

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.

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| Transportation Pooled Fund Program Project # TPF-5(295) | Transportation Pooled Fund Program - Report Period: Quarter 1 (January 1 – March 31, 2014) Quarter 2 (April 1 – June 30) X Quarter 3 (July 1 – September 30) <input type="checkbox"/> 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: July 1, 2014 |
| Original Project End Date: June 30, 2020 | Current Project End Date: June 30, 2019 | 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 |
|-----------------------|--------------------------------|--------------------------------------|
| \$500,000 (committed) | \$3,197.88 | 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 |
|--|---|---------------------------------------|
| \$3,197.88 | | 0 |

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 September 30, 2014 (Overall)**

During this quarter we communicated with various principal investigators. Resolved some progress issues. Posted some final reports and initiated all four program year 2014 project contracts. The progress on these four projects are summarized below. Those being completed for this pooled fund under account number TPF-5(081) are summarized in another quarterly report.

Administratively, we also communicated with Board about reviews of final reports. Received comments and shared them with principal investigators. WE Requested 2015 problem statement ideas from Board, met with the board, and released the 2015 program request for proposals from potential university principal investigators, and vendors. Answered questions about the request for proposals. The following is a summary of accomplishments during the first quarter of the four individual research projects under fund account TPF-5(295).

2014 Program Projects

- Work Zones in Innovative Geometric Designs Locations, University of Missouri, Henry Brown as PI.

A kickoff meeting was held with the technical advisory committee in July. A review of the literature is in progress and the PI attended FHWA webinars for the guides on alternative intersections and diverging diamond interchanges. Contacts for various states were collected and the type of innovative geometric designs by state summarized. The project is currently 10 percent complete and has an end date of June 30, 2015.

- Safety Assessment Tool for Construction Work Zone Phasing Plans, University of Missouri, Henry Brown as PI.

A kickoff meeting was held with the technical advisory committee in July. A review of the literature was started. Contacts for various states were collected and coordination with other SWZDI states with respect to crash and work zone data was started. A preliminary list of possibly types of data to collect was developed. This project is 5 percent complete and has an end date of December 31, 2015.

- Length of Need for Free-Standing, F-Shape, Portable 12.5' Concrete Protection Barrier, University of Nebraska, Ron Faller as PI

During this quarter a technical advisory committee (TAC_ meeting was held to kick off the project. At that it was noted that in addition to the tasks in the proposal, the TAC would also like to evaluate the friction coefficient between the PCB segments and asphalt paving to see if it is similar to concrete and would like to investigate the deflection of the

barriers under the 85th percentile IS values. The researchers also began validation of the baseline PCB model for use in the study. Preliminary models of the PCB system at the standard 200 foot length were simulated and are being compared to full-scale crash tests to build confidence in the simulation model. This project is 5 percent complete and has an end date of December 31, 2015.

- Development of a TL-3 Transition between Temporary Concrete Barrier and Guardrail, University of Nebraska, Ron Faller as PI

During this quarter, the proposed details for the attachment of the W-beam guardrail to the TCB segments were developed, including connection of the end of the rail to the TCB and mounting of blockouts on the TCB segments. After the first phase of the research, the overall layout of the transition system was developed, but attachment details remained to be designed between the guardrail and the PCB segments and the blockouts that were attached to the PCB. The preliminary details of these connections were submitted them to NDOR for comment and review. These included guardrail to PCB attachment and the blockout to PCB attachment options. The technical advisory committee (TAC) representatives reviewed these options and agreed to use the proposed guardrail to PCB attachment and the folded plate blockout attachment for testing and evaluation. These details are currently being developed into CAD for testing. This project is 5 percent complete and has an end date of December 31, 2015.

Anticipated work next quarter:

Work will continue on contracted projects. Several contracted projects will expire in 2014. We will continue to work with the new investigators of Program Year 2014 projects. This next quarter the proposals for Program Year 2015 will be collected, reviewed and selected. Contract negotiations may be started.

Significant Results:

All four Program Year 2014 projects started and the Program Year 2015 request for proposals was distributed.

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:

None at this time. Projects funded under this account number have just begun.