

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: <input checked="" 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 type="checkbox"/> Quarter 4 (October 1 – December 31) *This report also covers Nov. 28, 2018 – Dec. 31, 2018	
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) 322-2028	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: November 27, 2019	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
\$526,378	\$77,783	9%

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date
\$1,526 8.9% <i>direct expenses</i>	\$77,783	33%

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 COBS Technical Committee on Technology and Software (T-19) and the Transportation Pooled Fund TPF-5(372) Technical Advisory Committee (AASHTO COBS 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 COBS T-19 is needed.

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: 1%

2 IFC Development

(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 specification, formalizing the exchanges by creating a model view definition and by supporting the software industry through anticipation, deployment and certification of the IFC interfaces.

Current % complete for this task: 5%

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: 0%

4 Industry Organization

(Jeff Ouellette Lead, HDR Support)

The current roadmap that AASHTO COBS 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 COBS 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 COBS T-19/Pooled Fund to create a plan to facilitate this engagement. Task 4.2 Governance and Stewardship Model will be completed in contract year 2 via contract amendment.

Current % complete for this task: 5%

5 Development and Implementation

(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 plan that supports this goal. Tasks 5.2 Engagement Tool Kit Development and 5.3 Implementation Support will be completed in future contract years due to budget constraints.

Current % complete for this task: 35%

6 Management and Coordination

(HDR Lead)

This task includes management of budget and schedule, project reporting, coordination with AASHTO COBS T-19/Pooled Fund, internal coordination with consultant team, and quality control review of deliverables.

Current % complete for this task: 25%

Note: The percentage completion values shown correspond to the percent complete of year 1 effort under the current one-year contract. The project is anticipated to last through 2022 with contract renewals at the end of each calendar year. Also, the percentage completion values correspond to the effort associated with expenditures that have been invoiced to date. Various team members have expended effort that has not yet been invoiced due to pending sub-consultant contract processing. These efforts are not reflected in the percentage completion values shown. In other words, some tasks are further along than they may appear.

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

Q4 (Nov 28-Dec 31 2018)

Progress Achieved:

Task 6: Project Management and Coordination

- Project Kickoff Meeting with AASHTO COBS T-19/Pooled Fund
- Internal project kickoff activities
- Project management and accounting setup
- Coordination with Subconsultants

Q1 2019

Progress Achieved:

Task 1 Investigation and Exploration

Task 2: IFC Development and Verification

- Validation of existing process map
- Submit Process Map Draft 1 Tech Memo and start developing Draft 2 Tech Memo
- Initiate testing and validation of existing FHWA Design to Construction MVD

Task 3: Economic Analysis

No activity (This task is due to start in 2022.)

Task 4: Industry Organization

- Roadmap review
- Initiated development of long-term strategy for bSi involvement
- Submit Roadmap Draft Report
- Attend bSi ISG meeting in Maryland to engage software vendors
- Prepared project overview presentation for the AASHTOWare Task Force meeting to be given on April 3, 2019

Task 5: Implementation and Collaboration

- Development of stakeholder engagement plan
- Development of framework guide for stakeholder collaboration forum
- Development of the project brand style guide
- Finalization of project branding
- Update of project templates with approved project logo

Task 6: Project Management and Coordination

- Development of Year 1 project schedule
- In-person meeting with AASHTO T-19/Pooled Fund on February 20, 2019
- Coordination with Subconsultants
- Address action items from February 20, 2019, in-person meeting

Anticipated work next quarter:

Task 1: Investigation and Exploration

- Begin documentation of existing BIM efforts
- Begin aggregation of common terminologies

Task 2: IFC Development and Verification

- Complete Process Map Final Draft Report
- Design to Fabrication requirements documentation workshop
- Complete plain language narrative for the Design to Fabrication IDM
- Begin testing of Design to Construction MVD
- Analysis of current IFC 4.2 Effort (I believe we have already started this)

Task 3: Economic Analysis

No activity (This task is due to start in 2022)

Task 4: Industry Organization

- Receive client comments on the Roadmap Draft Report and develop Final Roadmap Report
- Complete Roadmap Update Final Draft Report
- Hold software vendor engagement quarterly meeting
- Review of vendor roadmaps to support IFC and development of Draft Vendor Roadmap Alignment Report
- Hold Roadmap future goals workshop
- Give project overview presentation at AASHTOWare Task Force Meeting on April 3, 2019 as requested by COBS T-19/Pooled Fund

Task 5: Implementation and Collaboration

- Continue work on Collaboration Forum development
- Prepare and submit Draft Engagement Plan

Task 6: Project Management and Coordination

- Client quarterly online meeting May, 15th 10am-Noon (CDST)
- T-19 Committee meeting at COBS annual meeting in Montgomery, AL, June 2019
- Internal meetings as needed
- Conduct kickoff calls for each Working Group
- Establish outreach log and folder structure on the MS Teams client site
- Continue to address action items from February 20, 2019, in-person meeting

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 was asked by AASHTO COBS T-19/Pooled Fund to give a presentation at the AASHTOWare Task Force meeting in Alexandria, VA on April 3, 2019. This was an out-of-scope task that was not budgeted for that involved preparation efforts, travel time, and travel expenses.

A recommended solution to this fiscal constraint is to cover these expenses through the contingency included within the project budget.

Potential Implementation:

Nothing to report at this time.