

TRANSPORTATION POOLED FUND PROGRAM QUARTERLY PROGRESS REPORT

Lead Agency (FHWA or State DOT): Michigan Department of Transportation

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(231)	Transportation Pooled Fund Program - Report Period: <input checked="" type="checkbox"/> Quarter 1 (January 1 – March 31) <input type="checkbox"/> Quarter 2 (April 1 – June 30) <input type="checkbox"/> Quarter 3 (July 1 – September 30) <input type="checkbox"/> Quarter 4 (October 1 – December 31)	
Project Title: ITS Pooled Fund Program (ENTERPRISE)		
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Lead Agency Project ID:	Other Project ID (i.e., contract #): 2010-0316	Project Start Date: January 2010
Original Project End Date: December 2015	Current Project End Date:	Number of Extensions:

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	Total Percentage of Work Completed
\$2,200,000 (5 year estimated budget, final Budget dependent on member contributions)	\$1,009,653	45%

Quarterly Project Statistics:

Total Project Expenses This Quarter	Total Amount of Funds Expended This Quarter	Percentage of Work Completed This Quarter
\$113,072	\$113,072	5%

Project Description:

The ENTERPRISE Pooled Fund Program performs technical projects to serve the needs of the member agencies. Currently, 16 member agencies participate in the ENTERPRISE Pooled Fund. Each year, the members identify current needs of their organization that they feel are most suited to be addressed by pooled fund projects. After identifying candidate projects, the members discuss and ultimately vote to elect the projects to be included in the year's Work Plan. Technical projects are then performed to execute the projects and address member needs. Overall, three high level tasks are performed:

- **Management support** to the program, the lead state, and to members;
- **Administrative support** to organize and conduct in-person meetings and monthly webinars; and
- **Technical support** to execute the technical projects selected for each year's Work Plan.

Progress this Quarter (includes meetings, work plan status, contract status, significant progress, etc.):

Administrative/Management Task:

- Two conference calls and one in person meeting in San Antonio, Texas were held during the 1st Quarter with the ENTERPRISE board members.

Technical Task:

- Project 5: ICWS Coordination and Systems Engineering – Phase 2
Project Goal: An extension of Project 1, this project will further support the standardization of ICWS by coordinating among the various national standards and association groups, and by developing a concept of operations and system requirements for the four types of ICWS identified in the Design and Evaluation Guidance for Intersection Conflict Warning Systems.
 - An abstract for this project was submitted for the 2014 NRITS Conference.
 - Summary ICWS information provided to FHWA offices of Operations and Transportation Management in mid-March.
- Project 6: Next Generation Traffic Data and Incident Detection from Video
Project Goal: To develop and test software systems to analyze video streams to collect traffic data, and to detect incidents. Test environments are expected to include rural area animal detection (to warn of animal crossings), and metropolitan area incident detection.
 - With the conclusion of the testing activities at the test sites this project is complete.
- Project 9: Crashworthiness and Protection of ITS Field Devices
Project Goal: The objective of this project is to determine if there are appropriate crashworthy supports for ITS Field Devices (signs, detectors, solar panels, control cabinets, etc.), that meet federal MUTCD and AASHTO standards and guidelines for crashworthy roadside appurtenances.
 - Project completed: The final summary report is available at:
http://enterprise.prog.org/Projects/2010_Present/crashworthiness.html
- Project 10: HAR – Best Practices and Future Direction
Project Goal: The intent of this project is to research the current HAR 'state of the practice', and document how effective HAR is, and provide additional details that will allow ENTERPRISE members to make decisions about whether or not to invest (or continue investing) in HAR technologies.
 - Research on current HAR technology and value was completed and a draft project summary report was presented to the ENTERPRISE board at the February 2014 ENTERPRISE Board meeting.
- Project 11: Intelligent Workzone – Synthesis of Best Practices
Project Goal: Document the best practices and lessons learned regarding IWZ technologies (Dynamic Merge, End of Queue Warning, Alternate Routes, and Variable Speed Limits) from various sources to draw conclusions about what approaches work best in what situations.
 - A document that summarizes work zone material available related to the four work zone applications were presented during the February Board Meeting. A draft of summary

comparing IWZ approaches and situations was developed and shared with the Board members in February.

- **Project 12: Connected Vehicles Data Element ConOps**
Project Goal: This effort will examine the opportunities for state DOT's to improve highway operations and safety through the use of Connected Vehicles sourced data.
 - The overall approach for the project was to perform an online survey to outline rural issues and connected vehicle perceptions, perform targeted telephone interview with rural practitioners, develop system concepts to address identified needs and propose ways to deploy such a system. The online survey was answered by 8 individuals and interviews were conducted with 5 state DOT practitioners.

- **Project 13: Assessment of Emergency Service Providers Data Feeds**
Project Goal: Research the current data feed available from emergency service providers, document the feeds, and work with ENTERPRISE member agencies to understand if the member agencies wish to receive this data feed (either for emergency response or for travel information) and what value the data may have for operations, travel information, and planning.
 - Additional information has been gathered from other service providers and from agencies (e.g. ID, OR) that have used OnStar or other service provider data. This information has been compiled in a complete project summary report that was presented to the ENTERPRISE board at the February 2014 ENTERPRISE in-person Board meeting in San Antonio.

- **Project 14: Next Generation Traffic Data and Incident Detection from Video (Phase 2) – Evaluation**
Project Goal: To evaluate video streams of traffic data and incident detection. Test environments are expected to include rural area animal detection (to warn of animal crossings), and metropolitan area incident detection.
 - Preliminary project findings were presented at the February 2014 ENTERPRISE in-person Board meeting in San Antonio and an approach for presenting findings in the final report was discussed with the project champions.

Anticipated work next quarter:

Administrative/Management Support Task:

- Monthly webinars will be conducted in April, May and June. Work will focus on developing project ideas for the 2015 Work Plan.

Technical Task:

- **Project 5: Intersection Conflict Warning System – Phase 2**
 - Outreach and collaboration will continue under the remaining budget or until the next phase of ICWS work is authorized by Michigan DOT. Emphasis will be placed on the Low Cost and Traffic Control Devices pooled funds, NCUTCD ICWS task force and ATSSA.
- **Project 10: HAR – Best Practices and Future Direction**
 - Revisions to the draft summary report will be reviewed with the board at their April meeting and then folded into the final report by the end of April.
- **Project 11: Intelligent Workzone – Synthesis of Best Practices**
 - A webinar will be held on April 15 to share the results of the work zone materials collected to date. The final report will be completed in May 2014.
- **Project 12: Connected Vehicles Data Element ConOps**
 - The next steps for the project include refining the needs, identifying technical solutions to meet the needs (to the extent possible), identifying limitations in meeting needs, identifying gaps between urban and rural needs and developing strategies for deployment.
- **Project 13: Assessment of Emergency Service Providers Data Feeds**
 - Revisions to the draft summary report will be reviewed with the board at their April meeting and then folded into the final report by the end of April.
- **Project 14: Next Generation Traffic Data and Incident Detection from Video (Phase 2) – Evaluation**

- The next step is to start preparing the final report that will document various capabilities of video analytics systems that were proven during the project and provide guidelines for procuring video analytics systems.
- Additional projects from the 2010-2012 Work Plan will begin to commence during the next quarter.

Significant Results:

Project completed:

- Project 6: Next Generation Traffic Data and Incident Detection from Video
- Project 9: Crashworthiness and Protection of ITS Field Devices

Projects authorized:

- None

Circumstance affecting project or budget (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).

N/A