TRANSPORTATION POOLED FUND PROGRAM
QUARTERLY PROGRESS REPORT

Lead Agency (FHWA or State DOT): New York State Department 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)*	**Transportation Pooled Fund Program - Report Period:**
TPF-5(193) Suppl. #102	☐ Quarter 1 (January 1 – March 31) ☑ Quarter 2 (April 1 – June 30) ☐ Quarter 3 (July 1 – September 30) ☐ Quarter 4 (October 4 – December 31)

Project Title:		
Dynamic Testing & Evaluation of a New York DOT Prototype Box Beam Guardrail End Terminal System Under AASHTO M		
Name of Project Manager(s): Faller, Lechtenberg, Reid, Schmidt	**Phone Number:** 402-472-9070	**E-Mail** kpolivka2@unl.edu
Lead Agency Project ID: 261113010001	**Other Project ID (i.e., contract #):**	**Project Start Date:** 8/15/2016
Original Project End Date: 10/30/2017	**Current Project End Date:** 10/30/2017	**Number of Extensions:**

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
$265,250	$88,960	30%

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date
	$57,728	

Project Description:

The New York State Department of Transportation (NYSDOT) has designed a a prototype box beam guardrail end terminal system. They have a desire to preliminarily evaluate it with the more critical MASH tests.

The objective of this research effort is to investigate the performance of a prototype box beam guardrail end terminal system through MASH-compliant crash testing (three preliminary tests).

Objectives / Tasks

1. System CAD details - test no. 1
2. System construction - test no. 1
3. Full-scale crash testing (MASH 3-31) - test no. 1
4. System CAD details - test no. 2
5. System construction - test no. 2
6. Full-scale crash testing (MASH 3-30) - test no. 2
7. System CAD details - test no. 3
8. System construction - test no. 3
9. Full-scale crash testing (MASH 3-36) - test no. 3
10. Written report documenting design, testing, and conclusions

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

Construction of the first prototype box beam end terminal system was completed.

On May 16, the zig zag box-beam terminal was subjected to AASHTO MASH TL-3 test conditions using a 2270P pickup truck vehicle (test designation 3-31). In test no. NYT-1, the pickup truck impacted the system with the centerline of the vehicle impacting at 0 degrees to the tangent of the system at the centerline of the rail at the impact face at 62.6 mph. The occupant impact velocities and occupant ridedown accelerations were within the suggested limits provided in MASH. The vehicle snagged at the transition to the tangent portion of the system and the truck exhibited very unique damage – the side of the truck peeled open. Consequently, the test was unacceptable according to the safety performance criteria of AASHTO MASH for test designation no. 3-31.

Test documentation and analysis of test no. NYT-1 were completed.

Anticipated work next quarter:

Initiate draft report for test no. NYT-1.

Significant Results:

None

Objectives / Tasks	% Complete
1. System CAD details - test no. 1	100%
2. System construction - test no. 1	100%
3. Full-scale crash testing (MASH 3-31) - test no. 1	100%
4. System CAD details - test no. 2	
5. System construction - test no. 2	
6. Full-scale crash testing (MASH 3-30) - test no. 2	
7. System CAD details - test no. 3	
8. System construction - test no. 3	
9. Full-scale crash testing (MASH 3-36) - test no. 3	
10. Written report documenting design, testing, and conclusions	
10a. Report - Test no. 1	5%

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:

Investigation and evaluation of the box beam end terminal would provide for MASH TL-3 acceptance of a box beam end terminal.