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** SpinksM@michigan.gov
Lead Agency Project ID: **OR22-204**	**Other Project ID (i.e., contract #):** **2024-0826**	**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
$1,315,977.00	$76,774.09	69%

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 initially selected 13 research projects for this phase of the pooled fund study. Additionally, the Board amended the Athey Creek contract and added eight new projects.

New projects for second round
15. ITS Simple Solutions – Phase 2
16. Information Technology Support Models for ITS
17. Evaluation Process for ITS Systems
18. Deterrents for Rodents Chewing into Fiber and Cabinets
19. ITS Device Communications Using WiFi Connections
20. Leveraging Video from Maintenance Vehicle Cameras for Innovative DOT Uses
21. Lease Agreements for ITS Services Using Transportation Agency Assets
22. Engaging Mapping Companies

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

Board teleconferences held on July 15 and August 19, 2026. CTC & Associates developed the agenda, documented the meeting, and finalized, distributed and posted meeting minutes.

CTC & Associates processed the final reimbursements for the hybrid in-person/virtual Board meeting in Bloomington, MN from April 14-16, 2026.

CTC & Associates finalized the planning for a hybrid in-person/virtual Board meeting in Madison, WI from September 9-10, 2026. Tasks included setting up the virtual platform, agenda finalization, booking flights, securing a hotel, meeting logistics, meeting facilitation and notetaking, posting meeting materials on the ENTERPRISE website and processing traveler reimbursements.

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.

<u>Research projects</u>

Project 15: ITS Simple Solutions – Phase 2
- Task 1: Review and Prioritize Three Innovations to Advance for Implementation – Completed.
- Task 2: Document Next Steps to Implement the Prioritized Innovations – Continued documenting next steps for three innovations selected.
- Task 3: Continue to Gather Examples of ITS Innovations – Continued to gather and document innovations.

Project 16: Information Technology Support Models for ITS

- Task 1: Conduct Research – Completed interviews with Illinois DOT and Kansas DOT. Prepared interview summaries.

Project 17: Evaluation Process for ITS Systems

- Task 1: Define ENTERPRISE Member Evaluation Test – Finalized documentation from literature search on four ITS devices: Wrong Way Driving Alert Systems, DMS, Over-height Detection Warning Systems, and Ramp Members. Discussed possible ITS devices for member evaluation test with ENTERPRISE members.

Project 18: Deterrents for Rodents Chewing into Fiber and Cabinets

- Task 1: Online Search – Completed the online search.
- Task 2: Outreach – Gathered survey responses and created initial survey summary analysis.

Project 19: ITS Device Communications Using Wi-Fi Connections

- Task 1: Research Wi-Fi – Continued research on Wi-Fi as an initial local communications tool (short-range communication) and other communications used (e.g., radios).
- Task 2: Research Long Distance Wi-Fi – Continued research on long-distance Wi-Fi use and potential for Li-Fi as a communications research.

Project 20: Leverage Video from Maintenance Vehicle Cameras for Innovative DOT Uses

- Task 1: DOT Maintenance Vehicle Camera Use – Distributed survey questions to learn from states that have DOT maintenance vehicle cameras.

Project 21: Lease Agreements for ITS Services Using Transportation Agency Assets

- Kicked off this project at the in-person ENTERPRISE Board meeting in September 2026.
- Task 1: Conduct Research – Began researching examples of agencies that lease ITS assets and participate in resource trades. Researched and defined relevant agreement types for clarification during the in-person Board meeting.

The following research projects are complete, and the final report is posted to the ENTERPRISE PFS website:

- **Completed December 2023:** Project 1: 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:** Project 2: 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: (Posted to the ENTERPRISE members only website.)
- **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/
- **Completed March 2025:** Project 11: Role of Artificial Intelligence in Intelligent Transportation Systems: https://enterprise.prog.org/wp-content/uploads/ENT-AI-in-ITS-Final-Report-Mar-2025.pdf
- **Completed April 2025:** Project 9: Uncontrolled Pedestrian Crossing ITS Countermeasures: https://enterprise.prog.org/projects/uncontrolled-pedestrian-crossing-its-countermeasures/
- **Completed April 2025:** Project 13: Truck Parking Technologies: https://enterprise.prog.org/projects/truck-parking-technologies/
- **Completed April 2025:** Documenting Current Road Weather Information System (RWIS) Technologies Related to ITS and Operations: https://enterprise.prog.org/projects/documenting-current-road-weather-information-system-rwis-technologies-related-to-its-and-operations/
- **Completed June 2025:** Project 7: Administration of Communications: https://enterprise.prog.org/projects/administration-of-communications/
- **Completed July 2025:** Project 8: ITS Simple Innovations https://enterprise.prog.org/projects/its-simple-innovations/
- **Completed October 2025:** Project 10: Defining and Advancing Roadway Digital Infrastructure (RDI) https://enterprise.prog.org/projects/defining-and-advancing-digital-infrastructure/

- **Completed February 2026:** Project 12: Alternate Methods of Traffic Data Analysis
  https://enterprise.prog.org/projects/defining-and-advancing-digital-infrastructure/

Anticipated work next quarter:

The Board will hold teleconferences on October 28, November 18 and December 16, 2026. CTC & Associates will create agendas, take notes, and finalize, distribute and post meeting minutes for monthly Board meetings.

CTC will complete post-meeting activities related to the hybrid in-person/virtual meeting taking place from September 9-10, 2026 in Madison, WI. Activities will include finalizing and posting meeting notes and member reimbursements.

CTC & Associates will develop and submit abstracts to highlight ENTERPRISE projects at ITS-related meetings and conferences at Board members' requests.

CTC & Associates will assist MDOT with members' pooled fund commitments and transfers and pooled fund financials as requested.

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 15: ITS Simple Solutions – Phase 2
- Task 2: Document Next Steps to Implement the Prioritized Innovations – Continue documenting next steps for the three innovations selected.
- Task 3: Continue to Gather Examples of ITS Innovations – Continue gathering and documenting innovations.

Project 16: Information Technology Support Models for ITS
- Task 1: Conduct Research – Finalize one remaining interview - with Iowa DOT. Prepare interview summaries and route them for review. Develop key findings.
- Task 2: Draft Report – Begin the draft report.

Project 17: Evaluation Process for ITS Systems
- Task 1: Define ENTERPRISE Member Evaluation Test – Narrow down evaluation measures and data collection requirements for ENTERPRISE members to select an ITS device type for testing.

Project 18: Deterrents for Rodents Chewing into Fiber and Cabinets
- Task 2: Outreach – Contact selected survey respondents to request additional information.
- Task 3: Draft Report – Begin draft report.

Project 19: ITS Device Communications Using Wi-Fi Communications
- Task 1: Research Wi-Fi – Complete and document research on Wi-Fi as an initial local communications tool (short-range communication) and other communications used (e.g., radios).
- Task 2: Research Long Distance Wi-Fi – Complete and document research on long-distance Wi-Fi use and potential for Li-Fi as a communications research.

Project 20: Leverage Video from Maintenance Vehicle Cameras for Innovative DOT Uses
- Task 1: DOT Maintenance Vehicle Camera Use – Compile survey results to learn from states that have DOT maintenance vehicle cameras.

Project 21: Lease Agreements for ITS Services Using Transportation Agency Assets
- Task 1: Conduct Research – Work with the project champion to narrow in on the key project focus areas. Continue research details of lease agreements.

Significant Results:

See Progress This Quarter section.

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:

Member agencies can put project findings to use in their home agencies. The research results can also inform follow-up activities or research studies for this pooled fund study.