

Railway Timetable & Traffic

Analysis - Modelling - Simulation

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The performance of many railway networks and the quality of services offered is becoming more and more critical. The main issues are the increasing traffic volumes, making the best use of the capacity which can be made available and resolving the priorities for its use.

This book describes current state-of-the-art methods of railway timetabling, operations analysis and modelling, simulation, and traffic management. The intention is to stimulate their broader application in practice and to identify areas where further research is needed. It is directed primarily at academics, Masters and PhD students and professionals from the railway industry, but also public authorities that tender and monitor railway service provision. The overall aim is to improve the attractiveness and efficiency of the train services which can be offered to the public.

The key to achieving higher efficiency and quality is an awareness of the impact of availability, reliability and robustness of the hardware subsystems on train processes. This is especially important at system pinch points and during service disruptions. A deeper insight into the probability of failures and the causes of deviations from the timetables depends on a thorough analysis of real world railway operations, together with feedback for optimising the timetable and improving railway traffic management. This can be achieved by a closer collaboration of planners, engineers and researchers from the various scientific disciplines with the professional railway operators.

This result should make the railways more attractive for regular, occasional and new customers, and assist in ensuring that the railways make the maximum contribution possible to the transport requirements of the future.

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