



MEGAREGION EMERGENCY EVACUATION EFFECT OF DISRUPTIONS

Emergency planning is essential to protect the health and safety of the public under disaster threats. Traffic simulation has been widely used to support the development of these plans as it captures spatial-temporal conditions during an evacuation and provides insights about the overall clearance process. For example, traffic simulation may support the decision to shelter in-place or evacuate in the event of a nuclear power plant emergency (NUREG/CR 7002); identify resources needed in the event of an evacuation (Murray-Tuite & Wolshon, 2013), etc. Considerations of possible network disruptions are also of particular importance to assist decision makers (Wolshon, 2009). This is because, network disruptions could affect the overall evacuation clearance process.

Few, if any, studies have assessed the effect of network disruptions on emergency evacuations at the megaregional scale. The research proposed here, therefore, seeks to fill this information gap by assessing the effect of various disruptive events on megaregion emergency evacuations. The network disruption events to be assessed in this project could include access restrictions to neighbor cities or states, traffic incidents (e.g. abandoned or disabled vehicles, crashes, etc.), work zones, flooded roads, adverse weather, traffic signal failure, etc.

This research will deepen understanding of the effects of disruptions on megaregion emergency evacuations which state and local officials could use in emergency planning and decisions making activities related to the transportation network robustness and redundancy, incident management strategies, etc. This contribution is expected to be significant to both research and practice as there is currently little information on this topic in practice and research.

Effect of Disruptions on Megaregion Emergency Evacuations: A Pilot Study (#CM2-21)

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Project Information Form:
<http://sites.utexas.edu/cm2/files/2018/03/Year-2-Brian-Wolshon-Project-2-Effect-of-Disruptions.pdf>



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Network Disruption Scenarios

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