TRANSPORTATION POOLED FUND PROGRAM
QUARTERLY PROGRESS REPORT

Lead Agency (FHWA or State DOT): Virginia DOT

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(206)	**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: Program to Support the Development and Deployment of Connected Vehicle Applications		
Name of Project Manager(s): Michael Fontaine	**Phone Number:** 434-293-1980	**E-Mail** Michael.Fontaine@vdot.virginia.gov
Lead Agency Project ID: 97199/90712	**Other Project ID (i.e., contract #):** 133471-GS10961	**Project Start Date:** July 2009
Original Project End Date: June 2011	**Current Project End Date:** June 2020	**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
$8,760,890.33	$6,087,454.87	69%

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date
N/A	$282,295.37	N/A

Project Description:

The pooled fund study entitled "Program to Support the Development and Deployment of Connected Vehicle Applications" was created by a group of state and local transportation agencies and FHWA in order to provide a means to conduct the work necessary for infrastructure providers to play a leading role in advancing the connected vehicle environment.

Objective:

Through a set of pooled fund studies, the Virginia Department of Transportation (VDOT) is working with federal, state and local departments of transportation, to establish a multi-phase program to facilitate the field demonstration, and deployment of connected vehicle infrastructure applications. In Phase I, the participants are focused on modeling, development, engineering and planning activities that will aid transportation agencies in justifying and promoting the large scale deployment of a connected vehicle environment. Phases 2 through 4 of the program will continue research and development to prepare agencies to deploy connected vehicle environments.

Scope of Work:

The pooled fund study will focus on the following:

• Development and evaluation of connected vehicle large-scale system level operations applications
• Independently research and address issues that will affect the deployment of connected vehicle systems by state and local transportation agencies
• Support AASHTO's Strategic and Deployment Plans
• Support USDOT's Connected Vehicles Programs and initiatives

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

1. Pooled Fund Study Overall
   a. Monthly calls were held on July 26, August 30, and September 27.
   b. Commitments are being received for the current/new PFS (TPF-5(389)) for FY2019 and beyond.
   c. Finalized future project selections.
2. Multi-Modal Intelligent Traffic Signal System (MMITSS) Phase 3 - Deployment Readiness Enhancements
   a. Monthly calls were held on July 18, August 15, and September 19.
   b. Monthly MMITSS Development Group Meetings began and were held on August 22 and September 26.
3. Connected Traffic Control Systems (CTCS)
   a. Monthly calls were held on July 16, August 20, and September 17.
   b. A Stakeholder Needs Workshop was held on April 30 in conjunction with the PFS meeting in Michigan.
   c. Task 4: Assessment of TRL - completed.
   d. Task 5: Development of CTCS Research Plan - Final report under review.
   e. Task 6: Concept of Operations - Workshop to be held in October.
4. V2I Queue Advisory/Warning
   a. Monthly calls were held on July 18, August 15, and September 19.
   b. Task 1: Project Management Plan (completed) and Systems Engineering Management Plan (completed)
   c. Task 2: Assessment of Prior Work & Stakeholder Input - A draft report is under review.
5. Using Third Parties to Deliver I2V
   a. Monthly calls were held on July 16, August 20, and September 17.
   b. Task 2: Survey of the Current Status - Concept of Operations Workshop was held on September 11 in Minnesota.

Anticipated work next quarter:

1. Pooled Fund Study Overall
   a. Monthly calls will be held in each month.
   b. A face-to-face meeting will be held in Tampa, FL on December 10 - December 12.
   c. The future project topics approved by the members will be initiated.

2. Multi-Modal Intelligent Traffic Signal System (MMITSS) Phase 3 - Deployment Readiness Enhancements
   a. Monthly project calls will be held in each month.
   b. Development Group Meetings will continue to be held
   c. Task 4 field tests and demonstrations will be initiated.

3. Connected Traffic Control Systems (CTCS)
   a. Monthly project calls will be held in each month.
   b. Task 5 Development of CTCS Research Plan report will be completed.

4. V2I Queue Advisory/Warning
   a. Monthly project calls will be held in each month.
   b. Task 2 Assessment of Prior Work & Stakeholder Input will be completed.

5. Using Third Parties to Deliver I2V
   a. Monthly project calls will be held in each month.
   b. Work will continue as planned.

Significant Results:

None in this quarter.

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 problems have been encountered to date.

Potential Implementation:

None in this quarter.