

عنوان مقاله:

A Decision Support System for Urban Journey Planning in Multimodal Public Transit Network

محل انتشار:

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خلاصه مقاله:

The goal of this paper is to develop a Decision Support System (DSS) as a journey planner in complex and large multimodal urban network called Rahyar. Rahyar attempts to identify the most desirable itinerary among all feasible alternatives. The desirability of an itinerary is measured by a disutility function, which is defined as a weighted sum of some criteria. The weights represent travelers' preferences to the attributes (e.g., total travel time and monetary cost). The journey-planning problem in Rahyar is developed as a multi-destination, multi-criteria shortest tour problem with time windows. This problem is one of the important and practical problems in several fields including transportation. This problem is structured based on a Traveling Salesman Problem with Time Windows (TSPTW). Three modes of walking, bus, and subway are assumed to be used for traveling between points. It is demonstrated that Rahyar is capable of effectively generating alternative itineraries for a tour that involves multiple trips and multiple modes, with complex constraints. The planner serves as a practical tool for travelers in itinerary planning.

کلمات کلیدی:

Journey Planning, Multimodal Transportation, Time windows, Decision Support System, Multi-Destination Trip, Public Transportation

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