



UTC Project Information – <b>Center for Transportation, Environment, and Community Health</b>	
<i>Project Title</i>	Modeling the Environmental Impact of Urban Air Mobility: Case Study of Tampa Bay Region
<i>University</i>	University of South Florida
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<i>Funding Sources and Amount Provided (by each agency or organization)</i>	USDOT: \$53,094 USF: \$31,547
<i>Total Project Cost</i>	\$84,641
<i>Agency ID or Contract Number</i>	Sponsor Source: Federal Government CFDA #: 20.701 Agreement ID: 69A3551747119
<i>Start and End Dates</i>	10/01/2020 – 03/31/2022
<i>Brief Description of Research Project</i>	<p>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. The group’s previous study answered planning questions in terms of optimal vertiport locations and estimation of diverted demand from ground transportation by combining network design and travel mode choice models. Although eVTOLs generate zero air pollutant emissions during operations, the impact to the region will be dependent on the energy resources of local power companies while generating the electricity and if eVTOLs are operated efficiently to serve passengers. They will use the Tampa Bay Region as their study case and model the environmental impact of UAM implementation.</p> <p>First, they will extend their previous study to identify optimal vertiport locations and estimate UAM demand for the Tampa Bay Region, which includes four counties in FDOT District 7 and two counties in District 1, by using state-wide census tract level travel demand data.</p> <p>They will then estimate the total operations of eVTOLs to serve the region.</p>

	<p>Third, they will work with local power companies to understand their sources of electricity generation and calculate the greenhouse gas emissions for supporting the operation of eVTOLs.</p> <p>Fourth, they will use the EPA MOVES model to obtain the emission rates of CO<sub>2</sub>, NO<sub>x</sub>, and VOC emission changes caused by UAM.</p> <p>Lastly, they will apply scenario analysis to model the environmental impacts of UAM in the Tampa Bay Region under different scenarios and apply sensitivity analysis to test how the parameters in the modeling will affect the research outcomes.</p>
<p><i>Describe Implementation of 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="http://ctech.cee.cornell.edu/final-project-reports">http://ctech.cee.cornell.edu/final-project-reports</a></p>