UTC Project Information – **Center for Transportation, Environment, and Community Health**	
Project Title	Understand the Diverted and Induced Demand of UAM
University	University of South Florida
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Start and End Dates	10/01/2020 – 06/30/2022
Brief Description of Research Project	Traffic congestion and consequent excessive air pollutant emissions are a leading sustainability issue in the United States. Urban Air Mobility (UAM) is an emerging concept proposed in recent years that uses electric vertical take-off and landing vehicles (eVTOLs), which is expected to offer an alternative way of transporting passengers and goods in urban areas with significantly improved mobility by making use of low-altitude airspace. Also, eVTOLs generate zero air pollutant emissions during operations. If the electricity (or part of the electricity) comes from clean and renewable resources and eVTOLs are used efficiently, then UAM is also expected to be an environmentally friendly transportation mode. In current limited references, authors assumed simplified mode choice decisions for estimating diverted demand from existing ground transportation modes, and also did not estimate induced demand that could be caused by the system performance improvement due to the introduction of UAM. Such induced demand includes induced ground traffic demand due to mitigated traffic congestion and induced demand of UAM service due to improved mobility. In this study, the research team will design a stated preference survey questionnaire to investigate the potential of UAM in the

	context of relieving ground congestion, willingness to pay, and mode shift. First, they aim to design an exploratory framework that will contribute to understanding how to approach the analysis of diverted and induced demand case of UAM. Second, it will provide more insight on the factors (both psychological attitudes and socio-demographic characteristics) that will play a role in the adoption of UAM. Third, the study will explore how daily commute times and congestion status in respondents' current locations relate to the willingness to use, and pay for, UAM. To answer the abovementioned research questions, both qualitative and quantitative analysis will be performed. The qualitative approach will allow them to capture, analyze, and explain the behavioral component of the study. The quantitative methods, such as advanced and statistical and econometric models, will provide additional insights into the relationship between dependent variable of interest and independent variables. Lastly, utility functions with expanded transportation mode choices will be explored to estimate diverted demand and induced demand.
Describe Implementation of Research Outcomes (or why not implemented) *Place Any Photos Here*	
Impacts/Benefits of Implementation (actual, not anticipated)	
Web Links • *Reports* • *Project website*	http://ctech.cee.cornell.edu/final-project-reports