Special Issue

Optimization-Based Decision-Making Models in Rail Systems Engineering

Message from the Guest Editors

The daily work of railway engineers and managers consists of making a series of decisions, the quality of which is crucial to the efficiency and resiliency of the rail system. They face many challenges in their decision-making, including large and complex infrastructure asset networks; limited resources, time and information; a range of outcomes; conflicting goals; and uncertainties. Planning, designing, and maintaining a rail system involves accounting for various multi-dimensional influential factors and conditions (including the topography, travel demand patterns, and land use and value) and numerous interconnected objectives, needs, and limitations that arise from the stakeholders involved (for example, the costs, operation safety, accessibility, punctuality, and travel time). Inadequate decisions often lead to longer travel times, inefficient space use, and overall resource wastage. Therefore, this Special Issue will present and disseminate the most recent advances in optimization-based decision-making modelling, which is essential in developing and maintaining a reliable and cost-effective rail system.

Guest Editors

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Systems is a leading venue for the quick and global dissemination of results of cutting-edge research in various areas of systems science and systems-related fields. An increasing number of researchers are realizing the enormous potential of systems thinking in managing the many unprecedented and complex issues in all areas of need. The *Systems* journal provides a home of exceptional quality for the manuscripts of these researchers who often find it difficult to publish their work in conventional discipline focused journals.

Editor-in-Chief

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