APRIL 2024

## ABOUT THIS PROJECT

**PROJECT NAME:** Building Information Modeling (BIM) for Bridges and Structures—Phase II

**PROJECT NUMBER:** TPF-5(523)

**PROJECT FUNDING PROGRAM:** BIM for Bridges and Structures—Phase II, a 23-state collaborative research effort

**PROJECTED END DATE:** January 2029

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# RESEARCH IN PROGRESS

## Building Information Modeling enhances bridge life-cycle management

Bridge construction and maintenance involve numerous steps throughout the structure's life cycle. Building Information Modeling (BIM), which creates 3D virtual models, can significantly improve bridge management efficiency, from design to long-term maintenance. But incorporating BIM into a bridge management workflow involves complex data and technical needs.

Since 2017, Iowa DOT has led the BIM for Bridges and Structures pooled fund, initially under Phase I (TPF-5(372)) and continuing in Phase II (TPF-5(523)) along with 22 other state departments of transportation (DOTs). Phase I developed foundational elements, including open data standards, shared language and concepts, and structure to support accessing and sharing BIM products. This pooled fund collaborates with the Iowa DOT-led BIM for Infrastructure pooled fund (TPF-5(480)) and Federal Highway Administration.

"Phase I accomplished the groundwork to facilitate implementation of BIM through the bridge life cycle," said James Hauber, chief structural engineer for Iowa DOT's Bridges and Structures Bureau. "We now need to focus on supporting workflows—from the initial structural model through asset management."

This project phase will engage software vendors and other industry stakeholders to continue developing technical specifications and resources that facilitate data exchanges. Researchers will provide training support and other technical support to state DOT pilot projects implementing BIM standards in project bidding, construction, and fabrication.

"Exchanging BIM data among staff and stakeholders will greatly improve the efficiency of all bridge management functions for Iowa and all state DOTs," Hauber said. "Time and resource savings, as well as more informed decisions, will be substantial."

The research is expected to conclude in January 2029.

*To learn more about this project and subscribe to updates, visit Idea #4013.*

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