Abstract

In this thesis, we address some latency-based vehicle routing problems under the uncertainty of travel and service times. We review the contributions in the literature and present more efficient mathematical models enhanced by a prototype metaheuristic approach providing near-optimal solutions in low computational time. We also implement our contribution on different applications in disaster management and scheduling sector. As another contribution, we also address the equity in strategic and tactical problems arising in emergency medical service and primary health care sector. This is justified by the close connection of equity and latency, as two important performance measures, both related to the customer-centricity concept.