

The Ohio Department of Transportation's Strategic Research Plan for 2012-2014

Introduction

Ohio has one of the nation's largest transportation systems, and that brings many opportunities as well as challenges for the state. The number of miles, and lane-miles, of Ohio highways has increased each year while fuel efficiency and the recession have steadily decreased ODOT revenue. ODOT is challenged to invest wisely in rehabilitation, maintenance, materials and processes. Research is a tool that DOT's use to explore and develop improvements that have multiple impacts (e.g., operational, financial, environmental).

ODOT's Vision

A long-term, reliable, professional and highly productive organization.

ODOT's Mission

To provide easy movement of people and goods from place to place, we will...

- 1. Take care of what we have*
- 2. Make our system work better*
- 3. Improve safety*
- 4. Enhance capacity*

Research Program Overview

ODOT's Office of Statewide Planning & Research (SWPR) is the facilitator of the Department's transportation research program. The research program is structured to be responsive to the department's business plan and strategic initiatives, as well as to emerging topics and emergency concerns.

The primary goal of ODOT's research development and technology transfer (RD&T²) program is to provide decision makers with the information and tools they require to ensure that Ohio's transportation system meets the evolving needs of our residents and the traveling public. Several other goals within the program include: maximize research investments; take advantage of new technologies; and produce practical results that have a strong possibility of being implemented.

ODOT's Research Mission

Invest in innovative research that develops, maintains and assists Ohio in establishing a world class transportation system.

Strategic Research Focus Areas

Below are ODOT's four research focus areas. This is where we will invest most of our research funding and resources. However, in acknowledgment of specialized or urgent needs our research will not be limited to these broad based items.

Transportation Asset Management:

ODOT's largest asset is our transportation infrastructure, such as roads, bridges, intermodal facilities, railways and ports. Through usage and the passage of time, the system degrades and can become inadequate for both current and projected travel demands. Maintenance of the infrastructure presents many challenges as well as opportunities for improvements. Developing methods to better utilize resources and integrate advances in science, technology, and construction techniques will assist ODOT in efforts to both modernize and support our system.

Organizational Transformation:

The Greek philosopher Heraclitus once said, "the only constant is change"; this statement resonates today. ODOT is faced with challenging situations brought about through influences such as economics, demographics, management trends, downsizing, shifts in federal funding, increased maintenance needs, and so forth. Research will guide ODOT in creating opportunities to foster innovation, leverage resources, and streamline and enhance decision making and project delivery.

Transportation Safety:

Ensuring the safety of those utilizing and maintaining our transportation system is a priority for ODOT. The traveling public expects the system to meet their individual needs in a manner that is safe, convenient, economic, and efficient with minimal disruption to their daily routines. In addition, protection for highway crews working on-location is a prominent concern. Identifying, developing and implementing corrective strategies before hazardous events occur is key to advancing a safe and reliable transportation system.

Customer Connections:

It has been well noted in the business world that effective communication with customers is a critical component to success and longevity. The basis of this sentiment is just as applicable in the public sector as the private sector. As a state agency, ODOT has a wide array of customers and stakeholders. In order for ODOT to fully achieve our mission, it is important for us to be in sync with our customers. Developing methodologies that will foster partnerships and assist ODOT in understanding customers' needs while effectively telling our story and communicating the efficiencies of ODOT is essential.

Program Execution

Based on our strategic goals, ODOT will evaluate future research investments by balancing a variety of important factors. Selections will address emerging areas of interest that have the potential for great impact and are aligned with the department's mission. An open collaborative environment will foster creative solutions and accountability.

Partnerships are key to our success. Reaching ODOT's goals will require expertise of many individuals all working together to create a program that is respected and understood by all. The diversity necessary is multi-faceted, with universities, disciplines, depth of scope and project length. We have designed multiple project types to help us meet those needs: strategic projects, OPREP, and student studies, with a locals program still under development for 2013.

Strategic Research Projects

All ODOT divisions, districts, and offices can submit strategic research plan problem statements that address specific needs within ODOT, relate to one or more of the strategic research focus areas, and are included in an approved division/office strategic research plan. Once Executive Leadership approves the RFP's they are posted on the Research website for the research community. ODOT does not prequalify researchers. The RFP solicitation is open to anyone interested in conducting transportation research on behalf of ODOT.

OPREP (ODOT's Partnered Research Exploration Program)

Most of the research program is focused towards investigating issues identified internally, however ODOT Research recognizes that tremendous benefits can be realized from considering innovative ideas developed by the research community that are in alignment with ODOT's strategic focus areas. OPREP was created to capitalize on these opportunities and allow researchers an avenue to propose unique, unsolicited projects. The goals of OPREP are to:

- Consider relevant research needs that may not have been identified by ODOT and are not included in the strategic research plan.
- Encourage genuine partnerships among academic disciplines, universities, private entities and other government agencies.
- Provide an opportunity to demonstrate the viability of innovative concepts and their potential to address long-range transportation needs in the State of Ohio.
- Leverage research funds and resources.

Student Studies

The Student Study program provides students with an opportunity for real-world application of the lessons being taught in the classroom. It also enables ODOT to invest in the development of Ohio's future transportation professionals.

Sometimes ODOT needs small research studies to provide quick solutions to immediate problems. The limited scope of these projects does not warrant the time and expense required for typical research projects. Likewise, these studies do not require an extensive team of experts to research the issue. Instead, these projects are adaptable to an academic investigation that can be conducted by a college student under the guidance of a professor in the form of a Student Study.

Next Steps

This strategic research plan will play a vital role as research ideas are identified and developed into research projects. However, the research program is developed through a dynamic and evolving process. We will continue to review our vision, and use our research dollars where they will have the greatest return.

Over the next three years, ODOT will continue to provide high-quality research to produce innovative and practical recommendations to support ODOT's mission and strategic goals. ODOT's research program bringing ideas, human capital and funding together under a management structure that includes strong oversight, balanced merit-based awards, performance assessment and accountability, and internal and external communication strategies.

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