Center for Advanced Multimodal Mobility Solutions and Education

UTC Project Information – CAMMSE @ UNC Charlotte	
Project Title	Investigate Age Impacts on Controlled Flight into Terrain (CFIT) Crashes in General Aviation
University	Texas Southern University
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Funding Sources and Amount Provided (by each agency or organization)	The University of North Carolina at Charlotte: $56,842 Texas Southern University: $28,930
Total Project Cost	$85,772
Agency ID or Contract Number	
Start and End Dates	10/01/2021 – 09/30/2024
Brief Description of Research Project	Controlled Flight into Terrain (CFIT) crash is defined as an unintentional collision with terrain (the ground, a mountain, a body of water, or an obstacle) while an aircraft is under positive control. It is one of three high-risk accident occurrence categories identified by the International Civil Aviation Organization. Although advanced technologies have dramatically reduced the number of General Aviation CFIT crashes over the past 20 years, CFIT crashes continue to occur and at least half of them are fatal. Therefore, it is quite momentous to identify the contributing factors and recommend countermeasures to prevent or mitigate CFIT crashes. This research will utilize the General Aviation CFIT crash data collected from

	National Transportation Safety Board (NTSB) and pilots' information from Federal Aviation Administration (FAA), to perform statistical analysis to reveal the impacts of pilots' age and other pilot related contributing factors on the occurrence of CFIT crashes in General Aviation. Based on the analysis, technology-based and policy-level countermeasures will be proposed to reduce the CFIT crashes. The research findings will help policymakers to better understand the underline reasons for General Aviation CFIT crashes and update their current practices and regulations. The research is developed based on the CAMMSE theme of addressing the FAST Act research priority area of "Improving Mobility of People and Goods" for multimodal transportation. As discussed earlier, General Aviation plays an important role in moving people and goods, such as business travel or overnight delivery. Improving the safety of General Aviation is the foundation of improving the mobility of people and goods transported by General Aviation. The research is relevant to the CAMMSE research thrust "Innovations to improve multi-modal connections, system integration and security". Specific project objectives include: 1) Review current practices and regulations on the safety operations in General Aviation, 2) Identify pilot related factors contributing to CFIT crashes in General Aviation, 3) Investigate the impacts of pilots' age on the occurrence of CFIT

	crashes in General Aviation, and 4) Recommend technology-based and policy-level countermeasures to mitigate General Aviation CFIT crashes.
Describe Implementation of Research Outcomes (or why not implemented) *Place Any Photos Here*	
Impacts/Benefits of Implementation (actual, not anticipated)	Project has not begun yet, so no impacts have been realized.
Web Links • *Reports* • *Project website*	https://cammse.uncc.edu/sites/cammse.uncc.edu/files/media/CAMMSE-UNCC-2022-UTC-Project-Information-14-Qi.pdf