Simultaneous Consideration of Delivery and Picking-up in Vehicle Routing Problem

김 내 헌

Nae-Heon Kim

아주대학교 산업공학과

Abstract

This paper deals with the vehicle routing problem which considers not only delivery but picking-up at the same time. A mathematical formulation is presented for finding the shortest route which satisfies all the demands of customers and enables picking-up the maximum possible number of containers without exceeding the capacity of the vehicle. A heuristic solution method is proposed which gives a sub-optimal solution. The trade-off between the traveling distances and the picking-up amount is considered, and also a table comparing traveling distance and the picking-up amount is provided for helping make the decision.