

## **Special Issue on Fuzzy Decision Systems for Sustainable Transport**

**Deadline for Submissions 28 February 2022**

### **1. AIMS AND SCOPE**

Sustainable transport has gained widespread recognition by countries, local governments, cities, and transport authorities around the world to bring about positive change for the environment, ensure wider accessibility, and reduce carbon emissions. Many countries and cities have been redesigning their transport systems to make them more sustainable. Incentives are being provided to ensure shift from petroleum-fueled vehicles to zero emission vehicles (e.g. electric vehicles, hydrogen vehicles, fuel cell, biogas, etc.) to limit the environmental harm caused by the widespread use of gasoline and diesel fuel. Recent technological developments around propulsion technologies as well as policy changes to reduce the need for travel or increase the share of sustainable modes has accelerated the shift towards sustainable transport. Global transport emissions increased by less than 0.5% in 2019 (compared to 1.9% annually since 2000), thanks to efficiency improvements, electrification and the use of more biofuels. However, transportation is still responsible for 24% of direct CO<sub>2</sub> emissions from fuel combustion. Road vehicles such as cars, trucks, buses, and two-and three-wheeled vehicles account for almost three-quarters of CO<sub>2</sub> emissions in transport. Emissions from them continue to increase, and more international policy and cooperation focus is needed in these areas. For example, electric vehicles are gaining more and more attention from the governments and general public across the world as electric vehicles make a significant contribution to the reduction of greenhouse gas emissions. Therefore, the shift towards sustainable transport requires effective decision mechanisms in these areas. The COVID-19 pandemic increased the uncertainty around the decisions influencing the shift towards sustainable transport due to financial, social, and technical uncertainties. In the literature, these uncertainties are often not taken into account sufficiently. Classical methods are insufficient in decision making involving the necessity of these decision mechanisms and multidimensionality. Fuzzy methods provide a suitable methodology for the solution of these sort of problems involving uncertainty.

Fuzzy decision systems are one of the most important advances in computational intelligence. The recent theoretical developments in the area of fuzzy decision systems provide novel perspectives for the key mechanisms of decision making and information processing that can handle uncertain, ambiguous, noisy and missed input information in sustainable transport problems and decisions.

The aim of this special issue is to publish recent advances in the development and use of fuzzy decision systems in sustainable transport issues. We are looking for original works on both theoretical and application papers.

### **2. TOPICS COVERED**

This Special Issue is focused on the recent advances in the use of fuzzy decision systems for the sustainable transport issues, and the list of potential topics include, but not limited to:

- Evaluation of alternative propulsion technologies for sustainable transportation
- Decision making on sustainable transport policies
- Mode selection decisions for sustainable transport (e.g. cycling, walking, public transport, etc.)
- Prioritization of zero-carbon measures for sustainable transport
- Sustainable traffic management
- Analysing and prioritising stakeholder consensus for developing sustainable transport policies
- Alternative energy management strategies for sustainable transport
- Assessment and selection of sustainable transport projects
- Selection energy storage and charging technologies for electric vehicles
- Analysing passenger preferences for sustainable transport
- Sustainability performance of alternative vehicle technologies
- Selecting the optimal contracting model for sustainable urban transport
- Decisions for introduction of sharing practices (e.g. car sharing, bike sharing, ride sharing, etc.)
- Pricing and financing of sustainable transport,
- Decision for integrated transport and land use

### 3. SUBMISSION GUIDELINES

All authors should read 'Information for Authors' before submitting a manuscript at <https://cis.ieee.org/publications/t-fuzzy-systems/tfs-information-for-authors>

Submissions should be through the IEEE TFS journal website <http://mc.manuscriptcentral.com/tfs-ieee>.

Submissions must be in the **CORRECT FORMAT** <https://journals.ieeeauthorcenter.ieee.org/create-your-ieee-journal-article/authoring-tools-and-templates/ieee-article-templates/templates-for-transactions/>

It is essential that your manuscript is identified as a Special Issue contribution:

- Ensure you choose '**Special Issue**' when submitting.
- A cover letter **must** be included which includes the title 'Fuzzy Decision Systems for Sustainable Transport'.

### 4. IMPORTANT DATES

28 February 2022:	Submission Deadline
April 2022:	Notification of first round of reviews)
June 2022:	Revised submissions due ) for guidance only
August 2022:	Final notice of acceptance/rejection )

### 5. GUEST EDITORS

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