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The impact of traffic congestion in Evacuation Planning

Abstract:

Evacuation planning plays a crucial role in disaster preparedness to reduce the impact of disasters. Poorly planned and managed evacuations can result in large traffic jams, increasing the time it takes for evacuees to reach safe locations and resulting in more losses. However, although traffic congestion has been considered in evacuation planning, most studies ignore certain key decisions and practical issues, such as shelter location decisions, contraflow operations, and the dynamic nature of the problem. In this talk, a mixed-integer programming model to tackle the Evacuation Planning Problem under Traffic Congestion is presented. Traffic congestion is incorporated using a Cell transmission-based formulation that properly captures traffic phenomena. We will also explore solution approaches to solve the problem.

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Alfredo Moreno is a professor at the Universidad del Norte in Colombia and a former postdoctoral fellow at HEC Montreal. He holds a PhD in industrial engineering, focusing his research on areas such as stochastic programming, humanitarian logistics, and decomposition methods.

JOUR / DAY

23 avril / April 2024

10h30 – 12h

Online / en ligne

<https://uqam.zoom.us/j/84623612976?pwd=SEVNQUQ5ZGhPbmwrcTFSQU9vNm80dz09>

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