

## TRANSPORTATION POOLED FUND PROGRAM QUARTERLY PROGRESS REPORT

Lead Agency (FHWA or State DOT): Iowa 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> TPF-5(295)		<b>Transportation Pooled Fund Program - Report Period:</b> Quarter 1 (January 1 – March 31, 2020)  Quarter 2 (April 1 – June 30)  Quarter 3 (July 1 – September 30)  X Quarter 4 (October 1 – December 31)	
<b>Project Title:</b> Midwest Smart Work Zone Deployment Initiative			
<b>Name of Project Manager(s):</b> Dan Sprengeler	<b>Phone Number:</b> 515-239-1823	<b>E-Mail</b> Dan.Sprengeler@dot.iowa.gov	
<b>Lead Agency Project ID:</b> Keith Knapp	<b>Other Project ID (i.e., contract #):</b> Addendum 535	<b>Project Start Date:</b> July 1, 2014	
<b>Original Project End Date:</b> June 30, 2020	<b>Current Project End Date:</b> June 30, 2021	<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
\$1,425,000 committed	\$1,256,933.35	0

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date
\$29,790.35		100

**Project Description:**

The Midwest Smart Work Zone Deployment Initiative (MwSWZDI) was initiated in 1999 as a Federal Highway Administration (FHWA) Pooled Fund Study intended to coordinate and promote research among the participating states related to safety and mobility in highway work zones.

The program is an ongoing cooperative effort between State Departments of Transportation, universities, and industry. The studies completed have consisted of evaluations of various work zone related products, various innovative topics, and several synthesis studies. Completed reports and descriptions of ongoing projects can be obtained at the Iowa State University's Institute for Transportation (InTrans) website ([www.intrans.iastate.edu/smartwz/](http://www.intrans.iastate.edu/smartwz/)) link to the Smart Work Zone Deployment Initiative. InTrans currently operates as the program manager of the pooled fund efforts and completes administrative tasks related to request for ideas and proposals, meetings, project files, quarterly reports, and recommending reimbursement.

**Progress this Quarter (includes meetings, work plan status, contract status, significant progress, etc.):****Quarter Ending December 31, 2020 (Overall)**

During this quarter we communicated with principal investigators as needed and resolved progress issues if they occurred. Projects from Program Years 2018 and 2019 contracts progressed (see below) and are the focus of this project number. The 2020 and 2021 projects are discussed in another quarterly report.

The following is a summary of accomplishments from July to September 2020 for the individual research projects underway with fund account TPF-5(295).

**2019 Program Projects**

The following projects were selected in September for funding during the 2019 program year.

- Field Testing of Non-Motorized Road User Accommodations for Work Zones, Iowa State University, John Shaw as PI.

Revised IRB application and received IRB approval to implement the Pedestrian Test Track. Searching for suitable location to construct the test track.

Task 1: TAC, IRB, Qtr Reports: Recruited TAC members. Conducted project kick-off meeting on July 12, 2019. Participated in webconference to coordinate with other national efforts. Completed IRB application.

Task 2: Literature Review: Reviewed MnDOT documents related to previous pedestrian safety demonstration.

Task 3: Develop Test Plan: Conducted initial coordination with City of Cedar Rapids for an on-site field test, but scuttled this plan due to Covid-19. Developed revised test plan emphasizing Pedestrian Test Track in a controlled environment.

Task 4: Ped Test Track (PTT): Obtained Institutional Research Board application for Pedestrian Test Track

Task 5: Field Evaluations: No activities

Task 6: Final Report: No activities

A justification for time extension to 12/31/2021 was prepared, and the PI received an email on 01/05/2021 indicating the request will be approved. This work has a contract of 1/1/2019 and an end date of 3/31/2020. It was extended to December 31, 2020. It has been extended again to March 31, 2021 and will be extended to December 31, 2021. The project is remains at a 5% completion.

- Investigation of Autonomous/Connected Vehicles in Works Zones, University of Missouri-Columbia, Carlos Sun as PI.

The data reduction procedures are being finalized. A particular challenge that was overcome was the synchronization of various sources of data, including simulator kinematics and video, eye tracker, and psychophysiology (Emp) monitor. Even though all equipment were synchronized to the same clock, Emp had a one-minute delay before data is sent out. A solution was devised where the research host will signal once the Emp data is streaming.

This project is contracted to start on 4/15/2019 and end on 7/31/2020. It has been extended to March 31, 2021. This will also be extended to December 31, 2021. The project remains at 70 percent.

### **2018 Program Projects**

- Guidance on Active Work Zone Data Archival, Iowa State University, Anuj Sharma is PI.

In the fourth quarter of 2020 we spent many hours revising the Final Report for readability and 508 compliance.

This project started on January 1, 2018 and was expected to finish on December 31, 2018. A no-cost extension was provided to extend the project to December 31, 2019. An extension to June 3, 2020 then occurred. Then, the project was extended to September 30, 2020 and again to January 2021. A request to the PI to finish the project in January 2021 has been sent. The project remains at 95% complete.

### **Anticipated work next quarter:**

Work will continue to work to finalize the 2018 and 2019 projects listed. It is expected that the 2018 project will be completed and the 2019 projects have been extended due to COVID.

### **Significant Results:**

Work continued on the projects that were able.

**Circumstance affecting project or budget. (Please describe any challenges encountered or anticipated that might the completion of the project within the time, scope and fiscal constraints set forth in the agreement, along with recommended solutions to those problems).**

Currently there are no problems to report with the administrative contract. The COVID 19 situation has impacted the progress of the two 2019 projects and the projects will be extended to the end of 2021.

### **Potential Implementation:**

The website for the SWZDI pooled fund is updated on a regular and on an as needed basis for finished reports.

