



## **COST Session in 3rd CSUM, Volos Greece.**

### **Summary by Prof. Eftihia Nathail**

The 3<sup>rd</sup> Conference on Sustainable Urban Mobility – 3<sup>rd</sup> CSUM was held on 26-27 May 2016, in Agria, Volos, Greece. The idea about CSUM started in 2012, with a certain emphasis given in each event, all around the main pillar of Urban Mobility. The 1<sup>st</sup> CSUM acknowledged the importance of mobility in urban areas, and addressed in particular the role of green modes of transport in accommodating traveling and at the same time protecting the environment. In the next 2<sup>nd</sup> CSUM, emphasis was given to the impact of ITS in transit services, and the behavioral changes of traveling in the urban agglomeration. The 3<sup>rd</sup> Conference focused on the “Anthropocentric approach in urban mobility planning”.



The challenges and problems in urban transportation systems are many and complicated. Traffic congestion, environmental deterioration, consumption of fossil fuels and energy conservation, safety, accessibility, comfort are some of the major concerns associated with urban mobility. Local administration, service providers and operators are asked to deliver an efficient service for the transport of travelers and goods and users are expected to develop a sustainable attitude and behavior; and all these, ensuring that harvested or used resources in the altar of transport are not depleted or permanently extinct.

To address sustainable urban mobility, several concepts, solutions and applications have been developed, including demand responsive transit and car sharing systems, cooperative traffic management, dynamic time schedule coordination, integrated ticketing, social networks, innovative city hubs, smart solutions for city logistics, green modes, parking management schemes, waste collection and disposal, recycling, sensor data sources and data mining, simulation and assessment techniques.

The papers presented at the Conference highlighted some of the recent developments in the domain of planning, designing, implementing and assessing sustainable urban mobility solutions. Some of them focus on the role of social networks in mobility behavior and transferability. A number of papers present applications using blue tooth and other sensor data for predicting performance of the transportation system. Activity-based transport modeling, micro and macro analysis, fuzzy and Monte Carlo simulation, optimization and dynamic traffic assignment are some of the methodologies which attract current research. Case studies of sustainable transportation interchanges, journey planning dial a ride, electric vehicles and mobile payments in public transport are included. Also, papers cover issues of resilience management and economic crisis, environmental impacts and user acceptance.

The role of social networks in sustainable urban mobility was addressed by the **special COST TU1305 session**, which took place during the first day of the Conference. Six presentations were given by the action's members.

The action's coordinator, Pnina Plaut, and the STSM coordinator, Eftihia Nathanail, presented "The linkage among social networks, travel behavior and spatial configuration", where the interconnection of geography, urban transportation modeling and information and communication technology was analysed.

Or Caspi demonstrated the "Electric bikes usage potential as a substitute for private car usage in Israel". Itzhak Omer and Nir Kaplan showcased "An agent-based pedestrian model considering spatial behavior parameters". They compared contemporary pedestrian volume models which are mainly constructed according to the space syntax framework with an agent-based model for predicting pedestrian movement at the urban scale, taking into account the dynamics of the reciprocities observed between street networks, pedestrian movement and land-use patterns. They implemented the proposed

model in two Israeli city centers and examined the pedestrian flows with respect to the relevant street network structure and land-use distribution.

Ainhoa Serna, Jon Kepa, Gerrikagoitia, Unai Bernabé and Tomás Ruíz ran a “Sustainability analysis on urban mobility based on social media content”. They identified sustainability issues related to urban mobility based on the perceptions and experiences that underlie

in the User Generated Content (UGC) and they followed a quantitative and qualitative content analysis using Sentiment Analysis techniques with Semantic taxonomy annotation of online textual content.



Domokos Esztergár-Kiss made the “Definition and classification of parameters for daily activity chain optimization”, building a roadmap of optimization parameters, ideal target groups and optimization algorithms, which incorporate different transportation modes and personal preferences.

João de Abreu e Silva, Juan de Oña and Slaven Gasparovic investigated “The relation between travel behavior, ICT usage and social networks”. They designed a web based survey to be applied to university students, as they are strong users of social media and ICT devices. They presented the survey structure and its relations with the previous literature and some preliminary results from a pilot already implemented in 3 cities – Lisbon, Granada and Zagreb.

Conference papers are accessible in Transportation Research Procedia, Volume 24, Pages 1-538 (2017) (<http://www.sciencedirect.com/journal/transportation-research-procedia/vol/24>) and they provide a useful and enlightening reading for all interested parties in the domain of urban mobility and sustainability.