TRANSPORTATION POOLED FUND PROGRAM
QUARTERLY PROGRESS REPORT

Lead Agency (FHWA or State DOT): NE Department of Roads

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(193) Suppl.#89	**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 4 – December 31)	
Project Title: Continued Development of Midwest High-Tension, Cable Barrier End Terminal - Phase I		
Name of Project Manager(s): Schmidt, Reid, Faller	**Phone Number:** 402-472-0870	**E-Mail** jennifer.schmidt@unl.edu
Lead Agency Project ID: 2611211119001	**Other Project ID (i.e., contract #):** RPFP-16-CABLE-4	**Project Start Date:** 10/1/2015
Original Project End Date: 9/30/2018	**Current Project End Date:** 9/30/2018	**Number of Extensions:** 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
$41,230	$106	0%

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date
	$51	

Project Description:

MwRSF has been conducting research for the Midwest States Pooled Fund Program to develop a non-proprietary, high-tension, four-cable median barrier. A separate effort was funded in parallel to develop a crashworthy end terminal for that cable barrier design. Previous research efforts resulted in two non-proprietary, high-tension, cable barrier end terminal designs that were subjected to dynamic bogie testing. However, the bogie testing indicated that the two systems did not meet all of the design goals and further design modifications and investigation was deemed necessary. Additionally, during the development of the high-tension, four-cable median barrier, several design modifications were implemented that will likely affect the design of the end terminal, including the post section, the cable height and spacing, cable tension, and the cable-to-post connection hardware. It is desired that the end terminal system be designed to integrate with the high-tension, four-cable median barrier design as seamlessly as possible. Thus, additional effort is needed to update the terminal to the current high-tension, cable median barrier configuration.

The research objective is to continue the development, dynamic component testing, and evaluation of a crashworthy, four-cable end terminal. The system is desired to meet the TL-3 safety performance criteria found in MASH.

Major Task List -

1. LS-DYNA Simulation
2. CAD Drawings
3. Construction of End Terminal
4. Two Bogie Tests and Data Analysis
5. Summary Report

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

The Year 20 cable end terminal report was finalized on April 28, 2016. No significant work has begun on this project.

Anticipated work next quarter:

This project is contingent on the direction taken by the high-tension, cable median barrier project. Once the direction of that project is determined, then the direction of this project can be decided. The first step on this project would be to brainstorm end terminal concepts that improve the performance of the current cable end terminal during reverse direction impacts.

Significant Results:

None.

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).

Note: This project was originally funded in Year 26 with a total budget of $106,230. In the November 9 Pooled Fund meeting, it was decided that $65,000 would be reduced from this project RPFP-16-CABLE-4, so the currently funded budget is $41,230 as reflected in 'Total Project Budget' on page 1. The $65,000 deficit was not made up in Year 27. Thus, all tasks in this project will not be completed. Until the direction of the length-of-need high-tension, cable median barrier project is decided, work will not be initiated on this project.

Potential Implementation:

The revised terminal will provide a non-proprietary end terminal for high tension barrier cable systems once the design is finalized and the full-scale crash testing program has been funded and successfully completed.