



Séminaire du CIRRELT

Marjolein Veenstra

PhD Candidate

University of Groningen, The Netherlands



THE ONE-TO-ONE PICKUP AND DELIVERY TSP WITH HANDLING OPERATIONS

Abstract: In this talk we consider the one-to-one pickup and delivery traveling salesman problem with handling costs. The vehicle is rear-loaded, and the compartment can be seen as a stack. Whenever the vehicle arrives at a delivery location for which the load is not closest to the door of the vehicle, all loads closer to the door must be unloaded and reloaded into the vehicle. We assume that the sequence of the loads should remain the same after the reloading operations. The objective is to minimize a weighted sum of the handling operations and the total distance traveled. This problem is a generalization of the pickup and delivery traveling salesman problem (PDTSP) and the PDTSP with LIFO. We propose an adaptive large neighborhood heuristic to solve the problem and provide computational results. We show the impact of the value of the penalty for the handling operations in different settings. Moreover, we can indicate the need to include handling operations in the generation of routes, and show that great reductions in travel distance can be achieved by relaxing the LIFO constraint.

Note : Marjolein Veenstra is a PhD Candidate at the University of Groningen, The Netherlands. Her research is in the field of vehicle routing problems. Marjolein is developing both heuristic and exact methods to solve different routing problems.

MERCREDI

21 janvier 2015
15h30

Local 4221
Pavillon Palasis-Prince
Université Laval

Ouvert à tous

Organisateur
Leandro Coelho

