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# The Pickup and Delivery Problem with time windows, split loads and transshipment - A branch-and-cut solution method

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## Abstract

We address a generalized version of the well-known pickup and delivery problem with time windows. In this version the constraint that each customer is visited by exactly one vehicle is relaxed. Furthermore, transshipment of load from one vehicle to another is allowed at specific locations. However, it induces costs. The fleet of vehicles is heterogeneous and multiple depots may be present.

The objective is to find a set of feasible vehicle routes that serves all customers, such that the sum of travel costs and transshipment costs is minimized.

We present a solution method based on Benders decomposition.

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