



# Overview and Innovations

AASHTO Committee on Maintenance  
Annual Meeting  
July 23, 2025

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## Purpose

- The No Boundaries pooled fund project ([maintainroads.org](https://maintainroads.org)) is a community of practice for transportation maintenance professionals around the country.
- The group identifies innovative technologies and practices used by state DOTs and then promotes their use by other agencies.



## Purpose

- Note that No Boundaries...
  - Complements AASHTO MAC, the AASHTO Innovation Initiative, and other national efforts
  - Focuses on spring, summer, fall and winter maintenance topics.



## Goals

- To help members share
  - Innovative equipment solutions
  - Innovative material solutions
  - Innovative process solutions
- To increase network and collaboration among other agencies
  - Members learn firsthand: what works, what doesn't (and why), what needs more investigation
- To promote consistent maintenance activities among agencies
  - Align policies, procedures, and technologies... when it makes sense





## Goals

- To facilitate meetings and in-person interaction
  - Provide a showcase for state innovations and technologies
  - Create a forum for direct questions and frank answers
- To increase cost-effectiveness
  - Minimize duplication of effort
  - Maximize products and services

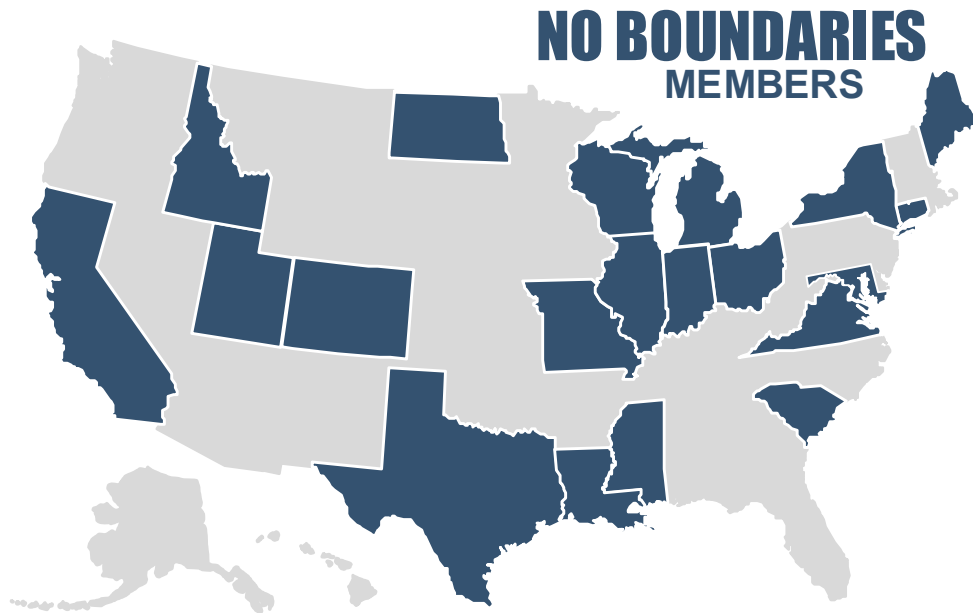


# Today

- 20 member states
- Focus areas include:
  - Core maintenance areas (bridges, pavements, operations, roadside, equipment)
  - Asset management for maintenance
  - Training, recruitment and retention
- [maintainroads.org](https://maintainroads.org) documents all resources
- Two in-person meetings annually provide peer exchanges and technical site visits
- Weekly news posts
- Informal surveys of peer agencies



# Current Member States





# Current Partners and Liaisons

- Federal Highway Administration
- AASHTO
- Transportation Research Board
- American Public Works Association
- Front Range Community College (Colorado)
- Clear Roads pooled fund



TRANSPORTATION RESEARCH BOARD





# Highlighted Activities and Resources

## Peer Information Sharing

- Two in-person peer exchanges and technical site visits in the past year.
  - Fargo, North Dakota in September 2024
  - Portland, Maine in April/May 2025
- Highlights
  - Technical presentations
  - Roundtable discussions
  - Innovation show-and-tell
  - Equipment and product demonstrations



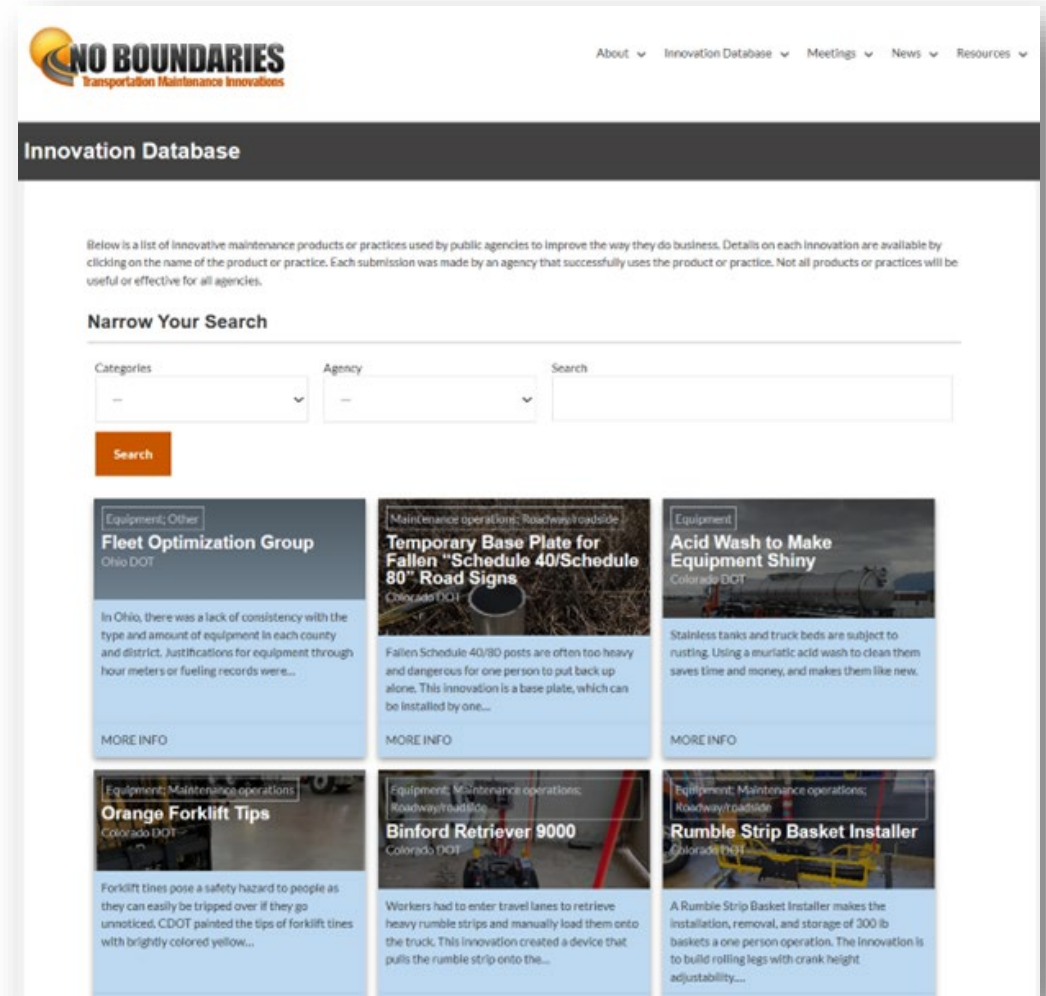
# Peer Information Sharing

- **Research Syntheses** - Quick-turnaround searches of published literature combined with a survey of practice to identify the current state of knowledge and possible pathways for further action.
- Recent topics
  - Maintenance Training with Virtual Reality Technologies
  - Equipment Acquisition and Management: Challenges and Solutions
  - State Innovation Programs



# Peer Information Sharing

- **Innovations Database** - An online repository of tried-and-tested products and practices.
- **Informal Surveys** - Members can pose questions to their peers at any time to get quick responses from experts.
- **News Updates** - Maintenance-related research, news, and upcoming events delivered to members' inboxes each week.





# Examples of Transferred Innovations

- **Guardrail Garden**
  - Maine DOT has created a safe and traffic-free area for maintenance crews to gain hands-on experience with different types of guardrails.



# Examples of Transferred Innovations

- **Keeping Utah Beautiful**

- This campaign, launched in February 2024, replaces the agency's Adopt a Highway program. There are no signs or contracts, and groups can use the website to easily volunteer to clean up a roadside in need.
- This program makes it easier for volunteers to offer their assistance, helping Utah DOT save time and money and a better way to improve the environment.



## Examples of Transferred Innovations

- **Field Experience for Students Earning Degrees in Maintenance**
  - Keith Thomas, No Boundaries' representative from Maryland DOT, graduated from Front Range Community College's Highway Maintenance Management Program in spring 2025. He presented on his experiences with the program during the Fall 2024 peer exchange.





# Examples of Transferred Innovations

- **Cleaning Products**

- At the Spring 2025 peer exchange, Indiana DOT discussed their success with Dyna-Wipes, disposable cleaning cloths that have shown to clean tools without causing damage and graffiti from signs without affecting reflectivity.





# Examples of Transferred Innovations

- **Hitch-Mounted Flagger**
  - Maintenance crews in Missouri DOT's Southeast District developed this flagging system that can be attached to a vehicle's hitch and help with traffic control without putting a worker in harm's way.



# Examples of Transferred Innovations

- **Fleet Optimization Strategies**
  - Ohio DOT conducted a comprehensive evaluation of the state's fleet, identifying opportunities to save significant costs through strategies such as sharing equipment across regions and downsizing vehicles for inspectors.
  - If all of the recommendations were implemented, Ohio DOT could potentially save more than \$8 million.

## HIGHEST REDUCTIONS PER EQUIPMENT

Equipment Category	Total Reduction	Count Before Reduction	Count After Reduction
101 - SEDAN, STANDARD	46	272	226
213 - UTILITY TRUCK 3/4 TON AND OVER	23	167	144
221 - PICKUP, 1/2 TON	63	1,196	1,133
223 - PICKUP, 1 TON	27	272	245
253 - DUMP TRUCK, GVWR <= 26000 LB	13	172	159
311 - BACKHOE, TRACTOR W/LOADER	13	64	51
372 - COMPRESSOR OVER 125CFM	61	95	34
492 - GRADER, LRG, OVER 23000LBS	15	23	8
591 - LOADER, SKID STEER	13	118	105
592 - LOADER FRONT END SELF 4WH	10	238	228
640 - MOWER, ROTARY, TOW TYPE 10'-20'	13	266	253
751 - ROLLER, 1-3 TON	11	22	11
893 - TRACTOR, 190 CU. IN. & OVER	36	370	334
<i>These are the equipment categories with the highest reductions. Statewide we reduced a total of 480 pieces of equipment.</i>			

# Examples of Transferred Innovations

- **South Carolina DOT Innovation Challenge**
  - South Carolina DOT held its inaugural Innovation Challenge in 2024, welcoming innovations from maintenance staff. In 2025, the program was expanded to include submissions from across the entire agency.
  - The program was inspired by Missouri DOT's program and in-person Innovations Showcase, which No Boundaries members experienced during the group's Spring 2023 peer exchange.



# Examples of Transferred Innovations

- **Tethered drones**
  - At the Spring 2025 peer exchange, Maine DOT described their success with using Blue Vigil drones. These tethered models have lights to improve nighttime visibility and safety in work zones, but lower piloting requirements than standard (untethered) drones.





# Examples of Transferred Innovations

- **Electronic Inspection Reporting**
  - After piloting its Electronic Driver Vehicle Inspection Report (DVIR) system on approximately 375 vehicles at four maintenance garages, Michigan DOT will be expanding the system to all garages across the state.
  - The agency shared details of the innovation during the Spring 2025 peer exchange.

# Examples of Transferred Innovations

- **Weed control**
  - During No Boundaries' Spring 2024 peer exchange, Connecticut DOT described its success with using the Foamstream wand to kill weeds and invasive plants with extremely hot water as an eco-friendly alternative to using herbicides.



# Thank you

- Next in-person meeting:
  - South Carolina in Spring 2025
- Learn more:
  - Subscribe for weekly news posts

[Maintainroads.org](https://maintainroads.org)

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