



Séminaire du CIRRELT

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RAILWAY TIMETABLING CONSIDERING PASSENGER WELFARE

Abstract: Railway planning is usually decomposed into several stages, traditionally network design, line design, timetabling, rolling stock, and crew scheduling. This talk presents the timetabling problem under dynamic demand environment. We start by modeling dynamic demand by means of sigmoidal functions. This allows us to work with real data, which are initially provided at random time intervals. We analyze the train timetabling problem adapted to this dynamic demand behaviour, thus taking into consideration passenger welfare. After a mathematical analysis of the problem, we manage to avoid equivalent solutions thus yielding an important improvement of the efficiency of the algorithm. So, we have proposed three formulations and a truncated branch-and-cut algorithm for its resolution. Finally, we propose a metaheuristic in order to deal with real-size instances.

Note : Eva Barrena is a post-doctoral fellow at HEC and CIRRELT on operations research and transportation related topics. She obtained her BSc degree in Mathematics from the University of Seville, and her PhD degree from the Technical University of Kaiserslautern. Her research interests lie in the area of railway planning by means of operations research and decision support systems.

MERCREDI

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15h30

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Pavillon Palasis-Prince
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Ouvert à tous

Organisateur
Leandro Coelho



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