**Vehicle Routing Problem state of the art**

The Vehicle Routing Problem lies at the heart of distribution management. It is faced each day by thousands of companies and organizations engaged in the delivery and collection of goods or people.

The routing and scheduling of vehicles and their crews is an area of importance to both operations researchers and transportation planners. Nowadays research in this field includes significant breakthroughs in problem formulations and in the construction, analysis, and implementation of solution procedures.

**Tasks:**

This Thesis is a survey of heuristics for the Vehicle Routing Problem including:

1. Describe the state-of-the art in the routing and scheduling of vehicles and crews.
2. Discuss the applied setting in which these routing and scheduling problems arise, present mathematical formulations for them, and survey representative solution algorithms.
3. Special survey for the ARC Routing problem heuristics in different application with more attention to waste collection problem.
4. Discuss issues relating to real-world computer implementation of these solution algorithms.

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