

Effective DOT Responses to Bridge Emergencies



Image courtesy of Federal Highway Administration

Photo credit: FHWA

Analyzing events after they occur can help agencies prepare for future emergencies.

SCAN FOCUS

When an emergency such as a fire, vehicle impact, or weather-related event affects a state-owned bridge, transportation agencies must act quickly to mitigate negative consequences. To do so effectively, these agencies need policies and procedures in place to promptly respond to and recover from a variety of events. As these emergencies can vary in scale, the agency's response plans must be ready to address a wide spectrum of threats that may affect a single bridge or numerous bridges across a state. Domestic Scan 24-02 sought to identify the successful strategies and practices that transportation agencies have found for effectively preparing and managing bridge emergencies of different types and magnitudes.

PERSON-TO-PERSON RESEARCH

The scan team invited 12 state departments of transportation (DOTs) and the Federal Highway Administration (FHWA) to participate in a week-long workshop in September 2025 to share about their responses to bridge emergencies. The scan team members then synthesized the themes and findings from the workshop to offer recommendations and best practices across four phases for DOTs to consider as they develop and refine their processes to prepare for, respond to and recover from bridge emergencies.

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 Bridges and Structures at transportation.org/bridges.

READ MORE

The full Scan 24-02 report is available at domesticscan.org/scans/24-02.

SUGGEST FUTURE SCANS

What topic do you have for an NCHRP Domestic Scan? See domesticscan.org/.

PRELIMINARY FINDINGS

The scan found that the amount of time an agency needs to recover from a bridge emergency often depends on its preparation. Additionally, agencies vary in their organizational approaches to developing emergency response preparations, with some DOTs assigning the work to in-house staff while others contract out these services.

The scan team categorized emergency responses into four phases: preparedness, response, recovery and post-event. These phases can be cyclical, with post-event actions informing and even helping the agency prepare for the next emergency. While specific emergency events will vary, preparation and response guidelines should be applicable to all cases. To highlight the team’s findings, four bridge emergency case studies were identified for inclusion in the final report.



Image courtesy of Minnesota DOT

An agency’s preparedness for future emergencies often depends on its actions during and after an event.

PUTTING IT TO WORK

For each phase, the scan team made numerous conclusions and recommendations: Plans and procedures should be readily implementable and easy-to-understand, communication throughout the phases should be clear and coordinated, and preparations should include training, stockpiling materials, developing triage and reporting tools, and establishing emergency contracting protocols. Finally, documenting lessons learned will help agencies during the next emergency.

The scan team also recommended that regulations be developed to prevent storing materials under bridges and that the truck industry be lobbied to require safety mechanisms such as alarms or devices that stop a truck from driving over a certain speed with its bed up.

SHARING THE RESULTS

Scan team members have presented their findings at the 2026 Transportation Research Board Annual Meeting and plan to present at national, regional and state gatherings, including the International Bridge Conference and the American Association of State Highway Transportation Officials’ Committee on Maintenance.

SCAN PARTICIPANTS

SCAN TEAM

Sarah Sondag, Chair, Minnesota DOT
 Michael Garner, Georgia DOT
 Rebecca Curtis, Michigan DOT
 Brenda Crudele, New York State DOT
 Matt Lott, Virginia DOT
 Gregory Seipel, Washington State DOT

PEER EXCHANGE PARTICIPANTS

Caltrans
 Colorado DOT
 FHWA
 Florida DOT
 Georgia DOT
 Kentucky Transportation Cabinet
 Minnesota DOT
 Missouri DOT
 New York State DOT
 Texas DOT
 Utah DOT
 Vermont Agency of Transportation
 Washington State DOT

SUBJECT MATTER EXPERT

Jason Hastings | jjhastings@gpinet.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) 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

