

***Adaptive large neighborhood search for the consistent vehicle routing problem***

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The importance of customer satisfaction was identified by many industries as a key factor of competitive advantage. So, it can be reasonable to increase the service quality even at the expense of transportation costs in order to gain customer loyalty. Customer satisfaction can be increased e.g. by providing consistent service in the form of visiting customers with the same driver at approximately the same time of the day over a certain time period. Motivated by this real world observation, the consistent vehicle routing problem (ConVRP) combines traditional vehicle routing constraints with the requirements for service consistency. The current paper presents a fast solution method called template based adaptive large neighborhood search for the described problem. Compared to state-of-the-art heuristics, the developed algorithm is highly competitive on the available benchmark instances. Finally, a relaxed variant of the original ConVRP and two solution approaches for it are proposed. Experiments show that allowing delays in the departure times from the depot considerably improves solution quality under tight consistency requirements.