

# **RESEARCH MANAGEMENT PEER EXCHANGE**

**Hosted by the  
Oregon Department of Transportation  
Research Group  
August 20-24, 2001**

**Oregon Department of Transportation  
Research Group  
Salem Oregon, 97301**

**Prepared for  
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**RESEARCH MANAGEMENT PEER EXCHANGE**  
**Hosted by the**  
**Oregon Department of Transportation**  
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**INTRODUCTION.**

The Oregon Department of Transportation hosted a research management peer exchange August 20-24, 2001. The purpose of a peer exchange is to give research managers from state departments of transportation and the federal government a means to improve the quality and effectiveness of their research processes, both for the host department and the visiting research managers.

Members of the Peer Exchange Team were:

- Basil Barna, Idaho National Engineering and Environmental Laboratories
- Alan Hilton, Research Manager, Nevada Department of Transportation
- Harold Hunt, Division of New Technology and Research, California Department of Transportation
- Martha Nevai, Marketing, Research, Technology Transfer Engineer, Federal Highway Administration, California Division
- Martin Pietz, Director of Transportation Research, Washington Department of Transportation
- Barnie Jones, Research Manager, Oregon Department of Transportation
- Bob Raths, Manager, Research and T2 Program, Federal Highway Administration, Oregon Division

To prepare for the peer exchange, the team reviewed documentation describing Oregon's research procedures and program. During the exchange, the team discussed Oregon DOT's procedures and those used in other team members' respective agencies and organizations. The team also interviewed more than 60 people representing the following groups.

- ❖ ODOT
  - Research
  - Structures
  - Pavements and Materials
  - Construction and Maintenance
  - Geotechnical, hydraulics, and roadway engineering
  - Environmental
  - Safety, traffic, human factors and ITS
  - Planning and Socio-economic
  - Public transit, rail, freight, pedestrian and bicycle.
- ❖ Other
  - Transportation Research Group, Portland State University
  - Transportation Research Institute, Oregon State University
  - Corrosion research team, Albany Research Center.

The team also had the opportunity to meet over Tuesday lunch with ODOT Deputy Directors Tom Lulay and Mike Marsh, Planning Section Manager Jerri Bohard, FHWA Oregon Division Administrator Dave Cox and FHWA Western Resource Center Director Gary Hamby. In

addition, we were able to enjoy a Thursday luncheon with representatives of the T2 center, ODOT's Local Technical Assistance Program.

Interviews followed a structured discussion format and provided the exchange team an opportunity to listen to concerns, experiences, technical accomplishments and suggestions from those interviewed. Team members also answered questions posed to them by the people interviewed and the team volunteered information pertinent to the discussions.

### **FOCUS**

The team began this peer exchange with a review of the first Oregon Peer Exchange conducted in May, 1998. The review included a summary of recommendations made and the changes made as a result of the 1998 Peer Exchange Report.

The primary focus of the current peer exchange at Oregon DOT is Research Project Management. However, all aspects of the research program were discussed within the context of 12 meetings, and included specific discussions of:

- Research Project Selection and Development
- Research Implementation
- Marketing and Outreach
- Alignment of the research program with ODOT needs and priorities
- Definitions of Research

### **MAJOR OBSERVATIONS OF PEER EXCHANGE TEAM**

#### **Research Project Selection and Development**

The project selection process has been substantially improved and diversified in the last five years, in part as a result of the liberalization of FHWA requirements in 1994.

Generally the process received praise and was perceived as fair and effective.

The support provided by the Research Staff was universally praised and appreciated.

Thoughts were expressed about the large number of problem statement submittals (100-120) in relation to the small number of projects selected (6-8).

There was discussion about the variation in quality of problem statements and the balance between quality and broad participation.

Expert Task Group makeup leads to a dynamic that produces good results.

Many worthy projects are never funded.

#### **Research Project Management**

The Research Coordinators received high praise for their proactive approach to project management.

Timeliness and delays in project completion is a key concern.

Technical Advisory Committees (TAC) that are active and engaged are more likely to produce a successful project.

The role of the project sponsor is also critical to the success of the project.

The Panel noted the high level and quality of participation of FHWA Oregon Division staff on ODOT committees.

Research management is not afraid to terminate a project when warranted.

The TAC responsibilities compete, sometimes unsuccessfully, with regular job duties.

The Research Group has successfully streamlined contracting procedures through the use of flexible service agreements and cooperative research and development agreements (CRADA).

### **Research Implementation**

There is no systematic follow-up or tracking of implementation activities.

There is a lack of understanding and agreement as to responsibility for the implementation of research results.

There have been strong implementation efforts, particularly in the area of structures, environmental, and transit.

Successful implementation also depends on the presence of a strong project sponsor in a position to influence implementation.

### **Marketing and Outreach**

With regard to project selection and levels of participation, marketing and outreach has been extremely effective.

The private sector and local transportation agencies have not been included in outreach efforts.

Research Group could do more to market research results and the benefits of research to upper management and the public.

Research reports and other useful information are available on the Research Group's website.

### **Alignment of the research program with ODOT needs and priorities**

The research project selection process is designed to reflect ODOT needs and priorities as perceived by the Expert Task Groups (ETG) and the Research Advisory Committee (RAC).

Most of the people interviewed did not feel qualified to judge the alignment of the research program and ODOT priorities.

Those who questioned the alignment, pointed to the preponderance of the Technical Services Managers on the RAC.

### **Definitions of Research**

There was no clear consensus in the definition except that a number of people preferred the definition be broad to preserve flexibility.

### **OPPORTUNITIES IDENTIFIED BY THE PEER EXCHANGE TEAM**

From the above observations and discussions of the panel, the following opportunities were identified.

#### **Basil Barna, INEEL**

1. Utilize aspects of the ODOT research structure that give employees a sense of having input and influence.
2. Follow ODOT's example to promote effective involvement of outside research resources.
3. Encourage effective utilization of research staff to manage projects and to serve as advocates of research.

4. Use multi-stage proposal development allowing question and answers to clarify problem statements.

**Alan Hilton, Nevada DOT**

1. Develop a master interlocal agreement for research with UNR and UNLV to speed project initiation.
2. Use Oregon Research website as an example for Nevada Research website.
3. Use Nevada T2 website to communicate research program services and products to local entities.
4. Establish project milestones to measure project timeliness and base payment on accomplishment of milestones.
5. Develop model research workplan format.
6. Require that technical panels develop project implementation/utility plans prior to dissolution.

**Harold Hunt, CalTRANS**

1. Improve cooperation with other Pacific Coast states in environmental research.
2. Do annual rather than quarterly solicitations for environmental research problem statements.
3. Develop an Environmental Expert Task Group to select future environmental projects.
4. Consider the size of projects as an incentive to attract better participation of academics and consultants.

**Martha Nevai, FHWA, California Division**

1. Along with final report review, require development of an implementation plan that considers the broadest group of end users.
2. Encourage CalTRANS to revisit the solicitation process to include a broader range of proposals.
3. Make all research final reports available on the web as ODOT does.
4. Identify project champion for implementation of research results once the project is complete to work with federal and local counterparts.
5. Encourage “living” final reports to ensure more effective marketing of results.
6. Promote more federal technical specialty involvement on research committees.
7. Encourage CalTRANS to prepare a brief annual summary of accomplishments.
8. Develop a model problem statement.

**Martin Pietz, WsDOT**

1. Identify key milestones in project work plans to monitor progress and terminate projects which are not succeeding.
2. Prepare “a percent on schedule” summary every quarter.
3. Improve cooperation with other Pacific Coast states in environmental research.

**Bob Raths, FHWA, Oregon Division**

1. Share Oregon Peer Exchange results with other FHWA offices.
2. Work with ODOT Research Group to address opportunities identified in this report.
3. Continue to encourage the full and excellent participation of Oregon Division employees on ETGs and TACs.
4. Encourage Oregon Division staff to submit research problem statements at annual solicitation stage.

**Barnie Jones, Oregon DOT**

- Seek out options to improve clarity and specificity of stage one problem statements and the involvement of problem statement owners in the ETG screening.
- Prepare an annual or biennial report on research accomplishments that summarizes the benefits of projects completed during the reporting period.
- Invite local agencies, AGC, APAO and other private sector stakeholders to participate in the annual project solicitation.
- Produce a quarterly electronic newsletter of research highlights.
- Consider the cost and benefits of a biennial work program that goes through the full project selection process only once every two years.
- Consider how reorganization of the Expert Task Groups might better reflect ODOT needs.
- Strictly limit contracting for work plan development.
- Consider the size of projects as an incentive to attract better participation of academics and consultants.
- Develop and offer streamlined approaches to report publication for projects that have already generated significant journal articles and conference papers.
- Develop a model work plan for the Research Procedures Manual.
- Publish problem statements on the web prior to project selection.
- Along with final report review, require development of an implementation plan that considers the broadest group of end users.

**APPENDIX 1:**  
**2001 ODOT RESEARCH, DEVELOPMENT AND  
TECHNOLOGY TRANSFER PEER EXCHANGE REPORT  
ODOT RESPONSE**

**Prepared by  
Barnie Jones Ph. D.  
ODOT Research Group Manager**

## Introduction

The Oregon Department of Transportation hosted a Research Management Peer Exchange August 20-24, 2001. The purpose of a peer exchange is to give research managers from state departments of transportation and the federal government a means to improve the quality and effectiveness of their research processes, both for the host department and the visiting research managers.

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The peer exchange is proving to be a valuable management tool. It provided a thoughtful analysis that has helped us focus our efforts to improve our program. It also provides important validation of the effectiveness of major elements of our research program. Finally, and most important, it has enabled us to respond effectively to any number of internal management and other inquiries about the quality and effectiveness of our research program.

The purpose of this document is to comment on the action items contained in the peer exchange report (see Appendix 1), and more specifically, to note and discuss the actions we have taken and/or intend to take as a result of action items contained in the peer exchange.

There were 12 “opportunities” identified in our 2001 Peer Exchange Report. Of those, six have been implemented, four will be implemented soon, and two will not be implemented. These are addressed in the following pages.

## **1. What peer exchange action items have been implemented to date?**

- ***Seek out options to improve clarity and specificity of stage one problem statements and the involvement of problem statement owners in the ETG screening.*** We considered and rejected the idea of inviting problem statement submitters to the Expert Task Group (ETG) meeting. The liability of this approach is that geography would put submitters from outside the Salem area at a severe disadvantage. It also could potentially add dramatically to the time required for the Expert Task Group to deliberate. During this year's round of project selection research coordinators were instructed to make personal contact with each submitter of a problem statement, to discuss the project, and to be sure that the problem was effectively articulated and represented at the ETG meeting.
- ***Invite local agencies, AGC, APAO and other private sector stakeholders to participate in the annual project solicitation.*** This was done. A number of individuals from regional stakeholder groups and local government were included in this year's direct distribution. It should also be noted that our annual research problem statement solicitation gets considerable secondary distribution.
- ***Produce a quarterly electronic newsletter of research highlights.*** Our initial edition of the quarterly newsletter was distributed last fall, and our second (winter2002) edition is in final draft form, and should be distributed within the month. It was (and will continue to be) distributed to all of ODOT, and to the AASHTO RAC through the e-groups listserv. It is also distributed to Oregon local agencies through the T2 (LTAP) Newsletter. The newsletter can be accessed from the following link:  
[http://www.odot.state.or.us/tddresearch/Qt\\_newsltrs.htm](http://www.odot.state.or.us/tddresearch/Qt_newsltrs.htm)
- ***Strictly limit contracting for work plan development.*** This can be and was accomplished by fiat.
- ***Develop a model work plan for the Research Procedures Manual.*** The model work plan has been developed and incorporated into the appendix of the Research Procedures Manual.
- ***Publish problem statements on the web prior to project selection.*** This also has been accomplished, and the results from our most recent project selection can be viewed at.  
[http://www.odot.state.or.us/tddresearch/stat\\_received\\_date.htm](http://www.odot.state.or.us/tddresearch/stat_received_date.htm)

## **2. What peer exchange action items are scheduled for implementation in the near future?**

- ***Prepare an annual or biennial report on research accomplishments that summarizes the benefits of projects completed during the reporting period.*** This is planned for September 2002.

- ***Develop and offer streamlined approaches to report publication for projects that have already generated significant journal articles and conference papers.*** We are still looking for an opportunity to implement this change.
- ***Along with final report review, require development of an implementation plan that considers the broadest group of end users.*** We have not had a good opportunity to put this into practice because we have not closed out a project that had clear implementation potential. However, we have two or three good opportunities coming up in the conclusions of the Aggregate Needs Project (SPR314), the Freight Shipper Carrier Survey (SPR328) and (for an implementation challenge) Preservation Strategies for Open-Graded F Mixes (SPR371).
- ***Consider the size of projects as an incentive to attract better participation of academics and consultants.*** The issue is that some principal investigators have commented that some of our project offerings present them with a dilemma, in that the funding levels will not finance release time and graduate student participation during the academic year. Consequently, projects are being done during the investigator's "spare" time, and during the summer session. This is contributing to both poor on-time performance and to some loss of interest in participation, on the part of some university people. This issue will be revisited after new problem statements have been prioritized for 2003. We will have discussions with potential principal investigators to determine whether a shorter-term/higher effort approach is more advantageous to them.

### **3. Remaining action items?**

- ***Consider the cost and benefits of a biennial work program that goes through the full project selection process only once every two years.*** After due consideration we are not interested in pursuing this option, mainly because we believe it is more important to address customer issues relating to our ability to respond quickly to emerging research issues.
- ***Consider how reorganization of the Expert Task Groups might better reflect ODOT needs.*** Also after due consideration, we have concluded that reorganization of the Expert Task Groups is not a priority. In fact, many key customers oppose such a reorganization on the basis that diversity within some of the Expert Task Groups is beneficial. In addition, with likely RABA reductions in FY'03 and funding uncertainty in the face of the next transportation authorization bill, and because reorganization has workload implications, reorganization would not be fiscally responsible.