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Editorial

Decision-Making for Urban Planning and Regional Development

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Urban and regional development can be considered as multidimensional concepts which involve socioeconomic, ecological, cultural, technical, and ethical perspectives. Decision problems in the domain of urban and regional development processes represent "weak" or unstructured problems as they are characterized by multiple actors, many and often conflicting values and views, a wealth of possible outcomes, and high uncertainty.

Under these circumstances, evaluation of alternative projects is therefore a complex decision problem, where different aspects need to be considered simultaneously, and both technical elements, based on empirical observations, and non-technical elements, based on social visions, preferences, and feelings, need to be taken into account. This complexity requires multidimensional approaches and specific qualitative/quantitative methods to analyse and synthesize the full variety of aspects involved in transformation processes, that range from the environmental impacts of urban renewal to its impacts on energy consumption/production patterns and mobility; from the social and economic impacts of a specific urban transformation strategy to its effects on landscape and cultural heritage.

This special issue addresses recent advances on the role of evaluation in supporting decision-makers in urban planning and regional development. 6 papers are published in this special issue; each paper was reviewed by at least two reviewers and revised according to review comments. The accepted papers show the role of evaluation procedures to support decisions in the context of urban management and territorial transformations.

The paper "A New Robust Dynamic Data Envelopment Analysis Approach for Sustainable Supplier Evaluation" by Nikfarjam et al. presents a new dynamic Data Envelopment Analysis (DEA) approach for suppliers selection which takes into account social, environmental and economic criteria and considers differently from previous literature, contiguous time periods. In detail efficient Decision Making Units (DMUs) are identified in each time period and as well as an ideal DMU by implementing a robust scenario-based optimization approach.

The paper "Multicriteria Evaluation of Urban Regeneration Processes: An Application of PROMETHEE Method in Northern Italy" by M. Bottero et al. proposes an original multimethodological evaluation procedure, which combines SWOT Analysis, Stakeholders Analysis, and PROMETHEE method, to evaluate alternative renewal strategies in an urban area in Northern Italy and provide decision-makers with useful tools in making welfare-maximizing urban planning decisions.

The paper "Measuring Conflicts Using Cardinal Ranking: An Application to Decision Analytic Conflict Evaluations" by T. Fasth et al. provides: (a) an application of the cardinal ranking method for preference elicitation to inform decision-makers with respect to controversies; (b) and two indexes to measure potential conflicts within a group of stakeholders or between two groups of stakeholders.

The paper "Minimizing Cost Travel in Multimodal Transport Using Advanced Relation Transitive Closure" by R. Oucheikh et al. proposes a new method for travel cost optimization, which can be applied either on path optimization

for graphs or on binary constraint reduction in Constraint Satisfaction Problem (CSP). In addition, it introduces the mathematical background for the transitive closure of binary relations.

The paper "Multiobjective Optimization for Multimode Transportation Problems" by L. Lemarchand et al. presents a model to solve service facilities localization problems in a multimode transportation context, by implementing an adapted ε-constraint multiobjective method and exploring the implementation of heuristic methods based on evolutionary multiobjective frameworks.

The paper "Integration between Transport Models and Cost-Benefit Analysis to Support Decision-Making Practices: Two Applications in Northern Italy" by P. Beria et al. contributes to the assessment of sustainable mobility transport plans and infrastructure projects, and presents an operative application of Cost Benefit Analysis to the evaluation of alternative scenarios, complemented by the implementation of transportation models and GIS.

The papers in this special issue represent a scientifically based support to address the complexity of decisions making in urban planning and regional development, improve the effectiveness and soundness of choices, and increase transparency in collective decision-making, by enhancing shared learning processes. We hope that this special issue will attract attention for further research into complex urban/territorial transformation processes, and will prove to be a valuable resource in the improvement of knowledge that the development of future cities and society requires.

Conflicts of Interest

This is to confirm that as guest editors of the special issue titled "Decision-Making for Urban Planning and Regional Development" we have not any possible conflicts of interest or private agreements with companies.

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