Research Quarterly Progress Report
Partners for Advanced Transit and Highways

Expediting Vehicle Infrastructure Integration (EVII): Where the Rubber Meets (and Talks to) the Road

Pravin Varaiya

1) MOU: RTA-65A0191-15739
2) Project Title: Expediting Vehicle Infrastructure Integration (EVII): Where the Rubber Meets (and Talks to) the Road
3) Project Leader(s): Pravin Varaiya
4) Fiscal Year: 2004 / 2005, **Quarter:** 3, **Version:** 1

5) Schedule

Task Number	Description	Initially proposed:		Current:	
		Start	**End**	**Start**	**End**
1	Task 1. Requirements Definition	04/01/2005	05/05/2005	01/17/2005	02/16/2005
2	Task 2. Vehicle Data Interface/Test Data Provision	04/01/2005	09/02/2005	01/17/2005	06/20/2005
3	Task 3. Roadside Infrastructure Definition and Prototype Implementation and Development	04/01/2005	09/30/2005	01/17/2005	09/14/2005
4	Task 4. Traffic Application	04/01/2005	10/01/2005	01/17/2005	07/20/2005
5	Task 5. Safety Application	06/01/2005	10/01/2005	06/01/2005	04/20/2005
6	Task 6. Application Demonstrations	07/01/2005	10/01/2005	01/17/2005	08/18/2005
7	Task 7. Project Management and Reporting (Final Report)	10/04/2005	12/01/2005	01/17/2005	08/18/2005

6) Describe what was accomplished in the last quarter.

The contract was executed by DRI on 1/15/05, several months after planned start. Hence, work to date has since focused on data collection (a joint PATH/DCX exercise, where vehicle data has been collected and brought back to PATH for applications development). Additionally, Task 4 (Traffic Application) and Task 5 (Safety Application) has been begun with simulations for scalability conducted for Task 4 and a slippery road surface model and some verification data collected for Task 5.

Additionally, Task 3 (Infrastructure Development) was accelerated. In February, a PATH, DaimlerChrysler and Caltrans team installed and tested two prototype RSU the BHL between the Ashby and University Ave exits. These prototypes did not have backhaul communications, but they were in every other way a functioning set of RSU. A simple application was run, where the RSU broadcasts the GPS location of Ashby and University exits, and a car traveling on Interstate 80, upon detecting this radio signal, calculates the distance to these exits through its GPS locations. An in-car annunciator provided an Exit ahead message to the driver, and an in-car display showed a countdown every 50 meters until the exit is passed. This simple application may point the way toward the more significant VII applications described earlier. Subsequently to this demonstration, we have taken down the RSU to provide some hardware and software upgrades.

7) Explain any differences between actual accomplishments in the last quarter and what was proposed.

None, except for the slippage of work schedule, which was because of the late start date.

8) Please list all papers, reports, or other products completed during this quarter under this project (provide complete reference and status).

None, except for Intellimotion article (released in May 05) of VII activities in California, to include EVII.

9) Briefly describe the work planned for the next quarter relative to the project schedule (see 10 if changes are required).

Next quarter, we plan to proceed with Task 3 (reimplementing RSU), 4 (developing traffic application simulation) and 5 (progress in developing safety application)

10) Change in Plan: If you need to make changes in your work plan (changes in dates, tasks, or deliverables), please describe them here. Changes to task schedule do not require PATH approval (but should be justified). Changes in task content, deliverables, and deliverable completion dates require PATH approval.

None. Note the task dates in this report. They reflect exactly a linear slip in the start date, initially presumed to be 1 July 04 and now mid January. (Initial task dates shown in this report were erroneously inputted by PATH administration.)

Signatures:

	Person who submitted	**PATH Manager/Engineer**
Signature:	James Misener (username: jmisener / userid: 317)	Approved by: James Misener (username: jmisener / userid: 317)
Date:	2005-05-16 20:48:07	2005-05-16 20:51:14