



Status of Drone Tests and Policies

**2019 ACI-NA Legal Affairs
Spring Conference**

May 4, 2019

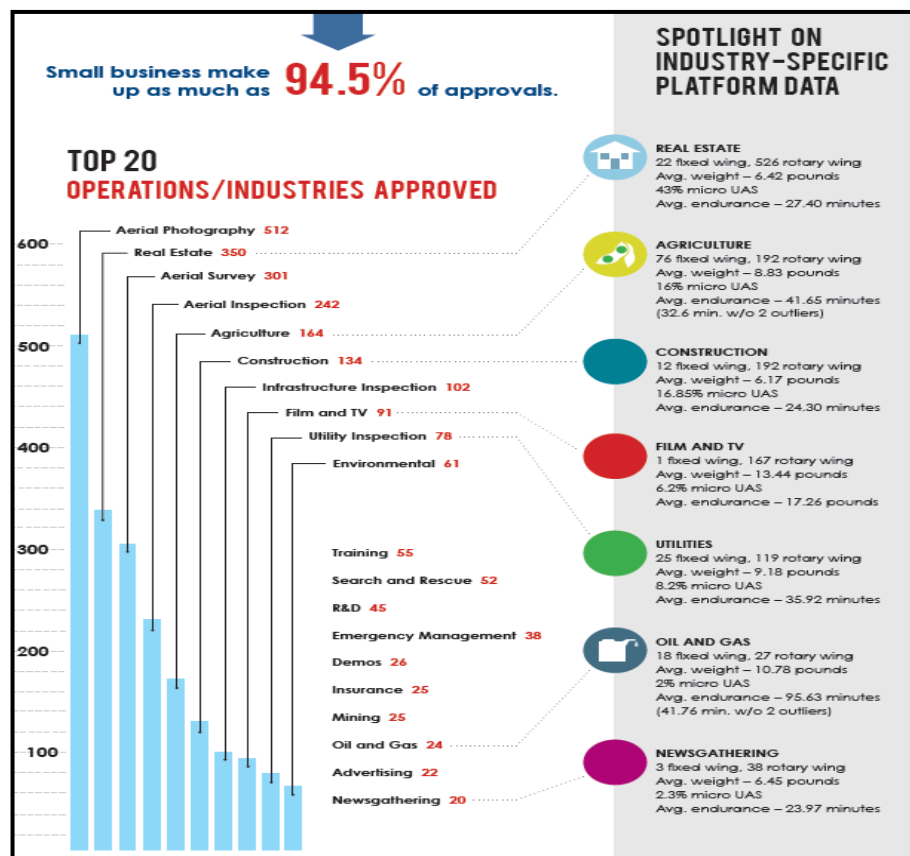
Drones are Here to Stay

❖ Widespread Applicability

- Improved Efficiency
- Enhanced Safety/Security
- Increased Accuracy and Data Available

❖ New applications are being developed everyday

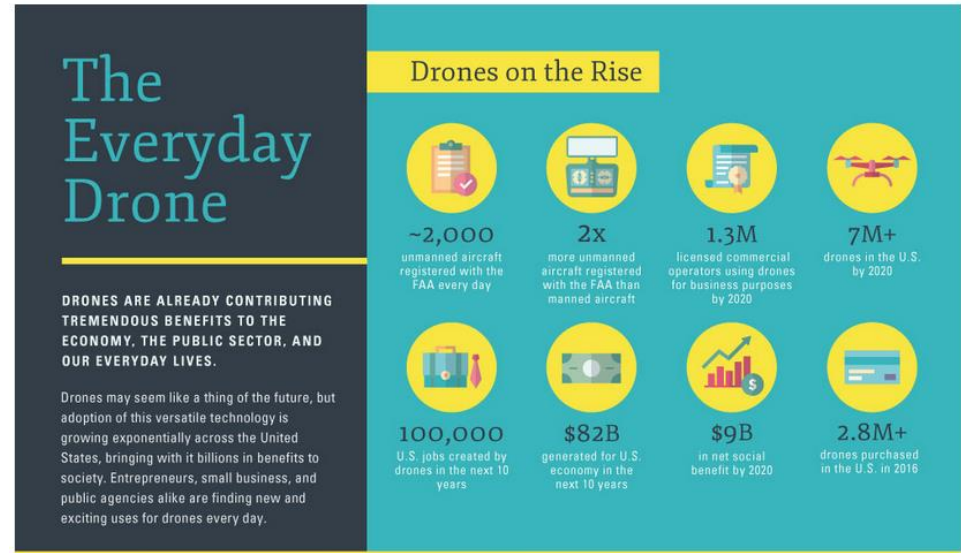
NEARLY EVERY INDUSTRY THAT EXISTS
WILL BENEFIT FROM DRONES



Drones are Here to Stay

❖ Multi-billion dollar industry

- UAS Platforms
- Data Collection Sensors
- Data Storage and Packaging



By 2021

UAS Pilots

20,000 → 200,000 to 400,000

Commercial Non-Hobbyist Fleet

42,000 → 442,000 to 1.6 million

Small Model Hobbyist Fleet

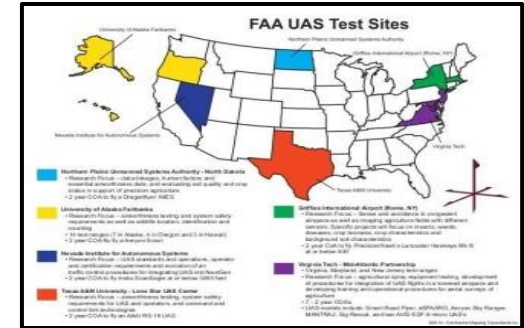
1.1 million → 3.5 million

A study on urban air mobility commissioned by NASA predicts as many as 500 million flights a year for package delivery services and close to 750 million air metro flights a year by 2030.



UAS in the NAS – FAA Processing

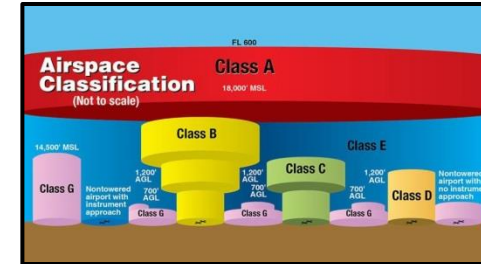
- ❖ 2012 - Operations by Exemption – Section 333 and 336 Waivers
 - Three years to issue 1,000 waivers
 - Approvals took 6-12 months
- ❖ 2013 - FAA Selects Six UAS-Designated Test Sites
- ❖ 2015 - FAA Pathfinder Program
 - CNN – LOS over people
 - PrecisionHawk – EVLOS in rural areas
 - BNSF Railway – BVLOS in rural / isolated areas
 - Gryphon Sensors, Liteye Systems, and Sensofusion – Identification & Detection
- ❖ 2015 - NASA UAS Traffic Management (UTM)
 - Low altitude autonomous integration
 - Four technical capability levels (TCL) testing
 - Conducting TCL4 testing this month



UAS in the NAS – FAA Processing

❖ 2016 - FAR Part 107 Regulations

- Class G – August 29
- Class D – October 3
- Class C – October 31
- Class B – December 5



❖ Aviation Rulemaking Committee (ARC)

- 2015 – Registration - implemented
- 2016 – Micro UAS – not yet implemented
- 2017 – Detection & Identification – not yet implemented



❖ 2017 – Low Altitude Authorization & Notification Capability (LAANC)

- Over 500 airports covered by LAANC
- Over 50,000 approved flights in 18 months



UAS in the NAS – FAA Processing

❖ 2018 – White House Integration Pilot Program (IPP)

- Accelerate standardization of low altitude operations
- Help resolve operational barriers to integration
- Foster community participation in balancing local and national interests

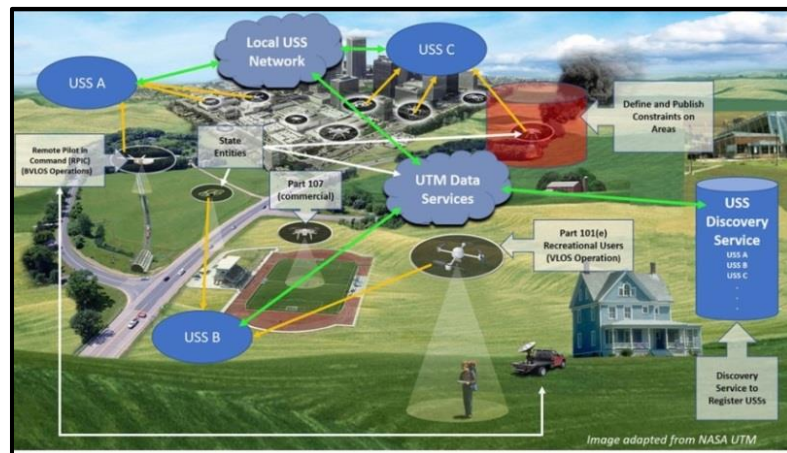


❖ 2019 – FAA UTM Pilot Program (UPP)

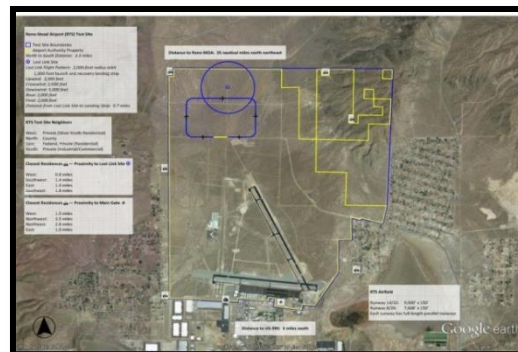
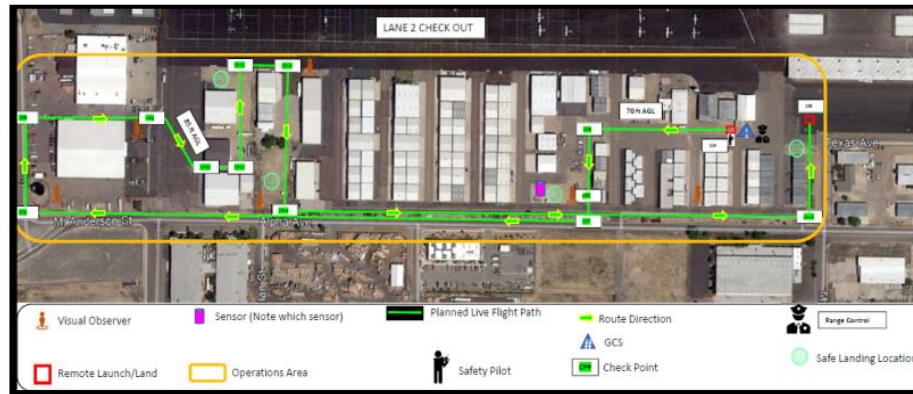
- Continuation of NASA Airspace Management (UTM) Program
- NASA and FAA teaming with three private groups (Nevada, North Dakota, and Virginia)

❖ 2019 – Advance Notices of Proposed Rule Making

- Operations of UAS over people
- Systems / protocols for safe and secure UAS operations

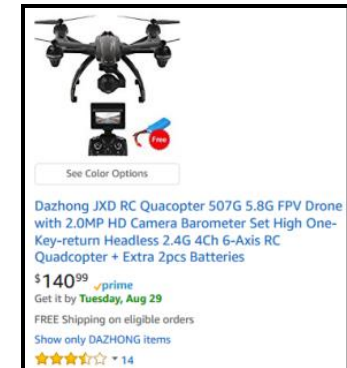


Reno-Stead Airport UAS Test Range



Why Airports are Concerned with Drones

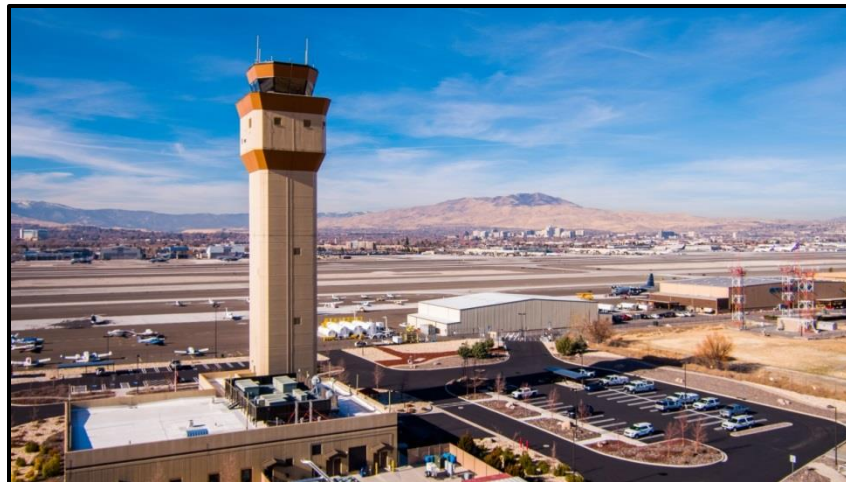
- ❖ Anyone can purchase a drone capable of taking down an aircraft
- ❖ FAA Center of Excellence Modeling
 - Shows small drones can take down any size aircraft
- ❖ FAA receives over 100 drone sighting reports near airports per month
- ❖ Incidents at London Gatwick and Newark severely disrupted normal operations



“Systems and protocols for tracking and mitigating drones are far behind where they need to be to address Gatwick-type incidents or collisions.”

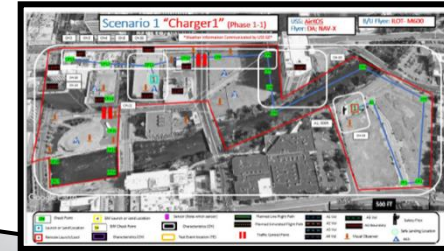
Why Airports Like Drones

- ❖ Like other industries, airports can benefit significantly from the use of drones
 - Wildlife detection & monitoring
 - Perimeter inspections
 - Construction surveying & monitoring
 - Facilitate FAR 139 airfield inspections
 - Building & roof inspections



Examples of Testing Taking Place Now

- ❖ Drones will be flying in downtown Reno next week
- ❖ Multiple entities are approved to make home deliveries
- ❖ Hartsfield – Jackson Atlanta International used drones for reconstruction project
- ❖ Memphis / Shelby International is testing drones for perimeter inspection and FedEx is using them for aircraft inspections



Thank you and Questions

