



September 2025

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2025 MassDOT Research Peer Exchange Final Report

Joined by Peers from:

Colorado Department of Transportation

Kentucky Transportation Cabinet

Maryland State Highway Administration

New Jersey Department of Transportation

Oregon Department of Transportation

Utah Department of Transportation

Transportation Research Board

Report prepared by the USDOT John A. Volpe National Transportation Systems Center

MassDOT Research and Technology Transfer



**U.S. Department of Transportation
Federal Highway Administration**

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16. Abstract This report provides an overview of a research peer exchange hosted by the Massachusetts Department of Transportation (MassDOT) on March 12-13, 2025, in Boston, Massachusetts. The 2025 MassDOT peer exchange focused on four major areas of the transportation research process: research project selection, research project management and execution, project implementation, and project evaluation. The peer exchange also featured sessions where DOT peers highlighted emerging research areas, underscoring future opportunities for innovation.			
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2025 MassDOT Research Peer Exchange

Final Report

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Disclaimer

The contents of this report reflect the views of the author(s), who is responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the official view or policies of the Massachusetts Department of Transportation or the Federal Highway Administration. This report does not constitute a standard, specification, or regulation.

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Executive Summary

This report on the 2025 MassDOT Research Peer Exchange was undertaken as part of the Massachusetts Department of Transportation (MassDOT) Research Program. This program is funded with Federal Highway Administration (FHWA) State Planning and Research (SPR) funds. Through this program, applied research is conducted on topics of importance to the Commonwealth of Massachusetts transportation agencies.

The Massachusetts Department of Transportation (MassDOT) hosted a transportation research peer exchange on March 12-13, 2025, in Boston, Massachusetts with representatives from the following peer State DOTs: Colorado, Kentucky, Maryland, New Jersey, Oregon, and Utah. Additionally, a representative from the Transportation Research Board (TRB) participated in the event.

The 2025 MassDOT peer exchange focused on four major areas of the transportation research process:

- Research project selection
- Research project management and execution
- Project implementation
- Project evaluation

Additionally, each day concluded with sessions where DOT peers highlighted emerging research areas, underscoring future opportunities for innovation. These emerging research topics included:

- Advanced air mobility (AAM)
- Artificial Intelligence (AI)
- Methods to Improve State and Local Coordination
- Remote Construction Monitoring

This report summarizes the major discussion points from the exchange. It does not attempt to capture every detail but instead distills common practices, challenges, and opportunities identified across the transportation research process for MassDOT and for all DOTs.

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1.0 MassDOT 2025 Research Peer Exchange Overview

The Massachusetts Department of Transportation (MassDOT) hosted a transportation research peer exchange on March 12-13, 2025, in Boston, Massachusetts with representatives from the following peer State DOTs: Colorado, Kentucky, Maryland, New Jersey, Oregon, and Utah. Additionally, a representative from the Transportation Research Board (TRB) participated in the event.

The 2025 MassDOT peer exchange focused on four major areas of the transportation research process:

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- Project evaluation

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This report summarizes the major discussion points from the exchange. It does not attempt to capture every detail but instead distills common practices, challenges, and opportunities identified across the transportation research process.

1.1 Exchange Structure.....

In February 2025, MassDOT and peer DOT representatives completed a 56-question survey to prepare for the exchange. The survey captured program size, budgets and funding sources, staffing structures, and detailed information on the four research cycle phases. Results were summarized and shared in advance to inform on-site discussions.

That same month, peers also joined a virtual pre-meeting where each DOT presented a high-level overview of its research program. This session provided introductions and baseline information, enabling the in-person exchange to focus on deeper discussions on the focus topics of project selection, project management, implementation, and evaluation.

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2.0 Considerations & Opportunities

The attendees of the MassDOT Research Peer Exchange identified several issues and cross-cutting recommendations and opportunities to improve State DOT research program performance and operations.

2.1 Opportunities for MassDOT.....

During the exchange, participants compared practices across the four focus areas. The following items highlight where MassDOT's approach diverged most from its peers, suggesting opportunities for improvement.

1. **Review the balance of technology transfer and traditional research expenditures.** MassDOT has experienced a steep decline in research activity, dropping from 16 projects in 2020 to none in FY2024. Most research funds now support technology transfer and training, including two annual statewide conferences. In contrast, none of the six peer states dedicated most of their budgets to technology transfer; all reported significant yearly allocations for new research projects. Peers advised MassDOT to quantify the benefits of its trainings and conferences and compare them directly with the potential value of investing more in research.
2. **Establish a cross-division leadership committee for research oversight.** Most peers involve leadership across major divisions through research committees that review and select problem statements annually. This approach reduces silos, surfaces projects with broader departmental value, and creates accountability for implementation. Peers recommended MassDOT adopt a similar structure to guide prioritization, balance competing interests, and strengthen follow-through.
3. **Develop a systematic approach to evaluate research outcomes.** Peer states consistently use structured methods to assess research impact and track implementation. Oregon DOT, for example, conducts a "five-year look back" to document how research has been applied and to demonstrate its value through clear narratives. Peers encouraged MassDOT to develop a comparable process to better capture and communicate research outcomes.

2.2 Opportunities for State Research Projects.....

The participating DOT Peers described a variety of opportunities and growth areas for their transportation research programs that are broadly applicable to State DOTs. These opportunities and growth areas emerged from discussions about the four focus areas of the transportation research process (problem identification, selection, implementation, and evaluation).

2.2.1. Ensure Leadership Engagement in the Program Structure

- Communicate the value of research to agency leadership by providing more opportunities to engage and by documenting measurable benefits to the agency.

- Reframe leadership discussions to emphasize strategic alignment with agency goals, policy trade-offs, and future needs, rather than technical details of individual proposals.
- Draft periodic memos to leadership summarizing ongoing or completed research projects.
- Develop newsletters and other communications targeted specifically to executive management.

2.2.2. Enhance Collaboration and Outreach

- Develop locally focused technology transfer programs with municipalities and counties to foster stronger partnerships and address local needs. Colorado DOT has developed a strong set of examples. Many states leverage their Local Technical Assistance Programs (LTAPs) for similar efforts.
- Secure support from local agencies and communities before launching research projects that require community data, site access, or other inputs.
- Conduct outreach within the agency to identify research needs, share results, and build a culture that values research.
- Use Memoranda of Understanding (MOUs) and, where appropriate, compensation agreements with local governments to facilitate data collection and site access.
- Leverage LTAP as a vehicle for outreach by embedding research findings into technical assistance and training and using LTAP contact lists for project-specific engagement.
- Include counties and municipalities in the State Transportation Innovation Council (STIC), share high-value research findings, and assist metropolitan planning organizations (MPOs) and local agencies with grant applications and safety plan development.
- Coordinate with agency communications staff to actively share research results through final presentations, newsletters, and social media.
- Offer Professional Engineer (PE) or other relevant continuing education credits for attending research presentations to encourage staff participation.
- Host research presentations at the conclusion of each project to promote engagement and ensure staff understand findings well enough to apply them.

2.2.3. Encourage Practical Innovation

- Consider dedicating some resources to lower-level research or innovation support for employees with practical ideas from the field, potentially offering small amounts of funding for materials or equipment for staff-led projects (one state mentioned that \$15,000 was typically allocated). This idea was praised by MassDOT's Highway Administrator.
- Actively seek and evaluate innovative ideas from DOT agency staff for potential formal research or technology transfer. Consider establishing a process to connect various innovations and research efforts within the DOT.
- Address the need for expertise in emerging areas of transportation such as artificial intelligence (AI), machine learning (ML), and big data by working with university teams or

commercial entities and forming research teams that combine transportation/research backgrounds with computer science expertise.

- Consider a change in strategy from primarily funding long-term, higher-cost projects to including short-term and mid-term project categories with capped budgets (and fewer extensions) to enable quicker turnaround and results.

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3.0 Individual Session Summaries

3.1 Project Selection

Peer exchange participants described project selection as a complex and evolving process. Agencies must balance research needs, internal and external expertise, funding constraints, regulatory requirements, and implementation potential, all while navigating organizational structures and partner relationships.

Subtopics discussed included:

- **Sources of Research Ideas:** Research topics originate from multiple sources. Frontline staff, such as maintenance crews, often generate practical ideas from field experience. University Transportation Centers (UTCs) solicit topics directly from state departments of transportation. Transportation Research Board (TRB) committees contribute through the Research Needs Database. States also maintain internal processes to screen innovative ideas, some of which are addressed through existing solutions or limited staff support rather than new research.
- **Involvement in Selection Decisions:** Processes vary across states. At the Massachusetts Department of Transportation, leadership (the Secretary's Office or State Highway Engineers' Office) scores proposals based on organizational needs and provides ratings to research staff. Most peer DOT attendees employ formal committees for scoring, though in some states those decisions rest with one or two individuals. The New Jersey Department of Transportation assigns the research section manager to make final funding decisions after receiving input from directors and senior leaders. The Colorado Department of Transportation requires a memo summarizing selected projects for executive approval. The Maryland State Highway Administration historically allowed technical offices to work directly with university professors to develop problem statements, but about fifteen years ago shifted to a formal request for proposal (RFP) process.
- **External Involvement:** Several states include non-DOT entities in project selection. For example, the New Jersey Department of Transportation involves New Jersey Transit and the Motor Vehicle Commission in evaluating proposals that align with their missions. Advisory committees may also include municipalities, counties, and metropolitan planning organizations (MPOs), as well as universities. Some states leverage their State Transportation Innovation Councils (STICs) to engage local agencies, and certain projects are jointly funded or managed with other state-level public agencies.
- **Contracting Mechanisms:** States follow different contracting processes, subject to federal rules for State Planning and Research (SPR) funds. Contracts may be awarded to public universities, private universities, or consultants. Some states allow non-competitive contracting with public universities, while private-sector contracts often require RFPs or use of Indefinite Delivery, Indefinite Quantity (IDIQ) systems with pre-qualified firms. At the Massachusetts Department of Transportation, for example, the Highway Division's Architectural and Engineering (A&E) Board requires justification when a public RFP process is not used. One peer noted an internal threshold requiring RFPs for any project exceeding \$500,000. Agreements with universities and A&E contracts typically address intellectual property and overhead rates.

- **Project Categorization:** One Peer has employed a strategy to categorize transportation research projects by duration (short, medium, and long term) with budget caps for short-term projects (approximately \$100,000) to achieve quicker results. This strategy was partly driven by cost increases over time and a desire for faster outcomes. Defining the cap on smaller projects allows for more research to be conducted in a quicker manner.
- **Research-as-a-Service Model:** The Oregon Department of Transportation employs a “synthesis response” model. When staff receive a research question already addressed by prior studies outside the agency, they dedicate 20–30 hours to synthesize findings and provide guidance on how to apply them in agency practice.

Leadership Engagement Challenges: States reported varying levels of leadership involvement. At the Utah Department of Transportation, executives asked to step back from direct project selection, finding the technical details too complex; instead, research staff make selection decisions and brief leadership as needed for awareness and federal approval. By contrast, the Massachusetts Department of Transportation and other states reported strong leadership roles in selection, though less involvement during project execution or implementation. At the Colorado Department of Transportation, leadership’s stated priorities are used to evaluate project ideas, and final recommendations require approval from two members of the executive management team.

3.1.1 Recommendations to Improve Project Identification and Selection

- Improve clarity of research problem statements and increase engagement from technical offices and subject matter experts.
- Create consistent, low-barrier opportunities for employees to propose research ideas. Peers reported success with methods such as visiting staff meetings to solicit input and providing online crowdsourcing platforms for submissions.
- Streamline administrative requirements for working with the research office and clearly communicate its added value. Several peers noted that staff sometimes bypass the research office—funding their own projects directly—because they perceive the formal process as too slow.
- Strengthen leadership engagement in project selection by presenting problem statements as concise, outcome-focused summaries. Build trust with leadership by reducing the need for them to navigate technical details.

3.2 Project Execution.....

Managing transportation research projects requires navigating complex contracting, budgeting, scheduling, and stakeholder coordination. Programs must also address challenges from staff turnover and institutional barriers while tracking progress and performance.

- **Anticipating and Addressing Research Project Delays:** Peers agreed that adhering to original project schedules is rare, as principal investigators (PIs) often request extensions. To anticipate this, the Colorado Department of Transportation builds in an additional 6–12 months at the outset, particularly for closeout activities, reducing the need for formal contract

amendments. Peers emphasized consistent communication as the most effective way to mitigate and manage delays.

- **Contract Language and Financial Management:** Many peers described difficulty holding universities accountable for timely, thorough research because cooperative agreements with universities often contain looser terms than contracts with other organizations. The New Jersey Department of Transportation addresses this by withholding a portion of payment (e.g., 20%) until final deliverables are accepted. The Massachusetts Department of Transportation issues a written “Notice of Non-Compliance” when PIs fail to provide required deliverables, which helps to hasten final delivery.
- **Allowable Expenses:** Research budgets typically cover travel for data collection but not conference attendance or travel for PIs or students, unless presented on behalf of the state DOT. Time spent preparing manuscripts is also generally excluded.
- **Administrative Bottlenecks:** Procurement processes and administrative reviews such as approvals for new technologies often slow project initiation. Peers noted their organizations tend to be highly cautious in adopting emerging technologies, leading to additional bureaucratic reviews when such technologies are included in projects.

3.2.1 Recommendations to Strengthen Research Project Execution and Management

Peer agencies offered several practices to expedite project startup and contract execution, helping streamline processes and optimize limited research funds:

- Mitigate administrative bottlenecks from departments such as IT and accounting, particularly around risk aversion to tools like open-source software.
- Improve data management by cleaning existing datasets and establishing clear definitions, architecture, and standard operating procedures. Some peers suggested partnering with universities or commercial entities with capacity to handle large datasets.
- Appoint a senior-level data oversight leader (e.g., an Assistant Chief Engineer) to coordinate across siloed data sources and functional areas.
- Evaluate the feasibility of hiring internal research staff to manage technology transfer or small projects instead of contracting out these services.

3.3 Research Findings Implementation.....

Implementing research outcomes often require defined timelines and clear stakeholder responsibilities. While research units at state departments of transportation seek to track implementation over time, long-term coordination and sustained change management remain significant challenges. Peer exchange participants emphasized that implementation is critical, but often the most difficult component of the research process.

3.3.1 Best Practices to Support Implementation of Transportation Research Findings

- **Dedicated Support:** Peers stressed the importance of defining implementation support structures, including staff and financial resources. Some agencies include implementation line

items in research contracts, while others create separate funding mechanisms to support implementation after project completion.

- **Tracking and Accountability:** Leadership in most states expects visibility into implementation progress. Several agencies track implementation rates, and the Oregon Department of Transportation conducts a five-year look back to document progress and publish results in its annual report to the Federal Highway Administration (FHWA). This process, which often includes interviews, has increased accountability among project champions.
- **Task-Based Approach:** Many of the State DOT peers in attendance are shifting from champion-driven to task-driven implementation. Creating lists of implementation tasks with assigned responsibilities and deadlines helps mitigate champion turnover, encourages structured change management, and moves beyond a simplistic “implemented/not implemented” model.
- **Recognition as Incentive:** While cash awards are no longer used, recognition remains a powerful motivator. States highlight successful researchers at annual showcases, through social media, or by nominating projects for High Value Research awards. The Kentucky Transportation Cabinet emphasized that such recognition is meaningful for researchers, who value the professional visibility and curriculum vitae enhancement these honors provide.
- **Funding Implementation Support:** Some states reserve funds to re-engage principal investigators (PIs) after project completion, bringing them back for seminars or consulting to help integrate findings into engineering specifications and standards.

3.3.2 Barriers to Implementation of Research Findings

- **Coordination with External Partners:** Peers often struggle to implement research requiring coordination with municipalities, towns, or cities for data collection or site access (e.g., speed management surveys, drone sites). Early engagement during project planning can help, and formal agreements such as memoranda of understanding (MOUs), sometimes including payment, may incentivize participation. While Local Technical Assistance Programs (LTAPs) can provide a vehicle for engagement, they typically focus on technical assistance and training rather than complex research implementation.
- **Turnover of DOT personnel:** Staff turnover, particularly the loss of project champions, can hinder implementation. Strategies to mitigate this risk include tracking assignments by position title rather than individual (Oregon Department of Transportation), ensuring supervisors reassign responsibilities to successors, involving multiple individuals or panels in oversight to preserve institutional knowledge (New Jersey Department of Transportation), and shifting from champion-driven to task-driven implementation (several states).
- **Reluctance to Report Failure:** Project champions may hesitate to report unsuccessful implementation, particularly in formal surveys. Peers noted that informal conversations and interviews often yield more candid and valuable feedback.
- **Funding Balance:** Peers expressed differing views on allocating State Planning and Research (SPR) funds between research projects and implementation or technology transfer. Some favored supporting large conferences, while others prioritized targeted activities such as seminars or consulting.

- **Administrative Bottlenecks:** Procurement processes and administrative reviews, especially for new technologies or IT tools, frequently delay implementation.

3.3.3 Recommendations to Prioritize and Support Implementation

Peer agencies offered several practices to strengthen implementation of research findings:

- Reframe the role of the research program to include direct support for implementation, not just reliance on project champions. Move beyond a binary “implemented/not implemented” framework by identifying incremental ways to apply research insights over time.
- Use a task-based approach to break implementation into smaller, manageable steps that reduce the burden on project champions.
- Formalize processes for transitioning projects from research to operations or implementation partners.
- Allocate dedicated line items or funding specifically for implementation activities.
- Develop incentive programs to promote implementation, such as recognition, awards, or linking implementation rates to internal accountability. Principal investigators (PIs) particularly value “high impact research” designations.
- Conduct post-project reviews several years after completion to assess implementation, meeting with PIs or project champions to understand successes and barriers.
- Engage successors when project champions leave, as new staff may be motivated to adopt research findings and improve processes.

3.4 Research Program Implementation.....

Peers emphasized that evaluation is critical to sustaining successful research programs. While many states use surveys, interviews, tracking, and reporting to assess outcomes, they face challenges in obtaining candid feedback and ensuring evaluation results lead to meaningful organizational change. Participants shared a range of approaches and expressed a common goal of strengthening this phase of the research lifecycle.

3.4.1 Evaluation Methods and Metrics

Most peers reported evaluating project efficiencies, with fewer assessing broader research impacts. Utah, Oregon, and the Kentucky Transportation Cabinet specifically evaluate research efficacy; the Oregon Department of Transportation defines this as the percentage of projects that achieve the intended results outlined in the original proposal.

- **Surveys:** Some states use post-completion surveys completed by principal investigators (PIs) and project champions to evaluate research teams. Peers questioned the reliability of survey responses, citing low response rates and overly positive answers from researchers seeking future funding. The New Jersey Department of Transportation administers a final project survey that has historically been underutilized but is being revisited. Other states have

discontinued surveys after determining the results offered little value. Evaluation metrics can be subjective. Simple yes/no questions are used by one state to avoid the subjectivity of scales.

- **Interviews:** The Oregon Department of Transportation, Utah Department of Transportation, and Maryland State Highway Administration supplement surveys with follow-up interviews, especially when responses are incomplete or negative. This unstructured approach was viewed as more effective for eliciting candid feedback that stakeholders may not record in writing.
- **Tracking and Reporting:** Several states use implementation tracking as a form of evaluation. The Oregon Department of Transportation conducts a five-year look back, documenting specification changes, procedural updates, and narratives on how results were applied. Reporting implementation status annually, including in the agency's public report to the Federal Highway Administration, has increased accountability among project champions.
- **Project Performance:** Some agencies assess PI performance, particularly timeliness in meeting deliverables, and consider these evaluations when reviewing future proposals. The Oregon Department of Transportation also conducts mid-project evaluations—just before the data collection phase—to confirm methods are sound and likely to meet objectives. This milestone allows course corrections before issues become embedded in the project. \

3.4.2 Evaluation Challenges and Barriers

- **Collecting Honest Feedback:** Peers noted difficulty obtaining candid feedback through formal surveys. Principal investigators may avoid criticism to protect future funding, and project champions may hesitate to admit limited outcomes or failures. The Oregon Department of Transportation reported that informal conversations and interviews often yield more useful insights. Other states have highlighted success stories as a way to document positive results.
- **Lack of Data:** One state described a consistent challenge of not having enough data points from post-completion surveys to establish evaluation matrices. Most other peers agreed that this challenge exists in their agencies, too. Further, peers described that the uniqueness of individual research projects often make standardized online evaluation forms difficult tools from which to gain meaningful insight.
- **Measuring Impact:** Several peers noted that efficiency measures like whether the project was on-time or on-budget are simpler, more standardizable measures than those monitoring research impact. While some DOT peers have defined approaches for estimating net benefits of individual research projects completed in their program, most describe measuring impact as a persistent challenge.

3.4.3 Recommendations: Program Evaluation

Participants suggested several strategies to strengthen program evaluation:

- Develop tracking systems for program metrics that go beyond “percent on time” and “percent on budget.” Consider efficacy measures, such as whether a project improved a department process or product.
- Use alternative feedback mechanisms beyond surveys, such as live interviews, to collect more candid insights.
- Create a research dashboard to track and visualize the status of active projects and the outcomes of completed research.

- Conduct benefit-cost analyses of projects at periodic intervals (e.g., every 3–5 years).
- Require reporting on pooled fund projects before allocating additional funding to better assess returns on investment.

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4.0 Special Topics

Each day of the 2025 Massachusetts Department of Transportation Peer Exchange concluded with discussions of technical and emerging topics currently under way at participating agencies. These sessions highlighted how states identify, prioritize, and execute new research needs.

Topics included:

- **Advanced Air Mobility (AAM).** The Maryland State Highway Administration is using drones for crash investigation, while the Utah Department of Transportation is studying how to space electric vertical take-off and landing (eVTOL) aircraft for recreation, package delivery, and passenger travel.
- **Artificial Intelligence (AI).** The Colorado Department of Transportation is analyzing large datasets to generate operational insights (e.g., bridge condition forecasting) and applying natural language processing for internal training. The Maryland State Highway Administration is pursuing multiple machine learning projects, including image processing to classify vehicles and measure highway volumes. The Massachusetts Department of Transportation is using a real-time “grip reader” to calculate tire grip and determine appropriate salt application on roadways. The Oregon Department of Transportation is piloting mower-mounted sensors to detect debris in tall grass, preventing damage to equipment. The Kentucky Transportation Cabinet is developing a wrong-way detection program using flashing lights and video analytics.
- **Methods to Improve State and Local Coordination.** The Massachusetts Department of Transportation Aeronautics Division is coordinating with municipalities to secure local support for using municipal land as drone launch sites for emergency response. The Kentucky Transportation Cabinet uses its Local Technical Assistance Program (LTAP) for training services. The Oregon Department of Transportation employs memoranda of understanding (MOUs) with local entities to collect data for bicycle and pedestrian projects, compensating them for their efforts.
- **Remote Construction Monitoring.** The Kentucky Transportation Cabinet uses drones and virtual reality goggles to inspect hard-to-reach bridge areas. The Utah Department of Transportation employs lidar cameras to monitor salt piles, quantify remaining supply, and automate reordering.

These discussions underscored the wide range of emerging research directions underway across state transportation agencies. They highlighted how departments are applying advanced technologies, testing new operational methods, and strengthening collaboration with local partners to meet evolving transportation needs.

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5.0 Conclusions

The 2025 Massachusetts Department of Transportation Peer Exchange brought together state research leaders to share practices, challenges, and opportunities across the research lifecycle, from project identification and selection through execution, implementation, and evaluation. Discussions revealed both common challenges and innovative solutions, highlighting strategies for strengthening leadership engagement, streamlining project management, supporting implementation, and improving evaluation.

The event also showcased forward-looking research in areas such as artificial intelligence, advanced air mobility, and remote monitoring, demonstrating the adaptability of state transportation agencies to emerging needs. Collectively, these insights provide a roadmap for enhancing the impact of transportation research programs and ensuring that investments translate into measurable improvements for agencies and the communities they serve.

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6.0 Appendices

6.1 Appendix A: Peer States and Representatives

Peer Name	Title	Organization	Email
Michael Bufalino	State Research Manager	Oregon DOT	Michael.Bufalino@odot.oregon.gov
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Cynthia Jones	Senior Program Officer	Transportation Research Board	cljones@nas.edu
Cameron Kergaye	Director of Research & Innovation	Utah DOT	ckergaye@utah.gov
Pragna Shah	Manager, Bureau of Research, Innovation and Information Transfer	New Jersey DOT	Pragna.Shah@dot.nj.gov
Jared Stanley	Research Coordinator	Kentucky Transportation Cabinet	jarrod.stanley@ky.gov
Hua Xiang	Deputy Director of Policy and Research	Maryland State Highway Administration	hxiang@mdot.maryland.gov
Hao Yin	Director of Research and Technology Transfer	Massachusetts DOT	hao.m.yin@dot.state.us

6.2 Appendix B: Peer Exchange Agenda

Day 1: March 12, 2025

Time	Session
9:00-9:30am	Welcome and Introductory remarks
9:30-10:15am	Research Solicitation
10:15-10:50am	Project Selection (Part 1)
10:50-11:00am	Break
11:00am-12:00pm	Project Selection (Part 2)
12:00-1:15pm	Lunch
1:15-2:45pm	Project Execution and Management
2:45-2:55pm	Break
2:55-4:30pm	Research Topics Showcase (Part 1)

Day 2: March 13, 2025

Time	Session
8:30-8:40am	Opening Remarks/Day 2 Overview
8:40am-10:30am	Research Implementation & Funding
10:30-10:40am	Break
10:40-11:55am	Research Evaluation
11:55am-1:00pm	Lunch
1:00-2:15pm	Research Topics Showcase (Part 2)
2:15-2:25pm	Break
2:25-3:30pm	Next Steps

6.3 Appendix C: Pre-Event Survey Questions

Program Organization and Budget

1. Where within your DOT Org Chart is the research program positioned?
2. Does your research program have a strategic plan?
3. What is your approximate annual research program SPR II (Part B) budget?
4. Approximately what percentage of your research programming is dedicated to the following areas? The sum should of your answers should be 100.
 - a. Research Projects: __%
 - b. Technology Transfer: __%
 - c. Miscellaneous Activities: __% (Please list other activities)
5. How many full-time staff are dedicated to your research program.
6. Does your research program have a research manual? If yes, how often is it updated? _____
7. Which of the following activities does your program outsource to other entities to administer?
 - ☐ Research projects
 - ☐ Technology transfer
 - ☐ Miscellaneous activities
8. Please approximate distribution of research contracts among these entities. The sum should of your answers should be 100%.
 - a. In-state universities: __%
 - b. Out-of-state universities: __%
 - c. Private consultants: __%
 - d. Other (please describe): _____
9. Is your program funded with sources beyond FHWA SPR II? Y/N
 - a. If yes, please list the additional sources: _____
10. What is the average cost and duration of a research project for your agency?
 - a. Cost: \$ _____
 - b. Duration: _____

Research Solicitation Processes

11. How many annual solicitation cycles does your program execute?
12. On average, how many new research projects does your program initiate each year?
13. From whom are research statements and topics solicited within your agency?
 - ☐ Agency leadership
 - ☐ Other agency offices (e.g., highway division, planning office)
 - ☐ Local transportation authorities or municipalities
 - ☐ Elected officials
 - ☐ Professional organization
 - ☐ Research entities
 - ☐ Other (please describe): _____
14. Please briefly describe how your program prioritizes research areas or themes in a solicitation cycle.

15. Which of the following methods does your program use to communicate funding opportunities to potential respondents?
- ☐ Listserv emails
 - ☐ Website postings
 - ☐ Professional organization postings
 - ☐ Direct outreach to specific organizations
 - ☐ Other (please describe): _____
16. Describe the major elements you require for a research proposal.
17. Aside from solicitation announcements, does your research program market or promote its work to outside entities? If so, please describe.
18. Do you have any additional topics or thoughts about research solicitation that you think should be addressed during this peer exchange?

Project Selection Processes

19. Who is involved in project selection? Please select all that apply:
- ☐ Agency leadership
 - ☐ The DOT unit that is most directly related to a solicitation (e.g., environment office representatives on an environment-related research project)
 - ☐ External (non-DOT) offices
 - ☐ Other (please list): _____
20. Describe the decision-making process you use to prioritize and select research projects. What are the major milestones between solicitation and award? Who has final decision-making authority on what research is funded?
21. Which of the following factors does your program *actively* consider when evaluating and selecting research proposals?
- ☐ Alignment with agency or DOT-wide strategic priorities
 - ☐ Potential to address an identified agency or DOT-wide need
 - ☐ Independent assessment of the proposal's feasibility
 - ☐ Legislative or executive leadership input/direction
 - ☐ Cost-benefit analysis scores
 - ☐ Budget programming
 - ☐ Other (please list): _____
22. How does your program update its selection processes using lessons learned from prior/completed research cycles?
23. Do you have any additional topics or thoughts about research project selection that you think should be addressed during this peer exchange?

Contracting, Project Management, and Execution Processes

24. Does your state allow contracts with entities outside of your state? Y / N
25. How much time does the average contract take to execute and begin work? _____
- a. Is the length different for different recipient types? If so, please describe.
26. If applicable, please describe major differences in contracting with the various recipient types (aside from contract execution length).
27. Which of the following contracting/acquisition strategies does your program utilize? Select all that apply.
- ☐ On-call service

- ☐ Task Order based support
 - ☐ Blanket Purchase Agreement (BPA)
 - ☐ Interdepartmental or Interagency Agreements
 - ☐ Other (please list): _____
28. Approximately what percentage of research projects are completed within their originally defined period of performance?
29. Does your program require project management plans for each project? Y/ N
30. Who typically serves in the following roles for your research projects?
- ☐ Project Manager: _____
 - ☐ Principal Investigator: _____
 - ☐ Technical Advisory Committee members: _____
31. What tools or processes do you use to track research progress and spending over the period of performance of a research project?
32. Which of the following options best describes how engaged your program staff are, on average, in the technical elements and progression of a research project?
- ☐ Limited check-in meetings with the researcher until the project is nearing draft-final stages
 - ☐ Regular but infrequent (e.g., monthly or quarterly) meetings to discuss progress and provide high-level feedback to the contracted research team
 - ☐ DOT research office staff actively participate in projects. Staff would be able to describe the current status, upcoming milestones, any project hurdles, and anticipated outcomes of a project without much preparation
33. How often are contractors required to report progress (funds expended and accomplishments toward SOW tasks)?
34. Are researchers asked to fill out post-research evaluations of the project? If so, what kind of questions are asked?
35. Do you have any additional topics or thoughts about contracting and project execution processes that you think should be addressed during this peer exchange?

Research Implementation

36. Does your program have any of the following mechanisms to promote implementation of research findings/outcomes? Check all that apply.
- ☐ Research program manual and policies requiring implementation of research outcomes.
 - ☐ Incentives to promote implementation (if yes, please describe): _____
 - ☐ Collaboration with external stakeholders to promote implementation
 - ☐ Others (please list): _____
37. Who has final decision-making authority on what research is to be implemented?
38. Does your program have a budget line item dedicated to research implementation (distinct from the research phase of the project)?
39. Does your program have a defined process for transitioning projects from the research phase/team to the appropriate DOT office? Y / N
40. Does your program collaborate with any of the following to implement research findings?
- ☐ Other offices in my DOT (please describe): _____
 - ☐ External stakeholders (please describe): _____
41. Does your program issue an annual research implementation report? Y/ N

42. Do you have any additional topics or thoughts about research implementation processes that you think should be addressed during this peer exchange?

Research Evaluation Processes

43. Does your organization regularly evaluate any of the following? Please check all that apply.
- ☐ Project efficiency (e.g., percent of projects on time/on budget)
 - ☐ Research efficacy (e.g., percent of completed research projects leading to outcomes/findings that closely resemble the original research question)
 - ☐ Research impact (e.g., how have research outcomes changed the way DOT does its business)
44. How do post-project evaluations inform future research cycles in your program?
45. What metrics does your use to evaluate the impact of research on improving practice?
46. What tools or programs do you use to support evaluation?
47. Do you have any additional topics or thoughts about research implementation processes that you think should be addressed during this peer exchange?

Technical Portfolio / Research Topic Highlights

48. What research subjects do you think are most pressing for your program to undertake in the next 3, 5, and 10 years?
49. Which of those topics you identified in the previous question align with your organization's current strategic goals/objectives?
50. What actions is your program currently taking to address these anticipated research needs?

6.4 Appendix D: Pre-Event Survey Responses

Program Organization and Budget

1. Where within your DOT Org Chart is the research program positioned?

- Colorado: The Office of Applied Research is within CDOT's Division of Transportation Development. My title is DTD Assistant Director for Research. The DTD Director reports to the CDOT Deputy Director.
- Kentucky: State Highway Engineer's Office (similar to a Commissioner's Office)
- Massachusetts: Office of Transportation Planning
- Maryland: The research program is administered by the Office of Policy and Research, under Maryland State Highway Administration's (SHA) Chief of Staff, who reports to the Administrator.
- New Jersey: Within the Division of Statewide Planning
- Oregon: Within our Policy, Data, and Analysis Division. The Research Section is a peer level organizationally to our Planning Section, Data Section and Climate Office.
- Utah: The UDOT research program is part of the Research & Innovation Division, which is part of the Technology & Innovation Group, which is one of a few central office groups with oversight by the Deputy Director of Planning and Investment.

2. Does your research program have a strategic plan?

- Colorado: No
- Kentucky: Very Brief, but yes.
- Massachusetts: No
- Maryland: No, the research program itself does not have a strategic plan. The SHA has recently launched our new strategic plan, and the research program aims to support the plan's five pillars of goals.
- New Jersey: Yes
- Oregon: The Research program aligns with the agency strategic plan. See the 2021-2023 Strategic Action Plan: Revised January 2023. We have program-specific Oregon Research Advisory Committee Priorities based on the agency strategic plan.
- Utah: No

3. What is your approximate annual research program SPR II (Part B) budget? \$ _____

Colorado	Kentucky	Massachusetts	Maryland	New Jersey	Oregon	Utah
\$4,250,000	\$5,100,000	\$6,563,000	\$4,400,000	\$9,000,000	\$4,186,628	\$2,283,475

4. Approximately what percentage of your research programming is dedicated to the following areas? The sum should of your answers should be 100.

	Colorado	Kentucky	Massachusetts	Maryland	New Jersey	Oregon	Utah
Research Projects	47%	62%	21%	53%	65%	81%	60%
Technology Transfer	0%	30%	56%	5%	15%	2%	10%
Miscellaneous Activities	53%	0%	0%	42%	20%	17%	30%

Other Activities

- Colorado:
 - 18% - Salaries
 - 11% - Pooled Funds
 - 19% - NCHRP&TRB dues
 - 6% - LTAP & Library
- Kentucky: 8% - Pooled Fund Studies
- Massachusetts:
 - 10% - Outsourced Administration & Management (University of Massachusetts Transportation Center)
 - 13% - Regional & National collaboration
- Maryland:
 - 4% - TRB contribution
 - 20% - NCHRP contributions
 - 10% - pooled fund studies
 - 8% - program administrations
- New Jersey: N/A
- Oregon:
 - 4% - SPR program, project selection and federal program under 23 CFR 420
 - 2% - Transportation Library, libguides and lit reviews
 - 4% - Quick hit research
 - 2% - Pooled fund contributions to other agencies
 - 4% - NCHRP Contributions
 - 1% - TRB
- Utah: NCHRP and TRB dues, pooled fund studies

5. How many full-time staff are dedicated to your research program:

Colorado	Kentucky	Massachusetts	Maryland	New Jersey	Oregon	Utah
5	1	6	4	8*	10*	4

*New Jersey is awaiting 2 backfills

*Oregon has 7 research coordinators/analysts, 1 librarian, 1 admin support, and 1 manager

6. Does your research program have a research manual? Y / N

Colorado	Kentucky	Massachusetts	Maryland	New Jersey	Oregon	Utah
Y	Y	Y	Y	Y	Y	Y

If yes, how often is it updated? _____

Colorado	Kentucky	Massachusetts	Maryland	New Jersey	Oregon	Utah
approximately every 5 years	8 years	Last updated 2018	As needed. We are currently updating it.	annually	As needed	5 years

7. Which of the following activities does your program outsource to other entities to administer?

	Colorado	Kentucky	Massachusetts	Maryland	New Jersey	Oregon	Utah
<i>Research projects</i>	X	X	X		X		
<i>Technology transfer</i>		X	X		X		

<i>Miscellaneous activities</i>		X	X		X		X
---------------------------------	--	---	---	--	---	--	---

8. Please approximate distribution of research contracts among these entities. The sum should of your answers should be 100%.

	Colorado	Kentucky	Massachusetts	Maryland	New Jersey	Oregon	Utah
<i>In-state universities: XX%</i>	75%	100%	100%	52%	100%	78%	70%
<i>Out-of-state universities: XX%</i>	5%	0%	0%	13%	0%	15%	0%
<i>Private consultants: XX%</i>	20%	0%	0%	17%	0%	2%	30%
<i>Other (please describe):</i>	0%	0%	0%	18%*	0%	4%*	0%

Other (please describe)

*Maryland: In-House

*Oregon: USGS, State Department of Fish and Wildlife, Other State DOT, Volpe

9. Is your program funded with sources beyond FHWA SPR II? Y/N

Colorado	Kentucky	Massachusetts	Maryland	New Jersey	Oregon	Utah
N	Y	N	N	Y	Y	Y

10. What is the average cost and duration of a research project for your agency?

	Colorado	Kentucky	Massachusetts	Maryland	New Jersey	Oregon	Utah
Cost	\$150,000	\$110,000	\$200,000	\$150,000	\$250,000	\$307,000	\$60,000
Duration (years)	2.5	1.5 - 2	1 - 1.5	1 - 1.5	1.5-2	2.8	2

Research Solicitation Processes

11. How many annual solicitation cycles does your program execute? ##

Colorado	Kentucky	Massachusetts	Maryland	New Jersey	Oregon	Utah
2	1	1	1	1	1	1

12. On average, how many new research projects does your program initiate each year? ##

Colorado	Kentucky	Massachusetts	Maryland	New Jersey	Oregon	Utah
2	1	1	1	1	1	1

13. From whom are research statements and topics solicited within your agency?

	Colorado	Kentucky	Massachusetts	Maryland	New Jersey	Oregon	Utah
Agency leadership	X	X	X	X	X	X	X
<i>Other agency offices (e.g., highway</i>	X	X		X	X	X	X

<i>division, planning office)</i>							
<i>Local transportation authorities or municipalities</i>	X	X					X
<i>Elected officials</i>							
<i>Professional organization</i>							
<i>Research entities</i>	X	X			X	X	X
<i>Other (please describe):</i>	X*		X *				

Other (please describe)

*Colorado: We solicit broadly to staff within our agency and outside our agency to universities, consultants, and through standard procurement lists.

*Massachusetts: Agency Staff

14. Please briefly describe how your program prioritizes research areas or themes in a solicitation cycle.

- Colorado: Prioritization is done by our RIC (Research Implementation Council) and is by need and benefit rather than area. We do have “themes” through our Areas of Emphasis which are meant to increase the flow of ideas and promote the priority of the areas. The process for selection of themes is not well formalized (yet).
- Kentucky: Voting and then final assessment on Cabinet needs by leadership.
- Massachusetts: According to priorities of Agency Department leadership
- Maryland: In the past years, we have not prioritized research areas or themes during a solicitation cycle. We took all ideas and developed them into a master list. The Research team then work with a research advisory board or SHA leadership to rank and select research ideas. We are planning to have a theme or prioritized strategic emphasis area this coming solicitation cycle.
- New Jersey: Based on the Research Oversight Committee priorities
- Oregon:
 - October: By October 1 of each year the State Research Manage (or designee) will collaborate with the ODOT Communications section to initiate an all agency call for research problem statements.
 - November: Stage Research Problem Statements are due to the research Section each year on November 15, or the next working day (if the 15th is on a weekend). Each year we receive approximately a hundred problem statements.
- Utah: The UDOT research program supports six or more central divisions or subject groups with their priority research needs each year. These are confirmed or added at the beginning of the research prioritization process. Each confirmed subject group receives a portion of the available research funding as long as they have research needs. The Traffic Management & Safety subject group generally has the most research needs and receives the most research funding.

15. Which of the following methods does your program use to communicate funding opportunities to potential respondents?

	Colorado	Kentucky	Massachusetts	Maryland	New Jersey	Oregon	Utah
<i>Listserv emails</i>	X	X	X - Agency Staff		X	X	X
<i>Website postings</i>	X				X	X	X
<i>Professional organization postings</i>							
<i>Direct outreach to specific organizations</i>	X		X - Agency Staff	X		X	X
<i>Other (please describe):</i>	X		X - Outsourced: Massachusetts Universities - Research Affiliates Program		X		

16. Describe the major elements you require for a research proposal.

- Colorado: I will assume you mean for a problem statement rather than a formal proposal. We ask for title and author/submitter information, subject area, estimate (if available) of length and cost and any funds leverage, a brief description of the problem and why it is important, a brief statement of the research objective, the major tasks of the research if known, the benefits of the research and how the results would be used within CDOT. We also require a brief powerpoint presentation which helps us in the evaluation process
- Kentucky: Idea, Abstract, Cabinet Champion
- Massachusetts:
 - Problem Statement
 - Cost
 - Duration
 - Implementation
 - MassDOT Project Champion
- Maryland: https://www.roads.maryland.gov/OPR_Research/SHA_RFP-Template.pdf This is the [current-year template for proposals](#).
- New Jersey:
 - Understanding of the scope
 - Research Methodology & Tasks
 - Budget & Schedule
- Oregon: Stage 1 problem statement:
 - Concisely describe the transportation issue (including problems, improvements, or untested solutions) that Oregon needs to research.
 - What final product or information needs to be produced to enable this research to be implemented?
 - (Optional) Are there any individuals in Oregon who will be instrumental to the success of implementing any solution that is identified by this research? If so, please list them below.

- Completion of a strategic screening tool assessing the problem's alignment with agency strategic goals.
 - Note stage 2 is addressed in Question 21 below
 - Utah: UDOT research problem statements include a research title, a UDOT or Utah Transit Authority champion, other authors, a subject group, explanation of the problem, importance of the research, potential implementation and benefits, tasks and durations, requested funding, and estimated cost.
17. Aside from solicitation announcements, does your research program market or promote its work to outside entities? If so, please describe: _____
- Colorado: We hold webinars to explain our program generally attended by university and consultants; occasionally we present directly at universities and at conferences.
 - Kentucky: Presentations at conferences
 - Massachusetts:
 - Publication of Final Reports - TRID, National Transportation Library
 - Publication of MassDOT Research Newsletter
 - international, National Conferences - Researcher's Submission & Presentation of Research Findings
 - LTAP
 - Maryland: We do not have regular marketing or promotion activities to outside entities. We do attend internal technical initiative or peer group meetings. When an idea rises, we let colleagues know that research program is available to support them and ask them to submit research ideas during the solicitation cycle.
 - New Jersey: Research website posting and Email notification
 - Oregon: Not at this time
 - Utah: Yes - We promote the results of some research projects among UDOT and industry subject matter experts, mainly selected ones who would be interested or are potential users of the results, through virtual final presentations. We also promote sharing of completed UDOT research by consultants and universities presenting at the annual Utah Transportation Conference among partner agencies, consultants, and contractors.
18. Do you have any additional topics or thoughts about research solicitation that you think should be addressed during this peer exchange?
- Colorado: None
 - Kentucky: None
 - Massachusetts: None
 - Maryland: I want to learn more about soliciting ideas from outside entities. How do you select a winning proposal if the submit entity also respond to the RFP if the idea is selected?
 - New Jersey: Is the Research Bureau the only unit that conducts research? We have resource centers conducting research as well as other units within our DOT
 - Oregon: None
 - Utah: None

Project Selection Processes

19. Who is involved in project selection? Please select all that apply:

	Colorado	Kentucky	Massachusetts	Maryland	New Jersey	Oregon	Utah
<i>Agency leadership</i>	X	X	X	X	X	X	X
<i>The DOT unit that is most directly related to a solicitation (e.g., environment office representatives on an environment-related research project)</i>	X	X	X		X	X	X
<i>External (non-DOT) offices</i>					X		
<i>Other (please list):</i>	X*		X			X*	

Other (please describe)

*Colorado: We first solicit advice from committees of SMEs and final advice from the RIC which has broad high-level CDOT membership. OAR staff also has significant involvement in judging and selecting the final set of projects to be funded.

*Oregon: Agency Expert Task Groups – Discipline/topic area groups of senior practitioners and mid-level managers. (will likely include unit level directly related to the research but also closely related peer level units.

20. Describe the decision-making process you use to prioritize and select research projects. What are the major milestones between solicitation and award? Who has final decision-making authority on what research is funded?

- Colorado:
 - Sort projects into topical groups
 - Some projects' focus are refined by my team along with the author
 - Advice by Oversight Teams made up of subject matter experts eliminates and prioritized within the subjects.
 - A top subset of projects is evaluated by the RIC (high-level committee) which advises OAR on project priorities
 - OAR makes the final selection in consultation with the DTD Director and CDOT Chief Engineer and considering the available budget
 - Projects are entered into the Work Program and approved by FHWA
 - A Study Team is formed that develops a Statement of Work
 - The Project Manager (Research Team) and Study Team Lead (SME) work with the Business office to solicit, select, and contract with (award) a vendor [this last step can take up to or more than a year]
- Kentucky: Voting by Cabinet Employees and then final assessment on Cabinet needs by leadership. State Highway and Deputy Secretary give final approval.
- Massachusetts: MassDOT Department leadership

- Maryland: After the Research team developed and evaluated the research ideas that were received from technical offices, the leadership team including the Administrator and five Chiefs ranked and selected research ideas. They frequently had questions or comments on some research ideas. The Research team worked with the technical office to answer or respond to them before leadership's final selections. The idea selection does not mean an award. The selected ideas then go through an RFP process and the technical team selects the best fit proposal. The award happens after that.
- New Jersey: Review and evaluation of the proposals. The Manager of the Bureau of Research has the final decision-making authority and based on the funding.
- Oregon:
 - November: Once the problem statements are received, they are sorted by subject, according to the topic areas identified for each Expert Task (ETG). ETGs are discipline/topic area committees of agency senior practitioner and middle management.
 - November - December: Research coordinators give each problem statement an initial read, conduct a brief scan of the literature, and may contact the submitter to get more information if the objectives of the problem statement are not clear. A step in this process involves determining how the research would likely be implemented, and working with the problem statement submitter and the affected ODOT units to gain some assurance that the proposed research has the support of key agents of implementation.
 - November - January: ETG meetings are scheduled and problem statements to be reviewed by each ETG are sent to ETG members at least several days prior to the meeting. ETGs typically review between 10 and 30 problem statements. ETG members are asked to give the problem statements a preliminary ranking. They are instructed to consider their Group's stated priorities when ranking problem statements. ETGs meet and discuss preliminary rankings. They use a variety of methods to achieve consensus, but in the end, each ETG nominates three problem statements to continue to compete for funding. All ETG meetings should be completed by January 31st.
 - January – Second week of March: The research coordinator, in consultation with the project submitter and other pertinent ODOT personnel and sometimes with a potential investigator, works to develop a Stage 2 problem statement.
 - The stage 2 problem statements will include: the research objectives, a brief summary of work tasks, cost estimate, duration, implementation plan, and potential benefits and an assessment of how the objectives meet agency strategic goals.
 - Two Weeks Prior to the RAC meeting: Stage 2 problem statements and a pre-meeting project prioritization ballot will be sent to the members of the Oregon Research Advisory Committee (RAC) for review and preliminary prioritization.
 - One Day Prior to the RAC meeting: RAC members will return the pre-meeting project prioritization ballot to Research Section staff.
 - The RAC meeting will be held prior to March 31. The RAC uses a review of stage 2 problem statements and staff presentation (question and answer) to assess projects before voting. After the first ballot the RAC uses a consensus process to finalize project priorities.
- Utah: The problem statement solicitation is sent out in January. In March UDOT and UTA evaluation teams for the various subject groups are tasked with evaluating the submitted problem statements in their subject group. We use shared spreadsheets in which voters can access the problem statements, provide scores for two criteria (Importance and Implementation), and provide questions and other

comments. The research staff facilitates an exchange of voter questions and champion/author responses via email and updates the voter spreadsheets accordingly. We hold April workshop sessions for the various subject groups (including evaluation teams, champions, and research staff) to discuss and prioritize their sets of problem statements. Then the subject group leaders recommend which problem statements they want funded based on the prioritization voting and available funding. The research staff compiles the results and provides the Technology & Innovation Group Director with the list of recommended new research projects to fund, for approval. The approved list is included in the research program's Annual Work Program for review and approval by the FHWA Utah Division for the new state fiscal year. Research project managers coordinate with champions, technical advisory committee members, and the selected researchers on project scopes and start to execute new contracts in July.

21. Which of the following factors does your program *actively* consider when evaluating and selecting research proposals?

	Colorado	Kentucky	Massachusetts	Maryland	New Jersey	Oregon	Utah
<i>Alignment with agency or DOT-wide strategic priorities</i>	X	X	X	X	X	X	
<i>Potential to address an identified agency or DOT-wide need</i>	X	X	X	X	X	X	X
<i>Independent assessment of the proposal's feasibility</i>	X	X		X			
<i>Legislative or executive leadership input/direction</i>	X		X			X	
<i>Cost-benefit analysis scores</i>							
<i>Budget programming</i>	X		X			X	X
<i>Other (please list):</i>							X

22. How does your program update its selection processes using lessons learned from prior/completed research cycles?

- Colorado: Informally, my team discusses barriers and potential changes. Formally 4 years ago we held a retreat than modified and modernized some of our process.
- Kentucky: Implementation of past projects for an area...current number of projects for an area.
- Massachusetts: N/A

- Maryland: We follow the pre-set annual cycle and try best to improve the responsiveness to agency needs and strategic priorities. In a couple of fiscal years, we included an off-cycle research line to accommodate urgent research needs coming up throughout the year.
- New Jersey: Periodically evaluating the Proposal Evaluation criteria.
- Oregon:
- Utah: We collect feedback from the workshop process participants and research staff. Then we discuss the feedback and identify a few process items to do differently next time.

23. Do you have any additional topics or thoughts about research project selection that you think should be addressed during this peer exchange?

- Colorado:
- Kentucky:
- Massachusetts:
- Maryland: What different ways have states tried in the past ten or twenty years in project selection and how they selected the current method.
- New Jersey:
 - Do you have any direct research projects? If so, how do meet the 2 CFR 200 requirements?
 - How does your Research unit keep up with the current research and technology?
- Oregon:
- Utah:

Contracting, Project Management, and Execution Processes

24. Does your state allow contracts with entities outside of your state? Y / N

Colorado	Kentucky	Massachusetts	Maryland	New Jersey	Oregon	Utah
Y	Y	Y	Y, but out-of-state public universities only.	N	Y	Y

25. How much time does the average contract take to execute and begin work? _____

Colorado	Kentucky	Massachusetts	Maryland	New Jersey	Oregon	Utah
	4 weeks	6 months	Several weeks	6-8 weeks		4 weeks

26. If applicable, please describe major differences in contracting with the various recipient types (aside from contract execution length).

- Colorado:
 - State universities and peer Colorado state departments (e.g. the Colorado Department of Public Health and Environment) are contracted through an Interagency Agreement (IAA)
 - Companies are contracted through a contract agreement

- In rare cases we use a Task Order through an existing Non-Project-Specific (NPS) agreement that CDOT has with a company. We do not lead any NTSs
- Kentucky: None, all have the same contract.
- Massachusetts: Time required to advertise, prepare & execute contracts
- Maryland:
 - We have general open-end agreements with in-state public universities, so the “contract” period is minimal. Once the scope and budget are approved, we can issue notice-to-proceed in no time.
 - With out-of-state public universities, we need to establish a project-based MOU. The process takes about six weeks to three months depending on the time needed for the university legal/contract staff to review the MOU terms and conditions.
 - With consultants, we ask technical offices to use those that they have existing A&E contracts. Please note that such A&E contracts usually lasts five years and have a much-higher upset limit. The establishment of these contracts usually takes about two years.
- New Jersey: For all the universities we have a Basic Agreement and individual task orders for each research project. The State funded research projects have one main Treasury contract with individual task orders.
- Oregon:
 - Most public universities are the same
 - Private contractors are used for specific skills
- Utah: Contracting with Utah public universities is relatively simple since it’s an interagency agreement drafted by the research staff, without advertising or competition. Contracting with private universities or firms in UDOT’s consultant qualified pool requires reviewing three firms’ on-file qualifications for research work, selecting the most qualified firm, and negotiating the contract scope and amount up to a maximum of \$250K. Less common with our research program is the need to contract with firms outside the pool which typically requires an RFQ or RFP process and advertising. These contract selection options are mainly based on qualifications.

27. Which of the following contracting/acquisition strategies does your program utilize? Select all that apply.

	Colorado	Kentucky	Massachusetts	Maryland	New Jersey	Oregon	Utah
<i>On-call service</i>		X	X		X		
<i>Task Order based support</i>	X		X	X	X	X	
<i>Blanket Purchase Agreement (BPA)</i>		X			X		
<i>Interdepartmental or Interagency Agreements</i>	X		X	X		X	X
<i>Other (please list):</i>	X*		X				X

*Colorado: Contract (i.e. with company)

28. Approximately what percentage of research projects are completed within their originally defined period of performance?

Colorado	Kentucky	Massachusetts	Maryland	New Jersey	Oregon	Utah
----------	----------	---------------	----------	------------	--------	------

85%	70%	50%	50%	60%	50%	50%
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*Colorado: It would be lower but we add extra time to our contract project timelines to reduce the need for contract amendments to extend the time.

*Maryland: The remaining half usually needs no-cost extensions.

*New Jersey: 60% due to backlog of the pandemic research projects otherwise 80% of our research projects are completed within the defined period of performance.

*Oregon: At this point I would estimate 50%. This is getting better coming out of COVID delays. That said I wonder if our industry in general does not know how to accurately estimate timelines.

29. Does your program require project management plans for each project? Y/ N

Colorado	Kentucky	Massachusetts	Maryland	New Jersey	Oregon	Utah
N*	Y	Y*	N	Y	Y	Y

*Colorado: Not an explicit plan. However, we do require a data management plan if appropriate to the project

*Massachusetts: Informally. Each research project is managed thru requirements, schedule provided in SOW and contract documents including: Project Schedule, Schedule of Deliverables, Monthly Reports, Monthly Invoices and project status meetings.

30. Who typically serves in the following roles for your research projects?

	Colorado	Kentucky	Massachusetts	Maryland	New Jersey	Oregon	Utah
<i>Project Manager:</i>	X An engineer or scientist with my Office of Applied Research	X Project Manager: Cabinet Employee	X MassDOT Research Staff	X The Research team staff members	X	X	X
<i>Principal Investigator:</i>	X Typically, a university professor or lead scientist within a consultant company	X Principal Investigator: University Employee	X Principal Investigator: Academic Researchers, Private Consultants	X University professors or consultants	X	X	X
<i>Technical Advisory Committee members:</i>	X CDOT SMEs, CDOT stakeholders, the PM from my team in OAR, and we invite someone from the FHWA Colorado	X Technical Advisory Committee Member: Cabinet Employees, maybe a Consultant or Contractor.	X Technical Advisory Committee members: Project Champions - MassDOT Staff	X SMEs	X	X	X

	Division Office						
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31. What tools or processes do you use to track research progress and spending over the period of performance of a research project?

- Colorado:

Financial tracking: DTD has just created a dashboard that helps with some financial tracking. We are still learning how to use it. Most tracking is done directly by the OAR PM.

-
- b. Tracking progress: Progress is tracked through QPRs, presentations by the PI to the Study Team, and meetings and communication as needed.
- Kentucky: Qualtrics and Spreadsheets
- Massachusetts
- Maryland
- New Jersey
- Oregon
- Utah

Colorado	Kentucky	Massachusetts	Maryland	New Jersey	Oregon	Utah
a. Financial tracking: DTD has just created a dashboard that helps with some financial tracking. We are still learning how to use it. Most tracking is done directly by the OAR PM. b. Tracking progress: Progress is tracked through QPRs, presentations by the PI to the Study Team, and meetings and communication as needed.	Qualtrics and Spreadsheets	As specified in SOW and contract documents: -Monthly Project Schedule -Monthly Reports -Project Deliverables -Monthly Invoices -Project Status Update Meetings	We have established project charters (performance, expenditure, current activities, or other milestones are noted) saved in the project folders on shared network drive. A master tracking sheet is in Research Teams channel.	The research project managers have quarterly/monthly meetings to track the progress and spending as well as our project management system.	a. Project quarterly reporting b. Quarterly invoicing c. Publication of project status online at: List of Active Research Projects d. Regular Research Project Manager check in with PIs	Our research project managers use a database called the Research Project Management System (RPMs) in which they manually enter and track scope, schedule, budget, and payments for the contract along with a list of technical advisory committee members.

32. Which of the following options best describes how engaged your program staff are, on average, in the technical elements and progression of a research project?

	Colorado	Kentucky	Massachusetts	Maryland	New Jersey	Oregon	Utah
Limited check-in meetings with the researcher until the project is nearing draft-final stages							
Regular but infrequent (e.g., monthly or quarterly) meetings to discuss progress and provide high-level feedback to the contracted research team	X	X	X		X		X
DOT research office staff actively participate in projects. Staff would be able to describe the current status, upcoming milestones, any project hurdles, and anticipated outcomes	X		X*	X		X	

of a project without much preparation							
---------------------------------------	--	--	--	--	--	--	--

*Massachusetts: MassDOT Research staff: Review Monthly Invoices, Monthly Reports, and Deliverables

33. How often are contractors required to report progress (funds expended and accomplishments toward SOW tasks)?

Colorado	Kentucky	Massachusetts	Maryland	New Jersey	Oregon	Utah
Either Quarterly or Monthly reporting*	Usually aligns with project milestones.	Monthly	Quarterly	Quarterly	Quarterly	Varies*

*Colorado: A small number of projects have meetings that are weekly or biweekly.

*Utah: This varies based on the research project. Typically this would be 2 to 6 times per year based on the timing of interim and final deliverables, TAC meetings, and invoicing.

34. Are researchers asked to fill out post-research evaluations of the project? If so, what kind of questions are asked?

Colorado	Kentucky	Massachusetts	Maryland	New Jersey	Oregon	Utah
N	N*	N	N*	N	N*	N*

*Kentucky: We have them complete the post section of our implementation plan.

*Maryland: Two post-research evaluation forms are for Technical Lead and Administrative Lead. We do not currently collection evaluations from researchers. We did have one survey developed but, in the end, discontinued the use of it. I will take the surveys to the peer exchange if any member wants to see it

*Oregon: Post-research evaluation is conducted with agency customers immediately following projects as a part of implementation and again after 5 years to assess implementation.

*Utah: We have been doing mid-project evaluations of the project team (champion, researcher, and project manager) to improve communication and resolve issues.

35. Do you have any additional topics or thoughts about contracting and project execution processes that you think should be addressed during this peer exchange?

- Maryland: How do other states highlight the exemplary project execution? Do they share and recognize this agency wide?
- New Jersey: What is the average time to finalize the final report/deliverables?

Research Implementation

36. Does your program have any of the following mechanisms to promote implementation of research findings/outcomes? Check all that apply.

	Colorado	Kentucky	Massachusetts	Maryland	New Jersey	Oregon	Utah
<i>Research program manual and policies requiring implementation</i>	X *			X	X	X	X

<i>of research outcomes.</i>							
<i>Incentives to promote implementation (if yes, please describe):</i>		X				X	
<i>Collaboration with external stakeholders to promote implementation</i>						X	X
<i>Others (please list):</i>					X*	X	X

*Colorado: Not “requiring implementation” but promoting it (or a decision that implementation is not possible or appropriate)

*New Jersey: Annual Implementation Award at the Research Showcase

37. Who has final decision-making authority on what research is to be implemented?

- Colorado: The Project Champion is the lead for implementation. The CDOT Chief Engineer has some decision authority and much influence. Sometimes the result provides an option and it is up to a project development team to decide if it will be used in a specific instance.
- Kentucky: Research Program Manager
- Massachusetts: Agency Department Leadership
- Maryland: Technical offices that submitted the research idea and lead the project.
- New Jersey: The Research customers and the Bureau Manager
- Oregon
- Utah: The research project champion or their division manager typically has this authority.

38. Does your program have a budget line item dedicated to research implementation (distinct from the research phase of the project)?

Colorado	Kentucky	Massachusetts	Maryland	New Jersey	Oregon	Utah
N	Y	N	Y	Y	Y	N

*Maryland: \$100K for quite some years but was removed later on due to lack of spending.

39. Does your program have a defined process for transitioning projects from the research phase/team to the appropriate DOT office? Y / N

Colorado	Kentucky	Massachusetts	Maryland	New Jersey	Oregon	Utah
N*	N	N	N*	N	N*	N*

*Colorado: but I am not sure I understand what you mean.

*Maryland: Not yet. But we are charged with formally establishing the process by November 2025. I would love to learn from other participating states on this process.

*Oregon: Because the diversity of our customer base from engineering to DMV to statewide policy would not be well served by a one-size-fits-all process.

*Utah: This is a work in progress as we are improving the Implementation Planning Worksheet and the related workflow.

40. Does your program collaborate with any of the following to implement research findings?

	Colorado	Kentucky	Massachusetts	Maryland	New Jersey	Oregon	Utah
<i>Other offices in my DOT (please describe):</i>	X*	X		X*	X	X	X
<i>External stakeholders (please describe):</i>						X	X

*Colorado: Our collaboration is typically encouragement, or sometimes conducting further research if needed.

*Maryland: Technical offices that submitted the research idea and lead the project. In addition, we work with other offices that are impacted by the research findings.

41. Does your program issue an annual research implementation report? Y/ N0

Colorado	Kentucky	Massachusetts	Maryland	New Jersey	Oregon	Utah
N*	N	N	N*	Y	Y*	N

*Colorado: Sort of. In the past we reported an implementation metric to FHWA consisting of the percentage of projects conducted between 2 years and 7 years ago for which some or all of the results were implemented.

Deciding if a specific project was “implemented” was subjective for some projects. Going forward the metrics we report will change, and reporting will be through a presentation rather than through our Annual Stewardship and Oversight Agreement report.

*Maryland: Not yet. It is a strategic goal for the Research team.

*Oregon: Our implementation report is a part of our annual report

42. Do you have any additional topics or thoughts about research implementation processes that you think should be addressed during this peer exchange?

- New Jersey: What’s the percentage of projects that are implemented within your DOT?

Research Evaluation Processes

43. Does your organization regularly evaluate any of the following? Please check all that apply.

	Colorado	Kentucky	Massachusetts	Maryland	New Jersey	Oregon	Utah
<i>Project efficiency (e.g., percent of projects on time/on budget)</i>		X		X	X		X
<i>Research efficacy (e.g., percent of completed research projects leading to outcomes/findings that closely resemble the</i>						X	

<i>original research question)</i>							
<i>Research impact (e.g., how have research outcomes changed the way DOT does its business)</i>	X *	X				X	X

*Colorado: We do this by interaction with the champions and look for “stories” of the impact of outcomes.

44. How do post-project evaluations inform future research cycles in your program?

- Colorado: Not in any formal way. If something “goes wrong” we learn from it and adjust in the future.
- Kentucky: Quality and Cabinet Involvement in the project.
- Massachusetts:
- Maryland: Project PIs’ past performance is one of the factors when we select project proposals.
- New Jersey:
 - Lessons learned
 - Shorter duration and limited scope yield better results
 - For a larger/innovative scope, we have phases to tackle the risks that are associated with these types of projects.
- Oregon: Work with stakeholders helps identify future research needs
- Utah: About every 3 to 5 years we conduct an evaluation of completed research projects from recent years regarding their benefit/cost and implementation impact at UDOT. This is mainly based on direct input and survey responses from the research project champions. This process helps us see which subject areas of research are seeing the most benefits from implementation, leading to a basis for conversation with UDOT senior leaders and division managers regarding new research priorities in future research cycles.

45. What metrics does your use to evaluate the impact of research on improving practice?

- Colorado: Just stories, as mentioned above. Occasionally we can assign a dollar amount of impacts.
- Kentucky: None
- Massachusetts:
- Maryland
 - Outcome-based metrics such as performance improvements, quality of services, and decline in mistakes.
 - Cost savings
 - Cost savings
- New Jersey: Currently, we look only at how effectively the project can be implemented in the DOT practices, i.e. produce a standard or new procedure.
- Oregon
 - Initial post-project assessment:
 - 1. Changed agency practice: this means in effect that project results were implemented
 - 2. Validated current agency practice. There are really two kinds of project outcomes to which this applies. Sometimes a project ends successfully in that findings supported a clear decision regarding an innovation, but the outcome did not merit implementation. Maybe the innovation

didn't pan out, maybe it was too costly to implement, maybe there were unacceptable risks entailed. This also applies when a project was initiated as an evaluation of a practice already in place.

- 3. Project objectives were met but results were inconclusive. Most typically we learn that the research we set out to complete raised more questions, and didn't get us to a decision. These projects are of value to the research community, and serve as a starting point for other research but they don't give us anything we can use.
- Other - these are failed projects. Everything else that can't be characterized as a 1, 2 or 3.
- Utah: Metrics for the 3 to 5-year evaluation cycle include benefits as part of a larger initiative, benefits related to cost avoidance, improved life and performance of transportation facilities, cost savings to UDOT and transportation users, safety benefits, congestion reduction benefits, environmental and wildlife benefits, decisions to not do something, and institutional knowledge.

46. What tools or programs do you use to support evaluation?

- Colorado: We have an implementation form (document 3b transferred to you as requested).
- Kentucky: Spreadsheet with notes about implementation of each project.
- Massachusetts:
- Maryland: We do not have special tools or programs. We used to do post-completion surveys in Word. We now use MS Forms and email/in-person communications.
- New Jersey: We have a research project tracking system to assist us with the evaluation of ideas and projects. We also utilize the Proposal Evaluation form
- Oregon: Individual stakeholder surveys and interviews
- Utah: See #44.

47. Do you have any additional topics or thoughts about research implementation processes that you think should be addressed during this peer exchange?

- Maryland: How to track implementation when staff turnovers resulted no one is familiar with the past research project anymore?
- New Jersey:
 - How is the literature research being implemented and how is it tracked?
 - How are the implemented projects funded?

Technical Portfolio / Research Topic Highlights

48. What research subjects do you think are most pressing for your program to undertake in the next 3, 5, and 10 years?

- Colorado: Vulnerable user safety. Work zone safety. Impacts of new fuels (battery, hydrogen, EV charging) on infrastructure, debris flow impacts, integration of AI/ML into DOT activities and into research methods, air quality and water quality impacts of transportation, discovering and integrating new technologies into transportation infrastructure and DOT operations (includes AL, UAS, and many things we are not yet aware of).
- Kentucky: Remote Monitoring of Construction, Asset Data, Data Management, Digital Project Delivery
- Massachusetts
 - Infrastructure resiliency
 - AI and Machine Learning

- Advanced Air Mobility
 - Big-Data
- Maryland:
 - Artificial Intelligence Projects, examples:
 - Feasibility of the use of AI-Powered Automation for Pavement Image QC & QA
 - Measuring Quantities of Stockpiled Materials using Spatial Images Topic: Feasibility of the use of AI-Powered Automation for Pavement Image QC & QA
 - Identifying asset repair and maintenance needs based on real-time information, crowd sourced data (Waze, etc.), CAV, and fleet data (DashCam etc.)
 - Low-Carbon Transportation Materials
 - Will the federal grant be impacted?
 - Can state SPR research program support such research?
 - Virtual Weigh System (VWS) Current State of Practice and Technology Advances
 - Integrating Emerging Transportation Modes into the Planning Models
 - Vulnerable Road User Safety
 - Accelerating Research Implementation
- New Jersey: Artificial intelligence, evolving technologies and limited resources (funding, material, workforce, etc.)
- Oregon:
 - Economic and Community Vitality
 - Social Equity
 - Mobility
 - Stewardship of Public Resources
 - Safety
 - Sustainability and Climate Action Low-Carbon Transportation Materials
 - g. See: RAC-Priorities_2023.pdf
- Utah: Pedestrian safety, active transportation, connected and autonomous vehicles, road usage charge programs, reducing traffic congestion, asset management and maintenance planning using artificial intelligence, bridge deck preservation, pavement asphalt mix performance specifications, bridge deck concrete mix performance specifications, Advanced Air Mobility, and transportation project coordination between state DOTs and urban transit agencies.

49. Which of those topics you identified in the previous question align with your organization's current strategic goals/objectives?

- Colorado: CDOT strategic objectives are general so a lot can fit within them – safety, air quality, financial transparency and efficiency, so all of the above fit with the exception of new technologies. However, the CDOT strategic objectives have added short term goals and focus. The above research subjects rarely fall with the narrowed strategic objectives.
- Kentucky: All
- Massachusetts: N/A
- Maryland: Vulnerable Road User Safety (“Culture of Safety” is one of the five pillars of SHA’s 2025 Strategic Plan, launched in January 2025); Research Implementation (added as a Team Excellence SMART GOAL in SHA’s 2025 Strategic Plan: “By November 2025 develop a process flowchart and an implementation evaluation form by OPR to assist SHA sponsoring offices in developing strategies to implement successful research projects.”)
- New Jersey: Updating with evolving technologies and workforce development

- Oregon: These topics are based on our State Transportation System Plan and on the most recent Strategic Action Plan
- Utah: All of them.

50. What actions is your program currently taking to address these anticipated research needs?

- Colorado: Our Areas of Emphasis addresses some of these. My Research project managers strive to build a portfolio of projects in their areas of responsibility, and they are cognizant of the many important research needs.
- Kentucky: Keeping your finger on the pulse on the needs of Cabinet Staff.
- Massachusetts: N/A
- Maryland: We prioritize the funding of safety projects, including work zone safety, vision zero, and maintaining safe systems. We are creating a Research Implementation workflow and a form for the agency.
- New Jersey: Pilot projects, offer webinars and training courses (LTAP).
- Oregon: Strategic considerations are integrated into the project review cycle.
- Utah: Research projects are planned or underway on many of these subjects.

6.5 Appendix E: Pre-Event Peer Presentations

Colorado

Peer Presentations

Colorado Department of Transportation

Steve Cohn

Director, Office of Applied Research



Stephen A. Cohn
Assistant DTD Director for Research
Colorado Department of Transportation
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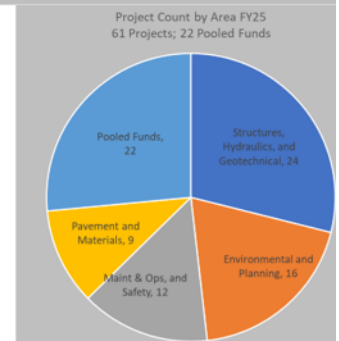
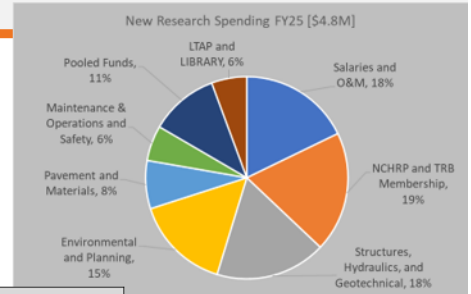
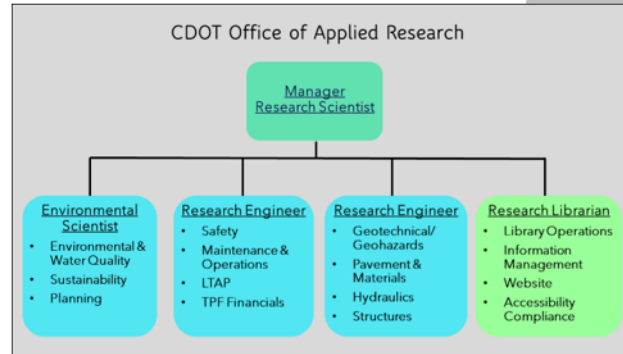
Research Program Overview

General (FY25)

- Research sits in CDOT's **Div of Transportation Development**
- Budget: **~\$4.4M/yr** (SPR-B)
- Staff: **2 Engineers, 2 Scientists, 1 Librarian**
- Project count: **61 projects, and 22 TPF** (lead 4)

Responsibilities

- Research projects
- Pooled Funds
- National (TRB, NCHRP)
- Research Library
- LTAP, T2 & STIC
- **NOT** Innovation



Topic 1: Research Solicitation (1/2)

1) How do we market and promote our research program? And communicate funding opportunities?

- **Externally:** Quarterly newsletter, University Day Q/A session, occasional Univ visits, conference presentations, 1:1 discussions with external SMEs on issues raised by CDOT practitioners.
- **Internally:** Presentations at engineering and management meetings (Traffic Engineers, Region Directors, etc.), 1:1 interaction with CDOT engineers on issues they have raised.
- **To Management:** Presentations, newsletter, at times by direct discussion with or through project champion
- **Communicating funding opportunities:** Funding deadlines are emphasized in our newsletter, email blasts, included in CDOT-wide daily staff news email, through LTAP, personal reminders, etc.

Also: Research awareness also benefits from our role to communicate and distribute external research results (NCHRP reports, research by other states, reporting from TRBAM and other sources), webinar opportunities, upcoming conferences, etc.



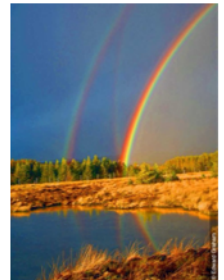
Topic 1: Research Solicitation (2/2)

2) How are priorities articulated through the research process?

- We do not limit research idea topics, but list a wide variety of examples
- We remind everyone that research ideas must address CDOT needs
- **We encourage forward-looking ideas and consideration of new techniques and technologies**
- Ideas addressing CDOT's WIGS (Wildly Important Goals, a.k.a. Strategic Initiatives) are emphasized
- **We have designated Areas of Emphasis (AOE) and specifically solicit ideas in those areas.**

3) How are problem statements connected to business needs?

- Through WIGS, AOE, and specific communication with Management
- Some members of CDOT upper management participate in our Problem Statement review



Topic 2: Research Execution (1/2)

1) How are contracts structured to effectively execute a research project's aims?

- Prior to contracting, a study team is formed and drafts a Statement of Work (SOW) that addresses the aims and potential required tasks
- The Study Team includes the Study Manager, Champion, CDOT stakeholders and subject matter experts.
- The contract deliverables are described, and their timeline is described in the SOW.

2) How are technical advisory committees utilized to advance and inform projects?

- OAR has 3-5 standing committees in topical areas (e.g. Materials, Safety, etc.), known as Oversight Teams (OTs)
- OTs identify research needs that may lead to Problem Statements, and review and rate submitted PS.
- The SOW often includes a detailed project schedule, while managing expectations

3) What methods are utilized to effectively manage researchers and contractors?

- During the project execution, the Study Team reviews and tracks progress, deliverables, especially the **Research Briefs, Data Management Plan, and the Final Report.**
- Tracking is through QPRs, periodic PI meetings, presentations, and direct communication with the researcher
- Invoices are not paid without QPRs and backup documentation

Challenges

- Unforeseen barriers, e.g., if needed data is not available or of poor quality
- Researcher staffing, e.g., student graduated before project completion (i.e., project start was delayed by the contracting timeline)
- New areas such as AI-based and cybersecurity not widely supported by OT and RIC
- Researchers struggle to create reports that meet WCAG and 508 requirements
 - Colorado statute requires WCAG to provide documents through our website

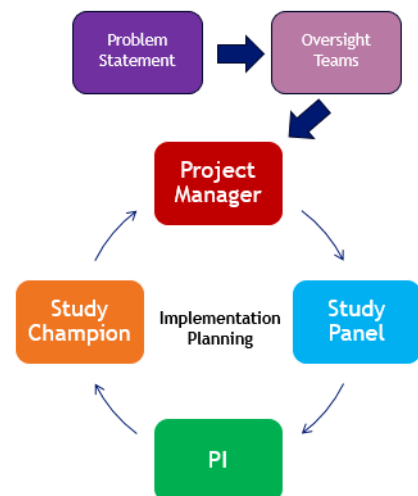


Successes - a collaborative, adaptive stance with researchers

- We recognized that research has uncertainties, **our researchers are collaborators** as well as contracted help.
- OAR PMs can be strict in telling a researcher what we need. But we also keep our expectations realistic, adapt where needed, and rely on the researcher to be the subject matter expert and a problem-solving partner.
- **OAR PMs are technical experts in their own areas.** Their judgement is respected, and they can understand and communicate with other experts.

Implementation Consideration Before & During Research

- Before Research - solicitation and review
 - Project selection includes consideration of implementation based on Problem Statement (PS)
 - Oversight Teams may request revision of PS. External PS authors often need help understanding how CDOT will use their research (collaborative approach to PS formation)
- During Research - execution
 - Scope of Work must address how findings will be implemented.
 - Frequent interaction between Researcher, Study Champion, Study Panel, and Research Manager guide implementation recommendations
 - Final Reports require Implementation Statement



Implementation Responsibilities After Research

- Study Champion or the CDOT unit CDOT is responsible for implementation of completed research (not directly OAR)
- RIC Sponsor supports and can delegate during this phase.
- **OAR tracks implementation of past projects**
- **Implementation Outcome Form** used to plan, and track progress
- OAR can facilitate implementation through tech transfer, outreach, communication of results, follow-up reminders, etc.
- **STIC and T2 funding may be applied to implementation**
- We do not have specific SPR-B funding targeting implementation.

Research Outcomes Implementation Plan

Research ID: Short Title:

RIC Sponsor: Dept/Branch:

Champion: Dept/Branch:

Implementation Status: (The research outcomes should not be implemented)

Implementation Time Frame:

Detailed Explanations (only are the above implementation status and time frame selected)

☐ Specification Modification ☐ Others - Please Specify

☐ Methodology ☐ Description (Short explanation of item(s) selected)

☐ Process Enhancement

☐ Field Device / Scientific Equipment

☐ Insight

☐ Best Practice Recommendations

Projects/Stateholders Involved in the Implementation (List projects that implement the research outcomes. Also are the stakeholders involved in the implementation. Quantify the results of the implementation in terms of CDOT's benefit(s): resources, efficiencies, environment, community enrichment? etc.)

Describe the Implementation Process (Describe the implementation of the outcomes? How will the outcomes be implemented and how are they being measured? Will the technology be transferred? If so, how? Will there be follow-up/outreach/teaching sessions? etc.)

OAR outreach promotes implementation

- Final presentation to stakeholders for every study
- The Research Brief gives the champion, panel, and stakeholders an easy way to get the word out
- Leadership and specialty meeting briefings (infrequent)
- The CDOT librarian advertises new reports
 - Email, Newsletter, Internal CDOT displays
- LTAP can share results with local agencies
- OAR also coordinates **STIC and T2** funding which can be used for implementation/outreach.

COLORADO
Department of Transportation
Applied Research and Innovation Branch

Research Brief

Study Title
A Meta-analysis of Literature to Determine Optimal Wildlife Crossing Structure Size

Research Brief
Issue ID:
Date:

Study Timeline
3/1/2024

Principal Investigator
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Interested in Finding Out More?
<https://www.colorado.gov/open/transportation-research>

Is There a Point of Diminishing Returns for Wildlife Crossing Structure Size?

Study Objectives
Determine via existing literature and unpublished study data if there is a point of diminishing returns of effectiveness for sizing highway wildlife passages, based on wildlife crossing success rates. And if not, what can we learn about sizing Wildlife Crossing Structures (WCSs) based on this analysis?

Background
Wildlife-related vehicle collisions (WRVCs) are a serious safety concern for state departments of transportation and the traveling public, resulting in wildlife mortalities and human fatalities and injuries, as well as associated costs of more than 10 billion U.S. dollars annually. From July 2020 through June 2021, 1 out of every 176 Colorado drivers submitted a claim from hitting an animal, which was a 7% increase from 2018. WCSs are expensive to build and maintain, so determining a cost-effective, optimal design is a challenge faced by departments of transportation across the United States and elsewhere. A common assumption for WCS sizing has been "Bigger is Better," but is there a point at which diminishing returns suggest better ways to maximize efficiency?

Methods
We conducted a systematic review of the scientific, professional, and grey literature to assess effectiveness of WCSs and a meta-analysis to explore the structural variables that influence their effectiveness on success rates of mule deer (*Odocoileus hemionus*), elk (*Cervus canadensis*), and other target species. Ultimately this meta-analysis was used to construct regression modeling for a repeatable approach to determining diminishing return on effectiveness in relation to WCS dimensions. The database provides inputs to run statistical analyses and regression models using Microsoft Excel and R statistical program. Four

1) How is research evaluated on the grounds of improving practice or other goals?

- We track research implementation, along with notes of its benefits (spreadsheet)
 - Actual changes in specification, methodology, process enhancement etc...
- We sometimes gather “stories” that explain the impact of projects or area
- Evaluating research is something we would like to become better at!



2) How can research evaluation be incorporated into future solicitation or research cycles? (Great question!)

- **Post-project evaluation should identify gaps in results, and these can become future solicitations**
- A good first step is to track past degree of success (inspired by UDOT dashboard and stats)
- **Can we develop better evaluation approaches through academic research? E.g.**
 - **Assessment, evaluations, and definitions of research impact: A review**, Teresa Penfield, Matthew J. Baker, Rosa Scoble, Michael C. Wykes, *Research Evaluation*, Volume 23, Issue 1, January 2014, Pages 21-32, <https://doi.org/10.1093/reseval/rvt021>
 - Academic vs socio-economic impact. Methods “Payback Framework” (UK), Social Impact Assessment Methods for research and funding instruments through the study of Productive Interactions (SIAMPI) (Dutch), etc.
 - Challenges: time-lag, impact changes over time, attribution, etc.

Colorado Department of Transportation Office of Applied Research

MassDOT Peer Exchange WTRC - pre-meeting presentation
January 27, 2025



Thank you

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Colorado Department of Transportation
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Kentucky

Kentucky Transportation Cabinet

Jarrold Stanley

Research Coordinator

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Kentucky Transportation Cabinet processes (1/2)

Solicitation

- Email blast sent to cabinet staff/staff at University of Kentucky (UK)
- Meetings with cabinet staff to discuss research needs
- Facilitation of forums with internal divisions to listen about key issues/research needs

Execution

- Biannual agreements with three Kentucky universities, mainly concentrated at UK
 - UK supports collection of research ideas

KYTC has fostered concept of mission-driven implementable approach- UK helps set KYTC's needs

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Kentucky Transportation Cabinet processes (1/2)

Implementation

- KYTC requires each SPR project to have a pre- and post-implementation assessment
 - Completed by PI and approved by Study Advisory Committee
 - Allows projects to begin with end in mind
- Approach provides condensed project roadmap

Evaluation

- Spreadsheets maintained noting project inception date, budget, completion date, actual cost, other information
- Documentation on implementation/project status

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Maryland

Peer Presentations

Maryland Department of Transportation

Hua Xiang

Deputy Director of Policy and Research

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Maryland's Research Program

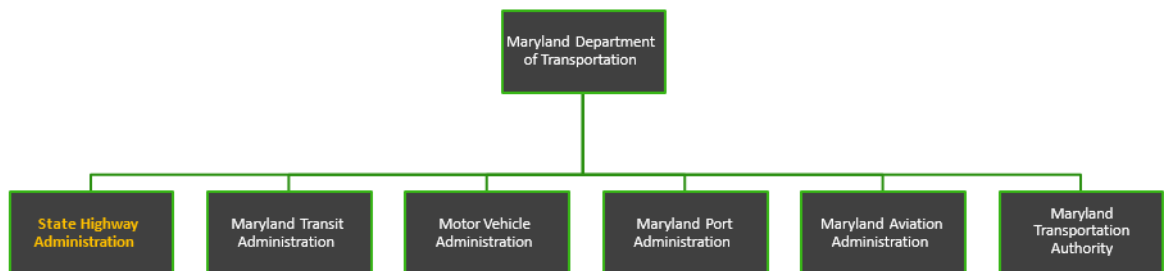
Hua Xiang, Deputy Director
Office of Policy and Research
Maryland State Highway Administration



2

General Information

DOT Organizational Structure:



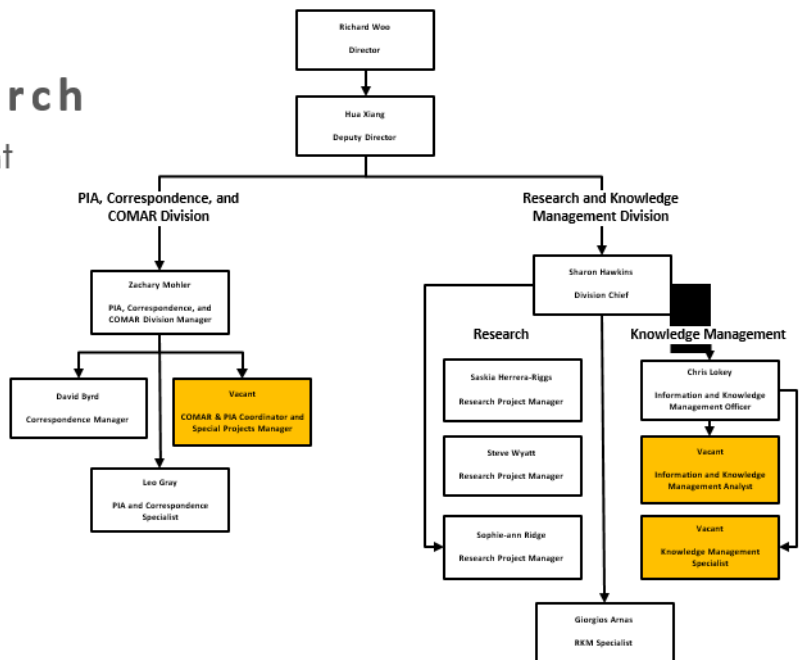
General Information

- Located at the State Highway Administration, a modal administration within MDOT
- Division within the Office of Policy and Research
- Office reports directly to Chief of Staff
- Pre-2020: Three full-time employees to manage the research program
- Office Re-org in 2021 and 2024: two additional research project managers and the Knowledge Management program was added to the Division (org chart next slide).



Office of Policy and Research

- Knowledge Management was added to the Research Side;
- Federal and State Legislation Services Division was separated out as the new Office of Governmental Affairs.



General Information

Annual Budget:

- Research program is approximately \$4.4M/year (FY 2025)
- Approximately \$3.9M in federal funds
- Approximately \$500K in state matching funds



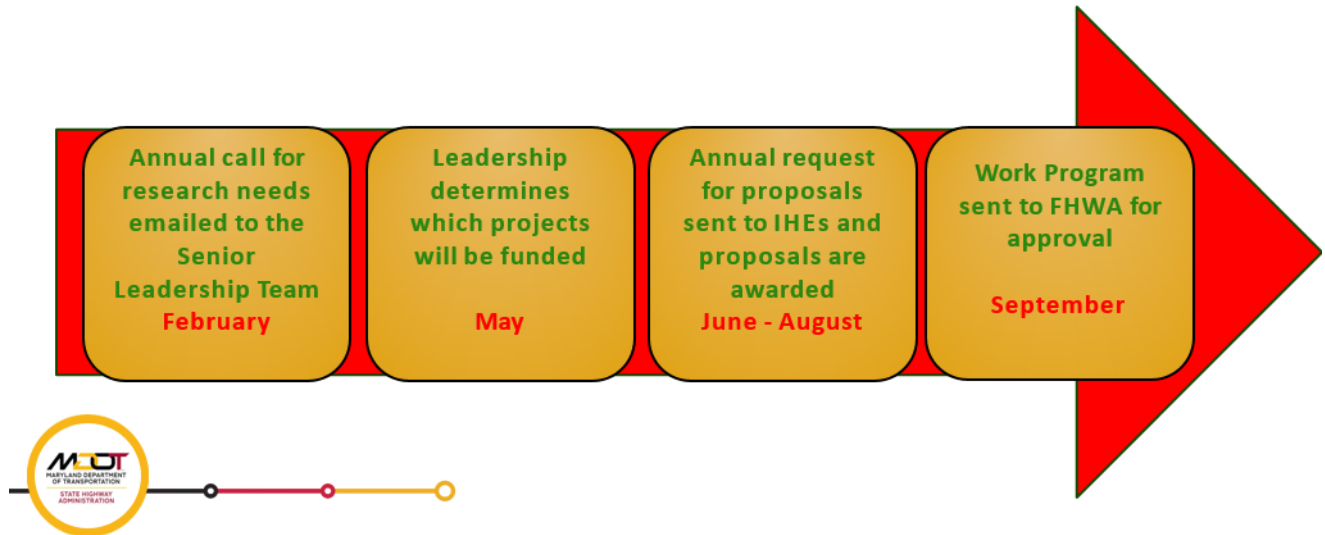
PROGRAM OVERSIGHT

Oversight Roles:

- FHWA - federal requirements
- SHA Administrator & Chiefs - Agency Needs and strategic emphasis areas
- Director of Policy and Research - Supervisory Role
- Deputy Director of Policy and Research - Program Management



Research Project Solicitation Process



RFP Process

- Research Ideas submitted from SHA Offices
- Ideas are reviewed and ranked by Research, and sent to Executive Leadership for ranking and final approval
- Research Team works with submitting offices to develop Research Problem Statements
- Research Problem Statements are advertised in an RFP to Maryland state universities
- Submitted proposals are reviewed and ranked by the SHA submitting office and SHA's Research Team
- Selected proposals are listed in Research Work Program and submitted to FHWA Division Office for approval.



Project Execution

Technical Lead:

- Evaluate research proposals
- Serve as the point-of-contact for technical questions
- Coordinate internal data collection
- Attend project meetings
- Review progress reports and invoices
- Review/approve deliverables
- Disseminate research results



Project Execution

Administrative Lead:

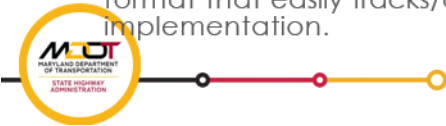
- Project Manager in the Research Division
- Responsible for overall project management
- Coordinates and facilitates project meetings
- Troubleshoots problems
- Ensures that quarterly reports, invoices, and deliverables are submitted in a timely fashion and adhere to requirements.
- Disseminates and promotes research results to external groups (FHWA, TRB, other states)



Project Implementation

Was recently added as a Team Excellence SMART GOAL in SHA's 2025 Strategic Plan

- *By November 2025 develop a process flowchart and an implementation evaluation form by OPR to assist SHA sponsoring offices in developing strategies to implement successful research projects.*
- Implementation evaluation period will run concurrently with each program cycle. Will start reviewing completed former projects Spring 2025.
- The goal of developing strategies to implement successful research projects is both post award and in the early stage of developing a good research project.
- Starting with FFY2025 projects, we require a draft implementation plan with all newly awarded projects. This plan will be reviewed during quarterly progress meetings throughout the life of the project and will be finalized prior to project completion.
- Our project inventory page will be revamped in the coming months to get it in a format that easily tracks/depicts the completion and/or success of implementation.



Project Implementation

- Require a discussion on implementation in all research proposals
- Include an implementation discussion towards the end of each project
- Include a summary of how SHA will use the results in the two-page summary
- Trying to implement a check-in approximately six months after a report concludes to see how implementation is going.



New Projects in FFY 2025

- The Influence of Rubber Modified Asphalt on Pavements Performance
- Designing the Low Carbon Asphalt Mixtures and Monitor Performance in the Field
- Preventing Pedestrian-Vehicle Conflicts and Crashes Between Turning and Through Vehicles - Phase II of the Integrated Intelligent Intersection Control System (III-CS)
- Virtual Weigh System (VWS) Current State of Practice and Technology
- Establish an Administration-Wide Data Science Program at SHA
- Integrating Emerging Transportation Modes into the Maryland Statewide Transportation Model
- Traveler Information for Rural Maryland
- Assessment of Litter Hot Spot Areas for Targeted Reduction



Internal Communications Audit

Projects in FFY 2023/2024

- Thin Asphalt Overlay
- Evaluating MDOT SHA's Graduate Engineer Training Program
- Assessment of Corridor Impacts with Context-Driven Treatment Implementation
- Develop a Knowledge-Based System for Guiding Design, Operations, and Evaluation of Highway/Freeway Work Zones
- Improving Roadway Debris Clearance for CHART Responders
- Evaluating the correlation between Slip Resistance and Skid Resistance of Pavement Markings at Crosswalks
- Effectiveness of channel reconstruction/stability design methods used in OOS design procedures.
- Effectiveness of Low Barriers to Reduce Noise Generated by Different Types of Highway Vehicles
- Develop a Mode Choice Model to Estimate Walk and Bike Trips in the Statewide Model
- Use of Stainless-Steel bridge Bearings with Steel Girder Bridges
- MD 210 Before and After Case Study for Speed Management Practices
- Precipitation-Based Geohazard Warning System
- Traffic Control Device Selection at Intersections with Two-Way Bicycle Facilities
- Developing a Comprehensive System to Illustrate the Career Pathways with MDOT SHA
- Determining Alternatives to the Lease Circuits for ITS Devices
- Determining Effect of RAP on Long-Term Durability of Asphalt Pavements in Maryland



New Jersey

Peer Presentations

New Jersey Department of Transportation

Pragna Shah

Manager, Bureau of Research, Innovation and Information Transfer

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BUREAU OF
RESEARCH, INNOVATION
& INFORMATION TRANSFER

MassDOT Research Peer Exchange

Pragna Shah

New Jersey Department of Transportation

Research Solicitation

How do we market and promote our research program?

- Outreach to Senior Management
 - Meet with Management
- Presentation to Staff:
 - Overview
 - Why their idea is valuable
 - How the Bureau of Research can help
 - Recognition
- Technology Transfer website, Annual Research Showcase, Social Media, STIC and Tech Transfer News



Research Solicitation

How are funding opportunities communicated?

- Outreach to our customers and Senior Leadership
- Outreach to Universities (UTC Support, Innovation Program, Research Opportunities)
- STIC meetings



How are priorities articulated through the research process?

- High Value Research Projects
- Immediate DOT customers' needs
- Senior Leadership

How are problem statements connected to business needs?

- Problem statements are developed with Senior Leadership and SMEs.



Project Execution

How are contracts structured to effectively execute a research project's aims?

- Basic Agreements with the Universities
- On-call consultant
 - Defined deliverables, regulations and guidance

How are technical advisory committees utilized to advance and inform projects?

- Our technical advisory committee members are subject matter experts and Research project managers
 - Development of the scope
 - Evaluation & selection of the proposals
 - Execution of the project

What methods are utilized to effectively manage researchers and contractors?

- Monthly/Quarterly meetings
- Visits to Universities and Project sites
- Evaluation the Principal Investigator's performance



Implementation of Research

How do agencies collaborate internally and externally to advance implementation aims?

- Bureau requests for Implementation plans during the RFP stage of each research project
- Once the project is completed, we re-evaluate the implementation plan with our customer
 - Forms of implementation plan
 - Training
 - Field observation & testing

How are funding mechanisms utilized to advance research implementation?

- We set aside funding for implementation of research projects to be included in the SPR

How are feedback loops established to aid implementation of priority areas (e.g., new topic statements)

- Interviews with Principal Investigators, Research Project Managers and Customers
- Recognition of Implementation project at the Annual Research Showcase



Research Impact Evaluation

How is research evaluated on the grounds of improving practice or other goals?

- Identifying issues with administrative and project management processes with staff
- Working together to address problems and find solutions
- Outreach to various units within the department
- Customer Recognition at Annual Research Showcase and other opportunities i.e. BABM, etc.

How can evaluated be incorporated in future solicitation or research cycles?

- In response to the feedback, we are increasing our efforts to engage with customers more frequently



Oregon

Peer Presentations

Oregon Department of Transportation
Michael Bufalino
State Research Manager



Transportation Research

Michael Bufalino



ODOT Research Program

helps deliver the mission of the agency by:

Researching,
developing,
testing &
evaluating

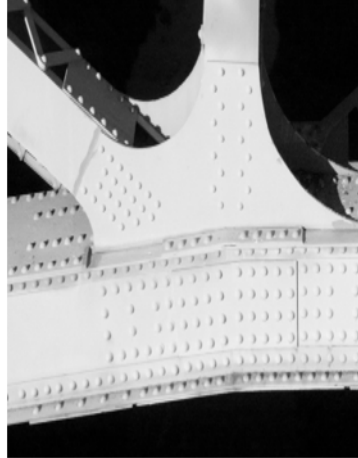
New &
innovative

Materials,
methods &
processes



Strategic Direction

Call for research problem statements addressing:



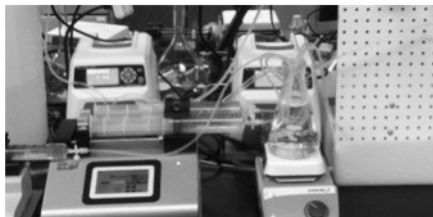
- Economic and Community Vitality
- Social Equity
- Mobility
- Stewardship of Public Resources
- Safety
- Sustainability and Climate Action



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Research Overview

The Research Question



Research is novel

Research is uncertain

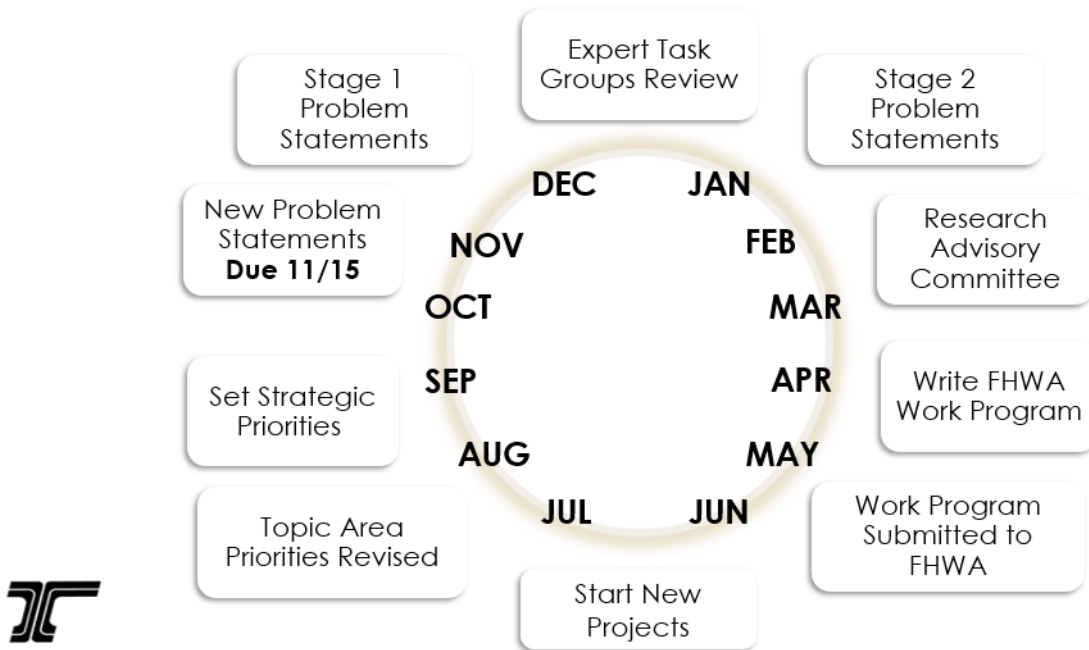
Research is structured

Research creates solutions



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ODOT Research Project Selection Timetable



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Research Solicitation:

- Open call for Research Problem Statements (Sept. 15 through Nov. 15 each year)
- Stage 1 Problem statements – Research need and Department's strategic priorities (not proposals – content owned by ODOT)
- Marketing (email and agency intranet)
- Under Development – “Stage 0” year-round needs in-box (Department Staff Only)



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Research execution:

- 7 SME research staff in Project Manager roll
- Agency led project Technical Advisory Committee
- Projects run as contracts with strong work plans ([ODOT University Work Plan Template](#))
- Early TAC review of methods to check against defined agency project objectives
- TAC discussions of implementation plan



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Implementation:

- Identified Project Champions (and up-line management support)
- Each successful project has an implementation plan with milestones
- 5-year check in included in the program's annual report 5-years after publication
- Research implementation support (Tech Transfer consulting, not materials or more research)



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Evaluation:

- Expert level Project Manager Review of work product including independent tests of the results.
- TAC review of work product
- Documented expectations of quality and formal review and [Publication Timeline](#))



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Utah

Peer Presentations

Utah Department of Transportation
Cameron Kergaye
Director of Research & Innovation

Overview of UDOT Research

Cameron Kergaye, UDOT Research & Innovation

MassDOT Peer Exchange - January 2025



Supporting Research Implementation

- Instructions and Documents
- Research Prioritization
- Research Champions
- Project Management
- Implementation Planning
- Technical Advisory Committee Involvement
- Research Deliverables
- Staff Support
- Benefits of Research Study
- Research Database
- Research Implementation Tracking Dashboard



Instructions and Documents for Implementation

- Project Implementation Worksheet
- RPMs Research Database with Implementation Fields
- Research Projects and Implementation Dashboard
- UDOT Innovation Station Webpage
- UDOT Innovation Process (Innovation Engine Blueprint)
- Research Problem Statement
- Problem Statement Evaluation Instructions/Spreadsheet
- Guidance on Roles and Responsibilities for UDOT Research Project Teams
- Research Project Management Checklist
- Research Contract Template
- Guidelines for Preparing UDOT Research Reports
- Template for UDOT Research Reports
- Measuring Transportation Research Benefits in Utah
- Manual of Instruction, UDOT R&I Division
- State Planning and Research Program Research, Development, and Technology Transfer Program Management Guidance for Implementing 23 CFR Part 420, Subpart B (FHWA, 2018)



Research Ideas Open House

- Learn about Research at UDOT
- Meet Researchers
- Discuss Research Interests

1-3 P.M. | Thursday January 30, 2025 | Redwood Room, Complex



Research Prioritization

- Research problem statement
 - Why is this research important?
 - How will the research results be implemented?
- Evaluation criteria
 - Importance of the research
 - Likelihood of implementation of the research results
 - This criterion covers both the research idea and the ability of the potential PI
 - Both on a scale of 1 (low) to 5 (high)



2024 UDOT RESEARCH PROBLEM STATEMENT		
• Submission deadline: March 15, 2024 • Only submissions from UDOT and UTA champions will be accepted. However, others may help write the statement. • Submit in MS Word format to UTAC@utah.gov		
Research Title:	No. (Office Use)	
UDOT/UTA Champion (Author #1):	Organization:	Email:
Author #2:	Organization:	Email:
Author #3:	Organization:	Email:
Subject (UDOT Subject Group):	☐ Materials/Processes ☐ Planning ☐ Aerodynamics ☐ Maintenance/Performance ☐ Public Transportation ☐ Traffic Impact/Safety ☐ Structures	
1. Explain the problem and why this research is important. (Importance reflects 50% of the statement score)		
2. Describe how the research results will be implemented and benefit UDOT or UTA. (Implementation reflects 50% of the statement score)		
3. List the major tasks, with durations, for this research:		
4. Requested from UDOT: \$ Other/Matching Funds: \$ Total Cost: \$		
Briefly explain funding sources: Note: All submitted problem statements become the property of UDOT, and authors are not guaranteed a contract for related work. Organizations, other than Utah public universities, that are interested in doing research for UDOT are strongly encouraged to submit a separate proposal (qualification) for UDOT's General Engineering Study Plan in the Research and Development by the applicable proposal deadline (typically around April 1 each year).		

Important Dates

- March 22 is the due date for problem statement Evaluation Teams (Reviewers) to add their official questions to this spreadsheet.
- Only Evaluation Teams, R&D Division staff, and some consultant helpers will have access to this spreadsheet. Do not share it with others.
- Some areas of some sheets are protected. Only will the areas you are authorized to do so.
- PI reviews and preliminary voting will begin soon after the PI submission deadline.
- Link to Submitted Problem Statements Summary Spreadsheet

How to Evaluate a UDOT Research Problem Statement (UDOT and UTA Evaluation Teams)

- Visit each submitted problem statement (review sheet) at the top of this spreadsheet for your group.
- Review the problem statement at the linked PS file at the top of the sheet.
- Read in your name in the table, provide the following votes and comments information based on your review of the PS.
 - Voting criteria #1: Importance - The rating scale ranges from 1 to 5 (low to high) for importance of research.
 - Voting criteria #2: Implementation - The rating scale ranges from 1 to 5 (low to high) for likelihood of implementation of research results.
 - Briefly Explain Your Votes & Concerns - Keep it brief, less than 100 words. This is for use in the Evaluation Team discussion only.
 - Reviewers' Official Questions - Keep it brief, less than 100 words. R&D Division staff will send these to PS Champions and additional authors for their response.
- Review the responses received from PS Champions and additional authors, after the R&D Division sends them to the sheet.
- You can revisit this spreadsheet to update your votes and comments prior to completion of the first Evaluation Team discussion at the UDOT/UTA workshop meetings.

Research Champions

- Main authors of research problem statements
- Subject matter expert (SME)
- Typically a central/region division leader or staff
- Positioned to guide the research with other SMEs
- Expected to implement the research results



Project Management

- Research PM Checklist
- Beginning of project: Help Champion prepare Preliminary Implementation Plan with PI
- Middle of project: Assist Champion to complete Implementation Plan/Worksheet
- End of project: Complete handoff of Implementation Plan to UDOT Champion

The image shows three overlapping copies of a 'Research Project Management Checklist'. The forms are organized into sections: Introduction, Planning, Monitoring, and Evaluation. Each section contains a list of specific tasks or questions to be completed during the project lifecycle. The forms are titled 'Research Project Management Checklist' and include a 'New Version' indicator.

Implementation Planning

- Project Implementation Worksheet
- Implementation objective
- Deliverables and recommendations to use going forward
- Implementation activities
- Challenges and solutions
- People to involve

PROJECT IMPLEMENTATION WORKSHEET		
Research Project:	Contract No.:	Plan Revision Date:
UDOT Champion:	Principal Investigator:	Research Proj. Manager:
		Champion Division/Region:
		PI Organization:
1. Define the project implementation objective (25 words or less)		
2. List the project deliverables:		
3. List activities/tasks required to implement the expected deliverables listed above:		
4. Where within the UDOT organization or highway system will implementation take place?		
5. List any potential implementation challenges and solutions		
6. List people necessary for implementation and their responsibilities.		

Technical Advisory Committee Involvement

- UDOT Champion oversees the Implementation Plan
- Discuss planned implementation in research TAC meetings
- End-user roles and perspectives
- Practical expertise
- Buy-in and ongoing support
- Communication with senior leadership



Research Deliverables

- Research final report
- Implementation plan summarized in the final report
- Other helpful deliverables to consider:
 - Specification
 - Material testing method
 - Design method
 - Field test section
 - Policy
 - Training, presentation, or video
 - User's manual
 - Software or prototype



Support Staff Activities

- Research project managers support Champions during research
- Consultant help
- Periodic benefit/cost evaluation of completed research
- PI-PM-Champion evaluations



Evaluations

Research Project Team Evaluation

PM's form

Thank you for taking the time to provide valuable feedback about the project PI and Champion. If you answer "No" to any question, please elaborate in the Comments fields.

1. PROJECT TITLE: _____
2. Name of the PI being evaluated: _____
3. The PI is extremely responsive. Yes or No
4. The PI clearly communicates to everyone. Yes or No
5. The PI completes commitments on time. Yes or No
6. I definitely want to work with this PI again. Yes or No
7. Comments about the PI: _____



Benefits of Research Study

- Conducted periodically on completed projects
- Most recently in 2022-2023 for projects from 2017-2019
- Survey and interview research Champions for quantitative benefits from implementing research results
- Benefit/cost calculation by project and composite
- Benefit/cost for 2017-2019 projects = 26
- [Link to Report No. UT-23.07](#)



Research Database

- Research Project Management System (RPMs)
- PMs enter and track project schedule, contract, and participants
- NEW: Added "Implementation Assessment" fields
- Reminder for research program staff to conduct assessments of implementation benefits
- Old projects/assessments added



Research Project Management System (RPMs)

Manage Individual Projects

PIC UT21.209

Back

Delete

Apply Changes

Add Project

Project Information

Status: OPEN

Project Types:

Program/Phase: SH092 3SH

ePM Pin: 22020

*Contract Title: Pilot Pollinator Habitat at UDOT Rest Area (Perry)

SOW Summary: Establish successful pollinator habitat at a UDOT rest area, determine its success for potential implementation, and produce a UDOT

Division: Maintenance

Initial Estimate \$: \$6,000.00

Report Numbers: UT-23.12; also expecting a follow-up memo on site maintenance and volunteer training in 2024

RIP Link:

General Notes: R&I Division funding \$56k. Potential \$8,900 in-kind time from university employees. Approx. 16-month project. May 2022: PM role transferred from Vincent to David. In good working progress and should be ready to

Contact Information

*PM: David Stevens

Pl: Mindy Wheeler

Champion: Rhonda Thiele

TAC Members: Bren Edwards

Ryan Ellsworth

Rod Hess

Ryan Halverson

Jennifer Dowd (RAE Enviro)

Becky Yeager (Paisley LLC)

Contract Information

Contract Number: 22-8158

MOD#: 4

Consultant: Utah State University

Start Date: 08/17/2021

Original SOW End Date: 06/30/2022

Original Contract End Date: 12/31/2022

Current SOW End Date: 09/30/2024

Current Contract End Date: 09/30/2024

Funding Type: SPR

Original Contract Amt: \$56,000.00

Current Contract Amt: \$61,000.00

Balance as of Today: \$5,000.00

Money Spent: 92%

Time Spent (SOW): 94%

Payments

Actual

* \$ Payment	* FY	Invoice Date	Invoice #	* Approval Date
15,000.00	FY24	07/10/2023	203816-3-0 (FY24)	07/31/2023
15,000.00	FY23	05/17/2023	203816-2-4 (state f..	05/30/2023
26,000.00	FY22	10/18/2021	203816-1-2	02/10/2022

Total: \$56,000.00

Documents

Next Steps

Implementation Assessment

Planned

Implementation Assessment

PIC UT16.101 Implementation Assessment

Delete

Apply Changes

Project Info

Contract Title: Evaluation of Field Materials For Asph.

Division: Materials

PM: David Stevens

Champion: Howard Anderson

Current Contract Amt: \$160,000.00

Current Contract End Date: 06/30/2019

Open Assessment Persons Profile

Search: All Text Columns

Go

Add Assessment Record

	Assessed Date: ↓	Who did Assessment:	Who was Assessed:	Assessment Notes:
☐	05/30/2023	Rukhsana Lindsey	Howard Anderson	Refer to final assessment notes.

Total 1

Responsible Person: David Stevens

Financial Benefit \$: .00

Benefit Cost Ratio:

Additive \$: 14,400.00

Overall Project Grade: C - Contributed to state-of-the-practice c

Final Assessment Complete: ☒

Final Assessment End Date: 05/30/2023

Final Assessment Notes: Additional phases of research were funded to validate test methods for Utah mixes and establish thresholds. The BBR and SCB-IFIT tests were looked at for an Asphalt Pavement performance test for cracking. The University of Utah and UDOT Central lab had the ability to make and run the test but implementing statewide has been difficult. Relating the test to field mixtures showed promise but was not proven.

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Research Implementation Tracking Dashboard

- [Link to the Research Implementation Tracking Dashboard](#)
- Data comes from Research Database for assessed projects

