

TRANSPORTATION POOLED FUND PROGRAM QUARTERLY PROGRESS REPORT

Date: December 31, 2023

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 5-387</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: Development of an Integrated Unmanned Aerial Systems (UAS) Validation Center		
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: 9/1/2018
Original Project End Date: 8/31/2022	Current Project End Date: 2/29/2024	Number of Extensions: ONE

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**
\$700,000	\$624,432	97%

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date**
\$10,608	1.5%	78%

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

Project Description:

This study proposes to develop the basic standards, protocols, and testing requirements that a given UAS must meet and demonstrate for a particular application.

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

- Hosted a project virtual panel meeting with the Project partners on November 13 at 10:30 pm. The meeting provided a brief update and explanation of the tests, obtained feedback on the current version of the tests, and discussed the potential for an implementation study. DOT state partners expressed their support of an implementation phase. They asked the Purdue Team to request a no-cost extension to provide additional time for state partners and other states to contribute to the budget for the implementation phase.
- Per the Project partners' suggestion, the Research Team has started disseminating the project's early results on national platforms and to other DOTs. A state partner, on behalf of the research team, presented results and details about the implementation phase at the IHEEP conference on October 2nd, 2023, where 28 DOT representatives were present and expressed interest in joining the pooled fund. In addition, the Research Team presented at the AASHTO Safety & Evaluation Committee (former T-18) on October 4th, 2023, and the Western Bridge Preservation Partnership on October 11th, 2023.
- The final version of the video animations for the evaluation chamber and wind turbulence evaluation chamber have been finalized. The video animations illustrate the general guidelines of each test. Closed captioning and narration have been included in the videos.
- Processed results regarding beta testing of the evaluation chamber and the wind turbulence evaluation chamber to implement in the final deliverables and the final report. The report will include additional revisions and allow flexibility to further revise during implementation.
- Revised and implemented feedback regarding the rubric methodology for the evaluation chamber and practical test procedure based on beta-testing from the Project partner and revision from assessment experts. The final version of the rubric methodology will be modified according to the feedback provided by partners and users.

Anticipated work next quarter:

- Prepare a proposal for the implementation phase of the pooled fund project. The proposal will discuss the methodology and budget for providing individual states (or regional areas) with the pooled fund's deliverables.
- Request a no-cost time extension to keep the current pooled fund open by extending the original study. This would reduce paperwork derived from opening a new pooled-fund study and allow state partners and additional states to commit additional budgets towards the implementation phase.
- The Research Team will continue disseminating the project's results and implementation interest on national platforms and DOTs. In January, the team will present at the Transportation Research Board Annual Meeting to DOTs, industry, and academia. Additional opportunities will be arranged later in the quarter.
- Continue to bring various bridge inspectors to the S-BRITE center to get real-world feedback on the tests. These data will be used to finalize the scoring and test procedures for evaluating the performance of UAS within the validation center.
- Work with Project partners to coordinate future visits for beta-testing at the S-BRITE center and provide details regarding the implementation phase.
- Revise test methodology and procedures according to the feedback provided during beta testing.
- Continue working on the final report for the pooled fund project. The report will contain feedback and validation from partners and visitors.

Significant Results:

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:

None to date