VTRC File No: _____

Virginia Transportation Research Council
Contract/Grant Progress Report

Project No: 07-0219-07 **Starting Date:** 7/1/06 **Target Completion Date:** 6/30/11
Project Title: Consortium for Pavement Surface Properties
Performing Agency: Virginia Tech
Principal Investigator(s): Gerardo Flintsch
Date of This Report: 8/31/10 **Next Report Due Date:** 11/31/10

Project Description

The main objective of the project is to establish a research program focused on enhancing the level of service provided by the roadway transportation system by optimizing pavement surface texture characteristics.

Research Activities Pursued This Period (Including Tasks):

- Completed the processing and analysis of the 2010 Equipment Rodeo data.
- Two units from the Friction Loan Program, the HFT and GripTester #2, were in Arizona in June. Training with the Arizona DOT was done in Phoenix from June 1st to June 4th , 2010. Problems with the HFT unit required Dynatest to replace it with a RFT unit for the testing period needed while the HFT unit was sent back for repair to Michigan (complete details are reported below). Arizona finished all their testing with the RFT unit and PCA returned GripTester #2 to VTTI.
- The Final Beta version of the GripVal software has been evaluated and is ready for presentation. It will be presented in the Pavement Evaluation 2010 Conference (PE 2010) in Roanoke.
- Prepared an abstract describing the CFME Equipment Loan Program and submitted it to the PIARC World Road Congress to be considered for a paper and presentation in September 2011.
- Prepared two presentations for the PE 2010 conference and will hold this year's meeting of the Technical Advisory Committee (TAC) during the conference. Analysis of the results from the 4th Annual Equipment Rodeo will be presented at the TAC meeting.
- As a result of the equipment problems encountered with the continuous friction measurement equipment (CFME) units; both of the GripTester units and the HFT were run on series of validation experiments to establish a base measurement data base and a repeatability sensitivity study at the Smart Road.
  - This study allowed a basis for quick comparisons to be made in between equipment deployments to assess the quality and validity of the data obtained in each site.
  - The study included tests made at 25, 40, and 55 mph with a 0.5 mm water film thickness flow rate and a second set of tests using a 0.25, 0.50, and 1.0 mm water film thickness at 40 mph.
  - Both sets of tests were made running in the downhill and uphill directions and on the same wheel path on 5,100 feet of the various different pavements in the Smart Road.
  - An interim report of these results will be published shortly.
- GripTester #1 was shipped on August 2 as a loan to TRANSTEC in Texas for the continuation of the FHWA HFS demonstration project. This year this project will consist of one new installation in Michigan and retesting of the HFS locations in Kansas, Colorado and Montana that were placed and tested last year.
- The paper for the First T&DI Congress being organized by ASCE in 2011 in Chicago, IL, has been accepted for presentation and publication.

Problems Encountered:

- The HFT unit was in the manufacturer's shop for chassis alignment repairs from 6/7 to 7/6 and for hydraulic temperature repairs and adjustments from 8/2 to 8/25. The manufacturer has stated that for this reasons, all Dynatest installed parts warranty will be extended until June 2011.
- New laptop computers are needed to control the GripTester units to reduce the communication problems that have been interrupting their use.

Activities Planned for Next Period:

- Finalize the report for the 2010 Equipment Rodeo.
- Host the meeting of the Technical Advisory Committee in conjunction with the PE 2010 conference.
- Both DYNATEST HFT system and GripTester #2 have been scheduled for participation at the Annual Friction Workshop being held at Penn State this year on September 7-10, 2010.
  - It has also been stated by TRANSTEC that they will participate with GripTester #1 in the workshop.
  - Virginia DOT will also participate with a locked wheel skid tester with the support of the Consortium.
- Connecticut is the next state in the schedule for the HFT unit; it will be delivered in late September. The equipment will then participate in the PE 2010 Rodeo. Maryland has expressed interest in having it next in November.
- Continue to support the organization of the 7th International Symposium on Pavement Surface Characteristics (SURF 2012).
- Review the two papers submitted for the 2011 Annual Meeting of the Transportation Research Board based on the feedback received from the reviewers and prepare the corresponding presentations.

Budget Status:

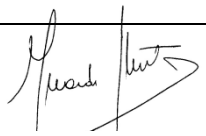
Current FY Project Budget:	$ 202,326 (1)	Project Budget Lifetime:	$ 1,035,369 (1)
Current FY Expenditures:	$ 154,583 (2) as of 08/31/10	Expenditures LTD:	$ 975,626 (2)
Percent Expended this FY:	76% (Date)	Percent Expended LTD:	94%

Timetable: Project is (check):

On Schedule	☒
Behind Schedule *	☐ (explain above)
Ahead of Schedule	☐

(1) A contract modification to adjust these quantities to reflect commitment during FY 09-10 is currently being processed; the revised amount 1,298,380.

(2) This amount includes the payment for the first GripTester.

Preparer's Name and Signature: Gerardo Flintsch  Date: 09/15/10

VTRC Staff Technical Monitor: _____ Date: _____

Reviewed and Approved By: _____ Date: _____
(VTRC Associate Director)

Review Comments: (To be completed by Research Director and Returned to Research Manager)