TRANSPORTATION POOLED FUND PROGRAM
QUARTERLY PROGRESS REPORT

Date: __03/31/2015

Lead Agency (FHWA or State DOT): __Vermont Agency of Transportation_____

INSTRUCTIONS:
Project Managers and/or research project investigators 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(222)	**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)

Project Title: New England Transportation Consortium (VI)

Name of Project Manager(s):	**Phone Number:**	**E-Mail**
Bill Ahearn	802-828-2561	Bill.Ahearn@state.vt.us

Lead Agency Project ID:	**Other Project ID (i.e., contract #):**	**Project Start Date:**
CA0306	NETC 06-4	9/16/13
	NETC 07-1	7/1/13
	NETC 09-2	9/1/13
	NETC 09-3	9/1/13
	NETC 10-3	9/16/13
	NETC 13-1	9/1/14
	NETC 13-2	6/1/14
	NETC 13-3	12/1/14

Original Project End Date:	**Current Project End Date:**	**Number of Extensions:**
NETC 06-4 9/15/15	9/15/15 (NCE requested 9/15/16)	0 (1 pending NCE for NETC)
NETC 07-1 3/31/16	3/31/16	0
NETC 09-2 2/28/16	2/28/16	0
NETC 09-3 8/31/15	8/31/15	0
NETC 10-3 9/15/15	9/15/15	0
NETC 13-1 8/31/16	4/2/16 (original proposal 8/31/16)	0 (1 pending NCE for NETC)
NETC 13-2 5/31/16	4/2/16 (original proposal 5/31/16)	0 (1 pending NCE for NETC)
NETC 13-3 11/30/15	3/31/16	1

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	$27,045.54	25%
NETC 07-1 $198,154	$95,348.99	60%
NETC 09-2 $80,000	$19,282.98	55%
NETC 09-3 $165,000	$110,168.38	79%
NETC 10-3 $150,158	$28,449.28	40%
NETC 13-1 $174,923	$30,431.00	22%
NETC 13-2 $249,785	$0	0%
NETC 13-3 $100,000	$0	1%

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 $27,045.53 10%	$21,798.28	75% (based on 24 months)
NETC 07-1 $95,348.99 15%	$1,618.73	63% (based on 33 months)
NETC 09-2 $19,282.98 10%	$1,987.84	63% (based on 30 months)
NETC 09-3 $110,168.38 6%	$33,299.15	79% (based on 24 months)
NETC 10-3 $28,449.28 10%	$14,837.51	75% (based on 24 months)
NETC 13-1 $30,431.00 7%	$15,854.34	33% (based on 24 months)
NETC 13-2 $0 0%	$0	41% (based on 24 months)
NETC 13-3 $0 1%	$0	0%

Project Description:

06-4 Preventative Maintenance and Timing of Applications
07-1 In-Place Response Mechanisms of Recycled Layers Due to Temperature and Moisture Variations
09-2 Effective Establishment of Native Grasses on Roadsides
09-3 Advanced Composite Materials: Prototype Development and Demonstration
10-3 Low Temperature and Moisture Susceptibility of RAP Mixtures with Warm Mix Technology
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
13-3 Improved Regionalization of Quality Assurance (QA) Functions

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

06-4, UMass Dartmouth continued work on the literature review (Task 2). The survey was developed and distributed to each of the New England State DOTs to assess the current status of pavement preservation activities (Task 3 &4).

07-1, This quarter was focused on FWD testing at the NH and ME sites. The research team analyzed the temperature data to determine the appropriate timing for FWD tests at all sites, and several sets of FWD tests have been conducted at each site. The data logger at the Waterford site was replaced and the issue with the thermistor string at Warren Flats was resolved. Currently, all four sites are collecting and transmitting data as expected.

09-2, The following activities were implemented during this reporting period:

Survey and Interviews:

- January 6, 2015 – interviewed the Massachusetts DOT
- Throughout January – February 2015: The attempts to schedule a visit to interview th Vermont DOT managers

were unsuccessful (contacted 8 times Bill Ahearn and his colleagues by email and phone).
- March 2015: The decision was made to proceed with the interview analyses without input from Vermont. The complete transcripts for 5 states, visited during October-January, were prepared and analyses were completed. The write-up is in preparation.

Maintenance of the demonstration sites along Rt. 6:
- Discussion of the treatments for field installation in spring 2015 is in progress.

09-3, Task 4 – Product validation: baseline mechanical properties and durability. The laboratory tests to assess environmental durability and generate mechanical properties for the three vendors (Kenway, ACO, and Grace Composites – FRP Bridge Drain Pipe) were completed. Draft reports summarizing baseline mechanical properties and durability performance based on coupon tests for their vendors were submitted to the Technical Committee. Tasks 5 and 6 – Document installation of FRP drains in bridges. Contacted Maine DOT to coordinate the monitoring of the Westbrook Bridge FRP drains installation, which is scheduled for construction this Fall.

10-3, UMASS Dartmouth contacted Tilcon CT about reproducing the mixtures produced in October 2014 that did not meet the required volumetric properties. UMASS Dartmouth contacted the other contractor (Palmer Paving) who agreed to produce mixture for this study. This contractor stated that they will produce the mixtures in April or May 2015. An additional contractor was contacted (PJ Keating) to determine if they would help with producing the mixtures for this study in the event one of the selected contractors cannot supply the mixtures.

13-1, The following activities were performed during this reporting period:
- Began a written summary of the literature review including main findings of relevant research reports, technical papers and survey responses.
- Tested preliminary concrete mix designs and compared test results using compressive strength tests on 4 by 8 in. cylinders and workability of each trial batch.
- Adjusted existing concrete mix design specifications based on preliminary test results; design specifications will continue to be modified throughout the duration of the project.

NETC 13-2, UMass Dartmouth continued to contact several producers of asphalt mixtures in New England about their availability and willingness to participate in the study. Due to inclement weather no mixtures were able to be produced this quarter. Work commenced on the literature review for this project.

NETC 13-3, The final contract execution for this research study occurred just before the end of the quarter, thus it was not possible to make significant progress on this research study. However, during this past quarter the researchers collected the information on the QA process of PCE/PSE from all constituent states. The information is currently being processed to develop the state of the practice review.

Anticipated work next quarter:

06-4, Continue work on the literature review. Compile and tabulate survey responses for Task 3&4. Commence work on Task 5&6.

07-1, The FWD testing will continue through the spring thaw and recovery period. The research team will be analyzing the results in combination with the measurements from the in-place instrumentation. Pavement evaluations will also begin.

09-2, Complete the interview analyses and write-up. Continue writing a chapter about the establishment of the demonstration plots along Rt. 6. Evaluate the plots installed last fall. Establish additional experimental plots in May.

09-3, Submit draft report for Task 4 summarizing test data and discussing compliance with specifications. Ask for a no-cost extension to be able to include the Westbrook Bridge, and possibly other bridges, in Tasks 5 and 6 of the NETC technical report. Coordinate with DOTs documentation of bridge drain installations.

10-3, UMass Dartmouth will attempt to obtain and begin testing the plant produced mixtures.

13-1, Complete the written summary of the literature review including main findings of relevant research reports, technical papers and survey responses. Adjust existing concrete mix design specifications based on feedback from the NETC Project Technical Committee (pending feedback from committee). Test preliminary concrete mixtures that reach compressive strength goal for remaining initial short-term performance criteria (set time, air content and slump). Design

and prepare experimental setups for short and long-term tests

13-2, Complete Literature Review. The contractor (PJ Keating) will deliver the virgin materials (asphalt binder, aggregates, and shingles) that will be used in producing the mixture to UMass. UMass will start performing mix designs.

13-3, Project Kick-off Meeting; Completion of QA Process Review; Interview with DOT engineers and QA inspectors.

Significant Results:

None as of this reporting period.

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 06-4, UMass Dartmouth requested a no-cost time extension (September 2014) in order to include more new pavement preservation projects ongoing in the New England states to this study, investigate and purchase the needed testing devices, and to allow more time for field evaluation of the preservation projects included in the study. The requested time extension was for one year with a new end date of 9/15/2016. New End Date is beyond NETC contract end-date. NCE approval is waiting for NETC contract NCE approval.

NETC 07-1, None during the current period.

NETC 09-2, No problems were encountered during this reporting period.

NETC 09-3, None during the current period.

NETC 10-3, In September 2014, UMass Dartmouth formally requested a no additional cost time extension for this project of twelve month (new end date 9/15/2016). The basis of the request is that the contractors have not produced or provided the mixtures required for this study. The Technical Committee is reviewing the NCE request.

NETC 13-1, No problems encountered to date. The proposed project period was 24 months. However, the NETC coordinator's contract end date is 4/2/16, and the project cannot be contracted past that end date. The project will require a NCE for end date 8/31/16 as soon as the NETC contract NCE is approved.

NETC 13-2, Due to inclement weather, no mixtures were able to be produced this quarter. The proposed project period was 24 months. However, the NETC coordinator's contract end date is 4/2/16, and the project cannot be contracted past that end date. The project will require a NCE for end date 5/31/16 as soon as the NETC contract NCE is approved

NETC 13-3, None during the current period.

Potential Implementation:
The 7 research projects listed above are still in progress. Implementations of the results of those projects are not anticipated in the near future.