



## Center for Advanced Multimodal Mobility Solutions and Education

UTC Project Information – CAMMSE @ UNC Charlotte	
<b>Project Title</b>	Countermeasures for Maintaining Safe and Effective Public Transit Service in the Post-COVID-19 Era
<b>University</b>	Texas Southern University
<b>Principal Investigator</b>	Yi Qi, Mehdi Azimi and Qun Zhao
<b>PI Contact Information</b>	(713)-313-6809 / <a href="mailto:qiq@tsu.edu">qiq@tsu.edu</a>
<b>Funding Sources and Amount Provided (by each agency or organization)</b>	The University of North Carolina at Charlotte: \$59,642 Texas Southern University: \$30,338
<b>Total Project Cost</b>	\$89,980
<b>Agency ID or Contract Number</b>	
<b>Start and End Dates</b>	10/01/2021 – 09/30/2024
<b>Brief Description of Research Project</b>	<p>COVID-19 pandemic has changed all the aspects of our daily life dramatically, including the transportation area. Because of the high density of passengers, which could facilitate the virus spread, public transit service has been hit even harder than any other transit mode. At the beginning of the pandemic, to prevent the spread of the coronavirus, countries all adopted several safety measures, including masking, social distancing, as well as stay-at-home orders. All these measures affected public transit and resulted in sharp declines in ridership and revenue. However, with the increase of the vaccination rate, more and more countries started to gradually reopen, and the demand for public transit services also started to bounce back.</p>



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Therefore, there is a need to investigate how to restore public transit services while minimizing the risk of infection for passengers at the same time. Although many countermeasures and strategies have been applied by different public transit agencies in different countries, and some of which have been approved to be effective, there is a lack of a method for quantitatively evaluating the effectiveness of these countermeasures and assessing their feasibilities.

This project is to recommend cost-effective countermeasures for maintaining safe and effective public transit services in Post-COVID-19 era and to develop a method for quantitatively evaluating the effectiveness of these countermeasures. The results of this project can help the public transit agencies to choose the most cost-effective countermeasures and strategies that can prevent the spread of the coronavirus and maintain high-quality public transit service.

The research is developed based on the CAMMSE theme of addressing the FAST Act research priority area of “Improving Mobility of People and Goods.” The research is relevant to the CAMMSE research thrust “Develop data modeling and analytical tools to optimize passenger and freight movements.” Specific project objectives include:

- a. Review the existing countermeasures on restoring public transit service while keeping passengers safe,



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	<p>b. Recommend feasible countermeasures,</p> <p>c. Develop a new method for quantitatively evaluating the effectiveness of the recommended countermeasures, and</p> <p>d. Conduct a case study to demonstrate the implementation of the developed method.</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><b>Web Links</b></p> <ul style="list-style-type: none"> <li>• <i>Reports</i></li> <li>• <i>Project website</i></li> </ul>	<p><a href="https://cammse.uncc.edu/sites/cammse.uncc.edu/files/media/CAMMSE-UNCC-2022-UTC-Project-Information-13-Qi.pdf">https://cammse.uncc.edu/sites/cammse.uncc.edu/files/media/CAMMSE-UNCC-2022-UTC-Project-Information-13-Qi.pdf</a></p> <p><a href="https://cammse.charlotte.edu/wp-content/uploads/sites/191/2024/09/CAMMSE-UNCC-2022-UTC-Project-Report-13-Qi-Zhao-Final.pdf">https://cammse.charlotte.edu/wp-content/uploads/sites/191/2024/09/CAMMSE-UNCC-2022-UTC-Project-Report-13-Qi-Zhao-Final.pdf</a></p>