TRANSPORTATION POOLED FUND PROGRAM
QUARTERLY PROGRESS REPORT

Lead Agency (FHWA or State DOT): _____Maryland State Highway Administration_____

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 #	Transportation Pooled Fund Program - Report Period:
TPF-5(252)	☐ Quarter 1 (January 1 – March 31)
	☐ Quarter 2 (April 1 – June 30)
	X☐ Quarter 3 (July 1 – September 30)
	☐ Quarter 4 (October 1 – December 31)

Project Title:		
I-95 Corridor Coalition Vehicle Probe Project		
Name of Project Manager(s):	**Phone Number:**	**E-Mail**
Kathleen Frankle	410-414-2925	kfrankle@umd.edu
Lead Agency Project ID:	**Other Project ID (i.e., contract #):**	**Project Start Date:** July 1, 2011
TPF-5(252)		
Original Project End Date: June 30, 2014	**Current Project End Date:** June 30, 2014	**Number of Extensions:**

Project schedule status:

X☐ 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
$605,178	$262,219.38	41.67 %

***Quarterly* Project Statistics:**

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date
	$48,993.88	41.67 %

Project Description:

 I-95 Corridor Coalition began an initiative in 2008 called the Vehicle Probe Project with the ambition of providing comprehensive and continuous travel time information on freeways and arterials from Maine to Florida using non-intrusive technologies based on vehicle probe methods. A collaborative effort among the I-95 Corridor Coalition members, the vehicle probe project envisioned a system that provided travel time and speed data for corridors that facilities interstate as well as intra-state movement.

The coverage area of the initial stage of the project was approximately 1,500 centerline freeway miles from New Jersey through North Carolina that began on July 1, 2008. The initial stage emphasized the delivery of quality data on freeways that provided through movement along the I-95 corridor. This included I-95, parallel freeways to I-95, and freeway and arterials that cross-linked these facilities and provided detour routes in the event of heavy congestion or incidents on the primary routes. The first stage has proved effective to monitor freeway travel times and speeds within the accuracy specifications in order to enable a variety of applications, most of which were operations based in nature.   Since the initiation of the project, the geographic coverage of the system has been expanded to approximately 4,700 centerline miles of freeway and includes the entire limited access road network in New Jersey, and the entire interstate systems for North Carolina and South Carolina.

Participating I-95 Corridor Coalition member agencies have found numerous uses for the vehicle probe data, including:

- Travel Information for 511 (web and phone) Systems, Dynamic Message Signs, and Kiosks
- Travel Time Calculations for Message Boards
- Performance Measures and Travel Time Reliability Support
- Traffic Pattern Observations (in-state and multi-state)
- Trip Planning (www.i95travelinfo.net)
- Analysis and evaluation of archived data for research on travel behavior

Objective: The objective of the second phase of the project is to continue to push forward to realize the entire vision of the Vehicle Probe Project, that of an ubiquitous and high quality source of travel time and speed data creating a seamless traffic monitoring system that spans the entire eastern seaboard using probe technology, and driving a variety of applications. The applications include not only Operations, but also Planning and Engineering, and not only existing applications, but also uses of the data not previously leveraged.

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

The data provided by the VPP continues to be within specification for accuracy. The UMD validation team published the validation report for North Carolina and validation data was collected in New Jersey in September 2012. Work also continues on developing appropriate specifications, validation procedures and pricing for arterial data. UMD prepared two papers for the TRB annual meeting that forms the groundwork for measuring, processing, and assessing arterial performance measures based on re-identification data.

Data availability for 2009 through 2011 averaged 99.87%. Availability for the first half of 2012 (Jan – Jun) was 99.99%. In July and August availability was 99.94% and 99.79% respectively. Service outages in late July/Early August were caused by heat/power issues in Seattle area. Inrix reported that all issues have been addressed. As of September 15, 2012 nearly 570 persons have access to the project monitoring site.

Planning organizations such as MPOs and state planning departments continue to take a heightened interest in the VPP data archive available through the Regional Integrated Transportation Information System. This has resulted in continued development of the VPP suite, a central archive of VPP data and analysis tools. UMD supports this initiative

through participation in regional forums, the most recent of which was hosted by UMD on May 16, 2012 to solicit feedback on tools to develop to further enhance the VPP suite. During the 3rd quarter, results from this meeting were organized into a prioritized list of enhancements, as shown in the table below. Funding from the 2013 grant will be allocated based on this prioritized list for future enhancements. As of Sept 13, 2012, over 19.6 billion records have been downloaded from the VPP suite of tools.

Item	Feature	Description
1	User-experienced Travel Time Calculations	To replace the current "snapshot" travel-time algorithms
2	User Delay	To calculate the amount of time each user is delayed by traffic
3	User Delay Costs	To calculate the dollars wasted in traffic (broken down by passenger vehicles and commercial vehicles)
4	Enhanced Incident Integration	Make it easier for users to understand the relationship between construction and incidents on congestion
5	Multi-corridor Analysis	Allow users to "join" neighboring roadways for travel-time analysis and animated mapping
6	Extended Date Selections	Allow users to compare all seven days of the week in all graphs, tables, and output reports
7	Customizable Reports	Allow users to generate printable reports with multiple, customized graphics that can be tailored to individual needs and preferences.
8	Bottleneck Ranking Map	Provide users with a printable map that shows the top X-ranked bottlenecks at the same time.
9	Bottleneck Overlapping	Enhance the bottleneck generating algorithm to minimize overlapping bottlenecks.
10	Mileage Displays	Road selection tools and output graphics should display the total mileage of the roadway segments that have been chosen.

UMD continues to support periodic management team and project team meetings with validation reports, budget reports, and information related to new members accessing the data feed (and signing the data use agreement.) A presentation of various aspects of the VPP project, including validation and use of archive data, was presented at the IEE ITSC in Anchorage, AK in September.   Project and management team meetings for this project included:

July 18, 2012   Management Team Meeting
Aug 23, 2012   Management Team Meeting
Sept 12, 2012   Management Team Meeting
Sept 18, 2012   Project Team Meeting

In September, the Coalition learned that funding had been approved to extend and expand the VPP. Coverage was increased such that the VPP now extends from Maine to Florida. Several states are currently now 'all-in', meaning that traffic data from all freeways and significant arterials are covered. This next-generation VPP will also extend the type of data delivered to include aspects similar to what is expected in the Vehicle-Infrastructure initiative such as on-board braking and emergency information. The Coalition and UMD support is currently active bring these coverage expansions and enhancements online.   Expansions include:

- Maine – 66 miles
- New Hampshire – 16 miles
- Massachusetts – 96 miles
- Connecticut – 111 miles
- Maryland – 50 miles – "All In"
- DC – 31miles – "All In"

• Rhode Island – 84 miles – "All In"	• Georgia – 218 miles

As of September 1, 2012, the coverage within the VPP include 14 states with a total of more than 7, 800 freeway miles and 32,000 arterial miles.

Anticipated work next quarter:

Continue to provide data to participating states through the web-based data feed, project monitoring web site and archived data web site.

Coordination between the INRIX (the contractor), the I-95 Corridor Coalition, the University of Maryland, and individual Coalition members.

Validation efforts.

Significant Results:

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).

N/A

Potential Implementation: