

INTISARI

Banyaknya ruas jalan yang dimiliki tidak sebanding dengan alokasi dana pemeliharaan dan pengelolaan jaringan jalan. Kinerja jaringan jalan harus dievaluasi secara berkala sehingga memudahkan penentuan prioritas waktu dan jenis penanganan yang efektif. Sesuai karakteristiknya, jaringan jalan mengalami penurunan kinerja dengan indikasi terjadi kerusakan pada perkerasan. Penelitian ini bertujuan memprediksi laju penurunan kinerja, mengetahui jenis penanganan yang sesuai dengan tingkat dan jenis kerusakan, mengetahui waktu optimal penanganan ruas jalan serta menentukan prioritas penanganannya.

Penelitian ini meliputi penilaian kinerja perkerasan menggunakan metode *Pavement Condition Index* (PCI) sebanyak tiga kali dengan interval waktu 4 dan 3 bulan, dilakukan pada lima ruas jalan di Kota Kendari dengan Lalulintas Harian Rata-rata (LHR) dan kondisi eksisting yang bervariasi. Dari hasil nilai PCI digunakan analisis regresi yang sesuai dengan karakteristik penurunan kinerja untuk mengetahui hubungan nilai PCI dengan waktu. Strategi penanganan disusun berdasarkan *Multi-years Mayor Maintenance and Rehabilitation based on minimum PCI and critical PCI method*. Biaya penanganan dihitung menggunakan analisa harga satuan Bina Marga kemudian diproyeksikan menjadi *penalty cost*. Prioritas penanganan dihitung dengan metode *Simple Additive Weighting* (SAW).

Dari analisis regresi diperoleh perkerasan dengan rating *excellent* memberikan waktu prediksi rehabilitasi lebih lama daripada rating di bawahnya. Waktu prediksi (dalam bulan) berturut-turut untuk rating *excellent*, *very good* dan *good* adalah jalan Balaikota-1: 24,57; 20,69; 13,07; jalan Abunawas: 76,61; 34,33; 12,16; jalan Supu-Yusuf: 30,63; 12,62; 4,89; jalan Buburanda: 65,16; 34,00; jalan Boulevard: 33,52, 19,06, 5,87. Rating *fair*, *poor*, *very poor* waktu prediksinya adalah 0 bulan karena batas kritis telah terlampaui. Strategi penanganan membagi 5 ruas jalan menjadi 11 segmen. Dari analisis SAW berdasarkan waktu pelaksanaan rehabilitasi, tingkat LHR dan *penalty cost* diperoleh urutan prioritas rehabilitasi berturut-turut yaitu tahun pertama: jl. Boulevard segmen 1, jl. Supu Yusuf segmen 2, jl. Abunawas segmen 2, jl. Supu Yusuf segmen 1, jl. Balaikota 1; tahun kedua yaitu jl. Boulevard segmen 2, jl. Abunawas segmen 2, jl. Supu Yusuf segmen 3 dan tahun ketiga ; jl. Boulevard segmen 3, jl. Buburanda segmen 2, jl. Buburanda segmen 1.

Kata Kunci : kinerja perkerasan, *pavement condition index*, laju penurunan kinerja, rehabilitasi

ABSTRACT

The number of roads are not proportional to the allocation of funds for maintaining and managing the road network. Road network performance should be periodically evaluated to determine the effective treatment priority program in term of timing and type. According to its characteristics, the performance of the road network would be decreased that indicated by pavement deterioration. This study aims to predict the rate of performance degradation, to know the type of maintenance according to the level and type of deterioration, to know the optimal time of treatment segment/road segment and to determine the priority of treatment.

This study covers a detailed performance assessment using Pavement Condition Index (PCI) method, it was done three times with 4 and 3 month time interval. This study was conducted on five streets in Kendari City with various Average Annual Daily Traffic (AADT) and existing conditions. From the result of PCI value, regression analysis was used since it was suitable with performance decreation characteristic to find out the relationship of PCI value and the time. Treatment strategy are arranged based on minimum PCI and critical PCI method. The treatment costs were calculated by using the Bina Marga unit price analysis which was then projected to be the penalty cost. Priority of treatment were calculated by Simple Additive Weighting (SAW) method.

From regression analysis obtained pavement with excellent rating gave longer time prediction than the lower rating. Predicted time (in months) sequence for excellent, very good and good rating were Balaikota-1 street in 24,57; 20,69; 13,07; Abunawas street in 76,61; 34,33; 12,16; Supu-Yusuf street in 30,63; 12,62; 4,89; Buburanda street in 64,16; 34,00; Boulevard street in 33,52, 19,06; 5,87. Predicted time for fair, poor, very poor rating are 0 months because the critical limit has been exceeded. The treatment strategy divides five streets into 11 segments. From SAW analysis based on rehabilitation time, AADT level and penalty cost obtained priority sequence of rehabilitation implementation for the first year: Boulevard street segment 1, Supu-Yusuf street segment 2, Supu-Yusuf street segment 1, Balaikota-1 street; for the second year : Boulevard street segment 2, Abunawas street segment 2; Supu-Yusuf street segment 3, and third year: Boulevard street segment 3, Buburanda street segment 2, Buburanda street segment 1.

Keywords: *pavement performance, pavement condition index, decreation rate, rehabilitation*