

## 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.*

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

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	\$299,039	38.3%

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date
\$95,273.10; 12%	\$95,273.10	66.7%

**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:

- Project 1. Investigation of Roadway Design Methods to Decrease Likelihood of Roadway Departures for Motorcyclists (Phase II).
  - Documented crash data analyses and results for research report
- Project 2. Investigation of Available Data towards the Development of Hardware Installation Guidance for Motorcycle Roadside Safety
  - documented crash data analyses and results for research report
- Project 3. Development and Full-Scale Crash Testing of an Improved Railing for Use on Top of Barriers.
  - Conducted motorcycle impacts with chainlink fence system. Modified design to improve performance of the system.
  - Evaluated various impact speeds and angles with motorcycle and ATD rider.
  - Conducted truck simulation impacts with the chainlink fence model.
  - Completed documentation of finite element simulations for the research report.
- Project 4. Evaluation of a Prioritized Design of a Lower Rail Element for Installation to the MGS System to Address Motorcycle Safety
  - Construction of the guardrail system was completed.
  - MASH Test 3-10 was conducted.
    - The small car vehicle was successfully contained and redirected
    - The occupant risk values were within the limit
    - The system was satisfactory for MASH Test 3-10 evaluation criteria

**Anticipated Work Next Quarter:**

- Project 4. Evaluation of a Prioritized Design of a Lower Rail Element for Installation to the MGS System to Address Motorcycle Safety
  - Conduct MASH Test 3-11
  - Document results in report R2B
- Project 5. Development and Full-Scale Crash Testing of an Improved Steel Railing for Use on Top of Barriers: Phase II
  - Finalize design through additional FEA. Adjust height of middle horizontal rails to accommodate a range in heights of motorcycles and riders.
  - Develop detailed CAD drawings of the system
- Project 6. Technology Transfer
  - Identify outline/structure for website
  - Begin development of website and other outreach materials
- Project 7. Development of Safety Standards for Testing of Motorcycle Helmets for Use in Roadside Safety System Crashworthiness Evaluation
  - Develop test apparatus for helmet testing
  - Check calibration of instrumented dummy
  - Identify helmets for testing

**Significant Results: Projects 1-3 were completed and documented in Research Report deliverable R2A which was submitted on September 21<sup>st</sup>.**

**Potential Implementation:**