

After Action Report on DOT SMART Grant Team Meeting

Zoom Meeting 2:30 to 3:45 Central Time

Attendees (in alphabetical order):

Mark Askelson: University of North Dakota (Co-PI)

Amanda Brandt: University of North Dakota (Senior Researcher)

John Costulis: Old Dominion VISA

Joel Davidson: DroneUp

David Flynn: University of North Dakota (Economic and Business Analysis)

Shelia Hanson: University of North Dakota (Use Case and Assessment)

Kerry Hartman: Nueta Hidatsa Sahnish College – MHA Nation Representative PI

Thomasine Heitkamp: University of North Dakota (PI)

Landon Johnson: Northern Plains UAS Test Site (Program Manager and Implementation Lead)

Kelly Lindish: Airspace Link (Operations Manager)

Zachary Reeder: University of North Dakota (Program Manager)

Prairie Rose: Nueta Hidatsa Sahnish College - MHA Nation Representative (Program Manager)

Greta Silewski: Thales (Project Consultant)

Meeting Report:

On March 27, 2024, the DOT SMART grant team from North Dakota met with the DOT SMART grant team from Virginia (John Costulis and Joel Davidson) in the spirit of discovery and cooperation to share information and provide lessons learned on mutual DOT Stage 1 SMART grant funding. The meeting was kicked off by sharing each other's grant purpose.

Old Dominion University's Virginia Institute for Spaceflight & Autonomy (VISA), explained the potential they see in using drones to deliver critical medical supplies on the Eastern Shore of Virginia/Maryland region and Tangier Island. To date, they have conducted proof of concept flights under Part 107, using DroneUp to execute operations, to the distance of several miles. Their next milestone is to use protected airspace in Wallup, a NASA owned test range, to conduct a longer flight to test endurance and feasibility for flying their ultimate proof of concept flight, an 18-mile flight to Tangier Island from the mainland of Virginia, over a significant stretch of water.

The MHA Nation, along with its team from University of North Dakota, Thales, Northern Plains Unmanned Autonomous Systems (UAS) Test Site, and Airspace Link, shared their purpose to

develop a plan for, and demonstrate the use of, UAS's to serve historically underserved populations (MHA Nation of the Three Affiliated Tribes of the Fort Berthold Reservation) with better access to medical care and equipment, to improve health outcomes, especially with transport of medical samples and medicines between Twin Buttes and New Town. These two towns are only accessible by a road that requires over 90 miles to be traveled, where a flight over the Missouri river makes the journey in less than 35 miles.

The synergy identified in these two projects is flying a UAS using Beyond Visual Line of Sight (BVLOS), carrying medical supplies, and flying over a large body of water. The purpose of improving quality of life, along with significantly decreasing travel time is a mutual benefit gained from both of these projects. Note: The word drone and UAS can be interchanged as one party uses drone in their proposal and body of work and the other uses UAS.

The meeting included a lot of discussions on platform choice and its capabilities and limitations. Command and Control issues and solutions were discussed and shared. Medical hurdles in chain of custody and other problems were brainstormed. Old Dominion project staff are making a playbook for medical delivery using drones for hospital operations and offered it to the MHA team for review and input. A major discussion on BVLOS and retrieval considerations were also discussed, to include the use of a boat during test operations in case of downed aircraft in the water. A final discussion on the building of infrastructure was conducted. This was where a major difference between grants was noted as Old Dominion will not be doing any infrastructure analysis or consideration, whereas the MHA team has this requirement as part of their implementation.

The MHA Drone team shared their strategies to advance outcomes in workforce development and economic analysis and agreed to collaborate with Old Dominion (VISA) on lessons learned in the future.

The meeting concluded with the sharing of how the MHA team is exploring the use of the Vantis system to provide radar coverage of the area of operations and invited Old Dominion to UND to see the facilities and activities of the ongoing UAS programs, including a tour of Grand Sky and the Test Center. Invitations were reciprocated by Old Dominion to come to the demonstration at the Wallup site. It was mutually agreed that further collaboration and conversations would be beneficial and an exchange of points of contact was made.