

RESEARCH PROGRESS REPORT FOR THE QUARTER ENDING: 2nd

Wisconsin Department of Transportation
DT1241 2009

Research, Development and Technology Transfer	
Program: (Choose One)	
<input type="checkbox"/> Policy Research	<input type="checkbox"/> Pooled Fund TPF #
<input checked="" type="checkbox"/> Wisconsin Highway Research Program	<input type="checkbox"/> Other
Project Title: Performance evaluation of Tack Coat Materials	
Administrative Contact/Phone #: Peg Lafky	WisDOT Project ID(s): 0092-09-02
WisDOT Technical Contact/Phone #: Leonard Makowski	Other Project ID:
Project Investigator/Phone # (agency & contact): Marquette University, James A. Crovetto / 414-288-7382	Approved Starting Date: 10/1/2008
WisDOT Comments:	Original End Date: 3/31/2010
	Current End Date: 3/31/2010
Sponsor: Wisconsin Department of Transportation	Number of Extensions: 0

Schedule Status:

- On schedule Ahead of schedule
 On revised schedule Behind schedule (Please explain below)

Total Project Budget	Expenditures Current Quarter	Total Expenditures	% Funds Expended	% Work Completed
\$71,934.00	\$11,500.00	\$12,695.00	18	14%

Project Description:

This project is evaluating the adhesion characteristics of tack coats approved or proposed for use in Wisconsin. This project will develop qualitative relationships between laboratory test results and expected field performance and will recommend cost-effective combinations of tack coat materials and construction procedures

Progress This Quarter: (Includes project committee meetings, work plan status, contract status, significant progress, etc.)

The primary activities this quarter were the completion of the contractor survey and the finalization of the literature review. To increase the rate of returns, the contractor survey was conducted via telephone interviews with contractor members of the Wisconsin asphalt Pavement Association. Of the 20 contractor members contacted, 70% (14) provided responses to questions regarding the type and source of tack coat materials used, application equipment and rates, surface preparation techniques and post application protective measures. All responding contractors indicate the use of emulsion tack coat materials, specifically the CSS-1 and SS-1H materials. A summary of all responses will be included in the literature review report. The literature review continued with the incorporation of recently published research reports from the Illinois Center for Transportation. Additional HMA surface layer paving materials (12.5 mm) were obtained from Payne & Dolan. These materials were used to fabricate a 1 inch thick overlay layer onto the prefabricated gyratory base specimens. Samples were prepared using brush applied tack materials (PG 58-28) and without tack materials to test the operation of the direct shear mold designed and fabricated for this project. The trial tests indicated that this set-up will work for the upcoming tests to be conducted on the test samples. The rotational test apparatus was re-designed to allow for better control, repeatability, and increased measurement range. This device was designed for use in laboratory and field settings and will provide the capability to measure up to 1,500 ft-pounds of torque. This device is currently being fabricated and should be available for use in mid- to late July.

Anticipated Work Next Quarter:

The literature review and experimental plan will be delivered in early July. Additional HMA paving mixtures will be obtained from contractors to be used for fabricating lower layers (75 mm) and overlays. Additional tack coat materials currently being used will also be obtained for laboratory use. The paired direct shear and rotational shear tests will be initiated.

Circumstances Affecting Progress and/or Budget:

The completion of the literature review was delayed due to work supporting WHRP Project 0092-09-03 Performance Evaluation of Open Graded Base Course with Doweled and Nondoweled Transverse Joints on U.S.H. 18/151 and S.T.H. 29, including the repair of the WisDOT Falling Weight Deflectometer and subsequent field testing.

None

Gantt Chart

Project Task	CY 2008			CY 2009												CY 2010			
	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	
Task 1: Literature Review (6% of Total)	P A	P A	P A																
Task 2: User Survey (4% of Total)		P A	P A	P A	P A			A A											
Task 3: Develop Research Factorial (5% of Total)		P A	P A	P A	P A	P A		A A											
Task 4: Obtain Material Samples (6% of Total)			A A	A A	A A	P A	P A	P A	P A										
Task 5: Lab Testing (59% of Total)								P A	P A	P A	P A								
Task 6: Data Analysis (13% of Total)											P A	P A	P A	P A	P A				
Task 7: Reports (8% of Total)												P A	P A	P A	P A	P A	R A	P A	P A

P - Proposed
A - Actual
R - Review