

INTISARI

Kendaraan berat angkutan barang merupakan sarana utama perpindahan barang. Kecenderungan operator angkutan barang untuk melanggar beban maksimum yang diijinkan menyebabkan jalan cepat rusak karena *loading time* meningkat seiring kecepatan perjalanan menurun. Jalan yang telah didesign dan direncanakan mampu menahan beban maksimum rencana akhirnya tidak mampu mencapai umur rencana jalan. Pemerintah mengalami kerugian perbaikan jalan akibat penurunan umur rencana jalan. Oleh karena itu perlu analisis dampak beban *overloading* kendaraan berat angkutan barang demi tercapainya penyelenggaraan jalan yang memenuhi umur rencana jalan. Tujuan penelitian ini adalah untuk mengetahui dampak beban *overloading* kendaraan berat angkutan barang terhadap umur rencana perkerasan dan kerugian biaya penanganan jalan.

Analisis dampak beban *overloading* kendaraan berat angkutan barang dilakukan dengan menggunakan formula dari Bina Marga. Pertama kendaraan dengan kelebihan muatan tiap kenaikan 15% , kemudian menghitung peningkatan daya rusak kendaraan berat angkutan barang akibat beban *overloading*, menghitung penurunan umur rencana akibat beban *overloading* dan menghitung kerugian biaya penanganan akibat penurunan umur rencana perkerasan jalan.

Hasil analisis dampak beban *overloading* kendaraan berat angkutan barang yaitu kumulatif daya rusak semua jenis kendaraan kondisi normal sebesar 1.555.776,58 ESAL sedangkan pada kondisi overload sebesar 3.153.078,66 ESAL. Ruas jalan Lamongan-Gresik mengalami penurunan umur rencana akibat beban *overloading* sebesar 4,93 tahun dan mengalami kerugian biaya penanganan akibat penurunan umur rencana sebesar Rp 3.522.712.000.

Kata kunci : kelebihan beban, umur rencana, angkutan barang, daya rusak dan jembatan timbang

ABSTRACT

Heavy-scale vehicles of freight transportations are main mean for logistics movement. The tendency of freight transport operators to violate the maximum allowable load causes the rapid deterioration due to the loading time increases as the speed decreases. The roads that have been designed and planned to be able to withstand the maximum load of the plan ultimately are not able to achieve the planned design life. The government suffered losses for road repair due to the decrease of the planned road life. Therefore, it is needed an analysis of the impact of overloading load of the heavy vehicles of freight transportation in order to achieve the implementation of the road that meets the design life of the road. The purpose of this study was to determine the impact of the heavy vehicles of freight transportation overloading load toward the design life of the pavement and the losses of road handling cost.

Analysis of the overloading load impact of Heavy-scale vehicles of freight transportations is done by using the formula from Bina Marga. Firstly, the vehicle with the increase of 15% of overloading, then, it was calculated the improvement of the destructive potency of the vehicles of freight transportation due to overloading load, calculated the reduction of planned road age due to overloading load and calculated the losses in the cost of handling due to the decrease of the pavement design life.

The result of the analysis of the impact of a heavy vehicle overloading load of freight is the cumulativeness of destructive power of all types of vehicles in normal conditions of 1.555.776,58 ESAL, while in overload condition of 3.153.078,66 ESAL. Lamongan-Gresik roads undergo the decrease of life design of 4,93 years due to load overloading and suffer losses for handling fee of Rp 3.522 billion due to the decrease of estimation age.

Key words: overloading, design life, freight transformation, damage factor, and weighbridge.