
A Branch-and-Price Approach for the Dial-a-Ride Problem

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Résumé

The Dial-a-Ride Problem (DARP) is a variant of the pickup and delivery problem where people has to be transported between an origin and a destination. In the transportation of people, not only the operational costs are minimized, but also the user inconvenience. The door-to-door transportation services for elderly and disabled people together with the shuttle bus service connecting airports and customer homes are some applications of DARP. In this talk, we consider two mathematical formulations of the problem and their solution using a branch-and-price algorithm. We discuss different dynamic programming approaches to solve the pricing problem and some stabilization techniques. Our contribution is in the comparative performance analysis.

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