

This thesis deals with stochastic location routing problem. Multiple stochastic and deterministic models are formulated and it is discussed that it is difficult to solve these problems via exact integer programming methods. It is necessary to develop heuristic methods to find a solution of these problems. Multiple versions of these problems are formulated and their properties and possibilities how to solve them are discussed. Therefore, the brand new Blockchain metaheuristic is developed and later used for solving stochastic location routing problem applied on a waste collection problem. As a part of Blockchain metaheuristic we develop the new application of Greedy algorithm that is used for finding initial solution. The quality of the heuristic algorithm developed by us is presented in a numerical study.