TRANSPORTATION POOLED FUND PROGRAM
QUARTERLY PROGRESS REPORT

Lead Agency (FHWA or State DOT): Michigan 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 # *(i.e, SPR-2(XXX), SPR-3(XXX) or TPF-5(XXX)* TPF-5(359)	**Transportation Pooled Fund Program - Report Period:** ☐ Quarter 1 (January 1 – March 31) ☐ Quarter 2 (April 1 – June 30) ☑ Quarter 3 (July 1 – September 30) ☐ Quarter 4 (October 1 – December 31)	
Project Title: Evaluating New Technologies for Roads Program Initiatives in Safety and Efficiency- ENTERPRISE[PHASE II]		
Name of Project Manager(s): Elise Feldpausch	**Phone Number:** 517-636-0036	**E-Mail** FeldpauschE1@michigan.gov
Lead Agency Project ID: OR17-101	**Other Project ID (i.e., contract #):** 2018-0172	**Project Start Date:** 1/2/2018
Original Project End Date: 1/2/2021	**Current Project End Date:** 1/2/2021	**Number of Extensions:** 0

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
$942,967.00	$207,542.83	44%

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date
$207,542.83 and 47%	$98,522.71	45%

Project Description:

TPF-5(359) is a continuation of TPF-5(231) led by the Michigan Department of Transportation. This pooled fund federal project originated under the project titled "ENTERPRISE Group" that was established in 1991. Each year, partner members contribute funds in support of ITS projects of mutual interest and develop an annual work plan.

Selected research studies/projects typically involve private sector partners contracted to work with designated member agencies. An administrative contract, currently with CTC & Associates LLC, covers project management, meeting planning, website and other tasks. Over time ENTERPRISE has grown into a multi-national consortium dedicated to the advancement of ITS. The consortium provides a focus for coordinating ITS developments and sharing results within and outside the ENTERPRISE program.

Primary Focus:
To develop and carry out a joint research program to develop, evaluate, and deploy ITS technologies.

Objectives:
1. Investigate and promote ITS approaches and technologies that are compatible with other national and international ITS initiatives.
2. Support the individual ITS program plans of ENTERPRISE participants.
3. Provide a mechanism to support multi-state and international project cooperation and technical information interchange.
4. Facilitate the formation of public-private partnerships for appropriate program activities.
5. Pursue emerging ITS project opportunities in areas of interest to the group.
6. Provide test beds in a variety of environments and locations for emerging ITS technologies.
7. Identify common needs within the group and proceed with appropriate technical activities.

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

Monthly ENTERPRISE Board meetings occurred in July, August, and September. Athey Creek presented work progress for the initial five research projects, and finalized the scope and initiated efforts on two additional projects.
Research projects:
Project 1: Evolution of ITS in Asset Management (Nov 2018 - Nov 2019)
--Task 1 (Literature Search, Survey and Interviews) - Work continued on this task. This task is still ongoing as interviews with IA, IL, KS, MI, MN, MTO, PA and WI have been conducted and we are working to schedule one more interview with TX.
--Task 2: Traveler Info Services Estimated Life Cycle - This task is underway. Because of the sheer volume of ITS types, this task will document strategies for assessing life cycles.
Task 3 – ITS Asset Criteria – This task is underway. ITS asset types have been defined. Characteristics for those types have also been defined. Criteria to be used for assessing ITS assets are being identified along with their purpose in assessment.
Project 2: Phasing out Legacy ITS Systems/Devices (Nov 2018 - Nov 2019)
--Task 1: Literature Search, Survey and Interviews – Work complete.
--Task 2: Case Studies – Work complete.
--Task 3: Phase Out/Reporting Criteria and/or Tools – Developed a set of criteria and applicable tools for ten common ITS devices and systems.
--Task 4: Present Findings – Scheduled a webinar for Oct 1, to present findings to ENTERPRISE members and other agencies who participated by providing case study information. Prepared slides for the webinar.
--Task 5: Draft Report – Prepared the draft research report documenting findings and routed it to the project champion and agency reps who provided case study data.
-Project 3: Real-Time Integration of Arrow Board Messages into Traveler Information Systems - Phase III (Nov 2018 - Feb 2020)
--Task 1: Identify Systems to Evaluate – Work completed.
--Task 2: Deployment Similarities and Differences – Work completed.
-Project 4: Update of RICWS Materials Developed in Phases 1-3 (Feb 2019 – Oct 2019)
--Task 1: Issues and Questions with Developing Next-Generation ICWS: Work Complete.
--Task 2: Literature Search, Survey and Webinar – Work Complete
-Project 5: ITS Infrastructure Integration of Digital Mobility as a Service (MaaS) (Feb 2019 - Feb 2020)
--Task 1: State of Practice Review – Research was completed, and key findings were incorporated into presentations for virtual workshops.
--Task 2: Discussion Document: Key Issues, Scenarios and Opportunities – Input gathered during virtual workshops with MnDOT and MTO was compiled into a summary of potential impacts that will be circulated during the final virtual workshop with the Board.
--Task 3: Virtual Workshops – Completed a virtual workshop with MnDOT on Aug 13 and another workshop with MTO on Sep 20. Agenda, materials, presenters and logistics were completed for final workshop with the Board to be held Oct 8.

Anticipated work next quarter:

Research projects - Athey Creek - (Project updates are presented at each monthly Board meeting.)
-Project 1: Evolution of ITS in Asset Management (Nov 2018 - Nov 2019)
--Task 1: Literature Search, Survey and Interviews – This task will be completed.
--Task 2: Traveler Info Services Estimated Lifecycle - This task will be completed
--Task 3: Traveler Info Asset Management Criteria – This task will be completed.
Project 2: Phasing out Legacy ITS Systems/Devices (Nov 2018 - Nov 2019)
--Task 4: Present Findings – Conduct the project findings webinar on Oct 1.
--Task 5: Draft Report – Make changes to the draft report per review comments received.
--Task 6: Final Report – Finalize the research report, distribute it to project participants, and send it to CTC for posting on the ENTERPRISE web site.
Project 3: Real-Time Integration of Arrow Board Messages into Traveler Information Systems - Phase III (Nov 2018 – Feb 2020)
--Task 3: Evaluation Criteria - Work paused on this task pending availability of data from the Iowa deployment later in the fall.
-- Task 4: Apply Evaluation Criteria – Work will continue on this task to more closely examine Minnesota data Iowa data when available.
-- Task 5: Draft Report – Work will continue on this task to complete additional sections of the draft report.
-Project 5: ITS Infrastructure Integration of Digital Mobility as a Service (MaaS) (Feb 2019 - Feb 2020)
--Task 4: Workshop Discussion, Conclusions, and Recommendations – Update summary of potential impacts following completion of Board workshop on Oct 8 and discuss with Project Champions how best to present information in project report.
--Task 5: Draft Report – Prepare outline of draft report for review with Project Champions, and then prepare full draft report.
-Project 6: Emerging Practices for Communications Infrastructure
--Task 1: Project Team – Schedule a project team meeting to review ITS communications needs/scenario and how needs are changing, to set the stage for developing questions for agency interviews and private sector interviews.
--Task 2: Cybersecurity Research Gap Assessment – When available, begin to review the NCHRP report and FHWA synthesis on cybersecurity for ITS devices and TMC systems, as these documents are published.
--Task 3: Agency Interviews – Begin developing interview draft questions.
-Project 7: Automated Classification of Winter Road Conditions-Phase 2 (Oct 2019-Sep 2020)
--Task 1: Clarify Parameters for Data Attributes – Finalize operational concept and meet with Project Team to finalize parameters for data attributes that will be reviewed throughout project.
--Task 2: Revisit Select Work Identified in Phase 1 – Begin revisiting agencies using automation in the Phase 1 project to gather information about data attributes and results of work using automation.
-Project 8: Use Cases and Benefits of Active Traffic Management (ATM) Strategies
--Task 1: Synthesis Review – Begin the synthesis review based on input during the October ENTERPRISE Board meeting
--Task 2: Targeted Interviews – Begin the task of identifying interviewees and gathering information through phone interviews.

Significant Results:

Webinar updates were conducted in July, August, and September 2019.

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).

None

Potential Implementation:

To be determined as individual projects progress.