



South Carolina
Department of Transportation

Research Peer Exchange



October 17-19, 2006
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 17-19, 2006. The peer exchange was held on the Clemson University campus in Clemson, SC. The peer exchange team included representatives from the Alabama, Mississippi, New Hampshire and Wyoming DOTs, as well as a representative from the Federal Highway Administration (FHWA). Other personnel from the SCDOT and the SC Transportation Technology Transfer Service (T³S) also attended.

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

1. Guidelines to Assist with Project Development.
2. Marketing.
3. Performance Measures for Program and Projects.
4. Implementation.

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:

- ❑ The SCDOT research workshop.
- ❑ The use of research Steering and Implementation Committees.
- ❑ The one-page summary that is required with research reports.
- ❑ A good relationship with the FHWA SC Division.
- ❑ Utilization of T³S to assist with workshops, newsletter, web site, and final reports.
- ❑ The research web site with project summaries and final reports.
- ❑ The fact that the project Steering and Implementation Committee is focused on implementation throughout the life of the project.

The greatest opportunity for improvement in each of the focus areas include:

- ❑ *Project Development*: develop SCDOT guidelines for proposal development and selection, and for final report preparation.
- ❑ *Marketing*: develop of a Research Unit logo to establish a brand identity for SCDOT research and implementation, and improve access to the SCDOT Research web site.
- ❑ *Performance Measures for Program and Projects*: develop an end user survey to measure performance of research projects.
- ❑ *Implementation*: require an implementation plan in all research proposals.

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 17-19, 2006

Introduction



The SCDOT hosted a peer exchange of its research program October 17-19, 2006. The peer exchange was held on the Clemson University campus in Clemson, SC.

The members of the peer exchange team were:

- ❑ Jeff Brown, Alabama DOT.
- ❑ Randy Battey, Mississippi DOT (Team Leader).
- ❑ Glenn Roberts, New Hampshire DOT
- ❑ Michael Patritch, Wyoming DOT.
- ❑ David Law, FHWA.
- ❑ Mike Sanders, SCDOT.

Others who participated in the peer exchange included:

- ❑ Milt Fletcher, SCDOT.
- ❑ Danny Shealy, SCDOT.
- ❑ Terry Swygert, SCDOT.
- ❑ Jim Burati, South Carolina T³S.
- ❑ Sandi Priddy, South Carolina T³S.

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



Peer Exchange Participants. Front Row, left to right: Jeff Brown, Glenn Roberts, Randy Battey, Michael Patritch. Back Row, left to right: Milt Fletcher, David Law, Terry Swygert, Danny Shealy, Mike Sanders.

Focus Areas



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

1. Guidelines to Assist with Project Development.
2. Marketing.
3. Performance Measures for Program and Projects.
4. Implementation.

1. Guidelines to Assist with Project Development

SCDOT would like to know how other states deal with:

- ❑ Guidelines and requirements for problem statements and proposals.
- ❑ Selection criteria for principal investigators (PIs).
- ❑ Guidelines for formatting final reports.
- ❑ Review and editing of final reports.
- ❑ Policy for paying and tracking payments for tuition on research projects.

2. Marketing

The SCDOT would like input regarding the best way to market its research program both externally and internally.

3. Performance Measures for Program and Projects

SCDOT is interested in suggestions regarding:

- Procedures to evaluate the research performed on projects as well as the overall performance of the research program.
- What to evaluate or rate with respect to project and program performance.

4. Implementation

SCDOT would like to know:

- How states track the implementation of research project results.
- How states fund implementation efforts.

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 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 four 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 his agency and provided any additional comments that he 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 he will take home for consideration in his 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).

Hard at Work:

Michael Pritch, Mike Sanders, and Jeff Brown (left to right) prepare their final report sections.



Focus Area 1. Guidelines to Assist with Project Development

Current Strengths:

- ❑ The SCDOT Research Workshop, which is an effective mechanism for encouraging problem statement submission.
- ❑ The SCDOT survey evaluation form, which is an effective way to measure performance.
- ❑ Including midlevel managers in problem statement development and throughout the project.
- ❑ Including private industry associations and academia in the Research Workshop, which ensures a better understanding and awareness of potential research topics.
- ❑ The voting process used to prioritize topics.
- ❑ Basing payment of invoices on receipt of quarterly reports.
- ❑ The one page summary required to be submitted with the final project report.
- ❑ Formalized problem statement form that is used to request proposals.
- ❑ Requiring signatures of Department Heads and identifying a champion on problem statements in advance for proposed research projects.
- ❑ The formal review of research problem statements by the steering and implementation committee before proposals are solicited.
- ❑ Allowing potential PIs to meet with the steering and implementation committee prior to proposal preparation.

Improvement Opportunities:

- ❑ Develop a SCDOT format for proposal guidelines.
- ❑ Develop some sort of weighted scoring criteria for selecting proposals.

Focus Area 2. Marketing

Current Strengths:

- ❑ One page summary required with the final report.
- ❑ Maintaining a research web site with both summary and final report files for download.
- ❑ Meeting with Directors before hand to obtain input prior to the research workshop.
- ❑ Large steering and implementation committees that can market the research program internally.
- ❑ Spotlighting of successful projects in RD&T newsletter.

- ❑ Utilization of T³S to assist with workshops, newsletter preparation, web site maintenance and annual research reports.
- ❑ A good relationship with the FHWA division office.
- ❑ Having all stakeholders involved during early phases of project development.

Improvement Opportunities

- ❑ Improve access to the Research Unit web site.
- ❑ Cultivate a relationship with the SCDOT Public Information Office.
- ❑ Develop public service announcements that highlight research projects.
- ❑ Display research successes at the annual state highway conference, American Council of Engineering Companies (ACEC), RDEC, and other meetings.
- ❑ Develop a logo for the Research Unit.
- ❑ Continue making visits to headquarters and districts to promote the research program.

Focus Area 3. Performance Measures for Program and Projects

Current Strengths

- ❑ The PI and steering committee survey form that is currently being used.
- ❑ The fact that the research unit is sufficiently progressive to recognize the need for formal performance measures.
- ❑ The staff has invested time to try to identify performance measures that would be valuable to the program.
- ❑ The research unit has been able to show anecdotal evidence of success in newsletters, etc.
- ❑ Providing a survey to RDEC asking them what the research unit should be doing, and then modifying the research program based on the responses received.

Improvement Opportunities

- ❑ Develop an end user survey to assess the research program.
- ❑ Try to tie performance measures to the SCDOT strategic plan.
- ❑ Tie the annual research report to the SCDOT strategic plan.
- ❑ Investigate ways to identify and document the benefits of the research workshop.
- ❑ Highlight successful projects to show that the research program is effective.
- ❑ Profile research projects in publications to demonstrate the value of the research program.

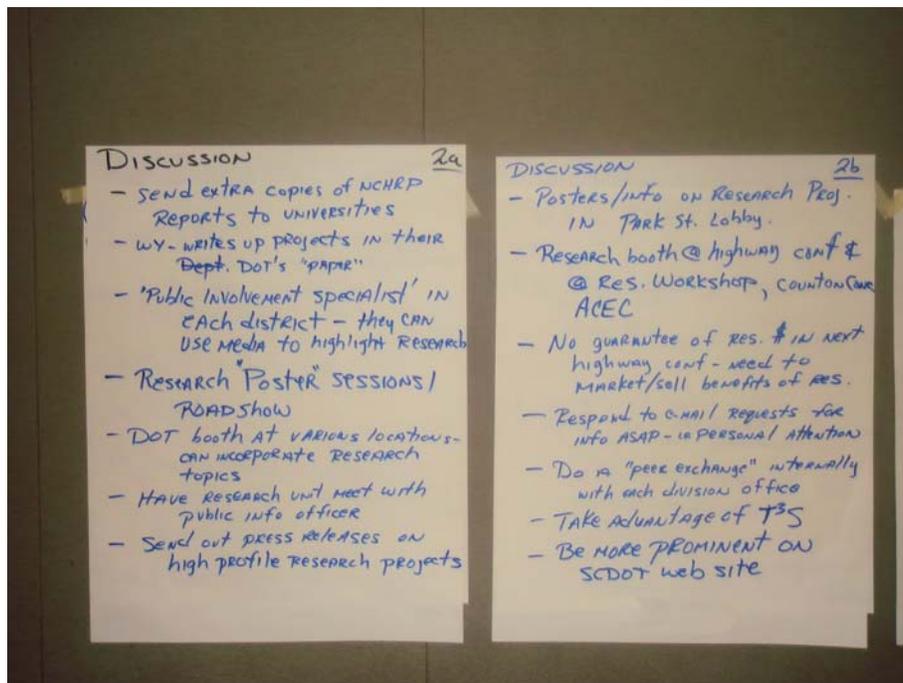
Focus Area 4. Implementation

Current Strengths

- ❑ Upper management is interested in implementation of research findings.
- ❑ The project steering and implementation committee is focused on implementation throughout the life of the project.
- ❑ Post project steering committee meetings held 6-10 weeks after project completion.
- ❑ Having an FHWA member on the steering and implementation committee, which assists in implementation when necessary.
- ❑ Utilizing T³S to assist with implementation on various research activities.

Improvement Opportunities

- ❑ Include a line item for implementation and for technology transfer in the research program budget.
- ❑ Require implementation plans in research proposals.
- ❑ Include training costs in the project budget as appropriate.



Notes, Notes, Notes

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.



Jeff Brown

Alabama Department of Transportation

Observations

I would like to thank the South Carolina Research Unit for inviting me to participate in their 2006 Peer Exchange. I found the Research Unit to have a very well organized research program. The Research Unit should be highly commended for the excellent work that they are performing and the products that they are producing. The universities performing research for them are producing superior products in research. I found that the Research Unit works hand in hand with FHWA, and for this, again, they should be commended. I gained very valuable information from the South Carolina Research Unit to take back to incorporate in the ALDOT Research Program. Also, information from other states also proved to be beneficial. I would like to thank the Research Unit and T³S for their hospitality shown during my visit. T³S did an excellent job of facilitating the meeting.

Planned Actions to Take Home

Guidelines to assist with project development:

- ❑ Conduct a research workshop.
- ❑ Pay only 90% of the contract amount until the project is complete.
- ❑ Develop evaluation forms for PIs and the Research Unit.
- ❑ Include mid-level managers in the project development process.
- ❑ Establish a voting process for selecting projects.
- ❑ Include private industry and associations in the project identification process.
- ❑ Require the PI to complete a one page summary with the final report.
- ❑ Develop a research poster showcase.

Marketing:

- ❑ Use a research unit newsletter to market the research program.
- ❑ Visit districts to promote the research program.
- ❑ Use the research project summary as a marketing instrument.

- ❑ Use a program such as T³S.
- ❑ Work with a Public Involvement Specialist (if possible).
- ❑ Prepare articles for the Department newsletter.
- ❑ Visit city offices to promote research.
- ❑ Develop and require a uniform cover on final reports.
- ❑ Promote research via TV media.
- ❑ Cultivate a relationship with the Public Relations Office.

Performance Measures:

- ❑ Send out surveys for input on program and project performance.
- ❑ Use the number of projects where results were implemented as a potential measure.
- ❑ Conduct PI surveys for evaluation.
- ❑ Survey RAC to see if completed research accomplished what it should have.
- ❑ Develop an end user survey form for department heads.
- ❑ Ask the steering committee if they believe that a project was successful.

Implementation:

- ❑ Submit papers to TRB based on research project results.



Observations

First of all, I would like to thank the SCDOT for the opportunity to participate in the peer exchange. Not only does the host state benefit from this event, but each participant is able to identify successful practices by their peers for implementation within their own programs. This exchange certainly has provided me with many ideas I want to try back at MDOT. Additionally, T³S at Clemson did an outstanding job in hosting this event. SCDOT is fortunate to have such a valuable resource to utilize.

SCDOT has an outstanding research program that is providing a quality product to their customers. Activities such as the research workshop, formalized steering committee reviews, and the evaluation of PIs are excellent tools. The steering and implementation committee and research staff ensure that successful research projects are developed. Implementation efforts are enhanced through the project steering and implementation committee. The SCDOT Research Unit does an excellent job marketing itself through activities such as articles in the RD&T newsletter.

Once again, I thank you for the opportunity to share good practices in transportation research management.

Planned Actions to Take Home

- ❑ Examine NCHRP & FHWA guidelines for proposals and develop a similar document applicable to MDOT.
- ❑ Examine the New England Transportation Consortium (NETC) formal process for research consultant selection for possible implementation at MDOT.
- ❑ Develop an evaluation form for PIs and departmental support.
- ❑ Explore the possibility of hosting the NHI course on Scientific Methods for Research for MDOT staff and researchers.
- ❑ Develop a standard cover for all MDOT sponsored research reports.
- ❑ Require PIs to submit a one page summary with their final research report.
- ❑ Send used reports (NCHRP, TRB) to universities rather than recycle them.
- ❑ Develop a “poster session” based on the New Hampshire model.
- ❑ Purchase “research” shirts for MDOT research staff.
- ❑ Examine the use of Adobe Contribute 4 software for web management.
- ❑ Promote completed research projects in newsletters.
- ❑ Develop “end-user” surveys.

- ❑ Require an “Implementation Plan” in the proposal.
- ❑ Add another District Engineer slot to RAC.
- ❑ Formally document implementation successes in newsletters and other presentations/publications.



Work, Work, Work: Randy Battey works during the ice cream break.



Glenn Roberts
New Hampshire Department of Transportation

Observations

Thank you to the South Carolina DOT and Clemson University T³S (LTAP) center staff for their outstanding job of coordinating and facilitating this exchange.

The SCDOT Research office maintains an effective program of research, development and technology that is a model for small state DOTs. Through the peer exchange, a number of innovative and effective practices were discussed that can be applied in New Hampshire. I was impressed with the dedication shown by Research staff and their relationship with other units of the Department, as well as the Division office of FHWA and the Clemson University T³S center.

The format utilized during the exchange was efficient and allowed team members to share best practices in several focus areas of importance to SCDOT. During the three days, it became apparent that, despite subtle differences in program details, the five states participating in the exchange face similar challenges in the daily administration of their programs.

Planned Actions to Take Home

- ❑ Consider implementing a biennial workshop to brainstorm and prioritize research needs, similar to SCDOT.
- ❑ Re-evaluate the NHDOT research project suggestion form to more effectively manage submittals from non-DOT entities (e.g., earlier identification of Champion and Sponsor, submittal only from NHDOT personnel, etc.)
- ❑ Revise contract/proposal requirements to base payment of invoices on approved quarterly progress reports and limit amount paid to 90% (currently 95%) until acceptance of the final report.
- ❑ Revise contract/proposal requirements to include presentations and/or workshops by the PI at completion of most projects.
- ❑ Send NETC proposal rating form to other members of the peer exchange team.
- ❑ Review results from NCHRP Project 20-63 (performance measures) to assess applicability to NHDOT research program.
- ❑ Incorporate elements of the SC Peer Exchange (e.g., discussion format, use of facilitators, structured dialog based on focus areas, presentations, etc) into the next New Hampshire peer exchange.
- ❑ Consider an off-site location to maximize efficiency.



Observations

I would like to thank Mike Sanders and Terry Swygert for their invitation to SCDOT's peer exchange. Thanks especially to Sandi Priddy for her logistic coordination between the airport and meeting site. I could use an assistant for WYDOT's upcoming peer exchange.

It appears SCDOT has an excellent research program. The open communication between research partners and the FHWA is outstanding. Rarely do I see such close teamwork. The obvious result is exceptional research.

Although I have worked on WYDOT's peer exchanges, this is my first opportunity to participate on a committee. As such, I came to learn. To that end, I learned more I think, than I was able to contribute.

I am constantly and consistently amazed by the peer exchanges members' willingness to share their successes and challenges in a very open and honest manner. The networking afforded by the peer exchange is priceless.

Planned Actions to Take Home

- ❑ Have the PI complete the technical documentation page.
- ❑ Require the PI to submit a one page summary for marketing along with the final report. Add this requirement to contracts and MOU's.
- ❑ Base payment of invoices on receipt of the quarterly report.
- ❑ Send the one page summaries of final reports to district offices and resident engineers.
- ❑ Redouble efforts to make research reports available electronically.
- ❑ Investigate other methods for marketing completed research.
- ❑ Add technology transfer to project budgets as necessary.

Observations

I thought this peer exchange was very effective. I was impressed by the ideas generated during the discussion, especially in the area of marketing. While the SCDOT does an outstanding job of administering their research projects, I am confident the ideas presented here will result in an improved process.

Planned Actions to Take Home

- ❑ Develop a line item for implementation in the annual SPR work program.
- ❑ Develop a formal form to be used in evaluating Requests for Proposals (RFPs).
- ❑ Develop a research program presence at various events, such as Highway Engineers Conference, RDEC meetings (posters in lobby, etc).
- ❑ Develop a logo to increase recognition of the research program.
- ❑ Track status of the implementation of recently completed research projects.



Almost Done: Sandi Priddy, T³S Program Manager, works on notes for the final report.



Observations

First of all, I would like to thank the participants from other states for their time and efforts in making this a very successful peer exchange. Focus points were identified in areas of concern to the Research Unit and presented to the peer exchange team. Members indicated that they were having similar problems addressing concerns in some of these areas.

The greatest opportunity may be in the area of marketing. The other participating states have some very innovative ways of promoting their research program/projects. In addition, several suggestions were provided that will improve our project development and reporting process.

The T³S Service at Clemson should also be commended for doing an excellent job of facilitating this event.

Planned Actions to Take Home

- ❑ Consider requiring the use of NCHRP or other guidelines for proposal and final report preparation.
- ❑ Develop criteria such as those used by New Hampshire for selecting PIs from among submitted proposals.
- ❑ Investigate use of SCDOT's Public Relations Unit to present findings or market research projects similar to Wyoming and New Hampshire.
- ❑ Improve web site access to the research web page.
- ❑ Develop a research unit logo.
- ❑ Increase the number of articles on research projects and the program for publication in the DOT's newspaper, The Connector, as well as national outlets such as Research Pays Off, etc.
- ❑ Conduct research visits to Headquarter Units and field offices as in the past to increase interest and to market the research program.
- ❑ Develop an end user survey to measure performance of research projects.
- ❑ Investigate quantifying/identifying benefits of the research workshop.
- ❑ Require an implementation plan in proposals.
- ❑ Assist with implementation on projects by providing "seed money" where applicable.
- ❑ Review all "improvement opportunities" identified by peer exchange participants for possible inclusion in the research program.

Attachment 1: Participant List

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Attachment 2: Agenda

Tuesday, October 17

3:00–3:20 PM	Welcome and Introductions	Jim Burati Milt Fletcher Danny Shealy
3:20–3:30	Focus points, Goals, Expectations & Game Plan	Mike Sanders Randy Battey
3:30–4:00	South Carolina Research Program Overview	Terry Swygert
4:00–5:15	Brief Overview of Participant's Organizations Alabama Mississippi New Hampshire Wyoming	Jeff Brown Randy Battey Glenn Roberts Michael Patritch
	<i>Group Dinner</i>	

Wednesday, October 18

8:30–9:15 AM	Focus Point 1: Guidelines to Assist with Project Development Mississippi New Hampshire Wyoming Alabama	Team
9:15–10:00	Report preparation	Jim Burati, <i>et al</i>
10:00–10:15	<i>Break</i>	
10:15–11:00	Focus Point 2: Marketing New Hampshire Wyoming Alabama Mississippi	Team
11:00–11:45	Report preparation	Jim Burati, <i>et al</i>
11:45–1:00	<i>Lunch</i>	

Wednesday, October 18

1:00–1:45	Focus Point 3: Performance Measures Wyoming Alabama Mississippi New Hampshire	Team
1:45–2:30	Report preparation	Jim Burati, <i>et al</i>
2:30–3:00	<i>Ice Cream Break</i>	
3:00–3:45	Focus Point 4: Implementation Alabama Mississippi New Hampshire Wyoming	Team
3:45–5:00	Report preparation	Jim Burati, <i>et al</i>
5:00–5:30	Campus Tour <i>Group Dinner</i>	Team

Thursday, October 19

8:30–9:30 AM	Review and Comment on the Draft Peer Exchange Report	Team
9:30–10:30	Travel Expenses, Other Administrative Activities	Sandi Priddy Jim Burati
10:30–11:00	Closing Remarks <i>Adjourn</i>	Milt Fletcher