TRANSPORTATION POOLED FUND PROGRAM
QUARTERLY PROGRESS REPORT

Lead Agency (FHWA or State DOT): FHWA

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 # *(i.e, SPR-2(XXX), SPR-3(XXX) or TPF-5(XXX)* TPF 5(361)	**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)	
Project Title: SHRP2 Naturalistic Driving Study Pooled Fund: Advancing Implementable Solutions		
Name of Project Manager(s): Charles Fay	**Phone Number:** 202-493-3336	**E-Mail** charles.fay@dot.gov
Lead Agency Project ID: TPF 5(361)	**Other Project ID (i.e., contract #):**	**Project Start Date:** 3/17/2017
Original Project End Date: 3/17/2022	**Current Project End Date:** 12/31/2024	**Number of Extensions:** 3

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
$2,310,000.00	$2,100,050	91%

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date

Project Description:

This pooled fund study will support research using data from the second Strategic Highway Research Program (SHRP 2) Naturalistic Driving Study (NDS). The goal is to advance the development of implementable solutions for State and local transportation agencies with an emphasis on the broad areas of Safety, Operations, and Planning.

The Technical Advisory Committee (TAC) developed a list of 30+ research topics and prioritized these topics based on input from the AASHTO Research Advisory Committee. Using the prioritized list of research topics -- a request for proposals was issued. The response included 25 proposed projects, totaling over $8 million. With the available funds, the TAC picked 6 out of the 25 to fund for research.

The six projects are:

"Investigating How Multimodal Environments Affect Multitasking Driving Behaviors"

This study will use the SHRP 2 NDS data to examine multi-tasking behaviors when drivers are in environments that include large numbers of pedestrians and cyclists. Multi-tasking behavior refers to any secondary activity not related to the primary driving task, such as engagement with mobile devices, eating, drinking and talking to passengers. More specifically, this study will focus and provide guidance on: 1) the likelihood of drivers engaging in (or disengaging from) secondary task activities given the presence of pedestrians and cyclists; and 2) the effect of different types of crosswalks and bike lanes (including pavement markings and signage) on secondary task activities.

"Incorporating the Impacts of Driver Distraction into Highway Design and Traffic Engineering"

The objective of this research is to leverage the SHRP 2 NDS data to examine and quantify the impacts of driver

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

A no cost time extension was provided to two out of the six projects described above. These extensions were provided so the researchers could revise their reports based on additional analysis.

The two projects are: "Investigating How Multimodal Environments Affect Multitasking Driving Behaviors" and "Incorporating the Impacts of Driver Distraction into Highway Design and Traffic Engineering".

A 7th project, focused on tech-transfer by developing implementation videos for each of the six projects' products was provided a no-cost time extension to 12/31/2024. These videos will demonstrate to practitioners how to utilize the research results including use of any tools developed.

The overall pooled fund study was extended to 12/31/2024 to accommodate this work.

The other four projects are in various stages of the publication process, with one published to date.

Project: "Verification and Calibration of Microscopic Traffic Simulation Using Driver Behavior and Car-Following Metrics for Freeway Segments " has been published and is available on-line.

Please see link: https://highways.dot.gov/research/publications/operations/FHWA-HRT-24-103.

In addition to the published report, a portable open-source tool developed as part of the research, called Naturalistic Assessments of Car-following Trajectories (NACT) is available for download

Anticipated work next quarter:

The two projects that had a no-cost time extension, "Investigating How Multimodal Environments Affect Multitasking Driving Behaviors" and "Incorporating the Impacts of Driver Distraction into Highway Design and Traffic Engineering", will continue to work on their draft final reports. The other remaining final reports are anticipated to be published in the next quarter. The implementation project will begin developing scripts and 508 compliant materials for the six on-line videos. These videos will demonstrate to practitioners how to utilize the research results including use of any tools developed.

Upcoming public webinars are scheduled for these two projects below to present their research results:

"Incorporating the Impacts of Driver Distraction into Highway Design and Traffic Engineering" on Wednesday, July 17, 2024, at 12 PM ET. - No registration required. An announcement will be sent out. In meantime, please contact Charles Fay (charles.fay@dot.gov) for link.

"Horizontal Curve Safety Performance Evaluation Based on the Naturalistic Driving Study Lane Position Data" on Wednesday August 7, 2024, at 12 PM ET. - No registration required. An announcement will be sent out. In meantime, please contact Charles Fay (charles.fay@dot.gov) for link.

Previous public webinars are recorded and can be found on the SHRP 2 NDS InSight website, https://insight.shrp2nds.us/ .
Log on as 'guest', under Background tab, webinars are listed in section "SHRP2 NDS Naturalistic Driving Study OverviewSHRP2 NDS Naturalistic Driving Study Overview"

Significant Results:

Significant results will be summarized for all six projects when they all are finalized and published. In the meantime, please find below summary results for the one published report to date: "Calibration of Microscopic Traffic Simulation Using Driver Behavior and Car-Following Metrics for Freeway Segments".

Link to report: https://highways.dot.gov/research/publications/operations/FHWA-HRT-24-103

In addition to the published report, a portable open-source tool developed as part of the research, called Naturalistic Assessments of Car-following Trajectories (NACT) is available for download, https://transanalytics.civil.utah.edu/ndresearch.html

A public webinar on this research project was recorded and can be found on the SHRP 2 NDS InSight website, https://insight.shrp2nds.us/ . Log on as 'guest', under Background tab, webinars are listed in section "SHRP2 NDS Naturalistic Driving Study OverviewSHRP2 NDS Naturalistic Driving Study Overview"

The forthcoming implementation video for this project will complement the webinar recording and demonstrate to practitioners how to utilize this tool.

Summary Results for project "Calibration of Microscopic Traffic Simulation Using Driver Behavior and Car-Following Metrics for Freeway Segments"

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).

No issues in terms of the budget but a no cost time extension was provided to two out of the six projects described above. These extensions were provided so the researchers could revise their reports based on additional analysis. The two projects are: "Investigating How Multimodal Environments Affect Multitasking Driving Behaviors" and "Incorporating the Impacts of Driver Distraction into Highway Design and Traffic Engineering".

A 7th project, focused on tech-transfer by developing implementation videos for each of the six projects' products was provided a no-cost time extension to 12/31/2024 primarily due to the delay in the two reports mentioned above. These videos will demonstrate to practitioners how to utilize the research results including use of any tools developed.

The overall pooled fund study was extended to 12/31/2024 to accommodate this work.

Potential Implementation:

A project, focused on tech-transfer by developing implementation videos for each of the six projects' products is scheduled to be completed by 12/31/2024. These videos, which will complement the written final reports and public webinars, will demonstrate to practitioners how to utilize the research results including use of any tools developed. The implementation videos will be published on-line in 2025.