Research Review Session

To attend a review session, email Research@dot.state.oh.us. Certificates of attendance are available and will be issued for 1 hour per session. Seating is limited and confirmations will be made on a first-come, first-served basis. For additional information on research review sessions, contact the Research Section at 614-644-8135 or visit our website at http://www.dot.state.oh.us/Divisions/Planning/SPR/Research/ReviewSessions/Pages/default.aspx

Date: October 17, 2011
Time: 10:00 am - 11:30 am
Location: Conf. Rm. 1C - ODOT Central Office Bldg.

Project Title: Long Term Validation of an Accelerated Polishing Test Procedure for Hot Mix Asphalt Pavements

Researcher: Dr. Robert Liang, University of Akron

Project Summary

Maintaining adequate friction and texture properties of the pavement surface has been an important mission of highway agencies to ensure the safety of the traveling public. ODOT has adopted the common practice of regularly monitoring friction of the pavement surface by way of routine measurement of skid numbers using the locked wheel skid trailer. Once the measured skid number falls below certain threshold criteria, ODOT resurfaces the pavement to prevent wet weather accidents. This practice is commendable, but passive, as it cannot serve the purpose of screening the polishing and friction behavior of the various aggregate sources and the specific job mix design of hot mix asphalt (HMA) concrete. In the past, ODOT needed to perform early resurfacing due to rapid polishing aggregates or improper hot mix design.

The need to develop a simple, effective and fast laboratory test procedure to determine the polishing and friction characteristics of the aggregates and HMA resulted in the research study “Continuing Investigation of Polishing and Friction Characteristics of Limestone Aggregate in Ohio.” The final report is available on the Research website: http://www.dot.state.oh.us/Divisions/Planning/SPR/Research/reportsandplans/Pages/MaterialsReportsDetail.aspx#134219). That research developed efficient, accelerated laboratory polishing equipment and a friction measurement method for HMA with typical Ohio aggregate. Although the results were promising, the need for correlation studies between the laboratory test data and field performance data to determine whether or not the expected results matched actual field performance quickly became evident.

The objective of this research is to validate the applicability of the developed laboratory testing protocol and acceptance criteria associated with the newly developed accelerated polishing equipment through a correlation and comparison study with field performance data.