

Victoria Wassmer

FAA Acting Deputy Administrator and
Chief NextGen Officer
and
DAC Designated Federal Official (DFO)



Drone Advisory Committee

FAA UAS Activity Update

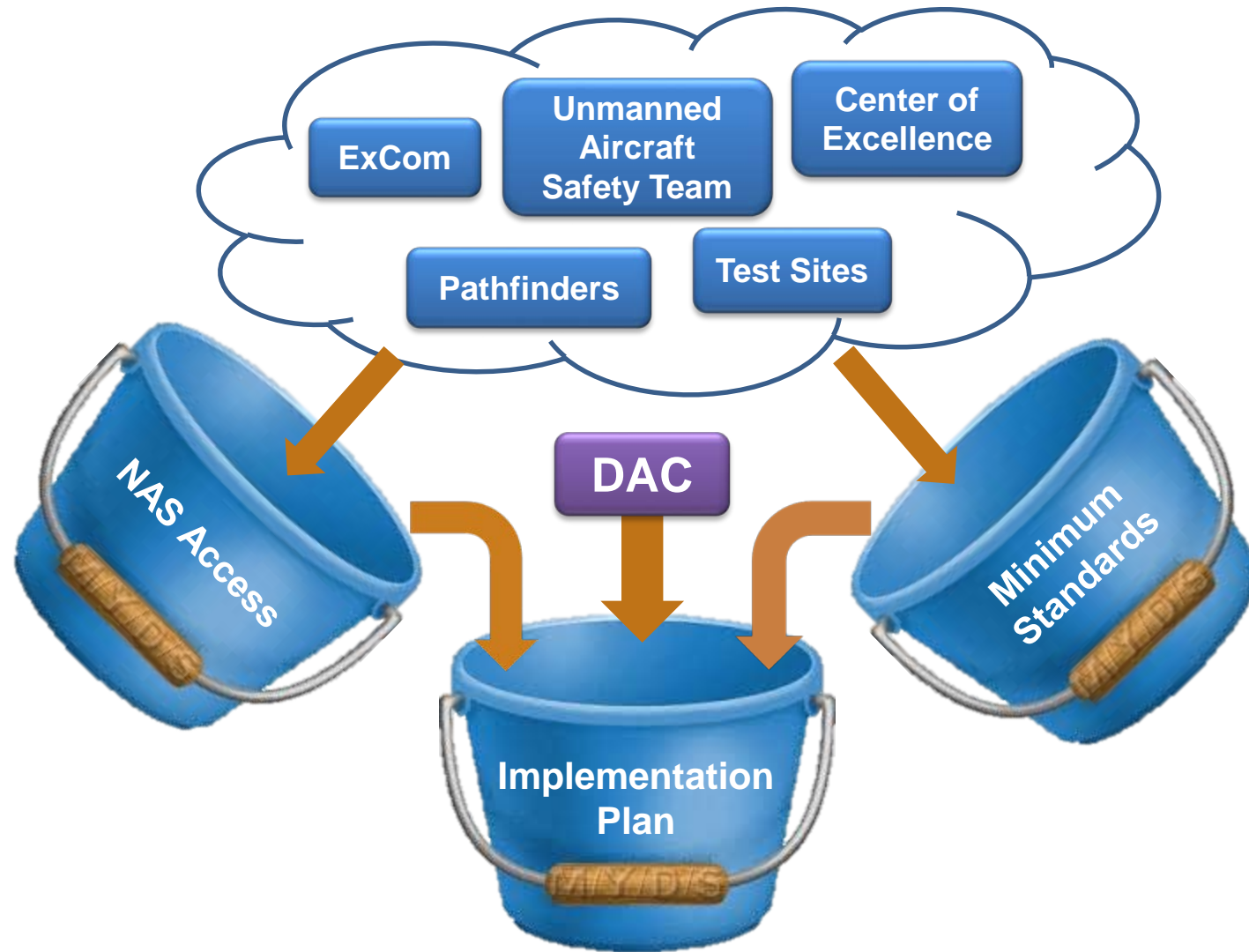
Presented by: Earl Lawrence, FAA UAS Integration
Office Director

Presented to: Drone Advisory Committee

Date: January 31, 2017

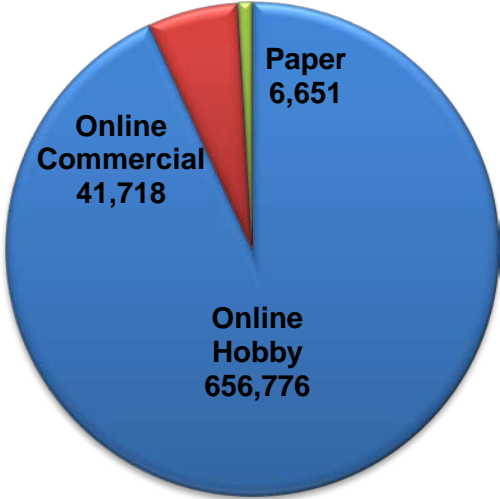


Managing Stakeholder Engagement



Education and Registration

UAS Registrations

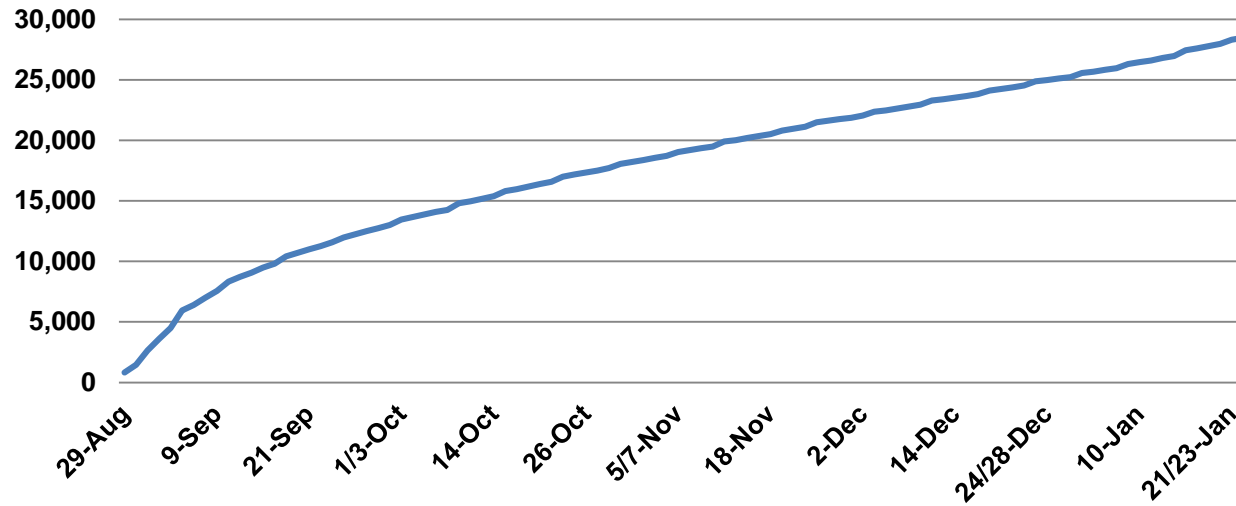


Part 107 Webinars

- **Motion Picture Association of America**
- **News Media Coalition**
- **American Farm Bureau Federation**
- **Ecological Society of America**
- **National Mining Association**
- **National Association of Farm Broadcasters**
- **Association of Unmanned Vehicle Systems International (x2)**
- **Law enforcement community**



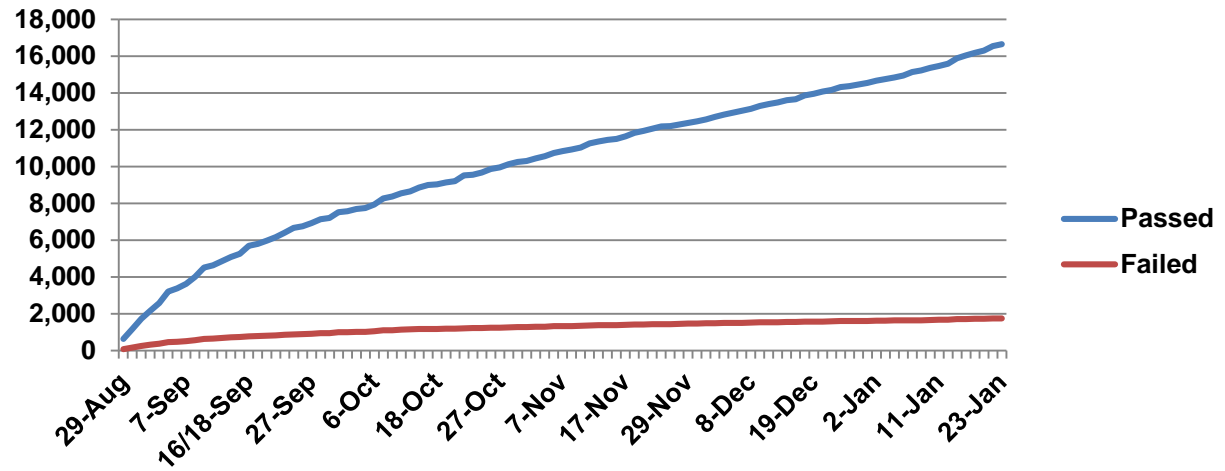
Remote Pilot Certificates Issued



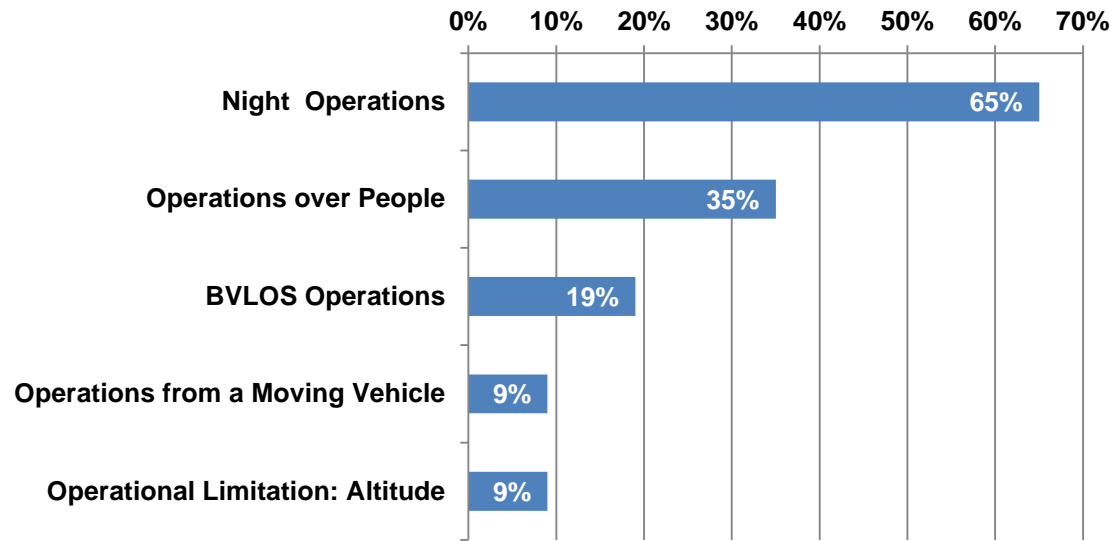
More than 28,000
Remote Pilots
certificated since
August

Aeronautical Knowledge Exams

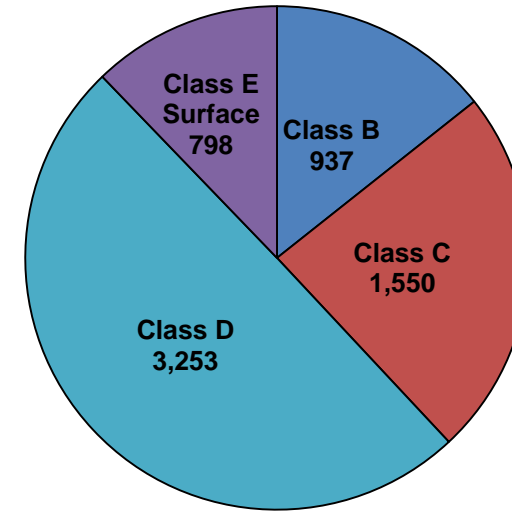
More than 18,000
individuals took the
Part 107 Knowledge
Exam since August,
with a 91% pass rate



Top 5 Waiver Requests



Airspace Waiver/Authorization Requests



Approved	
Night Operations	306
Multiple UAS	9
BVLOS Operations	3
Visual Observer	2
Ops from a Moving Vehicle	1
Operations over People	1

Approved	
Class E	145
Class D	819
Class C	337
Class B	192

Air Traffic Facility Maps



AeroVironment Puma



**Certification Basis
pending publication in the
Federal Register**



Legislative Activities

- **FAA Extension, Safety and Security Act – Public Law 114-190**
 - Section 2206: Airport Safety and Airspace Hazard Mitigation
 - Section 2209 – Restrictions over Fixed Site Facilities
 - Section 2213 – Probabilistic Metrics Research
 - Section 2202 – Remote ID Standards



Authorization and Notification



Drone Advisory Committee

UAS ExCom, Airport Detection, and DAC Meeting Objectives

Presented by: Hoot Gibson, FAA Senior Advisor on UAS Integration

Presented to: Drone Advisory Committee

Date: January 31, 2017



UAS Executive Committee (ExCom)

- Chartered in 2010 to facilitate public UAS integration
- ExCom / Senior Steering Group / Working Group Structure



Interagency UAS Airport Detection



Testing at DEN, November 2016

Interagency UAS Airport Detection

- **Pilot Program for Airport Safety and Airspace Hazard**
 - Mandated by Section 2206 of FAA Reauthorization
 - Requires consultation with DOD/DHS/other Federal agencies
- **Progress**
 - Testing completed at JFK, Atlantic City, Denver
 - Testing planned at Dallas-Fort Worth this spring
- **Counter-UAS Interagency Concept of Operations**
 - ExCom agreed to form interagency team to further develop a Concept of Operations to address airspace hazard mitigation
 - Effort will focus on operational issues near airports and interagency coordination



First Year DAC Objectives

- **Maintain working knowledge of FAA's UAS integration strategy and constraints**
- **Advise the Administrator on gaps in the FAA's UAS integration strategy and provide recommendations**
- **Provide a consensus position on the FAA's five-year UAS Concept of Operations and its priorities**
- **Given the FAA's UAS integration strategy, advise on legislative strategy and priorities**

Today's Meeting Objectives

- **Get FAA activity updates**
- **Review proposed tasking statements for three DAC Task Groups**
- **Provide an update on DAC Subcommittee discussions and deliverables**
- **Keep in mind:**
 - Federal Advisory Committee operating norms
 - Group consensus is ideal





THE GOLD STANDARD FOR AVIATION SINCE 1935

Report Out of DACSC TG1 (Roles and Responsibilities)

Co Chairs:

Dr. John Eagerton
Brendan Schulman

Alabama Department of Transportation/NASAO
DJI Technology



Members

Co Chairs:

Dr. John Eagerton Alabama Department of Transportation/NASAO
 Brendan Schulman DJI Technology

Program Director:

● Claudia Chaudhari RTCA Inc.
 Mark Anker Association for

Voting Members:

- | | | |
|---|--------------------|--|
| ● | James Grimsley | University of Oklahoma |
| ● | David Hansell | Facebook |
| ● | Doug Johnson | Consumer Technology Association |
| ● | Howard Kass | American Airlines, Inc. |
| ● | Charlie Keegan | Aviation Management |
| ● | George Novak | Aerospace Industries Association (AIA) |
| ● | Christopher Oswald | ACI North America |
| ● | Kevan Stone | National Association of Counties |
| ● | Justin Towles | American Association of Airport Executives |
-
- | | | |
|---|-----------------------------|--|
| ● | Justin Barkowski and Pilots | Aircraft Owners Association |
| ● | Chad Budreau | Academy of Model Aeronautics |
| ● | Matthew Colvin | National League of Cities |
| ● | Diana Cooper | Precision Hawk USA Inc. |
| ● | Pete Dumont | Air Traffic Control Association (ATCA) |
| ● | Trish Fritz | GoPro, Inc. |
| ● | Ben Gielow | Amazon Prime Air |



Purpose of Task Group 1

Long-term purpose:

- Research, Evaluate & Analyze Federal/State/Local Governing Interests in Regulating and Enforcing the Operations of Unmanned Aircraft Systems
- Serve as an Information-Gathering & Fact-Finding Resource for the DACSC & FAA on This Topic
- Make Potential Regulatory and Policy Recommendations to the DAC and FAA



Purpose of Task Group 1

Short-term purpose:

- Provide Recommended Tasking Statement to Make Sure the Scope and Content of Tasking Enables the Work Envisioned at the September 2016 DAC Meeting



How Task Group 1 Approached its Work

- At the Outset, Held In-Depth Discussions About the Principles & Concepts Relevant to our General Mission
- Reviewed a Variety of Topical Background Materials
- Received Input and Guidance from FAA Officials
- for Tasking Statement, Started with FAA Suggested Draft
- Subject Matter Expert (SME) Presentations



How Task Group 1 Approached its Work

- Briefings from SMEs:
 - City Government interests
 - County Government interests
 - Law enforcement interests
 - Public utility services (pipelines, powerlines, etc.)
 - News Media (1st Amendment Issues)
 - UAS Association of Florida (proposed ordinance)
 - Large city council member
 - Law Enforcement & others to be scheduled



How Task Group 1 Approached its Work

- Briefings and Discussions on Potentially Relevant Comparative Frameworks Including Cooperative Federalism Models:
 - Environmental protection & enforcement
 - Telecommunications
 - Federal Motor Carrier
 - Airport airspace protection
 - Community airspace
 - Local noise regulation and aviation
 - (and more to come)



How Task Group 1 Approached its Work

- Conducted 4 Full Days of Meetings & 3 Conference Calls Since December 2, 2016
- in Light of Our Fact Gathering, Refined Draft Tasking Statement for Consideration by the DAC
- Submitted Draft Work Products to the DACSC for Review, Comment, Discussion and Approval
- Discussed Desire for a Public Statement



Task Group 1 Findings

- TG1 Has Been in Fact-finding and Analysis Mode, and Has not Yet Reached Substantive Findings
- For Its **Short-term** Purpose, TG1 Is Guided By Observations From the FAA About the Historical Role of the Federal Government in Regulating Airspace
- We Also Observe Concerns and Questions That Small UAS Technology Raises in Matters of Local Governance and Various Types of State and Local Legislation



Task Group 1 Findings

- Tasking Statement Reviews Relevant Legal History, Including:
 - 1926 declaration of exclusive federal sovereignty of the airspace
 - Congressional direction to FAA to develop plans, policy and regulations
 - Case law concerning preemption and governmental takings, such as the *Burbank* and *Causby* decisions



Task Group 1 Findings

- State & Local Governments Have the Authority To Exercise Their Police Powers To Promulgate & Enforce Rules of General Applicability
 - For example, property interest disputes and privacy matters (e.g., trespass, voyeurism, public nuisance) have traditionally been left up to cities, counties & states.
- UAS Proliferation Has Prompted Many State & Local Governments To Propose and Enact a Variety of Laws Regulating UAS Operations in Low-altitude Airspace



Task Group 1 Deliverables

- Tasking Statement





Task Group 1 Deliverables

(Draft Task Statement Summary)

- Highlights of Tasks Ahead:
 - Continued Fact Finding & Analysis
 1. State & local interest in, and responses to, UAS – Identify specific interests, assess impact & the role of partnerships; Identify possible alternative legislative responses
 2. Enforcement of federal safety and airspace rules & regulations – relative role and responsibility of state & local governments for responding to, investigating non-compliance with, and enforcing state and federal UAS-related rules and regulations
 3. Evaluation of parallel &/or complementary enforcement mechanisms



Task Group 1 Deliverables

(Draft Task Statement Summary)

- Develop Recommendations

- Low Altitude UAS Navigable Airspace

1. Defining low-altitude UAS navigable airspace susceptible to state/local governmental interests
2. Extent to which a definition of “low altitude airspace” regarding UAS operations is susceptible to allocation, or cooperative, concurrent or delegated jurisdiction among state and local governmental interests
3. Is there a non-federal interest in operations of UAS in airspace other than “low - altitude airspace?”



Task Group 1 Deliverables

(Draft Task Statement Summary)

- Develop Recommendations
 - Low Altitude UAS Navigable Airspace
 1. Is there an analog to “minimum safe altitude” for UAS?
 2. Consider the contemporary relevance of traditional legal authorities



Task Group 1 Deliverables

(Draft Task Statement Summary)

- Develop Recommendations
 - Relative roles and responsibilities of the Federal, State and Local Governments
 1. Should the existing framework of federal exclusivity for regulating low-altitude UAS operations be reconsidered in light of state & local interests?
 2. If so, what modifications would better integrate important state and local governmental interests with important federal interests vis-à-vis airspace safety, efficient management and access?
 3. Roles/responsibilities for interests other than aviation safety
 4. Oversight mechanisms



Task Group 1 Deliverables

(Draft Task Statement Summary)

- Develop Recommendations

- Enforcement

1. Should the relative role and responsibility of state and local governments for enforcement of any aspects of rules and regulations governing low altitude UAS operations be changed?
2. If so, what are the changes and what are the mechanisms to achieve the recommended changes?
3. Is additional data collection necessary?



Task Group 1 Deliverables

(Draft Task Statement Summary)

- Develop Recommendations

- Education

1. What training or education will be needed if local authorities/officials are asked to assist with, implement, or otherwise address federal statutes and regulations?
2. Who should conduct the training to maintain consistency of implementation and enforcement?
3. Funding needs for training of non-FAA enforcement agencies



Task Group 1 Deliverables

(Draft Task Statement Summary)

- Develop Recommendations
 - Technological Tools and Solutions
 1. Identify existing & possible future technologies that may be utilized to satisfy or support governmental roles and responsibilities
 2. What technology tools are undergoing R&D that may address governing concerns and interests
 3. Implementation strategies



Task Group 1 Deliverables

(Draft Task Statement Summary)

- Develop Recommendations
 - Local Government Operational Issues
 1. How can governmental units facilitate UAS use, and prohibit UAS interference with, manned aircraft, emergency response, etc. ?
 2. Who has the authority for issuance of approvals?
 3. Recommendations on how FAA should respond to the emerging state and local regulations in this space
 4. What are the roles of the FAA and state or local governments in authorizing operations in emergency situations?



Task Group 1 Time Frames

- Near Term: – Continue To Work Ambitiously To Formulate Recommendations On at Least First Set of Tasks By Spring 2017
- Intermediate Term: – Subject To the Guidance and Instruction of the DAC
- Long Term:– Task Group Is Prepared To Assist DAC & FAA With the Policy Implementation Phase, Subject To DAC/FAA Tasking
- Interim: Concept of a Public Statement



QUESTIONS, COMMENTS, DISCUSSION





THE GOLD STANDARD FOR AVIATION SINCE 1935

Report Out of DACSC TG2 (Access to Airspace)

Co-Chairs:

Sean, Cassidy

Amazon Prime Air

Robert Hughes

Northrop Grumman



Purpose of Task Group 2

- Review Use Cases, Activities & Materials To Date Related To UAS Access & Integration To the NAS To Include FAA Concept of Operation Document & UAS Implementation Plan, NASA UTM, Pathfinder, RTCA Work.
- Provide Recommendations On UAS Operations/Missions Beyond Those Currently Permitted, and Define Procedures for Industry To Gain Access To the Airspace Within a Near Term (24 month) Timeframe.
- Provide Additional Recommendations On Expanded Access for UAS Operations/Missions That May Require Public/Private Infrastructure, Rulemaking, and or Other Changes That Would Extend Implementation Beyond the 24-month Timeframe.



Members

Co-Chair Cassidy, Sean Amazon Prime Air

Co-Chair Hughes, Robert Northrop Grumman

Program Director: Chaudhari, Claudia RTCA Inc

Voting Members:

- Ali Bahrami AIA
- Peter Cleveland Intel
- John Collura UMass
- Diana Cooper Precision Hawk USA
- Nancy Egan 3DR
- James Grimsley Univ of Oklahoma
- Paul Guckian Qualcomm
- Jonathan Hammer Noblis Inc
- Rick Heinrich Rockwell Collins
- Bob Lamonde NBAA
- Ben Marcus AirMap
- Chris Martino Helo Assoc Intl (HAI)
- Paul McDuffee Insitu
- Peter McNall General Atomics
- Andrew Moore Natl Ag Av Assoc
- Mark Reed A L P A
- Jeffrey Richards NATCA
- Bill Stone Garmin
- Tim Stull American Airlines
- Andy Thurling AeroVironment
- Greg Walden Akin Gump
- Steve Wright ATAC



Approach

- Approve Tasking Statement
- Task Decomposition/WG Assignments
 - Group Overview, then division into WG's
 - Assignments NLT February 23 DACSC meeting
- Establish TG2 Meeting Cadence, Work Plan
 - 4WG's with FAA representatives assigned to each WG
 - Bi-Weekly Webex
 - Monthly Meetings
- Smaller Focus Groups as Needed
- Execute...Deliver...On Time



Initial Deliverables

TG2 to Provide Recommendations for:

- Roles and Responsibilities:
 - Aircraft, remote pilot/operator, and ANSP (Air Navigation Service Provider)
- Expedited UAS Airworthiness and Operational Approvals for Near-term (Within 24 mo) UAS Missions.
- Expedited Minimum Essential Aircraft Equipage, Public/Private Infrastructure Needs, and Operational Requirements Beyond Those Currently Permitted Under 14 CFR Parts 101/107 To Include Information Flow and Interoperability Considerations.
- Use of Spectrum for Command and Non-payload Communications.



Draft Tasking Statement

Approach

- Routing: FAA (DFO) → RTCA → DAC → DACSC
- Generic Enough To Allow Growth & Flexibility
- Reflect Industry Input From DACSC

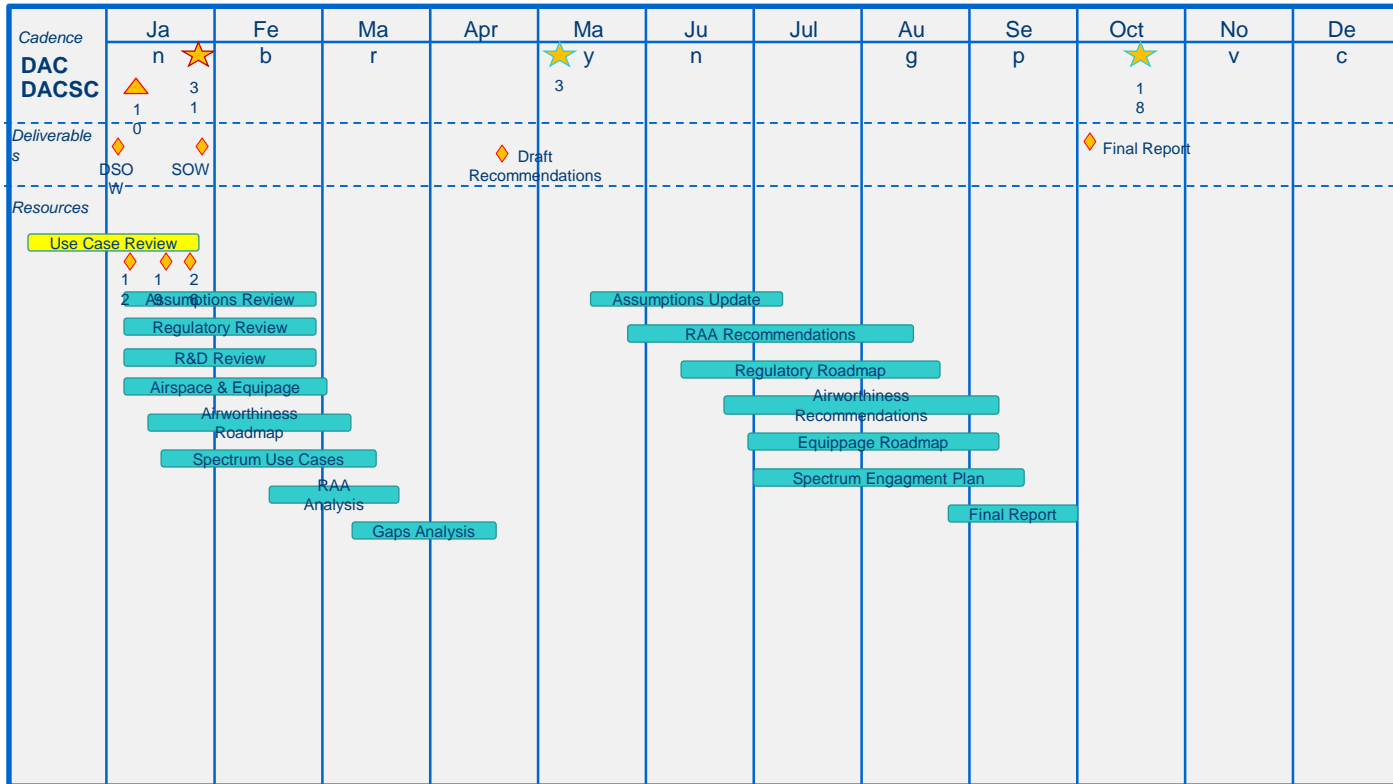
Results

- RTCA-hosted TG2 Virtual Discussions:
 - #1 Rough Draft presented
 - #2 Draft Finalized
- Ready for DAC Review and Approval





High Level Calendar





Questions?

Thank You!



FOR IMMEDIATE RELEASE:

Tuesday, January 31, 2017

***** STATEMENT *****

**MAYOR LEE'S STATEMENT ON THE DRONE ADVISORY
COMMITTEE MEETING**

Mayor Edwin M. Lee today issued the following statement regarding the second meeting of the Drone Advisory Committee:

“As drones become part of our everyday life and new innovative uses are developed, our laws must evolve to help drones safely and efficiently integrate into the airspace over America’s local communities.

To ensure residents safety, state and local governments determine basic standards from where cars can drive and how fast, to safe locations for bike lanes. They should also be able to decide when and where it is appropriate to operate a drone that has the capability to fly into crowds, on streets, at eye-level, or even inches above the ground. Our highest priority is to ensure the safety of our communities.

Mayors across the country who are very pro-technology and innovation are seeking sensible ways to open the skies without placing an undue burden on drone operators.

Just as the FAA developed an air traffic control system to help airplanes fly safely, NASA and the FAA are working to create an Unmanned Traffic Management (UTM) system for low altitude airspace to enable safe, efficient drone operations.

This is a system that has enormous potential—but it is critical that local governments have a role in constructing it. Their data will be important for ensuring that we have a system that actually works.

I would ask that the Committee ensures that there is equal representation on its Roles & Responsibilities Task Group for local governments and mayors.

I also believe that the Committee must recognize that state and local governments have a vital role to make time, manner, and place restrictions on drones - especially if they are flying close to our streets and people below 400 feet--just as they do on cars, skateboards, and bicycles.

A one-size-fits-all approach to drone regulation won’t help the drone industry – it will hinder it.”

###

The logo for RTCA (Radio Technical Commission for Aeronautics) features the letters 'RTCA' in a bold, black, sans-serif font. The letter 'A' is stylized with a series of dots forming its right side, transitioning from black to a light yellow-green color.

THE GOLD STANDARD FOR AVIATION SINCE 1935

Presentation of DACSC TG3 Formation (Funding), FAA

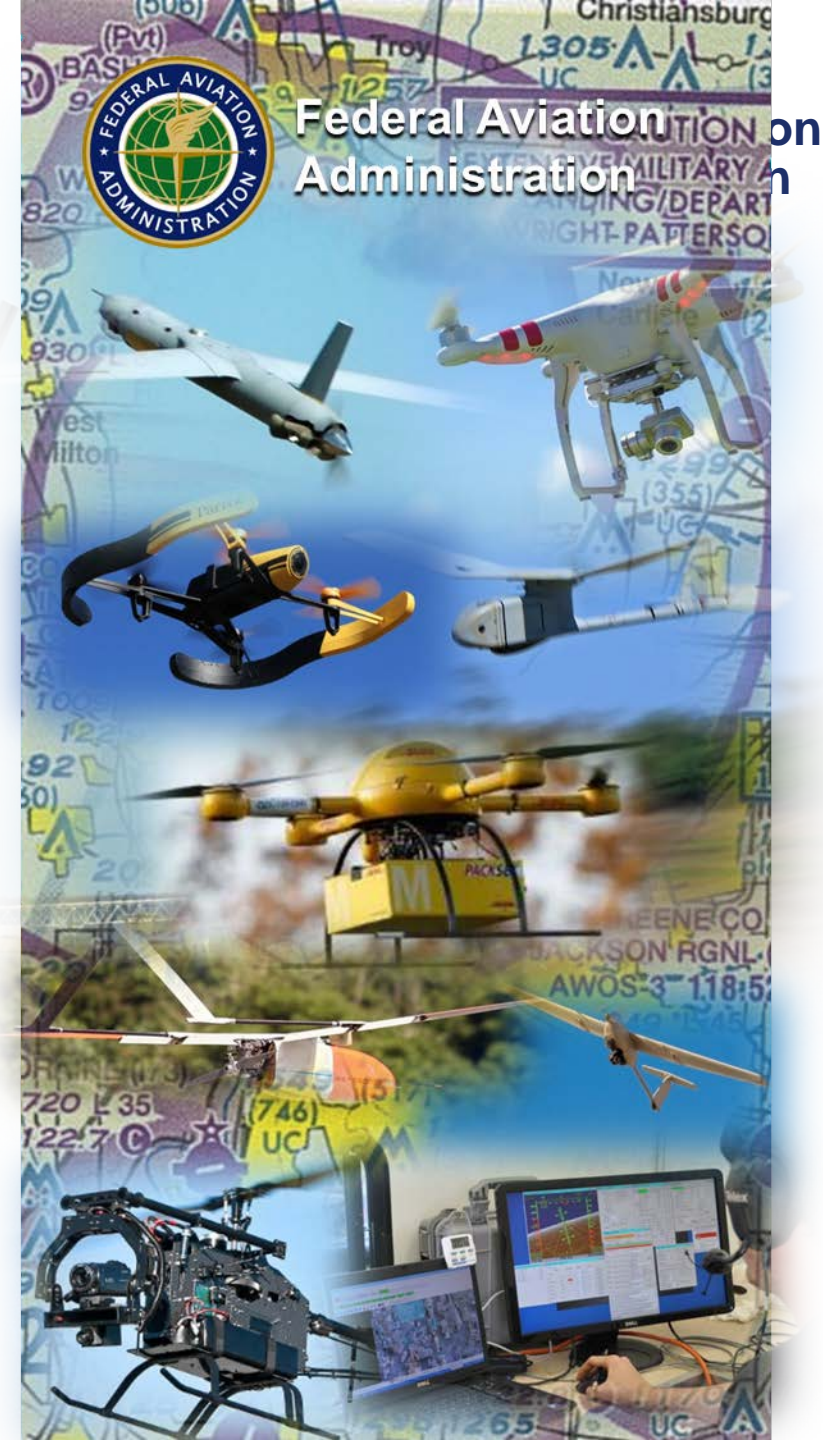
Drone Advisory Committee

Task Group 3 – UAS Funding

Presented by: Nan Shellabarger, Executive Director, FAA Aviation
Policy and Plans

Presented to: Drone Advisory Committee

Date: January 31, 2017



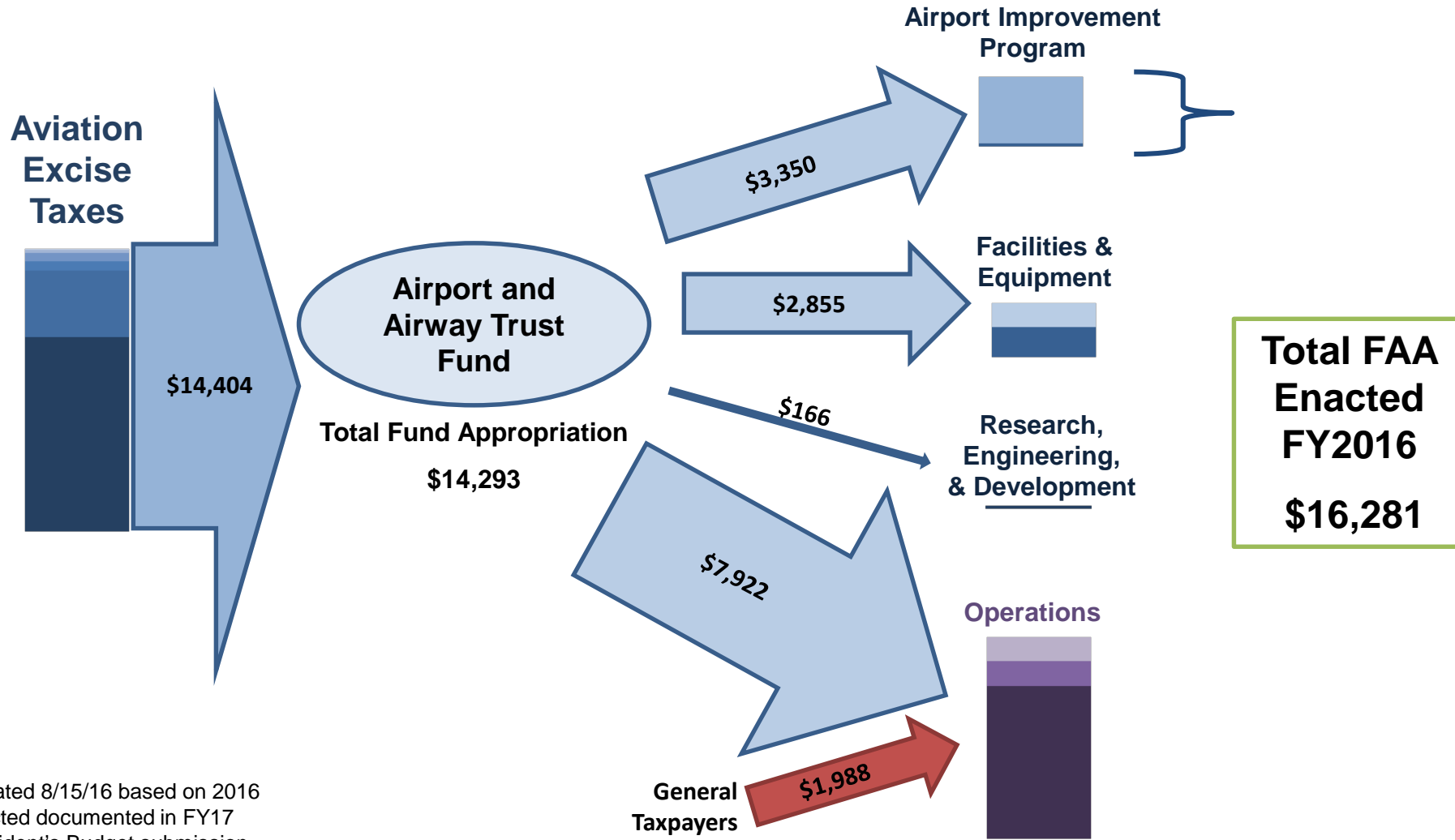
The Task

1. What activities and services are needed to support the safe integration of UAS operations into the NAS?
2. What funding resources are needed, and what funding mechanisms should be used?
3. How could this be implemented, as industry evolves?
4. What funding options were rejected and why?



FAA Funding Structure

FY 2016 (\$ in M)



Updated 8/15/16 based on 2016 enacted documented in FY17 President's Budget submission



Things to Think About

- How much, for what, in what time frame?
- Who should pay for what?
- What kinds of mechanisms can be implemented?
- Do these set up incentives?
Create unintended consequences?
- Can we reach consensus?