

ABSTRACT

Good road conditions play a crucial role in supporting transportation activities and economic development. The deterioration of road quality due to traffic loads and inadequate maintenance can negatively impact user comfort and safety. This study aims to evaluate the condition of Medan–Lubuk Pakam Road at Km 14 – Km 15 in Tanjung Morawa District using two primary methods: the Surface Distress Index (SDI) and the International Roughness Index (IRI). The SDI method identifies surface damage types such as cracking and potholes, while the IRI assesses road roughness using the Roadroid application.

Observations were conducted along a 1000-meter stretch of road, segmented into 100-meter sections. The results revealed various types of damage, including alligator cracking, potholes, longitudinal cracks, and surface deformation. Based on the SDI and IRI evaluations, road conditions are slightly damaged. This assessment serves as a basis for determining appropriate maintenance actions, from routine repairs to structural rehabilitation, in order to enhance road performance and service life.

Keywords: *Road Damage, SDI, IRI, Type of Damage, Level of Service.*