

TRANSPORTATION POOLED FUND PROGRAM QUARTERLY PROGRESS REPORT

Lead Agency (FHWA or State DOT): Texas 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 # TPF-5(482)	Transportation Pooled Fund Program - Report Period: <input type="checkbox"/> Quarter 1 (January 1 – March 31) <input type="checkbox"/> Quarter 2 (April 1 – June 30) <input type="checkbox"/> Quarter 3 (July 1 – September 30) <input checked="" type="checkbox"/> Quarter 4 (October 1 – December 31)	
Project Title: Development and Evaluation of Roadside Safety System for Motorcyclists		
Name of Project Manager(s): Chris Glancy	Phone Number: 512-416-4747	E-Mail Chris.Glancy@txdot.gov
Lead Agency Project ID:	Other Project ID (i.e., contract #):	Project Start Date: 2021
Original Project End Date: 2024	Current Project End Date: 2024	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
\$780,000	\$441,171	56.6%

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date
\$119,227.11; 15%	\$119,227.11	77.8%

Project Description:

The objective of this pooled fund study is to provide a cooperative approach to conducting research to address roadside safety issues specifically related to improving motorcyclist safety. Furthermore, the study is intended to provide participating states collaborative opportunities to stay abreast of best practices, new regulatory issues, risk management strategies, and other research pertaining to roadside safety improvements for motorcyclists. Research activities will include identification, development, and evaluation of strategies and devices for mitigating the frequency and severity of roadside departure motorcyclist crashes.

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

The following tasks were completed in this quarter:

Task 1. Project Management

- Annual meeting with state members was held in College Station, TX on October 16th
- New projects were selected and prioritized

Task 2. Analyze Motorcycle Roadside Safety Issues

- Project 4. Evaluation of a Prioritized Design of a Lower Rail Element for Installation to the MGS System to Address Motorcycle Safety
 - MASH Test 3-11 was conducted.
 - The pickup truck vehicle was successfully contained and redirected
 - The occupant risk values were within the limit
 - The system was satisfactory for MASH Test 3-11 evaluation criteria
 - The results of the crash test were documented in the research report
 - Research report deliverable R2B was finalized and submitted on December 22nd, 2023
- Project 5. Development and Full-Scale Crash Testing of an Improved Steel Railing for Use on Top of Barriers: Phase II
 - Additional FE simulations were conducted on the chainlink fence design with horizontal railings to identify optimized heights of the railings for accommodating a variety of motorcycle types and riders
 - The rail heights were adjusted to 15 inches and 24 inches above the concrete barrier to accommodate lower height motorcycles.
 - Initiated the development of detailed CAD drawings of the system
 - A review of recent motorcycle crash studies relating to encroachment data was conducted by the research team. Based on those findings and previous motorcycle crash tests, the recommended impact conditions are 45 mi/h and 15 degrees.
- Project 6. Technology Transfer
 - Identified topics and information to include in the website
 - Resources
 - Q&A
 - Project information/content
 - About
 - A design template for the website structure was developed
 - Selected search engine development code to allow search capabilities throughout the website
- Project 7. Development of Safety Standards for Testing of Motorcycle Helmets for Use in Roadside Safety System Crashworthiness Evaluation
 - Developed a design concept for the test apparatus to conduct the helmet impact testing
 - Identified and ordered 13 motorcycle helmets. The helmets range in specification (e.g., DOT-approved, SNELL, ECE 22.05, ECE 22.06, etc.)
 - Ordered ATD neck components to allow attachment to test apparatus
 - Constructed impact plate, sled, and table for experimental testing

Anticipated Work Next Quarter:

- Project 5. Development and Full-Scale Crash Testing of an Improved Steel Railing for Use on Top of Barriers: Phase II

- Finalize detailed CAD drawings of the system
 - Construct the test article for the full-scale crash tests (upright motorcycle and pickup truck)
- Project 6. Technology Transfer
 - Build out web pages for the identified topics
- Project 7. Development of Safety Standards for Testing of Motorcycle Helmets for Use in Roadside Safety System Crashworthiness Evaluation
 - Finalize construction of the test apparatus
 - Attach stainless steel removable impact plates
 - Weld and attach pulley connection for drop tower weight
 - Perform test runs to verify impact speed and overall consistency
 - Conduct tests on all motorcycle helmets

Significant Results: Project 4 was completed and documented in Research Report deliverable R2B which was submitted on December 22nd.

Potential Implementation: