

# Ohio Department of Transportation Research Project Fact Sheet

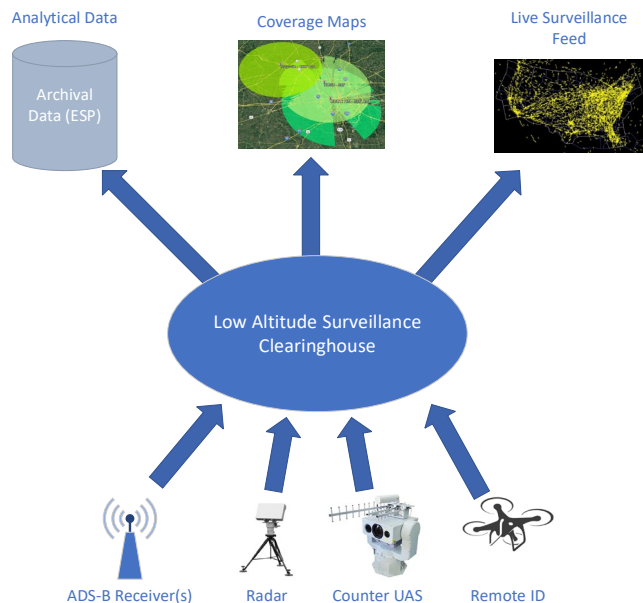


## Open Framework Standards for Combined Aircraft Sensor Network for the State of Ohio to Detect and Track Lower Altitude Aircraft

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### The Problem

As research, development and overall investment continues to accelerate the integration of Uncrewed Aircraft Systems (UAS or drones) into our skies, it is becoming ever more critical to develop supporting systems and services that are based on sound engineering and strategic planning. These UAS related developments must go through rigorous systems engineering process to define what the critical functions of those systems are and how to manage the inevitable “big data” that is almost guaranteed to result from such automated and safety critical systems.



Reliable and robust airspace surveillance for the lower altitude airspace, which currently is not addressed by existing Air Traffic Management (ATM) systems, but where smaller UAS will operate, is still a major technical challenge for the industry. Ohio has recognized this and demonstrated industry leadership in this area with its SkyVision and Unmanned Traffic Management (UTM) Corridor projects. However, as the state investment continues, planning for how to connect these and futures systems by creating open interface and performance standards is needed.

We have assembled a local team of industry experts to perform the robust systems engineering who have defined the necessary functional requirements for an open-standard approach, to create a framework to connect and scale current and future lower altitude surveillance systems across Ohio.

**To access copies of the final report, visit: [www.dot.state.oh.us/research](http://www.dot.state.oh.us/research)**

*This research was sponsored by the Ohio Department of Transportation and the Federal Highway Administration.*

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## Research Approach

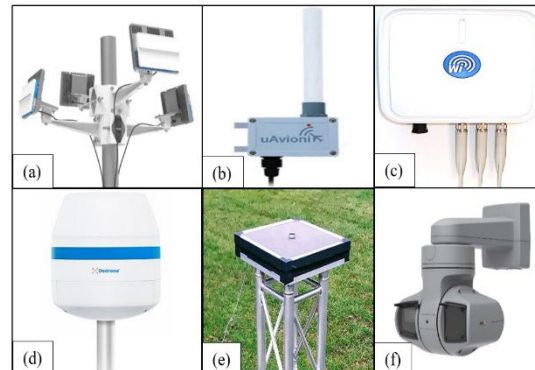
The overall philosophy of our research plan paired comprehensive information gathering with a rigorous systems engineering activity to define the high-level functional, performance and design requirements for the system. These tasks were rounded out with an



analysis of the legal and cost-benefit considerations. Our team developed four (4) key information artifacts intended to be utilized in tandem to guide ODOT through the deployment and procurement of a lower altitude airspace surveillance clearinghouse that will serve as a key digital building block for developing a AAM transportation modality.

## Key Work Products

1. Airspace Surveillance Source Study
2. Functional Requirements Document
3. Legal and Policy Analysis Report
4. Cost Payback Analysis Report



## Findings

A scalable, low altitude airspace surveillance network, utilizing industry standard interfaces has the potential to enable safe UAS operations and generate positive net positive value and return on investment, providing strong justifications for investment in the Airspace surveillance infrastructure. Additionally, Ohio Legislature has the Constitutional and Statutory Authority to create laws to permit the development, implementation, and maintenance of this system.

## Recommendations

The technology and standards exist for ODOT to develop a low altitude airspace surveillance network. Funded initially through public investment and scaled according to demand, this system will provide a critical foundation for an entire UAS ecosystem in Ohio.

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