

17th Meeting of the EURO Working Group on Transportation (EWGT 2014)

Transportation Research Procedia Volume 3

**Sevilla, Spain
2 - 4 July 2014**

Part 1 of 2

Editors:

F.G. Benitez

ISBN: 978-1-63439-606-6

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© by Elsevier B.V.
All rights reserved.

Printed by Curran Associates, Inc. (2014)

For permission requests, please contact Elsevier B.V.
at the address below.

Elsevier B.V.
Radarweg 29
Amsterdam 1043 NX
The Netherlands

Phone: +31 20 485 3911
Fax: +31 20 485 2457

<http://www.elsevierpublishingsolutions.com/contact.asp>

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2634
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

PART 1

Editorial	1
<i>F. Benitez, R. Rossi</i>	
Distributed Regret Matching Algorithm for Dynamic Congestion Games with Information Provision	3
<i>T. Ma, P. Gerber</i>	
Effects of Information Provision Activities in Streets on Driving Speeds	13
<i>Y. Mimura, H. Kato, K. Higuchi, T. Ono, R. Ando</i>	
A Stated Adaptation Approach to Assess Changes in Individuals' Activity-Travel Behavior in Presence of Personalized Travel Information	21
<i>Z. Parvaneh, T. Arentze, H. Timmermans</i>	
Evaluation of Providing Recommended Speed for Reducing CO₂ Emissions from Vehicles by Driving Simulator	31
<i>Y. Matsumoto, D. Tsurudome</i>	
Emissions Impact of Road Traffic Incidents Using Advanced Traveller Information Systems in a Regional Scale	41
<i>T. Fontes, A. Lemos, P. Fernandes, S. Pereira, J. Bandeira, M. Coelho</i>	
Analysis of the Driving Behaviour at Weaving Section Using Multiple Traffic Surveillance Data	51
<i>A. Kusuma, R. Liu, C. Choudhury, F. Montgomery</i>	
Temporal Adaptation to Reward Schemes: Results of the SpitsScoren Project	60
<i>E. Khademi, H. Timmermans, A. Borgers</i>	
Quantification of the Impacts of Eco-Driving Training and Real-Time Feedback on Urban Buses Driver's Behaviour	70
<i>C. Rolim, P. Baptista, G. Duarte, T. Farias, Y. Shiftan</i>	
Driver Behavior Characterization in Roundabout Crossings	80
<i>A. Silva, S. Santos, L. Vasconcelos, A. Seco, J. Silva</i>	
Sustainable Traffic Safety Management at Accident Black Spots Combined with Drivers' Psychology and Vehicle Engineering Using Eye Mark Recorder	90
<i>H. Wakabayashi, M. Ando, T. Kawaguchi, Y. Horie, K. Hotta</i>	
Effects of Combined Curves on Driver's Speed Behavior: Driving Simulator Study	100
<i>F. Bella</i>	
Geographic, Social-Cultural and Modal Usage Determinants of Activity Space: A Case Study of EU Institutions in Luxembourg and Strasbourg	109
<i>T. Ma, P. Gerber, S. Carpentier, S. Klein</i>	
Travel Patterns, Regarding Different Activities: Work, Studies, Household Responsibilities and Leisure	119
<i>O. Sanchez, M. Isabel, E. Gonzalez</i>	
Development of a Technological Platform for Implementing VTBC Programs	129
<i>I. Meloni, B. Sanjust, G. Delogu, E. Sottile</i>	
Users' Preferences towards Automated Road Public Transport: Results from European Surveys	139
<i>A. Alessandrini, R. Alfonsi, P. Site, D. Stam</i>	
Sensitivity Analysis of Different Supply Design Alternatives: Experimental Results	145
<i>N. Sacco, E. Gattorna, A. Bauda</i>	
Environmental Management and Business Strategy: Structuring the Decision-Making Support in a Public Transport Company	155
<i>M. Teles, J. Sousa</i>	
An AHP Approach to Aircraft Selection Process	165
<i>S. Dozic, M. Kalic</i>	
A Decision Support System Based on Electre III for Safety Analysis in a Suburban Road Network	175
<i>G. Fancello, M. Carta, P. Fadda</i>	
Smartphone Application for Assessing Various Aspects of Urban Public Transport	185
<i>E. Simonyi, Z. Fazekas, P. Gaspar</i>	
Benefits of a Combined Micro-Macro Approach for Managing Rail Systems in Case of Disruptions	195
<i>A. Placido, L. Cadarso, L. D'Acierno</i>	

Estimation of the Network Fundamental Diagram (NFD): An Urban Application in Emergency Conditions	205
<i>G. Musolino, A. Vitetta</i>	
Prediction of Road Accident Severity Using the Ordered Probit Model	214
<i>R. Garrido, A. Bastos, A. Almeida, J. Elvas</i>	
A Conceptual Algorithm to Link Police and Hospital Records Based on Occurrence of Values	224
<i>M. Amorim, S. Ferreira, A. Couto</i>	
Discrete Choice Models to Determine High-Speed Passenger Stop Under Emergency Conditions	234
<i>R. Sanudo, M. Bordagaray, L. Dell'Olio, A. Ibeas</i>	
Reverse Assignment Formulation in Evacuation Simulation	241
<i>A. Polimeni, A. Vitetta</i>	
Solving Air Transport Contingencies by Using Genetic Algorithms – RUCCMAN	249
<i>J. Fernandez, M. Sanchez, J. Lorenzo, S. Reina</i>	
Integration of the Urban Public Transportation System with the Application of Traffic Simulation	259
<i>K. Solecka, J. Zak</i>	
Application of AHP Method for Multi-criteria Evaluation of Variants of the Integration of Urban Public Transport	269
<i>K. Nosal, K. Solecka</i>	
Evaluating the Applicability of Advanced Techniques for Practical Real-Time Train Scheduling	279
<i>A. D'Ariano, M. Sama, P. D'Ariano, D. Pacciarelli</i>	
Simultaneous Frequency and Capacity Setting in Uncapacitated Metro Lines in Presence of a Competing Mode	289
<i>A. De-Los-Santos, G. Laporte, J. Mesa, F. Perea</i>	
Multi-Objective Optimization in Dial-a-Ride Public Transportation	299
<i>F. Guerriero, F. Pezzella, O. Pisacane, L. Trollini</i>	
Public Transport Systems' Connectivity: Spatiotemporal Analysis and Failure Detection	309
<i>Y. Hadas, R. Rossi, M. Gastaldi, G. Gechele</i>	
Potential Impacts on Accessibility and Consumer Surplus of Improvements of the European Railway System	319
<i>F. Rotoli, P. Christidis, L. Vannacci, H. Lopez-Ruiz, C. Navajas, R. Ibanez</i>	
Isolating Different Factors Affecting Travel Time Reliability in an Observational Before/After Study	329
<i>N. Bhourri, M. Aron</i>	
Estimating Travel Time Distribution under Different Traffic Conditions	339
<i>Y. Guessous, M. Aron, N. Bhourri, S. Cohen</i>	
Upper Bounds for the Travel Time on Traffic Systems	349
<i>N. Farhi, H. Haj-Salem, J. Lebacque</i>	
Travel Time of Public Transport Vehicles Estimation	359
<i>K. Birr, K. Jamroz, W. Kustra</i>	
Analytical Formulation of the Trip Travel Time Distribution	366
<i>X. Chen, C. Osorio</i>	
Development of an Integrated Transport-land Use Model for the Activities Relocation in Urban Areas	374
<i>A. Brandi, S. Gori, M. Nigro, M. Petrelli</i>	
Market Share Modeling in Airline Industry: An Emerging Market Economies Application	384
<i>D. Babic, J. Kuljanin, M. Kalic</i>	
A Bilevel Multi-Objective Road Pricing Model for Economic, Environmental and Health Sustainability	393
<i>J. Wang, M. Ehrgott, K. Dirks, A. Gupta</i>	
Parking Pricing for a Sustainable Transport System	403
<i>M. Migliore, A. Burgio, M. Giovanna</i>	
How Varies Optimal Welfare Pricing with Income Distribution? The Case of the Untolled Alternative	413
<i>A. Ortega, J. Vassallo, J. Perez</i>	
Evaluating Factors of the Willingness to Pay to Mitigate the Environmental Effects of Freight Transportation Crossing the Pyrenees	423
<i>F. Lera-Lopez, J. Faulin, M. Sanchez, A. Serrano</i>	
Time Dependent Travel Speed Vehicle Routing and Scheduling on a Real Road Network: The Case of Torino	433
<i>S. Mancini</i>	
A Flexible Transport Service for Passengers	442
<i>P. Carotenuto, L. Paradisi, G. Storchi</i>	
Electric Vehicle Routing Problem with Industry Constraints: Trends and Insights for Future Research	452
<i>A. Afroditi, M. Boile, S. Theofanis, E. Sdoukopoulos, D. Margaritis</i>	

A Multi-Objective Time-Dependent Route Planner: A Real World Application to Milano City	460
<i>M. Bruglieri, A. Colomi, F. Lia, A. Lue</i>	
A New Taxonomy of Smart City Projects	470
<i>G. Perboli, A. Marco, F. Perfetti, M. Marone</i>	
A Semantic-Enhanced Augmented Reality Tool for OpenStreetMap POI Discovery	479
<i>M. Ruta, F. Scioscia, D. Filippis, S. Ieva, M. Binetti, E. Sciascio</i>	
ITS for E-Grocery Business: The Simulation and Optimization of Urban Logistics Project	489
<i>A. Gagliano, L. Gobbato, R. Tadei, G. Perboli</i>	
Factor Influencing Logistics Service Providers Efficiency' in Urban Distribution Systems	499
<i>A. Marco, A. Cagliano, G. Mangano, F. Perfetti</i>	
Reduced Urban Traffic and Emissions within Urban Consolidation Centre Schemes: The Case of Bristol	508
<i>P. Daniela, F. Paolo, F. Gianfranco, P. Graham, R. Miriam</i>	
Decision Support System for City Logistics: Literature Review, and Guidelines for an Ex-Ante Model	518
<i>R. Bozzo, A. Conca, F. Marangon</i>	
The Multi-path Traveling Salesman Problem with Stochastic Travel Costs: Building Realistic Instances for City Logistics Applications	528
<i>F. Maggioni, G. Perboli, R. Tadei</i>	

PART 2

The Contribution of Scientific Productions at the Beginning of the Third Millennium (2001 – 2014) for Humanitarian Logistics: A Bibliometric Analysis	537
<i>B. Zary, R. Bandeira, V. Campos</i>	
Dynamic Location of Distribution Centres, a Real Case Study	547
<i>E. Segura, R. Carmona-Benitez, A. Lozano</i>	
The Selection of the Logistics Center Location Based on MCDM/A Methodology	555
<i>J. Zak, S. Weglinski</i>	
Trip Allocation and Stacking Policies at a Container Terminal	565
<i>C. Guven, D. Eliiyi</i>	
A Micro-Simulation Model for Performance Evaluation of a Logistics Platform	574
<i>D. Gattuso, G. Cassone, D. Pellicano</i>	
Models for the Hazardous Goods Railway Transportation in Spain Considering the Effect of the Catchment Area of the Station	584
<i>J. Castillo, N. Caceres, L. Romero, F. Benitez</i>	
Strategic Determinants of Terminal Operating System Choice: An Empirical Approach Using Multinomial Analysis	592
<i>A. Michele, S. Patrizia</i>	
Features Selection based on Fuzzy Entropy for Data Envelopment Analysis Applied to Transport Systems	602
<i>S. Bray, L. Caggiani, M. Dell'Orco, M. Ottomanelli</i>	
The Academic Literature on Intermodal Freight Transport	611
<i>T. Mathisen, T. Hanssen</i>	
Performance Indicators for Planning Intermodal Barge Transportation Systems	621
<i>Y. Wang, I. Bilegan, T. Crainic, A. Artiba</i>	
Incorporating Systems Engineering Methodologies to Increase the Transferability of Journey Planners	631
<i>S. Shoshany-Tavory, A. Gal-Tzur, N. Eden</i>	
IT Based Attempt to Evaluate and Promote Intermodal Transport Solutions in Central and Southeast Europe	641
<i>C. Haider, G. Aschauer, C. Schmidt</i>	
Short-term Rail Rolling Stock Rostering and Maintenance Scheduling	651
<i>G. Giacco, D. Carillo, A. D'Ariano, D. Pacciarelli, A. Marin</i>	
Robust Infrastructure Design in Rapid Transit Rail Systems	660
<i>E. Codina, A. Marin, L. Cadarso</i>	
Comparison of Light Rail Systems in Turkey with the Method of Comparative Standard Determination	670
<i>Y. Vitosoglu, R. Ozden, P. Yaliniz, S. Bilgic</i>	
A Rolling Stock Circulation Model for Railway Rapid Transit Systems	680
<i>D. Canca, M. Sabido, E. Barrena</i>	

Multiple Criteria Evaluation of Different Redesign Variants of the Public Tram System	690
<i>M. Janiak, J. Zak</i>	
Port Cooperation Policies in the Mediterranean Basin: An Experimental Approach Using Cluster Analysis	700
<i>F. Gianfranco, P. Claudia, S. Patrizia, F. Paolo</i>	
A Simulation Based Approach for Evaluating the Impact of Maritime Transport on the Inventory Levels of an Oil Supply Chain	710
<i>P. Carotenuto, S. Giordani, A. Zaccaro</i>	
Grid Size Optimization for Potential Field based Maritime Anomaly Detection	720
<i>E. Osekowska, H. Johnson, B. Carlsson</i>	
Tools for Road Infrastructure Safety Management – Polish Experiences	730
<i>K. Janroz, M. Budzynski, W. Kustra, L. Michalski, S. Gaca</i>	
A Quantitative Approach to Risk Management in Critical Infrastructures	740
<i>E. Saponi, M. Sciutto, G. Sciutto</i>	
Energy and Environmental Impacts of Potential Application of Fully or Partially Electric Propulsion Vehicles: Application to Lisbon and Sao Miguel, Portugal	750
<i>P. Baptista, J. Tavares, G. Goncalves</i>	
The Ancillary Role of CO₂ Reduction in Urban Transport Plans	760
<i>S. Nocera, F. Cavallaro</i>	
Emissions Cap-and-Trade Approaches for Managing Urban Road Mobility	770
<i>E. Angulo</i>	
Evaluation of a Numerical Methodology to Estimate Pedestrians’ Energy Consumption and PM Inhalation	780
<i>M. Faria, G. Duarte, A. Vasconcelos, T. Farias</i>	
Road Grade Influence on the Exhaust Emissions of a Scooter Fuelled with Bioethanol/Gasoline Blends	790
<i>M. Prati, M. Costagliola, C. Tommasino, L. Ragione, G. Meccariello</i>	
Assessing the Importance of Vehicle Type for the Implementation of Eco-Routing Systems	800
<i>J. Bandeira, T. Fontes, S. Pereira, P. Fernandes, A. Khattak, M. Coelho</i>	
A Neural Network based Model for Real Estate Price Estimation Considering Environmental Quality of Property Location	810
<i>V. Chiarazzo, L. Caggiani, M. Marinelli, M. Ottomanelli</i>	
A Sensitivity Analysis of Total Cost of Ownership for Electric Public Bus Transport Systems in Swedish Medium Sized Cities	818
<i>L. Nurhadi, S. Boren, H. Ny</i>	
Simulating Carsharing Operations through Agent-Based Modelling: An Application to the City of Lisbon, Portugal	828
<i>M. Lopes, L. Martinez, G. Correia</i>	
A Methodology to Promote Sustainable Mobility in College Campuses	838
<i>L. Dell’Olio, M. Bordagaray, R. Barreda, A. Ibeas</i>	
Optimization of Cycle Paths with Mathematical Programming	848
<i>R. Linan, I. Gaspar, M. Bordagaray, J. Moura, A. Ibeas</i>	
Designing Optimal Routes for Cycle-Tourists	856
<i>A. Cerna, J. Cerny, F. Malucelli, M. Nonato, L. Polena, A. Giovannini</i>	
Modelling the Propensity in Adhering to a Carsharing System: A Behavioral Approach	866
<i>S. Luca, R. Pace</i>	
Analysis of the Difference between the Euclidean Distance and the Actual Road Distance in Brazil	876
<i>D. Goncalves, C. Goncalves, T. Assis, M. Silva</i>	
Techniques in Multimodal Shortest Path in Public Transport Systems	886
<i>D. Lopez, A. Lozano</i>	
Dynamic Assignment with User Information in Multimodal Networks	895
<i>D. Atmani, J. Lebacque, N. Bhourri, H. Haj-Salem</i>	
A Bilevel Optimization Program with Equilibrium Constraints for an Urban Network Dependent on Time	905
<i>G. Londono, A. Lozano</i>	
Assessing the Impact of Speed Limit Changes on Urban Motorways: A Simulation Study in Lille, France	915
<i>S. Cohen, Z. Christoforou, R. Seidowsky</i>	
Analysis of Congestion Phenomena on the One Lane Dropped Motorway Merge without Ramp-Metering in Istanbul	925
<i>G. Aksoy, K. Ogut</i>	

Flow Rate Effects on Vehicle Speed at Two Way-Two Lane Rural Roads	932
<i>R. Rossi, M. Gastaldi, F. Pascucci</i>	
Real-Time Single Detector Vehicle Classification	942
<i>J. Dodsworth, S. Shepherd, R. Liu</i>	
Calibration of the Gipps Car-Following Model Using Trajectory Data	952
<i>L. Vasconcelos, L. Neto, S. Santos, A. Silva, A. Seco</i>	
Calibration of Microsimulation Models – The Effect of Calibration Parameters Errors in the Models’ Performance	962
<i>M. Figueiredo, A. Seco, A. Silva</i>	
Calibration Framework based on Bluetooth Sensors for Traffic State Estimation Using a Velocity based Cell Transmission Model	972
<i>A. Allstrom, A. Bayen, M. Fransson, D. Gundlegard, A. Patire, C. Rydergren, M. Sandin</i>	
Evaluation of a Signal State Prediction Algorithm for Car to Infrastructure Applications	982
<i>M. Barthauer, B. Friedrich</i>	
Decentralized Spatial Decomposition for Traffic Signal Synchronization	992
<i>L. Adacher, A. Gemma, G. Oliva</i>	
Combining Ramp Metering and Hard Shoulder Strategies: Field Evaluation Results on the Ile de France Motorway Network	1002
<i>H. Haj-Salem, N. Farhi, J. Lebacque</i>	
Robust Optimization of Intersection Capacity	1011
<i>N. Sacco</i>	
Real-Time Traffic Signal Settings at an Isolated Signal Control Intersection	1021
<i>C. Vilarinho, J. Tavares</i>	
Evaluation of Air Pollution Impacts of a Signal Control to Roundabout Conversion Using Microsimulation	1031
<i>M. Gastaldi, C. Meneguzzer, R. Rossi, L. Lucia, G. Gecchele</i>	
The Influence of Accumulation Area and the Length of Pedestrian Route on Functioning of Roundabouts with Traffic Signals	1041
<i>L. Guminska, W. Kustra</i>	
Level of Service Estimation based on Low-frequency Floating Car Data	1051
<i>S. Axer, B. Friedrich</i>	
Author Index	