Abstract

Vehicle routing problem is one of the most important issues that need to be overcome. By transporting people or products from one place to another place, we need to plan a vehicle routing systematically so that transportation cost and time can be reduced. This research project uses sweep algorithm and 2 opt exchange as a classical heuristics to solve the vehicle routing problem of an exemplary case of transportation management at the University of the Thai Chamber of Commerce, Bangkok, Thailand. The main objective of the sweep algorithm is to assort pick-up and drop-off points by consideration a coordination (X, Y) being plotted in a map. On the other hand, the second method (the 2 opt exchange) is one of the improvement heuristics methods that is used to investigate how to switch pick-up and drop-off points resulting in a reduction of routing number and transportation time. The benefit of this project is to develop a simulation of the vehicle routing of Bus Scania and Bus BMC in order to maximize a number of university employees using these buses. Furthermore, the research may benefit from the development of the vehicle routing simulation that can be used in a scope of logistics system in which products is conveyed with low cost of transportation and high customer satisfaction.