

TRANSPORTATION POOLED FUND PROGRAM QUARTERLY PROGRESS REPORT

Lead Agency (FHWA or State DOT): Iowa Department of Transportation

INSTRUCTIONS:

Project Managers and/or research project investigators should complete a quarterly progress report for each calendar quarter during which the projects are active. Please provide a project schedule status of the research activities tied to each task that is defined in the proposal; a percentage completion of each task; a concise discussion (2 or 3 sentences) of the current status, including accomplishments and problems encountered, if any. List all tasks, even if no work was done during this period.

Transportation Pooled Fund Program Project # TPF-5(523)	Transportation Pooled Fund Program - Report Period: <input type="checkbox"/> Quarter 1 (January 1 – March 31) <input type="checkbox"/> Quarter 2 (April 1 – June 30) <input type="checkbox"/> Quarter 3 (July 1 – September 30) <input checked="" type="checkbox"/> Quarter 4 (October 1 – December 31)	
Project Title: Building Information Modeling (BIM) for Bridges and Structures – Phase II		
Name of Project Manager(s): Julie Rivera, PM John Reese, Deputy PM	Phone Number: (773) 380-7930 (972) 732-2028	E-Mail Julie.Rivera@hdrinc.com John.Reese@hdrinc.com
Lead Agency Project ID: TPF-5(523)	Other Project ID (i.e., contract #): N/A	Project Start Date: February 1, 2024
Original Project End Date: January 31, 2025	Current Project End Date: January 31, 2025	Number of Extensions: 0

Project schedule status:

☒ On schedule
 ☐ On revised schedule
 ☐ Ahead of schedule
 ☐ Behind schedule

Overall Project Statistics:

Total Project Budget	Total Cost to Date for Project	Percentage of Work Completed to Date
\$569,703	\$427,315	75%

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date
\$12,005 91% <i>direct expenses this quarter, % of total budgeted</i>	\$119,553	91%

Project Description:

The AASHTO Committee on Bridges and Structures has been working on a comprehensive plan to advance the use of BIM specifically for bridges and structures. In 2017, the TPF-5(372) BIM for Bridges and Structures project provided the primary funding mechanism for developing the foundational elements to implement open data exchange standards to support BIM for bridges and structures in the U.S. This multi-year effort focused on developing the open standards for enabling digital data exchange from design to construction for workhorse bridges using the Industry Foundation Classes (IFC) schema. A significant amount of progress was accomplished through this effort, which resulted in an implementable AASHTO guide specification to exchange 3D model-based information for workhorse bridges to execute construction. The published IDM was used as a basis for related work products that will allow for further data exchange standards to be implemented into software products and utilized at the agency level.

The current pooled fund effort, TPF-5(523) BIM for Bridges and Structures – Phase II, was created for the purpose of developing additional technical solutions for delivering 3D bridge models and other digital data in an open, non-proprietary format. The Phase II effort will expand upon the Phase I work and undertake additional exchanges in the bridge lifecycle beyond the design-to-construction data exchange. The objectives for TPF-5(523) BIM for Bridges and Structures - Phase II project are to:

1. Develop additional technical solutions to enable the use of IDM requirements specific to IFC exchanges for multiple ways of using bridge models (or model use cases), continue software vendor engagement efforts, and assist State DOTs with piloting and adoption of future IDS.
2. Establish an Industry Advisory Group to enhance engagement with industry stakeholders, especially contractor and construction-related groups, and to obtain direct input from these stakeholders on the additional technical solutions to be developed under Phase II.
3. Help State DOTs implement the standards developed during TPF-5(372) through pilot projects selected by individual pooled fund members to produce, export, and validate IFC deliverables to support bidding, construction, and fabrication.

To achieve these objectives, the team will carry out the following tasks, with current percent complete shown:

	% Complete
Task 1: Development of National Open Data Standards	75%
Task 1.1 Methodology Development	
Task 1.2 Evaluation and Final Selection of Exchanges	
Task 1.3 Open Data Standard Development	
Task 1.4 Software Vendor Engagement	
Task 2: State DOT Pilot Project Support	85%
Task 3: External Stakeholder Collaboration Activities	15%
Task 3.1 Update Stakeholder Communication and Engagement Plan	
Task 3.2: Prepare Presentations and Educational Videos	
Task 3.3 Industry Advisory Group Collaboration	
Task 4: Client Communication	85%
Task 5: Project Management and Internal Coordination	90%

Note: The percentage completion values shown correspond to the percent complete for the current contract year. The project is anticipated to last through January 2029 with contract renewals at the end of each year.

Progress this Quarter (includes meetings, work plan status, contract status, significant progress, etc.):

Q4 2024

Progress Achieved:

- Task 1.1 Methodology Development
 - Task is complete.
- Task 1.2 Evaluation and Final Selection of Exchanges
 - Updated and submitted finalized Exchange Prioritization Tech Memo
- Task 1.3 Open Data Standard Development
 - IDS refinement and data categorization
 - Foundational efforts for Phase II bridge taxonomy and data dictionary content development
- Task 2 State DOT Pilot Project Support – submitted draft training outlines for TPF review
- Prepared and facilitated quarterly online meeting on 11/14/2024
- Prepared and facilitated in-person “BIM Week” meetings in December 2024 in collaboration with TPF-5(480) BIM for Infrastructure
- Planning and coordination for contract Year 2
- Coordination with external advisor

Anticipated work next quarter:

- Planning and coordination for contract Year 2
- Task 1.3 Open Data Standard Development – update the bridge taxonomy to use as a starting point for the Technical Working Group for the next data exchange that was prioritized by the TPF
- Finalize training outlines for Task 2.0 – State DOT Pilot Project Support
- Coordinate and prepare website updates
- Industry Advisory Group/Technical Working Group planning; coordination with FHWA on digital delivery stakeholder group initiative
- Develop Industry Advisory Group Memo and Technical Working Group Memo for Task 3.0 External Stakeholder Collaboration Activities
- Solicit DOT participants for the Technical Working Group and kick off activities

Significant Results:

None at this time.

Circumstance affecting project or budget. (Please describe any challenges encountered or anticipated that might affect the completion of the project within the time, scope and fiscal constraints set forth in the agreement, along with recommended solutions to those problems).

The project team planned and participated in a series of in-person project meetings in December 2024 in collaboration with TPF-5(480) BIM for Infrastructure, collectively referred to as BIM Week. These were originally unplanned activities that were added to the scope and will continue to be part of each year's scope moving forward in lieu of the originally anticipated annual in-person meeting in February for BIM for Bridges and Structures only.

Potential Implementation:

The outcomes of TPF-5(372) are in the early stages of being implemented by software vendors and deployed by DOTs via pilot projects.