
The Traveling Salesman Problem with positional consistency constraints

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Abstract

In the Traveling Salesman Problem with positional consistency constraints we seek to generate a minimum cost set of routes, one for each period of the planning horizon, with each route starting and ending at the depot and visiting all the nodes that require service at the corresponding period. Nodes that are visited in several routes must appear in the same relative position in all the routes they are visited in. Vacant positions are allowed before the start of the route, but only for smaller routes, if the routes do not have the same length. Some time dependent models known from the literature were adapted, and a new aggregated model, not indexed by route, was developed for this problem.

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