

**State of Wisconsin/Department of Transportation/Midwest Regional University Transportation Center
RESEARCH PROGRESS REPORT FOR THE QUARTER ENDING: December 31, 2004**

Project Title: Incorporating Road Safety into Pavement Management: Maximizing Surface Friction for Road Safety Improvements		Project ID: 04-04
Administrative Contact: Jason Bittner	Sponsor: MRUTC	
WisDOT Technical Contact: Nina McLawhorn	Approved Starting Date: July 1, 2003	
Approved by COR/Steering Committee:	Approved Ending Date: June 30, 2005	
Project Investigator (agency & contact): UW-Madison, David Noyce		

Description: The objective of this research is to integrate road safety and pavement management strategies. Specifically, objectives include:

1. Determine the relationship between skid resistance and traffic safety;
2. Develop asphalt pavement mix design strategies that consider skid resistance as its primary measure of effectiveness;
3. Identify existing prediction models for skid resistance, propose modifications to models, and identify minimum skid resistance ranges to trigger the need for roadway maintenance;
4. Incorporate skid resistance and safety in a pavement asset management tool.

Total study budget	Expenditures for current quarter	Total Expenditures to date
\$221,038 (\$93,007 from other sources)	\$0 (LZ06) \$16,927.33 (ME92)	\$78,051.60

Percent Complete:

Progress This Quarter: We have continued in the field with WisDOT personal collecting skid data on roadways around the state over the last three months. We have tested nearly all available roadways that have historical skid data. Supporting crash data has been collected. Work continues on reviewing newly identified literature.

We also continue to look at asphalt mix designs at look at effective test methods for determining skid friction values in the field. Numerous design combinations have been tested. Consideration is being given to a mix design that meets WisDOT specifications while optimizing skid friction values. We have field-tested skid value measuring techniques. We have conducted numerous sand patch tests to determine correlation between macro-texture and skid friction. Work with various mix designs in the lab continues.

Work Next Quarter:

We will analyze the crash data and develop the correlation analysis. Mix design and field-testing methods will be included. Initial evaluation of the project results will begin. Some of the early report develop will be completed. A review document will be sent to the advisory group for comment. Another group conference call will be conducted.

Circumstances affecting progress/budget: It took over 6 months to get the necessary field and crash data. WisDOT required some cost share for their skid trailer data collection. We will likely request a small no cost time extension so we have the summer construction season to conduct a few follow up experiments. We may also be able to evaluate alternative asphalt mix designs.

