



No Boundaries Transportation Maintenance Innovations Pooled Fund

maintainroads.org

Overview and Update

SICOP

Maintenance Operations Briefing
June 2023

Heath Patterson, Mississippi DOT

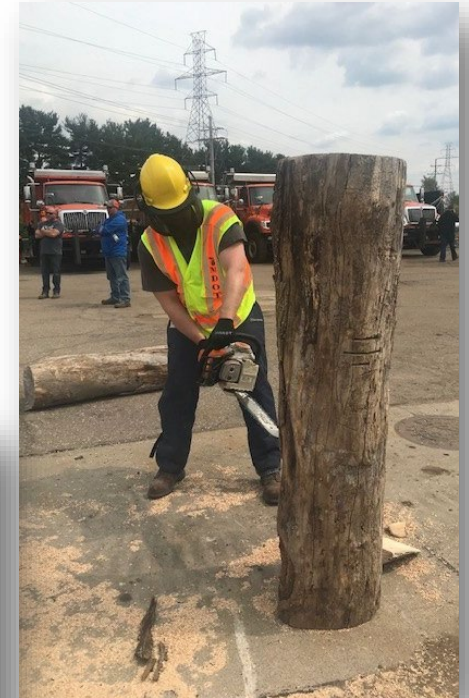
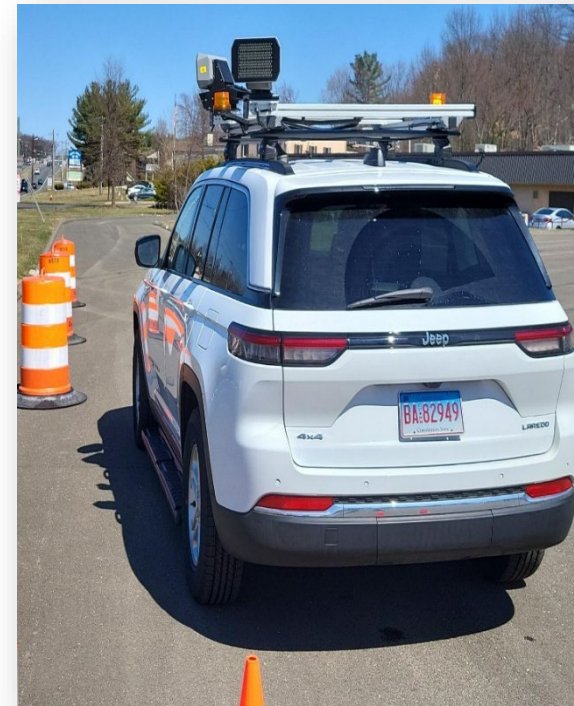
Presentation Overview

- 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
 - Synthesis on Equipment Acquisition and Management Challenges and Solutions



Purpose

- The No Boundaries pooled fund project (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 Committee on Maintenance, AASHTO Innovation Initiative, TRB Research Innovation Implementation Management Committee, AASHTO Innovation Community of Practice and other national efforts.
 - Focuses on spring, summer and fall and winter maintenance topics.



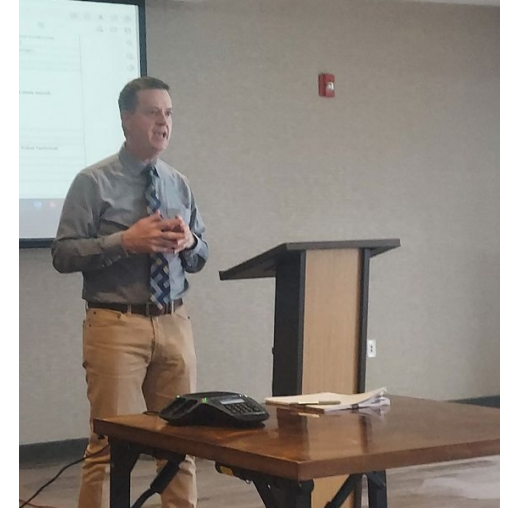
Goals

- 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
 - Building synergy to address common challenges and opportunities among DOTs
 - No sense in “reinventing the wheel”
 - Sharing 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



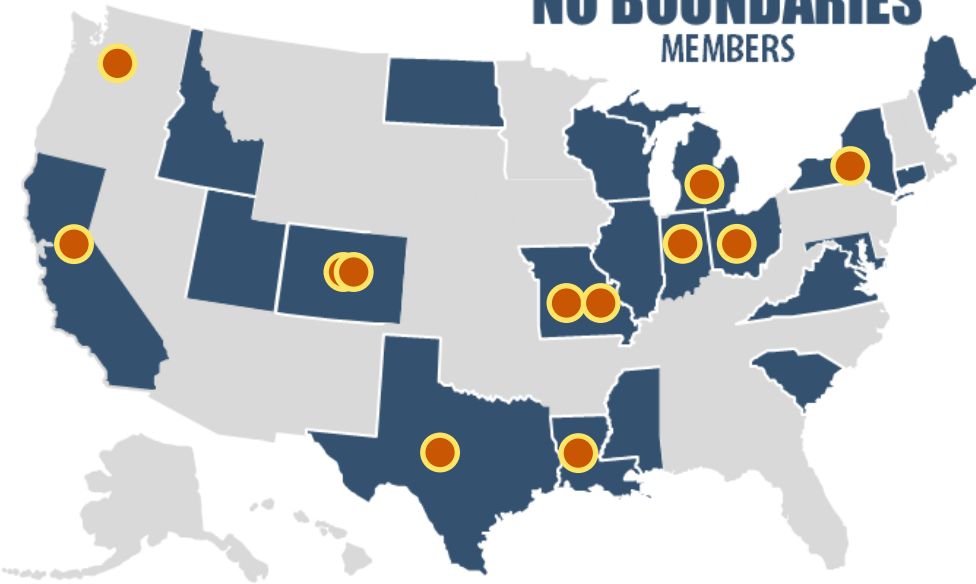
Today

- 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://www.maintainroads.org) documents all resources
- Two meetings annually provide peer exchanges and technical site visits
- Weekly news posts
- Informal surveys of peer agencies
- Syntheses on pertinent maintenance topics



Current Member States

NO BOUNDARIES
MEMBERS



Past and Future Peer Exchange Sites



Current Partners and Liaisons

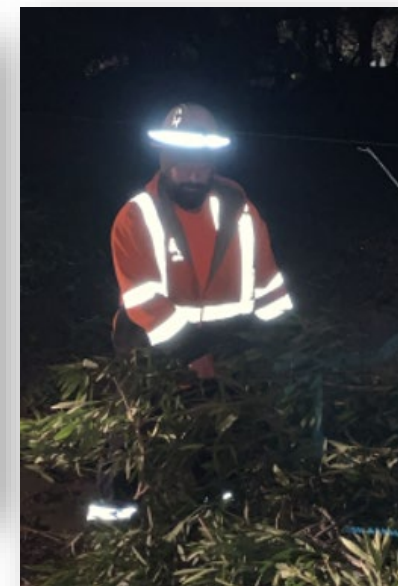
- Federal Highway Association
- AASHTO
- Transportation Research Board
- American Public Works Association
- Front Range Community College (Colorado)
- Clear Roads pooled fund



Highlighted Activities and Resources

Peer Information Sharing

- Three-day peer exchange and technical site visit in Missouri, April 2023
- Highlights
 - Presentations
 - Front Range Community College - Associates Degree Program
 - National Local & Tribal Technical Assistance Program - Safety Innovations
 - ODOT Maintenance Saving via Fuel Tax
 - Innovation show-and-tell



Peer Information Sharing

- Highlights (continued)
 - Roundtable discussions
 - Deploying cones or barrels
 - Follow-up solutions for staffing shortages
 - Site visit
 - Missouri DOT Innovations Showcase
 - MoDOT employees discussed and demonstrated their own new innovative products, materials, processes, tools, and equipment



Innovation Database

- No Boundaries’ [Innovation database](#) is a repository for successful innovative tools and practices
- Topic areas:
 - Bridges
 - Equipment
 - Maintenance operations
 - Pavements
 - Roadway/Roadside
 - Other


Knuckle Boom Crane

Bridges Maintenance operations


Innovation

The remote-controlled Knuckle Boom Crane was developed by the Ohio Department of Transportation DOT to help maintenance crews safely and efficiently remove the debris that accumulates around bridge piers in larger rivers. With six optional attachments, certified operators can easily cut, grab and remove tree limbs and other blockages as needed.

Video of Ohio DOT’s November 30, 2021 webinar and Q-and-A on the Knuckle Boom Crane



Knuckleboom Crane for Debris Removal
November 30, 2021
Ohio Department of Transportation
The Ohio State University



Ohio DOT

Douglas Gruver
doug.gruver@dot.ohio.gov

Files
[Knuckle-boom-crane-1.jpg](#)
[Knuckle-boom-crane-2.jpg](#)

Links
[ODOT knuckle boom crane video 1](#)
[ODOT knuckle boom crane video 2](#)
[ODOT knuckle boom crane video 3](#)
[PALFINGER Group](#)

Published: 11/22/2021

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:

Search

<p>Bridges; Maintenance operations</p> <p>Knuckle Boom Crane Ohio DOT</p> <p>The remote-controlled Knuckle Boom Crane was developed by the Ohio Department of Transportation DOT to help maintenance crews safely and efficiently remove the debris that accumulates around bridge piers in...</p> <p>MORE INFO</p>	<p>Maintenance operations; Roadway/roadside</p> <p>Sign Straightener Texas DOT</p> <p>This tool allows a single maintenance crew member to quickly and easily level a tilted sign within seconds. With one end of the tool on the ground and the other...</p> <p>MORE INFO</p>	<p>Equipment; Maintenance operations</p> <p>JAWS Debris Remover Missouri DOT</p> <p>Clearing roadway debris can be dangerous for maintenance workers. This innovative truck attachment was designed to keep workers safe while saving time and money by quickly clearing roadway hazards without...</p> <p>MORE INFO</p>
<p>Equipment</p> <p>Sign and Cone Rack For Dump Truck Bed Virginia DOT</p> <p>This rack is designed to fit into the bed of a single-axel dump truck. It can quickly be installed or removed as needed, giving road maintenance workers the flexibility to...</p> <p>MORE INFO</p>	<p>Missouri DOT Bridges; Pavements; Other</p> <p>Truck-Weight Education Program Minnesota DOT</p> <p>Truck-Weight Education Program. Established in 2001, institutionalized in 2007, program enhancements continue in 2021. Includes educational opportunities toward truck manufacturers, haulers, road authorities & enforcement.</p> <p>MORE INFO</p>	<p>Equipment</p> <p>Wrong Way Warning System Ohio DOT</p> <p>ODOT’s safety program reviewed corridors to find locations with higher rates of wrong-way crashes and is piloting the TraffCalm system on IR-71 to determine the effectiveness of the system in...</p> <p>MORE INFO</p>

Innovation Database

- Any agency can submit innovations

Agency Contact Information

Name *

First Last

Agency *

Alabama DOT

Email *

Innovation Information

Name of your innovation. *

Categories *

(Check all that apply.)

Bridges Equipment
 Maintenance operations Pavements
 Roadway/roadside Other

Describe your innovation. *

Describe the benefits and implementation of your innovation. *

(For example, time or cost savings, safety improvements, environmental impacts, etc.)

Provide a photo of your innovation.
Minimum 450px wide recommended.

Drop files here or [select files](#)

Accepted file types: jpg, png, Max. file size: 2 MB, Max. files: 1.

Provide links to information online about your innovation.

Attach any additional photos, video, or documents related to your innovation.
(If you have trouble, please email the files to brian.hirt@ctcandassociates.com.)

Drop files here or [select files](#)

Accepted file types: pdf, jpg, png, doc, docx, ppt, pptx, xlsx, Max. file size: 1 GB, Max. files: 10.

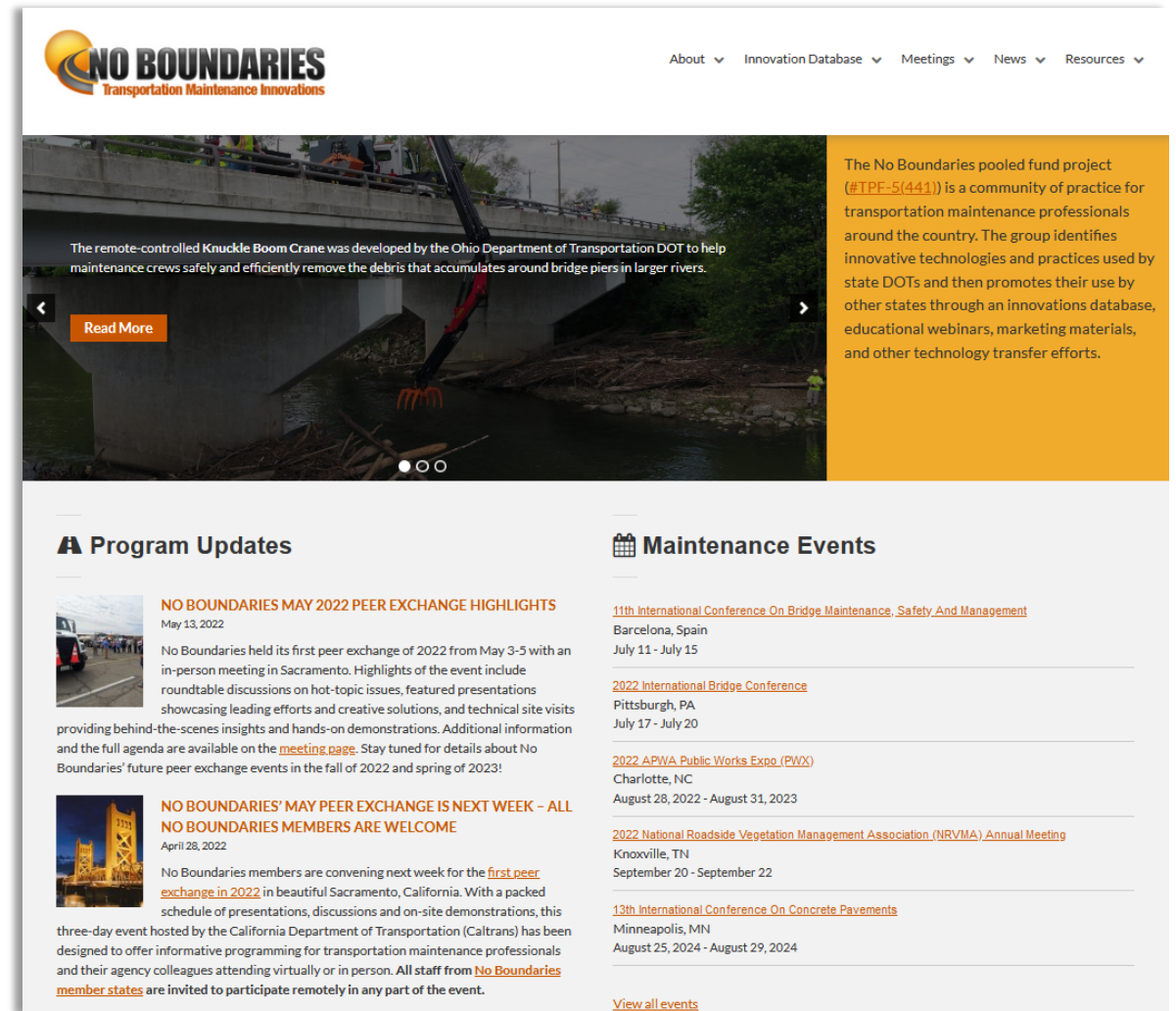
[Submit](#)

Equipment Acquisition and Management Challenges and Solutions Synthesis

- Quick-turnaround research effort examining systemic, sustained challenges related to equipment acquisition and management
- Focused on these topics:
 - Current state of equipment cost and supply chain challenges
 - Impact of these equipment shortages
 - Barriers to addressing supply chain issues
 - Innovative solutions that can be adapted by other agencies
 - Incremental steps that can improve an agency's response to the challenges
- Final report will be available early fall on the [No Boundaries website](#)

Learn More

- Upcoming events
 - New York State in Fall 2023
 - Louisiana in Spring 2024
- On our website: maintainroads.org
 - Explore the Innovation Database
 - Subscribe for weekly news posts
 - View videos on YouTube
 - Photos available on Flickr
- Contact us
 - **Heath Patterson, Mississippi DOT**
hpatterson@mdot.ms.gov, 601-359-7113



The screenshot shows the website's layout. At the top is the logo and navigation menu (About, Innovation Database, Meetings, News, Resources). A featured article highlights a remote-controlled Knuckle Boom Crane developed by the Ohio DOT. Below this are sections for 'Program Updates' and 'Maintenance Events'. The 'Program Updates' section includes two articles: one about the May 2022 peer exchange highlights and another about the upcoming May peer exchange. The 'Maintenance Events' section lists several international and national conferences and expositions.