Editorial

F. Bella

Department of Engineering - Roma TRE University -
via Vito Volterra n. 62 - 00146 Rome, Italy
email: francesco.bella@uniroma3.it

This special Issue of *Advances in Transportation Studies - an international Journal* reports on 8 selected papers of the 4th Road Safety and Simulation Conference, that was hosted by the Inter Universities Research Centre for Road Safety at the Department of Engineering of Roma Tre University in Rome in October 2013.

The Conference was aimed to create a meeting ground for researchers and professionals with different backgrounds, to share research issues, methodologies, results, and to promote further research efforts into several topics, all related to road safety, such as human factors, safety modeling, driving simulators, naturalistic driving, driving behavior, road design, traffic microsimulation.

The success of the event can be measured by the fact that more than 500 authors from 200 universities, research centers and industries of 40 countries all over the world were involved. Two hundred papers were presented during 22 oral sessions and 4 poster/short presentation sessions. The high standards of the conference were ensured by a wide and competent scientific committee and by a selective review process.

The papers for this special issue have been chosen on the basis of the results from review process and they have been further revised and updated based on referees' comments and editorial suggestions.

In the first paper, Stamatiadis and Kirk provide the background and process used to develop a set of guidelines to determine when road diet conversions, that are deemed an innovative solution to address mobility and safety concerns under budgetary constraints, are feasible. Besides comprehensive guidance for road diet evaluation including operational performance and correctable safety problems, one of the important findings of this research is the expansion of the usable range for road diets.

Billot-Grasset, Viallon, Amoros and Hours present the results of a survey sent to victims injured while cycling in 2009-2011 and aimed to improve knowledge of cycling safety and address prevention. The Authors define a Typology of Bicycle Crashes based on a variety of accident factors, and show how bridging the gap between use, individual characteristics and accident type could contribute to improving cycling safety.

The third paper by Akinwuntan, Chong, Daniel, Fleming and Lokey reports on the use of driving simulators as tools for the evaluation and rehabilitation of fitness-to-drive. The Authors investigate the relationship between Simulator Adaptation Syndrome (SAS) and incongruences between vestibular and visual inputs. The main finding shows that individuals who rely heavily on their vestibular system for balance control may be more prone to developing SAS in virtual environments that provide only minimal vestibular feedback.

The paper "How MAP-21 Reauthorization by United States Congress Advances Opportunities for Human Factors in Geometric Highway Design Safety Evaluations" by Manore explains the convergence of recent Policy, Technology, Processes, and Best Practices that are shaping the direct use of driving simulation within roadway design, and define a framework for applied research activities to make this standard practice for optimizing safety during roadway design.

Jenkins and Moran discuss the results of a research that was motivated by the need for a set of evaluation tools to determine when participants in a driving simulator experiment have received sufficient practice. The main conclusion of this study is that the steering control improvement can be used as an indicator to evaluate whether participants have had enough practice and are ready to participate in subsequent experimental scenarios.

In the sixth paper, De Blasiis, Di Prete, Guattari, Veraldi, Chiatti and Palmieri discuss the need to improve the models for the vehicle emissions estimation and develop a new method which takes into account the influence of users driving behaviors in different geometrical and flow conditions, using a driving simulator.

The study by Llorca, Moreno, Garcia and Perez Zuriaga reports on the results of a field study that was carried out by mean of an instrumented vehicle to collect data of single and multiple passing maneuvers in Spanish two-lane rural roads. The recorded data show that passing zones with sight distance and length close to minimum values do not provide enough space to pass more than one vehicle with safety. Guidelines to formulate a new passing sight distance model, valid also for multiple passes, are provided.

Finally, Tageldin, Sayed, Zaki and Azab demonstrate the usefulness of using automated traffic conflicts in before-and-after safety evaluations of the Adaptive Traffic Signal Control (ATSC) systems and stress that the use of computer vision techniques to automate the extraction of traffic conflicts from video data can overcome the shortcomings of the traditional manual conflict observation methods.

It has been my pleasure and honor to organize this special issue. Thank you to the Editor-in-Chief of Advances in Transportation Studies - an international Journal, prof. Andrea Benedetto, for inviting me as guest editor. Of course, I would like to thank all the authors who have contributed to the contents of this special issue. Special thanks also to the reviewers who have assisted the authors in improving the original papers and to the journal staff for his cooperation, advice and assistance in completing this issue.