

This thesis studies the capacitated dynamic vehicle routing problem with changing vehicle availability. It is motivated by the increasing demand for fast and reliable delivery services in recent years. First, we analyze the problem and build its formal model. Then we propose several policies to process dynamically appearing orders. Next, we implement exact and heuristic algorithms like insertion heuristic, mixed integer programming, evolutionary algorithm, and ant colony optimization. Finally, we compare the algorithms with different policies and parameters on Kilby's dataset.