Center for Advanced Multimodal Mobility Solutions and Education

UTC Project Information – CAMMSE @ UNC Charlotte	
Project Title	Assessment of Parcel Delivery Systems Using Unmanned Aerial Vehicles
University	The University of Texas at Austin
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Funding Sources and Amount Provided (by each agency or organization)	The University of North Carolina at Charlotte: $64,946 HDR, Inc.: $32,473
Total Project Cost	$97,419
Agency ID or Contract Number	
Start and End Dates	10/01/2017 – 09/30/2019
Brief Description of Research Project	Unmanned aerial vehicles (UAVs) are enabling innovative multimodal freight delivery strategies, in addition to collecting traffic data in the process of delivery. As examples, Amazon and Google have recently taken explored systems for drone-based parcel delivery, including delivery approaches where UAVs function independently of ground vehicle delivery trucks, and approaches using UAV in combination with moving vehicles, where the vehicle deploys the UAV to deliver certain parcels while it traverses the network delivering other parcels. The aim of this research is to evaluate alternative delivery systems, considering varying demand levels and UAV capabilities. In addition, we will assess the value of

	traffic information that could be obtained from using a UAV. A UAV equipped with a camera can measure the density of roads it observes using image processing techniques. This information could then be incorporated into traffic models to predict traffic conditions within the network, information which can improve both routing of delivery vehicles or be transmitted to the general public.
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-2018-UTC-Project-Information-08-Boyles.pdf