

# **ANALISIS TINGKAT KERUSAKAN PERKERASAN JALAN LENTUR MENGGUNAKAN METODE BINA MARGA DAN APLIKASI ROADLAB PRO**

***(Studi Kasus : Ruas Jalan Pelintang (Batas Kab. Bengkalis) – Sepahat – Sei.  
Pakning pada STA 30+070 - STA 59+940)***

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## **ABSTRAK**

Kerusakan jalan menjadi masalah yang sering kali terjadi pada infrastruktur jalan di Indonesia, terutama pada jalan lentur yang memiliki umur layanan dan daya dukung terbatas, permasalahan sering kali terjadi akibat beban lalu lintas, perubahan cuaca, serta umur layanan jalan. Oleh karena itu, penting untuk melakukan analisis yang mendalam terhadap tingkat kerusakan jalan. Metode yang akan digunakan dalam penelitian ini adalah metode Bina Marga 1990, *Surface Distress Index* (SDI), *Road Condition Survey* (RCS), *Road Condition Index* (RCI), dan *International Roughness Index* (IRI), dan Aplikasi Roadlab Pro. Berdasarkan data hasil metode Bina Marga 1990, nilai kondisi jalan  $>7$  terdapat 284 STA perlu dilakukan pemograman pemeliharaan rutin, nilai kondisi jalan 4 – 6 terdapat 16 STA perlu dilakukan pemograman pemeliharaan berkala, dari total keseluruhan jalan 29,87 km. Hasil pengaplikasian RoadLab Pro memiliki nilai RCI rata-rata sebesar 8,49 dan survei manual di lapangan nilai RCI rata-rata sebesar 7,11. Perbandingan selisih nilai yang cukup signifikan penggunaan aplikasi RoadLab Pro dapat membantu mempercepat penilaian kekasaran jalan, tetapi akurasi belum sepenuhnya konsisten. Selisih nilai dengan survei manual menunjukkan aplikasi ini sebaiknya digunakan sebagai alat pendukung, bukan satu-satunya penentu nilai RCI.

**Kata kunci :** Aplikasi Roadlab Pro, Bina Marga 1990, Kerusakan Jalan, RCI

# ***THE ANALYSIS OF FLEXIBLE PAVEMENT DAMAGE LEVELS USING THE BINA MARGA METHOD AND THE ROADLAB PRO APPLICATION***

***(Case Study : Pelintung Road Segment (Bengkalis Regency Border) – Sepahat –  
Sei. Pakning at STA 30+070 to STA 59+940)***

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## ***ABSTRAC***

*Road damage is a problem that often occurs in road infrastructure in Indonesia, especially on flexible roads that have limited-service life and carrying capacity, problems often occur due to traffic loads, weather changes, and road service life. Therefore, it is important to conduct an in-depth analysis of the level of road damage. The methods that will be used in this study are the Bina Marga 1990 method, Surface Distress Index (SDI), Road Condition Survey (RCS), Road Condition Index (RCI), and International Roughness Index (IRI), and the Roadlab Pro Application. Based on the data from the Bina Marga 1990 method, the road condition value of >7 has 284 STAs that require routine maintenance programming, the road condition value of 4-6 has 16 STAs that require periodic maintenance programming, from a total of 29.87 km of roads. Based on the results of the RoadLab Pro application, the average RCI value is 8.49 and manual surveys in the field have an average RCI value of 7.11. A significant difference in values compared to using the RoadLab Pro app can help speed up road roughness assessments, but its accuracy is not yet fully consistent. The difference in values compared to manual surveys suggests that this app should be used as a supporting tool, not the sole determinant of RCI values.*

***Keywords:*** Bina Marga 1990, RCI, Road Damage, Roadlab Pro application