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(372)*	**Transportation Pooled Fund Program - Report Period:** ☑Quarter 1 (January 1 – March 31) ☐Quarter 2 (April 1 – June 30) ☐Quarter 3 (July 1 – September 30) ☐Quarter 4 (October 1 – December 31)	
Project Title: *Building Information Modeling (BIM) for Bridges and Structures*		
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(372)*	**Other Project ID (i.e., contract #):** *N/A*	**Project Start Date:** *November 28, 2018*
Original Project End Date: *November 27, 2019*	**Current Project End Date:** *April 30, 2024*	**Number of Extensions:** *9*

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
$2,262,520	*$2,172,584*	*99%*

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date
$0 100% *direct expenses this quarter, % of total budgeted*	*$97,990*	*98%*

Project Description:

The objective of this project is to provide technical support for the implementation of Building Information Modeling (BIM) for Bridges and Structures under the direction of AASHTO CBS Technical Committee on Software and Technology (T-19) and the Transportation Pooled Fund TPF-5(372) Technical Advisory Committee (AASHTO CBS T-19/Pooled Fund). BIM has been widely used in the commercial sector for vertical construction to manage projects from conception through design, fabrication, construction and future asset management and maintenance. Although some fabricators who perform work on both building construction and transportation structures have begun employing BIM tools in the fabrication of bridge components, BIM use in transportation infrastructure is severely limited due to the lack of standardization. To take advantage of the efficiencies associated with the use of BIM in transportation structures, a comprehensive strategic plan by AASHTO CBS T-19 is needed. *Note: In mid-2023, the Committee on Bridges and Structures was restructured, and the T-19 Software and Technology Committee has been replaced by the newly established "Technology Committee".*

PROJECT SCOPE:

1 Investigation and Exploration

(University of Florida to Lead / Fair Cape Consulting to Support)

The consultant team is performing research to find comparative implementation efforts of common data standards within the infrastructure industry. These common efforts will require a shared vocabulary and definition of terms. The consultant team will document and report the common industry efforts and make terminology recommendations.

Current % complete for this task: 100%

2 IFC Development and Verification

(AEC3 / University of Florida)

The main technical achievements will be performed by the consultant team under "IFC Development" work package including developing interoperable solutions starting with process and use case definitions, continuing with the information delivery manual, evaluation of the international Alignment-based Reference View model view definition, creation of an information delivery specification (IDS), and supporting the software industry through anticipation, deployment and certification of the IFC interfaces.

Current % complete for this task: 100%

3 Economic Analysis

(HDR Lead)

In order to support the decision-making process of each state DOT, an economic analysis will be performed, focusing on the benefits and costs of adopting standards for information modeling to facilitate the exchange of models and data. The team will explore how enhanced interoperability affects operational expenses, savings in information verification costs, improvements in workflows, and enhancements in collaboration.

Current % complete for this task: 100%

4 Industry Organization

(Jeff Ouellette Lead, HDR Support)

The current roadmap that AASHTO CBS T-19/Pooled Fund developed two years prior to the start of this project is in need of an update to show an achievable plan with actionable goals based on current industry activity. The consultant team will update the roadmap of BIM for bridges and structures. Involvement with bSI is critical for allowing AASHTO CBS T-19/Pooled Fund to have a voice in the development of this national standard. Recommendations and long-term strategies will be developed. Governance of this program will require the cooperative involvement of key industry stakeholders. The consultant team will review the current governance model to assure the structure and assignments are relevant. Recommendations on how to best maintain influence on direction and development of IFC will be developed. The leadership of the governance body will need to support key relationships with bSI, an international organization with chapters worldwide. The consultant team will work with AASHTO CBS T-19/Pooled Fund to create a plan to facilitate this engagement.

Current % complete for this task: 100%

5 Implementation and Collaboration

(Fair Cape Consulting / HDR Co-Lead)

The consultant team will build an Engagement and Implementation Plan that is focused on design and development of industry tailored tools and tactics. Our team will identify and leverage the balance between the right message and the appropriate approach for engagement and meaningful dialogue. HDR will also support states implementing the national standard to clarify what that product is. Having a tangible, common end-goal will allow independent areas to mature

concurrently. HDR will develop an implementation guide for State DOTs that supports this goal. Select products for a BIM for Bridges and Structures Engagement Toolkit are planned for the fifth contract year (2023).
Current % complete for this task: 100%

6 Management and Internal Coordination
(HDR Lead)
This task includes management of budget and schedule, project reporting, internal coordination with consultant team, and quality control review of deliverables.
Current % complete for this task: 100%

8 Communications and Coordination
(HDR Lead)
This task includes coordination with AASHTO CBS T-19/Pooled Fund, online and in-person meetings, preparation of monthly e-Update newsletters, and external technical coordination with related external initiatives.
Current % complete for this task: 100%

9 Transition Planning/Final Report
(HDR Lead)
This task was originally envisioned for developing a transition plan with recommendations for activities to be carried out through future efforts to further advance the overall project objectives. Since a Phase II effort is planned, this task was modified to include a comprehensive final report for TPF-5(372) BIM for Bridges and Structures.
Current % complete for this task: 95%

Note: The percentage completion values shown correspond to the percent complete for the current contract. The project is anticipated to last through April 2024 with contract renewals at the end of each calendar year.

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

Q1 2024
Progress Achieved:

- Finalized IDS development
- Finalized unit test instructions
- Formatted data dictionary in coordination with bSDD requirements
- Biweekly Unit Test Suite meetings with software vendors
- Continued engagement with buildingSMART International and buildingSMART USA Chapter
- Submitted prefinal draft of Final Report and remaining deliverables
- Coordinated review process with pooled fund partners for Final Report and remaining deliverables
- Addressed comments and resubmitted Final Report and final deliverables

Anticipated work next quarter:

- Project closeout activities.

Significant Results:

Completion of the TPF-5(372) Final Report.

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).

None.

Potential Implementation:

Work products available for implementation via upcoming publication of the Final Report and through pilot projects by stakeholders facilitated under separate funding mechanisms.