

FY 2009 RESEARCH PROBLEM STATEMENT

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TITLE

CM-09-05 Suitability of Pavement Marking Materials

PROBLEM (Description of need)

There are currently no policies or standard practices in place to guide the selection of pavement marking materials to be used in ODOT construction and preservation projects as well as in routine maintenance. The selection of appropriate pavement marking materials requires careful consideration of wet weather conditions, roadway characteristics, prevalence of snow, highway type, ADT, roadway geometry, longer term roadway reconstruction plans, and crash incidence and characteristics. The decision is further complicated by the growing number of pavement marking products available including waterborne paint, wet-weather paint, a range of durable markings, a range of profiled markings, raised and recessed pavement markings, and rumble strips.

Improvements in pavement marking materials have increased the number of alternatives to be considered for application. Pavement marking materials (exclusive of raised and recessed markers, and rumble strips) are submitted by manufacturers and placed on ODOT's paint test deck. The evaluation process focuses on appearance and durability but do not currently include precise measurement of retroreflectivity over time or retention of product depth. Current testing also does not include nighttime wet weather testing.

The materials that perform satisfactorily on the test deck are included on the Qualified Products List, but without additional guidance on suitability for certain conditions. This is of particular concern where conditions differ substantially from those at the test deck.

In addition to the abovementioned challenges, ODOT also recognizes that there is a need for quality control during the application of materials in order to maximize performance and to meet or exceed performance per ODOT's durability specifications.

PROPOSED RESEARCH, DEVELOPMENT OR TECHNOLOGY TRANSFER ACTIVITY

Conduct a thorough literature review and survey of other states to identify "best practices" for pavement marking selection and quality control during pavement marking application.

Perform a region by region review of practices followed in pavement marking testing, choice of pavement marking, application, and monitoring.

Develop draft policies and procedures for (i) the selection of pavement markings for particular conditions, (ii) quality control during pavement marking application, and (iii) in-service performance monitoring.

Test in each of the five regions and refine the draft policies and procedures.

Develop recommendations for (i) the selection of pavement markings for particular conditions, (ii) quality control during pavement marking application, and (iii) in-service performance monitoring.

Prepare final report.

BENEFITS

By selecting appropriate pavement marking materials for location specific conditions, performing quality control during application and a system of in-service performance monitoring it is likely that pavement marking costs will be reduced and that it will result in significant safety and performance benefits.

CONTACT PERSON:**FOR RESEARCH UNIT USE ONLY**

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