Research Program Enhancement

West Virginia Department of Transportation

May 21, 2024

Agenda

1. Introductions
2. Project Overview and Research Program Goals
3. Discovery Session Findings
4. Project and Program Management
5. Process Improvement and What Comes Next
6. Question and Answer

Introductions

Key Project Team Members

Perry McCutcheon, PE
WV Project Manager

- Visualization Unit leader at West Virginia Division of Highways
- Experience in traffic engineering, civil land development, and concept visualization

Justin Robinson, PE
Project Manager

- 22 years of experience
- Background in material research for infrastructure applications at WVU
- Based in our NC offices to provide collaboration with program support staff

Neil Mastin, PE
Subject Matter Expert

- 25 years of experience
- Former Manager of Research & Development for NCDOT
- Experience as steering committee chair on NCDOT and NCHRP projects

Roadmap for Research – Discovery, Scheduling and Process

Our approach

Transportation Research Program Goals

Improve agency processes and materials through quality research

- Make a real and positive impact on agency programs and through the agency, the traveling public
- Projects should be of good quality and produce useful, implementable or transferable results

Implementation / Tech Transfer

- Provide support to implement state and national research
- This may include training, documentation and demonstration projects

Workforce Development

- Students and researchers working on projects will enter the workforce with a deeper understanding of WV transportation needs

Transportation Research Program Goals

Communication and Outreach

- Maintain consistent communication within the agency and external partners
- Develop a communication plan for newsletters

National Exposure

- Presentations by WV-based researchers and DOT staff at state and national meetings
- Participation in national opportunities such as AASHTO committees, Transportation Research Board activities and national conferences

Certification

- Update and maintain a robust Research Manual to meet all requirements and document current processes
- Assist the agency in documentation and certification for its SPR Part B Program

SP&R Part B Research Funding

Highway Program Apportionment

- West Virginia receives approximately $600M of Federal Funding per year in total highway apportionment funds

2% of the total must be dedicated to State Planning and Research – SP&R

- Of that, 2%, 25%, or 0.5% of the total apportionment is dedicated to SP&R Subpart B for research.
- Matching funds of 20% are required, like many highway funding programs
- WVDOT Pooled Fund participation does not require a state match
- SP&R funds currently do not sunset, however, they are subject to annual obligation authority rules and if not expended, could be subject to recission
- States must certify their SP&R Programs Annually

Approximate West Virginia SP&R Subpart B Formula Appropriation by Federal Fiscal Year

FFY	Federal Funds	20% Match	Total
2024	$ 2.80 M	$ 0.70 M	$ 3.50 M
2025	$ 2.90 M	$ 0.73 M	$ 3.63 M
2026	$ 3.00 M	$ 0.75 M	$ 3.75 M
2027	$ 3.10 M	$ 0.78 M	$ 3.88 M

These are the funds that can be used for internal and external research projects and research implementation

What's a Pooled Fund?

TPF TRANSPORTATION POOLED FUND

From the Pooled Fund website:

- The TPF Program is a collaborative program that has existed for more than 45 years.
- The program was first defined in 1977 as a program among the states to be administered by FHWA
- The TPF program creates an opportunity for partners to pool their funds, subject matter expertise, and resources to conduct high-priority research to meet a wide variety of shared transportation problems.
- *Being able to pool funds allows participants to get more out of a study than if they conducted a study on their own. Example: 20 states x $75,000 is $1.5M in funding.*
- There are hundreds of active pooled fund studies, to help assist partners in finding and funding projects applicable to their agency's needs.

WVDOT/FHWA Discovery Session Findings

Attendee Experience

- Session attendees shared their past experiences with the Research Program, including past research projects and other Research Program tasks they contributed to
- It was noted that completing projects on time has been a challenge in the past, and steps to mitigate this should be implemented

Pooled Fund Participation

- Attendees showed interest in participating in various Pooled Funds including:
  - *Steel Bridge Research, Inspection, Training, and Engineering Program (SBRITE)*
  - *Concrete Technology Transfer Consortium*
  - *International Conference on Ecology and Transportation*

WVDOT/FHWA Discovery Session Findings

Committee Structure

- Project Steering, Technical, and Executive Committees will review and make decisions regarding research projects
- Mott MacDonald will propose a committee structure that meets the needs of WVDOT
- Individuals will be recommended for committee positions by WVDOT

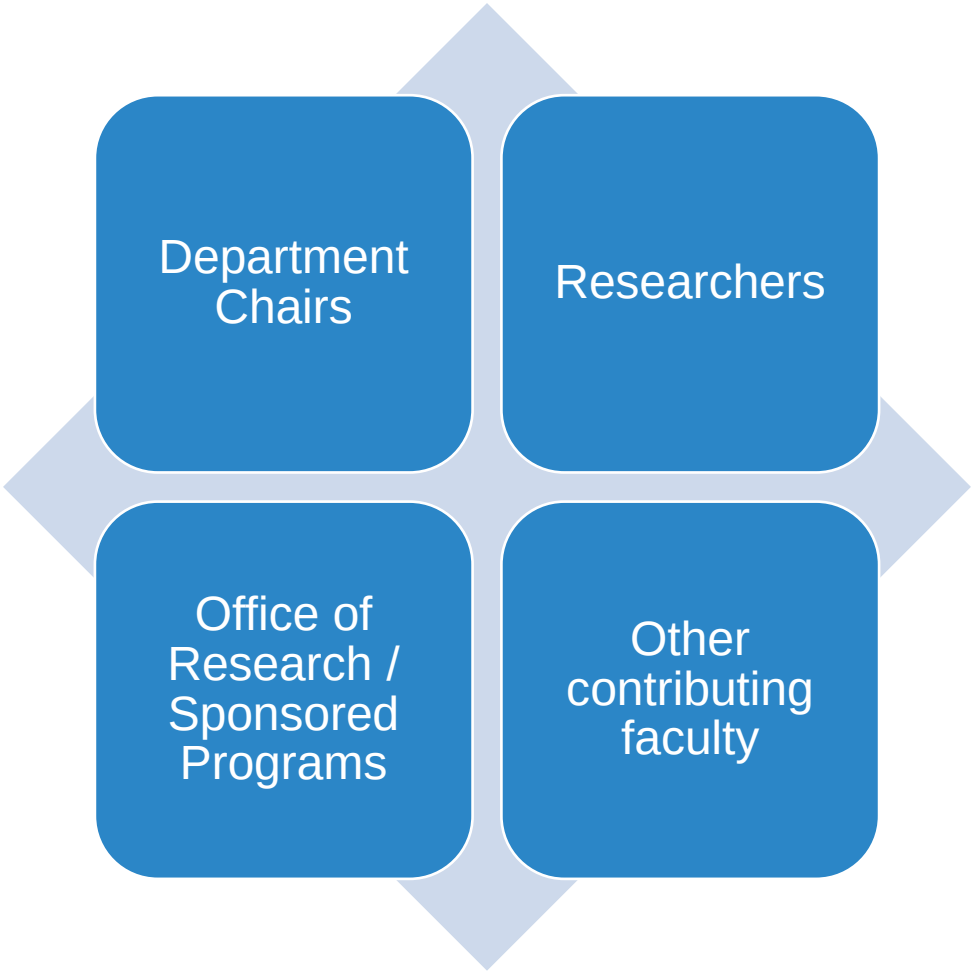
Research Needs

- Attendees discussed research needs in areas such as Traffic Safety, Structures, and Roadway
- Two projects have been presented by researchers for consideration by WVDOT staff and are currently under evaluation
- An online form was presented and evaluated during the sessions

Finance

- SP&R funds are intended for applied research projects
- Funds should be allocated by August of each Federal Fiscal Year
- WVDOT currently has a surplus of research funding that will be beneficial to kick-start the program

University Discovery Sessions



Project and Program Development

Establish an appropriate budget

- Establish a suitable and sustainable annual budget

Review and update Selection Process

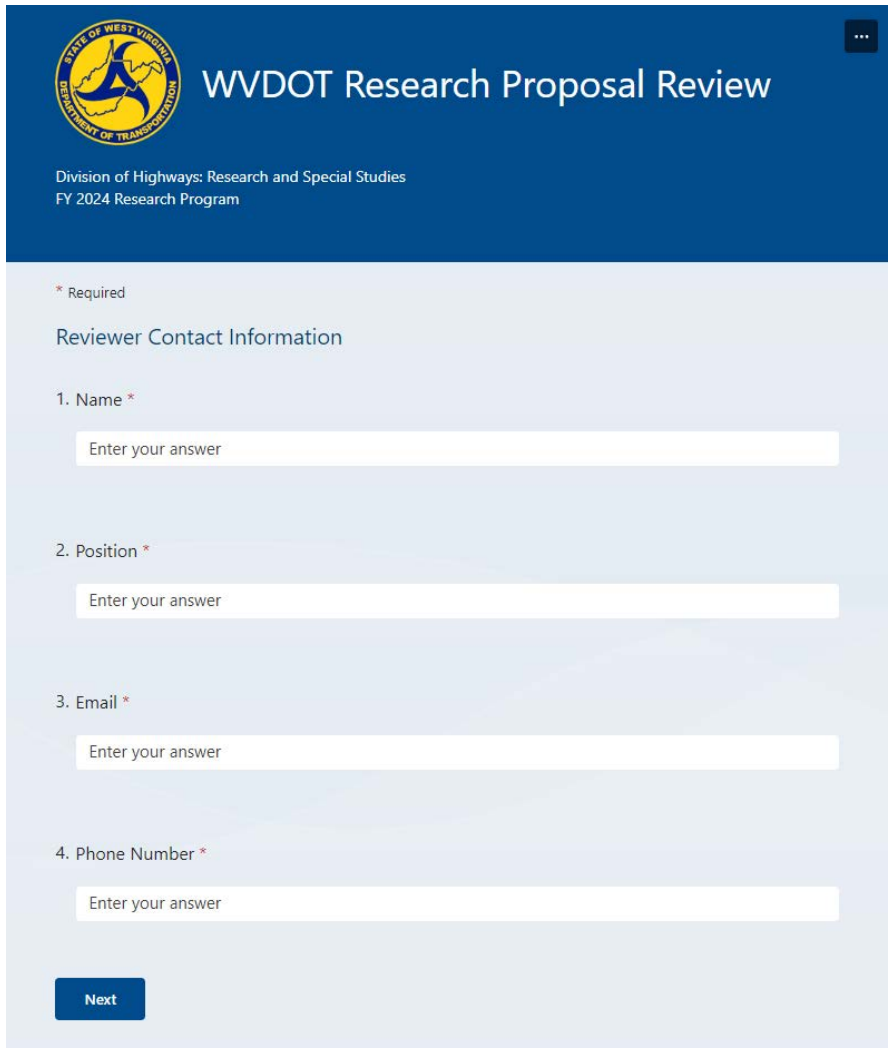
- Select projects that best support the agency and public needs
- Create online tools for idea and proposal collection to document and streamline processes
- Develop a formal process for Pooled Fund participation

Research Idea and Proposal Solicitation

- Solicit and select ideas – internal/external mix
- Update the Research Problem Statement Solicitation Form and make it an online tool
- Keep the focus on applied research

Annual Program Development

- Project selection and timelines – cyclical and repeatable
- FHWA Approval – establish a good rapport and process



Establish annual budget | Selection process review & implementation | Research idea solicitation | Annual work program development

Electronic Process Improvement

Previous WVDOT Research Processes have relied on a mix of email, PDF forms and paper processes

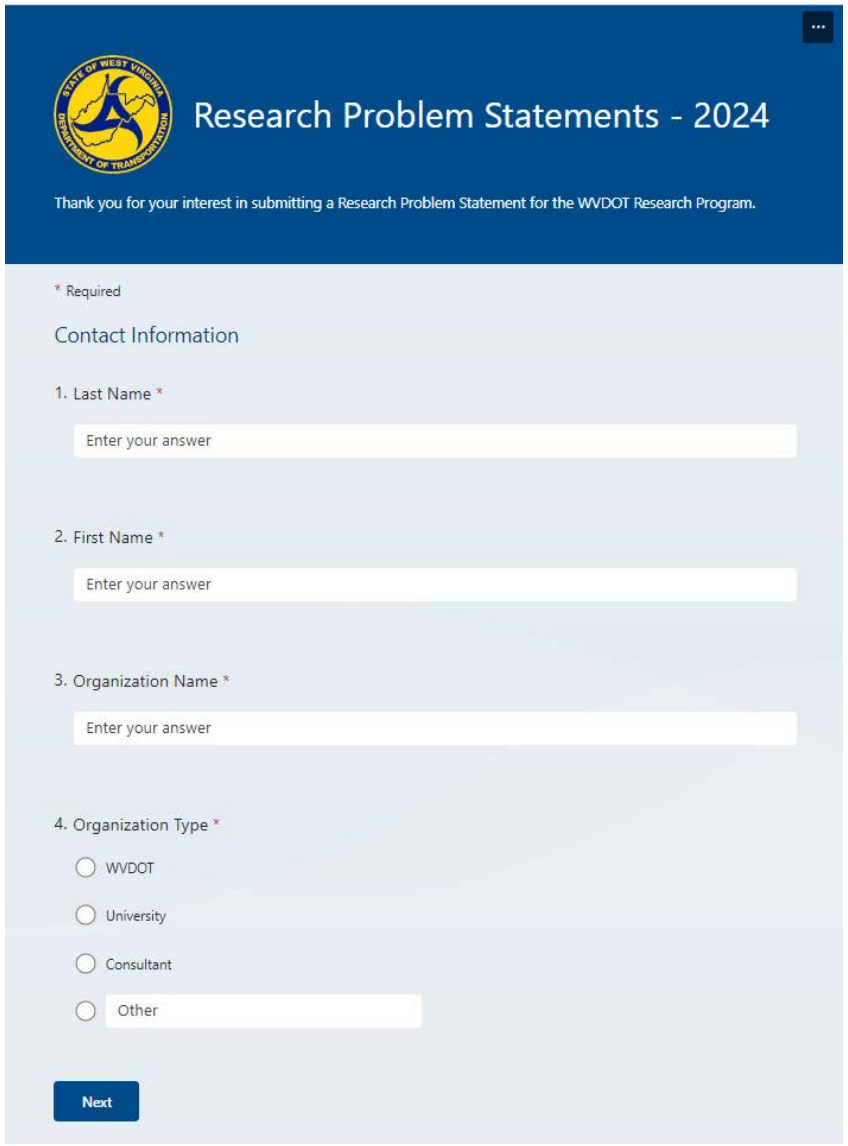
Date and Timestamping

Accurate document trail

Ease of access – web-based systems

Easier to complete feedback and evaluations

Research Problem Statement Submission



Online Idea Forms

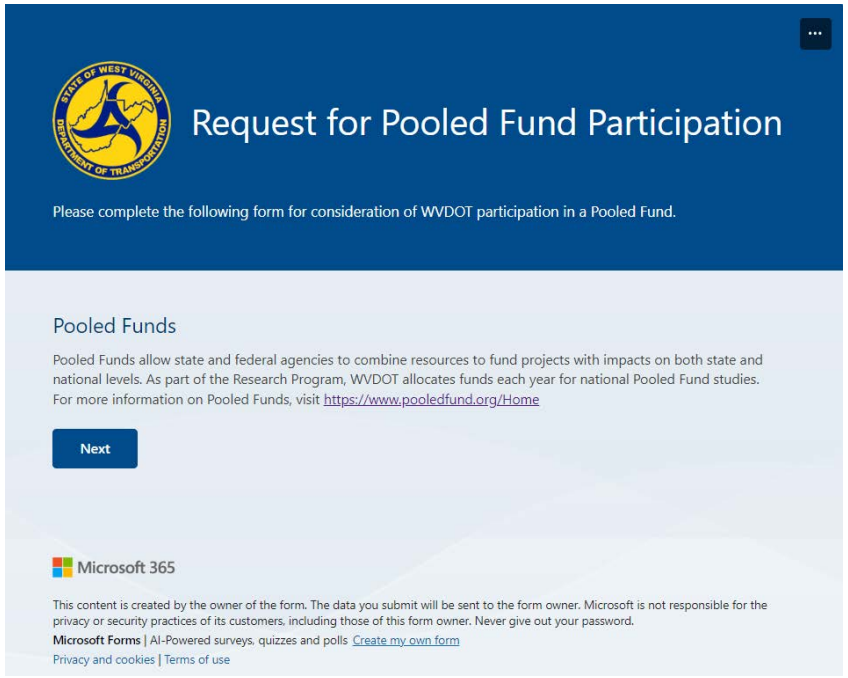
- Mott MacDonald plans to initially build forms in Microsoft Forms and later migrate to Smartsheet
- These forms will be based off the current WVDOT Research Program forms and will go through a round of updates and revisions
- Forms will be sent to WVDOT internally and to universities

Research Problem Statement Submission

- WVDOT is now accepting submissions for research ideas. Pleas use the link below to submit a Research Problem Statement
  - Research Problem Statement: https://forms.office.com/e/m3HE7rY8NR

- Please Note: Any University or Externally submitted ideas will need an agency sponsor.
- The goal is to get projects that are beneficial to the agency and researchers should acquire feedback before ever submitting.

Request for Pooled Fund Participation



Pooled Fund Participation

- WVDOT employees are able to submit Pooled Funds for consideration through the *Request for Pooled Fund Participation* electronic form
- WVDOT is currently participating in only a few pooled funds
- Requests will be evaluated and approved as funds are available
- Pooled funds may be funded by both research and planning funds – please visit https://pooledfund.org to see what funds are currently under solicitation or active
- Request membership in a pooled fund here: https://forms.office.com/e/nrG2bDFD2A

Upcoming Upgrade: Smartsheet

Data Collecting

Smartsheet has multiple ways within the program to collect data:

- Online forms
- Document uploads
- Fillable PDFs

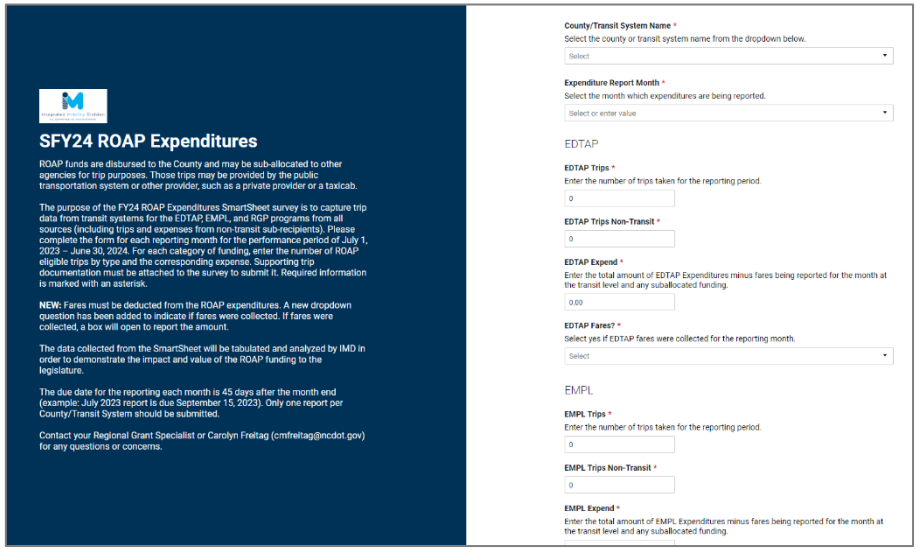
Data Reporting

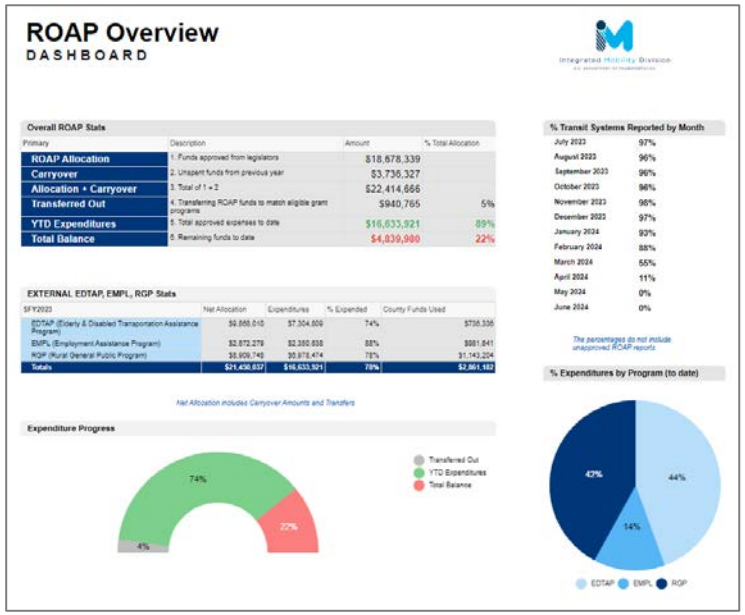
Once data has been collected it can be summarized:

- On the dashboard in Smartsheets
- In an automated report and sent to the form submitter

Data Sharing

- Links can be shared externally
- Multiple permission levels can be set to allow access to data





Mott MacDonald's Role

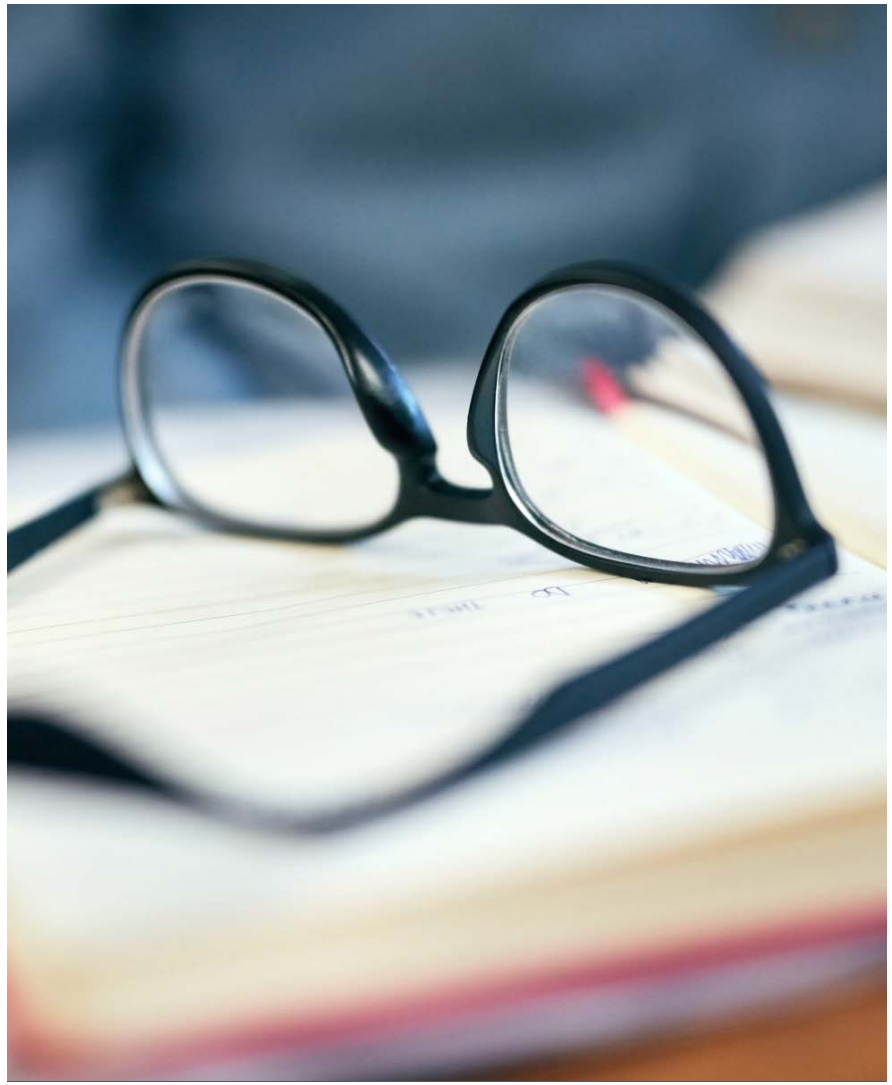
Supporting WVDOT

Project Management

- Day to day project management works to keep projects on scope and budget
- Focused on deliverables
- Engage steering committees and project sponsors

Pooled Fund Management

- Pooled funds are great ways to leverage research dollars
- Identifying and selecting funds for participation should be interactive
- Must be included in the annual approved work program



Project management

Pooled fund management

Outreach, Documentation and Implementation

Outreach and Training

- National Exposure - Identify key conference participation opportunities
- Communication plans for program and projects
- Training for project sponsors (WVDOT) and researchers (Universities and Consultant)
- Coordinate Peer Exchanges

Research Manual

- Research manual should provide clear information on the WVDOT program and its management
- Updates can occur as the program progresses through its first cycle to capture new and best practices

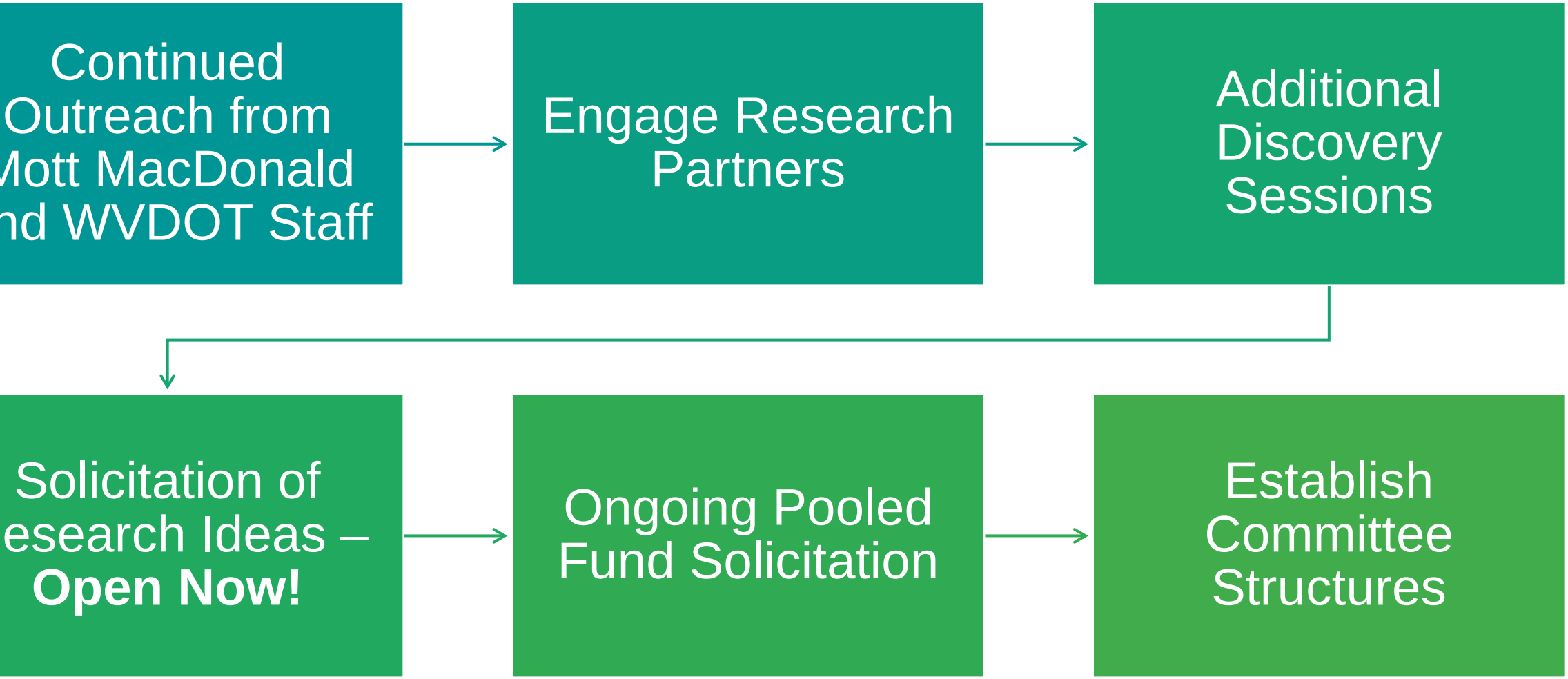
Implementation Support

- Tech Transfer (T^2) programs are critical for turning research into productive tools
- These projects do not have to be WVDOT-funded projects. NCHRP or other state research could be turned into tech transfer

Compliance and Reporting

- Meet federal reporting requirements
- Establish and monitor performance metrics that matter
- Peer Exchange

What to Expect in the Coming Months



Discovery sessions & current program review

Scheduling

Thank You

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