Research Management Peer Exchange
Hosted by the
Kansas Department of Transportation
November 8-10, 2004

Introduction

The Kansas Department of Transportation hosted a Peer Exchange of its research program November 8-10, 2004. Members of the Peer Exchange Team were:

- Mike Shea, Assistant State RDT Engineer, Missouri DOT, Team Leader
- Susan Barker, Technology Transfer Engineer, Kansas DOT
- Mark Bradley, Staff Research Engineer, Arkansas SHTD
- Larry Emig, Bureau of Local Projects, Kansas DOT
- Steve Foust, Assistant P&R Engineer, FHWA Kansas Division
- Leon Hobson, Director of Public Works/County Engineer, Riley County
- Richard McReynolds, Engineer of Research, Kansas DOT
- Dr. Eugene Russell, Professor Emeritus of Civil Engineering, Kansas State University
- Patricia Weaver, Director of Kansas University Transportation Center, University of Kansas

The expressed objectives of the peer exchange were to:

- Increase ways to increase involvement of local governments (county and city engineers, county highway and public works officials) in all facets of the research process.
- Improve implementation of research results and new technologies into practice at the local level.
- Identify procedural improvements that will reduce work for those involved in the research process and improve final products.
- Improve the research implementation system for project reporting and benefit calculations.

To prepare for the peer exchange, the team reviewed documentation describing the Department of Transportation's research procedures and program. During the exchange, the team discussed Kansas's procedures and those used in other team members' respective agencies. The exchange team also interviewed twenty-two persons, including:

- the staff of the Bureau of Local Projects
- the staff of the Bureau of Materials and Research including research staff
- Streamliners Quality Team (Focus on Research Fiscal Issues)
- K-TRAN Project Monitors and Area Panel Leaders

- City Government Officials
- County Government Officials

Interviews followed a free discussion format, and provided the exchange team an opportunity to listen to concerns, success stories, technical accomplishments and suggestions from those interviewed. Members of the team also answered questions posed to them by persons from the Department of Transportation, local government officials, and volunteered information pertinent to the discussions on research program process improvement and technical accomplishments.

Several common themes emerged from the interviews:

- There is some perception that the K-TRAN program is not for local governments yet projects that have been completed for local governments have value. Brainstorming and prioritization of research ideas at established meetings of city and county organizations may be a more effective means of obtaining research ideas and increasing the probability of success.
- Use of an advisory committee for local government related projects works well and should be continued and encouraged.
- There is interest in receiving more information about why proposed research ideas were not funded.
- The Streamliners Team (a team including representatives from FHWA and KDOT) has worked well over the years to improve a variety of administrative and financial procedures.
- Workloads of KDOT and Local officials require timely and succinct reporting of technical information in order to be of value. Provide more access, i.e. one-stop shopping, for research related web sites of most interest to local officials.
- LTAP and Local Projects provide a valuable service to local officials with their newsletters, technical assistance and training programs.
- New technologies are of interest to local officials. Summarizing more information into newsletters, digests, and syntheses would add value and be of greater use.
- Presentations and training provided locally or via state of the art distance learning technologies are important.
- The KDOT Electronic Library is viewed as a valuable resource that is providing timely access to digitized publications. There is interest in expanding access to LTAP and local government officials to documents now on KDOT intranet.

The exchange team noted several significant strengths at KDOT:

- A strong cooperative relationship exists between local governments, KDOT, KU, KSU, and the FHWA.
- There is a good mechanism for disseminating research publications via the internet.
- A significant number of KDOT staff is involved in the research program. The staff is dedicated, technically capable and well utilized.

- There is strong KDOT-wide support for research based on an appreciation of its value.
- Research products are produced with local, state and national significance.
- Resources are leveraged effectively using pooled funds (TPF and NCHRP) and other means.
- KDOT has a willingness to create partnerships with other entities to address common needs.
- The process for identifying research needs and selecting principal investigators is effective.
- KDOT is using an effective implementation process that assigns accountability and measures benefits.
- Research related fiscal issues have been reduced by the activities of the Streamliners Team.

Michael Shea, Missouri Department of Transportation

Observations

- KDOT has a strong research program that is backed by dedicated Department personnel and Area Panel Leaders.
- The Research Unit is encouraged to set up regional meetings throughout the state with local governments on identifying research needs.
- City and County government officials are encouraged to develop research committees at the American Public Works Association (APWA) and the Kansas County Highway Association (KCHA) that will serve as a resource to the Local Area Panel in identifying research needs.
- To enhance coverage for local government officials, it would be beneficial to have research web links installed on several web pages including the Research Unit, the Bureau of Local Projects and the Kansas LTAP website.
- As part of their implementation plan, K-TRAN research projects should include a training and presentation component for local governments.
- The Streamliner Team charged with improving the fiscal reporting for KDOT's Research Unit has made significant strides in tracking SPR research expenditures and obligations that are eligible for FHWA reimbursement.
- The Research Unit should continue to build partnerships with other States and leverage resources on pooled fund projects.
- The K-TRAN program continues to provide a productive relationship for KDOT and the Universities.

Planned Actions

- I admire the support that the Research Unit receives from top management at KDOT. This is evidenced by the work and extra time that Area Panel leaders and project monitors put in to see that the research needs are addressed and implemented.

- At MoDOT we have concentrated our efforts in developing a research program that addresses the State's transportation needs. While we have not excluded local governments from submitting research ideas we have not actively sought their ideas. I plan on reviewing our process to include local governments on our technical advisory groups and look for ways to solicit their research ideas.
- KDOT's Research Unit is among the nation's leaders leveraging resources by taking a leadership role in the FHWA pooled fund program. With constrained budgets this makes sense. It is my hope that MoDOT will look for opportunities to partner with Kansas and other States on projects of common interest.

Mark Bradley, Arkansas State Highway and Transportation Department

Observations

- The solicitation process for problem statements is very comprehensive.
- There is a good effort to include APWA and County Engineer groups in the solicitation process.
- The use of an Access data base streamlines the approval process for PR-2 forms with FHWA.
- A good part of the program is the benefit cost analysis for implementation.
- KDOT Area Engineers will be more involved in meeting with local groups about the research process.
- The Road Scholar program is effective for training workers.
- The KDOT library is effective in disseminating reports through the internet.
- The KDOT does a good job of using pooled funds to increase the number of funded projects.

Planned Actions

- Problem statements need to be referred to the LTAP program for action.
- APWA and County Judges Association groups need to be added to the problem statement solicitation process.
- Metropolitan Planning Organizations need to be added to the problem statement solicitation process.
- A Streamlining Quality Management team needs to be formed.
- Technology Transfer needs to be more effective with local officials. The newsletter and research summaries are two avenues.
- A Road Scholar Program could possibly be added through the Center for Training Transportation Officials.
- After improvements are made to the Research Section electronic library, the whole Department needs intranet access.
- The AHTD needs to participate more with pooled fund projects.
- The Research Section process for notification of finals needs to be expanded. Summary reports can be disseminated electronically.

Pat Weaver, Kansas LTAP, Transportation Center, University of Kansas

Observations:

- KDOT makes substantial effort to include universities and local governments in its research program activities. K-TRAN and the ad hoc research activities have yielded results applicable not only to the state system but, in many cases, to local governments.
- Some local transportation officials have been involved in KDOT research activities through advisory committees or other committee activity. However, many may be unaware of the extent of the research program or may not realize that a particular project is a product of the KDOT research program.
- The KDOT Online Library has been expanded and enhanced substantially recently and represents a significant resource to the state.
- There seems to be some impression at the local level that the research program is only for research on topics relevant to the state system when, in fact, there have been several research projects funded that benefit local agencies. Additional outreach efforts to highlight these activities would be of use to local transportation agencies.
- Generally, one or two research projects are conducted each year within K-TRAN that are of direct relevance to local governments.
- In some cases, research results from projects which are conducted with a primary emphasis to the state system have been synthesized for application to local governments. Additional efforts in this area would benefit local agencies.
- There is a substantial body of research that has been completed as part of the KDOT research program that has served as the basis for technology transfer activities: training, printed materials, telephone assistance, on-site technical assistance, etc.

- *Planned Actions:*

- KDOT and Kansas LTAP staffs attend a large number of meetings with local transportation agencies throughout the state each year in which needs are discussed which, in some cases, may represent a potential research topic. Kansas LTAP staff will work to help report these potential research topic ideas through the K-TRAN idea solicitation.
- Not all of the local transportation agencies have reliable or high-speed access to the internet; however, access is gradually improving and additional features are being added to web sites simultaneously with printed resources. Future planned action includes further development of the LTAP web site to provide additional focus to Kansas research activities that are candidates for transfer to local agencies, e.g. developing or soliciting research briefs, fact sheets and other research syntheses. Links to KDOT and other resource sites (NTL and TRIS, for example) currently exist on the Kansas LTAP, but will be evaluated for ways in which to improve visibility and usability to the user.

- The Kansas LTAP newsletter currently includes a section in each issue called "KDOT Korner" in which KDOT staff provides articles related to KDOT activities. When possible, include information on the KDOT research program including general information about the program, solicitation for research ideas, listing of new research projects relevant to local agencies, and applied research results.
- Kansas LTAP currently works closely with the Bureau of Local Projects, the Technology Transfer Engineer and local transportation agencies to annually identify topics for training and information dissemination. Kansas LTAP and KDOT can enhance specific efforts to identify research project results that are good candidates for training activities or dissemination.
- The KU Transportation Center maintains an in-house library to assist staff in responding to technical assistance requests and other information needs and, as part of its program, Kansas LTAP operates a video and publication lending library for distribution of materials to local transportation agencies. Access to KDOT's Online Library would improve coordination and collaboration between the KDOT research program and LTAP activities.
- Notify local transportation agencies and others of the availability of the email notification of completed research reports.
- Solicit prioritized research ideas from the Kansas County Highway Association and APWA Kansas Chapter and APWA KC Metro. Work with these organizations to identify the optimum means to collect the research ideas; e.g. conduct a facilitated meeting within existing meetings or conferences to brainstorm topics. Encourage advance information to allow participants to come to a meeting prepared with research ideas.
- Identify and implement additional outreach strategies for research results in formats that are easily accessible to and digested by local transportation officials; e.g., poster/tabletop displays at state conferences, Kansas research showcases, "Kansas Research in Action" one- or two-page syntheses, conference or meeting presentations.
- Additional funding allocated to K-TRAN to support and benefit local governments would improve visibility and applicability of the research program to local governments.

Dr. Eugene Russell, Professor Emeritus of Civil Engineering, Kansas State University

Observations:

- The overall research organization and program at KDOT is well run and well thought of by peers and constituents.
- In particular, the K-TRAN program is an important part of the research program with many mutual benefits to the universities (KSU & KU) and KDOT, and in some cases local agencies.

- There are tremendous opportunities and for faculty and graduate students available from the K-TRAN program. Cooperation between KDOT personnel is excellent and currently, as good as I have personally seen in 30 years.
- There are perceptions by some local personnel in counties and cities that K-TRAN is only a state program; however, they benefit from the results of many research results.
- Although increasing involvement of local governments in the research effort is a "work in process", great effort is going into improving the process. The fact that this is one of the objectives of the current Peer Exchange is evidence of this effort.
- "Fine tuning" is always possible; however, the process ensuring the K-TRAN program meets KDOT needs works well while requiring minimum proposal writing effort from faculty.
- I am particularly impressed with the KDOT electronic library. This should be of wide use and great value to end users and particularly researchers. Although several locals expressed a need for research results quicker and easier to digest via various media, KDOT supports many other activities to disseminate useful information through the bureau of Bureau of Local Projects with newsletters, personnel contact, and with training/education programs such as LTAP, TASK, etc.
- Many KDOT personnel outside of the in-house research staff are involved in research and appear to appear to be enthusiastic and appreciate the results. Also, they keep trying to improve the process and the results

Planned actions:

- Keep taking advantage of the opportunities offered by K-TRAN and encourage colleagues to do so.
- Provide support and advice to colleagues doing KDOT research.

<u>Steve Foust, Federal Highway Administration</u>

Observations

- Although the peer exchanges are required by FHWA, there is no requirement to include FHWA staff on the team. The KDOT has demonstrated their cooperative spirit by inviting FHWA to participate in each of the three peer exchanges that have been conducted in the last eight years.
- The KDOT research program is structured and operated in such a way that practical and implementable projects with measurable benefits result.
- A main focus of the peer exchange was to discuss ways to increase involvement of local governments in the research process. It appears that KDOT already has made significant efforts to develop relationships with local government in various capacities. The peer exchange should result in better communication of research

      results and exchange of information, and benefit both the KDOT and the local
      agencies.

- FHWA has sources of technical information and expertise that can be helpful in solving State as well as county and city transportation issues.
- Another main focus of the peer exchange was to identify procedural improvements that will reduce work for those involved in the research process and improve final products. Significant improvements have been made in the past in funding and administrative aspects of research project delivery within KDOT and in conjunction with FHWA. There is potential for continued improvement in these processes.

Planned Actions

- Help provide greater dissemination of information about FHWA technical resources and staff technical expertise.
- Continue to work on improving research administrative and funding procedures that I'm involved in.

Larry Emig, Chief Local Projects, KDOT

Observations:

- The Kansas Department of Transportation (KDOT) is managing the research program very well. A Peer Exchange Team was given four focus items to consider while evaluating and identifying possible improvements to the program. Two of the focus items were timely because they addressed one of the KDOT Partnership Project's major goals, "Nurture better relationships with local governments."
- The KDOT has an excellent electronic and publications library that has the potential to be a reference source for KDOT as well as locals.
- City and county representatives were knowledgeable of the KDOT K-TRAN Program but viewed it mostly being used by KDOT even though numerous local research projects have been completed. They suggested that more of the K-TRAN projects would be useful if they were more publicized, summarized and easily accessible.
- City and county representatives recommend improving the Local Government Area Panel's selection process for candidate K-TRAN projects by including soliciting projects at statewide meetings or thru committees.
- Cities and counties supported continued use of steering committees on approved K-TRAN projects and requested feedback on projects not selected.
- Cities and counties reported that many of the medium and smaller population size local governments have a small staff and may only have one person in the engineering or top management positions. Useable technical information needs to be timely, succinct and in a format that is easy to use. Work loads may not allow them to leave their city or county and new technical information currently comes

from a consultant, vendor, LTAP, Local Projects, an Area Engineer or neighboring local agency. Additional future training options that could be provided may include onsite presentations or state of the art video and web conferencing.

- Cities and counties that are able to travel to meetings and conferences regardless of their population size also have similar needs for technical information as mentioned above. Larger staffs give them more flexibility to obtain and use technical information.
- There is an interest in having research information presented at meetings and conferences if the material is practical and meets a current need.

Planned Actions

- Partner with the Kansas County Highway Association, American Public Works Association and others to improve the process currently being used to solicit, prioritize and submit K-TRAN candidate projects.
- Continue to provide technical and project related information at meetings (including MINK), seminars and though newsletters for cities and counties.
- Update the Local Projects web site such that it can be a one-stop shopping location providing research information web links and coordinate this effort with LTAP, KDOT, cities and counties such that all web sites contain easy access to all research information web links.
- Coordinate with other bureaus sharing K-TRAN and other research information with KDOT districts that may be of interest to local agencies.
- Encourage project monitors and faculty investigators to identify way for effective implementation and transfer of project results to benefit cities and counties.
- Consider including K-TRAN and other technical information available at a Road Scholar Seminar.

Leon Hobson, Riley County Engineer

Observations

- Local governments have a great working relationship with the Bureau of Local Projects
- K-TRAN is an effective research program and KDOT does an excellent job in administering the program
- KDOT demonstrates a willingness to assist local governments however possible
- KDOT has established an electronic library for past K-TRAN projects and other research publications are available via the internet
- The selection, administration and research components of the K-TRAN process work well
- The submission and implementation portion of local government projects needs improvement
- Local governments are represented in the K-TRAN process

- KDOT displays a commitment of excellence in producing quality research projects
- KDOT maintains a solid working relationship with KSU and KU
- The Area Panel Leaders and Program Monitors are dedicated and passionate about the research program even though they both function in a somewhat "volunteer" capacity
- Participation in this peer exchange has improved my understanding of the details and processes of the program as well as enhancing my knowledge of the resources that are available
- Projects are selected on their own merit, cost/benefit ratio and their application to multiple end users
- Developing a quantified cost/benefit ratio can be difficult
- If a research project is selected there is a high probability it will be implemented

Possible Actions

- Encourage the submittal of quality projects by Cities & Counties
- Recommend the Kansas County Highway Association Research & Development sub-committee be utilized to brainstorm ideas for possible research projects
- Notify local governments when research projects have been completed by placing summaries of said projects in newsletters, mass emailing or other means
- Enhance the implementation of local government research projects by presenting them at conferences
- Encourage local government participation by Project Monitors and Principal Investigators when warranted.
- Place KDOT "new products" status list on the internet
- Enhance the usage of the program by developing a one stop shop through creating links on Agency web pages

Susan Barker, Technology Transfer Engineer, KDOT

Observations

- The Locals feel that they benefit indirectly from research that KDOT does, even though the research is not specifically directed towards them.
- The K-TRAN process from selection to implementation is working well.
- The locals, like many KDOT personnel are doing more with less thus they do not have time to actively read everything that comes across their desk. They need information that is summarized, reliable and timely.
- The working relationship between KU, KSU and KDOT is good.
- The Local governments have a good working relationship the Local Projects and feel that they can call on KDOT when needed.

Possible Actions

- Develop a Research Web Page.
  - o Place a link on KDOT's Internet to RIP-Research in Progress.
  - o Place the New Products List on the Internet for the Locals.
- Possible reestablish Streamliners and continue to improve the paper workflow.
- Work with the Division of Emergency Management to place a reference link on the Web EOC (Emergency Operations Center) page for Roads & Bridges. This would provide a single point that county and city road departments could utilize to be directed to KDOT, FHWA, TRB, APWA, KDWR, and other pertinent web sites.
- Make a conscience effort to include locals in training secessions, research requests, news letters, web site developments, etc.
- APWA could act as a liaison and bring forth ideas from Counties and Cities to KDOT.
- Get a 1-page info sheet for the Area Engineers so that they can convey the opportunities that Research can offer the locals.

Richard L. McReynolds, Engineer of Research, KDOT

Observations

I am very pleased with how well the peer exchange meeting went and thankful for all of the participants taking time to provide inputs to aid the process. I think that the team members, KDOT staff, faculty and the city and county representatives that participated were frank and open in discussions about how our research procedures can be improved. I am also grateful for the positive comments about how well our procedures and program are working overall.

Planned Actions

- Complete a research web site on the internet and provide content that will be of use to local government officials and other KDOT partners. Add the TASK program web site link to our intranet site
- Add Pat Weaver to our distribution list for final report notices. Currently she receives this information second hand from others.
- Investigate the procedure that KUTC uses to automatically upload data from an Access database to their internet web pages.
- Investigate whether LTAP staff and possibly local government officials can be provided access to the KDOT Electronic Library using an Extranet.
- MoDOT has a Liaison Engineer in each District Office that works with local government officials to provide information about each of their programs. We should investigate finding a champion in each District that we can keep aware of research related issues and developments.
- Technology Transfer Digest: Use a unique color paper and three-hole punch to gain more visibility and ease storage for our staff as LTAP does with their newsletter.

- Advocate to Larry Emig and local official's organizations to brainstorm and prioritize research ideas for input to the K-TRAN program solicitation. This is a way to improve the quality of submittals and reduce paperwork for Larry. It also is one less piece of paper in local official's mailboxes.
- Offer to make presentations to Local Officials at their meetings and/or special meetings arranged for the purpose of presenting information about KDOT research procedures and/or new technologies. (Road Shows)
- Investigate how KDOT could best advise local governments about KDOT experimental test sections being constructed especially those in their city or county.
- Prepare a bullet list of research related information including information of interest to local officials for distribution to KDOT Area Engineers as an aid to their communications with local officials.
- Discuss automatically resubmitting non funded candidate list projects into the next year's solicitation with the Research Technical Committee.
- Include more information about why research ideas and prepreposals not in the annual program were not funded in the annual "thank you" letter sent to each submitter.