# TABLE OF CONTENTS

1 Editorial .......................................................................................................................... 1  
Nour-Eddin El Faouzi  

2 Incident Management and Network Performance .......................................................... 3  
G. Koorey, S. McMillan, A. Nicholson  

3 Incident Detection Methods Using Probe Vehicles with On-board GPS Equipment ........ 17  
Yasuhiro Shiomi, Tomoki Taniguchi, Nobuhiro Uno, Hiroshi Shimamoto, Toshiyuki Nakamura  

4 A Realistic Case Study for Comparison of Data Fusion and Assimilation on an Urban Network – The Archipel Platform .................................................. 28  
M. Canaud, A. Nabavi, C. Bécarie, D. Villegas, Nour-Eddin El Faouzi  

5 A Reproducibility Analysis of Synthetic Population Generation ................................... 50  
Jooyoung Kim, Seungjoo Lee  

6 Investigating the Mobile Phone Data to Estimate the Origin Destination Flow and Analysis; Case Study: Paris Region ........................................................................... 64  
Anahid Nabavi Larjiani, Ana-Maria Olteanu-Raimond, Julien Perret, Mathieu Brédif, Cezary Ziemlicki  

7 Simultaneous Assessments of Innovative Traffic Data Collection Technologies for Travel Times Calculation on the East Ring Road of Lyon ................................... 79  
E. Purson, E. Kleit, A. Bacelar, F. Reclus, B. Levilly  

8 Processing Traffic and Road Accident Data in Two Case Studies of Road Operation Assessment ................................................................. 90  
Seidowsky Régine, Cohen Simon, Aron Maurice  

9 Reducing Gridlock Probabilities via Simulation-based Signal Control ............................ 101  
Carolina Osorio, Xiao Chen, Michael Marsico, Mohamad Talas, Jingjin Gao, Shitao Zhang  

10 On Microscopic Modelling of Adaptive Cruise Control Systems ................................ 111  
Ioannis A. Ntosakis, Ioannis K. Nikolos, Markos Papageorgiou  

11 Simulating Lane-changing Dynamics towards Lane-flow Equilibrium Based on Multi-lane First Order Traffic Flow Model ..................................................... 128  
Yasuhiro Shiomi, Tomoki Taniguchi, Nobuhiro Uno, Hiroshi Shimamoto, Toshiyuki Nakamura  

12 Macroscopic Traffic Flow Model Calibration Using Different Optimization Algorithms ................................................................. 144  
Anastasia Spiliopoulou, Ioannis Papamichail, Markos Papageorgiou, Ioannis Tyrinopoulos, John Chrysoyakos  

13 Calibration and Validation of a Swedish Space-time Analytical Model .......................... 158  
Per Strömgren  

14 Dynamic Estimation of Headway Distance in Vehicle Platoon System under Unexpected Car-following Situations ................................................................. 172  
Hironori Suzuki, Takashi Nakatsuji  

15 Simulation-based Optimization of HOT Lane Tolls ....................................................... 189  
Tomer Toledo, Omar Mansoor, Jack Haddad  

16 Microscopic Simulation on the Design and Operational Performance of Diverging Diamond Interchange ................................................................. 198  
Lee Vien Leong, Mohammed Bally Mahdi, Kar Keong Chin  

17 A Metamodel Simulation-based Optimization Approach for the Efficient Calibration of Stochastic Traffic Simulators ..................................................... 213  
Carolina Osorio, Gunnar Flitteriöd, Chao Zhang  

18 Efficient Traffic Modelling and Dynamic Control of an Urban Region .......................... 224  
Dora L. Borg, Kenneth Scerri  

19 A Model for Traffic Simulation of Flared Rural Road Intersections ............................... 239  
Per Strömgren, Johan Olstam, Andreas Tapani  

20 Latent Class Analysis for Driving Behavior on Merging Section .................................. 259  
Masami Yanagihara, Nobuhiro Uno, Toshiyuki Nakamura  

21 Solving Large-scale Urban Transportation Problems by Combining the Use of Multiple Traffic Simulation Models ..................................................... 272  
Carolina Osorio, Krishna Kumar Selvam  

22 Development of a Network Traffic Simulator for the Entire Inter-urban Expressway Network in Japan ................................................................. 285  
Shoichi Hirai, Jian Xing, Ryota Horiguchi, Tomoyoshi Shiraiishi, Masato Kobayashi  

23 City Logistics and Traffic Management: Modelling the Inner and Outer Urban Transport Flows in a Two-tiered System ........................................ 297  
Rodrigo Rezende Amaral, El-Houssaine Aghezzaf  

24 On-street Parking Search Time Modelling and Validation with Survey-based Data ........ 313  
Sylvain Belloche
Traffic Modeling of a Cooperative Charge while Driving System in a Freight Transport Scenario ............................................. 325
Francesco Deflorio, Luca Castello

Investigating Impacts of Pickup-delivery Maneuvers on Traffic Flow Dynamics ................................................................. 351
Nicolas Chiabaut

Simulation of Mutualized Urban Logistics Systems with Real-time Management ................................................................. 365
Rafik Makhloufi, Diego Cattaruzza, Frédéric Meunier, Nabil Abi, Dominique Feillet

ECOSTAND: Towards a Standard Methodology for Environmental Evaluation of ITS ......................................................... 377
M. Canaud, Noureddin El Faouzi

A Fundamental Study on Evaluation of Public Transport Transfer Nodes by Data Envelope Analysis
Approach Using Smart Card Data ................................................................. 391
Hiroaki Nishiuchi, Tomoyuki Todoroki, Yusuke Kishi

Simulation and Evaluation of a Public Transport Priority Methodology ........................................................................ 402
G. Malandraki, I. Papamichail, M. Papaioannou, V. Dinopoulou

A Revealed/stated Preference Approach to Bus Service Configuration ........................................................................ 411
Pascal Bourgeat

Railway Transportation Efficiency Improvement: Loco Health Assessment by Time Domain Data
Analysis to Support Condition Based Maintenance Implementation ......................................................................................... 424
Marco Capasso, Stefano Savio, Pierluigi Firpo, Gianluca Parisi

Real-time Bus Route State Forecasting Using Particle Filter: An Empirical Data Application ............................................ 434
Etienne Hans, Nicolas Chiabaut, Ludovic Leclercq, Robert L. Bertini

Author Index