Microsurfacing was successful in reducing wet weather crashes on bridge decks and approaches. The benefits are due to micro surfacing's high friction characteristics.

The wet weather crash reduction has a payback ratio of 14:1 - 19.7:1 for every dollar spent, analyzed over a 10 year period.

The microsurfacing is applied every 5 - 7 years.

BACKSTORY:

The Interstate 94 bridges in Minnesota had a higher crash rate than the surrounding highway. The elevated bridge decks allowed the concrete deck to cool off faster than the surrounding pavement, causing bridge decks to become icy at a faster rate.

PROBLEM:

The Minnesota DOT was looking for an effective way to reduce the wet weather crashes in these locations.

SOLUTION:

In 1999, the Minnesota Department of Transportation (MnDOT) applied micro surfacing treatment to the bridges and approaches.

MnDOT analyzed crash data for the 10 years both before and after the application to determine the effectiveness of micro surfacing on reducing wet weather crash rates. Over a 20-year period, the combined average daily traffic (ADT) for both directions rose 65 percent, from an estimated ADT of 33,000 in 1988 to an ADT of 54,000 in 2009. However, wet weather crashes and total crashes decreased by 76 percent and 19 percent respectively after the placement of micro surfacing.

https://safety.fhwa.dot.gov/roadwaysafetyawards/2011/npg_2011/#micro

PHOTOS: