

# A Travelling Salesman Problem with Side Constraints

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The goal of this paper is to maximize the number of customers that can be served by a travelling salesman visiting a number of cities while having constraints on capacity, tour budget and tour time. In our model, we also let customers whose cities have not been served, travel to other close by served cities. We develop a mathematical model and propose an exact method and a genetic algorithm to solve this problem. We test the performance of the proposed heuristic. Furthermore, the impact of different parameters on performance measures is observed using existing problem instances.