



# OHIO DEPARTMENT OF TRANSPORTATION

Research, Development and Technology Transfer Program  
(SP&R2)



Peer Exchange Report  
September 18 – 21, 2011

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ODOT's Peer Exchange Report  
September 18-21, 2011  
Table of Contents

Introduction .....	2
Peer Exchange Panel Members .....	2
Focus .....	4
Process .....	5
Presentations .....	5
Focus Group .....	5
Deliverables and Debriefing .....	5
Findings .....	5
Best Practices Observed from Presentations .....	5
FHWA Summary .....	5
Iowa Summary .....	6
Establishment and Funding of Iowa's Local Research Program .....	6
Design of IHRB .....	6
Solicitation and Selection Process for the IHRB .....	7
Local Research Project Types and Oversight of the IHRB .....	7
Challenges Acknowledged by the IHRB .....	7
Minnesota Summary .....	8
Establishment and Funding of Minnesota's Local Research Program .....	8
Design of LRRB .....	8
Solicitation and Selection Process for the LRRB .....	9
Local Research Project Types and Oversight of the LRRB .....	9
Challenges Acknowledged by the LRRB .....	9
Focus Group Summary .....	9
Observations of ODOT's Current Situation .....	11
Opportunities and Potential Actions for ODOT .....	11
Ideas for Application by Member Agencies .....	13
Appendix A: Peer Exchange Agenda .....	14
Appendix B: Peer Exchange Contact Information .....	15
Appendix C: Resources .....	16
Iowa's PowerPoint Slideshow .....	16
Minnesota's PowerPoint Slideshow .....	18
Appendix D: Local Research Boards Websites .....	24
Appendix E: Draft Structure for ORIL .....	25

## Introduction

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 5 years. The objective of the peer exchange program is to give State transportation agencies a means to improve the quality and effectiveness of their research management processes. A peer exchange is a practical and effective tool to foster excellence in research, development, and technology transfer (RD&T<sup>2</sup>) program management by providing an opportunity for panelists to share best practices and management 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<sup>2</sup> management process or a specific focus area. Information on the host agency's policies and procedures is shared with panel members prior to the meeting. During the peer exchange, panel members may meet with managers, staff, stakeholders, and customers to gain further insight into the host agency's program. The information gathered from the exchange is documented in a written report and presented to agency management.

### Peer Exchange Panel Members

**Cynthia Gerst** | Research Program Manager  
Ohio Department of Transportation

Cynthia Gerst is the Research Program Manager for the Ohio Department of Transportation (ODOT). She joined ODOT in 2009 as a Project Manager in the Office of Innovation, Partnerships, and Energy. Her skills in developing grant applications resulted in \$52 million of discretionary awards for ODOT. In March 2011, Cynthia became the ODOT Research Program Manager, and the program was simultaneously expanded to include the DOT Library.

**Vanessa Goetz, P.E.** | Secondary Road Research Engineer  
Iowa Department of Transportation  
Research and Technology Bureau

Vanessa Goetz is the Secondary Road Research Engineer in the Research and Technology Bureau of the Iowa Department of Transportation. She is responsible for promoting, conducting, monitoring, and reporting research projects that will improve secondary road performance. She has been with the Bureau since June of 2011. She previously was a Materials Engineer Intern in the Office of Materials for eight years, where she was responsible for approval of new suppliers and manufacturers of various materials with main focus on Epoxy Coated Steel Reinforcement and Treated Wood Products. She has an undergraduate degree in Industrial Engineering from Iowa State University.

**Jack Jernigan, Ph.D.** | Team Director  
Research & Technology Program Development & Partnership Team  
Office of Corporate Research, Technology, and Innovation Management  
Turner-Fairbank Highway Research Center  
Federal Highway Administration

Dr. Jack Jernigan is the Team Director for the Federal Highway Administration's (FHWA) Research and Technology (R&T) Program Development and Partnership Team at the Turner-Fairbank Highway Research Center in McLean, Virginia. Jack's team is responsible for: 1) stewardship of the State Planning and Research Program, Part II; 2) legislative and budget issues related to FHWA's R&T program; 3) fostering partnerships within the R&T community nationally and internationally; 4) the Transportation Pooled Fund program; 5) FHWA's involvement in the National Cooperative Highway Research Program; and 6) fostering innovation delivery for R&T products. Before joining FHWA in 2002, Jack worked for more than 15 years as a highway safety researcher for the Virginia Department of Transportation. Jack has a BA, MA, and Ph.D. in Sociology from the University of Virginia.

**Mark Nahra, P.E.**

County Engineer  
Woodbury County, Iowa

Mark Nahra has been the Woodbury County Engineer since January 1, 2009, replacing Richard Storm who retired in December 2008. He graduated with a Bachelor of Science degree from Iowa State University in May 1984 and started work as Assistant Benton County Engineer after graduation. He has worked as an assistant engineer or county engineer since 1984. Mark has previously served as Cedar County Engineer from 1989-1998, Linn County Administrative Engineer from 1998-1999 and Delaware County Engineer from 1999-2008.

**Michael T. Sheehan, P.E.**

Director of Public Works/County Engineer  
County of Olmstead, Minnesota

Michael Sheehan is a graduate of the University of Minnesota with a Bachelor of Civil Engineering degree. He started his career with the Minnesota Department of Transportation as a Graduate Engineer in the rotation program. He worked with MnDOT in Rochester for eight years with his last four years in preliminary design.

For the past 35 years he has been with Olmsted County. He spent the first 10 years as the Assistant County Engineer and the last 25 years as the County Engineer. He is currently the Public Works Director/County Engineer.

Michael has been a member of the Minnesota County Engineers Association serving on the Standards, Haul Road/Detour, Legislative, Scholarship and Executive Committees. He has also served on the County Engineers Screening Board, co-chair of the Geometric Design Task Force, and President of the Minnesota County Engineers Association. He is also a member of MSPE. Michael has been chair of the Local Road Research Board and the Research Implementation Committee. He is a member of NACE and received the NACE Urban Engineer of the Year in 2004.

**Benjamin Worel, P.E.**

MnROAD Operations Engineer  
Minnesota Department of Transportation  
Office of Materials and Road Research

Ben Worel received his Bachelor of Science degree in Civil Engineering (University of Minnesota, 1989) and his professional license from the State of Minnesota in 1995. His work experience is primarily in the area of pavement research and management. At Braun Intertec (1989-1996) he worked primarily on the Strategic Highway Research Program (SHRP) and the Long Term Pavement Performance project (LTPP). His duties included the development of the LTPP database, coordination of data, and day-to-day operations for the North Central Region, which included 13 states and 2 provinces.

Currently, Ben works for MnDOT (1996-present) as the MnROAD Operations Engineer. His major activities include the coordination of day-to-day activities for the MnROAD site, research direction, and working with the associated data and contracts. Ben also gained additional experience from an 18 month leadership exchange (2009-2011) with MnDOT Research Services. His duties included the development and implementation of research for the national, state, and local governments (Local Road Research Board). Current national efforts include working with TRB, NCHRP, FHWA ETG's, and many pooled fund efforts including being an active ASCE member.



## Other Peer Exchange Participants

Victoria Beale, JD, SPHR  
Ohio Department of Transportation  
Ohio LTAP Center

Debbie Cox  
Ohio Department of Transportation  
Statewide Planning and Research

Vicky Fout  
Ohio Department of Transportation  
Statewide Planning and Research

Leigh Oesterling  
Federal Highway Administration  
Ohio Division

Scott Phinney, P.E.  
Ohio Department of Transportation  
Statewide Planning and Research

Michelle Risko  
County Engineers Association of Ohio  
CSTP/LBR Program Manager

Adam Woodyard  
Ohio Department of Transportation  
Statewide Planning and Research

## Focus Group Participants

Greg Butcher, P.E.  
Violet Township

Stephen Butcher  
Mayor, City of Pataskala

Frank Krashka, P.E.  
Service Director, Concord Township

Rick Mark, P.E.  
City of Lancaster

Mike Meeks, P.E.  
Franklin County Engineers

Jim Snyder  
New Jasper Township

Keith Steeber, P.E.  
City of Dayton

Thomas Tucker, P.E.  
Wadsworth City

## Focus

Despite reorganization and several personnel changes within the past two years, this peer exchange had a very specific focus; it was not an overall discussion of the research program. The objective of this peer exchange was consideration of a program to involve Ohio's local agencies in transportation research. Representatives from Iowa and Minnesota were invited specifically because their states have a long history of experience engaging locals in transportation research. Participants discussed the challenges, strengths, and opportunities of this type of program.



ODOT's research section is now part of the Office of Statewide Planning and Research, and – in partnership with the Ohio LTAP Center – is in the planning stages for a prospective program named ODOT's Research Initiative for Locals (ORIL). The program will be designed to solicit research problems from Ohio's local roadway agencies, contract with transportation research professionals to investigate the problems, and provide implementable solutions that may be deployed on a local or national level.

## 🕒 Process

On September 18-21, 2011, ODOT hosted its fourth Research Peer Exchange. To prepare for the peer exchange, the team received a package of information including:

- Travel details
- A brief description of the research management process
- A tentative meeting agenda (Appendix A)
- A contact list of participants (Appendix B)
- Information about Ohio's locals, the Ohio LTAP Center, and ODOT's Research program
- ODOT's FY2011 Annual Report

## Presentations

During the exchange, panel members shared information about their programs. The presentations (Appendix C) were followed by informal discussion sessions during which participants shared their views and opinions. The initial session helped to create a best practices template that was used to assist in the design of an effective local roadway agency research program.

After a thorough discussion of best practices and ODOT's current research program, peer exchange participants drafted a structure for the ORIL program. Utilizing flipcharts and combined notes, a visual summary of ideas for the program was produced. Appendix E highlights the framework drafted at the peer exchange.

## Focus Group

The panel members met with eight additional participants from Ohio cities, counties, and townships. After an overview of ODOT's prospective local roadway agency research program, a discussion was held to obtain feedback from the local participants and to encourage constructive criticism/recommendations. Major items addressed were:

- Structural and financial concerns
- A list of high-impact research needs
- An assurance that the local roadway agency voice would be heard throughout the program

This focus group session also served as a test model for future collaboration with local agencies.

## Deliverables & Debriefing

The peer exchange culminated in the creation of a draft framework for the ORIL program. All panel members contributed their ideas about what essential information should be included. Each participant spoke about what they felt was accomplished from the peer exchange, including ideas that they would take with them to their own agencies. There was a general agreement that the peer exchange was constructive and valuable. Additionally, panel members were enthusiastic about ODOT's further development of the ORIL program.

## 🕒 Findings

### Best Practices Observed from Presentations

#### FHWA Summary

An overview of FHWA's initiatives concerning research, development and technology transfer was provided. Key items discussed include the following:

- Part of Dr. Jernigan's role is to propose a program-level budget for FHWA research.



- FHWA's budget recommendations to Congress support giving the States more flexibility, to allow for more self-directed spending of the funds (e.g.: 5 programs instead of 55).
- SP&R program is subject to changes and is affected by congressional reauthorization.
- FHWA provides opportunities to connect with partners (e.g.: states, AASHTO, TRB). They provide webinars and virtual "brown bags" to enhance technology transfer.
- Transportation pooled fund program helps states participate in larger projects. Approximately one-third of these projects are managed by FHWA; the rest are managed by various state DOTs.
- The Strategic Highway Research Program (SHRP) 2 leads implementation projects spending with \$250M obligated for research.
- Some new technologies require long-term commitments in order to show a cost savings, such as bridge precast construction.
- Partners should push for implementation of existing research to encourage proposing new research. Implementation makes the most of the funds that are put into research.

### Iowa Summary

An overview of the Iowa DOT SP&R2 program was provided. Discussion then focused on the program designed for local transportation research.



### Establishment and Funding of Iowa's Local Research Program

In 1949, Iowa passed a legislative code that required 1.5% of the road tax be set aside to fund research for locals. As a result, the Iowa Highway Research Board (IHRB) was established to oversee the local research program and the corresponding annual budget of approximately \$1.2M. In 1989, additional legislation was passed allocating municipal funding be set aside for cities. Approximately \$100,000 is taken from the road use tax for research prior to the funds being distributed to the locals. Typically, SP&R2 funds are not used for local research; however, the Iowa Division Office of FHWA has said that IHRB research projects that are applicable to the federal aid system can utilize SP&R2 funds.

### Design of the IHRB

The IHRB consists of 15 members:

- 7 County Engineers
  - Each member is nominated by the Iowa County Engineers Association (ICEA)
  - One representative from each of the 6 districts plus the ICEA representative to the Transportation Research Board
- 4 Iowa DOT personnel
  - DOT engineers who have no administrative responsibilities and serve as technical reviewers for projects within their areas of interest/expertise
- 2 City Engineers
  - Nominated by the Iowa American Public Works Association
- 2 University Representatives
  - The State of Iowa only has two universities with engineering programs
  - One representative is from Iowa State University
  - One representative is from the University of Iowa
  - Typically, the representatives are the Chairs of the Departments of Civil Engineering

Members serve a three year term on the board. Prior to being a full member of the Board, individuals serve as an alternate for three years. The IHRB meets the last Friday of each month, excluding March, August, and November. The Secondary Road Research Engineer of the Iowa DOT works directly with the IHRB. This position is funded by the secondary road research funds, not the Iowa DOT, allowing this individual to work directly with locals. The Iowa DOT Operations Engineer serves as the Executive Secretary to the board and oversees administrative duties such as drafting RFPs, budget management, and meeting agendas. Communication among board members typically occurs via email. A website is also available for information on projects, including final reports ([http://www.iowadot.gov/operationsresearch/iowa\\_highway\\_research\\_board.html](http://www.iowadot.gov/operationsresearch/iowa_highway_research_board.html)).

The IHRB serves as an Advisory Board to the Iowa DOT. While the Iowa DOT oversees funding of primary, secondary, and municipal road projects, the IHRB oversees the selection of research projects and researchers for projects involving secondary and municipal roads. Contracts for IHRB projects are issued by Iowa DOT.

### **Solicitation and Selection Process for the IHRB**

The IHRB identifies, prioritizes and selects projects on an annual basis. In addition to the annual selection, projects of merit (or emergency) can be identified and programed “off-cycle”. The IHRB also considers novel idea projects. Typically, novel projects are accompanied by higher costs and higher risks; however, these projects tend to have a greater impact that is more long-term. Outside projects or projects that include joint funding from a separate source, such as USGS or a municipality, are also considered.

The schedule for the selection process is designed around the academic calendars of the two Iowa universities. Focus groups are held in January/February to solicit for ideas. Attendees at these focus groups include representatives from industry, DOT, counties, and locals. There is no standard form required to recommend a project. A vote is taken at the IHRB meeting and a quorum of 8 votes is required in order for a project to move forward. In the event a project that is under consideration was submitted by a board member (e.g.: the University of Iowa), that member will abstain from the voting. The IHRB develops the scopes and RFPs and then issues the solicitation. Universities are aware that recommending a project to the IHRB does not guarantee that their institution will be awarded the project following the solicitation. Also, universities may be asked to work with other institutions in order to combine aspects of two proposals into one collaborative project.

Typically, 20-25 projects are submitted to the IHRB. Of these, approximately 10-15 may be funded based on availability of funds. Currently, funding on individual projects approved by the IHRB is allocated: 40% primary, 50% secondary, and 10% city.

### **Local Research Project Types and Oversight of the IHRB**

The subject matter of the research projects conducted through the IHRB are vast including topics such as bridges, culverts, pavements, drainage, roadside management, and so forth. In addition to “standard projects,” IHRB conducts engineering studies (e.g.: updating standards) and provides partial funding support for the USGS gauging network. The IHRB has also supported projects investigating policy issues and provides the annual state required funding match to the Iowa LTAP program (approximately \$140K).

Each project funded by the IHRB has an advisory committee. The committee oversees the project’s progress and provides technical review and guidance. The advisory committee is also involved in the writing of the RFP and selection of the researcher. The committees are comprised of various individuals from across the state that have an interest and expertise in the topic. Each committee has a champion, who is typically the person who proposed the project. A committee champion does not have to be a member of the IHRB. In general, project advisory committees meet quarterly to discuss the project, but this may vary depending on the specific project.

The Iowa County Engineers Association has a mentoring program in which retired county engineers serve as mentors for new county engineers.

### **Challenges Acknowledged by the IHRB**

It is getting harder to get individuals involved on project advisory committees. The use of technology (e.g.: email, “go-to meeting” sites, etc.) has provided some assistance in making it easier for people to participate, but it is still challenging to identify people with time available to serve.

Assisting the newer generation of engineers to be aware of existing knowledge and understand what has already been done and how that could be applied can be challenging. Coordination with Iowa LTAP has provided assistance in this particular area.

## Minnesota Summary

An overview of the Minnesota DOT SP&R2 program was provided. Discussion then focused on the program designed for local transportation research.



### Establishment and Funding of Minnesota's Local Research Program

In 1959, Minnesota passed a legislative mandate that required 0.5% of the state aid allocation be set aside to fund research for locals. As a result, the Minnesota Local Road Research Board (LRRB) was established to oversee the local research program and the corresponding annual budget of approximately \$2.5M. SP&R2 funds are not used for local research.

### Design of the LRRB

The LRRB consists of 10 members:

- 4 County Engineers
- 2 City Engineers
- 1 Representative from the University of Minnesota
- 3 Representatives from the MnDOT
  - The State Aid Engineer
  - Research Services Representative
  - MnDOT Technical Staff Member

Members serve a six year term on the board, with the exception of the MnDOT State Aid Engineer and Research Services Representative whose appointments to the board do not expire.

The LRRB holds four annual meetings:

- Spring – strategy meeting
- Summer – project review meeting
- Fall – program review meeting
- Winter – programming meeting

Three separate committees function underneath the LRRB:

- Outreach Subcommittee
  - Increase awareness of LRRB and projects within the transportation community
  - Meets as needed
  - Includes LRRB members and MnDOT staff
- Strategic Planning Subcommittee
  - Establishes and reviews the LRRB strategic plan
  - Meets every 3 years
  - Includes LRRB members and MnDOT staff
- Research Implementation Committee (RIC)
  - Implements results of research and performs technology transfer (puts research into action/practical application)
  - Meets quarterly
  - RIC Membership includes:
    - 4 County Engineers
    - 2 City Engineers
    - 1 University of Minnesota Representative (non-voting member)
    - 4 Representatives from MnDOT
      - MnDOT Deputy State Aid Engineer
      - MnDOT District State-Aid Engineer
      - Research Services Representative
      - MnDOT Office of Materials Representative
    - RIC members are generally different from LRRB members with the exception of one local agency member who serves on both groups to ensure continuity.

- RIC has a consultant on a 5-year task order contract to perform implementation activities as directed. The agreement is written to allow for flexibility to package products specifically for use by locals as identified.

A website is also available for information on projects, including final reports (<http://www.lrrb.org/about.aspx>).

### **Solicitation and Selection for the LRRB**

The LRRB utilizes focus groups to brainstorm for project ideas. This typically occurs during an annual meeting. The project ideas are ranked by low/medium/high. To determine the level of interest in a particular project, the LRRB utilizes the website Idea Scale (<http://mndot-lrrb.ideascale.com>). This site allows for multiple stakeholders to review a project idea and give a “thumbs-up” or “thumbs-down” as to whether or not projects should be pursued. Ideas must have a champion (either a local or MnDOT staff) in order to move forward. Approved ideas are developed into proposals by researchers who are on master agreements. The LRRB reviews and approves proposals.

MnDOT provides administrative support and technical assistance on the projects; however, the LRRB monitors the progress of the projects. All LRRB projects are tracked by MnDOT in the Automated Research Tracking System (ARTS). ARTS is an Oracle based system that tracks all research activities involving MnDOT.

### **Local Research Project Types of Oversight of the LRRB**

The subject matter of the research projects conducted through the LRRB are vast including topics such as pavement management, implements of husbandry, trail corridor management, rural road safety, and so forth. Each project that goes through the LRRB is assigned a Technical Advisory Panel (TAP). These TAPs are similar to TRB committees/subcommittees in their structure and function. Recently, the option of being a “friend” of a TAP was made available. This allows for individuals and industry representatives to be involved or informed on projects that are of interest without having direct responsibilities. When work on a research project has concluded, in addition to the TAP, the LRRB and RIC review the results and determine if further action (i.e.: implementation) is warranted.

The LRRB also works directly with the Minnesota LTAP. LTAP provides assistance in the coordination of various programs for the LRRB including the following:

- Circuit Trainer Assistance Program
- MN Maintenance Research Expo
  - Held annually to highlight various research results and activities
- Operational Research Assistance (OPREA)
  - LRRB sets aside approximately \$70K annually to fund OPERA
  - Maintenance staff of cities and counties can apply for \$10K funding for applied research

### **Challenges Acknowledged by the LRRB**

While the county gas tax includes the legislative set-aside for funding local research, the township gas tax does not include this direct funding requirement. There is a general thought that it would be more equitable to have all who are benefiting from the collaborative expertise of the research to assist in incurring the costs.

### **Focus Group Summary**

The discussion during the focus group covered a variety of topics ranging from overall Ohio local program potential design and funding to potential research topics. Overall, local representatives indicated a strong interest in the concept and expressed a willingness to participate in the initiative. Concerns were also expressed. Below is a summary of the key topics discussed during the focus group.

- Concern over this program being too “ODOT-ish” was expressed. Locals do not want this program to feel like something is being forced on them by the state or that they are “step-children.” In general, the locals have a stronger connection with the ODOT District Offices than

Central Office. This relationship may prove to be useful in organizing projects and conducting reviews.

- The need to build (and maintain) a network of communication among the locals was discussed at length.
- As the program is designed and executed, careful attention should be paid to ensure that a mentality of “one-size fits all” is not adopted.
- There is a need for training among the locals. This program could play a vital role in training and technology transfer for the locals. Examples of training that were provided include the proper way to conduct inspections and a Roads Scholar program.
- Research should be based on application and use in the real world. Theoretical research (in general) is not needed by locals. Instead, applied research providing recommendations which are ready for implementation is needed.
- While there is interest in research, there are some concerns with funding. In general, the participants think this would be a good investment; however, funding to the locals has been cut significantly. With the funding cuts, some locals are finding it difficult to provide standard services, much less fund research activities.



The only means locals currently have to raise money is by raising taxes. Overall, participants felt it would be good for locals to have some “skin in the game” in terms of funding as it provides an overall stronger sense of ownership; however, given current conditions even providing partial funding for research would be “near impossible.”

- Participants liked the idea of hosting initial forums. Focus groups with locals held across the state at ODOT district and central offices would ease travel and allow for more participation. However, concern was expressed that these events, although they are hosted at an ODOT facility, remain as events for locals and not be an ODOT event.
- A local program needs to be inclusive of all local transportation entities. Concerns of not forgetting the smaller local entities (such as cities, villages, and townships) were expressed. Input from these smaller entities should be given equal consideration as those of the larger organizations (such as MPOs and counties).
- A brief brainstorming session occurred to collect ideas for potential local research needs. Some of the suggestions provided by participants include the following:
  - General research needs studies
  - Analysis of requirements from external agencies (e.g., OEPA, Fish and Wildlife Service) and their impact on construction projects
  - An analysis on the coordination with utility companies
  - Acquisition of right-of-way
  - Creation of common design specifications to reduce duplication
  - Access management
  - Asset management and corresponding cost benefit analysis
  - Evaluation of newer products and newer processes

During the brainstorming session it was acknowledged that some of the ideas may already exist. The issue is that more often than not, the information is either theoretical in nature or directed towards state-wide application and it is not easily translated into something that is applicable to the locals. This proposed program, via technology transfer, could be a conduit for transitioning state level analysis to local level application.

## Observations of ODOT's Current Situation



Currently, there is not a process at ODOT to specifically address local research needs. Based on the discussion held at the peer exchange, below are some of the key differences between Ohio and the participating states. These differences will need to be acknowledged and addressed during the development of a new program focusing on local transportation research needs.

- Ohio currently does not have any legislation mandating funding for local transportation research. The current economic and political climate of Ohio will impede the possibility of seeking legislation for set-aside or “off-the-top” funding from either state or local gas tax revenues. While this could be a consideration for long-term development of a program for locals, it is not a feasible consideration for current and near-future program development.
- Ohio Townships are responsible for managing their own roadways. Township Trustees are elected officials. Terms last for four years.
- Ohio Counties are responsible for managing their own roadways. County Engineers are elected officials. Terms last for four years.
- Metropolitan Planning Organizations (MPOs) have important relationships with locals in Ohio. Even though they do not cover the entire state, their participation and subsequent contributions to a local focused research program would be essential. Ohio currently has 17 active MPOs statewide.
- Ohio has numerous institutions of higher education located throughout the state. Currently, there are 13 universities with accredited civil engineering programs located in Ohio. Competition and collaboration among the universities is encouraged through open solicitations for research projects.
- The Ohio LTAP Center is staffed and managed by ODOT. It is part of the Training Office in the Division of Quality and Human Resources.
- The State of Ohio Controlling Board is a legislative oversight committee that reviews and approves all state issued, non-bid contracts with non-state entities containing funding in excess of \$50,000 in a given fiscal year. The process to obtain approval can be time consuming and impact individual project schedules.

## Opportunities & Potential Actions for ODOT

Taking into consideration the design and functionality of the local programs in Iowa and Minnesota, the discussion with the Ohio local transportation officials during the focus group, and a brief overview provided by ODOT of ODOT's current research program and structure, the peer exchange panel participants identified the following items as opportunities and potential items Ohio could consider during the development of a local research program.

- Enhance the partnership with the Ohio LTAP Center. Increasing their role can greatly improve technology transfer activities.
- Leverage existing research and findings in the vetting process for proposed research reviewed by the ORIL Board.
- Since Ohio has such a large number of universities, it will not be practical to include a representative from every university on the ORIL Board. Utilize the existing University Transportation Centers (UTC) on the ORIL Board in order to include the crucial academic perspective. UTC members could rotate in order to involve more universities.
- Be flexible and adaptive in order to avoid “one size fits all” and “all-or-nothing” approaches.
- Be sensitive of timing issues while designing the process for developing and selecting projects. Research should be conducted promptly to meet the needs of the locals; however, be cautious not to exacerbate the peak periods of ODOT's current SP&R2 program.
- Research needs outweigh ODOT's current research resources. Therefore it will be critical to provide a return-on-investment from the onset of the ORIL program in order to demonstrate its overall value and encourage participation.

- Historically, Ohio has had a strong project development/literature review process, anchored by the experience and national presence of previous leadership. There is a need to re-establish this expertise within the DOT so it can be transferred to local research activities appropriately.
- Implementation is a critical research component. This must be at the forefront of all projects.
- At times, Ohio counties work independently on projects that could have a greater impact beyond their boarders. The ORIL program could be a conduit for sharing this information and/or expanding the work/analysis to be applicable to additional entities as well as assist with funding.

The Peer Exchange panel recommends the following course of action for Ohio to consider in pursuing the development of a local research program:

- Immediate next steps:
  - Create the ORIL Board. A recommendation for the structure of the ORIL Board is provided below. All Board members should have an alternate.
    - 4 County Engineers
      - Nominated by the Ohio County Engineers Association
      - Serve a 4-year long term. Rotation off the Board should be staggered
    - 4 City Engineers
      - Serve a 4-year long term. Rotation off the Board should be staggered
    - 2 UTC/University Representatives
      - Serve a 2-year long term. Rotation off the Board should be staggered
    - 4 ODOT Technical Staff
      - Representative of four core transportation areas: Maintenance, Structures, Pavements/Materials, and Geotechnical.
      - Serve a 4-year long term. Rotation off the Board should be staggered.
      - Include District staff in the appointments as appropriate; all ODOT representation should not be Central Office staff.
      - One of the ODOT Technical Staff members must also serve on the ODOT Standing Committee on Research (OSCOR) to ensure continuity and communication with the SP&R2 program.
    - 3 Non-Voting members whose appointments do not expire.
      - 1 FHWA Ohio Division
      - 1 Ohio LTAP
      - 1 ODOT Research Program
        - Either the Ohio LTAP or ODOT Research Program representative should serve as the Executive Secretary to the Board.
  - Conduct focus groups for the locals to inform them of this new concept, share ideas and concerns, encourage participation and gain “buy-in,” develop consensus, and identify potential research needs. Consider utilizing ODOT District Offices as meeting locations to lessen travel demands on participants.
  - Utilize Ohio LTAP to effectively interact with our local roadway agencies.
  - Reach out to other organizations that service the locals to gain support and assistance such as the Ohio County Engineering Association, Ohio Township Association, MPOs, Regional Planning Organizations, and Ohio Public Works Commission.
  - Sustain an upward “flow” through ODOT leadership for continued support of the program.
  - As projects begin, focus on specific, high-impact project ideas that will make locals want to participate and be a part of more research.

In addition, the peer exchange panel recommends that the following short- and long-term goals be kept in mind as the program is developed:

- Short-term Goals:
  - Encourage the ORIL Board to develop the processes and procedures for how the program will function. While the use of SP&R2 funds will dictate certain rules and regulations, the Board members (not ODOT) should determine how research ideas will

- be identified, selected, prioritized, and managed. This will instill a sense of ownership of the program in the locals and help make this program seem less “ODOT-ish”.
  - Develop a structure to allow for locals to provide a funding match. For example, this could begin on a project-by-project basis and move towards an overall “fee” for program participation.
- Long-term Goals:
  - Obtain legislative support for the program with a permanent funding stream (e.g.: establish a percentage of the fuel tax to be set-aside to fund local research activities). The ultimate goal is to have this program be self-sustaining and not reliant upon SP&R2 funds in order to exist.

## 🕒 Ideas for Application by Member Agencies

Each member of the peer exchange panel was asked to provide specific items they planned to take back to their respective DOT/agency for consideration. These items are summarized below.

Cynthia Gerst:

- Focus efforts on communication and relationship building between research, districts, and locals.
- Expand cross-training within research to retain best practices and operating capacity in the future.
- Take care to pace ourselves with changes; avoid overcommitting, and simplify processes.

Vanessa Goetz:

- Utilize a searchable database system for research projects, similar to Minnesota's ARTS.
- Consider a separate research implementation committee, or implementation contract through IHRB.

Jack Jernigan:

- The SP&R2 coordinator, a new role at FHWA, is a good fit. Based on findings at the peer exchange, make the best of these funds.
- Integrate LTAP with implementation, delivery of technology transfer, and allocation of funds.
- Manageable process to identify research needs.

Mark Nahra:

- A needs study is of interest to County Engineers Associations, since the smaller counties are unable to match funds for much research.
- Iowa LTAP Center should be phased out of research funds.

Mike Sheehan:

- Involvement at the local level can include smaller entities such as townships.
- Include research perspective in day-to-day activities, with a strong focus on implementation.

Ben Worel:

- Stay involved with locals, using grassroots communication efforts, including more focus groups.
- Keep goals relevant to research needs throughout the research program.
- Retain in-house technical staff.

## Appendix A: Peer Exchange Agenda



**ODOT Research Peer Exchange**  
**September 18 – 21, 2011**  
**Courtyard by Marriot Columbus Easton**



### **Sunday, September 18, 2011**

5:30 pm Committee Orientation

### **Monday, September 19, 2011**

8:00 am Registration and breakfast  
9:00 am Peer Exchange Introduction  
9:30 am Iowa DOT perspective  
10:30 am Break  
10:45 am Iowa county perspective  
12:00 pm Lunch  
1:00 pm Minnesota DOT perspective  
2:30 pm Break  
2:45 pm Minnesota county perspective  
5:00 pm Break  
6:00 pm Clarification of common themes

### **Tuesday, September 20, 2011**

8:00 am Registration and breakfast  
9:00 am Development of draft structure for ORIL  
10:30 am Break  
10:45 am Development of draft structure for ORIL continued  
12:00 pm Lunch  
1:00 pm Depart for Ohio Locals Focus Group (Dept. of Agriculture, 8995 E. Main St.)  
1:30 pm Focus Group  
5:00 pm Break  
6:00 pm Clarification of overlapping issues

### **Wednesday, September 21, 2011**

8:00 am Registration and breakfast  
9:00 am Development of final report  
11:30 am Break  
11:45 am Debriefing of committee  
1:00 pm Departure

## Appendix B: Peer Exchange Contact Information



**ODOT Research Peer Exchange**  
**September 18 – 21, 2011**  
**Courtyard by Marriot Columbus Easton**



### Panel Members

Cynthia Gerst  
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### Other Participants

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Scott Phinney  
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Michelle Risko  
County Engineer's Association of Ohio  
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Adam Woodyard  
Ohio Department of Transportation  
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## Appendix C: Resources

### Iowa DOT PowerPoint Slideshow

State and Local Partnership in Research  
**IOWA DEPARTMENT OF TRANSPORTATION**

Research and Technology Bureau  
**PROGRAM OVERVIEW**

**OUR RESEARCH PROGRAM**

- ✦ Over 60 years old – 1949 and 1950
- ✦ Iowa Highway Research Board
- ✦ Leverage over \$8M each year –
  - + Primary Road Research Funds
  - + SPR 2
  - + IA Traffic and Safety Improvement Program
  - + Intelligent Transportation System (ITS)
  - + Iowa Living Roadway Trust Fund

**OVERVIEW...**

- ✦ Project specific funds:
  - + IBRD
  - + SHRP II
  - + Highways for Life
  - + FHWA Technology Deployment Funds
  - + Others:

Iowa Highway Research Board  
**LOCAL RESEARCH AND OUR PROGRAM**

**IOWA HIGHWAY RESEARCH BOARD**

- ✦ 1949 – Legislature established the Secondary Road Research Fund in the Iowa Code
  - + Iowa DOT has oversight of the funds
  - + Highway Commission allocated funding for Primary Road Research
- ✦ IHRB – advisory board to the DOT
- ✦ 1989 – Legislation allocates municipal funds for city

## IHRB...

- ✦ First meeting of the board was in 1950
- ✦ 15 members
  - + 7 County Engineers
  - + 4 Iowa DOT
  - + 2 City Engineers
  - + 2 University Representatives
- ✦ Alternate members

## IHRB – RELATIONSHIP WITH LOCALS

- ✦ Has received National attention as a leader in transportation research implementation
- ✦ Huge impact in Transportation over the years:
  - + Iowa Method of Low Slump dense deck concrete overlay
  - + '70s: Kossuth County - Recycled Asphalt
- ✦ Relevant and beneficial relationship with locals
- ✦ County representation at the board
- ✦ Secondary Road Research Engineer

Our Local Research

## STRUCTURE OF THE LOCAL PROGRAM

## OPERATIONS

- ✦ DOT oversees the Primary, Secondary, and Municipal Road Research Fund used for IHRB projects
- ✦ Operations Research Engineer – executive secretary to the board
- ✦ IHRB – Advisor to DOT

## OPERATIONS...

- ✦ Calendar – yearly calendar updated in January
- ✦ Communication – Mostly electronic:
  - + Via e-mail with board members
  - + Through our website
- ✦ Board “Packet” for monthly meeting
  - + Agenda, proposals, RFP, reports, topics list for ranking
  - + 1 ½ weeks prior to the meeting
  - + Available through website with secure log-in

## SOLICITATION PROCESS

- ✦ Ways to Identify projects
  - + Through annual prioritized program
  - + Projects of merit not in prioritized program/emergency
  - + Continuation of previous projects
  - + Novel Idea projects
  - + Outside/joint funding sources for projects

## SOLICITATION CYCLE

- ✦ January/February –
  - + various focus groups
  - + Solicitation for ideas: interested parties, board members, DOT, City and County staff
- ✦ April – Topic Prioritization and Ranking
- ✦ June and October – RFP
- ✦ February – Pilot Project for Novel Ideas solicitation (due in April)
- ✦ Merit/emergency and joint funding proposals are accepted year round

## SELECTION PROCESS

- ✦ Proposals submitted to the board are reviewed at the next meeting
- ✦ Projects must receive a quorum of 8 votes to be approved
- ✦ Forms – Proposal Format and Quarterly Reports, Tech Briefs (sample)
- ✦ Final Report
  - + Cover sheet (Project Number), inside cover, table of contents, acknowledgments.

## FOCUS OF RESEARCH PROGRAM

- ✦ Local focus is integrated into the research board program
- ✦ Areas of Research:
  - + Aggregate and Geotechnical
  - + Pavement Management/Engineering Data
  - + R.O.W/Roadside Management
  - + Hydraulics/Hydrology/Dra nage
  - + Materials
  - + Maintenance
  - + Pavements
  - + Policy, Specs, Economic, Legal
  - + Bridges and Structures
  - + Social/Environmental
  - + Traffic and Safety

## FUNDING OF PROJECTS

- ✦ Originally for every project the board discussed and decided on funding percentage from each IHRB fund.
- ✦ Each project now is funded from 40% Primary, 50% Secondary, and 10% City funds
- ✦ Exceptions:
  - + For projects that only benefit one group, project may be different split of funds (100% county, 100% DOT, etc)
  - + Outside Source Joint Funding
- ✦ SPR Funds Eligibility or Concern:
  - + Not normally used for Local Research
  - + Missouri River Flooding Project
    - ✦ Project has to have a research component and tech transfer to it
    - ✦ Research has to be applicable to similar infrastructure in the Federal Aid system

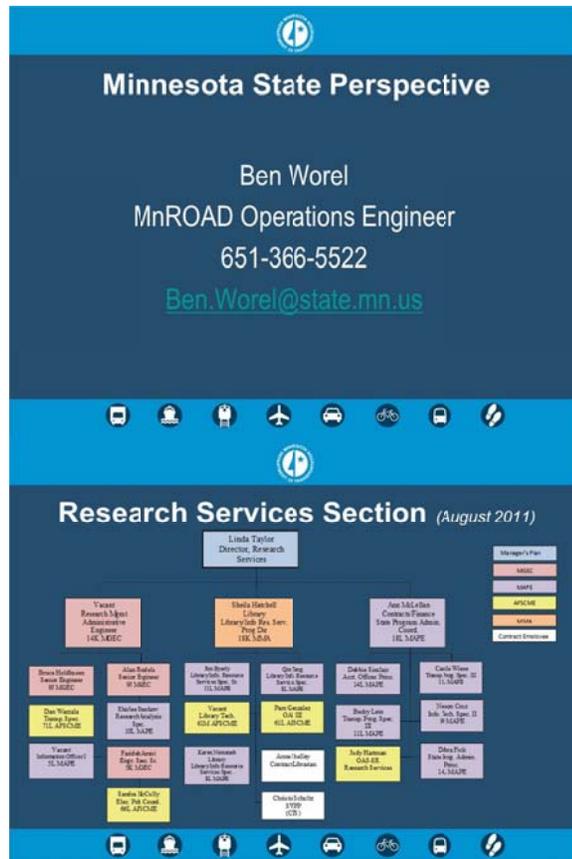
## MnDOT PowerPoint Slideshow



**MnDOT State Perspective**  
**ODOT Peer Exchange**  
*Your Destination... Our Priority*

**What does Research Services do?**

- Help MnDOT staff do their job
  - Support research and informational needs
  - Help realize long range innovation efforts
- Research Services
  - Research Program
    - National Program
    - State Research Program (S P & R Part 1 & 2)
    - Administer the Local Road Research Board
  - MnDOT Library
  - Financial Section



**Minnesota State Perspective**

Ben Worel  
 MnROAD Operations Engineer  
 651-366-5522  
[Ben.Worel@state.mn.us](mailto:Ben.Worel@state.mn.us)

**Research Services Section (August 2011)**

Organizational chart showing the hierarchy of the Research Services Section as of August 2011. At the top is Linda Taylor, Director of Research Services. Reporting to her are three main areas: Research Support Administration, Library, and Contract/Funding. Each area has several staff members listed with their titles and departments.

Staff Name	Title	Department
Linda Taylor	Director, Research Services	MSRSC
Yvonne	Research Support Administration	MSRSC
Shelia Hackett	Library	MSRSC
Ann Sellen	Contract/Funding	MSRSC
Don Wanda	Research Support	MSRSC
Shelia Hackett	Library	MSRSC
Yvonne	Research Support	MSRSC
Ann Sellen	Contract/Funding	MSRSC
Don Wanda	Research Support	MSRSC
Shelia Hackett	Library	MSRSC
Yvonne	Research Support	MSRSC
Ann Sellen	Contract/Funding	MSRSC
Don Wanda	Research Support	MSRSC
Shelia Hackett	Library	MSRSC
Yvonne	Research Support	MSRSC
Ann Sellen	Contract/Funding	MSRSC
Don Wanda	Research Support	MSRSC

## Contracting Methods

- Master Agreements (5 Universities)
- Minnesota State Universities (MnSCU)
- Professional/Technical Contracts
- Technical Research Assistance Program (TRAP)

## Program Funding Overview (2010 budget)

FY2010 Research Funds by Funding Source	Amount
State Research Program	\$3,245,222
FHWA State Planning and Research (Part II)	\$2,742,215
Local Road Research Board	\$2,525,135
Cooperative Program for Transportation Research and Studies (COPTRS)	\$357,929
Other*	\$773,752
<b>Total</b>	<b>\$9,644,253</b>

\* Includes contributions from other MnDOT offices (Maintenance, Traffic, Materials, Investment Management and Policy Analysis, Research & Innovation) and districts along with the Twin Cities Metropolitan Council and the University of Minnesota Intelligent Transportation Systems Institute.

## Research Cycles

- Implementation Cycle (Spring)
  - 1 million SP&R (80-20)
  - Equipment and Software (State)
- Academic RFP Cycle (Fall)
  - 8-10 Projects / Funding Program
- Funding Programs
  - Federal (SP&R)
  - State (State & COPTRS)
  - Local Road Research Programs
- Governing Boards (TRIG and LRRB)

## MnDOT and LRRB Research Process

## Research Process – Project Development

## Stakeholder Involvement: User Input

MnDOT's Research Needs Gathering Website

## Automated Research Tracking System (ARTS)

**Project Management**

- TAPS, AL, TL, PI
- Reporting (Tracking Progress)
- Deliverables

**Financial**

- Contracts and Amendments / Invoices
- Task Due Dates / Comments
- RoadMapping / Idea Development

## Outreach and Marketing Overview

- Annual Report & At-A-Glance
  - Research Program
  - Local Road Research Board
  - State Planning and Research (SP&R)
- Technical Summaries
- Transportation Research Synthesis
- Research & Innovation Presentation Series
- Other Resource Materials
- Website
- Database



## Benefits

- Leading to Joint Research Funding
  - Individual Research Contracts
  - Long Term Research Needs
- Collaboration of State and Local Engineers
  - Participation on Research TAPs
  - LRRB Funded State Staff/Experts
  - Boards (ITS Institute, LRRB/RIC, TERRA)
- Implementation to Federal, State, Local Levels
- Education Opportunities
  - Conferences




## More Information

- **MnDOT Reseach Website**  
<http://www.dot.state.mn.us/research/index.html>
- **MnDOT Director of Research Services**  
 Linda Taylor, P.E.  
[linda.taylor@state.mn.us](mailto:linda.taylor@state.mn.us)
- **Connect with MnDOT Research**  
 Facebook, Twitter, and LinkedIn



### Minnesota LRRB PowerPoint Slideshow





## LOCAL ROAD RESEARCH BOARD

MAKING A DIFFERENCE

Local Perspective  
ODOT Peer Exchange

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### LRRB Funding

- Legislatively funded (1959)
- Up to 1/2% of State Aid allocation devoted to local road research
- Research is:
  - Managed by the LRRB
  - Conducted by DOT, U of M, MnSCU, other universities, Consultants, etc.
  - Administered by MnDOT Research Services

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## Minnesota Local Perspective

Michael Sheehan  
 Olmsted County Engineer  
[sheehan.michael@co.olmsted.mn.us](mailto:sheehan.michael@co.olmsted.mn.us)

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### LRRB Annual Program:

- Program Administration
- Library
- MnROAD
  - Facility Support
  - Technical Transfer & Support
- Local Technical Assistance Program (LTAP)
  - Circuit Trainer Assistance Program (CTAP)
  - MN Maintenance Research Expo
  - Transportation Student Development
- OPERA

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## LRRB Membership

### LRRB Members

Rick West, Otter Tail County (Chair)  
 Mitch Anderson, Stearns County  
 Deb Bloom, City of Roseville  
 Bruce Hasbargen, Lk of Woods City  
 Steve Koehler, City of New Ulm  
 Laurie McGinnis, U of M - CTS  
 Sue Miller, Freeborn County  
 Tom Ravn, MnDOT OCIC  
 Julie Skallman, MnDOT State Aid  
 Linda Taylor, MnDOT Research Service

### RIC Members

Rich Sanders, Polk County (Chair)  
 Farideh Amiri, MnDOT Research Services  
 Tom Colbert, City of Eagan  
 Jim Grothaus, U of M - CTS  
 Jeff Hulseher, City of Brainerd  
 Maureen Jensen, MnDOT Materials and Road Research  
 Rick Kjonaas, MnDOT State Aid  
 Walt Leu, MnDOT State Aid, D1  
 Sue Miller, Freeborn County  
 Mitch Rasmussen, Scott County  
 Tim Stahl, Jackson County

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## LRRB Committee Structure



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## LRRB Outreach and Marketing

- Newsletters (2/Year)
- Web Updates (6/Year)
- National Publication (1/Year)
- Conference Presentation (up to 5/Year)
- Conference Exhibits (up to 5/Year)
- Coordination Meetings (2/Year)

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## OPERA: Operational Research Assistance

- Funded by LRRB (\$70k annually)
- Administered by LTAP
- Encourages maintenance employees from all cities and counties to get involved in operational or "hands-on" research.
- Funds projects up to \$10,000
  - Easy application process
  - Simple final report process
- <http://www.mnltap.umn.edu/about/programs/opera/>



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## LRRB Meeting Schedule

- Four Annual Meetings
  - Strategy Meeting (Spring)
  - Project Review Meeting (Summer)
  - Program Review Meeting (Fall)
  - Programming Meeting (Winter)

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## LRRB Process



## LRRB/RIC Project Selection Process



### Strengths

- Locals empowered to manage their own program
- RIC has on-staff contractor
- LRRB can fund and initiate a contract at anytime
- Ability to leverage by partnering with MnDOT

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## OPERA: Operational Research Assistance

- Project Examples:
  - Magnesium Chloride Dust Coating Evaluation
  - Automated Vehicle Location
  - Cushion Release Push Frame and Weight Transfer Kits
  - Erosion Control Project Evaluation of Grader Front-Mounted Retriever Hitch
  - U.S. National Grid Field Marker Prototyping
  - GPS/AVL Tracking and Mapping
  - Ultra-Guard Cart Test



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## Water Resources Research

- Research to protect lakes/streams:
  - storm water
  - culvert design for fish passage
  - wetlands
  - subsurface drainage
  - invasive species management
- Assessment of Stormwater Treatment Devices 2007-046
  - Devices not as efficient as expected
  - Dependent on maintenance practices
  - Based on LRRB research ASCE and ASTM are working on national protocols



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## Projects Highlights:



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## Projects Highlights: "Sign Retroreflectivity – A Minnesota Toolkit"

- Provides guidance to agencies on developing a sign assessment or management method to meet the retroreflectivity requirements.
- The report provides information on:
  - Retroreflectivity requirements
  - Resources that are available
  - Summaries of various assessment and maintenance methods
  - Examples of sign inventories, policies and signing agreements (with other agencies).
- The full report is available at: [www.lrrb.org/PDF/2010RIC02.pdf](http://www.lrrb.org/PDF/2010RIC02.pdf)



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## Projects Highlights: Pavement Management DVD

- Pavement management systems assist with maintaining a network of roadways.
- The LRRB developed a series of tools:
  - DVD
  - Report/Guide
  - Case Studies
  - Matrix of software programs used in Minnesota
- These tools are available at: [www.lrrb.org/pdf/2009RIC11.pdf](http://www.lrrb.org/pdf/2009RIC11.pdf)



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## Water Resources Research

### LRRB research that was implemented:

- Resource for Implementing a Street Sweeping Best Practice LRRB 2008RIC06 <http://www.lrrb.org/pdf/2008RIC06.pdf>
- Stormwater Maintenance BMP Resource Guide LRRB 2009RIC12 <http://www.lrrb.org/pdf/2009RIC12.pdf>
- Selecting Stormwater BMPs – Identifying The Best Options <http://www.lrrb.org/pdf/2011RIC01.pdf>



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## Projects Highlights: Traffic Generators

- Best practices for MN engineers:
  - Outlines a process for interaction with developers of wind farms.
  - Gives direction on how to effectively deal with large construction (traffic generators)
- Downloadable interactive document includes:
  - Web links and reports
  - Sample ordinances, permits, agreements and maps
  - Calculator to quantify the traffic impact on roads
    - Being expanded to include other generators (i.e. garbage haulers)
  - Policy options to recapture roadway maintenance costs
- Document is available at: <http://www.lrrb.org/trafcalc.aspx>



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## Projects Highlights: "Traffic Sign Maintenance/Mgmt Handbook"

- Provides guidance to agencies on developing and implementing sign management and maintenance practices and policies to meet the retroreflectivity requirements.
- The handbook provides information on:
  - Required Signs
  - Signs proven to change driver behavior or reduce crashes
  - Insight on removing unnecessary and ineffective signage
- The full report is available at: [www.lrrb.org/PDF/2010RIC10.pdf](http://www.lrrb.org/PDF/2010RIC10.pdf)



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## Implements of Husbandry

- Several earlier studies
- Currently participating in a pooled-fund study with MN, IA, IL, WI and the PNAAW
- Objective:
  - Determine pavement response by using MnROAD's comprehensive pavement sensor network system to evaluate 14 different types of vehicles
  - Compare pavement response to typical 5-axle semi.



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## 📍 Appendix D: Local Research Boards Websites

### **Iowa Highway Research Board**

- The Iowa Highway Research Board site is available through the link below:  
[http://www.iowadot.gov/operationsresearch/iowa\\_highway\\_research\\_board.html#](http://www.iowadot.gov/operationsresearch/iowa_highway_research_board.html#)
- The current business plan document is available through their site through the following link:  
[http://www.iowadot.gov/operationsresearch/ihrb/business\\_plan.pdf](http://www.iowadot.gov/operationsresearch/ihrb/business_plan.pdf)
- A history of the board's formation and first 50 years is accessible either through the ISBN# 0965231038 or through the following link:  
[http://ntl.bts.gov/lib/31000/31300/31328/IHRB\\_History\\_book\\_Web.pdf](http://ntl.bts.gov/lib/31000/31300/31328/IHRB_History_book_Web.pdf)

### **Minnesota Local Road Research Board**

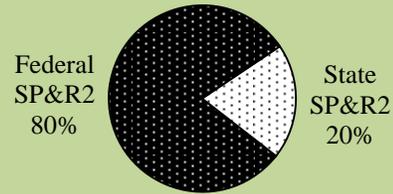
- The Iowa Highway Research Board site is available through the link below. The current business plan document is in the following pages. <http://www.lrrb.org/>
- The current strategic plan and operating procedures document is available through their site through the following link: <http://www.lrrb.org/pdf/Strategic%20Plan%202008.pdf>

## ORIL ODOT's Research Initiative for Locals

### Initial Next Steps

- Establish the ORIL Board
- Conduct focus groups with locals
- Utilize Ohio LTAP Center to strengthen relationships with locals
- Engage organizations that service locals
- Work around ODOT's current research program cycle
- Begin with specific, high-impact project ideas

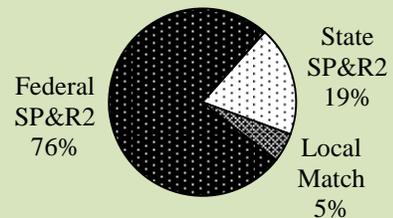
### Initial Funding Structure



### Short-Term Plan

- Encourage self-determination of ORIL Board
  - Process
  - Procedures
  - Project Selection
  - Project Management
- Develop a structure for matching local funds
  - Project-by-project basis
  - Membership Fee

### Potential Future Funding Structure



#### Proposed ORIL Board Structure

- County engineers (4)
- City engineers (4)
- UTC/university representatives (2)
- ODOT technical staff (4)

#### Non-Voting ORIL Board Members

- ODOT Research Program (1)
- Ohio LTAP Center (1)
- FHWA Ohio Division (1)

### Role of Ohio LTAP Center and ODOT's Research Program

With the LTAP Center's extensive focus and work with Ohio's local roadway professionals, ODOT's Research Program will partner with the Ohio LTAP Center to fulfill the role of Executive Secretary for ORIL. A staff member from either the Ohio LTAP Center or ODOT's Research Program will function as the Executive Secretary for ORIL and hold a position on the ORIL board to perform all administrative and coordination functions for the board.

### Long-Term Plan

- Obtain legislative support for the program with a permanent funding stream (e.g.: a percentage of road use tax)