

TRANSPORTATION POOLED FUND PROGRAM QUARTERLY PROGRESS REPORT

Date: December 31, 2020

Lead Agency (FHWA or State DOT): Indiana DOT

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 # <i>(i.e., SPR-2(XXX), SPR-3(XXX) or TPF-5(XXX))</i> <u>TPF 5-281</u>		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: Center for the Aging Infrastructure: Steel Bridge Research, Inspection, Training and Education Engineering Center – S-BRITE			
Name of Project Manager(s): Tommy E. Nantung		Phone Number: (765) 463-1521 ext. 248	E-Mail tnantung@indot.in.gov
Lead Agency Project ID:		Other Project ID (i.e., contract #):	Project Start Date: 9/1/2013
Original Project End Date: 10/1/2015		Current Project End Date: INDEFINITE	Number of Extensions: None

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**
\$1,540,000*	\$852,276	80%

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date**
\$27,812,	1.8%	80%

*Additional partners have joined S-BRITE and others have renewed participation, hence total project budget has increased.

**Since end date has been extended, project percentages have been updated (estimates)

Project Description:

The objective is to develop the Steel Bridge Research, Inspection, Training, and Education Engineering Center (S-BRITE Engineering Center) focused on existing steel highway bridges. This National Center will be the first of its kind and will become the leading education, training, research, and engineering center related to all aspects affecting the existing aging steel bridge and structure inventory. Although the Center will be focused on highway bridges, it will also support stakeholders of steel railroad bridges as well as steel ancillary structures, such as lighting towers and sign supports. The Center will contribute to improved asset management decisions for DOTs, FHWA, and other partners relative to existing steel bridge inventory.

This impact will be realized through:

- Research
- Training
- Technical Support

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

- Continued to provide DEN support to all partners.
- A Special task associated with evaluating the effects of skew on transverse stiffeners was completed at the request of partners states and AASHTO T-14. The report can be found and downloaded at <https://doi.org/10.5703/1288284317210>. The results of the work have been approved by AASHTO T-14 to move to full ballot for consideration by AASHTO T-14. This ballot will be voted on in 2021 COBS meeting for inclusion into the AASHTO LRFD.
- As previously reported, S-BRITE performed a special study for the Wisconsin DOT focused on the after-fracture performance of twin tub girder bridges. Based on that work, a simplified method to evaluate this type of bridge was developed. This work was synthesized into the AASHTO-ready specifications. The approach can be used to evaluate if such a bridge should be classified as a FCM or not. The work was presented to AASHTO T-14 and is being moved forward for ballot and inclusion into the AASHTO Guide Specifications for Analysis and Identification of Fracture Critical Members and System Redundant Members. The reports summarizing the work can be found at <https://doi.org/10.5703/1288284317106>.
- As previously reported, S-BRITE performed a special study for the state of Minnesota focused on the performance and internal redundancy of truss members. This work is now completed and was synthesized into the AASHTO-ready specifications. The work was presented to AASHTO T-14 and is being moved forward for ballot and inclusion into Guide Specifications for Internal Redundancy of Mechanical-Fastened Built-up Steel Members
- Due to the COVID-19 Pandemic, Dr. Connor has elected to offer S-BRITE short courses to partners assist in providing training in this challenging time. It is hoped that normal in-person short courses will be offered in the second quarter of 2021. However, if it appears that this will not be feasible, additional on-line training options will be provided.

Anticipated work next quarter:

- Offer a webinar for S-BRITE partners that would serve as a virtual “open house” round table in which partners can share experiences where the S-BRITE DEN has assisted in order to disseminate knowledge. Partners states should be looking for an email to select a date for the webinar. It is envisioned that this would be the first in a series of such data sharing round tables. Tentative dates are late in the February/March 2021 timeframe.
- Offer S-BRITE course on retrofitting steel bridges for fatigue on campus as soon as travel restrictions are lifted for partner states.
- Continue with DEN support for all partners;
- Continue to work with DOTs to obtain items for bridge component gallery;

Significant Results:

1. Training of employees from several State DOT.
2. DEN support has provided solutions to various DOT problems.
3. S-BRITE research results are being disseminated

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).

COVID 19 has eliminated all on-site training at Purdue. Obviously, this has greatly reduced the ability of S-BRITE to provide training to partners and consultants. Optimistically, in-person training will resume in the 2nd quarter of 2021.

Potential Implementation:

S-BRITE continues to have tremendous impact and benefit for owners, designers, and fabricators of steel bridges