Arkansas Department of Transportation

Transportation Research Committee

RESEARCH PROBLEM STATEMENT

DATE: 09/13/2017  PROJECT AREA: Maintenance

TITLE: Raised Pavement Marker Installation

PROBLEM STATEMENT:

Raised pavement markers are used to define boundaries for traffic lanes. Raised reflective markers typically include a plastic lens that reflects vehicle lights epoxied to the pavement surface. The raised marker causes better light reflectivity and additionally causes a vehicle to vibrate if the vehicle wanders. The pavement maker is attached to the roadway surface using an epoxy. The marker is installed manually using a two-step process by a worker positioned precariously close to the pavement surface on the side of an applicator vehicle. During the installation process, the applicator vehicle stops at a marker point, the worker applies epoxy to the roadway surface with a nozzle attached to a hose, and then positions the raised pavement marker on the epoxy. The procedure is conducted by a worker on the side of an applicator vehicle in one traffic lane while traffic continues in parallel lanes. Consequently, the process is dangerous since the worker is involved with spraying a hot epoxy while trying to avoid adjacent moving traffic. In addition to the safety issues related to the initial raised pavement marker installation, epoxy strength is time dependent. Therefore, the epoxy degrades over time, which then warrants marker replacement. Potential alternative approaches should be investigated to safely install raised pavement markers while ensuring that the final product meets adequate lane marking standards.

OBJECTIVES:

Investigate alternative raised marker approaches to develop a raised pavement marker approach for ArDOT usage. A proposed system is included in Slide 1. The slide shows a raised pavement marker using epoxy inundated with colored fluorescent particles. The epoxy is sprayed on the pavement in a disk form. The procedure enables the application to be done with lane marking equipment vehicles. Consequently, the procedure safely installs raised pavement markers and negates the need for a worker to manually affix a reflective marker.

FORM OF RESEARCH IMPLEMENTATION:

Equipment and installation / replacement procedure for raised pavement markers.

Estimated Project Duration: 24 months

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Updated 7/20/2017
Raised Pavement Marker

ROADWAY CROSS SECTION

ROADWAY PLAN VIEW