

Two Phase Backtracking Threshold Accepting Method to the Heterogeneous Vehicle Routing Problem with Backhauls and Time Windows

卓裕仁, Chu, Y. J.

Transportation Technology and Logistics Management

Management

m9203001@chu.edu.tw

Abstract

In this paper, we present a Two-Phase Backtracking Threshold Accepting Algorithm (TBTA) to solve the Heterogeneous-fleet Vehicle Routing Problem with Backhauls and Time Windows (HVRPBTW). In order to identify the performance of proposed TBTA meta-heuristics, we created a set of forty-five HVRPBTW instances combined from fifteen VRPBTW benchmark instances and three HFVRP benchmark instances. We coded the TBTA program in C# language and executed it to solve the 45 HVRPBTW instances on a Pentium IV PC. Numerical result showed that TBTA can significantly improve the accuracy of initial solutions with stable performances. Such a result implies that TBTA is an effective and robust method to solve the HVRPBTW.

Keyword :