Targeted Overlay Pavement Solutions (TOPS)

Targeted overlays match treatments to high-priority, high-need locations.

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U.S. Department of Transportation
Federal Highway Administration

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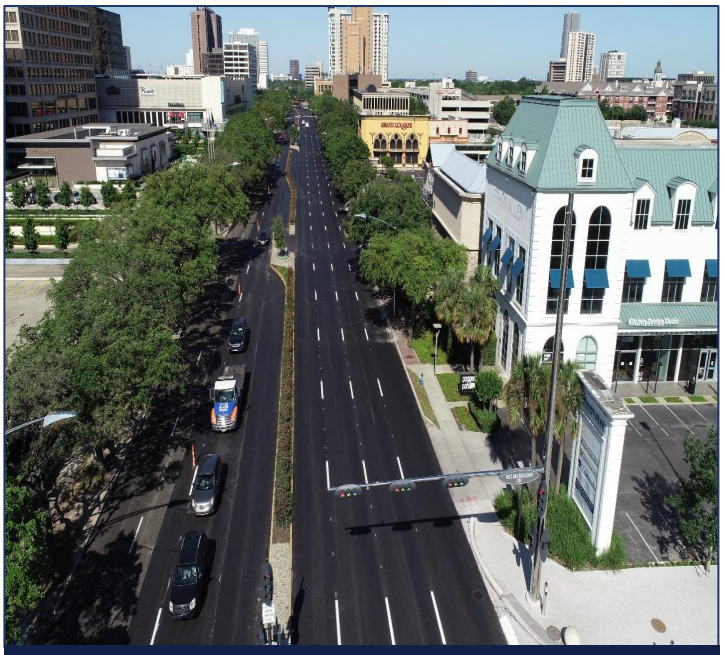
High-Performance Thin Overlay

High-performance thin overlay (HPTO) mixture is a fine-graded polymer-modified asphalt mixture that uses aggregate with a top size of approximately ⅜ inch. It is designed using a modified Superpave design methodology with restrictions on the use of reclaimed asphalt pavement and sand. It is performance tested for rutting and cracking resistance during design and production. HPTO mixes are typically used in maintenance and pavement preservation applications, but can also be used as a leveling course when extended staging times are expected for temporary pavements during construction. It is a rut-resistant and durable mixture most often placed at a thickness of 1 inch either on a milled or unmilled surface. HPTO has been used as a maintenance application on high-volume interstate projects and on heavy-duty parking lots.

Two States with experience using HPTO mixes are New Jersey and Texas. New Jersey Department of Transportation (DOT) has used HPTO mixes on numerous interstate projects such as I-295, I-287, I-280, and at least 16 other projects statewide. Texas DOT also has significant experience with the HPTO mix, which it refers to as thin overlay mix or TOM, having placed more than 1,500 lane miles. It is Texas DOT's surface of choice in both Houston and Austin and has been used on I-35, I-45, and I-10 with average daily traffic counts in excess of 300,000 in both directions. Other States have used HPTO on lower-volume roadways, such as the West Virginia Division of Highways, which placed a section on County Route 9 in Beaver, West Virginia.

HPTO thickness
Source: West Virginia Division of Highways



Houston's Westheimer Project (2020)
Source: Stacy Hilbrich, Angel Brothers, Inc.

Visit our website for more information on Targeted Overlay Pavement Solutions.

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