



UTC Project Information – Cooperative Mobility for Competitive Megaregions (CM²)

Project Title	Evaluating the Effect of Heat Vulnerability on Emergency Medical Service (EMS) Incidents in Austin, Texas
University	The University of Texas at Austin
Principal Investigator	Junfeng Jiao
PI Contact Information	jjiao@austin.utexas.edu
Funding Source(s) and Amounts Provided (by each agency or organization)	U.S. Department of Transportation:
Total Project Cost	\$34,000
Agency ID or Contract Number	US DOT Grant Number: 69A3551747135
Start and End Dates	9/1/2022 – 8/31/2023
Brief Description of Research Project	Climate change has exacerbated Texas's characteristically hot climate, with hotter days and less reprieve from high temperatures. Urban heat exposure and sensitivity have been a growing concern in urban regions since the effect of urban heat is often considerably greater than that of surrounding rural environments, posing a threat to public health, water supply, and infrastructure (Bixler, 2021). This study investigates the spatial distribution of heat vulnerability in the Austin-Travis County area of Texas, specifically in terms of urban heat exposure, sensitivity, and adaptive capacity. Then, using normalized quantitative indicators and geospatial bivariate maps, we identify neighborhoods with a high degree of heat vulnerability and limited EMS accessibility from transportation perspectives – in terms of heat-related EMS incidents and response time – to establish risk reduction priority areas. Finally, we investigate the effect of heat vulnerability on heat-related EMS incidents to identify spatial disparities in vulnerable neighborhoods.
Describe Implementation of Research Outcomes (or why not implemented)	Project has not begun yet, so no outcomes have been realized.
Impacts/Benefits of Implementation (actual, not anticipated)	Project has not begun yet, so no impacts have been realized.
Web Links (to reports, project website, etc.)	N/A