



## Center for Advanced Multimodal Mobility Solutions and Education

UTC Project Information – CAMMSE @ UNC Charlotte	
<b>Project Title</b>	Effectiveness of Safety Countermeasures on Dockless E-Scooter Crashes
<b>University</b>	The University of Texas at Austin
<b>Principal Investigator</b>	Randy Machemehl
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<b>Funding Sources and Amount Provided (by each agency or organization)</b>	The University of North Carolina at Charlotte: \$93,407 Texas Department of Transportation, Austin District : \$46,704
<b>Total Project Cost</b>	\$140,111
<b>Agency ID or Contract Number</b>	
<b>Start and End Dates</b>	10/01/2021 – 09/30/2024
<b>Brief Description of Research Project</b>	E-scooter rentals have become available in almost every US city over the last two years. The City of Austin and the University of Texas campus are now served by 10 different private sector vendors providing over 14,000 e-scooters. One of the first significant studies of e-scooter safety was done in Austin during the Fall of 2018. That study examined crash data for e-scooters, conducted interviews of e-scooter crash victims and provided basic characterizations of e-scooter crashes and rider injuries. One of the primary concerns about e-scooter safety stems from the speeds that can be developed by a rider. Based upon safety concerns for riders and pedestrians, the University of Texas implemented an



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	<p>agreement with e-scooter vendors to electronically reduce maximum e-scooter speeds to 8 mph on most of the campus.</p> <p>The research question to be examined in this study is whether the mandatory speed reduction has had any impact on the number of scooter involved crashes and their severity. The research team surveyed campus scooter renters during the spring 2019 semester to characterize e-scooter user habits. The survey surprisingly indicated that nearly all scooter rentals are done for “business” use such as traveling to classes, meetings or work. Most trips are relatively short distances and as Morano determined almost no renters wear head protection. Potential speeds for e-scooters can be well more than 20 mph particularly when negotiating a down-hill grade. This study will compare crash frequency and injury severity for e-scooter crashes before and after the implementation of the 8 mph maximum speed on the UT campus.</p> <p>The objective of this project is to characterize the impact of mandatory speed reduction on e-scooter crash frequency and injury severity. The proposed work will address at least two CAMMSE research thrusts: Generate innovations in multi-modal planning and modeling for high-growth regions; and Innovations to improve multi-modal connections, system integration and security.</p>
<p><i>Describe Implementation of</i></p>	



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<p><i>Research Outcomes (or why not implemented)</i></p> <p><i>Place Any Photos Here</i></p>	
<p><i>Impacts/Benefits of Implementation (actual, not anticipated)</i></p>	
<p><i>Web Links</i></p> <ul style="list-style-type: none"> <li>• <i>Reports</i></li> <li>• <i>Project website</i></li> </ul>	<p><a href="https://cammse.uncc.edu/sites/cammse.uncc.edu/files/media/CAMMSE-UNCC-2022-UTC-Project-Information-05-Machemehl.pdf">https://cammse.uncc.edu/sites/cammse.uncc.edu/files/media/CAMMSE-UNCC-2022-UTC-Project-Information-05-Machemehl.pdf</a></p> <p><a href="https://cammse.charlotte.edu/wp-content/uploads/sites/191/2024/09/CAMMSE-UNCC-2022-UTC-Project-Report-05-Machemehl-Final.pdf">https://cammse.charlotte.edu/wp-content/uploads/sites/191/2024/09/CAMMSE-UNCC-2022-UTC-Project-Report-05-Machemehl-Final.pdf</a></p>