READY RESULTS
Sharing Innovative Practices from State DOTs

NCHRP
NATIONAL
COOPERATIVE
HIGHWAY
RESEARCH
PROGRAM

FOCUS ON: NCHRP U.S. Domestic Scan 20-01

December 2022

Bridge Management Systems and Approaches to Strengthen Asset Management

Image courtesy of Utah DOT
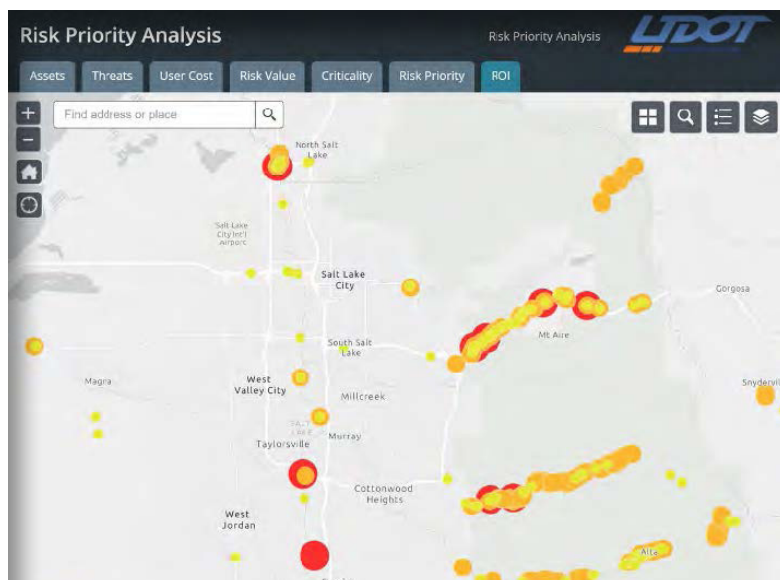
Utah DOT's risk priority dashboard combines multiple factors to identify cost-effective investments.

SCAN FOCUS

To ensure consistency in the performance of critical infrastructure across the United States, federal law requires each state to maintain a catalog of its bridges and pavements and to develop a plan for keeping them in good condition. Each state has its own bridge management system, or BMS—the collection of tools, processes and procedures it uses to manage and invest in its state-owned bridges. Domestic Scan 20-01 aimed to help states discover commonalities and share best practices by revealing the specific methods and technologies used for identifying and prioritizing their bridge maintenance, repair and replacement activities.

PERSON-TO-PERSON RESEARCH

The scan team began by surveying state departments of transportation (DOTs) about the tools and methods they use to manage their bridges as well as the particulars of the states' organizational and funding structures. Then, the team invited nine state transportation agencies to a virtual multi-day workshop in March 2021, providing a forum for the agencies to share and discuss their own and their peers' bridge management practices and procedures.

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 Subcommittee on Asset Management at tam-portal.com/community/cpbm-am/.

READ MORE

The full report on Scan 20-01 is available at domesticscan.org/scan-studies.

SUGGEST FUTURE SCANS

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

PRELIMINARY FINDINGS

Through participants' presentations and roundtable discussions, the workshop revealed that there is no single solution for using and integrating a BMS into a state's overall asset management program. While each of the participating states excels in managing and collecting bridge data, the extent to which that data is applied to asset management decisions varies from state to state. Cited challenges include staffing shortages and a need for improved bridge performance metrics and measures.
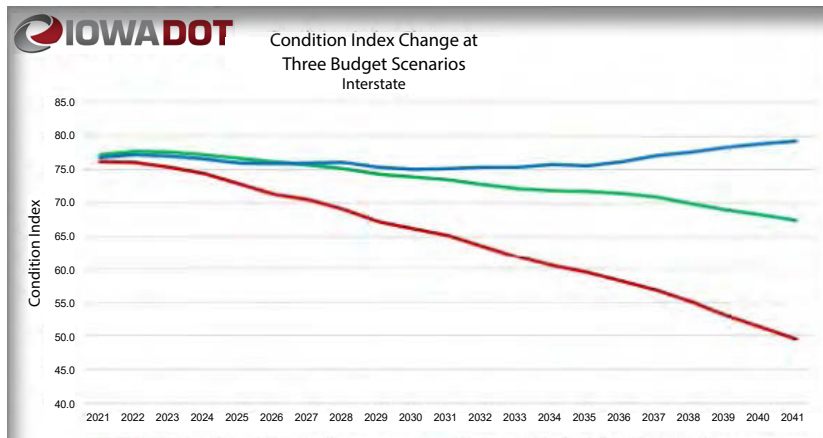
Iowa DOT's bridge condition index considers different scenarios to predict performance.

PUTTING IT TO WORK

The scan team provided a number of recommendations to help states improve their use of a BMS, including:

- Develop a strategic plan for incorporating BMS information into the agency's asset management program.
- Adopt strategies to recruit and retain qualified staff.
- Document methodically the expenses and outcomes of bridge work.
- Implement good quality control and quality acceptance practices to improve data reliability.

SHARING THE RESULTS

The scan team's findings will be disseminated through a variety of state, local and national gatherings of transportation professionals. The team is also pursuing opportunities for additional peer exchanges and workshops.

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.

SCAN PARTICIPANTS

Image courtesy of Minnesota DOT

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