

Session Detail Information

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Cluster : Contributed Paper Track -102- Transportation

Session Information : Wednesday Nov 16, 15:30 - 17:00

Title: Scheduling Modeling in Transportation

Chair: Anne Goodchild, University of California at Berkeley, 945 Ohlone Ave #964, Albany CA, United State
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Abstract Details

Title: Computing Dynamic User Equilibria for Large-Scale Transportation Networks

Presenting Author: Mansoureh Jeihani, Senior Associate, Resource Systems Group, 46A Barrister C
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Abstract: An approach for computing dynamic user equilibria is developed to address the t
assignment process using disaggregated microscopic simulation-based models. T
proposed method is implemented within TRANSIMS, Transportation Analysis and
Simulation System, and is applied to a large-scale and a medium-scale network. I
exhibit that an improved distribution of travelers is obtained while consuming less
17-33% of the computing effort required by the current version of TRANSIMS.

Title: The Full-truck Delivery Planning Problem with Time Windows and Side Constraints: A Proposed

Presenting Author: Manuel G. De La Rosa, Instituto Tecnológico y de Estudios Superiores de Monte
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Eduardo Monroy Cárdenas #2000, Toluca Mx 50110, Mexico, jgaytan@itesm.mx

Abstract: The problem is faced everyday by a single factory. This factory has to deliver full-
to several warehouses. The demand for each warehouse and a receiving time wi
known in advance. Side constraints are considered and include the ability to loa
truck in a specific loading period. The solution algorithm is based on network flow
lagrangian relaxation. The proposed schedule includes a minimum number of tru
and a maximum utilization of trucks

Title: Train Scheduling as Limited Buffer Job Shop Scheduling

Presenting Author: Sam Pyke, Queensland University of Technology, Gpo Box 2434, Brisbane, Aus
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Abstract: This paper describes a railway scheduling model which allows branch lines and tr
are longer than some crossing loops and allows for acceleration time. The Shiftin
Bottleneck Heuristic (SBH) assumes infinite capacity buffers between machines,
applied to train scheduling tends to produce "solutions" which exceed the capaci
crossing loops. The modified version of SBH in this paper allows buffer capacity
allowing it to be used for railway scheduling problems.

Title: Modeling the Truck Scheduling Problem for Solid Waste Collection

Presenting Author: **Denis Borenstein**, Associated Professor, Federal University of Rio Grande do Sul, Washington Luis 855, Porto Alegre RS 90010, Brazil, denisb@ea.ufrgs.br

Co-Author: **Jing-Quan Li**, PhD candidate, University of Arizona, Systems and Industrial Engineering, PO Box 210020, Tucson AZ 85721, United States, jingquan.li@gmail.com

Pitu Mirchandani, Professor, University of Arizona, Systems and Industrial Engineering, Box 210020, Tucson AZ 85721, United States, pitu@sie.arizona.edu

Abstract: This paper discusses the development of a model for the truck scheduling problem for solid waste collection in a Brazilian city. Our study has as main objective to investigate a scheduling pattern that not only attempts to minimize the total costs involved, including operational (related to distances traveled) and fixed (related to the number of trucks required to pick up the waste) costs, but also to balance the collection trip assignments for each recycle unit due to social perspectives.

Title: The Feasibility of a Private Airline for a College Sports League

Presenting Author: **Anne Goodchild**, University of California at Berkeley, 945 Ohlone Ave #964, Alameda, United States, anne_g@berkeley.edu

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Mark Hansen, Professor, University of California at Berkeley, 107 McLaughlin Hall, Berkeley CA 94720, United States, mhansen@ce.berkeley.edu

Abstract: In this research we address the feasibility of a dedicated airline for a sports league game schedule, fleet and operating constraints, a routing and scheduling is determined. A generalized model is developed and results are compared to those of a case-based simulation tool. We comment on strategies for creating schedules to minimize travel cost, and the economic feasibility of semi-private sports league operations.
