

**TRANSPORTATION POOLED FUND PROGRAM
QUARTERLY PROGRESS REPORT**

Date: 6/30/2018

Lead Agency (FHWA or State DOT): Vermont Agency of Transportation

Transportation Pooled Fund Program Project # TPF-5(222)		Transportation Pooled Fund Program - Report Period: <input type="checkbox"/> Quarter 1 (January 1 – March 31) <input checked="" type="checkbox"/> Quarter 2 (April 1 – June 30) <input type="checkbox"/> Quarter 3 (July 1 – September 30) <input type="checkbox"/> Quarter 4 (October 1 – December 31)	
Project Title: New England Transportation Consortium (VI)			
Name of Project Manager(s): Emily Parkany		Phone Number: 802-272-6862	
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Lead Agency Project ID: CA0306		Other Project ID (i.e., contract #): NETC 06-4 NETC 07-1 NETC 09-2 NETC 09-3 NETC 10-3 NETC 13-1 NETC 13-2 NETC 13-3 NETC 14-1 NETC 14-2 NETC 14-4 NETC 15-1 NETC 15-2 NETC 15-3 NETC 17-1	
Project Start Date: 9/16/13 7/1/13 9/1/13 9/1/13 9/16/13 9/1/14 6/1/14 12/1/14 3/1/15 2/1/15 7/06/15 12/1/16 1/1/17 8/1/16 4/1/18			
Original Project End Date: NETC 06-4 9/15/15 NETC 07-1 3/31/16 NETC 09-2 2/28/16 NETC 09-3 8/31/15 NETC 10-3 9/15/15 NETC 13-1 4/2/16 NETC 13-2 5/31/16 NETC 13-3 11/30/15 NETC 14-1 4/2/16 NETC 14-2 4/2/16 NETC 14-4 7/05/17 NETC 15-1 11/30/18 NETC 15-2 12/31/18 NETC 15-3 7/31/18 NETC 17-1 10/10/18		Current Project End Date: NCE to 9/15/16 NCE to 6/30/16 2/28/16 NCE to 12/31/15 NCE to 6/30/2016, NCE to 5/31/17 NCE to 8/31/16 (NETC), NCE to 1/14/17, Amd. to 1/31/18, NCE to 5/31/18, NCE to 8/31/18 NCE to 12/1/17 NCE to 3/31/16, NCE to 9/30/16, NCE to 4/2/17 NCE to 12/31/16 (NETC), NCE to 12/31/17 NCE to 4/2/17 (NETC), NCE to 5/31/17 NCE to 12/31/17 11/30/18 12/31/18 7/31/18 10/10/18	
Number of Extensions: 1 1 0 1 2 3, 1 (for NETC) 1 3 1, 1 (for NETC) 1, 1 (for NETC) 1 0 0 0 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
NETC 06-4	\$242,909	\$214,777.87	100%
NETC 07-1	\$198,154	\$190,421.37	100%
NETC 09-2	\$80,000	\$78,811.11	100%
NETC 09-3	\$165,000	\$149,695.39	100%
NETC 10-3	\$150,158	\$87,819.56	100%
NETC 13-1	\$191,710	\$188,770.26	96%
NETC 13-2	\$249,785	\$238,408.29	100%
NETC 13-3	\$100,000	\$95,060.06	95%
NETC 14-1	\$100,000	\$86,574.61	70%
NETC 14-2	\$205,554	\$166,251.89	100%
NETC 14-4	\$200,000	\$197,283.82	100%
NETC 15-1	\$164,970	\$125,096.53	80%
NETC 15-2	\$150,000	\$134,572.58	40%
NETC 15-3	\$150,000	\$135,377.45	95%
NETC 17-1	\$50,000	\$29,000.00	58%

Quarterly Project Statistics:

	Total Project Expenses and Percentage This Quarter		Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date
NETC 06-4	\$0.0	0%	\$0.0	183% (based on 24 months)
NETC 07-1	\$0.0	0%	\$0.0	121% (based on 33 months)
NETC 09-2	\$0.0	0%	\$0.0	110% (based on 30 months)
NETC 09-3	\$0.0	0%	\$0.0	125% (based on 28 months)
NETC 10-3	\$0.0	0%	\$22,502.18	221% (based on 24 months)
NETC 13-1	\$1,318.26	0.7%	\$5,577.66	96% (based on 28 months)
NETC 13-2	\$0.0	0%	\$0.0	200% (based on 24 months)
NETC 13-3	\$0.0	0%	\$0.0	350% (based on 12 months)
NETC 14-1	\$0.0	0%	\$0.0	177% (based on 22 months)
NETC 14-2	\$0.0	0%	\$0.0	104% (based on 26 months)
NETC 14-4	\$0.0	0%	\$22,379.54	129% (based on 24 months)
NETC 15-1	\$25,704.84*	15.6%	\$73,564.51	75% (based on 24 months)
NETC 15-2	\$683.55**	0.5%	\$638.55	71% (based on 24 months)
NETC 15-3	\$21,438.51	14.3%	\$3,157.36	92% (based on 24 months)
NETC 17-1	\$29,000.00	58%	\$0.0	33% (based on 6 months)

*Note: Included here are expenses from March 1 to May 31.

**Note: Included here are expenses from February 1 to May 31.

Project Description:

- 06-4 Preventative Maintenance and Timing of Applications, Completed June 2017:
http://www.uvm.edu/~transctr/pdf/netc/netcr101_06-4.pdf
- 07-1 In-Place Response Mechanisms of Recycled Layers Due to Temperature and Moisture Variations, Completed November 2016: http://www.uvm.edu/~transctr/pdf/netc/netcr96_07-1.pdf
- 09-2 Effective Establishment of Native Grasses on Roadsides, Completed June 2016:
http://www.uvm.edu/~transctr/pdf/netc/netcr97_09-2.pdf
- 09-3 Advanced Composite Materials: Prototype Development and Demonstration, Completed August 2016:
http://www.uvm.edu/~transctr/pdf/netc/netcr98_09-3.pdf
- 10-3 Low Temperature and Moisture Susceptibility of RAP Mixtures with Warm Mix Technology, Completed March 2018: http://www.uvm.edu/~transctr/pdf/netc/Final%20Deliverables/10-3/NETC_10-3_Final%20Report_03_23_18.pdf
- 13-1 Development of High-Early Strength Concrete for Accelerated Bridge Construction Closure Pour Connections
- 13-2 HMA Mixtures Containing Recycled Asphalt Shingles (RAS): Low Temperature and Fatigue Performance of Plant-Produced Mixtures: http://www.uvm.edu/~transctr/pdf/netc/Final%20Deliverables/13-2/NETC%2013-2%20Final%20Report_20180625.pdf
- 13-3 Improved Regionalization of Quality Assurance (QA) Functions

14-1	Measuring the Effectiveness of Competency Models for Job-Specific Professional Development of Engineers & Engineering Technicians
14-2	Investigation of Northern Long Eared Bat Roosting Sites on Bridges, Completed May 2017: http://www.uvm.edu/~transctr/pdf/netc/netcr100_14-2.pdf
14-4	Optimizing Future Work Zones in New England for Safety and Mobility, Completed March 2018: http://www.uvm.edu/~transctr/pdf/netc/Final%20Deliverables/14-4/NETC_14-4_Final_Report_20180322.pdf
15-1	Use of Forested Habitat Adjacent to Highways by Northern Long-Eared Bats
15-2	Using the new SHRP2 Naturalistic Driving Study Safety Databases to Examine Safety Concerns for Teens and Older Drivers
15-3	Moisture Susceptibility Testing for Hot Mix Asphalt Pavements in New England
17-1	Quick Response: New England Connected and Autonomous Vehicles

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

NETC 13-1, For Task 4 (Test Mixture), most activities have been completed. Freeze-thaw testing and panel tests are the only two activities remaining that will be conducted during the project's No Cost Extension. The geometry and preliminary design of the specimens for panel testing were sent to the TAC for review and comments. To avoid further delays, the project team is proceeding using the dimensions proposed on a communication dated Sept. 27, 2017. The panel specimens are being fabricated for testing.

NETC 13-2, The final report, fact sheet, and poster were submitted and finalized in June 2018.

NETC 13-3, The project team is in the process of preparing the final report, poster, and fact sheet.

NETC 14-1, During this quarter current job postings were collected, job descriptions/postings were compared using the two competency models, specific competencies gaps were outlined, according to models, and the interview guide was outlined to discuss missing gaps/skills across DOTs. The research team is also working on a scheduling plan for interviews with DOT representatives.

NETC 15-1, The project team has accomplished the following items this quarter:

- Task 5: Multiple model types have been run and all yield comparable results such that road density is the only significant factor influencing MYSE presence.
- Task 7: MYSE locality data have been mapped and gaps in data have been identified, with 90% of the data occurring with 3km of roads.
- An abstract was accepted for the Northeastern Transportation and Wildlife Conference presentation at UMass-Amherst, Amherst, MA, September 9-12, 2018.

NETC 15-2, The project team has accomplished the following items this quarter:

- TAC meetings were held on April 17th and May 25th to discuss project progress and preliminary results. Feedback was solicited from committee members.
- Initial scoring of all videos received from VTTI was completed. The research team continued to develop strategies and computer models for analyzing the data.
- The research team requested additional footage from VTTI, since some of the original videos were cut off before the left turns, however, the updated data has not been received yet.
- The team worked with VTTI to amend their data license to gain access to a SHRP2 Dataverse dataset on crash intersections.

NETC 15-3, The majority of work performed this quarter was focused on finalization of laboratory testing, data analysis, and final deliverables for the project. A TAC meeting was held on June 14th and final recommendations from the TAC were given. Preliminary recommendations were also developed during the quarter.

NETC 17-1, A presentation was created and presented at the Stakeholder Workshop on June 11. The Summary of Cross-Border Issues Report and Roadmap of Actions Report were delivered to the TAC.

Anticipated work next quarter:

NETC 13-1, The project team will fabricate freeze-thaw specimens using concrete from trial batches to be sent to DOT the MassDOT freeze-thaw testing facility/lab (ASTM C666). Closure pour casting and laboratory testing of the second panel will also be completed.

NETC 13-2, This project has been completed.

NETC 13-3, Work continues on the final report.

NETC 14-1, The research team plans to complete a draft final report next quarter.

NETC 15-1, The project team will work on the following tasks:

- Task 8: Further develop code and maps for zone of influence.
- Draft final report for the project.

NETC 15-2, The following activities are planned for the next quarter:

- One-two additional meetings for next quarter will be scheduled with the TAC.
- Complete video scoring and data analysis of the SHRP2 data from VTTI.
- Continue analysis and modeling of the SHRP2 data from VTTI.
- Visiting a secure data enclave to view additional video footage of left turn events is being considered.
- Begin preparation of a draft report of results of the analysis.

NETC 15-3, The following activities are planned for the next quarter:

- Refine and finalize recommendations for the lab procedure to be used by New England DOTs for screening of moisture susceptible asphalt mixtures.
- Prepare the final report and deliverables for the TAC by the end of July.

NETC 17-1, The project team will deliver a draft final report to the TAC and complete the final deliverables.

Significant Results:

The final report for project 13-2 was finalized during this quarter and is available on the NETC website. See the "Project Description" section of this report (pg. 2) for a link to this report.

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).

NETC 13-1, Another No Cost Extension was requested to extend the end date to August 31, 2018 so all testing could be completed.

NETC 13-2, This project has been completed.

NETC 13-3, None during the current period.

NETC 14-1, Project funding has expired. Work on the project continues toward completion of a draft final report.

NETC 15-1, None during the current period.

NETC 15-2, Receiving the additional video footage from VTTI has taken longer than anticipated.

NETC 15-3, None during the current period.

NETC 17-1, None during the current period.

Potential Implementation:

The seven of the 15 research projects listed above are still in the research phase or working towards a final report. Project 14-1 implementation is not planned by the PI. Seven research projects (NETC 06-4, 07-1, 09-2, 09 -3, 10-3, 13-2, 14-2, and 14-4) have completed their final reports and technical transfer items (poster and fact sheet). During these processes, the technical advisory committees and researchers will continue to work to identify strategies for implementing the results of this research.