

# MOVING FORWARD



*“He who does not look ahead, remains behind.” (Spanish Proverb)*

Ohio Department of Transportation, Office of Research and Development

Winter 2003

## Seminar Brings Focus to ODOT Research Agenda

*By John Hackley, Office of Communications*

Breaking decisively with policies that don't produce tangible benefits for Ohioans, the ODOT Office of Research and Development has retooled its approach, and a recent seminar gave hints of the results to come.

A group of nearly two hundred people, consisting of researchers, transportation professionals, and transportation industry representatives, converged at the Cooperative Research Seminar in Columbus to exchange ideas about projects that can resolve challenges faced by ODOT. The seminar was the culmination of a three-year effort to target transportation research funding to the projects that will create the greatest benefit for Ohioans. These boons will be felt in the form of better roads, less congestion, increased safety, and more efficient use of tax dollars.

“By pooling our efforts and experience we can be more successful in producing information that can be used to improve the current and future state transportation network,” said Office of Research and Development Administrator, Monique Evans.

During the seminar, a ten-year plan for ODOT research projects was presented. More specific research proposals covering the next two to five

years, developed using input from divisions and offices throughout the department, were also presented.

All of the research proposals generated from the ODOT divisions and offices were specifically targeted to address eight key areas designated by the department's leadership as pivotal to maximizing the services ODOT provides to the state.

### RESEARCH FOCUS AREAS

- \*Snow & Ice Removal\*
- \*Reliable Project Delivery\*
- \*Traffic Mobility\*
- \*Traffic Safety\*
- \*Steady State System Conditions\*
- \*Fuel Technologies & Revenues\*
- \*Economic Development\*
- \*Operations & Business Practices\*

After the ODOT research plan was detailed, attendees were invited to provide suggestions to improve the 10-year plan and the specific research projects proposed for the next five years. Once these suggestions are incorporated, ODOT will contract with

universities or consultants for the research projects scheduled for the upcoming biennium. According to Evans, a similar seminar will be planned every two years. “We picked once every two years because it complements our move to a biennial program for research,” she said.

The diversity of the organizations represented at the seminar may be an indication of the future success of the revamped program. “Not only were there researchers with an established relationship with ODOT, but new researchers who haven't done any work for the department before attended, and they came from public and private universities, as well as private research facilities,” said Evans. “The more people competing theoretically the better the research will be, and the cost should be lower.”

Evans also attributes the ambitious nature of the ODOT research program to the support of the senior leadership at ODOT. “There are a lot of things we are attempting to do that could not be accomplished without their support and assistance, so it's very important that they are interested and involved in the program.”

Ultimately, Evans aims to use what she deems an “applied program” to find solutions for each problem addressed by a research project. For those not working in the detail oriented arena of transportation research, that translates to better roads.

# Ohio Bridge Maintenance Manual

By: Mike Fitch, Ohio LTAP

A project administered through ODOT's Office of Research and Development in cooperation with the Federal Highway Administration has resulted in creation of a new Ohio Bridge Maintenance Manual, which is accessible in website format through the internet. The project was conducted by Ohio State University, working closely with the ODOT Office of Structural Engineering and Ohio's Local Technical Assistance Program (LTAP) Center.

According to the National Bridge Inventory, there are more than 27,900 bridge structures with spans of 20 feet or greater in Ohio. ODOT's Bridge Management System, which includes spans under 20 feet, lists more than 43,760 bridges and culverts in the state. Preventive maintenance of bridges and culverts is an essential component of effective infrastructure management. The Office of Structural Engineering recognized the need to further develop reference materials and training resources in this area. As of 2000, there was no formal bridge maintenance manual for use in Ohio. Bridge maintenance programs were developed at the district or county level based on local experience, history, funding availability and workforce capability. As a result, the level of bridge maintenance effort varied considerably throughout the state.

In this research project, a team of bridge inspectors, engineers, and computer specialists was assembled to develop a web-based reference and training manual for preventive maintenance of bridges and culverts, specific to the structure types and conditions commonly found in Ohio. The Bridge Maintenance Manual (BMM) was organized in two sections: Preventive Maintenance and Repair. Descriptions of common distress types and treatment recommendations (with initial cost and expected life) were prepared.

The Manual was developed using an internet website format (sample screen prints are shown on this page) to provide easy access for a wide range of potential users. Field photographs were incorporated to illustrate various bridge and culvert components and distress conditions. When the BMM website was essentially complete, a Beta test review of the Manual was conducted by asking ODOT district and county personnel throughout the state to review the content and layout and provide written feedback.

A final research report was submitted to the Office of R&D in December 2002, marking completion of OSU's portion of the project. An electronic copy of the final report has been posted to the R&D website in readable/printable ".pdf" format. The BMM website will be maintained by ODOT's Office of Structural Engineering, which will incorporate future updates to the technical content as needed. The Manual is currently accessible through the following internet address:

<http://www.dot.state.oh.us/preventivemaintenance>

Additionally, the BMM may be accessed through the Office of Structural Engineering website:

<http://www.dot.state.oh.us/se/>

(click the "Bridge Maintenance Manual" icon on the main menu).

If you have questions about the Ohio Bridge Maintenance Manual, please contact Mike Fitch (Ohio LTAP/ODOT) at 614-387-7358, or Amjad Waheed (Office of Structural Engineering) at 614-752-9972.



## Omar Abu-Hajar, P.E. Joins R&D

R&D would like to welcome Omar Abu-Hajar to our office. Omar joined R&D as a Research Engineer on December 16, 2002. Before coming to R&D, Omar worked in the Department's Office of Production as a Transportation Engineer where he designed highways. Due to his expertise in structural engineering, Omar will be the R&D liaison for projects dealing with structures and hydraulics. He has an extensive background in dealing with structures projects including studies performed with various consulting firms and his own firm as well as with the Montana Department of Transportation. From 1988 through 1991, Omar worked for the Montana DOT as a bridge engineer. Among his various duties, he designed bridges, other highway structures, sign supports, and culverts.



Omar received a Bachelors of Science degree in civil engineering from Montana State University in 1988 and a B.S. in Engineering Science from Montana Tech in 1986. In 1993, he became a license engineer in Ohio. He enjoys working with computers and his skills at creating databases have already proven to be very beneficial to the office. Omar's philosophy is that you should try your best at whatever you do and strive to achieve the highest goals. He and his wife, Allyson, hope to pass this way of thinking on to their four children.

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## OPREP Call for Problem Statements FY2004

Submissions are now being accepted for the ODOT Partnered Research Exploration Program (OPREP). OPREP is a new program that is designed to:

- \* Consider relevant transportation research needs that may not have been identified by ODOT and included in our Strategic Research Plan.
- \* Encourage genuine partnerships within the research community.
- \* Recognize that while ODOT research needs are primarily of an applied nature, support of some basic research is critical to the long-term success of transportation research.
- \* Provide an opportunity to demonstrate the viability of innovative concepts and their potential to address long-range transportation needs.
- \* Leverage research funds and resources.

The proposing research agency is required to provide a minimum 50/50 match of the funds requested from ODOT. No more than one-half of the matching funds can come from in-kind donations from the proposing agency. At least one other partner unaffiliated with the proposing agency must agree to support the project. All partnership agreements and funding commitments need to be established before a problem statement is submitted.

Each project must be completed within 15 months which includes 3 months for the review of a draft final report and preparation of a final report. Time extensions can be granted, under special conditions, but no funding extensions will be approved. Please see the insert for formatting requirements or check out our website for more information.

Problem statements must be received by **4:30 PM** on **March 28, 2003** to be considered for funding during fiscal year 2004. All items received after then will be held for consideration for fiscal year 2005. Announcement of OPREP awards for fiscal year 2004 will occur on May 23, 2003.

# Calendar of Events

## February - 2003

## March - 2003

**March 14** - Deadline for Ohio Transportation Engineering Conference (OTEC) abstracts - For more information contact Terri Barnhart (614-387-3102)

**March 28** - OPREP Problem Statements Due  
Request for Proposals for FY 2004 & 2005 Research Projects - For more information visit the R&D website

## April - 2003

Quarterly Progress Reports Due on all R&D projects

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