

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(081)	Transportation Pooled Fund Program - Report Period: Quarter 1 (January 1 – March 31, 2014) Quarter 2 (April 1 – June 30) Quarter 3 (July 1 – September 30) X 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 189	Project Start Date: 2001 to Present
Original Project End Date: Ongoing	Current Project End Date: June 30, 2015	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
\$1,917,500	\$1,879,189.58	Ongoing*

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date
N/A.	N/A.	Ongoing*

*TPF-5(081) contracts expire in the winter/spring of 2014/2015 and this pooled fund number is proposed to be closed-out in the late spring of 2015. TPF-5(295) has begun and is funding the new 2014/2015 projects.

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/) 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, 2014 (Overall)**

During this quarter we communicated with various principal investigators. Resolved some progress issues. Posted some final reports and selected four projects for program year 2015 contracts. The progress on the 2015 projects and the four 2014 projects are summarized in another quarterly report (as they were funded under pooled fund number account TPF-5(295)). We communicated with Board about reviews of final reports; received comments and shared them with principal investigators. We requested a review and ranking of the 2015 project projects from Board and met with the board to select four 2015 projects for funding. At this meeting the Board also agreed to an extension of the 2014 administrative contract with increased funding for a potential face-to-face Board meeting in Spring 2015. The administrative contract for 2015 was also discussed and will be advanced. We answered questions about the request for proposals. The following is a summary of accomplishments during the quarter for individual research projects under fund account TPF-5(081).

2012 Program Projects

- Effects of Road Construction Intensity and Operations on Rural Freeway Work Zone Capacity, Missouri University of Science and Technology with Ronaldo Luna as PI.

This project report was finished, reviewed, adjusted, and finalized this quarter.

2013 Program Projects

- Highway Work Zone Capacity Estimation using Field Data from Kansas State University, Kansas State University with Sunanda Dissanayake as PI.

This project is 99% complete. The draft report is being reviewed by the Board and it will be finalized and posted soon. The project end date was December 31, 2014.

- Modeling Merging Behavior at Lane Drops, Iowa State University with Shauna Hallmark as PI.

Overall, this project is 87% complete. The literature review (Task 1) and the development of the TAC (Task 2) is complete. The data collection (Task 3) is also complete. For this task the team rented video data collection equipment and developed a strategy for data collection within work zones. Several trailers were available so that data could be collected at various points. Data for one work zone site where driver behavior, speed, and volume were

collected (as part of a previous project is available). This is being used as one scenario in the simulation. Data were also collected for two additional scenarios, an urban work zone (Ames) and a busy interstate lane drop (Interstate 35). Video were used to collect speed, volume and driver behavior for the urban scenario just downstream of the merge point. Video as well as speed data were collected for the interstate work zone at just downstream of the merge point as well as a point upstream of the merge. The data from these sites will both be utilized to developed two additional scenarios. The team also identified policies and countermeasures used to improve work zone merge behavior and strategies to manage speed and improve operations and a list of potential countermeasures to evaluate was selected. This effort was Task 4 and it is complete. Task 5, development of modeling scenarios using microsimulation is 70% complete. Data were collected for three different work zones. The data are being used to develop and calibrate simulation scenarios. Due to time constraints only 2 of the work zones will be modeled. One is an interstate work zone while the other is an urban work zone. These initial work zones have been developed and the interstate work zone has been calibrated. Different scenarios are being run on the interstate work zone and almost complete. The urban work zone will be calibrated and then have the scenarios run. The tasks of the project (Task 6) are being summarized. This will include background, data collection methodology, analysis method, and results. Information will be compiled into a draft final report as it becomes available. The task if 55% complete.

- Intelliroute: A Smart Phone – Based Real Time Work Zone Detour Information System Driven by Crowd-Sourced Data; Yue Liu as PI.

This project is 98% percent. The draft report is being reviewed by the Board and it will be finalized and posted soon. The project end date was December 31, 2014.

Anticipated work next quarter:

Work will continue on three remaining contracted projects. Two projects have submitted their final draft reports and they are being reviewed by the Board. It is expected they will be finalized and posted very soon. The third project is nearing completion. We will continue to work with the principal investigators of Program Year 2014 projects and the new principal investigators for the upcoming 2015 projects. In the next quarter the closing out of projects will continue and projects for Program Years 2014 and 2015 will be continued and started, respectively.

Significant Results:

Two project reports were posted. Program Year 2015 request for proposal was submitted. Additional detail is provided above in the summary for the overall pooled fund program for the 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, along with recommended solutions to those problems).

Currently there are no problems to report with the administrative contract. Any issues that have come up with the individual projects that may impact schedule or budget are resolved on a case by case basis.

Potential Implementation:

Two project reports were completed this quarter and two more appear to be near completion. Two reports were posted.

Those that download the report and/or hear the PI present the material may potentially use the information to change their decision-making.