

Research Roundtable Information Session

MassDOT SPR-II Research Program and Process

April 30, 2020

Session Objectives

- **Research Program Overview**
- **Research Process Overview**
- **Developing a Research Problem Statement**
- **Roles in the Research Process**
 - Project Champion (PC)
 - Principal Investigator (PI)
 - Project Manager (PM)
- **Key Points**

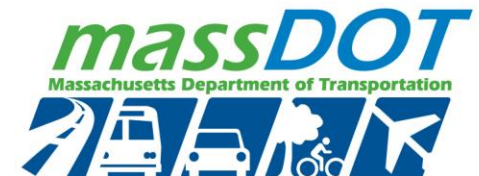
Who We Are

- **Research & Technology Transfer Section within MassDOT Office of Transportation Planning**
- **One Manager and four full-time staff**
 - Lily Oliver
 - Drew Pflaumer
 - Mike Flanary
 - Nicholas Zavalas
 - Patrick McMahon
- **Supporting academic partner: UMass Transportation Center (UMTC)**
 - Professor Mike Knodler



What We Do

- **Organize and manage the annual Research Program**
- **Identify research needs with MassDOT Divisions and Shared Service Units**
- **Coordinate and manage research projects**
- **Coordinate MassDOT's participation in regional and national research collaboration**
- **Support MassDOT technical training programs for municipal DPWs and Highway Division**
- **Support and coordinate Moving Together and Transportation Innovation Conference**



Research Funding Source

- **23 U.S. Code 505**

(a) “..Two percent of the sums apportioned to a State... shall be available for expenditure by the State for...[the state transportation planning and research, SPR] purpose.

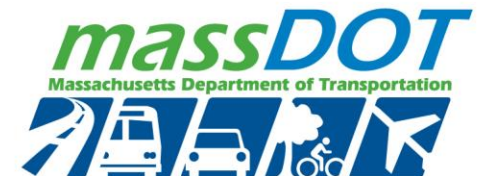
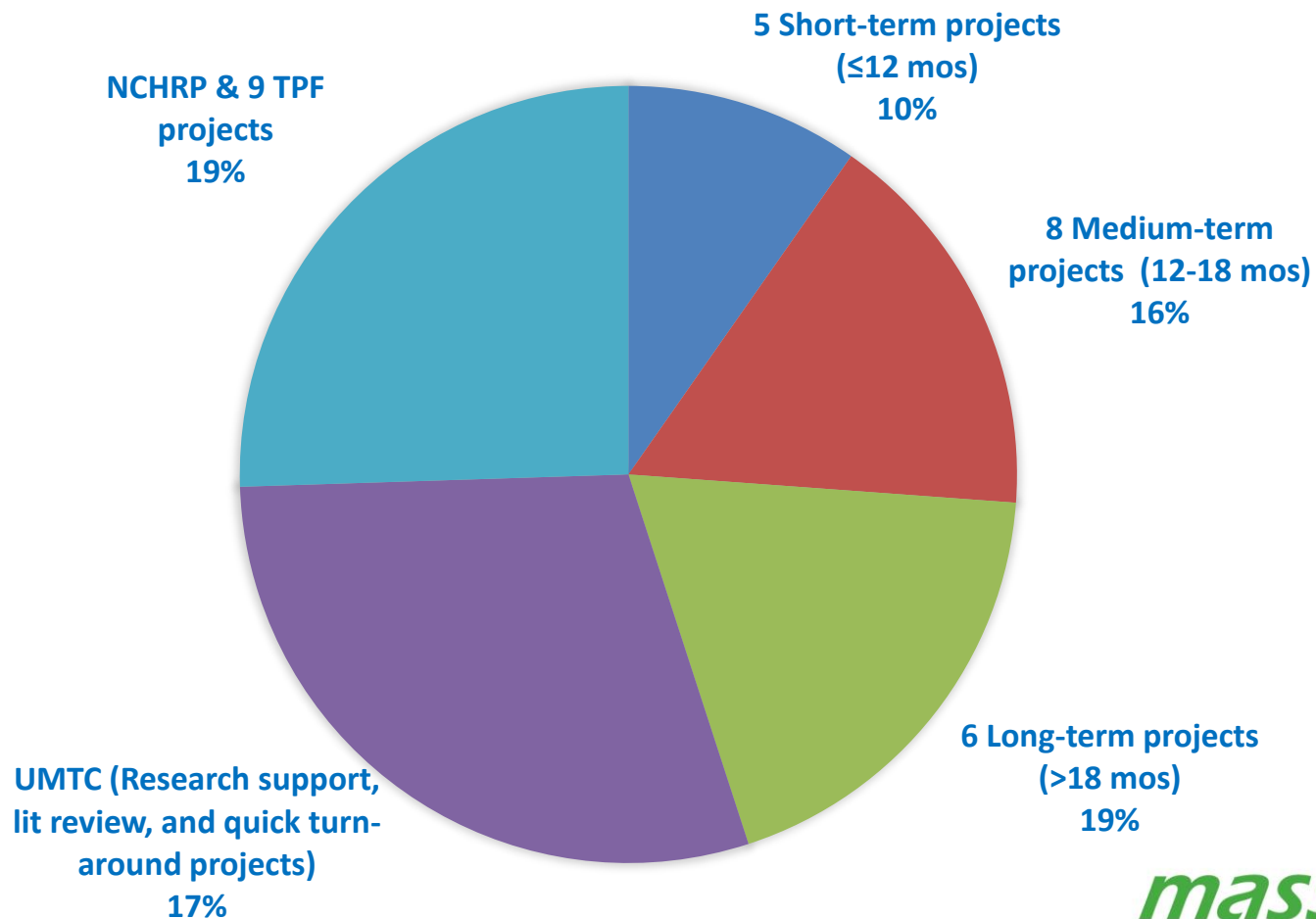
*(b)(1) “Not less than 25 percent of the [SPR] funds shall be expended by the State for research, development and technology activities...relating to **highway, public transportation and intermodal transportation systems.***

- **FHWA Division Office provides oversight to MassDOT’s research program**



FFY2020 SPR Research Funding

~ \$4.0 Million in Total



SPR II Research Services Category

Synthesis & Quick Turn-around Projects

- Under UMTC ISA Subtasks: lit reviews, state-of-practice synthesis, and short duration efforts

Short-, Medium- and Long-term Research Projects

- State Universities
- Private Consultants
- Private Universities
- ISA/Contract

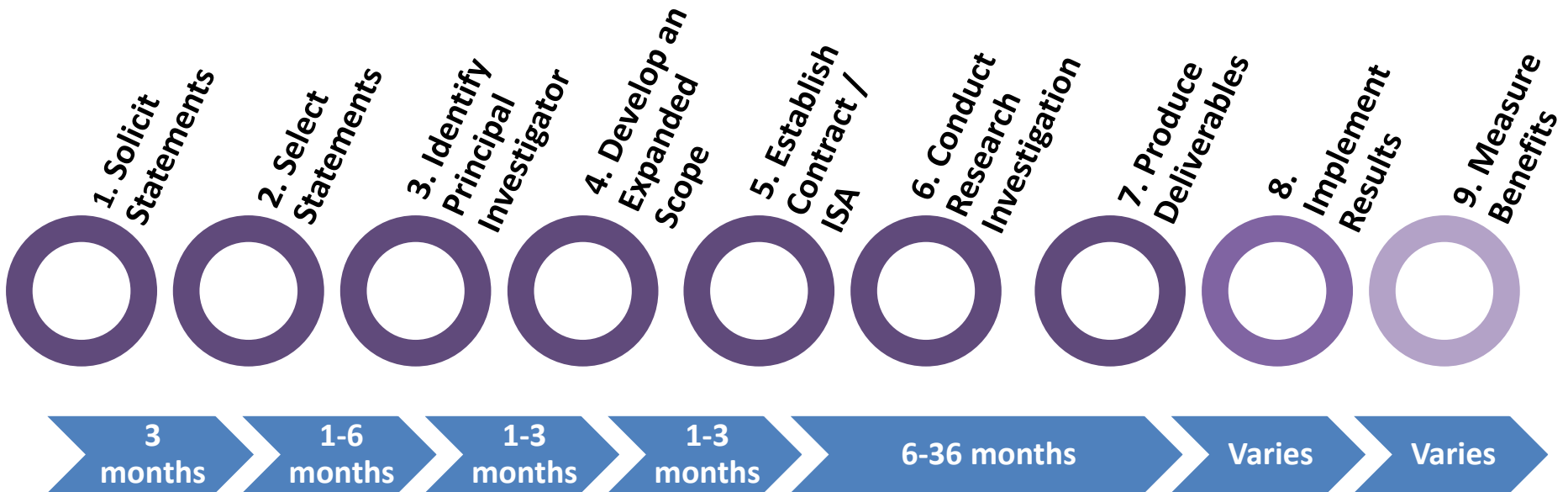
Additional Research Services

- UMTC: Literature Search
- Research: AASHTO RAC Survey

Regional & National Cooperative Research

- NCHRP (TRB)
- TPFs
- NETC

The Research Process



Problem Statement Submission & Selection

- Problem Statements must be submitted by MassDOT or MBTA staff and reflect agency needs
- FHWA is a part of the research process (project selection, scope & budget approval, and final deliverable acceptance)



Selected statements

FFY 2021 Research Process Timeline

- **Late April:** Problem statement solicitation announced
- **Early- to Mid-May:** Research roundtables
- **June 5th:** Problem statement submission deadline
- **Mid- to Late July:**
 - ✓ A final project list is developed based on Division/Shared Service rankings, SPR funding eligibility and availability, and agency priority
 - ✓ Project champions are notified
- **August:** Interest statement solicitation
- **September:** Principal investigators are identified and notified
- **October – November:** Scopes are developed and approved
- **December:** ISA/contracts are in place
- **January:** new projects begin to kick off



2021 Research Problem Statement Solicitation

Please complete and return this electronic submission form to the Office of Transportation Planning Research Section (planning.research@dot.state.ma.us) by **Friday, June 5, 2020**. All blue fields are required. Completion of additional fields to aid the evaluation of proposals is strongly encouraged.

Project Statement Submitter/Project Champion	
Name:	Telephone:
Title:	Email:
MassDOT/MBTA Division:	
Problem Statement Title and Subject	
Proposed Project Title:	
Project Subject(s): <i>(Per 23 U.S.C. 505 research projects funded through SPR Part-B must be related to highway, public transportation, or intermodal transportation systems.)</i>	
<input type="checkbox"/> Active Transportation <input type="checkbox"/> Policy and Planning <input type="checkbox"/> Safety and Human Factors <input type="checkbox"/> Future Transportation Technology and Systems <input type="checkbox"/> Health and Equity	<input type="checkbox"/> Design and Engineering <input type="checkbox"/> Construction, Materials, and Maintenance <input type="checkbox"/> Operations and Traffic Management <input type="checkbox"/> Energy, Environment, and Resiliency <input type="checkbox"/> Other:
Problem Statement	
Problem Statement and Research Objectives: <i>(Provide a brief description of your research need and specific research objectives.)</i>	
4/30/2020	

Developing a Research Problem Statement

- **What question(s) would you like answered through this research?**
- **What are the desired end products?**
 - ✓ What tangible information or results do you intend to get out of the research? (e.g., tools, prototypes, standards, specs, new or modified materials, policies or processes, or data etc.)
- **How would MassDOT/MBTA benefit from the proposed research?**
- **How would the anticipated products be implemented?**
 - ✓ How would the agency use the information or results derived from the research?

PI Selection Process: ISA Option

- **MassDOT (via UMTC) notifies university representatives of selected Problem/project Statements.**
- **Universities submit the following to MassDOT via UMTC:**
 - ✓ Interested PIs, Interest Statements and CVs
- **Project Champion (PC) reviews and ranks interest statements (may request clarifications or additional information).**
- **PC informs Research Section their preferred Interest Statement.**
- **Research Section notifies the PI.**
- **Estimated time: 2-3 months.**

PI Selection Process: Open Procurement

- **MassDOT develops the SOW (PC leads and Research Section assists).**
- **MassDOT issues Request for Proposal via COMMBUYS**
- **Interested parties submit proposals.**
- **Selection Committee (PC, SMEs & Research Section) reviews the proposals, conducts interviews (optional) and recommends the preferred PI.**
- **Estimated time: ~6 months**

Roles in the Research Process

Project Champion (PC)

- **Complete and submit a Problem Statement**
- **Serve as the designated Subject Matter Expert throughout process**
- **Develop expanded SOW with PI**
 - ✓ Tasks, schedule and budget
 - ✓ Deliverables – reports, technical memos, new/improved tools, processes and datasets, etc.
 - ✓ Implementation plan
- **Review & approve technical deliverables**
- **Coordinate with stakeholders**
- **Coordinate implementation strategy**

Roles in the Research Process

Principal Investigator (PI)

- **Draft expanded SOW together with PC**
- **Conduct research**
 - ✓ Coordinate with PC and PM
 - ✓ Respond to technical/administrative questions & clarification requests
 - ✓ Complete all project tasks & deliverables per SOW & ISA/Contract
- **Prepare technical memos, reports and other agreed-on deliverables**
- **Submit monthly/quarterly progress reports & monthly invoices**

Roles in the Research Process

Project Manager (PM)

- **Member of OTP Research Section**
- **Facilitate Problem Statement solicitation and PI selection process**
- **Coordinate with PC & PI**
- **Review SOW and prepare ISA/Contract documents**
- **Manage ISA/Contract**
 - ✓ Schedule, Expenses, Deliverables and Closeout
- **Review & approve deliverables**
 - ✓ Technical Memos, Reports and other Deliverables
 - ✓ Project Invoices
- **Facilitate Implementation Plan development**

Key Points

- **The PC (MassDOT, MBTA) is the Client**
- ✓ Will the research project answer the PC's question? (Methodology, data, schedule & budget)

- **Implementation and Impacts**
- ✓ Make sure to have the end product/goal in mind throughout the process
- ✓ How would the results be utilized and/or implemented?
- ✓ How would the agency/commonwealth benefit from it?

Thank You

Check out our web site:

<https://www.mass.gov/research-and-technology-transfer>

Please contact the Research Section with any questions:

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