

TRANSPORTATION POOLED FUND PROGRAM QUARTERLY PROGRESS REPORT

Date: Sept 30, 2019

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 checked="" type="checkbox"/> Quarter 3 (July 1 – September 30) <input 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: 9/1/2013
Original Project End Date: 9/1/2018		Current Project End Date: 8/31/2021	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**
\$575,000	\$83,336	30%

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date**
\$44,750	7.8%	41.6%

*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:

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.):

- The development initial development of evaluation criteria for UAS based on the kick-off meeting held in January of 2019 is well underway. A test focused on environmental testing to evaluate UAS performance when subjected to both cold and warm temperatures using standard environmental chambers is nearly completed. Further, a performance test which would be most similar to an obstacle course is also being developed. This test would evaluate maneuverability, access, camera capabilities in confined and controlled spaces. The Research Team is considering adding a “wind” portion to the obstacle course that would test maneuverability when subjected to some level of controlled wind.
- Concrete deck specimens have been constructed with defects to evaluate the feasibility of creating such specimens for use in evaluating the capability of various UAS to detect and quantify such damage. This work is ongoing.
- Efforts are underway to develop the pilot and sensing evaluation criteria. In particular, detailed criteria on image resolution, image quality, and image manipulation (e.g., stitching) are progressing.

Anticipated work next quarter:

- Continue with the development of testing protocols
- Schedule Project Panel meeting for some time in the 1st Quarter of 2020.

Significant Results:

1. None to date

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).

As discussed in previous report, the project has struggled to identify a student for the project. We are happy to report a PhD student, Mr. José Salinas Capa, who is a Fulbright Scholar is now working on the project and has been added to the team.

Potential Implementation:

None to date