

2015 International Conference on Models and Technologies for Intelligent Transportation Systems

(MT-ITS 2015)

**Budapest, Hungary
3-5 June 2015**



**IEEE Catalog Number: CFP15AWU-POD
ISBN: 978-1-4799-8223-3**

TABLE OF CONTENTS

THE IMPACT OF THE LEADING VEHICLE TYPE ON CAR-FOLLOWING BEHAVIOURS	30
<i>Pariota, Luigi ; Galante, Francesco ; Bifulco, Gennaro N.</i>	
AN ITERATIVE PROCEDURE FOR ESTIMATING THE GENERALIZED AVERAGE SPEED USING MICROSCOPIC POINT MEASUREMENTS	38
<i>Jamshidnejad, Anahita ; De Schutter, Bart</i>	
PARAMETER SAMPLING STRATEGIES IN TRAFFIC MICROSIMULATION	45
<i>Punzo, Vincenzo ; Montanino, Marcello</i>	
LOOK-AHEAD CRUISE CONTROL DESIGN IN VISSIM SIMULATION ENVIRONMENT	52
<i>Mihaly, Andras ; Nemeth, Balazs ; Bede, Zsuzsanna ; Gaspar, Peter</i>	
DEVELOPING INSIGHT INTO EFFECTIVE SPSA PARAMETERS THROUGH SENSITIVITY ANALYSIS	58
<i>Markou, Ioulia ; Antoniou, Constantinos</i>	
USING TRAFFIC DATA OF VARIOUS TYPES IN THE ESTIMATION OF DYNAMIC O-D MATRICES	66
<i>Kostic, Bojan ; Gentile, Guido</i>	
ENERGY-EFFICIENT ROUTING STRATEGIES BASED ON REAL-TIME DATA OF A LOCAL TRAFFIC MANAGEMENT CENTER	74
<i>Liebscher, Anja ; Krumnow, Mario ; Krimmling, Jurgen ; Hanisch, Falk ; Baker, Bernard</i>	
THE ELEVATION FACTOR: DIGITAL ELEVATION MODEL QUALITY AND SAMPLING IMPACTS ON ELECTRIC VEHICLE ENERGY ESTIMATION ERRORS	81
<i>Graser, Anita ; Asamer, Johannes ; Ponweiser, Wolfgang</i>	
COST AND RISK SENSITIVE DECISION MAKING AND CONTROL FOR HIGHWAY OVERTAKING MANEUVER	87
<i>Mihaly, Andras ; Milacski, Zoltan Adam ; Toser, Zoltan ; Lorincz, Andras ; Tettamanti, Tamas ; Varga, Istvan</i>	
SHORT-TERM TRAFFIC PREDICTIONS ON LARGE URBAN TRAFFIC NETWORKS: APPLICATIONS OF NETWORK-BASED MACHINE LEARNING MODELS AND DYNAMIC TRAFFIC ASSIGNMENT MODELS	93
<i>Fusco, Gaetano ; Colombaroni, Chiara ; Comelli, Luciano ; Isaenko, Natalia</i>	
TRAFFIC SPEED PREDICTION METHOD FOR URBAN NETWORKS — AN ANN APPROACH	102
<i>Csikos, Alfred ; Viharos, Zsolt Janos ; Kis, Krisztian Balazs ; Tettamanti, Tamas ; Varga, Istvan</i>	
A DEMONSTRATION OF DISTRIBUTION-BASED CALIBRATION	109
<i>Markou, Ioulia ; Papathanasopoulou, Vasileia ; Antoniou, Constantinos</i>	
MICROSCOPIC REAL-TIME TRAFFIC SIMULATIONS TO SUPPORT ADVANCED DRIVER ASSISTANCE SYSTEMS	116
<i>Krumnow, Mario ; Liebscher, Anja ; Krimmling, Jurgen ; Schubert, Torsten ; Baker, Bernard</i>	
ESTIMATING TRAVEL TIMES FROM STATIC MAP ATTRIBUTES	121
<i>Leodolter, Maximilian ; Koller, Hannes ; Straub, Markus</i>	
REAL-TIME TRAFFIC MONITORING BY FUSING FLOATING CAR DATA WITH STATIONARY DETECTOR DATA	127
<i>Houbraken, Maarten ; Audenaert, Pieter ; Colle, Didier ; Pickavet, Mario ; Scheerlinck, Karolien ; Yperman, Isaak ; Logghe, Steven</i>	
SHORT-TERM REAL-TIME TRAFFIC PREDICTION METHODS: A SURVEY	132
<i>Barros, Joaquim ; Araujo, Miguel ; Rossetti, Rosaldo J.F.</i>	
OBSERVING REROUTING PHENOMENA IN DYNAMIC TRAFFIC NETWORKS	140
<i>Kucharski, Rafal ; Gentile, Guido</i>	
AN INTEGRATED APPROACH TO ADAPTIVE ANTICIPATORY TRAFFIC CONTROL AND PARAMETER ESTIMATION	148
<i>Huang, Wei ; Tampere, Chris M.J. ; Viti, Francesco</i>	
SYSTEMATIC ASSESSMENT OF LOCAL & GLOBAL SIGNAL CONTROL POLICIES: A METHODOLOGICAL PERSPECTIVE	156
<i>Cantelmo, Guido ; Viti, Francesco ; Rinaldi, Marco ; Tampere, Chris M.J. ; Smith, Mike J. ; Nokel, Klaus</i>	
COMPARING EMISSION AND TRAFFIC FLOW MODELS OF DIFFERENT CATEGORIES	164
<i>Behrisch, Michael ; Erdmann, Jakob</i>	

AN ASSESSMENT OF VMS-REROUTING AND TRAFFIC SIGNAL PLANNING WITH EMISSION OBJECTIVES IN AN URBAN NETWORK — A CASE STUDY FOR THE CITY OF GRAZ	169
<i>Kolbl, Robert ; Heilmann, Bernhard ; Bauer, Dietmar ; Lenz, Gernot ; Litzenberger, Martin ; Cagran, Bernd ; Mascia, Margherita ; Hu, Simon</i>	
A CASE STUDY IN ISTANBUL E-80: INTELLIGENT SPEED CHANGE AT THE HIGHWAY FOR REDUCING GAS EMISSION	177
<i>Oner, Alper ; Gunel, Gulay Oke</i>	
A TRANSIT BOTTLENECK MODEL FOR WAITING PASSENGERS AND ITS IMPLICATIONS FOR TRAFFIC ASSIGNMENT	184
<i>Leurent, Fabien ; Chandakas, Ektoros ; Christoforou, Zoi</i>	
HOW CAN A TRANSPORT MODEL BE INTEGRATED TO THE STRATEGIC TRANSPORT PLANNING APPROACH: A CASE STUDY FROM BUDAPEST	192
<i>Matrai, Tamas ; Abel, Melinda ; Kerenyi, Laszlo Sandor</i>	
MODEL-BASED AND EMPIRICAL PERFORMANCE ANALYSES FOR PASSENGER POSITIONING ALGORITHMS IN A SPECIFIC BUS CABIN ENVIRONMENT	200
<i>Michler, Oliver ; Weber, Richard ; Forster, Georg</i>	
ANALYSIS OF BERLIN'S TAXI SERVICES BY EXPLORING GPS TRACES	209
<i>Bischoff, Joschka ; Maciejewski, Michal ; Sohr, Alexander</i>	
ASSESSING THE CONSISTENCY BETWEEN OBSERVED AND MODELLED ROUTE CHOICES THROUGH GPS DATA	216
<i>Hadjidimitriou, Selini Natalia ; Dell'Amico, Mauro ; Cantelmo, Guido ; Viti, Francesco</i>	
MODELLING AND SIMULATING BLUETOOTH-BASED MOVING OBSERVERS	223
<i>Gurczik, Gaby ; Behrisch, Michael</i>	
FULLY AGENT-BASED SIMULATION MODEL OF MULTIMODAL MOBILITY IN EUROPEAN CITIES	229
<i>Certicky, Michal ; Drchal, Jan ; Cuchy, Marek ; Jakob, Michal</i>	
ENRICHING THE TRANSPORT MODEL OF THE ROTTERDAM REGION BY CELL PHONE DATA	237
<i>Friso, K. ; Rijsdijk, J. ; de Graaf, S.W.</i>	
A MARKOV CHAIN DYNAMIC MODEL FOR TRIP GENERATION AND DISTRIBUTION BASED ON CDR	243
<i>Di Donna, Simone Aniello ; Cantelmo, Guido ; Viti, Francesco</i>	
COMPARATIVE FRAMEWORK FOR ACTIVITY-TRAVEL DIARY COLLECTION SYSTEMS	251
<i>Prelicean, Adrian C. ; Gidofalvi, Gyozo ; Susilo, Yusak O.</i>	
SIMULATION RESULTS FOR A DAILY ACTIVITY CHAIN OPTIMIZATION METHOD	259
<i>Esztergar-Kiss, Domokos ; Rozsa, Zoltan</i>	
IMPACTS OF ADVANCED TRAVELER INFORMATION SYSTEMS: THE CASE OF THE CITY OF PATRAS	265
<i>Alexandri, Dimitra ; Iordanopoulos, Panagiotis ; Chrysostomou, Katerina ; Mitsakis, Evangelos</i>	
OPTIMIZED ENERGY MANAGEMENT OF INDUCTIVELY CHARGED ELECTRIC BUSES REFLECTING OPERATIONAL CONSTRAINTS AND TRAFFIC CONDITIONS	273
<i>Kurzvezil, Tamas ; Schnieder, Lars ; Burmeister, Felix</i>	
A NEW APPROACH FOR TRAIN CALENDAR DESCRIPTION GENERATION	280
<i>Amorosi, Lavinia ; Dell'Olmo, Paolo ; Giacco, Giovanni Luca</i>	
ESTIMATING THE AVERAGE SPEED OF PUBLIC TRANSPORT VEHICLES BASED ON TRAFFIC CONTROL SYSTEM DATA	287
<i>Oskarbski, Jacek ; Birr, Krystian ; Miszewski, Michal ; Zarski, Karol</i>	
A CONCEPT OF AN ENERGY OPTIMAL PUBLIC TRANSPORTATION NETWORK	294
<i>Kretschmer, Andreas ; Aba, Attila ; Baroncelli, Camilla ; Esztergar-Kiss, Domokos</i>	
ESTIMATION OF SAMPLE SIZE TO FORECAST TRAVEL DEMAND IN URBAN PUBLIC TRANSPORT	300
<i>Horvath, Balazs ; Horvath, Richard</i>	
INTEGRATED INFORMATION APPLICATION ON MOBILE DEVICES FOR AIR PASSENGERS	304
<i>Karadi, Daniel ; Csiszar, Csaba ; Nagy, Eniko</i>	
COMPARE ANT-COLONY AND GENETIC ALGORITHM FOR SHORTEST PATH PROBLEM AND INTRODUCE THEIR PARALLEL IMPLEMENTATIONS	312
<i>Katona, Geza ; Lenart, Balazs ; Juhasz, Janos</i>	
SIMULATION ENVIRONMENT FOR INVESTIGATING CROWD-SENSING BASED URBAN PARKING	320
<i>Farkas, Karoly ; Lendak, Imre</i>	

MANEUVERS ANALYSIS OF SHARED TAXI AND THEIR EFFECTS ON FLOW CHARACTERISTICS	328
<i>Zefreh, Mohammad Maghrour ; Mandoki, Peter ; Torok, Adam ; Toth, Janos</i>	
PUBLIC TRANSIT COORDINATION UNDER DIFFERENT STRATEGIES BETWEEN OPERATORS	333
<i>Meng, M. ; Lam, S.H. ; Li, S. ; Wong, Y.D.</i>	
A STATE-OF-THE-ART INTEGRATED TRANSPORTATION SIMULATION PLATFORM.....	340
<i>Azevedo, Tiago ; Rossetti, Rosaldo J.F. ; Barbosa, Jorge G.</i>	
MODELLING AND ANALYSIS METHODS OF INTEGRATED INFORMATION SYSTEMS OF TRANSPORTATION.....	348
<i>Sandor, Zsolt ; Csiszar, Csaba</i>	
TACKLING SUSTAINABLE URBAN TRANSPORT POLICY MEASURES IN TRANSPORT MODELS.....	356
<i>Berki, Zsolt</i>	
STATUS OF LAND USE AND TRANSPORT MODELING IN HUNGARY	362
<i>Gaal, Bertalan</i>	
CONCEPTUAL ANALYSIS OF ITS EFFECT ON SCGE MODELS	367
<i>Futyu, Istvan ; Tanczos, Katalin</i>	
COMPLEX NETWORK ANALYSIS OF PUBLIC TRANSPORTATION NETWORKS: A COMPREHENSIVE STUDY	371
<i>Haznagy, Andor ; Fi, Istvan ; London, Andras ; Nemeth, Tamas</i>	
AREA-WIDE ANPR COVERAGE WITH A SMALL NUMBER OF INSTRUMENTED VEHICLES	379
<i>Gunay, Banihan ; Saltan, Mehmet ; Ilgaz, Arzu ; Albayrak, Yalcin</i>	
ARCHITECTURES FOR DISTRIBUTED, INTERACTIVE AND INTEGRATED TRAFFIC SIMULATIONS.....	387
<i>Raghothama, Jayanth ; Azhari, Mohammed ; Carretero, Miguel Ramos ; Meijer, Sebastiaan</i>	
THE METHODOLOGY OF URBAN TRANSPORT CORRIDORS EVALUATION	395
<i>Bauer, Marek ; Szarata, Andrzej</i>	
ANALYSIS OF THE DEMAND FOR AN ELECTRONIC ADVISE OF TRAFFIC CODE VIOLATIONS.....	402
<i>Carrese, Stefano ; Nigro, Marialisa ; Patella, Sergio Maria</i>	
PEDESTRIAN DETECTION BY PROFILE LASER SCANNING.....	408
<i>Lovas, Tamas ; Barsi, Arpad</i>	
PEDESTRIAN DETECTION IN SURVEILLANCE VIDEOS BASED ON CS-LBP FEATURE.....	413
<i>Varga, Domonkos ; Havasi, Laszlo ; Sziranyi, Tamas</i>	
EFFICIENT DRIVING ALGORITHMS FOR NON-DISTURBED AND DISTURBED TRAINS WITH THE CBTC SIGNALLING SYSTEM.....	418
<i>Carvajal-Carreno, William ; Garcia, Asuncion P.Cucala ; Fernandez-Cardador, Antonio ; Soder, Lennart</i>	
A MODULAR MODEL TO SCHEDULE PREDICTIVE RAILWAY MAINTENANCE OPERATIONS.....	426
<i>Consilvio, Alice ; Di Febbraro, Angela ; Sacco, Nicola</i>	
A MODEL FOR ATTRIBUTING THE RESPONSIBILITIES OF DELAY PROPAGATION ON RAILWAY NETWORKS	434
<i>Costalli, Luigi ; Baroncelli, Camilla</i>	
A MODEL PATTERN OF RAILWAY INTERLOCKING SYSTEM BY PETRI NETS.....	442
<i>Sun, Pengfei ; Collart-dutilleul, Simon ; Bon, Philippe</i>	
ARTERY: EXTENDING VEINS FOR VANET APPLICATIONS.....	450
<i>Riebl, Raphael ; Gunther, Hendrik-Jorn ; Facchi, Christian ; Wolf, Lars</i>	
ICT IN ROAD VEHICLES — THE VEHICLEICT PLATFORM	457
<i>Lengyel, Laszlo ; Ekler, Peter ; Ujj, Tamas ; Balogh, Tamas ; Charaf, Hassan ; Szalay, Zsolt ; Jereb, Laszlo</i>	
INTEGRATED MODELLING OF BUSINESS PROCESSES AND REAL TIME COMMUNICATION FOR PUBLIC TRANSPORT: MODELLING CONNECTION PROTECTION WITH BUSINESS PROCESS MODEL AND NOTATION	463
<i>Schnieder, Lars ; Barrilero, Marta ; Wermser, Diederich ; Bock, Ulrich</i>	
ICT IN ROAD VEHICLES — RELIABLE VEHICLE SENSOR INFORMATION FROM OBD VERSUS CAN.....	469
<i>Szalay, Zsolt ; Kanya, Zoltan ; Lengyel, Laszlo ; Ekler, Peter ; Ujj, Tamas ; Balogh, Tamas ; Charaf, Hassan</i>	
SECURITY ISSUES AND VULNERABILITIES IN CONNECTED CAR SYSTEMS.....	477
<i>Becsi, Tamas ; Aradi, Szilard ; Gaspar, Peter</i>	
LDM-BASED DYNAMIC NETWORK DISCOVERY AND SELECTION FOR IPV6 MOBILITY MANAGEMENT OPTIMIZATION IN C-ITS ENVIRONMENTS.....	483
<i>Varga, Norbert ; Bokor, Laszlo ; Fischer, Hans-Joachim</i>	

A VARIABLE NEIGHBORHOOD SEARCH FOR OPTIMAL SCHEDULING AND ROUTING OF TAKE-OFF AND LANDING AIRCRAFT	491
<i>Sama, Marcella ; D'Ariano, Andrea ; Toli, Alessandro ; Pacciarelli, Dario ; Corman, Francesco</i>	
3D AIRSPACE SECTOR DESIGN BY GENETIC ALGORITHM	499
<i>Sergeeva, Marina ; Delahaye, Daniel ; Mancel, Catherine</i>	
REOPENING THE KOSOVO UPPER AIRSPACE: ANALYZING THE FIRST YEAR OF OPERATIONS.....	507
<i>Schvab, Zoltan ; Markovits-Somogyi, Rita</i>	
OPTIMIZING HYBRID OPERATIONS AT LARGE-SCALE AUTOMATED CONTAINER TERMINALS	514
<i>Corman, Francesco ; Xin, Jianbin ; Toli, Alessandro ; Negenborn, Rudy R. ; D'Ariano, Andrea ; Sama, Marcella ; Lodewijks, Gabriel</i>	
A COST EVALUATION ANALYSIS FOR NAVAL ACCESSIBILITY TO SARDINIA AND CORSICA.....	522
<i>Carrese, Stefano ; Cuneo, Valerio ; Patella, Sergio Maria</i>	
THE HUNGARIAN NATIONAL FREIGHT TRANSPORT MODEL	530
<i>Cselle, Ferenc ; Berki, Zsolt</i>	
Author Index	