Transportation officials will soon have a new tool for pavement preservation treatments as part of their maintenance strategy for protecting America’s 4 million miles of public roads.

A study under way by the National Center for Pavement Preservation (NCPP) for the Federal Highway Administration (FHWA) and the Federal Lands Highway Division (FLHD) is taking a close look at polymer-modified asphalt emulsions to help officials choose appropriate preventive maintenance surface treatments for the country’s vast pavement infrastructure.

No National Standards

Information is scattered across academia and the industry, and there are no national standards to help guide road officials similar to those available for such other practices as Superpave. NCPP’s Polymer-Modified Emulsions (PME) study is designed to address these deficiencies by including an exhaustive review of the literature to collect and analyze data on practices and specifications for this material. This effort will be coupled with a national laboratory testing and verification program to validate the findings and recommendations developed from the literature review.

According to NCPP, asphalt emulsions frequently provide a lower cost, efficient and more environmentally friendly alternative to hot mixes due to their low energy consumption, reduced hydrocarbon emissions and ease of implementation at remote sites.

Better yet, transportation officials are learning that modifying asphalt emulsions by adding various polymers produces even more benefits, according to John Johnston, NCPP’s technology engineering specialist and a Registered Professional Geologist.

Throwing Hats In The Ring

And the data is still pouring in, said Larry Galehouse, NCPP director and a Professional Engineer.

“More and more officials and others familiar with this study are throwing their hats in the ring. There’s a tremendous interest in this project.

“So far, we’ve conducted interviews with many industry suppliers and performed a detailed survey of suppliers, contractors, agencies, and other pavement practitioners. We’re asking for their input on proposed specification, testing, acceptance, and certification practices on the use of PME.

“What’s more, we have partnered with industry representatives and technical experts to ensure that specs are developed to achieve a balance of performance, quality, affordability, practicability, and industry and agency acceptance,” said Galehouse.

He added that there are a lot of unanswered questions regarding PME that will be addressed in laboratory tests.

A Stitch In Time

Polymer-modified emulsions are increasingly being used in a number of preventive maintenance surface treatments that fall under the mantle of pavement preservation. Among them: chip seal, slurry seal and microsurfacing.

On its website, NCPP describes pavement preservation as a “cost-effective set of practices that extends pavement life and improves safety and motorist satisfaction while saving public tax dollars.”