IEEE Transactions on Intelligent Transportation Systems

Special Issue on Intelligent Transportation Systems in Epidemic Areas

MOTIVATION AND SCOPE

An ongoing outbreak of novel coronavirus pneumonia, declared by the World Health Organization as a global public health emergency, has been reported in over eighty million cases and claimed near two million lives since early 2020. In the recent past, the world has also witnessed outbreaks of SARS, Ebola, Chikungunya, and Zika, all causing significant damage to society. To mitigate the damage, researchers and practitioners are jointly devoting efforts to solving complex problems in various aspects of epidemic control.

Transportation systems play a key role in supporting daily operations in epidemic areas. However, transportation systems under epidemic conditions have to face many great challenges, such as urgent need to transfer a huge number of patients and medical resources, risk of infection among passengers/drivers, risk of virus transmission through transportation networks, and strict traffic control. A variety of artificial intelligence technologies, such as autonomous driving, big data analytics, intelligent vehicle routing and scheduling, and intelligent traffic control, have been employed in the design of intelligent transportation systems to address these challenges. Nevertheless, it is crucial that experts in various fields, including artificial intelligence, transportation science, epidemiology, and public health, play active roles in the systems.

This special issue aims to initiate a dialog on all aspects of intelligent transportation systems in large-scale epidemics. In particular, we welcome studies bridging the gaps between research and practice as well as studies across multiple disciplines.

LIST OF TOPICS: Topics of interest to this special issue include, but are not limited to:

• Autonomous vehicles in epidemics
• Ambulance scheduling and patient transfer
• Vehicle scheduling for medical resource delivery
• Vehicle and personnel protection against virus
• Geographic tracking of infected and suspected cases
• Intelligent traffic control in epidemic regions
• Vulnerable human behaviour analysis and support systems
• Sensing and robotic manipulating in special environment
• Autonomous robot routing in hospitals
• Unmanned aerial vehicles for rapid and accurate delivery
• Models of epidemic spread through transportation networks

PAPER SUBMISSION GUIDELINES

Paper submission should conform to the information for authors available at https://mc.manuscriptcentral.com/t-its.
IMPORTANT DATES

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Notification of final decision: June 2022
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