

# FINAL REPORT



## RESEARCH PEER EXCHANGE

Arkansas State Highway and Transportation Department

Hot Springs, AR

August 13-16, 2012



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#### **Introduction**

The Arkansas State Highway and Transportation Department hosted a Peer Exchange of its research program on August 13-16, 2012. The regulation instituting peer reviews (now peer exchanges) became effective on August 22, 1994. The authorizing language for these exchanges can be found in the Title 23 Code of Federal Regulations Part 420, Subpart B – Research, Development and Technology Transfer Program Management (Section 420.207 – Conditions for grant approval). The regulations state that, as a condition for grant approval:

(b) Each State shall conduct a Peer Exchange of its RD&T program and should participate in the review of other States' programs on a periodic basis. To assist Peer Exchanges in completing a quality and performance effectiveness review, the State shall disclose to them information and documentation required to be collected and maintained under this subpart ... At least two members of the Peer Exchange team shall be selected from the FHWA list of qualified Peer Exchange team members. The Peer Exchange team shall provide a written report of its findings to the State. The State shall forward a copy of the report to the FHWA Division Administrator with a written response to the peer review findings.

The Peer Exchange is a process wherein a team composed of State and Federal Research managers is invited to discuss and review the host state's Research program. Information from both the Peer Exchange team and the host agency is exchanged with the intent of improving the Research process in the host state as well as the team members' states.

#### **Peer Exchange Team Members**

The Peer Exchange team was composed of the following members:

Dr. Joe Crabtree, Chair	Kentucky Transportation Center
Mr. David Jared	Georgia DOT
Mr. Mark Morvant	Louisiana DOTD
Dr. Stacy Williams	University of Arkansas, Fayetteville
Mr. Gary DalPorto	FHWA Representative
Ms. Elisha Wright-Kehner	AHTD

The AHTD Research Section participants were:

Ms. Karen McDaniels	Administrative Assistant II
Ms. Sarah Tamayo	Engineer IV
Mr. Davin Webb	Research Info Coordinator
Ms. Tynli Frierson	Research Study Engineer
Ms. Megan Ferguson	Research Assistant
Mr. Rick Stanley	Research Assistant

### **Peer Exchange Team General Observations**

The Team wishes to thank the Arkansas State Highway and Transportation Department (AHTD) for the opportunity to take part in this Peer Exchange. Items we wish to note as general observations are as follows:

- Problem identification process is consistent with general state of practice.
- AHTD Research has a strong, well-defined management process.
- Upper management process has good involvement in AHTD's Research.
- The coordinator and Principal Investigator (PI) relationship allows for a level of control within the project.
- Having its Local Technical Assistance Program (LTAP) in AHTD's Research is a positive and not the norm in most states.
- The engineering contracts, Engineering and Research Services (EARS), used for unforeseen research needs were found to be interesting and useful.
- The amount of Research's numerous projects outside of the Transportation Research Committee (TRC) process demonstrates the flexibility of the program.

### **Specific Focus Areas for the Peer Exchange**

- Implementation
- Communication with Users
- Methods to Increase Efficiency of Contract Work

### **Feedback and Team Member Topic**

Strengths:

- AHTD's Research team has developed a well-defined research program structure.
- Relationships have been built with Districts and Divisions to help meet the strategic needs of the Department.
- PI performances are monitored with monthly face-to-face visits.
- Overpayment and justifications of expenditures are reduced by including quarterly reports with claims.
- AHTD's Research team Implementation Coordinator demonstrates AHTD's commitment to implementation.
- Subcommittees are assigned with each project.

- AHTD's Research team has created master agreements for the EARS that allow a one-page task order.

Opportunities:

- Develop a procedure and criteria for cancelling significantly overdue TRC projects to free up funds to conduct new research.
- Utilize more electronic services in Research's library.
- Build in a 90-day review process for the final report in contract time.
- Consider creating an unforeseen research needs line item in the work program that is supported by State Planning and Research (SPR) funds.
- Considering developing an urgent need proposed research form.
- Utilize the present implementation processes to its fullest extent to justify program.
- Define a suspension procedure for projects where outside forces have delayed the project.
- Suggest involving external customers/experts in project subcommittees as non-voting members.

**Implementation**

Strengths:

- AHTD's Research team track projects for three years after completion of the project.
- Implementation Coordinator is a dedicated full-time position.
- Employ implementation status database and new tracking forms.
- The subcommittee stays active after a project has been completed to track and monitor implementation.
- Providing Professional Development Hours (PDHs) for the TRC meetings help with Department involvement.
- AHTD's Research team has a formal implementation committee.

Opportunities:

- Provide a yearly implementation report with projected and reported benefits to the Implementation Committee.
- Include an implementation assessment report at the beginning of the project.
- Add implementation items to TRC committee meeting.
- Consider alternative methods to gather feedback from users regarding implementation on projects.
- Revisit implementation report with subcommittee to (6 months after project ends) to ensure implementation is on track.

- Pay for travel after project is over for implementation (i.e., Transportation Research Board to present the findings).
- Develop and publish an implementation newsletter.
- Analyze the benefits of the State's participation from the last 10 years of the Department's involvement in Pooled Fund Studies.
- Develop other avenues to market the implementation.

### **Communication with Users**

#### Strengths:

- A newsletter is a good product and demonstrates the value of research.
- TRC meetings are well attended and are a great way to communicate.
  - Providing PDHs are good for attendance.
  - Poster sessions and presentations provide good information and publicity.
- Intranet and internet sites are a good place to provide information.

#### Opportunities:

- Consider sending out emails with publications to all users periodically.
- Increase the participation of external customers (i.e., MPOs, cities and counties).
- Continue to pursue Research Informer, tailoring it to meet needs of audience.
- Consider presenting the SASHTO scholarship at a TRC meeting.
- Consider having a larger conference once a year and including people outside of AHTD.
- Implement an electronic system for tracking research progress.
- Consider expanding state of practice presentations at TRC meetings.
- Consider distributing research publications to cities, contractors, consultants, counties, etc.
- Link AHTD's Research webpage to Everyday Count's (EDC) webpage.

### **Methods to Increase Efficiency of Contract Work**

#### Strengths:

- Advertise RFPs statewide, not only one university.
- Having monthly contacts with PIs, and having quarterly and annual reports is a good process.
- Retain 25% of project funds fosters accountability.
- AHTD sets a deadline for requests for time extensions; this seems like a good idea.
- AHTD has quarterly invoicing and quarterly progress reports making the process logical and efficient.

### Opportunities:

- Consider developing more guidelines on a phase work plan procedure.
- Develop performance measures for the research process.
- Include estimated price range in the RFP so that the PIs will have better guidance on the cost.
- Include a line item for PI travel within Research's Work Program to allow for the dissemination of research findings after project is completed.
- Include a comprehensive project summary when a final report exceeds 75 pages.
- Create and distribute a publication booklet on publishing and reviewing so all proposals and final reports all have the same format.
- Set up procedures on canceling projects that are not progressing in the direction the Subcommittee desires.
- Consider phasing projects to allow more projects to be funded in one year.
- Create an electronic travel reimbursement process.
- Louisiana requires an interim report for each project at the completion of the initial tasks (literature review, etc.). This spells out the findings of the initial tasks, and it includes a revised work plan. This seems like a good idea for consideration for Arkansas (and for Kentucky).
- It would seem much simpler, in contracts with Universities, to just use the Federal definition for what constitutes an equipment purchase. Why make things more complicated than they need to be?
- Consider including an estimated cost range in their RFPs.

### **Peer Exchange Team Observations**

#### Kentucky Transportation Center

Overall, it appears that Arkansas has a well-designed, well-managed research program. The structure with the TRC and the seven standing subcommittees is a great idea. It is also good to have a subcommittee responsible for the conduct of each project. The procedures and policies are clear, well established and well understood.

The research program staff is impressive. Having access to 12 or so Research Coordinators provides at least two benefits:

- It gives AHTD access to full-time staff researchers, which is an extremely valuable asset for a state transportation agency. These people can do research and can also provide technical assistance when needed, with quick response to AHTD needs.
- It provides for strong administrative and technical oversight of all contract research.

It is impressive that the research team have annual meetings with each district. This has been tried in Kentucky; it can be challenging to do this every year.

Arkansas has an Implementation Coordinator, which shows that the AHTD is serious about implementation of research! This is excellent! Another indication of the importance of implementation is that the project subcommittee stays active for a while after the project is completed – to track and monitor implementation of the research.

The way AHTD uses the twice-annual TRC meetings as a way to communicate with users is impressive. These are two important needs: (1) the need for the TRC to meet and conduct business; and (2) the need to communicate with users about what's going on with the research program. Using the TRC meeting to accomplish both these tasks is an extremely clever and efficient use of time and resources. Offering PDH hours is a great way to encourage participation in these meetings.

#### Georgia DOT

- The implementation focus and structure of the AHTD's program is good, with use of implementation coordinator and tracking matrix.
- More could be done with implementation committee in the future.
- Communication with internal users is very good overall, but more outreach to general audience outside AHTD might improve the program.
- Efficiency of contract work could be improved by relaxing certain policies and making other more stringent (i.e. travel approval for PIs is stringent).
- Draft and final report requirements need to be more stringent.
- A publication booklet specifying report format would also be helpful.

#### Louisiana DOTD

- The AHTD Peer Exchange was very successful with meaningful discussions, timely topics and beneficial sharing of ideas and practices.
- AHTD has a strong and vibrant research program with support and participation from upper management.
- The research project identification and management process is very similar to the LADOTD process, although it does not appear to include external industry partners.
- The recent addition of a full-time Implementation Coordinator should enhance and strengthen the process of moving research results into practice.
- The formalized process developed for tracking implementation status of projects three years after completion should add valuable documentation of return of research investments.
- AHTD should continue to expand publication and marketing products of research successes to a broad audience.

University of Arkansas, Fayetteville

- Impressed with the active involvement of the AHTD research section in research projects.
- It is good that focus on implementation has been increased.
- Communication is the key to the success of the program in all facets. While electronic reporting systems could be convenient, efficient, and valuable, there is also great value in the face-to-face communications. These should maintain an appropriate balance.
- The organization and formal structure within AHTD relating to research is more developed and established than previously realized. These features are a great asset and should be advertised more fully – it's impressive! A revised research manual should really showcase this.
- Having an implementation coordinator is a great step toward the necessary “follow through” of research. Communication improves implementation.
- Implementation could be included as a part of the regular TRC committee meeting agenda to increase awareness and help keep implementation at the forefront. The TRC could serve to determine what level of involvement is necessary for individual project implementation activities. Specific implementation activities should be tailored to the project needs.
- An implementation newsletter (2-4 pages) could be used to communicate results/status to all users, TRC attendees, districts, cities and counties, contractors, etc., and could serve as an annual report to advertise the successes of the Research Section. It is suggested that a “new projects” newsletter in the summer/fall, and an implementation newsletter in the winter/spring to accomplish the goal of 2 publications per year. These documents could be distributed on paper as a handout at TRC meetings, emailed to the larger audience, and could even serve as effective handouts for representing Arkansas's efforts at regional and national events.
- When the new research manual is written, it would be helpful to include sample report formats with examples of desired contents or sections, requirements for fonts and font size, margins, line spacings, heading styles, etc.
- The idea of requiring a 25-page maximum for final reports, with the bulk of the lit review and details of data being contained in appendices is supported.
- More feedback for PI's regarding reports is needed. The use of a short form with some general questions for process feedback could be used for PI performance measures.
- A ‘new and improved’ quarterly report form that included all tasks of a project work plan would help to maintain focus of the project goals and continuing with the implementation section would be helpful.
- Consequences for poor performance of PIs should be stated/published, even if only internally.

FHWA

- Looking forward to the aggressive work of the new Implementation Coordinator.
- Performance measures for research implementation should be developed early in the study.

- AHTD should include customer satisfaction as an important performance measures.
- The executive implementation committee should meet yearly on the status of implementation for the year.
- It is a good opportunity to institutionalize implementation and other peer exchange observations in the Research Manual revision that will be soon underway.

### **Ideas that Team Members Can Take Home**

#### University of Kentucky

- Kentucky needs to have an Implementation Coordinator. There is no way to have consistent implementation or tracking of research implementation without a person being assigned the primary responsibility.
- Kentucky is already considering moving from monthly invoicing to quarterly invoicing and moving from triannual project status reporting to quarterly reporting. This will align the project status reporting with the invoicing. This Peer Exchange reinforced our conviction that this is a good move.
- Kentucky is currently revising/formalizing the process for research implementation. As part of this, Kentucky should prepare an implementation plan for each project. This should be prepared at the beginning of each project (the first Study Advisory Committee meeting) and then updated/revise as the project moves forward. This plan should include who is going to be responsible for implementation and whose approval will be required.
- Kentucky should revise the triannual reports (which will soon be quarterly reports) to include an implementation section.
- As Kentucky implements its online project tracking system (in progress), the ability to submit final reports via the project website and to track the reports through the review and approval process should be included.

#### Georgia DOT

- Master work authorization that other states are doing.
- Consider having a subcommittee for each project.
- Establish an implementation tracking process.
- Consider having an implementation coordinator.
- EARS contract/unforeseen research fund would be beneficial.
- Receive an implementation report before the completion of a project.
- Separate contract process for research for GDOT.
- Create a research management database.
- Require interim reports before field work begins and 3-4 months after the project has started.

- Receive a technical review of draft final reports plus final report deadline by contract end date.
- Do not print appendices; put them on a cd.
- Do not publish final reports without research flyer; put research flyer on website.
- Master agreement with Universities should refer to Department's research manual.

#### Louisiana DOTD

- SASHTO Program (scholarship) dedicated to one student with employment requirement should be considered by LADOTD.
- Schedule yearly meetings with Districts.
- Require monthly reports between PI and Project Coordinator.
- Schedule a yearly review for projects that have been implemented to determine savings/benefits.
- Create a tracking report to summarize cost benefits.
- Review history and outcomes of LADOTD investments in pooled fund projects.
- Explore methods to suspend projects when delayed by LADOTD (i.e., construction delays).
- Considers using a funding range in RFPs for research projects.
- Utilize a formal process to suspend project charges when delays are due to DOT issues.

#### University of Arkansas, Fayetteville

- Plan to set up a calendar for each project with automatic reminders of report deadlines, etc.
- Place greater focus on implementation and 'advertising' for AHTD research. Part of the reason that other states seem to have "higher profile" research programs is that they simply have greater visibility at the national level.
- More co-author partnerships between UA and AHTD should be sought.

#### FHWA

- Require a two page technical summary with final report from the PI.
- On studies without an initial well-defined work plan, use an interim report after literature search and data review to direct research in the right direction.
- Have a process or mechanism to cancel studies that are not progressing in the right direction.
- Include a fact sheet and newsletter on implementation.
  - Attempt to shift ownership to partners.
  - Include a technical implementation manager on each study committee.
  - One implementation report should show benefits out of pooled fund studies conducted in the state.

**Acknowledgment:**

The Arkansas State Highway and Transportation Department is appreciative of the work put forth by the Peer Exchange Team in making this exchange a valuable learning experience for the Research Section. The Items discussed by the Peer Exchange Team have great potential benefit to the Department. Consideration for implementing the following ideas will be made:

**Consideration for Actions or Opportunities for Arkansas State Highway and Transportation Department:**

- Develop a mentoring program for new engineers.
- Develop a policy to identify Research needs for the Department.
- Consider having a larger conference once a year.
- Develop an electronic reporting system.
- Develop a yearly implementation report with projected and reported benefits to the Implementation Committee.
- Update the current Research Manual to include some of the Peer Exchange recommendations.
- Develop performance measures for the Research process.

2012 PEER EXCHANGE TEAM  
August 13 – 16, 2012  
Hot Springs, Arkansas

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**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT  
PEER EXCHANGE AGENDA**

August 13 – 16, 2012

Hot Springs, Arkansas

Monday – August 13, 2012

Morning, shuttle from Airport

1:00 – 2:30 Meet/Greet @ Embassy Suites  
2:30 – 3:30 Research General Overview – Elisha Wright-Kehner  
3:30 – 5:00 Feed-Back and their choice topic  
6:00pm Dinner

Tuesday – August 14, 2012

6:30-8:00 Breakfast  
8:00-11:30 Implementation and GDOT Implementation  
11:30-1:00 Lunch  
1:00-4:00 Communication with Users  
6:00 Dinner (in hotel w/AHTD)

Wednesday – August 15, 2012

6:30-8:00 Breakfast  
8:00-11:30 Methods to Increase Efficiency of Contract Work  
11:30-1:00 Lunch  
1:00-4:00 Finalize Team Report  
5:30-6:00 Final Approval from Team  
6:00 Dinner

Thursday – August 16, 2012

6:30-8:00 Breakfast  
8:00-9:00 Conclusion  
9:00-10:30 Shuttle to Little Rock  
10:30-12:00 Presentation to Department Administration  
12:00 Lunch  
Afternoon, shuttle to Airport