



Research Program Updates

West Virginia Department of Transportation

February 2026

Agenda



Introductions



Research Program Overview



Research Program Cycle and Updates



Research Projects



Pooled Funds



Upcoming Events

Introductions

WV DOT – Research Program

David Chappell

Deisha Kelly

Brian Carr

Brian Chapman

Timothy Sedosky

Mott MacDonald

Larissa Blankenship

Chris Kinsey

Mark Young

What is the WVDOT Research Program?

- The WVDOT Research Program is a broad initiative by the Federal Highway Administration (FHWA) to conduct research and development for the nation's highway system, aiming to improve safety, efficiency, and sustainability

The WVDOT Research Program aims to:

- Improve the processes, designs, and materials available for WVDOT and its customers through research partnerships
- Deliver quality, applied research that meets the needs of the people and the state of West Virginia
- Support the education and development of the next generation of Transportation, Bridge and Highway Engineers.

Calendar Year Outline



Problem Statements



Problem Statements submitted through the online form

Received 21 Problem Statements for the 2025 research cycle



Reviewed by Research Technical Committees



Notifications sent out

Proposals



Proposals submitted through the online form

Requested 10 proposals for the 2025 research cycle



Reviewed by Research Technical Committees



Reviewed by Research Executive Committee



Notifications to be sent out after the Executive Committee meets

Project Agreements



Project Agreements reviewed and signed by universities

8 Project Agreements signed for RP-2025 projects



Research projects start on August 1st

Qualities of Successful Problem Statements



Research Problem Statements

Thank you for your interest in submitting a Research Problem Statement to the WVDOT SPR Research Program for the 2026 research cycle. All problem statement submissions are due May 30th, 2025.

If you have any questions or comments, please email WVDOTResearch@wv.gov

Contact Information

Please select your contact information: *

If you have not previously submitted your contact information you may do so via the [Contact Information Submission Form](#).

Please note that updating the contact list is a manual process and there may be some delay between submitting your info and the list updating. If you submit your contact information and the list is not updated within two business days, please email WVDOTResearch@wv.gov

Select

Research Problem Statement

Problem Statement Title: *

Estimated Project Duration (Months):

Problem Statement Goals

- Provide a well thought out solution that would assist WVDOT in addressing a problem
- Result in research that is beneficial to both WVDOT and the residents of West Virginia

Successful Problem Statements

- Describe a specific issue
- Include an overview of necessary tasks
- Concept is explained in a manner that is easily understood
- Proper grammar/well written

Please Note

- Any University or Externally submitted Problem Statements must have a WVDOT project sponsor
- Please keep written responses in the form concise
- Problem Statements can be submitted via the Research Problem Statement form.

WVDOT Research Manual

The manual was last updated in 2012 and has since been updated and reviewed internally.

Updated manual includes:

- Overview of the Research Program
- Explanation of the funding process
- Breakdown of the research project process and steps
- Agreements
- Reporting and deliverable requirements

The new manual will be reviewed by FHWA Staff before being finalized and implemented.



WVDOT SPR Research Program



*West Virginia Department of Transportation
Research and Special Studies
Research Operations and Policy Manual*

Prepared By
Mott MacDonald, LLC for the Program Planning and Administration Division
Research and Special Studies Section

Revised 2025

Research Program Website

We are making changes to the website

- Currently under construction
- Aim for the website to be the main hub for information and submissions
- Simplify and clarify the site so information and resources are easy to find

The new website will house

- The research project database
- Links to submission forms and instruction documents
- Notification of upcoming events and important dates
- Newsletters

Transportation > Highways > Planning Division > Research

Research Section

[Active Research Projects](#)

[Completed Research Projects](#)

[Research Libraries And Centers](#)

[Upcoming Research Contracts](#)

This section is responsible for administration of the Research, Development and Technology Transfer Program. The Section's main responsibilities include:

Management of all Federal and State funded research projects with the assistance of Project Monitors from the West Virginia Department of Transportation/Division of Highways (WVDOT/DOH) and the Federal Highway Administration (FHWA).

Solicitation, selection and monitoring all State Planning and Research (SPR) funded research projects conducted primarily by state colleges and universities, and occasionally by private contractors or other research institutions when the need arises.

Dissemination of research findings through report distribution, and coordination of seminars, technology transfer activities, technical training workshops and implementation of research results.

Research Program Website

Project Catalog-WIP screenshot

The catalog is meant to be a quick look at the list of projects and their status.

Search by:

- Researcher
- University
- Status

 Research Center

Projects

Researchers

 David Cha

 WVDOT Research Projects

Add Project

Search all fields...

Filters

Q

Project ID	Title	Categories	Principal Investigator	Lead Research Org	Partner Research Org	Status	Actions
RP-2024-01	Deployment of Smart NDT/NDE Protocols for Effective Management of West Virginia Deteriorated Bridge Assets		Wael Zatar	Marshall University		Active	Edit

Previous

1

Next

Research Program Website

Project Details-WIP screenshot



Research Center

Projects

Researchers

Project Details

Projects

/

Deployment of Smart NDT/NDE Protocols for Effective Management of West Virginia Deteri...

Deployment of Smart NDT/NDE Protocols for Effective Management of West Virginia Deteriorated Bridge Assets

Project ID: RP-2024-01

Start: Feb 27, 2025

End: May 30, 2028

Executive Summary

Periodic and thorough inspections of bridges are necessary to maintain safe bridge operation and prevent structural failures. Accurate assessment of bridge decks and other superstructure and substructure members is invaluable in implementing an effective transportation asset management plan and making the best use of the funds allocated for maintaining and sustaining West Virginia's bridge inventory. Visual inspection of bridges typically examines surface discontinuities and relies heavily on inspectors' subjective assessments. Though visual inspection, combined with concrete sounding techniques such as hammer sounding or chain dragging, could guide evaluating the condition of bridge decks, new techniques developed in the past few years could provide inspectors and bridge and maintenance engineers with more detailed and reliable information.

Performing thorough testing on every structure is not feasible. Determining the most effective and least cost-prohibitive inspection, repair, and preservation strategies is crucial to maintaining the health of the WVDOH bridge inventory. Therefore, there is an urgent need to identify and develop suitable procedures to accurately

Project Members

PRINCIPAL INVESTIGATOR

[Wael Zatar](#)

CO-PRINCIPAL INVESTIGATOR

PROJECT CHAIR

PROJECT MANAGER

[David Chappell](#)

RESEARCHERS

Research Organizations

LEAD RESEARCH ORGANIZATION

Marshall University

Master Agreements

- Master Agreements have been signed and executed with
 - WVU
 - Marshall University

- Eight RP-2025 projects were implemented under these Master Agreements
 - 7 projects with WVU
 - 1 project with Marshall University

- Universities do not have to have a Master Agreement in place to do research with WVDOT
 - Individual “Long Form” Project Agreements would be utilized

What should a research project accomplish?

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 and transferable results

Support student and workforce development

Engage agency staff to think creatively and develop relationships with key researchers

Active Projects

Proposal ID	Title	Principal Investigator	University
RP-2024-01	Deployment of Smart NDT/NDE Protocols for Effective Management of West Virginia's Deteriorated Bridge Assets	Dr. Wael Zatar	Marshall
RP-2025-02	Mobile Bridge Rating and Inspection Center	Dr. Karl Barth	WVU
RP-2025-10	Field Evaluation of Wrapped Bridge Piers and Beams and Specification Development for Wrap Installations	Dr. Hota Gangarao	WVU
RP-2025-15	Edge AI- and Video-Assisted FHWA Vehicle Classification	Dr. Fei Dai	WVU
RP-2025-16	AI Applications for Enhancing Pavement Management	Dr. James Bryce	WVU
RP-2025-17	Moving Beyond Aggregate Properties in Determining Skid Resistance of Asphalt Mixtures	Dr. James Bryce	WVU
RP-2025-18	Enhancing Road Construction Safety through Immersive Workforce Training and Realtime Monitoring Technologies	Dr. JuHyeong Ryu	WVU
RP-2025-19	Hydraulic and statistical analysis of culvert maintenance and condition	Dr. Isaac Wait	Marshall
RP-2025-22	Proposal for Mass Concrete - Thermal Stress Analysis of Abutments and Wingwalls	Dr. Hung-Liang Chen	WVU

Transportation Pooled Funds

What is a Pooled Fund

- The Transportation Pooled Fund (TPF) Program is a collaborative program started in 1977 among the states to be administered by FHWA
- The TPF program creates opportunities for partners to pool funds, subject matter expertise, and resources to conduct high-priority research for a variety of shared transportation problems.
- More information can be found at <https://pooledfund.org>

Requesting a Pooled Fund

- WVDOT staff can submit a Pooled Fund requests at any time
- Request will be evaluated as they are received
- Funds are distributed on a first come first served basis while funding is available
- Pooled Fund requests can be submitted via the [Request for Pooled Fund Participation form](#).



Request for Pooled Fund Participation

Thank you for your interest in submitting a Pooled Fund request. Request will be evaluated and approved as funds remain available.

If you have any questions or comments, please email
WVDOTResearch@wv.gov

Pooled Funds allow state and federal agencies to combine resources to fund projects with impacts on both state and national levels. As part of the Research Program, WVDOT allocates funds each year for national Pooled Fund studies.

For more information on Pooled Funds, visit <https://www.pooledfund.org/Home>

Requester Contact Information

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Requester Name: *

Select

Pooled Fund Study Information

Study/Solicitation Number: *

WV DOT Pooled Fund Commitments

Pooled Fund Number	Title	Lead Organization
TPF-5(547)	Traffic Safety Culture Phase 3	Montana Department of Transportation
TPF-5(544)	Technology Transfer Concrete Consortium (2025-2029)	Iowa Department of Transportation
TPF-5(531)	Accelerated Performance Testing on the 2024 NCAT Pavement Test Track with MnROAD Research Partnership	Alabama Department of Transportation
TPF-5(530)	TRB Core Program Services for a Highway RD&T Program – Federal Fiscal Year 2024/TRB (State DOTs) Fiscal Year 2025	Federal Highway Administration
TPF-5(527)	International Conference on Ecology and Transportation 2025	Washington State Department of Transportation
TPF-5(501)	Roadside Safety Pooled Fund - Phase 3	Washington State Department of Transportation
TPF-5(486)	Center for the Aging Infrastructure: Steel Bridge Research, Inspection, Training and Education Engineering Center - SBRITE (Continuation)	Indiana Department of Transportation
TPF-5(479)	Clear Roads Winter Highway Operations Phase III Pooled Fund	Minnesota Department of Transportation

Important Upcoming Dates

Peer Exchange

- WVDOT will be attending a 2026 Peer Exchange **this July** in Pittsburgh, Pa

Problem Statement Submission Window

- Submission window usually opens early **April**
- Problem Statements for the current cycle are due by **June 3rd** (today)
- Will be reviewed by the Research Technical Committees and notifications will be sent out in August.

Problem Statement Review

- Will start once Problem Statements have been compiled **Late June/early July**
- Once WVDOT the committees have determined which to request proposals for, notifications will be sent out.

Thank You

If you have any questions about the WVDOT Research Program, please email us at WVDOTResearch@wv.gov. A member of the Research Program staff will review your email and be in touch.

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