

Asset Management Background

International Roughness Index (IRI)

The International Roughness Index (IRI) is used by highway professionals throughout the world as a standard to quantify road surface roughness. A continuous profile along the road is measured and analyzed to summarize qualities of pavement surface deviations that impact vehicle suspension movement. Reported in units of inches-per-mile, the IRI describes how much total vertical movement a standard passenger vehicle's body would experience if driven over a 1-mile segment of the subject pavement at 50 mph. IRI is useful for assessing overall pavement ride quality; a higher IRI value indicates a rougher road surface.

The Michigan Department of Transportation (MDOT) has a vendor contract to collect IRI annually on one direction of the interstate system, and biennially on state trunkline non-interstate routes. The collected measurements are reported to the Federal Highway Administration, as required, and used by MDOT to monitor overall network condition, assess previous treatment performance, and assist in determining future project locations and treatment types. MDOT has adopted the following qualitative IRI categories:

Good: IRI less than 95 inches/mile

Fair: IRI between 95 and 170 inches/mile

Poor: IRI greater than 170 inches/mile