## UTC Project Information

<table>
<thead>
<tr>
<th><strong>Project Title</strong></th>
<th>Usability of Urban Air Mobility: Quantitative and Qualitative Assessments of Usage in Emergency Situations</th>
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<tr>
<td><strong>University</strong></td>
<td>Embry-Riddle Aeronautical University</td>
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<tr>
<td><strong>Principal Investigator</strong></td>
<td>Scott R. Winter, Ph.D.</td>
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<td><strong>PI Contact Information</strong></td>
<td><a href="mailto:scott.winter@erau.edu">scott.winter@erau.edu</a></td>
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<tr>
<td><strong>Funding Source(s) and Amounts Provided (by each agency or organization)</strong></td>
<td>U.S. Department of Transportation, Center for Advanced Transportation Mobility $84,062</td>
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<tr>
<td><strong>Total Project Cost</strong></td>
<td>$84,062</td>
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<tr>
<td><strong>Agency ID or Contract Number</strong></td>
<td>69A3551747125</td>
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<tr>
<td><strong>Start and End Dates</strong></td>
<td>December 1, 2020 – December 31, 2021</td>
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<td><strong>Brief Description of Research Project</strong></td>
<td>The purpose of these studies is to determine the usability of urban air mobility (UAM) vehicles in the emergency response to natural disasters and the ideal locations for their take-off and landing sites to occur, consistent with the Center’s Theme 2. UAM involves aerial vehicles, mostly operated autonomously, which can complete short flights around urban areas, although their applications are expanding to rural operations as well. While initially designed to support advanced transportation mobility, these vehicles could offer numerous advantages in the emergency response to natural disasters. Through a series of four studies with over 2,000 total participants, quantitative and qualitative methods will be used to identify UAM vehicles’ usability in response to natural disasters. The studies will examine the types of natural disasters and types of missions where UAM could be considered usable, along with the creation of a valid scale to determine vertiport usability. Interviews will also be conducted to provide qualitative insights to complement the quantitative findings.</td>
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<td><strong>Describe Implementation of Research Outcomes (or why Not implemented)</strong></td>
<td>The findings from this study will offer immediate, practical, and applicable results to government officials,</td>
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such as first responders and emergency management. As urban air mobility continues to move toward reality, the usability of these vehicles for emergency response may become a pivotal aspect of their success and consumer support. As a result of these studies, there will be three significant and immediate relevant findings:

1. The types of natural disasters and types of missions will be determined as identified by the public support and usability evaluation of urban air mobility.
2. A valid scale will be created to operationalize Vertiport Usability. This scale can be used in many future studies by city planners, UAM manufacturers, and government.
3. Qualitative data provided through the interviews with participants will help complement the findings from the quantitative data. These insights can help provide detailed explanations as to the usability of UAM vehicles in the emergency response to natural disasters.

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<tr>
<th>Impacts/Benefits of Implementation (actual, not anticipated)</th>
<th>Project not yet complete.</th>
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<tbody>
<tr>
<td>• Reports</td>
<td></td>
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<td>• Project Website</td>
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