TRANSPORTATION POOLED FUND PROGRAM
QUARTERLY PROGRESS REPORT

Lead Agency (FHWA or State DOT):   Michigan DOT

INSTRUCTIONS:

Lead Agency contacts 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(490)*	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)

TPF Study Number and Title:
TPF-5(490) ENTERPRISE-Phase III (Phase II Continuation)

Lead Agency Contact: **Michigan Department of Transportation**	Lead Agency Phone Number: **517-636-0036**	Lead Agency E-Mail FeldpauschE1@michigan.gov
Lead Agency Project ID: **OR17-101**	Other Project ID (i.e., contract #): **2018-0172**	Project Start Date: 3/6/2023
Original Project Start Date: **3/6/2023**	Original Project End Date: **9/30/2028**	If Extension has been requested, updated project End Date: Click or tap to enter a date.

Project schedule status:

☒ On schedule	☐ On revised schedule	☐ Ahead of schedule	☐ Behind schedule

Overall Project Statistics:

Total Project Budget	Total Funds Expended This Quarter	Percentage of Work Completed to Date
$1,195,980.00	$56.439.43	71%

Project Description:

TPF-5(490) is a continuation of TPF-5(359) 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.

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 enhance innovation in highway operations and intelligent transportation systems through research and technology transfer, as well as to continue assessing transformational technologies and their impact on the transportation industry.

Objectives: The Board has selected the following 13 research projects for this phase of the pooled fund study.
Primary Projects
1. State of the Art Roadway Sensors – Phase 1
2. New Methods of Traffic Data Collection
3. Potential Approaches for Wrong Way Driving Applications – Phase 2
4. Procurement Specification for Physical Security of ITS
5. Novel Uses of Unmanned Aerial Systems in ITS
6. State of the Art of Roadway Sensors – Phase 2

Secondary Projects
7. Administration of Communications
8. ITS Simple Innovations
9. Uncontrolled Pedestrian Crossing ITS Countermeasures
10. Defining and Advancing Digital Infrastructure
11. Role of AI in ITS
12. Alternate Methods of Traffic Data Analysis
13. Truck Parking Technologies

Progress this Quarter

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

Board teleconferences held on July 17, August 21 and September 18, 2024. CTC & Associates developed the agenda, took notes, and finalized, distributed and posted meeting minutes.

CTC & Associates continue the planning for the hybrid in-person/virtual Board meeting in Detroit, ME from October 22-23, 2024. Tasks included setting up the virtual platform, agenda development, booking flights, securing a hotel and meeting logistics.

CTC & Associates assisted MDOT with members' pooled fund commitments and transfers.

CTC & Associates updated the website with current information. (http://enterprise.prog.org)

CTC & Associates assisted Athey Creek with activities related to individual research projects.

Research projects

Project 3: Potential Approaches for Wrong Way Driving Applications – Phase 2
- Task 7: Final Report – Finalized the project summary report and coordinated posting to the ENTERPRISE website.

Project 7: Administration of Communications
- Task 1: Gather Agency Examples – Task Complete.
- Task 2: Complete Agency Interviews – Conducted agency interviews and began documenting interview summaries. Routed draft summaries to agency interview participants for review and comment. Met with project champion to review initial findings from interviews.

Project 8: ITS Simple Innovations
- Task 1: Gather Agency Examples – Continued conducting research to gather examples of ITS simple innovations.
- Task 2: Select Innovations of Interest and Document Case Studies – Created a sortable spreadsheet to document ITS simple innovations.

Project 9: Uncontrolled Pedestrian Crossing ITS Countermeasures
- Task 1: Review of Existing Guidance Resources – Task complete.
- Task 2: Document Selected Case Studies of ITS Deployments – Facilitated an interactive meeting with State DOT traffic safety engineers, to gather input for the project. Began documenting input received including the participating states' guidance resources and use of ITS strategies at uncontrolled pedestrian crossings and uncontrolled locations. – Task complete
- Task 3: Identify Needs and Gaps – Began documenting gaps as gathered in Task 1 and Task 2.

Project 10: Defining and Advancing Digital Infrastructure
- No progress. Per direction from the ENTERPRISE Board, pausing the start of this project.

Project 11: Role of AI in ITS
- No progress. Per direction from the ENTERPRISE Board, pausing the start of this project.

Project 12: Alternate Methods of Traffic Data Analysis
- Task 1: Gather Agency Examples – Continued conducting research to identify alternative methods of traffic data analysis.

Project 13: Truck Parking Technologies
- Task 1: Research and Interviews with Selected Agencies – Continued to document truck parking detection types, experiences, and status used by agencies. Also continued to document safety issues with illegal truck parking on shoulders, roadway maintenance issues, technology maintenance with truck parking detection systems, private companies' truck parking availability and other industries with vehicle counting detection systems.
- Task 2: Document Lessons Learned, Best Practices, and Emerging Technologies or Approaches – Based on Task 1, began to document lessons learned, best practices, and emerging technologies and approaches.
- Task 3: Draft Report – Began to document Task 1 and Task 2 findings into a draft report.

Project 14: Documenting Current Road Weather Information System (RWIS) Technologies Related to ITS and Operations
- Kicked off project at in-person ENTERPRISE Board Meeting on April 2.
- Task 1: Gather Information – Completed high-level literature search of agency resources.
- Task 2: Conduct Practitioner Survey – Developed survey instrument; shared with ENTERPRISE members for review and input; distributed survey via Aurora Pooled Fund, TMC PFS, and ENTERPRISE PFS.

See "Schedule of Current Projects" at the end of this quarterly report for graphical information depicting the schedule of research activities for each current research project.

The following research projects are complete, and the final report is posted to the ENTERPRISE PFS website:
- **Completed December 2023:** State of the Art Roadway Sensors – Phase 1: https://enterprise.prog.org/wp-content/uploads/ENT-Roadway-Sensors-Phase-1-Final-Report.pdf
- **Completed March 2024:** New Methods of Traffic Data Collection (Comparison of Emerging Traffic Data Collection Methods to Traditional Methods): https://enterprise.prog.org/wp-content/uploads/ENT-Comparison-Traffic-Data- Collection-Methods-Final-Report.pdf
- **Completed April 2024:** Project 5: Novel Uses of Unmanned Aerial Systems (UAS) in ITS: https://enterprise.prog.org/projects/novel-uses-of-unmanned-aerial-systems-uas-in-its/
- **Completed June 2024:** Project 4: Procurement Specification for Physical Security of ITS
- **Completed June 2024:** Project 6: State of the Art of Roadway Sensors – Phase 2: https://enterprise.prog.org/projects/state-of-the-art-roadway-sensors-phase-2/
- **Completed July 2024:** Project 3: Potential Approaches for Wrong-Way Driving Applications – Phase 2: https://enterprise.prog.org/projects/potential-approaches-for-wrong-way-driving-applications-phase-2/

Anticipated work next quarter:

The Board will hold teleconferences on November 25 and December 18, 2024. CTC & Associates will create agendas, take notes, and finalize, distribute and post meeting minutes for monthly Board meetings.

CTC will finalize planning and hold a hybrid in-person/virtual meeting taking place from October 22-23, 2024 in Detroit, MI. Planning activities will include agenda development, booking flights, meeting logistics, notetaking during the meeting, finalizing meeting minutes, posting/distributing meeting minutes and meeting materials, reimbursements and follow up meeting action items.

CTC & Associates will update the website with current information. (http://enterprise.prog.org).

CTC & Associates will monitor the research projects schedules and assist Athey Creek with activities related to individual research projects.

Research projects - Athey Creek (Project updates are presented at monthly Board meetings.)

Project 7: Administration of Communications
- Task 2: Complete Agency Interviews – Document interview summaries and incorporate edits from interview participants.
- Task 3: Draft Report – Begin conducting analysis of findings and preparing the draft report.

Project 8: ITS Simple Innovations
- Task 1: Gather Agency Examples – Complete gathering agency examples of ITS simple innovations through conferences, meetings, and webinars.
- Task 2: Select Innovations of Interest and Document Case Studies – Complete searchable spreadsheet.
- Task 3: Draft Report – Begin preparing draft report.

Project 9: Uncontrolled Pedestrian Crossing ITS Countermeasures
- Task 3: Identify Needs and Gaps – Conduct analysis of information gathered to identify needs and gaps.
- Task 4: Draft Report – Begin preparing draft report.

Project 10: Defining and Advancing Digital Infrastructure
- Kick off the project and begin webinars with ENTERPRISE agencies to advance Digital Infrastructure sharing among agencies.

Project 11: Role of AI in ITS
- Per direction from the ENTERPRISE Board, pausing the start of this project.

Project 12: Alternate Methods of Traffic Data Analysis
- Task 1: Gather Agency Examples – Continue to research alternative methods of traffic data analysis.

Project 13: Truck Parking Technologies
- Task 1: Research and Interviews with Selected Agencies – Continue to conduct literature search.
- Task 2: Document Lessons Learned, Best Practices, and Emerging Technologies or Approaches – Analyze Task 1 information gathered and begin documenting lessons learned, best practices, and emerging technologies or approaches.

Project 14: Documenting Current RWIS Technologies
- Task 2: Conduct Practitioner Survey – Close survey and summarize findings for input to Task 4.
- Task 3: Document Available RWIS Solutions – Initiate based on findings from Task 2.
- Task 4: Draft Report – Begin to compile findings from Tasks 1-3.

Significant Results:

See Progress This Quarter section.

TPF Program Standard Quarterly Reporting Format – 7/2011

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:

None