



# Overview and Innovations

AASHTO Committee on Maintenance  
Annual Meeting  
August 14, 2024

Jim Fox, Colorado DOT  
Dan Houck, Maryland DOT

## Overview

- What is No Boundaries?
  - Purpose, goals and history
  - Members and partners
- Highlights of how No Boundaries can help agencies share innovations and information
  - Peer Information Sharing
  - Innovation Database
  - Research Syntheses



## 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.



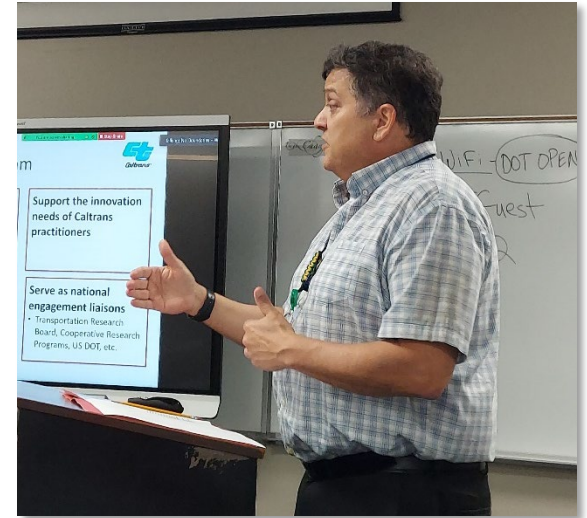
## Goals

- 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



## History

- Began in 2011
  - Developing relationships with several DOT member states
  - Build synergy to address common challenges and opportunities among DOTs
  - No sense in “reinventing the wheel”
  - Share home-grown and off-the-shelf innovative solutions that **work**
- Initially eight member states
- Missouri and Ohio were previous lead states; currently led by Colorado



# Today

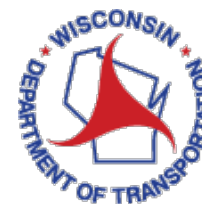
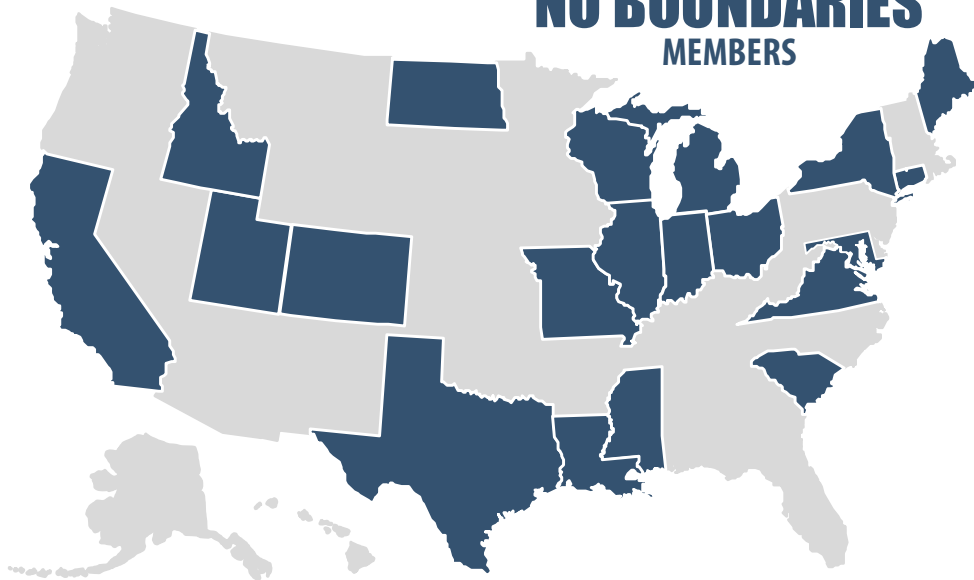
- 20 member states
- Focus areas include:
  - Core maintenance areas (bridges, pavements, operations, roadside, equipment)
  - Asset management for maintenance
  - Training, recruitment and retention
- [maintainroads.org](https://maintainroads.org) documents all resources
- Two in-person meetings annually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





# Current Member States

## NO BOUNDARIES MEMBERS



## 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

- **Peer exchanges** - Twice-annual in-person meetings offer discussions of recently tried innovations and hands-on demonstrations to show how others tackle common challenges.
  - Events in 2024
    - Baton Rouge, Louisiana in May 2024
    - Fargo, North Dakota in September 2024
  - Highlights
    - Technical presentations
    - Innovation show-and-tell
    - Roundtable discussions
    - Technical site visits



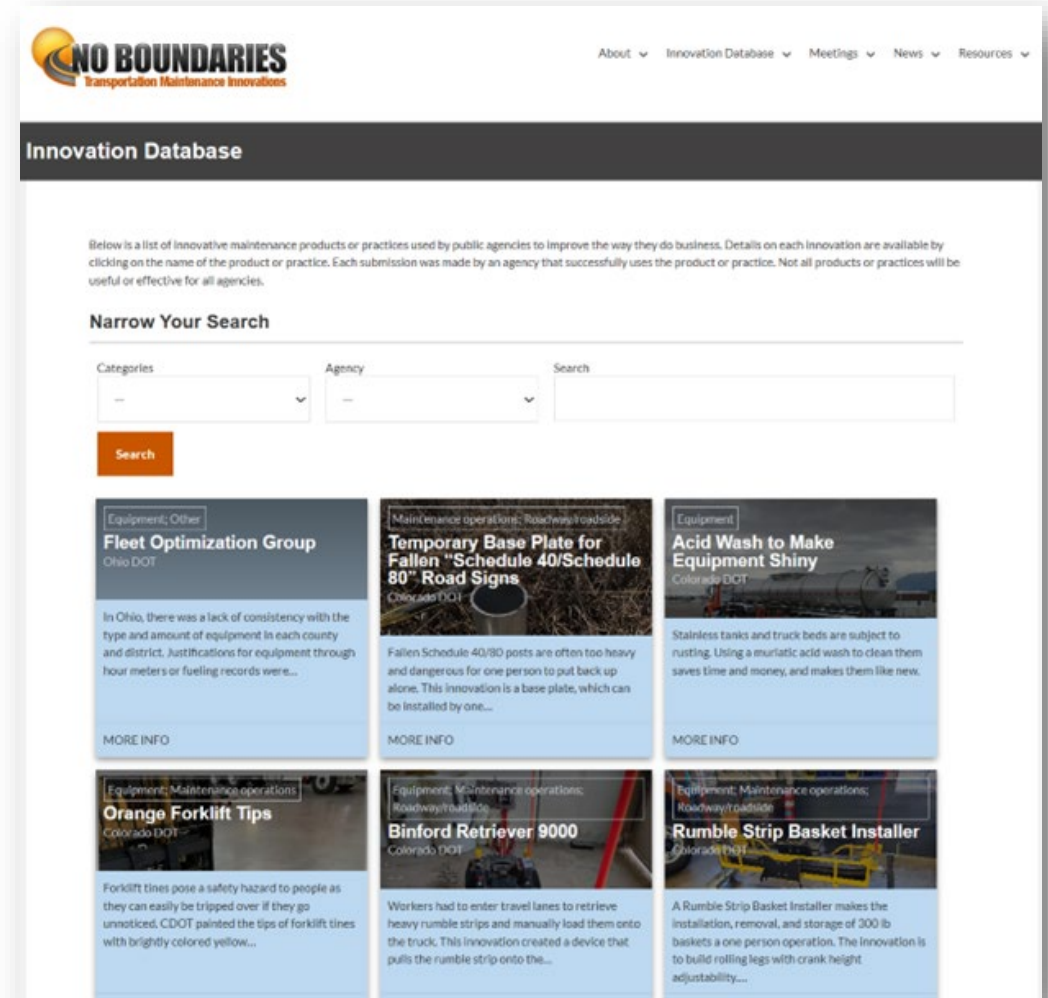
# Peer Information Sharing

- **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
  - Equipment Acquisition and Management: Challenges and Solutions
  - State Innovation Programs
  - Maintenance Training with Virtual Reality



# Peer Information Sharing

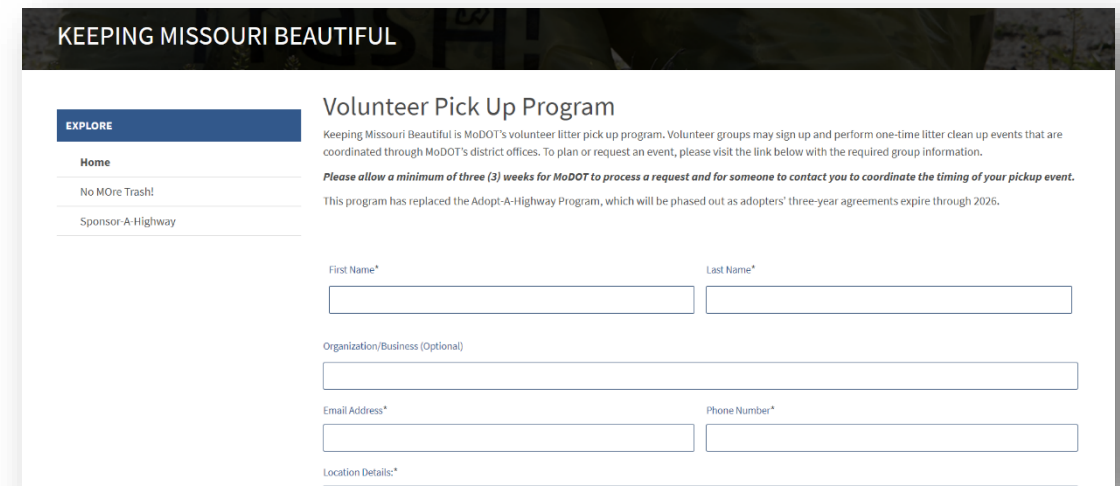
- **Innovations Database** - An online repository of tried-and-tested products and practices.
- **Informal Surveys** - Members can pose questions to their peers at any time to get quick responses from experts.
- **News Updates** - Maintenance-related research, news, and upcoming events delivered to members'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



The screenshot shows the 'Innovation Database' page on the NO BOUNDARIES website. The page features a navigation menu with 'About', 'Innovation Database', 'Meetings', 'News', and 'Resources'. Below the header, there is a search section titled 'Narrow Your Search' with dropdown menus for 'Categories' and 'Agency', and a search input field. Below the search section, there are six featured innovation cards, each with a title, a small image, and a brief description. The cards are: 'Fleet Optimization Group' (Ohio DOT), 'Temporary Base Plate for Fallen "Schedule 40/Schedule 80" Road Signs' (Colorado DOT), 'Acid Wash to Make Equipment Shiny' (Colorado DOT), 'Orange Forklift Tips' (Colorado DOT), 'Binford Retriever 9000' (Colorado DOT), and 'Rumble Strip Basket Installer' (Colorado DOT).

# Examples of Transferred Innovations

- **Keeping Missouri Beautiful**
  - Litter pick-up program inspired by the success of Keeping Utah Beautiful.
  - Replaces the state's Adopt-a-Highway Program.
  - Volunteers use online sign-up form at [www.modot.org/litter-cleanup](http://www.modot.org/litter-cleanup).



KEEPING MISSOURI BEAUTIFUL

**EXPLORE**

- Home
- No MOre Trash!
- Sponsor A Highway

### Volunteer Pick Up Program

Keeping Missouri Beautiful is MoDOT's volunteer litter pick up program. Volunteer groups may sign up and perform one-time litter clean up events that are coordinated through MoDOT's district offices. To plan or request an event, please visit the link below with the required group information.

*Please allow a minimum of three (3) weeks for MoDOT to process a request and for someone to contact you to coordinate the timing of your pickup event.*

This program has replaced the Adopt-A-Highway Program, which will be phased out as adopters' three-year agreements expire through 2026.

First Name\*

Last Name\*

Organization/Business (Optional)

Email Address\*

Phone Number\*

Location Details\*





## Examples of Transferred Innovations

- **Field Experience for Students Earning Degrees in Maintenance**
  - Maryland and Illinois DOTs both partner with Front Range Community College to offer students on-the-job training.
  - DOTs gain help onsite, while students gain technical experience, a career pathway, and credit toward their Associates Degree in Highway Maintenance Management.



## Examples of Transferred Innovations

- **Asphalt patching product**
  - Virginia DOT had been using a proprietary product for years to repair potholes.
  - No Boundaries invited the manufacturer to conduct a demonstration and educate members at the October 2023 meeting in Suffolk, VA.
  - Several agencies are now field testing the product in their states.



# Examples of Transferred Innovations

- **Dashboards for Data Visualization**
  - At the Fall 2023 peer exchange, Virginia DOT discussed using Power BI to analyze maintenance data and allocate staff.
  - Since then, Colorado DOT has developed a method for using the same software to analyze pothole patching data and see where additional resources are needed.



## Examples of Transferred Innovations

- **Planting sunflowers along highways**
  - Michigan DOT identified sunflowers as a viable plant for its roadsides based on the success of North Carolina's wildflower program.
  - Sunflowers offer a number of environmental benefits, an alternative strategy to traditional mowing practices, and are very popular with the public.



# Thank you

- Next in-person meeting:
  - Fargo, ND in Fall 2024
- Learn more:
  - Subscribe for weekly news posts
  - Read the upcoming TR News feature article, to be published in October 2024

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