

UAS Airport Applications Research Update

Presented to: **REDAC Sub-Committee**

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Section**

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**Federal Aviation
Administration**



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UAS Airport Applications

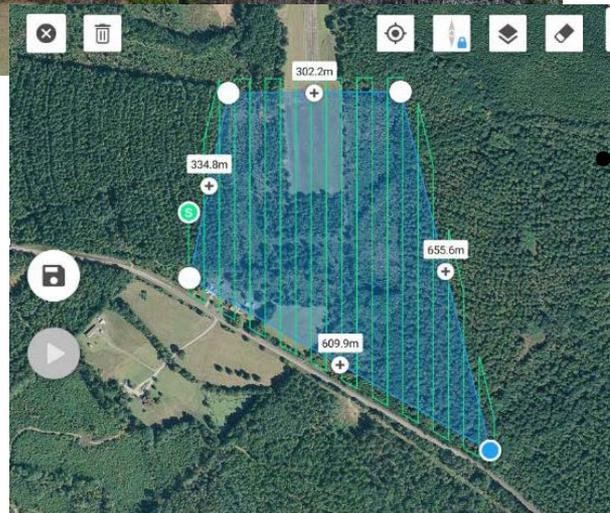
Five Core Applications:

1. Obstruction Analysis
2. Pavement Inspections
3. Wildlife Hazard Management
4. Perimeter Security Inspections
5. Aircraft Rescue and Firefighting (ARFF)

The FAA is Considering Adding Additional Applications to their Research Portfolio



Obstruction Analysis



- **Conducted testing at four airports:**

1. McCormick County Airport (KS19), SC
2. Cape May County Airport (KWWD), NJ
3. Granbury Regional Airport (KGDJ), TX
4. Weather Perry-Foley Airport (KFPY), FL

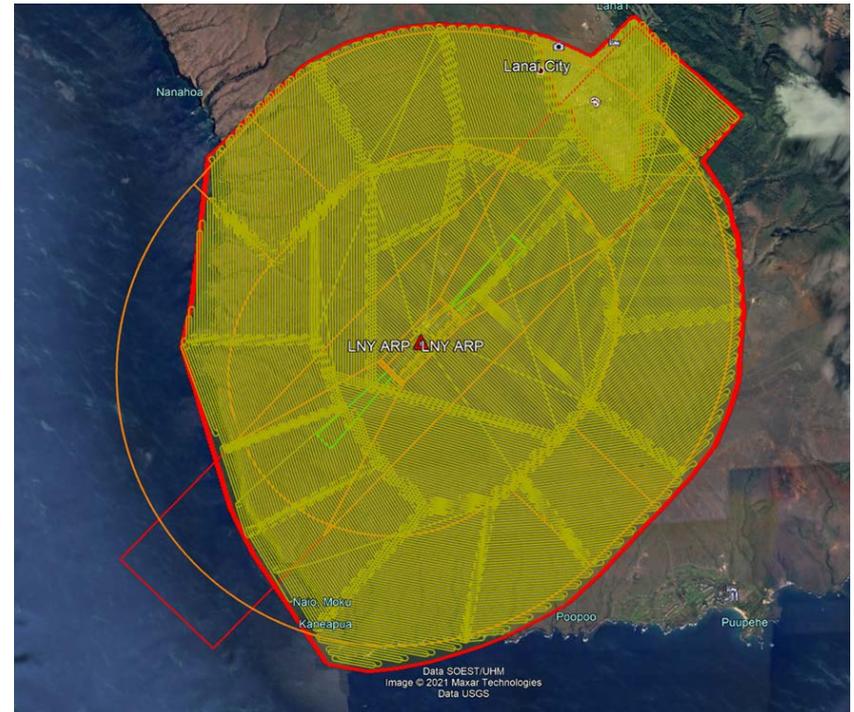
- **Testing Scheduled for the following airports:**

1. Cincinnati West Airport (I67), OH –March 2021
2. Lanai Airport (PHNY), HI – Full Aeronautical Survey



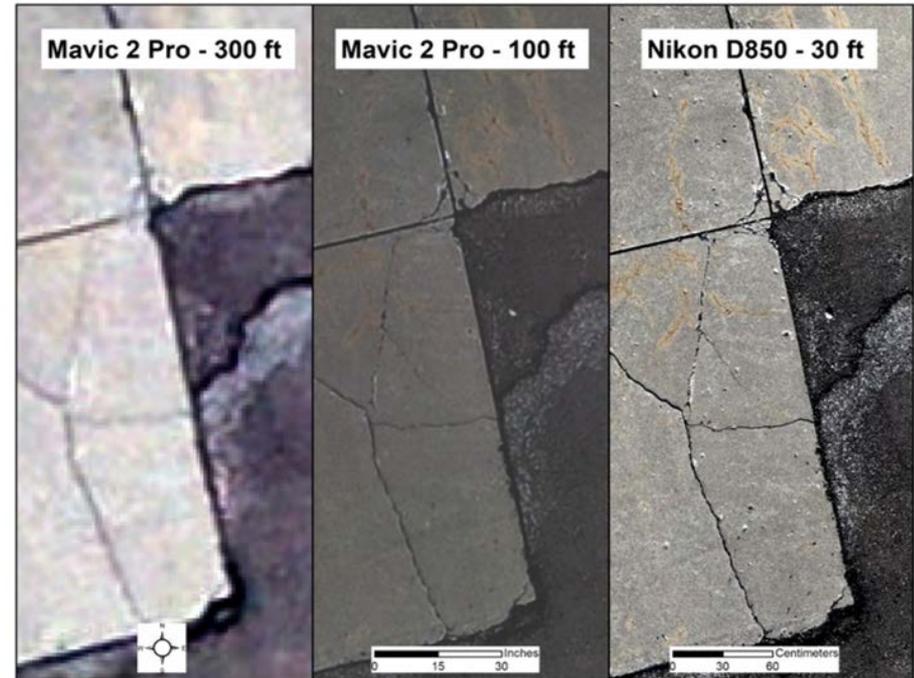
Obstruction Analysis

- **ATO SRM Panel hosted earlier this month with FAA LOBs and stakeholders to look at planned obstruction analysis using UAS at Lanai, HI (PHNY), a Part 139 Airport.**
 - Full aeronautical survey will compare UAS collected data to data collected by manned aircraft in late 2020.



Pavement Inspections

- **Conducted initial testing at:**
 - Cape May County Airport (WWD), NJ
 - Grosse Ile Municipal Airport (ONZ), MI
- **UAS data will be compared to data collected via ‘foot-on-ground’ and digital survey vehicle (DSV)**
- **The research team is planning to conduct testing at several other airports in the spring/summer of 2021 with various pavement types/distresses/severities**



Wildlife Hazard Management

- In collaboration with the U.S. Department of Agriculture – Wildlife Services, the FAA is examining bird responses to various UAS platforms (i.e., fixed wing, quadcopter, ornithopter).
- Conducted testing in both controlled and free-ranging environments (off airport):
 - Published peer reviewed journal article in March 2020 with initial findings.
 - Planning to publish second peer reviewed journal in CY 21.
 - Testing is planned in collaboration with the USDA State Program in Illinois and New York in CY 21
- Initiated UAS wildlife monitoring study with USDA and Mississippi State University in early FY 21.



Perimeter Security

- Completed Initial testing a Cape May completed – testing focused on fence line inspections and surveillance.
- Research team is planning to conduct testing at McGhee Tyson Airport, TN and DFW in the spring of 2021.



Tree



Aircraft Rescue and Firefighting



Ground Level View



Elevated View (Crane Operator)

- **Two focus areas:**
 1. Improved Situational Awareness and Decision Making
 2. Post Incident/Accident Investigation
- **There are plans to test at ACY in March 2021 and DFW's Fire Training Research Center in the spring of 2021.**
- **There are plans to test and evaluate tethered and 'free flying' systems**
- **The research team is collaborating with NTSB on the post incident/accident investigation.**



Questions ?

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