

## TRANSPORTATION POOLED FUND PROGRAM QUARTERLY PROGRESS REPORT

Date: June 30, 2022

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.*

<b>Transportation Pooled Fund Program Project #</b> <i>(i.e., SPR-2(XXX), SPR-3(XXX) or TPF-5(XXX))</i>  <u><b>TPF 5-486</b></u>		<b>Transportation Pooled Fund Program - Report Period:</b> <input type="checkbox"/> Quarter 1 (January 1 – March 31) <input checked="" 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)	
<b>Project Title:</b> <b>Center for the Aging Infrastructure: Steel Bridge Research, Inspection, Training and Education Engineering Center – S-BRITE</b>			
<b>Name of Project Manager(s):</b> Tommy E. Nantung		<b>Phone Number:</b> (765) 463-1521 ext. 248	<b>E-Mail</b> <a href="mailto:tnantung@indot.in.gov">tnantung@indot.in.gov</a>
<b>Lead Agency Project ID:</b>		<b>Other Project ID (i.e., contract #):</b>	<b>Project Start Date:</b> 9/1/2013
<b>Original Project End Date:</b> 10/1/2015		<b>Current Project End Date:</b> INDEFINITE	<b>Number of Extensions:</b> 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**
<b>\$1,865,000*</b>	<b>\$1,117,165</b>	<b>90%</b>

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date**
<b>\$64,231</b>	<b>3.4%</b>	<b>90%</b>

\*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;
- Continued to provide support to partners as related to the December 13 FHWA Memo on T1 steel through a webinar on January 24;
- Developed a "white paper" related to the use of Eddy Current testing to locate CJP welds in T1 steels. The white paper is based on an S-BRITE pilot study conducted in partnership with Dr. Glenn Washer of the Univ of MO. The white paper was shared with all S-BRITE partners.
- Began fabricating specimens out of modern T1 steel in order to produce welds with hydrogen cracks for use in performance testing associated with field inspection of T1 steels;
- Began work with Dr. Washer as part of an S-BRITE effort to measure acoustic properties of T1 QT steels. Specifically, this will be used in aiding in UT calibration requirements;
- Purchased a box trailer that will be used for on-the-road training for partner agencies. The trailer was purchased using funds generated through short courses offered by S-BRITE at no cost to partner states. The trailer will be used for the first time in July and August in Austin TX as part of training offered to TX DOT. This trailer will greatly enhance the ability for S-BRITE to offer on-site training to partner agencies (See Figure 1)
- Coordinated with FHWA to offer the half-day course on Inspector Awareness Training in Baltimore for FHWA employees in September.
- Obtained a very large gusset plated joint from the I-35W bridge from FHWA. The joint is an excellent addition to the S-BRITE component gallery and also contained two different thicknesses of original T1 steel that will be used in the UT calibration efforts described above (See Figure 2).
- Acquired large-diameter pins from Michigan DOT for the S-BRITE gallery.
- Acquired a portion of a girder containing a pin plate from SD DOT for the S-BRITE gallery.

**Anticipated work next quarter:**

- Continue working performance testing efforts associated with FHWA T1 steel memo;
- Offer two S-BRITE classes in July and August for TX DOT in Austin TX;
- Set a date to offer steel bridge hands-on retrofit class in summer of 2022;
- Work scheduling offerings of on-site training for other partner agencies;
- Continue with DEN support for all partners;
- Continue to work with DOTs to obtain items for bridge component gallery;
- Continue to develop final scope for field testing of Fort Pierre Bridge in SD to be done as special S-BRITE Task;

**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).**

**Potential Implementation:**

S-BRITE continues to have tremendous impact and benefit for owners, designers, and fabricators of steel bridges. It is anticipated that significant support will be provided to the partner states as related to the FHWA Memo focused on NDT of T1 Steels.



**Figure 1 – Specimens and trailer being used in Austin TX for S-BRITE inspection training**



**Figure 2 – Photograph of L8 joint from I-35W bridge obtained from FHWA**