

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 type="checkbox"/> Quarter 1 (January 1 – March 31) <input type="checkbox"/> Quarter 2 (April 1 – June 30) <input checked="" type="checkbox"/> Quarter 3 (July 1 – September 30) <input type="checkbox"/> Quarter 4 (October 4 – 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)	\$790,885	36%

Quarterly Project Statistics:

Total Project Expenses This Quarter	Total Amount of Funds Expended This Quarter	Percentage of Work Completed This Quarter
\$107,465	\$107,465	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:

- One conference call was held during the 3rd Quarter with the ENTERPRISE board members and one in person meeting in St Cloud, Minnesota.

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.
 - Outreach and collaboration continued with the Low Cost and Traffic Control Devices pooled funds (ENTERPRISE letter sent to the TCD pooled fund to support their human factors research), NCUTCD ICWS task force and ATSSA (ICWS to be featured in upcoming issue of The Signal).
 - 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.
 - Ongoing coordination with video analytics vendors and a thermal camera vendor continued for the Iowa DOT installation.
 - Project 7: ITS Warrants to a Permanent Home
Project Goal: To transition the ENTERPRISE warrants process to a selected agency/organization as a permanent home and identify a warrant review process.
 - A webinar was held on September 17 to gather targeted input on the draft ICWS Warrants/ Guidelines document.
 - Project 8: Use and Impacts of Camera Images and Other Displays of Traveler Information (Interpretable Traveler Information – Use and Impacts)
Project Goal: Understand the use and impacts of the 'interpretable information' (e.g. video or still camera images) displayed to travelers.
 - Project completed. The final report is available at:
http://enterprise.prog.org/Projects/2010_Present/interpretabletravelinfo.html
 - 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.
 - A request for crashworthy ITS design configurations was sent to U.S. crash testing facilities in August 2013.
 - Project 10: HAR – Best Practices and Future Direction
- ENTERPRISE Pooled Fund Program – Quarterly Report July – September 2013 (Quarter 3)

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.

- The focus of the project was finalized at the August 2013 meeting - To help members understand how HAR is being used today (through interviews with agencies operating HAR), help members understand potential value of HAR (through lit reviews and interviews) and help members understand the current state of the practice of HAR technologies (through discussions with vendors).
- Interviews conducted with Washington, Iowa and Idaho. A summary of the information gathered from the interviews was presented at the August 2013 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.
 - Milestone 1: Project Focus Technical Memo was completed on July 23, 2013.
 - Work continued on summarizing work zone material available related to the four work zone applications.
 - A detailed project update was provided at the August 2013 meeting. The group provided input on the type of information to gather from each work zone project analyzed.
 - A call for information was distributed to ENTERPRISE members to continue to identify active 2013 work zone projects.
- 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.
 - Project was authorized by ENTERPRISE on 8.29.13.
- 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.
 - Project was authorized by ENTERPRISE on 8.29.13.
 - A matrix of questions was developed. These will be used to interview OnStar and other providers, as well as transportation agencies that have used or are still using the OnStar data
- 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.
 - Project was authorized by ENTERPRISE on 8.29.13.
 - An evaluation plan was developed and initial data comparisons are underway.

Anticipated work next quarter:

Administrative/Management Support Task:

- Monthly webinars will be conducted in February and March. An in person meeting will be held in San Antonio, Texas in February.

Technical Task:

- Project 5: Intersection Conflict Warning System – Phase 2
 - Outreach and collaboration will continue with the Low Cost and Traffic Control Devices pooled funds (ENTERPRISE letter send to the TCD pooled fund to support their human factors research), NCUTCD ICWS task force and ATSSA.
- Project 6: Next Generation Traffic Data and Incident Detection from Video
 - Continue vendor coordination.

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- Project 7: ITS Warrants to a Permanent Home
 - Meet with the SCOTE to begin review of the warrants.
- Project 9: Crashworthiness and Protection of ITS Field Devices
 - Contact ITS device manufacturers and State DOTs to request relevant information.
- Project 10: HAR – Best Practices and Future Direction
 - Conduct more interviews with state DOT's, continue the literature review and conduct interviews with vendors.
- Project 11: Intelligent Workzone – Synthesis of Best Practices
 - Continue to summarize work zone material available
- Project 12: Connected Vehicles Data Element ConOps
 - Kickoff project
- Project 13: Assessment of Emergency Service Providers Data Feeds
 - Summarize information from OnStar in an interim summary report (deliverable 1 for the project). This will include all of the information gathered from OnStar and it will allow the board to review the format/content of the report before gathering/summarizing information from the remaining providers and transportation agencies.
- Project 14: Next Generation Traffic Data and Incident Detection from Video (Phase 2) – Evaluation
 - Finalize evaluation plan and continue data comparisons.
- Additional projects from the 2010-2012 Work Plan will begin to commence during the next quarter.

Significant Results:

Project completed:

- Project 8: Use and Impacts of Camera Images and Other Displays of Traveler Information (Interpretable Traveler Information – Use and Impacts)

Projects authorized:

- Project 12: Connected Vehicles Data Element ConOps
- Project 13: Assessment of Emergency Service Providers Data Feeds
- Project 14: Next Generation Traffic Data and Incident Detection from Video (Phase 2) – Evaluation

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