

## 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 type="checkbox"/> Quarter 3 (July 1 – September 30) <input checked="" 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	\$104,084	13.3%

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date
\$14,465; 1.9%	\$14,465	44.4%

**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 roadway 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).
  - Our research team conducted meetings on a weekly basis to discuss the project work plan and assess the available data.
  - Our research team reviewed collected data and made an assessment of data analysis methods for evaluating the safety of motorcyclists using the data from the following states: Louisiana, Massachusetts, Texas and Utah.
- Project 2. Investigation of Available Data towards the Development of Hardware Installation Guidance for Motorcycle Roadside Safety
  - Our research team had meetings weekly to discuss the work plan and readily available data.
  - Our research team assessed the readily available data collected during Phase I of Project 1 described above.
  - According to the assessment the research team will utilize the data collected from four states to evaluate the roadside design treatments for motorcyclist safety.
  - For the purposes of this project the research team will analyze the run-off-road fixed object crashes involving motorcyclists.
  - Our research team started analyzing Texas crash data.
- Project 3. Development and Full-Scale Crash Testing of an Improved Railing for Use on Top of Barriers.
  - Started to work on this project from late November
  - Did some literature review of the different types of motorcycles based on their class to determine the seat and handlebar height for evaluating the type of attachment on top of concrete barrier. Additionally started investigating different concrete barriers such as F-Shape, Single-slope and Vertical wall to determine the critical barrier with motorcycle simulation.
  - Fixed troubleshooting errors and performed preliminary finite element simulations on F-Shape, Single-Slope and Vertical wall.
- Project 4. Evaluation of a Prioritized Design of a Lower Rail Element for Installation to the MGS System to Address Motorcycle Safety
  - This project leverages on the testing results from another on-going research and testing effort on wood-post MGS system – full-scale testing is planned after the wood-post system is tested for motorcycle sliding impacts.

**Anticipated Work Next Quarter:**

- Project 1. Investigation of Roadway Design Methods to Decrease Likelihood of Roadway Departures for Motorcyclists (Phase II).
  - Our research team will select the roadway and roadside design characteristics contributing to the motorcyclist crashes.
  - Our research team will use the data mining and regression tools to select the important crash-contributing factors.
- Project 2. Investigation of Available Data towards the Development of Hardware Installation Guidance for Motorcycle Roadside Safety
  - Our research team will review motorcyclist crashes involving fixed objects (i.e., roadside hardware) and summarize them to identify the most recurring crash types (e.g., guardrail crashes, barrier crashes, etc.).

- Our research team will then map the identified crashes to collect the data on roadside hardware involved in the crash.
- Project 3. Development and Full-Scale Crash Testing of an Improved Railing for Use on Top of Barriers.
  - Researchers will further investigate the heights of various motorcycle seats and handlebar to determine height of attachments on top of barriers. Researchers will also identify some possible attachments and select some critical designs for performing Finite Element Analysis.

**Significant Results:**

**Potential Implementation:**