



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

October 29, 2020

The Honorable K. Jane Williams
Acting Administrator
Federal Transit Administration
1200 New Jersey Avenue, SE
Washington, DC 20590

Dear Acting Administrator Williams:

The North Carolina Department of Transportation (NCDOT) is pleased to submit this application for the Public Transportation COVID-19 Research Demonstration Grant Program. If awarded, funding will be used to develop HVAC design concepts and standards for transit vehicle and facility types common in North Carolina. Funding will also be used to develop guidance for transit providers to make low-cost improvements to current vehicles and facilities which can improve air quality and minimize airborne transmission of COVID-19. We are pleased to partner with world-renowned health experts from the University of North Carolina's Gillings School of Global Public Health and the Johns Hopkins University Bloomberg School of Public Health for this project.

As identified through our NC Transit Cares project – an effort to collect feedback from transit systems and develop innovative solutions to common problems – one of the biggest challenges currently facing transit providers is how to keep passengers and operators safe. Public health experts suggest that transit agencies can fundamentally work to improve airflow patterns, filtration efficiency, and outdoor air ventilation in their vehicles and facilities to help reduce the risk of COVID-19 transmission.

To aid NC transit agencies in effective indoor air management, research is needed to move to new HVAC design concepts for transit vehicles and facilities, based on concepts used in the healthcare industry. Step one of this research is to complete Computational Fluid Dynamics (CFD) modeling of typical vehicles and facility common areas to guide effective improvements in airflow patterns, filtration efficiency and air change rates for new HVAC concepts. Step two will be to develop standard HVAC design specifications for typical vehicles and facility areas.

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These design specifications will be universally relevant to rural and urban transit agencies throughout North Carolina and the United States.

The benefits of this research and follow-on work will enable us to help keep our transit passengers and operating staff as safe as possible, which is our primary goal.

Thank you for considering our application of this grant opportunity. Please direct any questions or correspondence to Ms. Heather Hildebrandt, Interim Director of the Integrated Mobility Division at (919) 707-2601 or by email at hjhildebrandt@ncdot.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "J. E. Boyette", with a long horizontal flourish extending to the right.

J. Eric Boyette
Secretary

Cc: David Howard, Chief Deputy Secretary
Julie White, Deputy Secretary for Multi-Modal Transportation
Heather Hildebrandt, Interim Director, Integrated Mobility Division
Ryan Brumfield, Innovation and Data Branch Manager, Integrated Mobility Division