

SIDT Scientific Seminar 2013

Editorial

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The Italian Society of Transportation Academicians was founded in 1983 with the aims of promoting research activities in the field of transportation engineering, disseminating knowledge through conferences, meeting and publications, participating in national discussion and choices in the same field and encouraging contacts and exchanges with similar institutions in Italy and abroad.

Since 1989, the year of the first meeting of Venice (Italy), the SIDT organizes the Annual Conference and the Scientific Seminar, which represent respectively an important opportunity to discuss with experts and institutions about relevant topics in the field of transportation and to share research results and perspectives mainly among the national research community.

The SIDT2013 Scientific Seminar took place in Trieste, Italy, October 17-18 2013, with the main goal of providing a forum to share information and research experiences, and promoting cooperation among Italian research groups and organizations in the field of transportation engineering, economics and land-use planning. The Scientific Seminar focused on the innovative contribution of -transportation engineering to a modern vision of infrastructures and services.

The high standards of the conference were ensured by a large and competent scientific committee and by a selective reviewing process. The Scientific Seminar review took place between July and September 2013, according to extended abstracts of 4 pages. Each extended abstract was reviewed by at least 2 reviewers, and by the organizing

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committee, and 40 of them were accepted for presentation (see the conference web site for further information, <http://www.sidt.org/sidt2013>). The review process of full manuscripts submitted for publication started in May 2014, with at least 2 reviewers per paper (one at least not Italian) and a further revision by guest editors. The entire process was completed by November 2014. After an accurate review of the expert referees only 18 of the 26 submitted papers were accepted.

The above papers cover advances in transportation engineering according to the following sections:

1. Transportation planning, travel behavior and demand models
2. Traffic operations and monitoring
3. Freight transportation and logistics
4. Intelligent Transportation Systems and technology
5. Assessment
6. Supply optimization and vulnerability

A short summary of paper contexts for each of the above sections is reported below.

Six papers deal with transportation planning, travel behavior and demand models.

Brandi et al. present a Land Use Transport Integration model to define integrated land use-transportation policies aimed at finding relocations of urban activities based on the residual capacity of transit systems. The model has been tested in a real case study in Rome.

Musso and Corazza describe the main results of the European Bus System of the Future project (EBSF) aimed at developing a new generation of bus systems in order to increase the attractiveness and to improve the image of this mode. They present the assessment and transferability analysis of these innovative solutions for busses.

Nuzzolo et al. present the first results of an in-progress project aimed at defining an advanced trip planner for transit networks. The proposed approach is based on a path choice model providing transit path alternatives coherent with user personal preferences captured by a learning process. Model parameters were estimated for a specific case study in Rome.

Sottile et al. present a hybrid discrete choice model to understand the relationship among awareness, attitude and behavior in the mode choice with reference to environmentally friendly travel modes. The model has been estimated on data collected in Cagliari and it refers to the choice between personal car and a park-and-ride alternative, before and after an individual information about the environmental benefits of park-and-ride.

Vacca and Meloni use mixed logit models to describe the route switch behavior in absence of external information. They are based on data collected in Cagliari and the results show that choices are influenced by the number of traffic lights per km, percentage of highways, time perception, gender, age, individual income and experience in relation to minutes per km.

Gentile presents two new Dynamic User Equilibrium models suitable to be used in large networks by using real time data. Both models allow reproducing queue spillback on urban networks, including conflicts of flows in merging and diversion. The paper also discusses the application of the models to real-time traffic management and off-line transport planning.

In the context of traffic operations and monitoring, three papers deal with both cars and bicycle traffic.

Bernardi and Rupi focus on bicycle facilities and, based on data collected in Bologna, propose a relationship between travel speed and non-stationary disturbances along cyclists' trips on separated facilities or in mixed traffic. Design elements of separated facilities may reduce frequency, type and severity of disturbances.

Gastaldi et al. propose a comparative analysis of Logit models and Fuzzy logic models of gap-acceptance behavior in terms of direct transferability. They demonstrate that both approaches have essentially the same transferability performances and that results are adequate for application purposes.

Pompigna and Rupi discuss the results of an experimental study about the transferability of HCM relationships and values to Italian freeways. The results, referred to a freeway section in Padua, show that the application of HCM may lead to underestimate operational congestion and suggest to further analyze the transferability issue.

In the field of freight transportation and logistics, Cepolina and Farina present a paper dealing with an innovative freight distribution scheme for urban environment, which uses small electric vans suitable for narrow roads. A model for the optimization of the performances of the delivery system is provided and a test case in Genoa is discussed. Always in the field of freight transportation and logistics, Comi and Rosati describe the logical architecture and the demand models implemented within a Decision Support System for the analysis and simulation of city logistics measures. The application of this DSS to two Italian cities (Rome and Padua) is discussed to better understand the usefulness of the proposed DSS for urban policy-makers.

Regarding ITS and technological applications to transport, the contributions deal with automatic vehicles and the charging approach for electric vehicles. Alessandrini et al. describe the state of the art and the main trends in automated vehicles (ARTS) with a vision of the future cities with mobility supported mainly by this kind of vehicles. Positive effects are expected including the improvement of the efficiency of the transport system.

Deflorio et al. present a method for analyzing traffic and electric performances of a Charge While Driving (CWD) system. A mesoscopic model, which considers also the recharge needs within the traffic behavior, is presented. The paper proposes some remarks about the layout of the charging infrastructure, together with some consideration about installation and maintenance costs.

The section on assessment methods and applications includes three papers.

Longo et al. describe a multicriteria approach to assess possible measures to improve the accessibility of a university campus and reduce congestion. Starting from the results of an extensive survey about choices and preferences of the users, a AHP model is proposed which explicitly includes decision makers and users groups within the hierarchy. The model has been applied to the University of Trieste.

Bray et al. propose a Fuzzy Data Envelopment Analysis (DEA) model to measure the efficiency of transport systems and services considering uncertainty in data. The proposed approach has been applied to a set of container ports in order to point out the advantage of a Fuzzy DEA approach compared to traditional one.

Fancello et al. use a multicriteria analysis technique within a decision-making process aimed at evaluating road safety on sections of a motorway infrastructure. The proposed approach has been used in a real case study and allows to identify critical sections from safety perspective.

The last section deals with supply optimization and network vulnerability and includes two papers.

Marinelli et al. propose a metaheuristic approach to find an optimal flight gate assignment for a given schedule. The proposed algorithm allows to solve high level combinatorial problems with fast convergence performances. It considers the minimization of passengers walking distance and the remote gate usage, which has been applied to Milano Malpensa airport.

Rupi et al. describe a practical methodology to rank the links of a network according to the relative importance in maintaining the connectivity between origin-destination pairs. Both the level of usage and the effect of closure have been considered in the assessment. The proposed approach has been applied to the road network of Bolzano.

Finally, we would express gratitude to all the reviewers for their professional work, and we would like to thank the participants in the SIDT2013 Scientific Seminar for submitting high-quality papers, which allowed us to publish this issue of *Procedia – Transportation Research*.