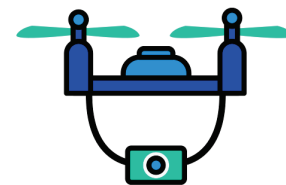




GRANTS PROGRAM



Drone Medical Package Delivery for Improved Transportation and Better Patient Outcomes

Accomack-Northampton Planning District Commission

PROJECT PARTNERS

Old Dominion University

DroneUp, LLC

Northampton County

Town of Onancock

Accomack County

Town of Tangier

Riverside Health System

Virginia Innovation Partnership Corporation



PROJECT CHALLENGE

The project proposes to address climate and resiliency, equity and access, and safety and reliability for medical and emergency response package delivery for various applications where the use of aerial drone mode of transportation will lead to better patient outcomes and improved safety and emergency response. The project opportunity is the exploration of integrating autonomous unmanned systems in the delivery of medical, public safety and emergency response supplies such as medication to determine if this innovative technology can be leveraged to address regional health disparities, health equity, and access to care for rural communities.

IMPACT

Staffing shortages, transportation, and supply chain issues are significant in the historically disadvantaged Eastern Shore of Virginia, particularly on Tangier Island. Extended shipping and diagnostic delays due to the region's rural geography can adversely affect patient outcomes, especially with limited public transportation beyond Route 13. Autonomous drones could transform the delivery of critical medications and supplies, enhancing access for those unable to drive. The project involves collaboration among Riverside Health System, Old Dominion University, the Accomack-Northampton Planning District Commission, and DroneUp.

CURRENT STATE OF THE ISSUE

The project addresses the existing challenges with ground and nautical transportation to close the gap for medical and emergency response transportation systems in the rural communities of the Eastern Shore of Virginia. According to the United States Health Resources and Service Administration, both Accomack and Northampton Counties are designated as rural medically underserved areas.

STAGE 1 OUTCOMES

Using drones for medical package deliveries will enhance safety and reliability in rural, disadvantaged areas with significant transportation challenges. Stage 1 will establish a foundation for secure deliveries by ensuring compliance with safety and medical chain of custody procedures. This stage will also optimize routes for a targeted patient population (those on antihypertensive medications) and set the stage for long-term prototyping and operational validation through ongoing improvements using geospatial analytics and a digital twin approach.

STAGE 2 VISION

The project's goal is to connect or expand access for underserved or disadvantaged populations, improve medication adherence and improve access to jobs, education, and essential services. By scaling up operations in Stage 2, we will prove the effectiveness and resiliency of this technology to improve access, patient adherence, and first responder safety and efficiency. The potential exists to help ensure First Responders remain safe by providing advanced scene and medical assessments.