

TOP TEN

Abderrahman Ait Ali
Linköping University

Category: Rail

Country: Sweden

Research Area 4: Policies and Economics for a Competitive Europe

Idea Number: 08

Methods for Capacity Allocation in Deregulated Railway Markets

Faced with increasing challenges, European railways have undergone major reforms to improve the efficiency and competitiveness of the sector. New market structures can allow for reduced public expenditures, increased competition, and more efficient railways. However, these structures have introduced new challenges for managing infrastructure and operations. Capacity allocation, previously internally performed within monopolistic national companies, are now conferred to an infrastructure manager, which is responsible for transparent and efficient allocation of available capacity to different (often competing) licensed railway undertakings. This research develops a number of methods to allocate capacity in a deregulated railway market. It focuses on efficiency in terms of social welfare. The project is concerned with successive allocation of capacity for publicly controlled and commercial traffic within a segmented railway market. The contributions include cost benefit analysis methods that allow public transport authorities to assess the social welfare of their traffic and create efficient schedules. The project also describes a market-based transparent capacity allocation, where infrastructure managers price commercial train paths to solve capacity conflicts with publicly controlled traffic. Additionally, solution methods are developed to help estimate passenger demand, which is a necessary input both for resolving conflicts, and for creating efficient timetables. Future capacity allocation in deregulated markets may include solution methods from this study. However, further experimentations are still required to address concerns such as data, legislation and acceptability. Moreover, future work can include prototyping and pilot projects on the proposed solutions and investigating legal and digitalisation strategies to facilitate the implementation of such solutions.

