Center for Advanced Multimodal Mobility Solutions and Education

UTC Project Information – CAMMSE @ UNC Charlotte	
Project Title	Disaster Resilience through Diverse Evacuation and Emergency Transportation Systems
University	The University of Connecticut
Principal Investigator	Jin Zhu
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Funding Sources and Amount Provided (by each agency or organization)	The University of North Carolina at Charlotte: $59,800 The University of Connecticut: $35,269
Total Project Cost	$95,069
Agency ID or Contract Number	
Start and End Dates	10/01/2019 – 09/30/2021
Brief Description of Research Project	Disasters, whether natural (e.g., earthquakes, hurricanes, floods, wild fires) or man-made (e.g., terrorist attacks, chemical spills, nuclear power plant explosions), are occurring at an alarming rate in recent years. When disasters happen, evacuations move people away from high-risk areas to safer areas for the protection of life using transportation systems. In order to enhance disaster resilience, it is critical to have effective and efficiency evacuation and emergency transportation systems. While in reality, evacuations are usually realized via various transportation modes, there are limited studies on evacuee's choice and the outcomes in multimodal transportation systems. Therefore, the

	objective of this proposed study is to investigate the impacts of the level of diversity of transportation systems on evacuation choice and performance. To this end, we propose to develop an integrated framework consisting of metrics and methods to quantify the diversity of transportation systems in case study communities, and investigate the potential relationships with evacuation choice based on data collected from household surveys and focus groups. The outcomes of the proposed study can be used as input into simulation models to better predict system-level evacuation under different planning scenarios in disasters. Stakeholders from various agencies (e.g., DOT, emergent management office) can benefit from this study by better assessing and improving the diversity level of transportation systems, and making informed decisions in coping with disasters considering the transportation system characteristics.
Describe Implementation of Research Outcomes (or why not implemented) *Place Any Photos Here*	
Impacts/Benefits of Implementation (actual, not anticipated)	
Web Links • *Reports*	https://cammse.uncc.edu/sites/cammse.uncc.edu/files/media/CAMMSE-UNCC-2020-UTC-Project-Information-11-Zhu.pdf

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• *Project website*	https://cammse.uncc.edu/sites/cammse.uncc.edu/files/media/CAMMSE-UNCC-2020-UTC-Project-Report-11-Zhu-Final.pdf