Honors thesis

COURSE OF

TERRITORIAL, URBAN, ENVIRONMENTAL AND LANDSCAPE PLANNING

Abstract

Urban transport planning, how make it smarter: an analysis of the Decision Support Tools for Torino and Birmingham

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About 75% of the European population lives in urban areas, creating a high services demand, as for energy and *transport,* on a relatively restricted geographical areas: in particular, the transport system has an important impact on the life quality of citizens and on the environment - its management requires tools to monitor and optimize the delivery of services to users. In this context, the European project OPTICITIES aims to develop and test new technologies (ITS, Intelligent Transport Systems) for the management of urban mobility, in order to allow users more efficient movement in urban areas.

The thesis was carried out within the project Opticities, with particular reference to the design, development and testing of a Decision Support Tool (DST). A Decision Support System (DSS) is an interactive software using analytical methods such as systems' analysis and algorithms' optimization to develop models able to support *decision makers* formulating alternatives, analyzing impacts and finally choose the more appropriate option. So the DST is a part of the process of decision support. This tool, applied to the transportation system, it allows the collection, processing and visualization of large volumes of data to support the development of transport models: viewing the current situation as much as mobility scenarios.

The aim of the thesis is the comparison between the two DST developed in Torino and Birmingham (two of the six pilot cities involved in the project), referring to the three phases of the project Opticities:

- Ex-ante: data collection through survey (questionnaires and focus groups) of the target group of the DST, to identify needs and expectations;
- In-itinere: DST development, test and training;
- Ex-post: evaluation of the DST's effects.

The followed methodology for the comparison has planned to evaluate the activities of Torino and Birmingham concerning the methods for user's' investigation (questionnaires and focus groups), the development methodology (subjects involved, specific techniques), the testing methods and, finally, the use of the instrument. The relative comparison in each phase has also allowed to identify the strengths and weaknesses of the choices made in the two contexts.

The two DST prototypes have different purposes: a Multimodal Map for Torino and a traffic monitoring DST in Birmingham. In Torino the DST is aimed at different target groups - policy makers, technicals and municipal transport companies - for sharing and data management, where the greatest deficiency lies in the dialogue failure between the various institutions managing urban transport. In Birmingham, however, the DST is a specific tool for traffic management, which allows to detect anomalies on the road network of the metropolitan area.

So, DST proved to be a useful technology to assist planning and management of transport systems, both by providing an instrument that can analyze and view the data on supply and demand of transport, both allowing the simulation of scenarios and the decision-process in complex environments.

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