

## ABSTRAK

*Judul : Metode Perbandingan Kerusakan Jalan dengan International Roughness Index (IRI) dan Pavement Condition Index (PCI) (Studi Kasus: Ruas Jalan Nasional BTS. Provinsi Riau – BTS. Kota Payakumbuh STA 34+100 - 35+100 Provinsi Sumatera Barat). Nama : Suci Gian Pratiwi, NIM : 41121120025, Dosen Pembimbing : Ir. Zaenal Arifin, M.T. Tahun: 2023.*

*Pada Provinsi Sumatera Barat, terdapat ruas Jalan Nasional BTS. Provinsi Riau – BTS. Kota Payakumbuh yang terdapat jenis dan tingkat kerusakan pada ruas jalannya. Jenis dan tingkat kerusakan tersebut disebabkan karena berbagai faktor dan diidentifikasi salah satunya melalui Survei International Roughness Index (IRI) dan Survei Pavement Condition Index (PCI).*

*Penelitian ini bertujuan untuk memperoleh nilai tingkat kerusakan jalan, perbandingan nilai kerusakan jalan serta korelasi hubungan antara metode International Roughness Index (IRI) dan Pavement Condition Index (PCI).*

*Berdasarkan hasil dan analisis didapatkan kondisi jalan dengan metode IRI dengan kondisi baik sebesar 30%, sedang 30%, rusak ringan 10% dan rusak berat 30%, sementara dengan metode PCI didapat kondisi sangat baik 0%, baik 30%, sedang 30%, jelek 10%, parah 10%, sangat parah 20%, hancur 0%. Perbandingan nilai kerusakan jalan antara metode IRI dan PCI didapatkan hasil yang relatif sama serta mendapatkan persentase rekomendasi penanganan yang sama. Persamaan yang didapat dari kedua parameter ini adalah  $IRI = 15,18 - 0,151PCI$  dengan koefisien determinasi  $R^2 = 0.9722$  serta nilai korelasi / multiple R sebesar 0,98. Koefisien regresi sebesar -0,151 yang menunjukkan korelasi berlawanan arah. Perlu dilakukan penelitian lanjutan dengan mempertimbangkan jenis – jenis kerusakan permukaan jalan dengan metode Pavement Condition Index (PCI) yang berpengaruh terhadap nilai ketidakrataan jalan dengan metode International Roughness Index (IRI).*

*Kata kunci: Kerusakan Jalan, International Roughness Index (IRI), Pavement Condition Index (PCI).*

## ABSTRACT

*Title : Comparison Method of Road Damage with the International Roughness Index (IRI) and Pavement Condition Index (PCI) (Case Study: National Road Section BTS.. Riau Province - BTS. Payakumbuh City STA 34+100 - 35+100 West Sumatra Province). Name : Suci Gian Pratiwi, NIM : 41121120025, Advisor : Ir. Zaenal Arifin, M.T. Year : 2023.*

*In West Sumatra Province, there is a section of the National Road BTS. Riau Province – BTS. Payakumbuh City has the type and level of damage to its roads. The type and level of damage is caused by various factors and is identified, one of which is through the International Roughness Index (IRI) Survey and the Pavement Condition Index (PCI) Survey.*

*This research aims to obtain values for the level of road damage, comparison of road damage values and the correlation between the International Roughness Index (IRI) and Pavement Condition Index (PCI) methods.*

*Based on the results and analysis, it was found that road conditions using the IRI method were in good condition at 30%, moderate at 30%, lightly damaged at 10% and heavily damaged at 30%, while using the PCI method the condition was found to be very good at 0%, good at 30%, moderate at 30%, bad 10%, severe 10%, very severe 20%, destroyed 0%. Comparison of the road damage values between the IRI and PCI methods obtained relatively similar results and obtained the same percentage of treatment recommendations. The equation obtained from these two parameters is  $IRI = 15.18 - 0.151PCI$  with a coefficient of determination  $R^2 = 0.9722$  and a correlation / multiple R value of 0.98. The regression coefficient is -0.151 which shows a correlation in the opposite direction. Further research needs to be carried out by considering the types of road surface damage using the Pavement Condition Index (PCI) method which influences the value of road unevenness using the International Roughness Index (IRI) method.*

*Keywords: Road Damage, International Roughness Index (IRI), Pavement Condition Index (PCI).*