



No Boundaries

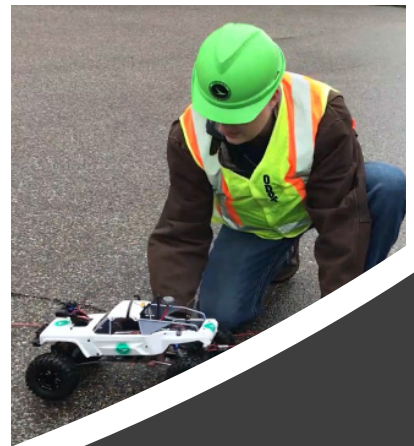
Study Phase III (2020 to 2025) Summary of Activities

The [No Boundaries](#) Transportation Pooled Fund Study ([TPF-5\(441\)](#)) is dedicated to helping states save time and money on all aspects of their maintenance-related activities by promoting the adaptation, implementation and broader use of successful innovations. The group also facilitates opportunities that encourage interstate collaboration and the transfer of innovative technologies by:

- Hosting semiannual peer exchanges
- Populating and maintaining an innovation database
- Identifying and promoting maintenance innovations and process improvements
- Conducting quick-turnaround synthesis research
- Developing presentations, annual reports and other publications that highlight recommended innovations

No Boundaries' robust program of technology transfer and information sharing offers a cost-effective and timely response to the many challenges that state and local roadway maintenance personnel face in their everyday work.

This publication summarizes the activities of Phase III of the pooled fund, from 2020 to 2025.



August 2025

Peer Exchanges

Twice each year, members meet to report on the innovations they've recently tried, discuss new and ongoing maintenance problems and solutions, and attend hands-on demonstrations to ask how others address common challenges.

A compilation of resources from each meeting, including presentation materials and images, help members share what they learned with their home agencies and increase the likelihood of implementation.



March 2021 (Virtual)

Though the COVID-19 pandemic required this first meeting of Phase III to be held virtually, members shared their home-grown innovations and discussed automated mowing practices, impact attenuator depreciation considerations and strategies for effectively mowing and spraying state-owned roadsides. [Learn more.](#)

◀ **September 2021 (Denver, Colorado)**

Highlights of this meeting included informative discussions about issues related to charging electric vehicles, the use of drones in maintenance activities and federal activities related to No Boundaries' efforts. [Learn more.](#)

May 2022 (Sacramento, California)

This event featured issues such as guardrail repair and replacement procedures, the effects of the new federal rules related to commercial driver's licenses, and states' approaches to managing materials supply shortages. [Learn more.](#)

October 2022 (Indianapolis, Indiana)

Hot-button transportation maintenance topics discussed at this peer exchange included cost and supply-chain issues and successful strategies to prompt implementation of maintenance innovations. [Learn more.](#)

April 2023 (St. Louis and Columbia, Missouri)

Hosted by the Missouri DOT, a visit to the agency's annual Innovations Showcase allowed No Boundaries members to see demonstrations of innovative tools, materials and processes, and learn best practices for implementing similar programs in their home states. [Learn more.](#)

October 2023 (Suffolk, Virginia)

Among other topics, members discussed strategies for fixing potholes during winter and how agencies can best determine whether their maintenance crews are appropriately staffed. [Learn more.](#)

May 2024 (Baton Rouge, Louisiana)

Featured discussions included balancing vehicle idling with battery drain, and alternative ideas for configuring and maintaining the public right of way. [Learn more.](#)

September 2024 (Fargo, North Dakota) ▶

Highlights of this meeting included ideas for using outside vendors for maintenance training and strategies for complying with the new federal requirements for roadway retroreflectivity markings. [Learn more.](#)

April 2025 (Portland, Maine)

This spring peer exchange featured discussions on what states' maintenance crews use for their sign repair and replacement work and hauling skid steers, as well as how workforce changes are affecting maintenance activities for states. [Learn more.](#)



Research Syntheses

As members identify topics of shared interest, a quick-turnaround search of published literature combined with a survey of practice can help the group better understand the current state of knowledge and identify pathways for possible further action. Synthesis studies from No Boundaries Phase III follow.

Maintenance Training with Virtual Reality Technologies ►

This synthesis details specific states' experiences and interest in VR technologies for training, including the benefits and challenges perceived or encountered. Included are four case studies that provide more detail on selected states' outcomes using these advanced training tools, with "points of practice" summarizing strategies or findings of particular interest. [Learn more.](#)

Equipment Acquisition and Management: Challenges and Solutions

This research effort looks beyond pandemic-related impacts to examine systemic, sustained challenges related to equipment acquisition and management. Using a national survey of state departments of transportation (DOTs), the findings provide useful insight for agencies seeking to mitigate ongoing equipment acquisition and management challenges. [Learn more.](#)



Responses to Staffing Shortages

In keeping with the No Boundaries mission to identify and share transportation maintenance innovations, this synthesis effort identified innovative practices to mitigate maintenance staffing shortages. "Point of Practice" callouts throughout the report further highlight noteworthy practices and innovative efforts. [Learn more.](#)

Additional Products and Resources

Over the years, No Boundaries has developed a variety of creative solutions to support member-to-member engagement and knowledge transfer.

State of the Practice Survey Results

As an active community of practice, members frequently reach out to one another with informal email surveys. These surveys, facilitated by No Boundaries, address common issues and innovative solutions that No Boundaries members have considered or tried. [Learn more.](#)

TRB Papers on Maintenance

No Boundaries compiles listing of papers related to maintenance from each year's Transportation Research Board Annual Meeting. [Learn more.](#)

State Innovation Programs

State DOT innovation programs highlight the best and brightest ideas brought forward and implemented by transportation agency staff. To help states identify programmatic aspects that work well, No Boundaries maintains a list of innovation programs. [Learn more.](#)

Contact No Boundaries

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MEMBER STATES

CURRENT OR FORMER DURING STUDY PHASE III

California Department of Transportation
 Colorado Department of Transportation
 Connecticut Department of Transportation
 Idaho Transportation Department
 Illinois Department of Transportation
 Indiana Department of Transportation
 Louisiana Department of Transportation and Development
 Maine Department of Transportation
 Maryland Department of Transportation
 Michigan Department of Transportation
 Minnesota Department of Transportation
 Mississippi Department of Transportation
 Missouri Department of Transportation
 New York State Department of Transportation
 North Dakota Department of Transportation
 Ohio Department of Transportation
 South Carolina Department of Transportation
 Texas Department of Transportation
 Utah Department of Transportation
 Virginia Department of Transportation
 Wisconsin Department of Transportation

Innovations Database

As members discuss and share maintenance challenges and innovative solutions, their tried and tested products and practices are entered into a searchable online database. This one-of-a-kind catalog serves as a collection of opportunity for public transportation agencies at all levels. Each entry is submitted by a transportation agency that developed or used it with success, lending confidence to anyone browsing or searching the database for a new solution. [Learn more.](#)



[About](#) [Innovation Database](#) [Meetings](#) [News](#) [Resources](#) [Subscribe](#)

Innovation Database

Below is a list of innovative maintenance products or practices used by public agencies to improve the way they do business. Details on each innovation are available by clicking on the name of the product or practice. Each submission was made by an agency that successfully uses the product or practice. Not all products or practices will be useful or effective for all agencies.

Narrow Your Search

Categories Agency Search

<p>RAPTOR temporary portable rumble strips placer Maryland DOT</p> <p>Portable rumble strips provide a temporary solution to increase driver awareness. The RAPTOR vehicle attachment allows these temporary rumble strips to be placed, repositioned and removed quickly and safely.</p> <p>MORE INFO</p>	<p>Keeping Utah Beautiful campaign Utah DOT</p> <p>Litter is the number one complaint that the Utah Department of Transportation receives. This campaign, which was launched in February 2024, replaces the agency's Adopt a Highway program. There are...</p> <p>MORE INFO</p>	<p>Loader-Mounted Post Pounder New York State DOT</p> <p>New York State DOT worked closely with a vendor to develop this guide rail equipment, which costs less than a truck-mounted pounder. In most cases, this equipment will do everything...</p> <p>MORE INFO</p>
<p>Brine Applicator Virginia DOT</p> <p>Virginia DOT's brine equipment was rusting out, so the agency decided to rent water trucks to apply the brine and developed its own spray attachment in-house.</p> <p>MORE INFO</p>	<p>Controlled Modulus Columns (mucky soil stabilization with no settling period) Minnesota DOT</p> <p>Controlled Modulus Columns or concrete inclusions are installed in areas of mucky or unstable soils to prevent a roadbed from settling. A drilling rig bores a hole on the down...</p> <p>MORE INFO</p>	<p>Power BI for Potholes Colorado DOT</p> <p>Each year, Colorado DOT's Pavement Management Services group publishes a list of roadways recommended for treatment, from chip sealing to full reconstruction. To better understand where patching is most frequently...</p> <p>MORE INFO</p>

No Boundaries Phase IV

Learn how to join the next phase of No Boundaries at [TPF-5\(548\)](#).