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.

Transportation Pooled Fund Program Project # *(i.e, SPR-2(XXX), SPR-3(XXX) or TPF-5(XXX)* TPF-05(317)	**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 1 – December 31)

TPF Study Number and Title: TPF-05(317) The Evaluation of Low Cost Safety Improvements Pooled Fund Study (ELCSI-PFS)		
Lead Agency Contact: Woon Kim, FHWA	**Lead Agency Phone Number:** (202) 493-3383	**Lead Agency E-Mail** Woon.Kim@dot.gov
Lead Agency Project ID: TPF-05(317)	**Other Project ID (i.e., contract #):** N/A	**Project Start Date:** 08/2022
Original Project Start Date: 05/2005	**Original Project End Date:** 05/2010	**If Extension has been requested, updated project End Date:** 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

- Identified the number of crashes for the following crash types: total, pedestrian, rear-end, angle, severity level, and pedestrian crashes by light levels. The common severity levels among the five states (California, North Carolina, Oregon, Pennsylvania, and Texas) were fatal, non-fatal injury, property damage only (PDO), and unknown (note: we do not have PDO crashes for California). The common light levels among the five states were dark-not lighted, dark-lighted, daylight, dawn or dusk, and unknown
- Started the process of identifying and developing a model that can be used to estimate pedestrian volumes when a count is not available based on 235 available California pedestrian counts
- Started the process of identifying the best variables for use in the detailed analysis since the dataset has over 430 variables available due to including data from the Smart Location Database (183 variables), the CDC/ATSDR Social Vulnerability Index (161 variables), site characteristics obtained using Google Earth, and other typical variables
- The data were provided to the statistician for preliminary evaluations. Based upon her comments, the research team is making needed changes to the format of the database, especially in providing the crash data by year within the before period and the after period

LTL

- Completed identifying/reviewing candidate dual LTL study sites in California and finalized 386 treated sites and 399 comparison sites
- Completed pinning the intersection middle points for California sites
- Completed a quality control review for California sites
- Started pinning the intersection middle points for the California sites
- Completed a quality control review for the Texas data and finalized 389 treated sites and 437 comparison sites
- Completed pinning the intersection middle points for Texas sites for the purpose of assigning crash data
- Completed collecting installation dates for California and Texas sites
- Began developing technical memos for 1) data collection completion and identified issues/opportunities with recommendation; and 2) selected statistical methodologies and requirements

CED

- Continued collecting data to describe treated and control sites (signing and curve radius).
- Completed merging Pennsylvania crash data with site data
- Obtained Texas crash data and worked on mering these data with site data

ARS

- Finalized the datasets for South Dakota, Maine, and Arkansas, conducting quality control checks and resolving inconsistencies in the data, as necessary
- Discussed the best statistical method for evaluating the safety of alternative rumble strips
- Reviewed Michigan data and decided to exclude from further analysis due to inconsistent data format
- Began developing a technical memo for data collection completion and identified issues/opportunities with recommendations

FOD

- Extended data collection for the Pennsylvania Department of Transportation District 6 region and the year of construction has been estimated based on PennDOTs video log and/or Google's StreetView tools
- Reassessed the preliminary data to determine if several variables can be removed to relax data requirements to be eligible for consideration of potential study sites
- Made another attempt to screen sites in other states using the relaxed data requirements
- Downloaded needed GIS files for Pennsylvania and Texas, found issues on files, and conducted troubleshooting

TECHNICAL ADVISORY COMMITTEE (TAC) MEETING

- Concluded the 2023 meeting notes and summary report
- Worked on identifying potential meeting locations and dates for the 2024 meeting through survey responses from TAC members; the meeting is tentatively scheduled as a hybrid meeting (in-person with a virtual option) for the second week of June in Oklahoma City
- Prepared and submitted the contract modification by incorporating 2024 TAC meeting to the project
- Began discussing potential speakers and sessions for the 2024 meeting

PUBLICATIONS

Technical Report for Developing Crash Modification Factors for Bicycle Treatments at Intersections was published.

Additional publications for Phase XI are in progress regarding the following topics:

- Wrong way driving low cost safety improvements

Anticipated work next quarter:

- Continue refinements to the databases as needed for RRFB
- Review crash data and turning count data received from cities in California and Texas for LTL
- Continue data collection to describe treated and control sites for CED
- Continue working on technical memos for selected statistical methodologies and requirements for ARS
- Resolve issues with Pennsylvania GIS files for FOD
- Continue developing the draft 2024 TAC meeting agenda and arranging the venue and lodging
- Continue working on publications from Phase XI

Significant Results:

- Made progress on obtaining and reviewing data for all five studies
- Published some documents relevant to Phase XI
- Began planning the 2024 TAC meeting

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).

RRFB: The previous challenge regarding lack of pedestrian volume data persists; however, the team began the process of identifying and developing a model that can be used to estimate pedestrian volumes when a count is not available.

FOD: The previous challenge regarding lack of data sources persists; the team relaxed the data requirements to be eligible for consideration of potential sites and was rescreening sites in other states.

Potential Implementation:
N/A