INTELLIGENT DECISION SUPPORT SYSTEM FOR SUSTAINABLE TRANSPORTATION

GUEST EDITORS

Dr. Ali Ahmadian, University Mediterranea of Reggio Calabria, Italy, ahmadian.hosseini@unirc.it
Dr. Ahmad Taher Azar, Prince Sultan University, Saudi Arabia, aazar@psu.edu.sa
Dr. Soheil Salahshour, Bahcesehir University, Turkey, soheil.salahshour@eng.bau.edu.tr

DESCRIPTION

Sustainable transportation has been used for fairly some time now, and it is the means of transportation that is innocuous and has little impact on the environment. Sustainable transportation is alternatively referred as ‘Green Transportation’. With the growth of the transportation, over recent decades, interest and awareness in transport activities has been increasing steadily, in both the research environment and in a wider policy context. Significantly, advances in urban logistics operations and improved local authority planning are seen as essential in order to alleviate the associated negative environmental and economic impacts occurring in cities.

Several types of actors and stakeholders are involved in urban logistics management processes. Among them, freight carriers and shippers are interested in curtailing freight logistics costs in order to maximize their profits, amidst upholding a competitive level of service to their customers. City administrators and public are oriented towards a decrease in traffic congestion, social costs and environmental nuisances, even though they are often direct beneficiaries of high-quality delivery services. This primes to a multitude of differing and possibly conflicting objectives that are involved in urban logistics planning and decision making, yielding a high level of complexity and thus providing a robust drive for the development of tools that aid decision-makers to accomplish higher grades of efficiency.

Despite increasing interest and awareness of logistic operations at local authority level, many urban transportation authorities have often overlooked freight; at the same time, despite the existence of varied models and powerful algorithms for optimizing Urban Logistics, effective Decision Support Systems (DSSs) employed for planning are seldom considered by private and public agents as a tangible option to enhance the quality of real-world decision-making process. This is partway due to the fact that these models and methods rarely integrate multi-stakeholder perspective in their analysis, often resulting in centralised and hierarchical decision-making procedures that might be of petite benefit in contexts where enhanced participatory approach is required.

Intelligent DSS and tools provide different functionalities and solve various categories of transportation decision problems, such as: vehicle routing and scheduling, crew scheduling, fleet composition and replacement, service portfolio optimization, fleet and transportation infrastructure maintenance and renovation, transportation projects evaluation, and others.
This special issue focusses on the state-of-the-art research, innovative solutions, challenges and design of Intelligent Decision Support System solutions for Sustainable transportation. It explores the uses of DSS techniques that can be exploited to create effectual systems and tools. The issue addresses sustainability problems in Sustainable Transportation environments at the various levels. In short, an excellent guide to aid in developing the state-of-the-art models applied to solve challenging real-world problems in sustainable transportation.

Specific topics of interest include (but are not limited to):

- Design and development of effective solutions for Sustainable transportation
- Intelligent DSS for vehicle routing and scheduling
- Design of Principal methodologies supporting decision – making processes in Sustainable transportation
- Transportation DSS-s applied in different industries
- Challenges in employing DSS for Sustainable transportation and its outcomes
- Design and development of enhanced tools to assist DSS employed in transportation
- DSS for fleet and transportation infrastructure maintenance and renovation
- Multimodal DSS models for Sustainable transportation
- Managing security issues and considerations in multimodal DSS
- Techniques incorporating Simulation based transportation oriented DSS
- Development of Game theory-based transportation oriented DSS model
- Design of Optimised Hybrid DSS model involving simulation-based systems
- Machine learning / Data Mining / Exploration based models for decision making in transportation projects

IMPORTANT DATES

Submission Deadline: 1.8.2021
Authors Notification: 20.09.2021
Revised Papers Deadline: 1.11.2021
Final Notification: 15.12.2021

HOW TO SUBMIT

All submissions to the special issue must be made electronically at https://mc.manuscriptcentral.com/jisys and will undergo the standard peer review process. When submitting your paper please choose “INTELLIGENT DECISION SUPPORT SYSTEM FOR SUSTAINABLE TRANSPORTATION”.

We are looking forward to your submission. If you have any question, please contact us at JISYS_Editorial@degruyter.com.