ABSTRAK

Lukman Nurkholis, 2026
EVALUASI TINGKAT KERUSAKAN JALAN SEBAGAI DASAR PENENTUAN PERBAIKAN PADA RUAS JALAN GAYAM – PAGU MELALUI INTEGRASI METODE BINA MARGA DAN *PAVEMENT CONDITION INDEX* (PCI)
Dosen Pembimbing : Faiz Muhammad Azhari, ST., MT.

Infrastruktur jalan berperan penting sebagai penunjang mobilitas masyarakat dan pertumbuhan ekonomi antarwilayah. Ruas Jalan Gayam–Pagu, Kecamatan Pagu, Kabupaten Kediri sepanjang 2 km sebagai jalan kabupaten yang melayani aktivitas pertanian, perdagangan, dan akses fasilitas publik, mengalami penurunan kondisi perkerasan sebelum mencapai umur rencana, sehingga diperlukan evaluasi kondisi guna menentukan prioritas penanganan. Penelitian ini didasarkan pada kajian teori mengenai jenis dan tingkat kerusakan perkerasan lentur menurut Manual Pemeliharaan Jalan Bina Marga No. 03/MN/B/1983 serta katalog kerusakan standar Metode *Pavement Condition Index* (PCI), dengan merujuk pada penelitian terdahulu yang menerapkan kedua metode terpisah maupun kombinatif namun belum banyak mengintegrasikan analisis berbasis segmen sekaligus menghasilkan rekomendasi penanganan yang konsisten. Penelitian ini bersifat evaluatif-komparatif dengan pendekatan kuantitatif deskriptif dan desain observasional lapangan berbasis segmen tanpa perlakuan (nondestruktif). Data dikumpulkan melalui survei visual kerusakan jalan (*windshield survey* dan survei jalan kaki) serta survei volume lalu lintas manual selama tujuh hari berturut-turut, pada ruas jalan yang dibagi menjadi 20 segmen sepanjang 100 meter untuk masing-masing metode. Hasil penelitian menunjukkan Metode Bina Marga menghasilkan nilai Kondisi Jalan rata-rata 4,05 (kategori sedang), sedangkan Metode PCI menghasilkan nilai rata-rata 68,3 (kategori baik). Kedua metode saling melengkapi: Bina Marga memberikan prioritas berbasis tingkat kerusakan dan volume lalu lintas, sementara PCI memberikan gambaran kondisi struktural-fungsional lebih rinci per segmen. Integrasi kedua metode menghasilkan rekomendasi jenis perbaikan serta urutan prioritas penanganan per segmen yang lebih objektif dan menyeluruh, sehingga dapat menjadi acuan teknis bagi Dinas Pekerjaan Umum dan Penataan Ruang Kabupaten Kediri dalam program pemeliharaan Ruas Jalan Gayam–Pagu.

Kata Kunci: *evaluasi perkerasan, kerusakan jalan, Metode Bina Marga, Pavement Condition Index (PCI), prioritas penanganan*

ABSTRACT

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EVALUATION OF ROAD DAMAGE LEVELS AS THE BASIS FOR DETERMINING REPAIRS ON THE GAYAM – PAGU ROAD SECTION THROUGH INTEGRATION OF THE BINA MARGA METHOD AND PAVEMENT CONDITION INDEX (PCI)

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Road infrastructure plays an important role in supporting community mobility and inter-regional economic growth. The Gayam–Pagu Road Section in Pagu District, Kediri Regency, spanning 2 km as a regency road serving agricultural, commercial, and public facility access activities, has experienced pavement condition deterioration before reaching its planned service life, thus requiring a condition evaluation to determine treatment priorities. This study is grounded in theory regarding flexible pavement distress types and severity levels according to the Bina Marga Road Maintenance Manual No. 03/MN/B/1983 and the standard distress catalog of the Pavement Condition Index (PCI) method, referencing prior studies that applied both methods separately or in combination but rarely integrated segment-based analysis with consistent treatment recommendations. This research is evaluative-comparative in nature, using a descriptive quantitative approach with a segment-based field observation design without treatment (nondestructive). Data were collected through visual road damage surveys (windshield survey and walking survey) and manual traffic volume surveys over seven consecutive days, covering the entire road section divided into 20 segments of 100 meters each for both methods. The results show that the Bina Marga Method produced an average Road Condition Value of 4.05 (fair category), while the PCI Method produced an average value of 68.3 (good category). Both methods proved complementary: Bina Marga provides treatment priority based on damage level and traffic volume, while PCI provides a more detailed structural-functional condition per segment. The integration of both methods produced technical repair recommendations and treatment priority sequences per segment that are more objective and comprehensive, serving as a technical reference for the Public Works and Spatial Planning Office of Kediri Regency in the maintenance program of the Gayam–Pagu Road Section.

Keywords: Bina Marga Method, condition evaluation, Pavement Condition Index (PCI), road damage, treatment priority