CASE STUDY: Milwaukee, Wisconsin
Marquette Interchange

In 2008, the new Marquette Interchange was completed in Wisconsin. This is a heavily utilized ramp with annual daily traffic of 31,000 vehicles. Part of the design included a ramp connection from I-94 eastbound to I-43 northbound. Unfortunately, during every rain or snow event, vehicles were leaving the traveled way so frequently that the connection was shut down. In just a three-year period, 81 crashes occurred on this ramp. Mike Burns with the Wisconsin Department of Transportation described the walls surrounding the roadway as having “every vehicle paint color you could imagine.” In October 2011, a high surface friction treatment of calcined bauxite was installed. Since this time, only two crashes have occurred. Wisconsin DOT was able to review a video recording of the first crash and observed the vehicle’s wheels drifting into the shoulder area which did not have the High Friction Surface treatment. On a later installation at another site, the HFST was extended out an additional 5 feet onto the shoulder. This was based on experiences from the Marquette Interchange installation, where vehicles were observed to drift onto the untreated shoulder area.

Problem: Any snow or rain event resulted in numerous vehicles leaving the traveled way of the I-94 WB to I-43 EB ramp causing the DOT to shut down the ramp.
Material: Calcined Bauxite
Installation: October 2011
Location: Milwaukee, Wisconsin; I-94 to I-43

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