peer exchange team then described how the focus area is addressed in their agency and provided any additional comments that they felt were appropriate to the topic
- ❑ A brainstorming process was then used to identify both existing strengths of the SCDOT program as well as potential opportunities for improving the SCDOT program
- ❑ Each team member then identified items that they will take home for consideration in their own agency
- ❑ The items identified in the previous steps were then reviewed and discussion on the focus area was concluded

At the last session, the peer exchange team reviewed a draft of the peer exchange report. The team discussed the draft report and made suggestions for additions and modifications. The final report was then prepared for distribution.

The findings of the peer exchange regarding current SCDOT strengths as well as potential opportunities for improvement are presented for each of the focus areas in the following sections. These findings will be presented to the SCDOT Research and Development Executive Committee (RDEC).

Summary of Peer Exchange Findings

Focus Area 1. Monitoring Project Process

Current Strengths:

- ❑ Strong presence in SCDOT, especially support from upper management
- ❑ Strong monitoring process in place
- ❑ Strong, organized, and detailed selection process that includes input from all customers to ensure topics are identified and projects approved with the highest potential for benefit to SCDOT
- ❑ Policy of withholding 10% of contract amount until deliverables are received provides a good bargaining tool
- ❑ Research staff has a large amount of experience
- ❑ Access database serves its purpose and generates good reports
- ❑ Good relationship with FHWA that includes strong participation in oversight of the research program as well as on individual projects

Improvement Opportunities:

- ❑ Explore level of involvement of outside participants on Steering and Implementation Committees. Consider allowing only SCDOT and FHWA representatives on Steering and Implementation Committees with others involved in an advisory capacity
- ❑ Consider outside influences on time frame when developing contracts
- ❑ Better define/document steering committee's role in decision making
- ❑ Simplify quarterly progress report form to better address activities conducted during the period
- ❑ Explore use of master agreement with universities

Focus Area 2. Final Report Requirements

Current Strengths:

- ❑ Requiring a one page summary for all projects highlighting the primary details of the research and obtaining posters for selected projects
- ❑ Good relationship with technical champions
- ❑ FHWA in-depth review of research reports

Improvement Opportunities

- ❑ Establish final report guidelines to provide uniformity in reports and to aid in ensuring findings are presented in a precise manner
- ❑ Explore reducing number of printed copies
- ❑ Explore options for obtaining a technical writer to aid in editorial review of research documents (including final reports), and to assist in preparing correspondence and other items related to the research program

Focus Area 3. Tracking Implementation and Determining Cost Benefit

Current Strengths

- ❑ Having “implementation” in oversight committee’s name
- ❑ Strong project oversight committees which include representation from all areas affected by the topic as well as the champion as chair person
- ❑ Implementation is emphasized throughout the life of each project by requiring an implementation section in problem statements, proposals, and final reports
- ❑ Upper management support for implementation
- ❑ Practice of meeting with project oversight committee/chair person after the project is completed to follow-up on implementation

Improvement Opportunities

- ❑ Enhance existing Access database to include ability to attach project documents and provide additional fields as needed
- ❑ Identify implementation efforts from past research not formerly documented
- ❑ Consider conducting presentations on implementation to upper management as appropriate
- ❑ Continue to track implementation whether or not cost benefit can be determined
- ❑ Identify “wow” factors, e.g. where changes have been based on research (before vs after)
- ❑ Follow-up on cost/benefit study proposed by the Southeast Transportation Consortium (STC)

Observations and Planned Actions to Take Home

In the following sections, each of the peer exchange team members present some general observations and list actions that they may try to implement in their home agencies.



Ann Scholz

New Hampshire Department of Transportation

Observations

This being my first experience participating in a Peer Exchange does not provide me with any comparison; however, I'm grateful that SCDOT accepted me as a substitute and offered me this opportunity to listen, share, and learn. The activities were all very well organized. It was very helpful to begin the program hearing about not only SCDOT's program but also the other invited participants (West Virginia and Mississippi DOT). Despite the torrential rain and tornado warning, we managed to get much accomplished from beginning to end. The venue and meals were excellent, and getting familiar with the additional SCDOT, FHWA, T³S staff, and those representing West Virginia and Mississippi throughout the program as well as during socializing was beneficial.

SCDOT has much strength in their program and it is impressive to hear about their project topic submittal process and involvement from the Department. The Research logo and website is amazing in comparison to most DOT research sections. It became apparent that, despite the difference in our programs, we do all struggle with similar items (e.g., implementation). I'm much appreciative of the topic and look forward to moving ahead on the ideas shared.

Planned Actions to Take Home

Monitoring Project Process:

- ❑ Expand our solicitation process for research topics to other state agencies, proprietary industries
- ❑ Get the department as a whole engaged with submitting research topics (Lunch and Learn)
- ❑ Take more advantage of Microsoft Access to link invoices, reports, data and develop annual report
- ❑ Format a reporting form for PI's to submit with invoices (we use deliverable for tasks but sometimes it's a memo or excel spreadsheet) - this could use improvement
- ❑ Implement a PI evaluation at end of project

Final Report Requirements:

- ❑ Look into making fact sheet, eye on research pamphlet (WV example)
- ❑ For project topic determine if we need calendar for report submittal, presently we do not have a written policy of when reports are due and our turn around period
- ❑ Hire or search for technical writer within department
- ❑ Expand section on report requirements provided in our manual

Tracking Implementation and Determining Cost Benefit:

- ❑ Develop an implementation worksheet to be completed by the technical advisory group (including PI and champion)
- ❑ Generate a data field in Access with simple pull-down selection for implementation status
- ❑ Investigate cost/benefit tracking opportunities for research (NETC or NCHRP problem statement)
- ❑ Pre and post condition survey of the research topic if implemented, perhaps a 6-12 month follow up



Donny Williams

West Virginia Department of Transportation

Observations

The chance to participate in South Carolina's peer exchange has been a great opportunity. The process is designed to address particular areas of their program, but the program in West Virginia benefited tremendously. The South Carolina LTAP's organization and director of the exchange was very professional. They kept on task and moved the meeting along per the agenda, which was well designed and paced. Many take-aways were developed and it was interesting to learn the common areas of issues. The program is very mature and well lead.

Planned Actions to Take Home

Monitoring Project Process:

- ❑ Develop an outline for systematic progress report
- ❑ Work on buy-in of upper management
- ❑ Define roles of non-state involvement
 - Proprietary items
 - Industry
 - Other

Final Report Requirements:

- ❑ Posters may be a good way to promote research
- ❑ Send copies to State Library Commission
- ❑ Look into videos (YouTube)

Tracking Implementation and Determining Cost Benefit:

- ❑ Section on implementation in problem statement
- ❑ Everybody struggles with benefit/cost
- ❑ Have an implementation committee
- ❑ Add implementation section to manual
- ❑ Add implementation section to final report/process



Cindy Smith

Mississippi Department of Transportation

Observations

Thanks to South Carolina DOT for inviting me to participate in their 2014 Research Peer Exchange. SCDOT's research program is effectively managed by dedicated, talented, and motivated staff. Their creativity and drive ensure that funds are well-spent on projects that move SCDOT forward. In all focus areas SCDOT's program is well-supported by FHWA, DOT staff and upper management. Their selection process is very thorough and involves many stakeholders. Recommendations by the group included streamlining and fine-tuning of progress reports, final report guidelines, and implementation tracking. I will bring home some action items to improve Mississippi DOT's research program. Overall SCDOT has an excellent program, and the peer exchange process flowed effortlessly. Thanks also to the LTAP Center for administering the exchange and ensuring everyone's needs were met.

Planned Actions to Take Home

Monitoring Project Process:

- ❑ Better monitoring needs to be done on research projects by Research TAC Chairs
- ❑ We would like to continue to improve our communication about research within MDOT

Final Report Requirements:

- ❑ Add guidelines about data integrity and artwork to Final Report Guidelines for MDOT
- ❑ Do one-page summaries; distribute and put online
- ❑ Possibly require posters for projects
- ❑ More in-depth review of final reports by Research Division

Tracking Implementation and Determining Cost Benefit:

- ❑ Need better follow-up with champions on implementation status
- ❑ Continue work on implementation database
- ❑ Consider a follow-up TAC meeting after the project ends
- ❑ Highlight successful implementations in annual meeting



Jim Garling
Federal Highway Administration

Observations

The LTAP/T³S staff organized another outstanding Research Peer Exchange. The facilities and meals were again excellent. The participants from New Hampshire, Mississippi, and West “By God” Virginia exchanged great thoughts and ideas through the many discussions. I am sure that the information presented here will give SCDOT Research many ideas and opportunities to inject into their program. The LTAP staff provided a warm and inviting atmosphere that enhanced the flow of ideas.

Planned Actions to Take Home

- ❑ Reduce the number of final research project reports to FHWA (Going Greener)
- ❑ SCDOT should adopt “eye on the research” one-page handouts in electronic (PDF’s) and print versions for executives
- ❑ Should FHWA be “voting members” or just technical experts?
- ❑ Promote SCDOT’s research efforts – flyers, handouts – similar to West Virginia
- ❑ Track the status of the implementation of recently completed research projects



Merrill Zwanka
South Carolina Department of Transportation
Host State

Observations

This has been a very informative meeting. The observations from those states with other, unique programs provided an excellent perspective on where we are with ours. It appears that our program is in good shape and with the implementation of the ideas presented here can be in excellent shape.

Planned Actions to Take Home

- ❑ Simplify the quarterly progress reports to make them more useful
- ❑ Revise the research manual to address steering committee membership
- ❑ Add additional emphasis on implementation tracking once the projects are completed



Todd Steagall
South Carolina Department of Transportation
Host State

Observations

The 2014 SCDOT Research Peer Exchange was my first such event as Director of Construction. One of my main goals was to further educate myself on the SCDOT Research Program as well as learn about other states' research practices.

Through the discussions, I was reassured that the SCDOT program is very healthy and well managed. However, there is always room for improvement. This peer exchange format is a great way to reveal weaknesses and gain ideas.

T³S does a great job of organizing and managing the event. This was a highly beneficial meeting.





Mike Sanders and Terry Swygert
South Carolina Department of Transportation
Host State

Observations

We would like to thank all the participants from the other states for their time and efforts in making this a very successful Peer Exchange. The observations and suggestions made during discussions of the focus points will help us improve the quality of our program.

We would also like to thank the other representatives from SCDOT and South Carolina's FHWA representative. Having support from these individuals is vital to the program and greatly appreciated.

The T3 Service at Clemson should also be commended for once again doing an excellent job of facilitating this meeting.

Planned Actions to Take Home

Monitoring Project Process:

- ❑ Develop a principal investigator (PI) evaluation form
- ❑ Modify current progress report form to more accurately describe activities for the quarter
- ❑ Look into upgrading current database to include PDF copies of project documents
- ❑ Examine project time extension (justifiable vs non-justifiable)
- ❑ Examine role of outside participants on Steering and Implementation Committees and document any changes in the Research Manual

Final Report Requirements:

- ❑ Develop guidelines for final reports
- ❑ Reduce the number of printed copies required for final reports, summaries, and other documents
- ❑ Look into the possibility of utilizing a technical writer (LTAP)

Tracking Implementation and Determining Cost Benefit:

- ❑ Include implementation information in research project database
- ❑ Determine benefit/cost when possible, track implementation on all other projects
- ❑ Follow-up on benefit/cost project suggested by Southeast Transportation Consortium (STC)

Attachment 1: Participant List

Peer Exchange Team

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Attachment 2: Agenda

SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION RESEARCH PEER EXCHANGE OCTOBER 14-16, 2014 AGENDA

Tuesday, October 14th

2:00 – 2:15	Welcome and Introductions	Merrill Zwanka Todd Steagall
2:15 – 2:30	Focus Points, Goals, Expectations, & Game Plan	Jim Burati
2:30 – 3:00	South Carolina Research Program Overview	Terry Swygert Mike Sanders
3:00 – 4:00	Brief Overview of Participants' Organizations Mississippi New Hampshire West Virginia	Cindy Smith Ann Scholz Donny Williams
4:00 – 4:30	Wrap-up and Announcements Group Dinner	Jim Burati

Wednesday, October 15

8:30 – 10:00	Focus Point 1: Monitoring Project Process	Jim Burati Team
10:00 – 10:30	Break	
10:30 – 11:15	Focus Point 1: Monitoring Project Process (cont.)	Jim Burati Team
11:15 – 11:45	Report Preparation	Team
11:45 – 1:00	Lunch	
1:00 – 2:00	Focus Point 2: Final Report Requirements	Jim Burati Team
2:00 – 2:30	Report Preparation	Team
2:30 – 3:00	Break	
3:00 – 4:00	Focus Point 3: Track Implementation and Determining Cost Benefit	Jim Burati Team
4:00 – 4:30	Report Preparation	Team
4:30 – 5:00	Wrap-up and Announcements Group Dinner	Jim Burati

Thursday, October 16

8:30 – 10:00	Review and Comment on the Draft Peer Exchange Report	Team
10:00 – 10:15	Break	
10:15 – 10:45	Travel Expenses, Other Admin Activities	Erin McChristian Jim Burati
10:45 – 11:00	Closing Remarks	Merrill Zwanka

