RESEARCH MANAGEMENT PEER EXCHANGE
Hosted by the
Oregon Department of Transportation
October 8, 2014

Introduction

The Oregon Department of Transportation hosted a research management peer exchange on October 6-8, in Salem, Oregon. The purpose of a peer exchange is to give all participants a means to improve the quality and effectiveness of their research efforts, processes and programs.

Members of the Peer Exchange Team were:

- Carolyn Morehouse, Chief of Research. Alaska Department of Transportation and Public Facilities
- Coco Briseno, Chief, Division of Research, Innovation and System Information, California Department of Transportation
- Cynthia Gerst, Research Manager, Ohio Department of Transportation
- Dana Glover , Director of Research and Technical Implementation, Texas DOT
- Darran Anderson, Chief Strategy and Innovation Officer, Texas DOT
- Michael Bufalino, Manager, Research Section, Oregon Department of Transportation.
- Sue Sillick , Research Programs Manager, Montana Department of Transportation
- Tim McDowell, State Programming Engineer, Wyoming, Department of Transportation
- Satvinder Sandhu, Senior Transportation Planner, Federal Highway Administration, Oregon Division
- Nick Fortey, Senior Community Planner, Federal Highway Administration, Oregon Division

To prepare for the peer exchange, the team reviewed documentation describing Oregon's research procedures, program and the agency management, and leadership structures. The team discussed Oregon DOT's procedures and those used in other team members' respective agencies and organizations. The team interviewed stakeholders and research customers representing all the major areas in which transportation research has been conducted at ODOT with the past few years.

The team also had the opportunity to meet over Tuesday lunch with Members of the ODOT Research Advisory Committee.

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 on effectiveness of research project selection and timely completion of reports.

Overview

The primary focus of the current peer exchange at Oregon DOT was "alignment with the agency leadership structures", with a specific emphasis was placed on identifying appropriate mechanisms for agency-wide engagement in research project selection and the dissemination and implementation of research findings. (A copy of the peer exchange agenda is provided in the Appendix)

The team began this peer exchange with a review of the most recent Oregon Peer Exchange conducted in August of 2009. ODOT continues to implement the recommendations of the previous peer exchange, and has made changes to the organization of the ODOT Research advisory Committee. One unresolved issue from the previous exchange is that the stakeholders in the research process continue to request additional feedback regarding the research problem statement review and selection process.

Discussion centered on the Intermodal Oregon initiative. Intermodal Oregon an internal agency effort that focuses on changing ODOT's culture to provide leadership—within the state and across the country—in creatively using our funding resources, expertise and technology to achieve the best short- and long-term transportation solutions to support the Oregon Transportation Plan Vision. ODOT looks for opportunities to better integrate our work and achieve efficiencies in support of meeting these objectives and developing a culture of continuous improvement. Specifically;

- ODOT is the facilitator of an intermodal transportation system (with partners, stakeholders, local government, etc.) working towards a common set of objectives to enhance the local and state systems
- ODOT staff value the provision of modal choices for Oregonians and actively seek opportunities to promote and support an intermodal transportation system. While multimodally focused and aware, modal experts exist for specific types of needs
- ODOT staff has a clear understanding of their individual roles and responsibilities along with their connection to the broader vision and objectives of the agency
- Policy direction exists to ensure creation and support of an intermodal system that provides efficient transportation options and modal choices
- Each solution is designed and implemented to support or take advantage of connections between elements of the transportation system and/or avoid inhibiting future connections, whether or not multiple modes are involved in the proposed solution.
- Flexible funding is available to support an intermodal transportation system
- Decisions that cross functions or modes are not made in silos, but through collaboration with appropriate areas of the agency, customers, and/or stakeholders
- Sufficient and accessible data exist to identify the consolidated needs of an intermodal system and help to analyze and resolve conflicting priorities
- Problem definition phase is open and considerate to all modes and the preferred solution will be the one(s) best positioned to address a problem or need, whether local, regional or state.

The peer exchange team used the intermodal Oregon objectives as a tool to focus discussions on alignment with the mission and objectives of the agency.

Discussion also focused on the ODOT Research prioritization and project selection processes. These processes rely heavily on two types of committees, the line-manager level ODOT Expert Task Groups (ETGs)[1], and the executive-level ODOT Research Advisory Committee (RAC)[2]

The second and third days of the exchange focused on research stakeholders within the agency. Members of each ETG and the ODOT RAC, agency leadership trainees, and implementation partners participated in a series of three stakeholder discussions. Discussions with ODOT research stakeholders included:

- What changes are needed to better align the ETGs with the agency mission, management organization chart, leadership teams, and technical experts in the field?
- Are there any gaps or deficiencies in the organization of the ODOT ETGs?
- As the agency looks at succession planning and pending retirements how can the research program engage future agency leaders in project selection while continuing to benefit from the experience represented on the existing ETGs?
- When a proposed research project will require specific agency resources (e.g. information systems, or the ability to modify the physical characteristics of right-of-way) how can the Research Section develop concurrence from within the agency prior to the project being recommended to the RAC?

Major Observations of Peer Exchange Team

Based on the three days of meetings the peer exchange team recorded major observations based on Oregon's practice that may be transferred to other states that use or plan to adopt similar agency alignment, priority setting, and project selection processes. These observations are grouped below to include the RAC and ETG processes, the Intermodal Oregon agency alignment effort, and potential changes to Oregon's practice.

RAC and ETG Processes

- Each state research program sets up a research selection process that includes a review of the strategic fit, technical merit of the idea, and develops executive level support.
- ODOT shares commonality in structure and processes for solicitation, engagement with stakeholders, prioritization, selection, and management of research projects and initiatives with many of the states, indicating a shared body of knowledge on best practices.
- The executives are deeply involved in setting strategic direction, introducing new initiatives into the fabric of research intent, and guiding the process. This continues into

[1] The Research Section divides research subject matter into eight topic areas. For each topic area we have an advisory committee called an Expert Task Group (ETG). Members of these groups are selected on the basis of their training, knowledge, and experience.

[2] The ODOT Research Advisory Committee (RAC) advises the Research Manager on the overall direction and conduct of the ODOT Research program. The RAC reviews pooled fund investments and the research priorities of the Expert Task Groups.

the functions and priorities of the Research program, and its leaders, who convey detailed guidance to submitters.

- ODOT's use of Expert Task Groups to vet the research problem statements is exemplary. Utilizing the expertise of the task groups helps to align the problem statements with research priorities.
- The Expert Task Group process facilitates the identification and prioritization of research problems. ODOT'S approach to having research staff assigned to coordinate/chair the various Expert Task Groups is a noteworthy practice.
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- ODOT's setting of Research priorities from the RAC Committee has clearly allowed the alignment of problem statements to create a more focused agenda for research that pays off for the whole State of Oregon.
- The Research Advisory Committee works collaboratively across organizational boundaries to prioritize research that meets the direction of the organization.
- The recent incorporation of Intermodal Oregon has created some confusion with the DOT, but at the same time has opened up a broader range of research for ODOT. The opportunities not only for a broader transportation research focus are allowed, but also more opportunities for cross/multi-disciplinary functional approaches to research have been opened.

Potential changes to Oregon's practice

- Consider working with the RAC to scope the priorities to focus areas for each year that work toward nearer term (5-10 year) objectives. There is opportunity space for the strategic priorities to be more refined in a given year. The current priorities are global in scope, allowing for a very broad range of submissions that fit the strategic priorities.
- Consider strengthening the project solicitation and selection process if the intent of the RAC priorities is clearly communicated throughout the process of problem statements.
- Consider mechanisms that will address the existing information technology/information system knowledge gap in current Expert Task Group structure and process.
- Consider screening/prioritizing proposed research through the Intermodal Oregon vision and objectives. The ODOT Intermodal Leadership Team could propose research or highlight research that furthers the objectives of the Intermodal Oregon Initiative during the RAC process.
- Consider using weighting criteria, both experts subjective and objective, to the project submissions. Use these criteria to recommend an enterprise or cross-cutting prioritization of the 15 or so projects they recommend to the RAC for decision and funding allocations. Currently the projects appear to be prioritized within their ETG areas when submitted, but not across. This appears to leave the prioritization work solely to the RAC. This may lead to more effective analysis during RAC decision-making.

Opportunities Identified by the Peer Exchange Team

In addition to the major observations above, each participant identified opportunities for transfer of practices back to their respective home state or organization. These observations are recorded below.

Carolyn Morehouse AK DOT

1. Use an additional short disclaimer to a research final report when the findings could cause some issues for DOT&PF.
2. Need Additional collaboration between Alaska, Oregon and Washington and California if interested to do some testing of seismic manual equations. Need to share what research Alaska has completed and make plans together to fund the additional testing needed.
3. Add Planning (ITS) to one of Alaska's research engineer's specialty.
4. Change Alaska's RAB to Director level not Commissioner/deputy Commissioner level.
5. Oregon has seen efficiency in moving transit planning from HQ to Regions.
6. Add to the annual report a look back for projects completed 5-years earlier to see how effective the implementation was.
7. Give researchers a final report template that meets TRB standards.

Coco Briseno, Chief, Division of Research, Innovation and System Information, California Department of Transportation

1. Utilize Expert Task Groups (called Program Steering Committees in Caltrans) to review multiple problem statements.
2. Require each Expert Task Group (called Program Steering Committees) to provide a description of their group/committee and their research priorities.
3. Require research liaisons (Expert Task Group research staff) to coordinate across portfolios.
4. Consider adding an “emerging trends” Expert Task Group (called Program Steering Committee in Caltrans).
5. Consider adding an FHWA California Division representative to Expert Task Groups (called Program Steering Committees in Caltrans).
6. Implement an electronic problem statement submittal process.
7. Use the Coordination and Collaboration Task Force/Website to post and search unfunded research needs.
8. Utilize research as a professional development mechanism (i.e., providing professional development hours for research involvement, assigning functional/program staff to serve as a co-research project manager, etc.).
9. Better utilize transportation system data and information to determine and validate research priorities.
10. Assess value of the implemented research at end of the research project by conducting a performance analysis on the organizational change/improvement.

Cynthia Gerst, Research Manager, Ohio Department of Transportation

1. Consider using the formula R = Q x A, Results = Quality of the Solution x Acceptance
2. Use a higher threshold for draft final report acceptance. If it is a very bad report then send it back and say try again, this isn't worth our time reviewing in detail.
3. Improve our Role Clarity between technical staff and research program - discuss with Montana
4. Evaluate Research Procurement options to simplify Ohio's non-public contracting process
5. Review OSCOR (Ohio DOT's Standing Committee on Research) composition annually to ensure diverse membership that's engaged and represents the entire DOT perspective.

Dana Glover, Director of Research and Technical Implementation, Texas DOT

1. Selection process is a bottom up competitive process with discussions on strategic ties (top down approach). Includes ramp to look at historical data trends/repeats/general statistically analysis. How do you effectively manage top down and bottoms up for overall alignment and convergence?
2. Discussion on challenges with x-agency expertise/content to include spec evaluations. No one knows all. How do we most effectively manage cross-functional communications/expertise?
3. Opportunities exist with the RAC providing closed loop feedback to ETG/proposal submitters on proposals not selected. Need to build out more effective communications for closed-loop.
4. Good problem statements are not selected with discussion on process of reincorporating into next cycle. Evaluate more on Texas best practices.
5. Intermodal solutions – Culture shift - Integrated decision making - improved customer experience – efficiency in operations - process integration where it makes sense. How do we effectively manage this going forward?
6. Intermodal mindset - How can ODOT Research better align with ideas from intermodal? Rail and Transit pointed to intermodal discussion. Current project where OSU is developing a statewide program for data that takes transit information and shows gaps where intermodal can come together more seamlessly.
7. Issues exist with timely execution of certain type projects.
8. Executive sponsors continue to be an important part of program success. Need to keep this at the forefront.
9. Continued evaluation and improvements being made on communications to include website enhancements. Key focus is communications and the user experience for information accessibility. Overall communications to include x-education, updates, etc. Need to benchmark Best In Class x-state for website enhancements.
10. Data knowledge transfer opportunities.
11. Quality assurance “process” exists for final reports. Assess Texas End to End process for Texas for best in class.
12. Discussed literature pulls, becoming more efficient on quicker access to information. Need to assess this role for Texas.

Darran Anderson, Chief Strategy and Innovation Officer, Texas DOT

1. Texas is introducing intermodal concepts as well, and needs to review ODOT's approach and adapt best practices. We need to consider the structure, whether the effort is transitory until it becomes part of the culture, and how the leadership team and ETG efforts coincide. We need a comprehensive approach to incorporating intermodal to the degree we've entrenched Safety. Our goals of "connecting Texans" and "reduce congestion" speak to this, but not directly.
2. ODOT has competitive project selection from bottom up, solicited to all agency, partners (MPOs), public, universities, etc. Texas needs to open its aperture of elements that can submit problem statements and project proposals, within the constraints of our statutes, and seek statute to allow more.
3. Texas needs to have a strong feedback mechanism to improve future project submissions, and we need to review our selection criteria.
4. Texas needs to adopt an implementation review through 5 years after project completion. Lifecycle management of research projects.
5. Texas needs to examine its ability to apply discretionary funds for immediate impact research. We have methods, but they need to be under a comprehensive umbrella of known and directed research efforts, to eliminate redundancy and synchronize with other state and federal research. Currently much of these near-term 1 year turn-around efforts are resourced outside of the Research division.

Michael Bufalino, Manager, Research Section, Oregon Department of Transportation

1. Develop mechanisms that provide clarity from RAC on goals that will provide guidance to agency stakeholders developing ETG priorities resulting in improved project selection.
2. More transparency of the selection process and feedback from the RAC to submitters is needed. ODOT stakeholders show a lot of engagement in the research program. The section will work to develop process accountability that demonstrates sound decision making without returning to the staff time consuming documentation practices that existed prior to the 2011 RAC reorganization.
3. Strengthen Research staff connection with the agency leadership team.
4. Identify a member of each ETG that can act as a liaison between the ETG and the corresponding agency leadership team.
5. Promote the ODOT library and research coordinators as an agency resource for literature review and knowledge transfer from other states
6. Consider using implementation contracts where appropriate. Provide additional training of Research Coordinators to provide consistency of practice

Satvinder Sandhu,

1. Consider requiring all final research reports an implementation strategy of the research findings
2. State research should be relevant to ODOT mission

Sue Sillick, Research Programs Manager, Montana Department of Transportation

1. Continue to investigate ways to tap into the SPR Part 1 funding.
2. Complete the process of formalizing implementation.
3. Formalize process for performance measurement.
4. Compare MT report standards to TRBs and revise report writing requirements as appropriate.
5. Clarify guidance regarding reimbursement for tuition and compensation and the application of IDCs to this funding category.
6. Share Intermodal Oregon information with MDT staff.
7. Share professional ODOT recruitment and retention strategies with MDT.
8. Investigate additional leadership/management development within MT.

Tim McDowell, State Programming Engineer, Wyoming, Department of Transportation

1. For research projects that have a high potential for cross-cutting implementation, consider utilizing Technical Advisory Committees made up of experts that will be impacted by the implementation.
2. Consider requiring update reports not only quarterly, as required, but also when individual tasks, as outlined in the contact, are accomplished. Publish the reports to the RAC as a whole when appropriate.
3. Consider utilizing the RAC to help set a strategic direction for research at the least on an annual basis.
4. Review WYDOT research processes and make sure they are clear and understandable. Make sure the processes can lead to a clear demonstrable tie to WYDOT Mission and Vision.
5. Engage Information Technology in the research preparation and implementation process, especially if an IT component is a part of the research.

Appendix – Exchange Agenda

MONDAY, OCTOBER 6:

Time/Location	Activity	Background Materials
10:00 AM –Noon TLC-Diamond Lake Conference Room	**Assemble Peer Exchange Team** • Select a Team Leader • Discuss Background and Issues • The ODOT mission and context • Discuss exchange strategy	FHWA Guide For Peer Exchanges Past ODOT Peer Exchange Website ODOT Vision and Mission
Noon to 1:00 PM Location TBD	**Lunch**	
1:00 to 3:00PM TLC-Diamond Lake Conference Room	**Intermodal Oregon Context** • Introduction to ODOT's IntermodalOregon • Transportation Chain • ODOT Change framework • What it means to be an "Intermodal DOT"	Transforming ODOT through Intermodal Oregon
3:00 to 3:15	**Break**	
3:15 to 5:00 PM TLC-Diamond Lake Conference Room	**The ODOT Research Process** • ODOT Research Staff • Research Procedures • Overview of ODOT Research Priorities and Selection Process • Overview of ODOT Research Advisory Committee and ODOT Expert Task Groups	Research Staff Directory Research Procedures Manual Research Priorities
6:00 PM	**Dinner** • Peer Exchange Team • Research Staff • Invited guests	

Appendix – Exchange Agenda

TUESDAY, OCTOBER 7:

Time/Location	Activity	Background Materials
8:30 to 11:45 AM TLC-Diamond Lake Conference Room	**Stakeholder Discussion** • Active and Sustainable Transportation • Planning and Economic Analysis • Traffic Safety and Human Factors	Research Priorities Selection Committees
11:45 AM to 1:00 PM Location TBD	**Working Lunch** • ODOT Leadership	ODOT Organization Chart
1:00 to 5:00PM TLC-Diamond Lake Conference Room	**Stakeholder Discussion** • Maintenance and Operations • Structures • Construction, Pavements & Materials • Geotechnical, Hydraulics & Environmental	Research Priorities Selection Committees

WEDNESDAY, OCTOBER 8:

Time/Location	Activity	Background Materials
8:30 to 10:15 TLC-Diamond Lake Conference Room	**Implementation Resources** • Agency Leadership Teams • Communications • IT/IS Resources • Project Champions	Leadership Teams Chart
10:30 to 10:45	**Break**	
10:30 AM to 11:45 AM TLC-Diamond Lake Conference Room	**A Look at the Future** • Transportation Leadership Institute • Transportation Leadership Academy - Salem Area	
11:45 AM to 1:00 PM TLC-Diamond Lake Conference Room	**Working Lunch - Peer Exchange Panel Discussion** • Research Priority Setting • Practices for inclusion of expert knowledge in project selection • Topic areas (Task Groups) to guide future research	
1:00 to 3:00PM TLC-Diamond Lake Conference Room	**Compile Draft Report and Findings**	
3:00 PM	**Adjourn**	