TRANSPORTATION POOLED FUND PROGRAM
QUARTERLY PROGRESS REPORT

Lead Agency (FHWA or State DOT): Maine Department of Transportation

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(373)*	**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(373) New England Transportation Consortium VII	

Lead Agency Contact: Jeffrey Pulver	**Lead Agency Phone Number:** 207-446-1009	**Lead Agency E-Mail** jeffrey.pulver@maine.gov
Lead Agency Project ID: 23430.18	**Other Project ID (i.e., contract #):** Click or tap here to enter text.	**Project Start Date:** 1/4/2018
Original Project Start Date: 1/4/2018	**Original Project End Date:** 6/30/2022	**If Extension has been requested, updated project End Date:** 12/31/2024

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
$2,734,259.00	755,455.31	74%

Project Description:

A transportation research program, where research projects are conducted primarily by the Land Grant Universities of the New England states. This study was preceded by TPF-5(222), TPF-5(201), TPF-5(168), SPR-3(089), SPR-3(029), and SPR-3(009). Other State DOTs may participate in individual research projects by providing funds and a project technical committee member to represent their agency.

The New England Transportation Consortium (NETC) is a research cooperative between the state transportation agencies of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont. NETC is a valuable regional partnership for the identification, prosecution and dissemination of shared transportation research initiatives. NETC represents:

- Financial leveraging opportunities and regional partnerships.
- Stronger partnerships between university faculty and state transportation agencies.
- User-defined, diverse research topics.
- Opportunities for research dissemination and training to practitioners in the field.

Now in its third decade, NETC was developed to help New England states meet their special research needs by pooling resources and expertise. NETC is now a well-established successful multi-state partnership.

The objective of the pooled fund is to pool the financial, professional and academic resources of the region and to use them to research and develop improved methods of dealing with common problems in the planning, design, construction, maintenance, rehabilitation, reconstruction, and operation of transportation systems in the participating states. The program is intended to supplement, not to replace, ongoing state and federal research activities and other national programs such as the Cooperative Research Programs of the National Academies.

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

Monthly Advisory Committee meetings held on 8/10/23 and 9/26/23.

19-3: Deteriorated Steel Beam Ends - UMass Amherst

- Project timeline: 9/18/20 - 1/31/24. Project budget: $179,995
- Task 3 (Laboratory testing) - In progress. Twelve beam tests are complete.
- Task 4 (Calculate and validate/update the new load rating procedures) - In progress.
- Task 5 (Draft Final Report) – In progress.
- TC meetings held on 7/12/23 and 9/11/23.

20-2: Current Status of Transportation Data Analytics and AI Pilot Case Study Using Artificial Intelligence (AI)- $200,000

- Project timeline: 5/5/21 - 12/31/23. Project budget: $179,995
- Task 4 (Pilot project-Vehicle trajectory data collection and modeling) – Data collection is complete. Data analysis is in progress.
- Task 5 (Draft Final Report) – In progress.

20-3: Investigating Thermal Imaging Technologies and Unmanned Aerial Vehicles to Improve Bridge Inspections

- Project timeline: 2/19/21 - 6/30/23. Project budget: $174,931
- Project complete.
- Project webinar held on 8/8/23.

21-1: Quality Review and Assessment of Pavement Condition Survey Vehicle Data Across New England

- Project timeline: 2/15/22 - 7/31/23. Project budget: $174,932
- Project complete.
- Project webinar held on 7/18/23.

21-3: Initiating Seed Production for Effective Establishment of Native Plants on Roadsides in New England - $200,00

- Project timeline: 5/18/22 - 6/30/24. Project budget: $200,000

- Task 1 (Current knowledge and practices) - In progress.
- Task 2 (Investigate local seed production opportunities) - In progress.
- Task 3 (Establish demonstration plots) - In progress.
- TC meeting held on 9/12/23.

2023 Topical Discussion Events
- Animal Vehicle Collision Avoidance – Planning Team meeting held 7/21/23 and 9/28/23.
- Geotech – Planning Team meeting scheduled held 7/20/23 and 9/11/23.
- e-Construction for Pavements – Planning Team meeting held 7/26/23**.**
- Advanced Air Mobility Regional Plan – Planning Team meeting held 7/13/23 and 9/6/23.

Administration Contract
- CTC & Associates scheduled, facilitated and distributed minutes for the 8/10/23 and 9/26/23 Advisory Committee meetings.
- CTC & Associates continued to manage all research projects.
- CTC & Associates tracked implementation of research projects.
- CTC & Associates updated the NETC website as needed.
- CTC & Associates worked with the Advisory Committee to plan four Topical Discussion events.

Anticipated work next quarter:

Monthly Advisory Committee meetings will be held on 8/10/23 and 9/26/23.

19-3: Deteriorated Steel Beam Ends
- PI will continue work on Task 3 (Laboratory testing), Task 4 (Calculate and validate/update the new load rating procedures) and Task 5 (Draft Final Report).
- TC meetings scheduled for 10/12/23, 11/13/23 and 12/19/23.

20-2: Current Status of Transportation Data Analytics and AI Pilot Case Study Using Artificial Intelligence (AI)- $200,000
- PI will complete the draft final report and Technology Toolbox deliverables.
- TC meeting scheduled for 11/15/23.

21-3: Initiating Seed Production for Effective Establishment of Native Plants on Roadsides in New England - $200,000
- Finalize Task 1 (Current knowledge and practices) report for TC review.
- Task 2 (Investigate local seed production opportunities) – In progress.
- Task 3 (Establish and monitor roadside demo plots) – In progress.
- TC quarterly meeting scheduled for 12/5/23.

2023 Topical Discussion Symposiums
- Asset Management for ITS – Finalize the posting of event recording and materials on the NETC website.
- Animal Vehicle Collision Avoidance – Planning Team meeting to be held in November.
- Geotech – Planning Team meeting to be held in in November.
- e-Construction for Pavements - Planning Team meeting to be held in November.
- Advanced Air Mobility Regional Plan – Planning Team meeting to be held in in November.

- CTC & Associates will facilitate and distribute minutes for the 10/24/23, 11/28/23 and 12/19/23.meetings.
- CTC & Associates will continue project management of all research projects.
- CTC & Associates will continue to track implementation of research projects.
- CTC & Associates will update the NETC website as needed.
- If approved, CTC & Associates will make all final reports from 18-3 onward 508-compliant.

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:

18-1: Development of MASH Computer Simulated Steel Bridge Rail and Transition Details
• ME is implementing 18-1 results, confirming NETC steel bridge rail is MASH crashworthy and adjusting our standard details to reflec
recommended changes (for improved performance). ME does not plan on having MASH crash tests done.
• VTrans S-360 series standards for the NETC 2-Rail bridge rail and approach rail are being updated to reflect the findings in the study
VTrans. S-361 series NETC 3-Rail bridge rail and approach rail are being developed. NETC 20-1: In-Service Performance Evaluation of
Bridge Railings is a follow up to this project.
• ME submitted this project as a High Value Research project and it was selected as a Sweet Sixteen project.

18-2: Framework of Asphalt Balanced Mix Design for New England Agencies
• VTrans will implement aspects of this project. VTrans will base their pass/fail criteria for performance test results during mix design
review/approval on the anticipated traffic loads, at least for Hamburg results.
• NHDOT feels the lowest level of BMD may be realistic and beneficial for to implement at some point in the future.
• The Connecticut Advanced Pavement Lab is building a library of BMD test results, which will be implemented once the library is cor

18-3: Integration of Unmanned Aircraft Systems (UAS) into Operations Conducted by State Departments of Transportation
• A UAS New England peer group formed as a result of this project.
• NH is pursuing a UAS implementation plan that will build off the NETC project. The NETC project provided a broad base while the N
plan will be specific to New Hampshire needs.
• VTrans will use the project's results to look at new platforms, as a starting point to fill in gaps in their existing UAS procedures and
workflows, and as a reference for future discussions in the peer group.

20-1: In-Service Performance Evaluation of NETC Steel Bridge Railings is a follow on project to 18-1: Development of MASH Compute
Simulated Steel Bridge Rail and Transition Details.