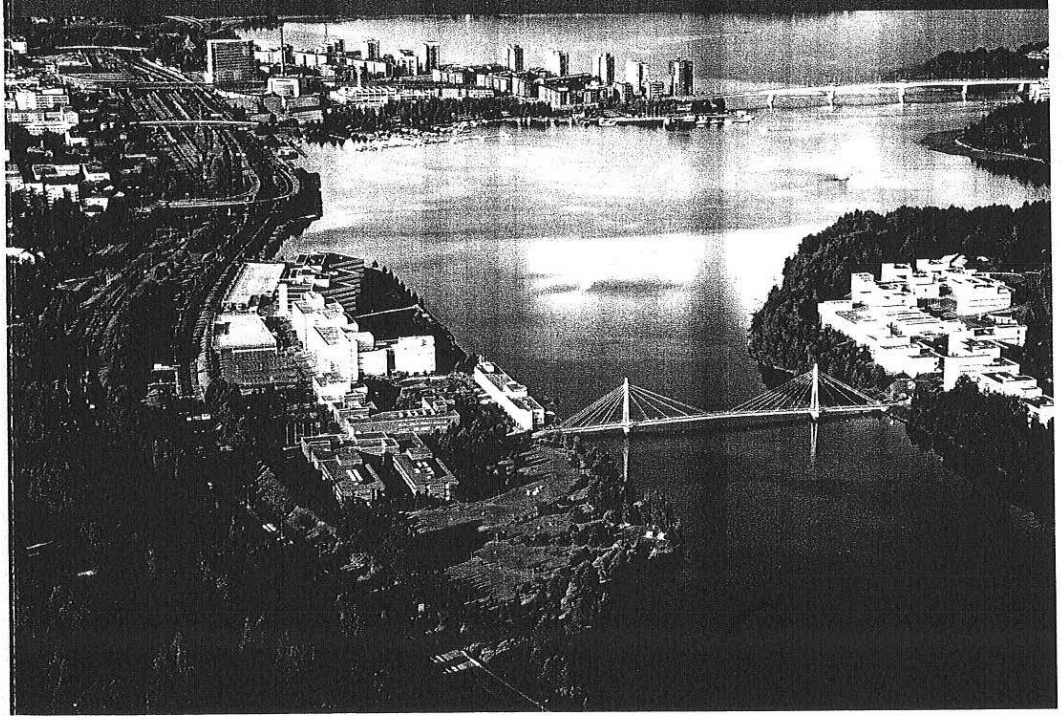
MCDM

The 21st International Conference on Multiple Criteria Decision Making

PROGRAM & ABSTRACTS



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METSÄHALLITUS

FINGRID

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http://www.jyu.fi/mcdm2011

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MCDM2011 is organised in co-operation with the University of Jyväskylä (Department of Mathematical Information Technology) and Aalto University.

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About the International Society on Multiple Criteria Decision Making

MCDM can be defined as the study of methods and procedures by which concerns about multiple conflicting criteria can be formally incorporated into the management planning process. The International Society on Multiple Criteria Decision Making was founded in 1998 arising from the Special Interest Group on MCDM founded in 1979. It has almost 1500 members in 96 countries.

The purposes of the Society are to develop, test, evaluate and apply methodologies for solving multiple criteria decision making problems, to foster interaction and research in the scientific field of multiple criteria decision making, and to cooperate with other organizations in the study of management from a quantitative perspective. These purposes are to be carried out by:

- facilitating communications,
- providing academic assistance with ideas, methods and contacts whenever and wherever needed,
- sponsoring international conferences for the dissemination of results,
- encouraging special purpose workshops and student exchanges,
- publishing the electronic Newsletter, and
- encouraging an environment of international colleagueship and friendship across the globe.

MCDM2011 is the 21st conference in the series of MCDM conferences organized biennially by the society since 1975.

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More information about the society and how to join can be found in http://www.mcdmsociety.org/.

Contents

Passengers Patterns Behavioural Issues Analysis in Decision Making of Sustainable Public Transport System Development

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The quality of transport service is one of the parameters in the organising the sustainable transport system, which is quite complex to be measured as well as to be improved, in comparison with such parameters like time and price of tickets. However, quality of transport service and passengers behaviour is one of the key factors in transport system development and long term planning. The implementation of the same ticketing system in Riga city public transport on the 1st of January 2011 and at railways in city allows to use common data for passengers' flow analysis in Riga city.

Definitions of sustainability in this article include a broader range of issues, and these often relate to sub-divisions of the three pillars: the economic element, taking into account the long term; the social aspect, including quality of life or health impacts, and the environmental pillar. The usage of identified passengers behaviours are related, with social pillar of sustainability, however, the technical tools for up – taking the behaviours in real transportation projects and systems are strongly related with technical tools and data processing paradigms.

The article analyses the following problems: organization of routes, development of transport schedule, defining of the passengers' priorities, and integration of the railway transport into the system of city public transport. An optimal decision making in the case of risky conditions, an optimal decision as maximizing the expected utility from transport system are considered. The identifying passenger patterns by the age groups are discussed. The example of technical method of collecting and using statistical data for decision making in public transport including such systems as railway (in city), buses, trams, trolleybuses are analysed for Riga city in Latvia. This research was awarded by Transport Issues Committee of Riga City Council. The development of decision rules, according identified passenger's behaviours is analysed. The assignment of decision rules and management of transport system in dynamic are analysed.

Keywords: Behavioral, Intelligent transport system, Transport, Patterns

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