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.

Transportation Pooled Fund Program Project # *TPF-5(438)*	**Transportation Pooled Fund Program - Report Period:** Quarter 1 (January 1 – March 31, 2022) Quarter 2 (April 1 – June 30) X Quarter 3 (July 1 – September 30) Quarter 4 (October 1 – December 31)
Project Title: Midwest Smart Work Zone Deployment Initiative	

Name of Project Manager(s): Dan Sprengeler	**Phone Number:** 515-239-1823	**E-Mail** Dan.Sprengeler@dot.iowa.gov
Lead Agency Project ID: Keith Knapp	**Other Project ID (i.e., contract #):** Addendum 733	**Project Start Date:** January 1, 2020
Original Project End Date: December 31, 2020	**Current Project End Date:** December 31, 2022	**Number of Extensions:** None

Project schedule status:

X 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
$750,000	$345,675	75%

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date
$57,766		

Project Description:
The Smart Work Zone Deployment Initiative (SWZDI) 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/) 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 September, 2022 (Overall)
During this quarter, work on two PY 2021 and two PY 2022 projects continued. One of the PY 2021 projects was also completed. Its final report is currently under review by the SWZDI board. In addition, the SWZDI Board met on August 18, 2022 and finalized that approach to be use for the PY 2023 request for proposal (RFP). The RPF was released on September 13, 2022 and included four problem statement topic areas. The deadline for proposals is October 13, 2022. The board also decided that they would like to meet in person during the spring of 2023 in coordination with Midwest Work Zone Roundtable typically held in Davenport, IA.

The following is a summary of accomplishments provided by the project principal investigators for the April to June 2022 time period for their individual research projects underway with fund account TPF-5(438).

2022 Program Projects

- Mobility and Safety Impacts of Work Zone Lane and Shoulder Widths, University of Wisconsin-Madison, David Noyce as PI

  Team had a kickoff meeting with the TAC on May 10, 2022.
  Obtained feedback from the TAC on the scope of the project and criteria for data collection locations.
  Literature review is completed.
  Team reached out to agencies and obtained plans for work zones.
  Team reviewed the work zone plans and identified potential data collection locations.
  Team collected sample field data to calibrate/validate the new data collection device.
  Calibration/validation of the algorithm to process the data from the data collection device to obtain speed, vehicle category, and lateral distance is completed. The results of validation were shared with the TAC on 08/11/2022. TAC/Project Monitor gave us the go ahead to start field data collection on 08/22/2022.
  Coordinated with WisDOT/contractors for data collection.
  Collected data at five locations in three work zones in Wisconsin on 09/19/2022. Data were collected for roughly one day at each location.
  Collected data are being processed to obtain speed, lateral position, vehicle length/category, headway, presence of vehicle in adjacent lane.

  This project was contracted to start on April 15, 2022 and end on July 31, 2023. The project is 20% complete.

- Analysis of Improvements in the Effectiveness of Speed Feedback Trailers. Michigan State University, Tim Gates as PI

  Task 1: Literature Review and Synthesis of Existing Practices - The literature review started in Q2 and continued into Q3. A state of the practice survey is under development and will be administered in Q4 after TAC review. This task is being led by University of Missouri.

  Task 2: Site Selection and Data Collection - The research team has discussed site selection and data collection with Chris Brookes and the rest of the TAC. A series of work zone sites were selected for SFT field data collection, which began during Q3 2022, included: 1.) NB US-127 near Leslie, Michigan; 2.) SB US-127 near Mason, Michigan, 3.) EB I-69 near Lapeer, Michigan. The SFT variables investigated during the field studies included: 1.) SFT location (taper start, taper end, beyond taper end); 2.) Worker presence/absence; 3.) Enforcement vehicle presence/absence; 4.) SFT used w/ digital speed limit signs. In order to assess these variables of interest, speeds of individual vehicles were tracked through the advance warning area, taper, and beyond the taper.

  Task 3: Data Analysis - The speed data collected during the Q3 2022 field studies is being prepared for analysis. Measures of effectiveness include mean and 85th percentile vehicular speeds at various locations of interest at the work zone site. Further analysis will occur during Q4 2022.

  Task 4: Develop and Submit Deliverables - No work in Q3

  This project was contracted to start on April 15, 2022 and end on October 31, 2023. The project is 25% complete.

2021 Program Projects

- Evaluation of Messaging Techniques to Increase Vehicle Spacing at Work Zones, Iowa State University, Jing Dong as PI

  Deploy dynamic and static message signs at the work zone on US 30 over Cedar River
  Collected and analyzed data before and after the deployment

  This project was contracted to start on March 1, 2021 and end on June 30, 2022. This contract has been extended to December 31, 2022. The project is 75% complete.

- Work Zone Speed Limits and Motorist Compliance, Michigan State University, Peter Savolainen as PI

  Task 0: Formation of the Technical Advisory Committee – Task complete.

  Task 1: Synthesis of Existing Practices – Task complete.

  Task 2: Site Selection and Data Collection – Task complete.

  Task 3: Data Analysis – Task complete.

  Task 4: Develop and Submit Deliverables – Task complete.

  This project was contracted to start on March 1, 2021 and end on September 30, 2022. It is 100% complete. (SWZDI board review of draft report is ongoing and posting to occur very soon.)

Anticipated work next quarter:

During the next quarter the SWZDI Board will review and rank PY 2023 proposals. It will then likely meet for discussions about the proposals about the results and the selection of what proposals to fund. The project above that is listed as 100% complete will have its draft report finalized and posted and work will continue on the other three active projects. If possible, the contracts for the proposals selected for PY 2023 will be advanced.

Significant Results:

The projects under this administrative contract continued toward completion. The report of a project finished late last quarter will be posted early this quarter.

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, with recommended solutions to those problems).

None of the projects under this funding account number appear to be encountering any unusual challenges at this time.

Potential Implementation:

Potential implementation includes project report posting when completed.