



## Inside This Issue:

### Research Summit Lays Out Sustainable Process for Managing Research

Transportation research stakeholders gather to hear from ORBP and to define research concepts.

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### Input From All Angles

Top down and bottom up input on research topics provides holistic view of problems being addressed.

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### Beginning at the End

By directing research toward implementation, MDOT maximizes the likelihood of valuable returns on research investments.

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### A Big Part of the Big Picture

Public-sector highway research plays a significant role in anticipating and addressing the needs of our national highway infrastructure.

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### Taking the Next Steps

ORBP provides support and guidance through April meeting with research project managers.

## First Biennial Research Summit Points Michigan's Research Community in a Sustainable New Direction

The concept of sustainable development has been around for decades. The most widely cited definition can be found in *Our Common Future*, a report written in the late 1980s by the United Nations (UN) World Commission on Environment and Development. The report reads, "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."<sup>1</sup>

The definition of the word *sustain* in Webster's Collegiate Dictionary (10<sup>th</sup> ed), adds clarifying detail to the UN's definition. It reads, "to supply with sustenance; nourish."<sup>2</sup>

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### "Who is going to advance research in the next generation?"

Kirk Steudle, Director  
Michigan Department of Transportation

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As Michigan's economy continues to decline, and our roads and bridges continue to deteriorate, it is more important than ever to establish sustainable systems for rebuilding and maintaining both. As a vital part of both efforts, our state's system for managing transportation research also must be sustainable.

### Preparing for Tomorrow Today

At the first biennial Michigan Transportation Research Summit, held in Lansing in October 2008, MDOT Director Kirk Steudle posed the question, "Who is going to advance research in the next generation?" In the context of sustainable development, and with the definition of *sustain* in mind, Steudle could have asked the assembled community of Michigan transportation research stakeholders, "What are we doing to meet our needs today while nourish-



Figure 1. MDOT Director Kirk Steudle speaking at the first biennial research summit.

ing our community to ensure that we realize and address needs that don't even exist yet?"

The summit, which provided the first complete overview of MDOT's new plan to manage State Planning and Research (SPR), Part II, Program research, marked the end of a three-year period of

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### Taking the Next Steps

The Office of Research and Best Practices (ORBP) met on April 14 with Michigan Department of Transportation (MDOT) research champions, project managers, focus area managers, and representatives from the contract services division. The purpose of the meeting was to provide support and guidance on the next steps in the process of managing research.

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### From Calvin's Desk



As the Office of Research and Best Practices continues to refine the process for managing SPR, Part II, Program research, we are pleased to announce a few staff changes on the team. I'll begin with the big change: Michael Townley has joined us as Research Manager. He replaces Dr. Sudhakar "Dr. Kul" Kulkarni, who has chosen to take on a new position within MDOT that will enable him to work more closely with his favorite piece of our state's transportation infrastructure puzzle – bridges. Please join us in thanking Dr. Kul for his years of service to the transportation research community.

Michael will pick up where Dr. Kul left off: working with universities to coordinate the research activities of the office. He comes to us after two and a half years with the MDOT design division, where he trained staff statewide, worked with hydrology and hydraulics research issues, and designed highway bridge and drainage improvements.

Less dramatic, but just as exciting, Angela Nelson has assumed a new position in the office as a department analyst. She will manage the Web site and database. In general, she will use technology to establish and maintain clear communication within the office and between the office and you, our research partners. We appreciate the work Angie has done to get the new office off the ground, and we look forward to her continued help in her new capacity.

Finally, another new face, Trudy Schutte has taken over Angie's job as executive secretary. She comes to us from the Michigan Department of Education, where she served in a similar role for two years. She will work as the initial point of contact for the office, and she will be the glue that helps to hold all the details together.

Now, as we enter the final stretch before fully adopting our new project selection process, I would like to share my thoughts on where Michigan's transportation research community is heading. After the first biennial research summit last fall, the ORBP team was extremely pleased to see the depth and diversity of problem statements submitted. In years past, the majority of work has been in the areas of roads and bridges. The emphasis today is beginning to change. New problem statements that deal with renewal and sustainability, organizational effectiveness, and environmental accountability are appearing. These statements will translate well into projects that fulfill the Federal Highway Administration's mandate to implement research results. As a community, we are definitely headed in the right direction. The research we conduct today will result in much-needed improvements for designing, building and maintaining a safer, more efficient transportation system for tomorrow.

As we all adapt to new ways of working together, we're sure to encounter bumps in the road. Please be encouraged. Working together, we can absorb them.

*Calvin*

Calvin Roberts, P.E.  
Engineer of ORBP

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intense planning for MDOT's Office of Research and Best Practices (ORBP). It also marked the beginning of a more sustainable approach to transportation research in Michigan. This new approach engages all stakeholders in the process of defining research concepts, based on needs identified by MDOT's research executive committee (REC). "The overarching goal of the summit was to introduce our new plan and to involve the entire research community in the process of defining research concepts," explained Calvin Roberts, engineer of ORBP. "These concepts will ultimately result in fully developed research projects in the FY 2010—2011 research biennium. And these projects will generate results, which will then be evaluated for implementation." The ORBP team refers to this process as the research cycle (see Figure 2).

### Input From All Angles

Two points in the structure of the cycle ensure sustainability of the system. First, the combination of "top-down" and "bottom-up" input from stakeholders when defining projects creates a diverse communication dynamic that enables a richer, more holistic view of the problem being addressed. At the summit, the top-down input came in the form of 60 issues identified by MDOT's REC based on needs specified in the *MI Transportation Plan 2005-2030*. These issues were then examined by ORBP and divided into five strategic themes, including:

- Safety
- Mobility
- Organizational Effectiveness
- Environmental Accountability
- Renewal and Sustainability

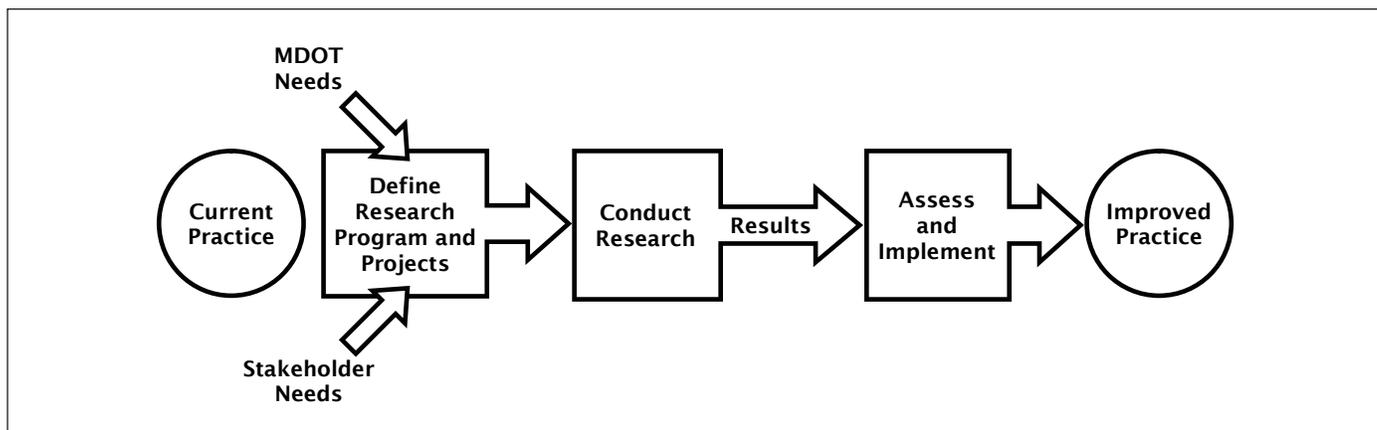


Figure 2. Michigan's biennial program combines "top down" and "bottom up" planning approaches.

The “bottom-up” input was generated and collected at the summit through breakout groups, which were organized around the strategic themes and included 12-15 people each. Issues that were grouped into the Mobility, Organizational Effectiveness, and Renewal and Sustainability strategic themes were divided among two breakout groups each. Tasks to be completed by each breakout group for each issue within the strategic theme included:

- Articulate a specific problem to address, question to answer, or a need for information
- Brainstorm how research can help solve the problem or address the issue
- Define how research can be implemented

“Having the issues defined by the REC helped focus the groups on needs most pressing for MDOT and for Michigan’s transportation system,” Roberts said. “It was encouraging to see groups focusing in this way, but I was most impressed with the unique perspectives, talents and abilities of the individual members. The energy and depth of discussions and the clear research concepts that came out as a result added a dimension to the entire process that we have not had in the past.”

### Beginning at the End

The second point of the planning structure that ensures sustainability is the end of the process: an improved practice. In the book *Seven Habits of Highly Effective People*, author, speaker and management guru Steven Covey refers to this as beginning with the end in mind:

*To begin with the end in mind means to start with a clear understanding of your destination. It means to know where you’re going so that you better understand where you are now and so that the steps you take are always in the right direction.*<sup>3</sup>

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**Leveraging the perspectives, talents and abilities of the entire research community to identify research projects ensures that research efforts address as many needs as possible today.**

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Of course, Covey is writing on a personal level, but the same concept holds true at the corporate level. By aiming the entire research plan at the target of implementation, MDOT as a corporate entity maximizes the likelihood of valuable returns on research investments, thereby ensuring the future viability of the program.

Leveraging the perspectives, talents and abilities of the entire research community to collectively identify research projects ensures that research efforts address as many needs as possible today. Implementing research results provides the sustenance (or nourishment) necessary to keep the community healthy well into the future.

### Completing the Cycle

After the summit, the ORBP collected and assembled the research concepts. A complete list of concepts generated through the breakout sessions was posted on the ORBP Web site, and researchers were invited to submit problem statements to address needs identified by the concepts. In late March, the REC evaluated the problem statements and then issued requests for proposals (RFPs) for the SPR, Part II, FY 2010-2011 Biennium Program.

### A Big Part of the Big Picture

A *Report in Brief* published by the Transportation Research Board (TRB) in November 2008 summarizes strengths and weaknesses of the Federal Highway Administration’s (FHWA) highway research program. It reads:

*Public-sector highway research has been the primary source of innovation and insight to meet national needs for highway transportation. Continued innovations to make highways safer, perform better, last longer, and cost less are essential in sustaining the contributions made by highways to national prosperity. Successfully addressing many of the highway*

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**“I was impressed with the unique perspectives, talents and abilities of the individual members [of the breakout groups]. The energy and depth of discussions and the clear research concepts that came out as a result added a dimension to the entire process that we have not had in the past.”**

Calvin Roberts, Engineer of ORBP  
Michigan Department of Transportation

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*system’s challenges will require new and more efficient ways of doing things—new materials, better and faster construction techniques, safer designs, better information for drivers, new financing mechanisms, options for pricing the use of the system, and many more. This is the role that research, development, deployment, and training must fill.*<sup>4</sup>

The new direction for SPR, Part II, Program research in Michigan, initiated by MDOT over three years ago with the formation of the ORBP, began with the conclusion of the research summit in October 2008. The FY 2010-2011 research biennium officially begins on October 1, 2009. Until then, the ORBP team will continue to refine operations and focus activities to support Michigan’s transportation research community, so that collectively we will fulfill the expectations made clear by TRB – both now and into the future.



### References

1. Report of the World Commission on Environment and Development: Our Common Future, Accessed on the Web on 11/14/2008: <http://www.un-documents.net/ocf-02.htm>.
2. Merriam-Webster’s Collegiate Dictionary, 10th ed. Springfield, MA: Merriam-Webster, 1993.
3. Covey, Stephen R., *Seven Habits of Highly Effective People*, New York: Fireside, 1989, p. 98.
4. The Federal Investment in Highway Research 2006–2009, *Transportation Research Board Report in Brief*. November 2008.

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In his comments to open the meeting, Engineer of ORBP Calvin Roberts summarized MDOT’s new process for managing SPR, Part II, Program research. In doing so, he drew attention to the following three important considerations:

- Research topics are driven by MDOT’s strategic needs;
- Focus of research is on results that can be implemented;
- Accountability measures will help ensure timely delivery of results.

Roberts explained that the ORBP team exists to support these considerations through facilitating research and providing assistance to the research community. Roberts also explained that either himself, ORBP Research Engineer Michael Townley, or ORBP Administrative Engineer Andre Clover will participate as a research manager on each Research Advisory Panel (RAP, see Figure 1).

Project champions will usually become the project managers (PMs). The role of the PM is to provide continuous oversight of projects to ensure contract compliance.

“Changing the way we manage research has been a major undertaking for all of us for the past two years,” Roberts said to those assembled. “Your input and advice has been extremely valuable in putting together the necessary processes and tools to make this happen. Everything is now in place; let’s begin.”

### A Quick Look at the Big Picture

The process for managing MDOT’s SPR, Part II, Program research involves the following key elements:

- Identification of strategic priorities and research needs
- Generation of research concepts through the research summit
- Collection of problem statements
- Request for proposals
- Evaluation of proposals and selection of investigators
- Award of contracts

Two elements are especially vital for ensuring the effectiveness of the program. The first is the identification of strategic priorities and research needs. This provides direction for every step that follows.

The process of evaluating proposals and selecting investigators is the second most vital element in the system. Through this process, projects are chosen that create results, which ultimately can be implemented to support MDOT’s strategic priorities.

### Between the RFP and the Project

Angela Nelson and Andre Clover followed Roberts’ introduction with an overview of the process for evaluating (scoring) proposals and selecting investigators. The scoring process involves a team of five members of the RAP. Each scoring team will includes:

- Focus Area Manager (FAM)

- Project Manager (PM)
- Research Manager (RM)
- Two additional members based on the specialty needs of the project

Each proposal will be scored using a proposal evaluation form provided by the ORBP. The form will enable the scoring team to perform a detailed evaluation of all proposals in a fair and consistent manner.

“Our top priority is to identify research that will benefit MDOT,” Nelson explained. “Beyond that, we need to be fair and consistent with how we determine which projects to fund. The scoring process we’ve adopted will allow us to address both priorities.”

For some RFPs the scoring of competing proposals could be too close to determine a clear winner using only the evaluation form. In such cases, the RAP can invite the top vendors to present their proposals live to help determine who should be awarded the contract.

### The Final Steps

After projects are awarded, work plans will be completed and submitted no later than July 14, 2009. Project kick-off meetings will take place in August and September, and final authorizations should be received by research facilities by October 1, 2009.

### Communication is Crucial

At this point in the process of recreating the MDOT research program, answers to questions are extremely valuable to the entire research community. With this in mind, the ORBP created a dedicated e-mail address for questions. The address is:

*mdot-research@michigan.gov*

All questions submitted will be answered and posted on the ORBP Web site.

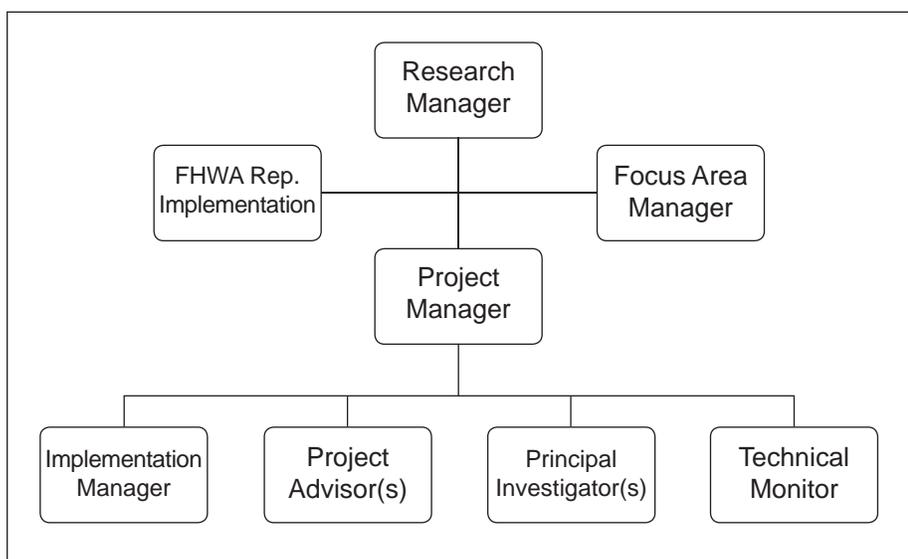


Figure 1. Structure of a typical Research Advisory Panel (RAP).



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