ALGORITHMS FOR THE VEHICLE ROUTING PROBLEM

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ABSTRACT

The Vehicle Routing Problem (VRP) is an hard and very well-known combinatorial optimization problem which finds many practical applications in the design and management of distribution systems.

The VRP is concerned with the design of the optimal routes used by a fleet of identical vehicles stationed at a central depot to serve a set of customers with known demands. In the basic version of the problem, known as Capacitated VRP (CVRP), only the capacity restrictions for the vehicles are considered and the objective is to minimize the total cost (or length) of the routes. These problems find many practical applications in logistics and transportation. We review the main exact and approximate approaches proposed so far for the solution of the CVRP.