



Séminaire du CIRRELT

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SIMULATION OF A SINGLE LINE RAILWAY OPERATION: THE CASCABEL-GUARAPUAVA CASE

Abstract: Deploy freight transport infrastructures requires substantial financial investments. Therefore, before deciding the expansion of freight transport offer, it is important to verify carefully whether the capacity of the existing infrastructure is effectively exhausted. This is particularly true in the case of railways, a transportation mode of paramount importance to modern networks. Thus, studying the operational capacity of the current infrastructures is a necessary task to maximize the network's resources and efficiency.

This research seeks to assess the full operational use of a railroad, as well as to characterize the scenario and the conditions maximizing its throughput, by using a discrete event simulation approach. This methodology is applied to the case of the railway line Cascavel-Guarapuava, in Brazil. The work describes the different steps of a simulation project methodology, including data collection and analysis, modeling, design of scenarios, and performance evaluation. The model was implemented with SIMUL 8®. The numerical experiments allow to estimate accurately the maximum number of trains traveling on the line (the operational capacity) and to evaluate the impact of existing operational constraints on the line performance.

Note: Bachelor in Computational and Applied Mathematics from Campinas State University - UNICAMP (1998), M.Sc in Computational and Applied Mathematics from Campinas State University - UNCAMP and Ph.D. in Business Administration from Université Laval (2008).

My main research interests are: Simulation and Mathematical Modelling applied to real world applications such as: logistic networks, healthcare services and supply chain management.

MERCREDI

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8 h 30

Local 4221
Pavillon Palasis-Prince
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Ouvert à tous

Organisateur:
Angel Ruiz

