

In 2005, Mississippi DOT preserved one of their most heavily trafficked highways, adding 14+ years of life while addressing friction, cracking and rutting-- Today in 2020, the highway has required no further treatments.

\$3 million in total savings vs Mill and Fill treatments

Provided 14+ years of service life (almost double expectation of 6-8 years)

Increased friction value & durable wearing course for heavy traffic

Supports 13,000 vehicles per day

#### BACKSTORY:

In 2005, 12 miles of Highway 61 in Tunica, Mississippi needed reprofiling and preservation due to high traffic (13,000 vehicles per day) leading in and out of their gambling district, the third largest in America.

#### PROBLEM:

Heavy traffic and hot temperatures lead to severe wear and tear, and general degradation of the road. MDOT needed to extend the pavement life 6-8 years, and manage rutting, in addition to improving driver safety, by addressing surface friction. It all needed to be completed within 120 days of the project start. An emulsion was formulated to address the hot temperatures of Mississippi in August and September. However, unexpected weather conditions occurred when Hurricane Katrina made landfall on the coast of Mississippi. Although the area was not affected directly by the devastation, the project was shut down for several days due to weather, meanwhile traffic increased as residents evacuated southern Mississippi.

“ This 12-mile section of four-lane highway having a treatment on it that has lasted almost 15 years has allowed MDOT to reallocate that \$3 or \$4 million that we would typically spend on a mill and fill or something comparable, times 2 or 3, so itâ€™s be ”

— Mitch Turner, MDOT District Engineer

#### SOLUTION:

MDOT worked with Vance Brothers, Ergon Asphalt & Emulsions, and Vulcan Materials Company through devastating weather conditions resulting from hurricane Katrina, to apply micro surfacing in two thin lifts with Type V aggregate and a micro surfacing emulsion (CSS-1HP), applied at 11.0% +/- 1.0%. The optimum emulsion content was engineered to sit on the lower side of the specified range to address rutting.

This process saved millions of dollars which could be allocated to other needs. Passengers have enjoyed a more durable wearing course which is able to withstand the heavy volumes of traffic. After 14 years the roads continue to hold, requiring no further treatments to date.

[Click here for additional information & ISSA award submission about this story.](#)

#### PHOTOS:



**Photo Recap**  
2005 After Micro Surfacing Application



**Photo Recap**  
2005 / 2017 Side-by-Side Comparison



**Photo Recap**  
2020 – Over 14 Years Post Application

