OPTIMIZATION OF VEHICLE ROUTING WITH
FULL CONTAINER LOAD USING LAGRANGIAN
DECOMPOSITION METHOD

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ABSTRACT

Optimization of vehicle routing with full container load using lagrangian relaxation method is the application of operational costs of transportation when transporting container from the depot to the delivery point and from the pickup point to the depot. With the same destination of this route, the depot, then the optimization can be merged for the same destination that is depot. Thus there will be no trucks moving with empty containers in a long time. If this can be done it will get the truck operational cost optimization based on the time taken from each depot, destination point, delivery point or point pickup.

It is assumed that at each transporting containers, trucks are always filled. Then the time required to unload and load the containers are ignored because it is assumed are included in the travel time taken by the truck.

In this Final Project implemented procedures based solutions on a Lagrangian decomposition for solving the problem. With this method the problems will be split into sub-problems become problems for the AP and GAP will then know the optimal solution of the problem as a whole.

Keywords: Transportasi, depot, delivery point, pickup point, AP, GAP, Lagrangian