

# Best Practices for Highway Vegetation Management



Colorful roadside vegetation is both aesthetic and functional.

## SCAN FOCUS

Flourishing roadside vegetation can be aesthetically pleasing to travelers while also serving functional purposes such as pollinator support, increasing resilience of wildflower plantings, erosion prevention and habitat preservation. However, transportation agencies face many natural and manmade challenges in establishing and maintaining thriving vegetation. To assist state DOTs, Domestic Scan 24-01 sought to provide effective strategies for managing roadside vegetation, supporting native seed markets, training staff and executing related agreements.

## PERSON-TO-PERSON RESEARCH

Thirteen state DOTs and six companies and organizations that offer native vegetation goods and services participated in a multi-session workshop in May and June of 2025. During the workshop sessions, participants shared their experiences effectively establishing and managing native vegetation site locations. The scan team members then synthesized the themes and findings from the workshop to provide best practices to help DOT staff cost-effectively enhance and manage roadside vegetation, improve the native seed supply and coordinate effectively with regional seed suppliers.

## NEXT STEPS Put It into Practice

### EXPLORE NEW IDEAS

The strategies that have worked well for other public and private organizations may suit your agency's needs as well.

### GET INVOLVED

Help problem-solve with AASHTO's Committee on Environment and Sustainability at [transportation.org/scoe/](https://transportation.org/scoe/).

### READ MORE

The full Scan 24-01 report is available at [domesticscan.org/scans/24-01](https://domesticscan.org/scans/24-01).

### SUGGEST FUTURE SCANS

What topic do you have for an NCHRP Domestic Scan? See [domesticscan.org/](https://domesticscan.org/).

## PRELIMINARY FINDINGS

The scan found that agencies of all sizes and budgets are already using native vegetation successfully. However, funding, staffing, training and agency policy were frequently cited as challenges that can affect an agency’s ability to maximize its use of native plants. To better address vegetation needs, scan members noted that splitting funding obligations into vegetation-related work and from general road work contracts would likely help to identify firms with more specialized experience in plant installation and establishment, and improve the chances of success. Further, draft definitions of “native vegetation” and “locally native vegetation” will need to be evaluated by state DOTs and stakeholders..

The scan team also found that the use of technologies such as websites and geospatial tools are valuable for building public support and efficiently incorporating native vegetation into projects and maintenance workplans. Lastly, the scan noted the importance of communicating an agency’s native vegetation needs with seed suppliers in advance as some seeds are perishable and others require a lead time to grow.



Image courtesy of Idaho DOT

Maintaining native vegetation is important for pollinator conservation.

## PUTTING IT TO WORK

Despite the challenges identified in the scan, the team concluded that competencies related to native seed and vegetation planning, design, funding, procurement, and maintenance are essential to long-term success.

Recommendations will be provided in the final report to contribute to strategies for DOT managers, landscape architects, contractors, contracting officers, construction managers, environmental specialists, and DOT stakeholders and support successful practices involving plant material and seed suppliers to consider.

## SHARING THE RESULTS

Scan team members have presented their findings at national and state gatherings including the Transportation Research Board mid-year meeting and AASHTO’s Committee on Environment and Sustainability, with additional presentations in 2026.

## SCAN PARTICIPANTS

### SCAN TEAM

Brian L Smith, Co-Chair, FHWA (retired)  
 Cathy Ford, Co-Chair, Idaho TD  
 Kayti Ewing, Arkansas DOT  
 Ken Murray, Caltrans  
 Matt Kraushar, Indiana DOT  
 Christine Colley, New York State DOT  
 Vonceil Harmon, Oklahoma DOT

### WORKSHOP PARTICIPANTS

Arkansas DOT	Mid-Atlantic Seed Bank
Caltrans	Minnesota DOT
Ernst Conservation Seeds	New Mexico DOT
Hedgerow Farms	New York State DOT
Idaho Transportation Department	North Carolina DOT
Indiana DOT	Oklahoma DOT
Institute for Applied Ecology	Pennsylvania DOT
Kentucky Transportation Cabinet	Roundstone Native Seeds
	Texas DOT
	Texas Native Seeds
	Virginia DOT

### SUBJECT MATTER EXPERT

Josh Rowen | dotcomlil@aol.com

### NCHRP ASSOCIATE PROGRAM MANAGER

Deborah Irvin | dirvin@nas.edu

### SCAN MANAGEMENT

Harry Capers | hcapers@arorapc.com

**ABOUT THE PROGRAM:** The NCHRP U.S. Domestic Scan Program (NCHRP Project 20-68, [domesticscan.org](http://domesticscan.org)) recognizes the value of firsthand sharing of new technologies and practices. Launched in 2006, the program typically sponsors two or three scans per year, putting state and federal DOT practitioners who need solutions in touch with innovative peers around the country, speeding the transfer of technology and know-how. During the intense experience of the scan (typically one to two weeks), participants see how a new technology or practice works in the real world. They also develop close professional relationships that remain readily available to them years later.

*The National Academies of*  
**SCIENCES • ENGINEERING • MEDICINE**

