Optimasi angkutan persampahan di wilayah Kecamatan Bogor Tengah = Optimize waste transportation in the district of Central Bogor

Nurmaidah Ashry, author

Abstrak

Penelitian ini membahas optimasi angkutan persampahan di wilayah Kecamatan Bogor Tengah. Tujuan penelitian ini adalah menganalisis angkutan persampahan di Kecamatan Bogor Tengah, menentukan optimasi angkutan persampahan berdasarkan rute optimal dan penerapan biaya per km, mengetahui efisiensi yang dihasilkan, serta mengetahui kebutuhan dan jenis kendaraan yang digunakan. Penelitian ini menggunakan optimasi Linear Programming dengan model Vehicle Routing Problem (VRP).
Hasil penelitian ini menunjukkan bahwa rute pengangkutan sampah eksisting di Kecamatan Bogor Tengah belum efisien. Rute pengangkutan sampah optimal di Kecamatan Bogor Tengah memiliki jarak tempuh lebih sedikit 4,16 persen atau lebih pendek 111,21 km dibanding kondisi eksisting. Biaya operasional rata-rata per km-m kubik sebesar Rp 227,71 dan lebih efisien 19,07 persen dibandingkan kondisi eksisting. Kebutuhan kendaraan jenis dump truck dan compactor truck dari rute optimal lebih sedikit 1 unit dari kondisi eksisting sehingga menjadi 26 unit.
.....This study discusses the optimization of waste transport in the District of Central Bogor. The purpose of this study is to analyze the transport of waste in Central Bogor District, determines the optimization of waste transport based on the optimal route and cost per km, knowing the resulting efficiency, and to know the needs and the type of vehicle used. This study use Linear Programming optimization with Vehicle Routing Problem (VRP) model.
Results of this study shows that the waste transportation system currently in Central Bogor District was not efficient. The optimal route of waste transportation system in Central Bogor District is less 4.16 percent than existing route or have a mileage of 111.21 km shorter than the existing condition. The average operating costs per km-m cubic is Rp 227.71 or 19.07 percent more efficient than the existing condition. The needs of the type of vehicle dump trucks and compactor trucks of optimal route less than 1 unit of the existing condition so that it becomes 26 units.