

Wyoming Department of Transportation



WYDOT

PEER EXCHANGE
hosted by the
WYOMING DEPARTMENT OF
TRANSPORTATION

NOVEMBER 6 - 9, 2006

RESEARCH CENTER

FINAL REPORT



Research Management Peer Exchange
hosted by the
Wyoming Department of Transportation
November 6-9, 2006

INTRODUCTION

The Wyoming Department of Transportation (WYDOT) hosted a research management peer exchange November 6-9, 2006. Invited members of the peer exchange team were:

Monique Evans, PE, Research Administrator, Ohio DOT, team leader
Stacey Cleary, PennDOT LTAP Program Administrator

Khaled Ksaibati, Ph.D., PE, Univ. of Wyo. Professor and Dir of Wyoming = s LTAP Center
Tom Bonds, Planning Research Manager, FHWA
Timothy McDowell, PE, State Transportation Programming Engineer, WYDOT
Michael Pritch, Research Manager, WYDOT
Gayle Poelma, Administrative Support

Under 23 Code of Federal Regulations 420.209 (a)(7), as a condition for approval of FHWA planning and research funds for research activities, a State is required to conduct peer exchanges on a periodic basis. FHWA's Office of RD&T has administratively determined this to be every 3 years.

The objective of the peer exchange program is to give State Departments of Transportation a means to improve the quality and effectiveness of their research management processes. The Peer exchange provides an opportunity for a State to examine its research program, particularly relative to its management. It is a practical and effective tool to foster excellence in research, development, and technology (RD&T) program management. Peer exchange provides an opportunity for panelists to share good practices and innovations with each other.

The basic approach is to invite an outside panel of managers to meet with the host agency to discuss and review its RD&T management process or a specific focus area. Information on the host agency = s policies and procedures is shared with panel members in advance of the peer exchange. During the peer exchange, panel members may meet with managers, staff, stakeholders, and customers to gain further insight into the host State's program. The information gathered from the exchange is documented in a written report and presented to agency management.

Emphasis areas for this research peer exchange are:

- Focus Point 1: Performance Measures;
- Focus Point 2: Technology Transfer.

Interviews were held with:

WYDOT Executive Staff

John Cox, Director

Jim O= Connor, Support Services

Del McOmie, PE, Chief Engineer

Pat Collins, PE, Planning & Engineering

WYDOT Maintenance/Resident Engineer

Tim McGary, PE - DME - Laramie

Tom DeHoff, PE - Resident Engineer - Cheyenne

Anthony Avila - Maintenance - Cheyenne

Milt Poteet - Maintenance - Cheyenne

Don Bridges - Maintenance - Cheyenne

R&S Consulting, LLC

Larry Redd, PE

Gary Schneider

WYDOT Bridge Program

Keith Fulton, PE, State Assistant Bridge Engineer

WYDOT Geology Program

Mike Hager, Chief Geologist

Wyoming T²/LTAP & University of Wyoming

Khaled Ksaibati, Ph.D., PE

John Turner, Ph.D., PE

Rhonda Young, Ph.D., PE

Sue Niezgoda, Ph.D.

General Observations

- Executive Staff recognizes and supports the research program in its mission to resolve issues related to the WYDOT strategic plan. Having seen the value of implementation, Executive Staff supports the program in its effort to identify opportunities to develop research that impacts individual units within the department as well as local governments.
- WYDOT has created effective and strong research relationships with the University of Wyoming, FHWA, Wyoming LTAP, and its internal partners (Geology, Bridge, Planning). Research also collaborates effectively with non-transportation agencies such as Game and

Fish, US Wildlife, environmental groups, etc.

- Communication and collaboration within central office has been successful; however, the link to field staff can benefit from additional efforts.
- Every interviewed entity commented on the lack of access to WYDOT research information on the web.
- Additional resources are necessary to take the WYDOT research efforts to the next level.

STRENGTHS OF THE WYDOT RESEARCH CENTER

- Organizational culture emphasizes easy access to all levels of the agency.
- The flexibility of the research program allows WYDOT research to respond to the needs of the department in a timely manner.
- Research Center meets the expectations for Executive Staff research in a timely manner.
- WYDOT is progressive enough to realize the need to develop useful performance measurements.
- Executive Staff proactively supports advancements in state of the practice for the transportation community and users at large.
- WYDOT has an excellent relationship with the University of Wyoming and Wyoming LTAP Center.
- Well respected and dedicated Research Program staff.
- Customer service oriented Research Program staff.
- Research topics reflect the needs of WYDOT.
- Strong and effective relationship with FHWA.
- Executive Staff is knowledgeable of the advantages and disadvantages of different types of performance measures. They also expect research staff to identify appropriate measures for projects and the overall program.

WYDOT OPPORTUNITIES

- There is a unique opportunity to capitalize on the communication of research by creating a WYDOT Research Center web site. This could be hosted either within WYDOT or by Wyoming T²/LTAP using a link. This would greatly assist in allowing information to be

accessed by the public as well as internal partners.

- Investigate the use of SP&R funds to cover incremental cost increases of demonstration projects to aid in implementation of new research results or to test the effectiveness of new products and procedures. Examples of possible studies include: snow plow lights for safety, various snow fence performances, surfacing mix designs comparisons, maintenance patching material performance, etc.
- Increase the number of research staff to support the required activities. Consider using contractual services if research staffing levels may not be increased.
- Investigate creating a master contract with the University of Wyoming utilizing their expertise on quick response issues.
 - Maintenance concrete repair products performance
 - Literature review and compilation
- Look at improving the link between the Research Center and the Planning Sub-Program.
- Develop greater interaction between the UTC/MPC and WYDOT by synchronizing the review process and the funding of research projects.
- Improve Research proposal screening process in order to enhance the probability of greater implementation of research results.
- Investigate the possibility of research on measuring cost delays of construction projects.
 - Inflation effects
 - Regional effects
 - Environmental effects due to delays, or causes of delays
- Look into developing a mechanism to communicate to potential researchers what WYDOT's priorities and needs are.
 - Look at ODOT's Cooperative Research Seminar for an example of how to do this.
 - Is this applicable to Wyoming?
- Develop a way to communicate research findings through targeted brochures, showcase events, etc. Investigate the use of a consultant versed in journalism to do this.
- Investigate the use of demonstration projects using SP&R funds for the incremental cost increases. This could be used for proof of concept evaluations, etc.
- Including the need for the implementation of research at an early stage of a research project (proposal development) will help ensure that the research is relevant to WYDOT.

Monique Evans
Ohio Department of Transportation

TAKE HOME ITEMS

- Use WYDOT=s RAC committee rotation structure as a model for the ODOT Research Selection Committee to ensure diversity and fairness in the representation.
- Follow-up on the systems approach proposed by R & S Consulting to establish performance measures for research linked to organizational goals.
- Share information on WYT²/LTAP=s You Show Us competition with Ohio LTAP and others as a model for technology transfer of good practices developed by districts.
- Review WYDOT=s research on signal pole failures due to wind for possible relevance to recent overhead sign support failures on bridges in Cleveland, OH.
- Share info on I-80 research study with states that have examined freight traffic along this corridor in the Midwest.
- Develop a simple and regular method to share research information with district staff and to encourage research ideas.
- Consider requiring PI=s to do a summary of how their research results apply to local roads.
- Look at PennDOT=s Implementation Evaluation form for a list of mechanisms to communicate research results.

Stacey Cleary
Pennsylvania DOT LTAP Center

TAKE HOME ITEMS

- Consider a ~~X~~You Show Us program to highlight municipal activities to maximize resources and promote local innovations.
 - Discuss with LTAP team possibility of LTAP peer exchange.
 - Investigate relationship between Research Division and district maintenance.
 - Contact FHWA for laminated sheeting guides for traffic signs course.
-

Khaled Ksaibati
Wyoming LTAP Center

The peer exchange provided me with the opportunity to share my research and technology transfer experience with other team members. The discussions we had enabled me to learn more about technology transfer practices and performance measures at WYDOT, Ohio DOT, and the Pennsylvania LTAP.

The following action items will be implemented at the Wyoming LTAP:

- Organize future Wyoming LTAP workshops that reflect the topics requested by WYDOT field office personnel.
- Coordinate a combined Wyoming LTAP/WYDOT Research Center booth at future annual WYDOT=s foreman meetings. Such an effort will provide valuable exposure to both the research and LTAP centers.
- Communicate with the research center on how we can combine our efforts in providing research/technology transfer web site.
- Work with the research office to facilitate a research agreement with UW which would enable WYDOT to locate and work with UW researchers on research problems requiring a quick response.
- Follow up with UW researchers and appropriate WYDOT engineers on some of the research topics requested by the field WYDOT employees.
- Obtain the executive summaries of some of the recently completed WYDOT research projects. Distribute these executive summaries to cities and counties.

Tom Bonds
FHWA, Wyoming Division Office

TAKE HOME ITEMS

- Collect copies of Master Agreements now in use so that WYDOT Research can evaluate their use for quick answer research needs.
 - Contacts with other DOT Research programs is an excellent way to address research and other issues at WYDOT.
 - Development of brief/targeted brochures is a good way to inform internal and external groups of research results and research potential.
 - An organization, especially research organizations, must become more entrepreneurial as it becomes more nimble to be truly effective.
-

Timothy McDowell
State Transportation Programming Engineer, WYDOT

The quantity and quality of the knowledge that the exchange team brought forth in addressing performance measures and technology transfer is second to none. The ideas and opportunities generated will assist and improve the process and output of research at WYDOT.

It was learned during the exchange that field offices in general were not fully aware of the research efforts at WYDOT. This is one area that can and will be remedied.

TAKE HOME ITEMS

- Prioritize the listed WYDOT opportunities so that the most important items become a part of the Research Center action plan.
- Consider requiring Principal Investigators to do a summary of how their research results apply to local roads.
E.g. - look at PennDOT Implementation Evaluation Form.
- Investigate the possibility of a research project to develop Research Performance Measures designed for Wyoming. These measures could be tangible and intangible.

Reference NCHRP 20-63, Research Performance Measures, for potential applicability to Wyoming.

Look at the use of surveys and other qualitative measures.

- Investigate the possibility of a research project to tie Enterprise Planning with Asset Management for decision support. I.e.,
 - System Preservation
 - Decision Trees
 - Funding mechanisms across the Districts
 - Provide needed information to help legislative process

Look at Ohio DOT = s OPI (Ohio Performance Indicators) for funding distribution for potential application

- Include requirement in contracts and MOU = s for a one page stand alone summary of the research as an additional deliverable.

Attachment A

PEER EXCHANGE COMMITTEE 06

Stacey Cleary
LTAP Program Administrator
Pennsylvania DOT
400 North Street, 6th Floor
Harrisburg, PA 17120-0064
Office: 717-787-5243
FAX: 717-783-9152
e-mail: C-scleary@state.pa.us

Monique Evans, P.E.
Administrator, Office of Research and Development
Ohio DOT
1980 W. Broad St.
Columbus, OH 43223
Office: 614-728-6048
FAX: 614-995-7047
e-mail: monique.evans@dot.state.oh.us

Khaled Ksaibati, P.E., Ph.D.
LTAP Program Administer
University of Wyoming
1000 E. University Avenue, Dept. 3295
Laramie, WY 82071
Office: 307-766-6230
FAX:
e-mail: khaled@uwyo.edu

Tim McDowell, P.E.
State Programming Engineer

Wyoming DOT
5300 Bishop Blvd
Cheyenne, WY 82009-3340
Office: 307-777-4177
FAX; 307-777-4759
e-mail: timothy.mcdowell@dot.state.wy.us

James T. (Tom) Bonds
Planning & Research Manager
FHWA
2617 E. Lincolnway, Suite D
Cheyenne, WY 82001-5671
Office: 307-772-2004 Ext. 142
FAX: 307-772-2011
e-mail: James.Bonds@fhwa.dot.gov

Michael Patritch, Research Manager
WYDOT Research Center
Wyoming DOT
5300 Bishop Blvd
Cheyenne, WY 82071-3340
Office: 307-777-4182
FAX: 307-777-4759
e-mail: michael.patritch@dot.state.wy.us

ATTACHMENT B

Monday November 6 Wyoming Dot Peer Exchange		
9-11 AM	Airport Pickup DIA	Monique, Stacey
11-12 Noon	Lunch DIA	Monique, Stacey, Michael
3 PM	Check in at Hitching Post	Monique, Stacey
5 PM	Dinner Meeting: Hitching Post	Tim McDowell, Monique Evans, Stacey Cleary, Khaled Ksaibati, Michael Pritch, Tom Bonds
5-5:15 PM	Welcome and Introductions	Tim McDowell
5:15-5:30 PM	Focus, Goals, Expectations and Game Plan -WYDOT Research Perf. Measures -Tech. Transfer -Intro and background ID what they can measure	Tim McDowell
5:30-6:00 PM	WYDOT Research Program Overview	Michael Pritch Tim McDowell
6-7:15 PM	DINNER	
7:15-8:00 PM	Overview of Participants Organizations - Look for strategic research needs	
	Ohio	Monique Evans
	Pennsylvania	Stacey Cleary

	U W T-2 Center	Khaled Ksaibati
	Keep brief (10 min).	
8:00 PM	Questions, Clarifications and Adjourn	

Tuesday November 7, 2006		
8:00 AM	Pick up participants at Hitching Post	Monique Evans Stacey Cleary
8:30 AM	WYDOT Conference Room	
	Quick review of objectives.	
8:30-9 AM	Focus Point 1 Performance Measures Interview WYDOT =s Executive Staff Focus on Measures and T2	Michael Patritch Tim McDowell
9:00- 10:00 a.m.	Recap Performance Measures with Team	Team
	Pennsylvania	Stacey Cleary
	UW T-2 Center	Khaled Ksaibati
	Ohio	Monique Evans
10-10:15 AM	Break	
10:15 – 11:15	Strengths Opportunities for Improvement & take home	
11:15 -12 Noon	Focus Point 2 Technology Transfer	Michael Patritch Tim McDowell
	UW T-2 Center	Khaled Ksaibati
	Ohio Pennsylvania	Monique Evans Stacey Cleary
12-1:30 PM	Lunch: Country Buffet @ Mall Bridge and Geology	Team, Mike Hager Keith Fulton

1:30-2:30 PM	General Discussion Strengths and Opportunities	Team
2:30-3:15 PM	Interview WYDOT Maintenance Foremen & Resident Engineer with focus on T2	Team Tim McGary, Milto Poteet, Don Bridges, Tom DeHoff, Tony Avila
3:15-3:30 PM	Break	
3:30-4:30 PM	T-2 related to WYDOT = s Executive Staff and Maintenance Foremen Strengths Opportunities for Improvement Take Home Items Report Preparation	Discussion
4:00 – 5:00 p.m.	Interview R&S Consulting, LLC. Researchers perspective.	Gary Schneider Larry Redd
5:45 PM	Pick Up for Dinner	Stacey Cleary Monique Evans
6:00 PM	Dinner @ Plains Hotel	Team
	Kibitzing on Report	

Wednesday November 8, 2006		
8:00 AM	Pick Up for trip to Laramie	Stacey Cleary Monique Evans
9-11 AM	Interview Khaled Ksaibati and tour T-2 Center Meet 1-2 of Univ. Researchers Meet County Rep.	Team Professors at UW
11:00-12:30 PM	Lunch: The Library in Laramie	
12:30-1:30 PM	Drive to Cheyenne	Team
1:30-2:30 PM	Interview Larry Redd and Gary Schneider re: Showcase modeling program & possible feasibility of creating a simple but useful performance measurement tool for WYDOT.	Team
2:30-2:45 PM	Break	
2:45- 4:30 PM	Team to write Impressions and Take Home Items and Report Preparation	Team
5:45 PM 6 PM	Pick Up Dinner at Poor Richards	Stacey, Monique

Thursday November 9, 2006		
8:30 AM	Check out and Pick Up from Hotel	Monique Evans Stacey Cleary
9-11 AM	Corrections and additions to report. Final report printing	
11-11:45 AM	Close Out with Peer Exchange Team	Team
	Exit interview with State Planning Engineer	Bob Milburn
12 Noon	Lunch and end of peer exchange.	Team
	Lunch: Applebee's	
	Participants to DIA to catch flights home	Stacey Cleary Monique Evans