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)*	**Transportation Pooled Fund Program - Report Period:**
TPF-5(176) --Traffic Analysis and Simulation Pooled Fund Study	☐ 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):	**Phone Number:**	**E-Mail**
Christopher Melson	202-493-3271	Christopher.Melson@dot.gov
Lead Agency Project ID:	**Other Project ID (i.e., contract #):**	**Project Start Date:**
DTFH61-12-D-00020-T16012		October 3, 2016
Original Project End Date:	**Current Project End Date:**	**Number of Extensions:**
February 4, 2019	February 4, 2019	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
$489,575.75	$109,965.62	39%

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date
$35,754.72	$35,754.72	42%

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 initiated bi-monthly stakeholder meetings (beginning on July 10th) and presented at several outreach events (ITE's SimCap User Group, ITE's Mid-Atlantic Conference, among others). The project team developed and posted partially completed critical need chapters (i.e., chapters 5 through 9) on the comment tracking site, to obtain stakeholder feedback. These chapters are identified below:

- Volume II - Modeling Guidance
  - Chapter 5: Defining the Problem
  - Chapter 6: Data
  - Chapter 7: Creating the Model
  - Chapter 8: Verification, Calibration, and Validation
  - Chapter 9: Analysis and Presentation

Anticipated work next quarter:

The project team will complete the draft critical need chapters (by November 21st). Stakeholders will continue to be invited to project team meetings on a bi-monthly basis (the most recent was October 2nd).

Significant Results:

Made significant progress on developing the critical need chapters.

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.