***vehicle routing problem* dengaN *axle weight constraints***

***vehicle routing problem with axle weight constraints***

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**Abstrak**

Dalam kondisi yang sangat kompetitif sekarang ini, setiap perusahaan dituntut untuk melakukan efisiensi dan penghematan di semua lini, terutama efisiensi ongkos produksi yang salah satunya adalah penghematan biaya logistik dalam hal ini biaya transportasi. Perusahaan bukan hanya perlu meminimumkan biaya transportasi, namun juga perlu meningkatkan efisiensi proses muat **(***loading***)** barang ke kendaraan. Peningkatan efisiensi ini dapat dilakukan dengan meningkatkan kegunaan pemakaian ruang dalam kendaraan (baik berupa truk ataupun kontainer). Problem proses muat ini dikenal di literatur dengan nama *Bin Packing Problems* (BP) atau juga sering dikenal sebagai *Container Loading Problem* (CLP). Dalam penelitian ini akan dilakukan perhitungan rute yang optimal dengan menggunakan metode *Vehicle Routing Problem* yang dikombinasikan dengan *Axle Weight* *Constrain* untuk efisiensi proses muat sehingga dapat meminimasi total ongkos transportasi.

Kata kunci : *Vehicle Routing Problem, Container Loading Problem* dengan *Axle Weight Constrain.*

**Abstract**

In today's highly competitive condition, every company is required to make efficiency and savings on all fronts, especially efficiency of production cost, one of which is logistic cost savings in this case transportation cost. Companies not only need to minimize transportation costs, but also need to improve the efficiency of the loading of goods to the vehicle. This efficiency increase can be done by increasing the usage of space in the vehicle (either in the form of truck or container). This loading process problem is known in the literature by the name of Bin Packing Problems (BP) or also often known as Container Loading Problem (CLP). In this research will be done the optimal route calculation using Vehicle Routing Problem method combined with Axle Weight Constrain for efficiency of loading process so that it can minimize the total transportation cost.

Keywords : *Vehicle Routing Problem, Container Loading Problem with Axle Weight Constrain.*

## **Referensi**

1. A. Moura, J.F. Oliveira, 2007 “An Integrated Approach To The Vehicle Routing and Container Loading Problems” .
2. Dimyati, Tjutju T. 2009, “MODEL HEURISTIK PENENTUAN RUTE KENDARAAN DENGAN BATASAN WAKTU PENGIRIMAN”, Jurusan Teknik Industri Universitas Pasundan Bandung.
3. [H. Pollaris](http://www.researchgate.net/researcher/2040999682_H_Pollaris), [K. Braekers](http://www.researchgate.net/researcher/2083945293_K_Braekers), A. Caris, [G.K. Janssens](http://www.researchgate.net/researcher/8981074_GK_Janssens). 2014, ”THE CAPACITATED VEHICLE ROUTING PROBLEM WITH LOADING CONSTRAINTS”, Hasselt University, Agoralaan – Gebouw D, BE-3590 Diepenbeek and Reseach Foundation Flanders (FWO), Egmontstraat 5, BE-1000 Brussels.
4. Turkay, E. Emel, “Vehicle Routing Problem with Packing Constraint”, 2003, 5th Euro/Informs Joint International Meeting, Istanbul.