

**TRANSPORTATION POOLED FUND PROGRAM  
QUARTERLY PROGRESS REPORT**

Lead Agency (FHWA or State DOT): \_\_\_\_\_ FHWA \_\_\_\_\_

**INSTRUCTIONS:**

Lead Agency contacts 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> <i>(i.e., SPR-2(XXX), SPR-3(XXX) or TPF-5(XXX))</i>  TPF-05(317)		<b>Transportation Pooled Fund Program - Report Pe</b> <input checked="" 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 type="checkbox"/> Quarter 4 (October 1 – December 31)	
<b>TPF Study Number and Title:</b> TPF-05(317) The Evaluations of Low-Cost Safety Improvements Pooled Fund Study (ELCSI-PFS)			
<b>Lead Agency Contact:</b> Woon Kim, FHWA	<b>Lead Agency Phone Number:</b> (202) 493-3383	<b>Lead Agency E-Mail</b> Woon.Kim@dot.gov	
<b>Lead Agency Project ID:</b> TPF-05(317)	<b>Other Project ID (i.e., contract</b> N/A	<b>Project Start Date:</b> 08/2022	
<b>Original Project Start Date:</b> 05/2005	<b>Original Project End Date:</b> 05/2010	<b>If Extension has been request</b> <b>updated project End Date:</b> N/A continuing effort	

Project schedule status:

- On schedule     On revised schedule     Ahead of schedule     Behind schedule

Overall Project Statistics:

Total Project Budget	Total Funds Expended This Quarter	Percentage of Work Completed to Date
Ongoing project (N/A)	Ongoing project (N/A)	Ongoing project (N/A)

**Project Description:**

The primary goal of the Evaluation of Low-Cost Safety Improvement Pool Fund Study (ELCSI-PFS) was to save lives and reduce traffic crash injuries by identifying effective safety strategies for national implementation. The ELCSI-PFS conducted research to quantify the safety effectiveness of selected strategies — so-called crash modification factors (CMFs) — that may address priority safety concerns but had not been proven. This study also provided benefit-cost (B/C) ratios to estimate the resulting relationship between the relative monetary value of benefits and costs of a selected strategy. Transportation agencies utilized estimated CMFs and B/C ratios to select, plan, fund, and install a specific safety strategy on a targeted site to improve its outstanding safety issue. The secondary goal of this study is to improve and advance the statistical tools to conduct more reliable, rigorous research. For this effort, this study collaborated with the American Statistical Association (ASA) and identified new statistical methodologies to advance the current practices used in the development of CMFs. This study initiated in 2005 but continued adding years for additional studies. Currently this study is running Phase XIII (so-called 5 CMFs) to evaluate the safety effectiveness of the following countermeasures:

- Rectangular Rapid Flashing Beacons (RRFBs)
- Left-Turn Lanes Improvements (LTL)
- Curve Enhanced Delineation (CED)
- Alternative Rumble Strips (ARS)
- Fixed Object Delineation (FOD)

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

ELCSI-PFS PHASE XIII: 5 CMFS

RRFB

- Await the approval of the story idea submitted to *Public Roads*.

LTL

- Completed in-depth analysis developing crash modification factors.
- Completed and submitted Technical Memorandum for completion of data analysis summarizing process, accomplishments, issues, opportunities, and recommendation.
- Conducted a technical panel meeting with FHWA and States stakeholders to present study findings and to get their feedback.
- Began drafting 1<sup>st</sup> draft technical report.

CED

- Finalized revisions on technical report and submitted to the MUTCD Team for feedback.
- Finalized revisions on techbrief.

ARS

- Updated the South Dakota dataset, consisting of 442 segments (233 reference sites and 209 treatment sites).
- Conducted exploratory analysis based on the refined dataset and developed safety performance functions.
- Performed the empirical Bayesian analyses for total, fatal/injury, property damage only, and sideswipe/head-on crashes. Crash rates were also examined.

FOD

- Revised the final report in response to MUTCD Team comments and received feedback from FHWA.

TECHNICAL ADVISORY COMMITTEE (TAC) MEETING

- Completed. No further activities. Please refer to [the quarterly progress report for TPF-5\(515\)](#) for upcoming activities under this subsection.

PUBLICATIONS

RRFB Factsheet (<https://highways.dot.gov/sites/fhwa.dot.gov/files/FHWA-HRT-25-086.pdf>)

**Anticipated work next quarter:**

- Start developing a draft RRFB paper once we receive an approval from the *Public Roads* editor.
- Complete the 1st draft technical report for LTL study.
- Revise the technical report and tech brief as needed if the MUTCD Team provides feedback for CED study.
- Finalize the empirical Bayesian analysis based on South Dakota data for ARS study.
- Revise 1<sup>st</sup> draft technical report of FOD study based on FHWA comments and submit the finalized draft to the MUTCD Team for review.

**Significant Results:**

- Revisions on technical reports for CED and FOD studies are a work in progress.

**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 agreement, along with recommended solutions to those problems).**

For CED and FOD studies, MUTCD Team requested major revisions on the draft technical report, which will delay study completion. Additionally, research team will conduct a full-Bayesian method for better utilization of collected data for ARS study, which will delay study completion. The relevant contract modification was executed on December 19, 2025.

**Potential Implementation:**

N/A