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(176) --Traffic Analysis and Simulation Pooled Fund Study		**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: Transportation System Simulation Manual		
Name of Project Manager(s): John Halkias	**Phone Number:** 202-366-2183	**E-Mail** John.Halkias@dot.gov
Lead Agency Project ID: DTFH61-16-D-00030-T0012	**Other Project ID (i.e., contract #):**	**Project Start Date:** October 3, 2016
Original Project End Date: February 4, 2019	**Current Project End Date:** February 4, 2019	**Number of Extensions:** 0

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
$489,576	$241,698	75%

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date
0.12%	$575	73%

Project Description:

Traffic analysis and simulation tools have emerged as one of the most efficient methods to optimize, evaluate, and simulate the operations of transportation facilities and systems. These tools assist transportation professionals in evaluating strategies that best address the transportation needs for their jurisdiction. Specifically, these tools help practitioners:

- Evaluate innovative transportation management concepts;
- Improve the decision-making process;
- Decrease time and cost for evaluation and design;
- Reduce risk and disruption to traffic caused by field experimentation;
- Provide better relative evaluation of design and operational improvements; and
- Gauge the operation and monitor the performance of transportation facilities and systems.

The recently enacted Fixing America's Surface Transportation (FAST) Act recognized the importance of traffic analysis tools, stating that modeling and simulation technology should be applied "to the fullest and most economically feasible" extent, to ensure projects will "(1) increase transportation capacity and safety, alleviate congestion, and reduce travel time and environment impacts, and (2) are as cost effective as practicable".

Due to the growing use, need, and acceptance of traffic analysis and simulation tools, this project aims to develop the first edition of the Transportation System Simulation Manual (TSSM) – delivering to users the concepts, guidelines, and procedures of simulation modeling. The development and advancement of the TSSM will help advance analysis for professionals lacking a centralized, unbiased, authoritative source of theory, best practices, and lessons learned. The ultimate goal of TSSM is to address at a minimum the following: the differing scales of modeling, integration of models, model inputs and data formats, data summary and analysis, data storage and model reuse, calibration/validation of simulation, alternative analysis, post processing of model data and interpretation.

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

The project team held Stakeholder Webinar #5 to present the intermediate need chapters (i.e., chapters 1 through 4), and obtain stakeholder feedback. The team then submitted revised versions of the intermediate need chapters to FHWA a few weeks later. The team discussed the format of Volume III (Case Studies and Supplemental Material), and began drafting Volume III.

Anticipated work next quarter:

- Further develop the TSSM Volume III case studies
- Conduct a stakeholder briefing
- Submit technically consistent versions of chapters 1 through 9

A new project is being developed that seeks to collect high-resolution trajectory-level data at four sites across the US, with preference given to facilities in member states' jurisdictions. Moreover, an enhanced methodology for calibrating microsimulation models with trajectory-level data will be developed. This project is expected to be awarded soon.

Significant Results:

Revised the TSSM intermediate need chapters based on stakeholder feedback.

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).

None as yet.

Potential Implementation:

The TSSM is intended to become a long-standing source of guidance for practitioners of traffic simulation.