

20th EURO Working Group on Transportation Meeting (EWGT 2017)

Transportation Research Procedia Volume 27

Budapest, Hungary
4 – 6 September 2017

Part 1 of 2

Editors:

**Domokos Esztergar-Kiss
Tamas Matrai**

**Janos Toth
Istvan Varga**

ISBN: 978-1-5108-5601-1

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. (2018)

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: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

PART 1

EDITORIAL	1
<i>Domokos Esztergár-Kiss, Tamás Mátrai, János Tóth, István Varga</i>	
MEASURING UNCERTAINTY OF TRAFFIC VOLUME ON MOTORWAY CONCESSIONS: A TIME-SERIES ANALYSIS	3
<i>Antonio Sánchez Soliño, Antonio L. Lara Galera, Fernando Cabero Colín</i>	
ADARULES: LEARNING RULES FOR REAL-TIME ROAD-TRAFFIC PREDICTION	11
<i>Rafael Mena-Yedra, Ricard Gavaldà, Jordi Casas</i>	
FITTING TIME HEADWAY AND SPEED DISTRIBUTIONS FOR BICYCLES ON SEPARATE BICYCLE LANES	19
<i>Riccardo Rossi, Alessandra Mantuano, Federico Pascucci, Federico Rupi</i>	
NETWORK FUNDAMENTAL DIAGRAM (NFD) AND TRAFFIC SIGNAL CONTROL: FIRST EMPIRICAL EVIDENCES FROM THE CITY OF SANTANDER	27
<i>Borja Alonso, Àngel Ibeas Pòrtilla, Giuseppe Musolino, Corrado Rindone, Antonino Vitetta</i>	
A MULTI-USER INTEGRATED PLATFORM FOR SUPPORTING THE DESIGN AND MANAGEMENT OF URBAN MOBILITY SYSTEMS	35
<i>Tânia Fontes, José Correia, Jorge Pinho De Sousa, Jorge Freire De Sousa, Teresa Galvão</i>	
MULTIPLE-CRITERIA AND GROUP-DECISION MAKING IN THE FLEET SELECTION PROBLEM FOR A PUBLIC TRANSPORTATION SYSTEM	43
<i>Jacek Zak</i>	
A MODEL TO OPTIMIZE THE AIRPORT TERMINAL DEPARTURE OPERATIONS	53
<i>Ludovica Adacher, Marta Flamini, Manuele Guaïta, Elpidio Romano</i>	
MULTI-CRITERIA OPTIMIZATION FOR FLEET SIZE WITH ENVIRONMENTAL ASPECTS	61
<i>Bartosz Sawik, Javier Faulin, Elena Pérez-Bernabeu</i>	
V2V-COMMUNICATION, LIDAR SYSTEM AND POSITIONING SENSORS FOR FUTURE FUSION ALGORITHMS IN CONNECTED VEHICLES	69
<i>Sven Eckelmann, Toralf Trautmann, Hagen Ußler, Benjamin Reichelt, Oliver Michler</i>	
PERFORMANCE EVALUATION OF A BERNOULLI FILTER BASED MULTI-VEHICLE COOPERATIVE OBJECT DETECTION	77
<i>Olivér Tóro, Tamás Bécsi, Szilárd Aradi</i>	
USING CONNECTED VEHICLES IN A VARIABLE SPEED LIMIT SYSTEM	85
<i>Ellen F. Grumert, Andreas Tapani</i>	
EFFECT OF INFORMATION PROVISION TO FOLLOWING VEHICLE ON REDUCING AMOUNT OF CO₂ EMISSIONS AND SAFETY DRIVE	93
<i>Yukimasa Matsumoto, Shogo Ishiguro</i>	
BUS TRAVEL TIME VARIABILITY: SOME EXPERIMENTAL EVIDENCES	101
<i>Antonio Comi, Agostino Nuzzolo, Stefano Brinchi, Renata Verghini</i>	
PERFORMANCE ASSESSMENT OF FIXED AND FLEXIBLE PUBLIC TRANSPORT IN A MULTI AGENT SIMULATION FRAMEWORK	109
<i>Jishnu Narayan, Oded Cats, Niels Van Oort, Serge Hoogendoorn</i>	
DESIGN AND EVALUATION OF ELECTRIC SOLUTIONS FOR PUBLIC TRANSPORT	117
<i>Valentina Conti, Silvia Orchi, Maria Pia Valentini, Marialisa Nigro, Raffaella Calò</i>	
UNDERSTANDING COMMERCIAL SYNERGIES BETWEEN PUBLIC TRANSPORT AND SERVICES LOCATED AROUND PUBLIC TRANSPORT STATIONS	125
<i>Marta Campos Ferreira, Vera Costa, Teresa Galvão Dias, João Falcão E Cunha</i>	
HOW URBAN FORM PROMOTES WALKABILITY?	133
<i>Ana Paula Barros, Luis Miguel Martínez, José Manuel Viegas</i>	
THE INFLUENCE OF SLOPE ON WALKING ACTIVITY AND THE PEDESTRIAN MODAL SHARE	141
<i>Mark Meeder, Tobias Aebi, Ulrich Weidmann</i>	
DRIVER-PEDESTRIAN INTERACTION UNDER DIFFERENT ROAD ENVIRONMENTS	148
<i>Francesco Bella, Valentina Natale, Manuel Silvestri</i>	
EVALUATING THE COMBINED EFFECT OF RAMP METERING AND VARIABLE SPEED LIMITS ON THE FRENCH A25 MOTORWAY	156
<i>Simon Cohen, David Gil, Zoi Christoforou, Régine Seidowsky</i>	

HYBRID MODELING OF PASSENGER AND VEHICLE TRAFFIC ALONG A TRANSIT LINE: A SUB-MODEL READY FOR INCLUSION IN A MODEL OF TRAFFIC ASSIGNMENT TO A CAPACITATED TRANSIT NETWORK	164
<i>Alexis Poulhès, Cyril Pivano, Fabien Leurent</i>	
TRIP GENERATION AND DISTRIBUTION MODELLING IN BUDAPEST	172
<i>Zsolt Berki, Janos Monigl</i>	
SCHEDULED SYNCHRONISATION BASED ON A MESOSCOPIC FLOW MODEL WITH SPEED DISPERSION	180
<i>Roberta Di Pace, Giulio E. Cantarella, Stefano De Luca, Massimo Di Gangi</i>	
A MULTI-SCALE AGENT-BASED MODELLING FRAMEWORK FOR URBAN FREIGHT DISTRIBUTION.....	188
<i>André Alho, B. K. Bhavathrathan, Monique Stinson, Raja Gopalakrishnan, D. Le, Moshe Ben-Akiva</i>	
THE ROLE OF SITUATION AWARENESS IN SYNCHROMODAL CORRIDOR MANAGEMENT: A SIMULATION GAMING PERSPECTIVE	197
<i>Shalini Kurapati, Ioanna Kourouniotti, Heide Lukosch, Geertje Bekebrede, L. Tavasszy, A. Verbraeck, D. Groen, J. Meijeren, Layla Lebesque</i>	
ASSESSMENT OF MAINTENANCE STRATEGIES FOR RAILWAY VEHICLES USING PETRI-NETS.....	205
<i>Daniel Eisenberger, Olga Fink</i>	
MODELING TRANSPORTATION SYSTEMS INVOLVING AUTONOMOUS VEHICLES: A STATE OF THE ART.....	215
<i>Jaâfar Berrada, Fabien Leurent</i>	
ROAD DATA AS PRIOR KNOWLEDGE FOR HIGHLY AUTOMATED DRIVING	222
<i>Wolfgang Kühn, Michael Müller, Tom Höppner</i>	
THE DEPLOYMENT OF AUTOMATED VEHICLES IN URBAN TRANSPORT SYSTEMS: A METHODOLOGY TO DESIGN DEDICATED ZONES	230
<i>Lígia Conceição, Gonçalo Correia, José Pedro Tavares</i>	
ENDOGENOUS MARKET PENETRATION DYNAMICS OF AUTOMATED AND CONNECTED VEHICLES: TRANSPORT-ORIENTED MODEL AND ITS PARADOX.....	238
<i>Toru Seo, Yasuo Asakura</i>	
INFLUENCE OF DIFFERENT ROUTE-CHOICE DECISION MODES.....	246
<i>J. Juhász</i>	
FACTORS INFLUENCING BICYCLE USE: A BINARY CHOICE MODEL WITH PANEL DATA.....	253
<i>Ana Barberan, João De Abreu E Silva, Andres Monzon</i>	
SOCIAL BENEFIT OF OPTIMAL RIDE-SHARE TRANSPORT WITH GIVEN TRAVELERS' ACTIVITY PATTERNS.....	261
<i>Satomi Aiko, Ryo Itabashi, Toru Seo, Takahiko Kusakabe, Yasuo Asakura</i>	
PLANNING SHARED CORPORATE MOBILITY SERVICES?.....	270
<i>Miriam Enzi, Benjamin Biesinger, Sebastian Knopp, Sophie N. Parragh, Matthias Prandstetter</i>	
A DYNAMIC CLUSTERING METHOD FOR RELOCATION PROCESS IN FREE-FLOATING VEHICLE SHARING SYSTEMS.....	278
<i>Leonardo Caggiani, Rosalia Camporeale, Michele Ottomanelli</i>	
COMPARATIVE ANALYSIS OF TEST CASES OF THE ACTIVITY CHAIN OPTIMIZATION METHOD.....	286
<i>Domokos Esztergár-Kiss, Zoltán Rózsa, Tamás Tettamanti</i>	
A DISTRIBUTED APPROACH FOR SHORTEST PATH ALGORITHM IN DYNAMIC MULTIMODAL TRANSPORTATION NETWORKS.....	294
<i>Abdelfattah Idri, Mariyam Oukarfî, Azedine Boulmakoul, Karine Zeitouni, Ali Masri</i>	
TRAVEL HABIT BASED MULTIMODAL ROUTE PLANNING	301
<i>Géza Katona, János Juhász, Balázs Lénárt</i>	
EXPLORING THE IMPACT OF ICT ON URBAN MOBILITY IN HETEROGENIC REGIONS	309
<i>P. Tafidís, Eloisa Macedo, M. C. Coelho, M. C. Niculescu, A. Voicu, C. Barbu, N. Jianu, F. Pocostales, C. Laranjeeira, J. Bandeira</i>	
POLICY STRATEGIES FOR THE MITIGATION OF GHG EMISSIONS CAUSED BY THE MASS-TOURISM MOBILITY IN COASTAL AREAS	317
<i>Federico Cavallaro, Olga Irranca Galati, Silvio Nocera</i>	
PRICING AND INTERNALIZING NOISE EXTERNALITIES IN ROAD FREIGHT TRANSPORTATION.....	325
<i>Adrián Serrano-Hernández, Pablo Álvarez, Iosu Lerga, Lorena Reyes-Rubiano, Javier Faulin</i>	
AUTONOMOUS VEHICLE FUNCTION EXPERIMENTS WITH LOW-COST ENVIRONMENT SENSORS.....	333
<i>Tamás Bécsi, Szilárd Aradi, Árpád Fehér, György Gáldi</i>	

LOCATING ROADWORKS SITES VIA DETECTING CHANGE IN LATERAL POSITIONS OF TRAFFIC SIGNS MEASURED RELATIVE TO THE EGO-CAR	341
<i>Zoltán Fazekas, Gábor Balázs, László Gerencsér, Péter Gáspár</i>	
TRANSPORTATION SYSTEMS WITH AUTONOMOUS VEHICLES: MODELS AND ALGORITHMS FOR EQUILIBRIUM ASSIGNMENT	349
<i>G. E. Cantarella, A. Di Febbraro</i>	
PLATOON COORDINATION WITH TIME WINDOWS: AN OPERATIONAL PERSPECTIVE	357
<i>Wei Zhang, Marcus Sundberg, Anders Karlström</i>	
QUALITY EVALUATION OF THE LONG-DISTANCE BUS AND TRAIN TRANSPORTATION IN HUNGARY	365
<i>Péter Mándoki, András Lakatos</i>	
INVESTIGATION OF PUNCTUALITY OF LOCAL TRAINS - THE CASE OF OSLO AREA	373
<i>Ghazal Zakeri, Nils O. E. Olsson</i>	
A NORMATIVE OPTIMAL STRATEGY IN INTELLIGENT TRANSIT NETWORKS	380
<i>Agostino Nuzzolo, Antonio Comi</i>	
ANALYSIS OF TRENDS IN DEVELOPMENT OF FREIGHT TRANSPORT LOGISTICS USING THE EXAMPLE OF SILESIA PROVINCE (POLAND) - A CASE STUDY	388
<i>Elzbieta Macioszek, Marcin Staniek, Grzegorz Sierpinski</i>	
OPTIMIZATION OF DELIVERY LOT VOLUMES IN TERMINAL COMPLEXES	396
<i>Zlata Almetova, Vladimir Shepelev, Sergey Shepelev</i>	
ROLE-PLAYING GAMES AS A MEAN TO VALIDATE AGENT-BASED MODELS: AN APPLICATION TO STAKEHOLDER-DRIVEN URBAN FREIGHT TRANSPORT POLICY-MAKING	404
<i>Michela Le Pira, Edoardo Marcucci, Valerio Gatta</i>	
ESTIMATING THE VEHICLES' NUMBER FOR SERVICING A FLOW OF REQUESTS ON GOODS DELIVERY	412
<i>Vitalii Naumov</i>	
CONNECTING MICROSCOPIC TRAFFIC SIMULATION AND LISA+ EXTERNAL SIGNAL CONTROL	420
<i>Mirko Barthauer, Bernhard Friedrich</i>	
MULTI-OBJECTIVE OPTIMIZATION FOR SHORT DISTANCE TRIPS IN AN URBAN AREA: CHOOSING BETWEEN MOTOR VEHICLE OR CYCLING MOBILITY FOR A SAFE, SMOOTH AND LESS POLLUTED ROUTE	428
<i>Behnam Bahmankhah, Margarida C. Coelho</i>	
TOWARDS FAIR AND EFFICIENT TRAFFIC FLOW COORDINATION MECHANISMS FOR 2+1 ROADWAYS	436
<i>Malte Aschermann, Bernhard Friedrich, Jörg P. Müller</i>	
A FUZZY SET-BASED METHOD TO IDENTIFY THE CAR POSITION IN A ROAD LANE AT INTERSECTIONS BY SMARTPHONE GPS DATA	444
<i>Mario Marinelli, Gianvito Palmisano, Vittorio Astarita, Michele Ottomanelli, Mauro Dell'Orco</i>	
PEDESTRIAN AND CYCLISTS IMPACTS ON VEHICULAR CAPACITY AND EMISSIONS AT DIFFERENT TURBO-ROUNDBOUTS LAYOUTS	452
<i>Paulo Fernandes, Margarida C. Coelho</i>	
MULTI-CRITERIA ASSESSMENT OF CROSSWALK LOCATION ON A CORRIDOR WITH ROUNDBABOUTS: INCORPORATING A NOISE RELATED CRITERION	460
<i>Paulo Fernandes, Claudio Guarnaccia, João Teixeira, Anésio Sousa, Margarida C. Coelho</i>	
ENERGY CONSUMPTION OF AN ELECTRIC AND AN INTERNAL COMBUSTION PASSENGER CAR. A COMPARATIVE CASE STUDY FROM REAL WORLD DATA ON THE ERFURT CIRCUIT IN GERMANY	468
<i>Andreas Braun, Wolfgang Rid</i>	
ON-ROAD MEASUREMENT OF CO₂ VEHICLE EMISSIONS UNDER ALTERNATIVE FORMS OF INTERSECTION CONTROL	476
<i>Massimiliano Gastaldi, Claudio Meneguzzer, Rosa Arboretti Giancristofaro, Gregorio Gecchele, L. Lucia, Maria Vittoria Prati</i>	
PLANNING RETAIL DISTRIBUTION OF FUEL OILS	484
<i>Pasquale Carotenuto, Stefano Giordani, Daniele Celani</i>	
ON THE SLOT OPTIMIZATION PROBLEM IN ON-LINE VEHICLE ROUTING	492
<i>Philipp Hungerländer, Andrea Rendl, Christian Truden</i>	
COMBINING ANALYTIC HIERARCHY PROCESS (AHP) WITH ROLE-PLAYING GAMES FOR STAKEHOLDER ENGAGEMENT IN COMPLEX TRANSPORT DECISIONS	500
<i>Matteo Ignaccolo, Giuseppe Inturri, Mónica García-Melón, Nadia Giuffrida, M. Pira, Vincenza Torrisi</i>	

EVIDENCE (DEMPSTER – SHAFER) THEORY-BASED EVALUATION OF DIFFERENT TRANSPORT MODES UNDER UNCERTAINTY.: THEORETICAL BASIS AND FIRST FINDINGS.....	508
<i>Maria Giovanna Altieri, Mauro Dell’Orco, Mario Marinelli, Stefania Sinesi</i>	
INFERRING THE ACTUAL URBAN ROAD ENVIRONMENT FROM TRAFFIC SIGN DATA USING A MINIMUM DESCRIPTION LENGTH APPROACH.....	516
<i>Zoltán Fazekas, Gábor Balázs, László Gerencsér, Péter Gáspár</i>	
ANALYSIS OF USING ELECTRIC CAR FOR URBAN MOBILITY, PERCEIVED SATISFACTION AMONG UNIVERSITY USERS.	524
<i>María Eugenia López-Lambas, Andrés Monzón, Gabriel Pieren</i>	
LASER SCANNED POINT CLOUDS TO SUPPORT AUTONOMOUS VEHICLES.....	531
<i>Vivien Potó, József Árpád Somogyi, Tamás Lovas, Árpád Barsi</i>	
DISCUSSIONS OF THE RESCHEDULE PROCESS OF PASSENGERS, TRAIN OPERATORS AND INFRASTRUCTURE MANAGERS IN RAILWAY DISRUPTIONS.....	538
<i>Nuannuan Leng, Ulrich Weidmann</i>	
OPTIMIZATION OF RAIL TRAFFIC FLOW USING KRONECKER ALGEBRA DURING MAINTENANCE ON INFRASTRUCTURE.....	545
<i>Andreas Schöbel, Jelena Aksentijevic, Mark Stefan, Johann Blieberger</i>	
ON ANALYZING THE VULNERABILITIES OF A RAILWAY NETWORK WITH PETRI NETS.....	553
<i>Angela Di Febbraro, Davide Giglio, Nicola Sacco</i>	
VALIDATION OF TRAFFIC SIMULATION MODELS BASED ON THE MACROSCOPIC FUNDAMENTAL DIAGRAM.....	561
<i>Erik Jenelius, Ida Kristoffersson, Magnus Fransson</i>	
A MILP-BASED HEURISTIC FOR A COMMERCIAL TRAIN TIMETABLING PROBLEM.....	569
<i>Sara Gestrelus, Martin Aronsson, Anders Peterson</i>	
IMPLEMENTATION OF VARIABLE SPEED LIMITS TO IMPROVE SAFETY OF CONGESTED EXPRESSWAY WEAVING SEGMENTS IN MICROSIMULATION.....	577
<i>Mohamed Abdel-Aty, Ling Wang</i>	
GENERATING MACROSCOPIC, PURPOSE-DEPENDENT TRIPS THROUGH MONTE CARLO SAMPLING TECHNIQUES.....	585
<i>Ariane Scheffer, Guido Cantelmo, Francesco Viti</i>	
MODELING AND SIMULATION BASED ANALYSIS OF MULTI-CLASS TRAFFIC WITH LOOK-AHEAD CONTROLLED VEHICLES.....	593
<i>Zsuzsanna Bede, Balázs Németh, Péter Gáspár</i>	
A NONLINEAR ALGORITHM FOR TRAFFIC ESTIMATION WITH STATE CONSTRAINTS.....	600
<i>Mariano A. Rizzo, Neila Bhourri, Pablo A. Lotito, Aldo J. Rubiales</i>	
AN INTEGRATED LOW-COST ROAD TRAFFIC AND AIR POLLUTION MONITORING PLATFORM TO ASSESS VEHICLES’ AIR QUALITY IMPACT IN URBAN AREAS.....	609
<i>G. Gualtieri, F. Camilli, A. Cavaliere, T. De Filippis, F. Gennar, S. Lonardo, F. Dini, B. Gioli, A. Matese, W. Nunziati, L. Rocchi, P. Toscano, C. Vagnoli, A. Zaldei</i>	
ENERGY SAVING POSSIBILITIES AT THE HUNGARIAN STATE RAILWAYS.....	617
<i>Tamás Bécsi, Szilárd Aradi</i>	

PART 2

INFLUENCE OF DRIVER CHARACTERISTICS ON EMISSIONS AND FUEL CONSUMPTION.....	624
<i>Fangfang Zheng, Jie Li, Henk Van Zuylen, Chao Lu</i>	
A DOUBLE DYNAMIC FAST ALGORITHM TO SOLVE MULTI-VEHICLE DIAL A RIDE PROBLEM.....	632
<i>Pasquale Carotenuto, Fabio Martis</i>	
HEURISTIC APPROACH IN A MULTIMODAL TRAVEL PLANNER TO SUPPORT LOCAL AUTHORITIES IN URBAN TRAFFIC MANAGEMENT.....	640
<i>Grzegorz Sierpinski, Marcin Staniek</i>	
A GLOBAL OPTIMIZATION HEURISTIC FOR THE DECOMPOSED STATIC ANTICIPATORY NETWORK TRAFFIC CONTROL PROBLEM.....	648
<i>Marco Rinaldi, Chris M. J. Tampère, Francesco Viti</i>	
A HEURISTIC ALGORITHM FOR SOLVING A MULTIPLE CRITERIA CARPOOLING OPTIMIZATION (MCCO) PROBLEM.....	656
<i>Grzegorz Filcek, Maciej Hojda, Jacek Zak</i>	

ESTIMATION OF ORIGIN-DESTINATION MATRICES UNDER AUTOMATIC FARE COLLECTION: THE CASE STUDY OF PORTO TRANSPORTATION SYSTEM	664
<i>Joana Hora, Teresa Galvão Dias, Ana Camanho, Thiago Sobral</i>	
VIDEO BASED DATA COLLECTION PROCESS FOR GEOMETRIC DESIGN CONSISTENCY EVALUATION OF FOUR-LANE MEDIAN DIVIDED HORIZONTAL CURVES	672
<i>Gourab Sil, Avijit Maji</i>	
PFS METHOD FOR PEDESTRIAN ORIGIN-DESTINATION SURVEYS OF ENCLOSED AREAS	680
<i>Tamás Soltész, Attila Aba, Miklós Bánfi, Miklós Kózel</i>	
ON PASSENGER REPOSITIONING ALONG STATION PLATFORM DURING TRAIN WAITING	688
<i>Fabien Leurent, Xiaoyan Xie</i>	
COMPARISON OF PASSENGER WALKING SPEED DISTRIBUTION MODELS IN MASS TRANSIT STATIONS	696
<i>Xiaoyan Xie, Fabien Leurent</i>	
DYNAMIC PRICING OF TRACK CAPACITY	704
<i>Victoria Svedberg, Martin Aronsson, Martin Joborn, Jan Lundgren</i>	
FRAMEWORK FOR CENTRALIZED AND DYNAMIC PEDESTRIAN MANAGEMENT IN RAILWAY STATIONS	712
<i>Bachar Kabalan, Fabien Leurent, Zoi Christoforou, Marin Dubroca-Voisin</i>	
A CONCEPTUAL DESIGN FOR A NATIONAL TRANSPORT MODEL WITH CROSS-SECTORAL INTERDEPENDENCIES	720
<i>Milan Lovric, Simon Blainey, John Preston</i>	
STOCHASTIC MULTI-OBJECTIVE EVACUATION MODEL UNDER MANAGED AND UNMANAGED POLICIES	728
<i>Oren E. Nahum, Yuval Hadas, Mariano Zanini, Carlo Pellegrino, R. Rossi, Massimiliano Gastaldi</i>	
AN OPTIMIZATION MODEL FOR VEHICLE ROUTING OF AUTOMATED TAXI TRIPS WITH DYNAMIC TRAVEL TIMES	736
<i>Xiao Liang, Gonçalo Homem De Almeida Correia, Bart Van Arem</i>	
A DYNAMIC MULTIAGENT SIMULATION OF MOBILITY IN A TRAIN STATION	744
<i>Xavier Boulet, Mahdi Zargayouna, Fabien Leurent, Bachar Kabalan, Feirouz Ksontini</i>	
THE IMPACT OF THE CAR RESTRICTIONS IMPLEMENTED IN THE CITY CENTRE ON THE PUBLIC SPACE QUALITY	752
<i>Andrzej Szarata, Katarzyna Nosal, Urszula Duda-Wiertel, Lukasz Franek</i>	
OPTIMIZATION BASED PLANNING OF PEDIBUS LINES: AN ARC BASED APPROACH	760
<i>Federico Malucelli, Maddalena Nonato, Emanuele Tresoldi</i>	
DETERMINATION OF CHARGING INFRASTRUCTURE LOCATION FOR ELECTRIC VEHICLES	768
<i>Bálint Csonka, Csaba Csizsár</i>	
DEVELOPING A DYNAMIC OPTIMIZATION MODEL FOR ELECTRIC BUS CHARGING INFRASTRUCTURE	776
<i>Maria Xylia, Sylvain Leduc, Piera Patrizio, Semida Silveira, Florian Kraxner</i>	
DEMAND-CAPACITY COORDINATION METHOD IN AUTONOMOUS PUBLIC TRANSPORTATION	784
<i>Csaba Csizsár, Azamat Zarkeshev</i>	
CRITICAL FEATURES OF AUTONOMOUS ROAD TRANSPORT FROM THE PERSPECTIVE OF TECHNOLOGICAL REGULATION AND LAW	791
<i>Cesare Bartolini, Tamás Tettamanti, István Varga</i>	
DYNAMICALLY FEASIBLE TRAJECTORY PLANNING FOR ROAD VEHICLES IN TERMS OF SENSITIVITY AND ROBUSTNESS	799
<i>Ferenc Hegedüs, Tamás Bécsi, Szilárd Aradi</i>	
JAM TAIL WARNINGS BASED ON VEHICLE PROBE DATA	808
<i>Sven-Eric Molzahn, Hubert Rehborn, Micha Koller</i>	
INVESTIGATING THE CORRELATION BETWEEN TRANSPORTATION SOCIAL NEED AND ACCESSIBILITY: THE CASE OF CATANIA	816
<i>Nadia Giuffrida, Matteo Ignaccolo, Giuseppe Inturri, Yodan Rofè, Giovanni Calabrò</i>	
EVALUATION OF RIDESHARING IMPACTS USING AN INTEGRATED TRANSPORT LAND-USE MODEL: A CASE STUDY FOR THE PARIS REGION	824
<i>Biao Yin, Liu Liu, Nicolas Coulombel, Vincent Vigié</i>	
THE EFFECTS OF HOME-BASED TELEWORK ON HOUSEHOLD TOTAL TRAVEL: A PATH ANALYSIS APPROACH OF BRITISH HOUSEHOLDS	832
<i>João De Abreu E Silva, Patrícia C. Melo</i>	
ASSESSMENT METHOD FOR INDIVIDUAL VALUE OF A LOCATION	841
<i>Dávid Földes, Csaba Csizsár</i>	

MEASURING THE SOCIO-ECONOMIC BENEFITS OF TRAIN TIMETABLES APPLICATION TO COMMUTER TRAIN SERVICES IN STOCKHOLM.....	849
<i>Abderrahman Ait Ali, Jonas Eliasson, Jennifer Warg</i>	
ESTIMATING TRAVEL TIME RELIABILITY IN URBAN AREAS THROUGH A DYNAMIC SIMULATION MODEL.....	857
<i>Vincenza Torrisci, Matteo Ignaccolo, Giuseppe Inturri</i>	
USER ASSIGNMENT IN A SMART VEHICLES' NETWORK: DYNAMIC MODELLING AS AN AGENT-BASED MODEL.....	865
<i>Alexis Poulhès, Jaâfar Berrada</i>	
REAL-TIME MICROSERVICES BASED ENVIRONMENTAL SENSORS SYSTEM FOR HAZMAT TRANSPORTATION NETWORKS MONITORING.....	873
<i>Ghyslane Cherradi, Adil El Bouziri, Azedine Boulmakoul, Karine Zeitouni</i>	
NOTES ON USING SIMULATION-OPTIMIZATION TECHNIQUES IN TRAFFIC SIMULATION.....	881
<i>Xavier Ros-Roca, Lidia Montero, Jaume Barceló</i>	
FORMULATION OF THE TRANSIT LINK TRANSMISSION MODEL.....	889
<i>Guido Gentile</i>	
MOVING PEOPLE TO HELP PEOPLE MOVE.....	897
<i>Pierre Graftieaux</i>	
CONGESTION PRICING IMPLEMENTATION IN TAKSIM ZONE: A STATED PREFERENCE STUDY.....	905
<i>Müge Özgenel, Gürkan Günay</i>	
A TWO-LEVEL URBAN TRAFFIC CONTROL FOR AUTONOMOUS VEHICLES TO IMPROVE NETWORK-WIDE PERFORMANCE.....	913
<i>Tamás Tettamanti, Arash Mohammadi, Houshyar Asadi, István Varga</i>	
TRAFFIC STATE ESTIMATION PER LANE IN HIGHWAYS WITH CONNECTED VEHICLES.....	921
<i>Nikolaos Bekiaris-Liberis, Claudio Roncoli, Markos Papageorgiou</i>	
ON-STREET PARKING SEARCH TIME ESTIMATION USING FCD DATA.....	929
<i>L. Mannini, E. Cipriani, U. Crisalli, A. Gemma, G. Vaccaro</i>	
RAMP METERING FOR FLOW MAXIMISATION AND EMISSION REDUCTION – A SET-BASED MULTI-OBJECTIVE DESIGN APPROACH.....	937
<i>Tamás Luspay, Alfréd Csikós, Tamás Péni, István Varga, Balázs Kulcsár</i>	
HOW DRIVERS' CHARACTERISTICS CAN AFFECT DRIVING STYLE.....	945
<i>Laura Eboli, Gabriella Mazzulla, Giuseppe Pungillo</i>	
IDENTIFYING DRIVING BEHAVIOR PATTERNS AND THEIR IMPACTS ON FUEL USE.....	953
<i>Marta V. Faria, Patrícia C. Baptista, Tiago L. Farias</i>	
MODELING DRIVER BEHAVIOR IN DILEMMA ZONE UNDER MIXED TRAFFIC CONDITIONS.....	961
<i>Bharat K Pathivada, Vedagiri Perumal</i>	
BICYCLE NETWORK DESIGN: MODEL AND SOLUTION ALGORITHM.....	969
<i>Antonio Mauttone, Gonzalo Mercadante, María Rabaza, Fernanda Toledo</i>	
OBTAINING THE INTERCITY BUS TRAVEL MATRIX IN TURKEY AND ANALYSING IT IN GIS ENVIRONMENT.....	977
<i>Yasar Vitosoglu, H. Canan Gungor, Polat Yaliniz</i>	
ROUNDBOUT CAPACITY IN HETEROGENEOUS TRAFFIC CONDITION: MODIFICATION OF HCM EQUATION AND CALIBRATION.....	985
<i>Sonu Mathew, Ashish Dhamaniya, S. S. Arkatkar, Gaurang Joshi</i>	
CALIBRATION OF THE DEMAND STRUCTURE FOR DYNAMIC TRAFFIC ASSIGNMENT USING FLOW AND SPEED DATA: EXPLOITING THE ADVANTAGE OF DISTRIBUTED COMPUTING IN DERIVATIVE-FREE OPTIMIZATION ALGORITHMS.....	993
<i>Bojan Kostic, Lorenzo Meschini, Guido Gentile</i>	
ANALYSIS OF STATED PREFERENCES FOR ACCESSIBLE SERVICES AND COMMERCE IN A WALKABLE DISTANCE FROM HOME.....	1001
<i>Michael Olitsky, Yoav Lerman, Erel Avineri</i>	
FIXED-POINT STATES OF DAY-TO-DAY ASSIGNMENT PROCESSES WITH STATE-DEPENDENT ROUTE CHOICE.....	1009
<i>Paolo Delle Site</i>	
ROUTE PLANNING METHODOLOGY WITH FOUR-STEP MODEL AND DYNAMIC ASSIGNMENTS.....	1017
<i>Márton Tamás Horváth, Tamás Mátrai, János Tóth</i>	
ANALYSIS OF ROAD URBAN TRANSPORT NETWORK CAPACITY THROUGH A DYNAMIC ASSIGNMENT MODEL: VALIDATION OF DIFFERENT MEASUREMENT METHODS.....	1026
<i>Vincenza Torrisci, Matteo Ignaccolo, Giuseppe Inturri</i>	

IDENTIFICATION OF COMMUNITIES IN URBAN MOBILITY NETWORKS USING MULTI-LAYER GRAPHS OF NETWORK TRAFFIC	1034
<i>Mehmet Yildirimoglu, Jiwon Kim</i>	
A ROBUST TRANSFER INFERENCE ALGORITHM FOR PUBLIC TRANSPORT JOURNEYS DURING DISRUPTIONS	1042
<i>M. D. Yap, O. Cats, N. Van Oort, S. P. Hoogendoorn</i>	
LAND-USE ZONE ESTIMATION IN PUBLIC TRANSPORT PLANNING WITH DATA MINING	1050
<i>Viktor Nagy, Balázs Horváth, Richárd Horváth</i>	
ADVANCED DEMAND DATA COLLECTION TECHNOLOGIES FOR MULTI MODAL STRATEGIC MODELLING	1058
<i>Csaba Kelen, Pablo Vilarino, Georgios Christou</i>	
ADAPTING THE A* ALGORITHM FOR PARK SPOT ROUTING	1066
<i>Mareike Hedderich, Ulrich Fastenrath, Gordon Isaac, Klaus Bogenberger</i>	
JOINT ANALYSIS OF INTERMODAL LONG DISTANCE-LAST MILE TRIPS USING URBAN INTERCHANGES IN EU CITIES	1074
<i>Andres Monzon, Andrea Alonso, Maria Lopez-Lambas</i>	
STOCHASTIC ROUTE PLANNING IN PUBLIC TRANSPORT	1080
<i>Kristóf Bérczi, Alpár Jüttner, Marco Laumanns, Jácint Szabó</i>	
ESTIMATING AN INJURY CRASH RATE PREDICTION MODEL BASED ON SEVERITY LEVELS EVALUATION: THE CASE STUDY OF SINGLE-VEHICLE RUN-OFF-ROAD CRASHES ON RURAL CONTEXT	1088
<i>Francesca Russo, Roberta Di Pace, Gianluca Dell'Acqua, Stefano De Luca</i>	
EVALUATION OF BICYCLE SHARROWS WITHIN THE NORWEGIAN CONTEXT	1097
<i>Miroslav Vasilev, Kelly Pitera, Thomas Jonsson</i>	
COMPARISON DIFFERENT BLACK SPOT IDENTIFICATION METHODS	1105
<i>Maen Ghadi, Árpád Török</i>	
STATISTICAL ANALYSIS OF THE OCCURRENCE AND SEVERITY OF CRASHES INVOLVING VULNERABLE ROAD USERS	1113
<i>Mariana Vilaça, Nélia Silva, Margarida C. Coelho</i>	
AIRLINE RE-FLEETING MANAGING REVENUES AND MAINTENANCE OPERATIONS	1121
<i>Santiago García, Luis Cadarso</i>	
AIRPORT GROUND ACCESS RELIABILITY AND RESILIENCE OF TRANSIT NETWORKS: A CASE STUDY	1129
<i>Caterina Malandri, Luca Mantecchini, Maria Nadia Postorino</i>	
THE USE OF UAV AND GEOGRAPHIC INFORMATION SYSTEMS FOR FACILITY LOCATION IN A POST-DISASTER SCENARIO	1137
<i>Leandro De Oliveira Silva, Renata Albergaria De Mello Bandeira, Vânia Barcellos Gouvêa Campos</i>	
PRIORITY RULES AS A CONCEPT FOR THE USAGE OF SCARCE AIRPORT CAPACITY	1146
<i>Erik Grunewald, Franz Knabe, Florian Rudolph, Michael Schultz</i>	
COMBINATORIAL CONNECTIVITY AND SPECTRAL GRAPH ANALYTICS FOR URBAN PUBLIC TRANSPORTATION SYSTEM	1154
<i>Badredine Boulmakoul, Zineb Besri, Lamia Karim, Azedine Boulmakoul, Ahmed Lbath</i>	
ACCESSIBILITY ANALYSIS OF HEALTH CARE FACILITY USING GEOSPATIAL TECHNIQUES	1163
<i>R. Shanmathi Rekha, Shayesta Wajid, Nisha Radhakrishnan, Samson Mathew</i>	
A TOOL FOR SUPPORTING THE DESIGN OF BRT AND LRT SERVICES	1171
<i>Marcos Paulo Schlickmann, Luis Miguel Martínez, Jorge Pinho De Sousa</i>	
IDENTIFYING IRREGULARITY SOURCES BY AUTOMATED LOCATION VEHICLE DATA	1179
<i>Sara Mozzoni, Roberto Murru, Benedetto Barabino</i>	
THE ROLE OF CONSUMERS IN LOGISTICS SYSTEMS	1187
<i>Andrii Galkin, Constantin Dolia, Nataliia Davidich</i>	
EVALUATION OF ALTERNATIVE PATHS FOR RELIABLE ROUTING IN CITY LOGISTICS	1195
<i>Patrick-Oliver Groß, Jan F. Ehmke, Inbal Haas, Dirk C. Mattfeld</i>	
DEVELOPING A MICRO-SIMULATION TOOL FOR AUTONOMOUS CONNECTED VEHICLE PLATOONS USED IN CITY LOGISTICS	1203
<i>Inbal Haas, Bernhard Friedrich</i>	
ANALYSIS OF DRIVING CHARACTERISTICS AND ESTIMATION OF POLLUTANT EMISSIONS FROM INTRA-CITY BUSES	1211
<i>Srinath Mahesh, Gitakrishnan Ramadurai</i>	
ON PASSENGER TRAFFIC ALONG A TRANSIT LINE: A STOCHASTIC MODEL OF STATION WAITING AND IN-VEHICLE CROWDING UNDER DISTRIBUTED HEADWAYS	1219
<i>Fabien Leurent, Cyril Pivano, Alexis Poulhès</i>	

VISUALISATION OF TRAIN PUNCTUALITY – ILLUSTRATIONS AND CASES	1227
<i>Andreas Dypvik Landmark, Andreas Amdahl Seim, Nils Olsson</i>	
PASSENGER-CENTRIC AIRPORT MANAGEMENT VIA NEW TERMINAL INTERIOR DESIGN CONCEPTS	1235
<i>Olaf Milbredt, André Castro, Amir Ayazkhani, Thomas Christ</i>	
CONFLICT RESOLUTION OF NORTH ATLANTIC AIR TRAFFIC WITH SPEED REGULATION	1242
<i>Imen Dhief, Nour Houda Dougui, Daniel Delahaye, Nouredine Hamdi</i>	
COMMERCIAL ACTIONS MANAGEMENT FOR RAILWAY COMPANIES	1250
<i>Ricardo García Ródenas, José Carlos García García, María Luz López García</i>	
Author Index	