

**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>(i.e., SPR-2(XXX), SPR-3(XXX) or TPF-5(XXX))</i> <p style="text-align: center;">TPF-5(490)</p>	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 type="checkbox"/> Quarter 3 (July 1 – September 30) <input checked="" type="checkbox"/> 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:

<input checked="" type="checkbox"/> On schedule	<input type="checkbox"/> On revised schedule	<input type="checkbox"/> Ahead of schedule	<input type="checkbox"/> Behind schedule
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Overall Project Statistics:

Total Project Budget	Total Funds Expended This Quarter	Percentage of Work Completed to Date
\$1,255,980.00	\$50,299.89	78%

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 November 25 and December 18, 2024. CTC & Associates developed the agenda, documented the meeting, and finalized, distributed and posted meeting minutes.

A two day, in-person Board Meeting was held from October 22-23, 2024 in Detroit, MI. CTC & Associates finalized the planning for the hybrid meeting including setting up the virtual platform, agenda development, booking flights, securing a hotel, meeting logistics, notetaking during the meeting, finalizing meeting minutes, posting/distributing meeting minutes, reimbursements and follow up meeting action items.

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 7: Administration of Communications

- Task 2: Complete Agency Interviews – Created interview summaries, routed summaries to interview participants for review,

and incorporated edits to interview summaries as comments were received. Task complete

- Task 3: Draft report – Began preparing the draft report, including organizing and assessing information gathered during agency 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.
- Task 3: Draft report – Began preparing the draft summary project report.

Project 9: Uncontrolled Pedestrian Crossing ITS Countermeasures

- Task 3: Identify Needs and Gaps – Continued to document needs gaps as gathered in Task 1 and Task 2.
- Task 4: Draft Report - Began preparing the draft summary project report.

Project 10: Defining and Advancing Digital Infrastructure

- Task 1: Definition and Strategy for RDI – Scheduled monthly webinars for members to present and discuss specific RDI topics. Identified webinars planned to begin in January 2025.

Project 11: Role of AI in ITS

- Confirmed approach to project activities with ENTERPRISE Board at October meeting.
- Task 1: Began search to identify available national materials.
- Task 2: Began search to transportations agency policies for using AI in operations.

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 – Completed documenting 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, completed documenting 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

- Task 2: Conduct Practitioner Survey – Closed survey that was distributed via Aurora Pooled Fund, TMC PFS, and ENTERPRISE PFS, and began to summarize results.

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 January 15, February 19 and March 19, 2025. CTC & Associates will create agendas, document the meeting, and finalize, distribute and post meeting minutes for monthly Board meetings.

CTC will plan a hybrid in-person/virtual meeting taking place from April 2-3, 2025 in Houston, TX. Planning activities will include developing a travel memo and draft agenda, researching and contracting with a hotel, booking flights, and setting up the virtual platform.

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

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 3: Draft Report – Finalize analysis of findings and complete the draft report. Route the report for review.
- Task 4: Final Report – Incorporate comments into the final 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 – Finalize draft report and distribute for review.

Project 9: Uncontrolled Pedestrian Crossing ITS Countermeasures

- Task 3: Identify Needs and Gaps – Continue to conduct analysis to identify needs and gaps.
- Task 4: Draft Report – Finalize analysis of findings and complete the draft report. Route the report for review.
- Task 5: Final Report – Incorporate comments into the final report.

Project 10: Defining and Advancing Digital Infrastructure

- Task 1: Definition and Strategy for RDI – Continue to schedule monthly webinars for members to present and discuss specific RDI topics.

Project 11: Role of AI in ITS

- Task 1: Conclude search to identify available national materials and begin to document them.
- Task 2: Conclude search to identify transportation agency policies for using AI in operations, and begin to document them.

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 3: Draft Report – Finalize draft report and distribute for review.

Project 14: Documenting Current RWIS Technologies

- Task 2: Conduct Practitioner Survey – 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.

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