On-Demand Aviation Services for Mobility, Logistics, Emergency Response, and Humanitarian Use Cases

ACRP Insight Event

July 10–11, 2023

Keck Center of the National Academies

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TRB TRANSPORTATION RESEARCH BOARD

ACRP Project Panel
ACRP 11-08/20-02

Chair

Adam Bouchard, VP Operations, Tampa International Airport

Members

- **Matthew Daus**, Partner, Transportation Practice Group Chair, Windels Marx
- **Clint Harper**, NASA Ames Research Center (Contractor)
- **Christopher Hart**, Founder, Hart Solutions LLC
- **Parimal Kopardekar**, NASA
- **Naashom Marx**, Director of Strategic Innovation – Advanced Mobility, KCAB-CVG Airport
- **Yolanka Wulff**, Executive Director, Community Air Mobility Initiative

FAA Liaison

Keri Lyons, Technical Advisor, FAA

Liaison Representative

Christopher Oswald, Senior VP, Safety and Regulatory Affairs, Airports Council International, North America (ACI-NA)

CRP Staff

- **Matthew Griffin**, Senior Program Officer, TRB, ACRP
- **Brittany A Summerlin-Azeez**, Program Coordinator, TRB

Agenda

Day 1: July 10

1. Fundamentals of On-Demand Aviation
2. Legislative Perspectives on AAM
3. System Planning for an On-Demand Aviation
4. Evening Remarks with Peter Irvine, USDOT, Office of Aviation Analysis

Fundamentals of On-Demand Aviation

Moderated by

Shivanjli Sharma, NASA

Fundamentals of On-Demand Aviation

Praveen Raju
Project Manager, FAA

Rex Alexander
Infrastructure Advisor, Vertical Flight Society

Edward Espiritu
Senior Manager, United Airlines

Scott Cary
Project Manager, NREL

Chris Ash
Senior Vice President, Hillwood Alliance Airport

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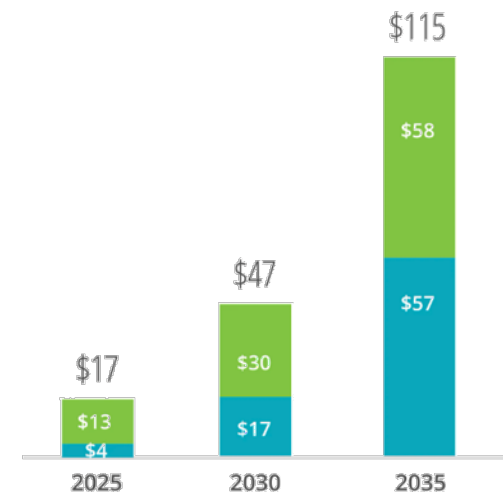Engineering
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NASA defines **Advanced Air Mobility (AAM)** as safe, sustainable, affordable, and accessible aviation for transformational local and intraregional missions.

AAM is a broad term that covers several applications divided into an array of missions that may be performed in different types of aircraft flying between and over many different locations. AAM can encompass passenger transport, the movement of cargo or goods, and aerial work missions across emergency and humanitarian public good operations.

AAM market poised to grow sevenfold between 2025 and 2035
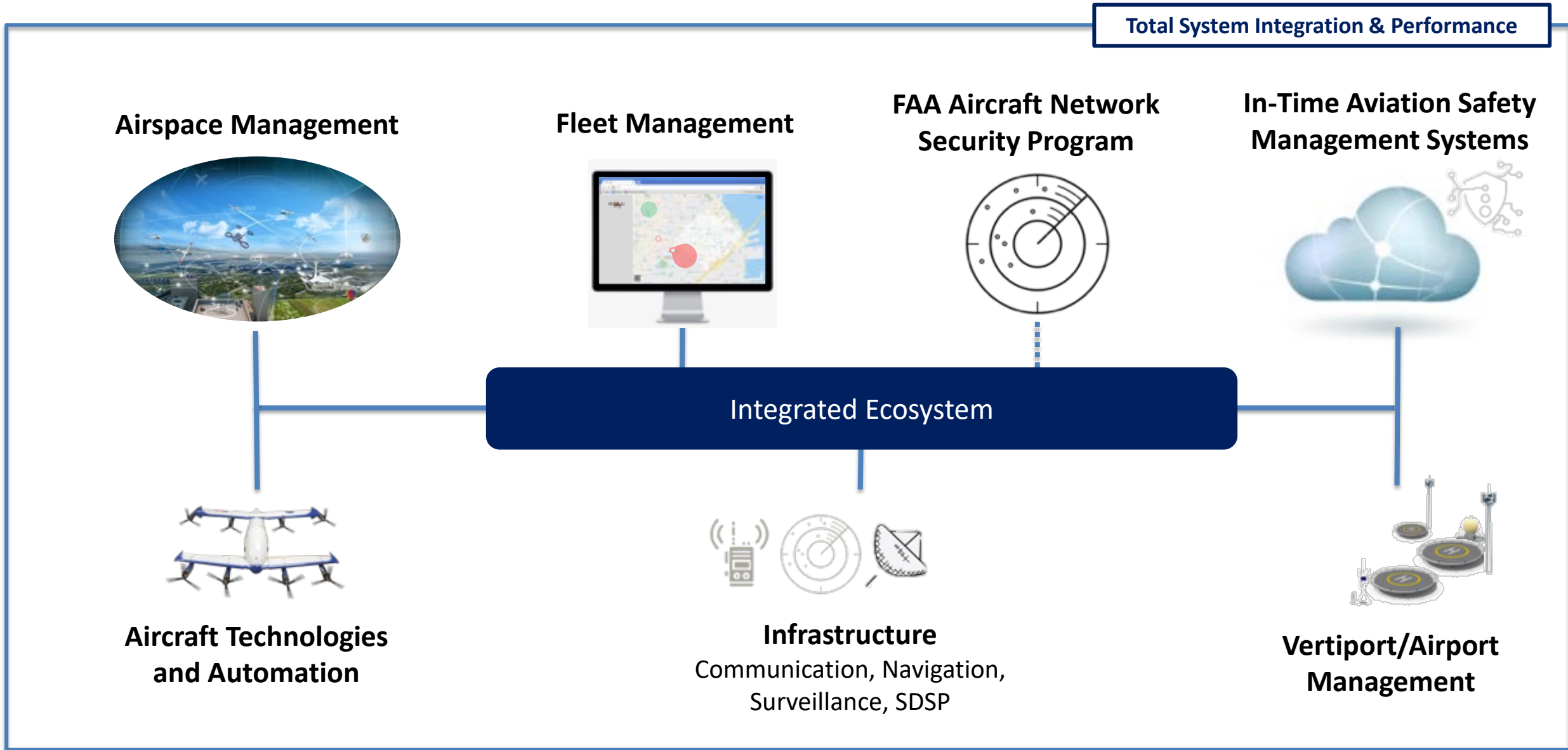
US$ billion

■ Passenger AAM market ■ Cargo AAM market

Year	Passenger AAM market	Cargo AAM market	Total
2025	$4	$13	$17
2030	$17	$30	$47
2035	$57	$58	$115

Source: Deloitte and AIA analysis.

Deloitte Insights | deloitte.com/insights

Framework for Integrated Ecosystem

Total System Integration & Performance

Airspace Management

Fleet Management

FAA Aircraft Network Security Program

In-Time Aviation Safety Management Systems

Integrated Ecosystem

Aircraft Technologies and Automation

Infrastructure
Communication, Navigation, Surveillance, SDSP

Vertiport/Airport Management

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Legislative Perspectives on AAM

A discussion of recently passed federal legislation on AAM and what research is needed to help inform legislative efforts and policymaking

Moderator

Panelist

Panelist

Matthew W. Daus, Esq.

Partner

Windels Marx Lane & Mittendorf, LLP

Behnaz Razavi, AICP

City Activation Manager

Supernal

Alex B. Bolton

Chief of Staff

**U.S. House of Representatives
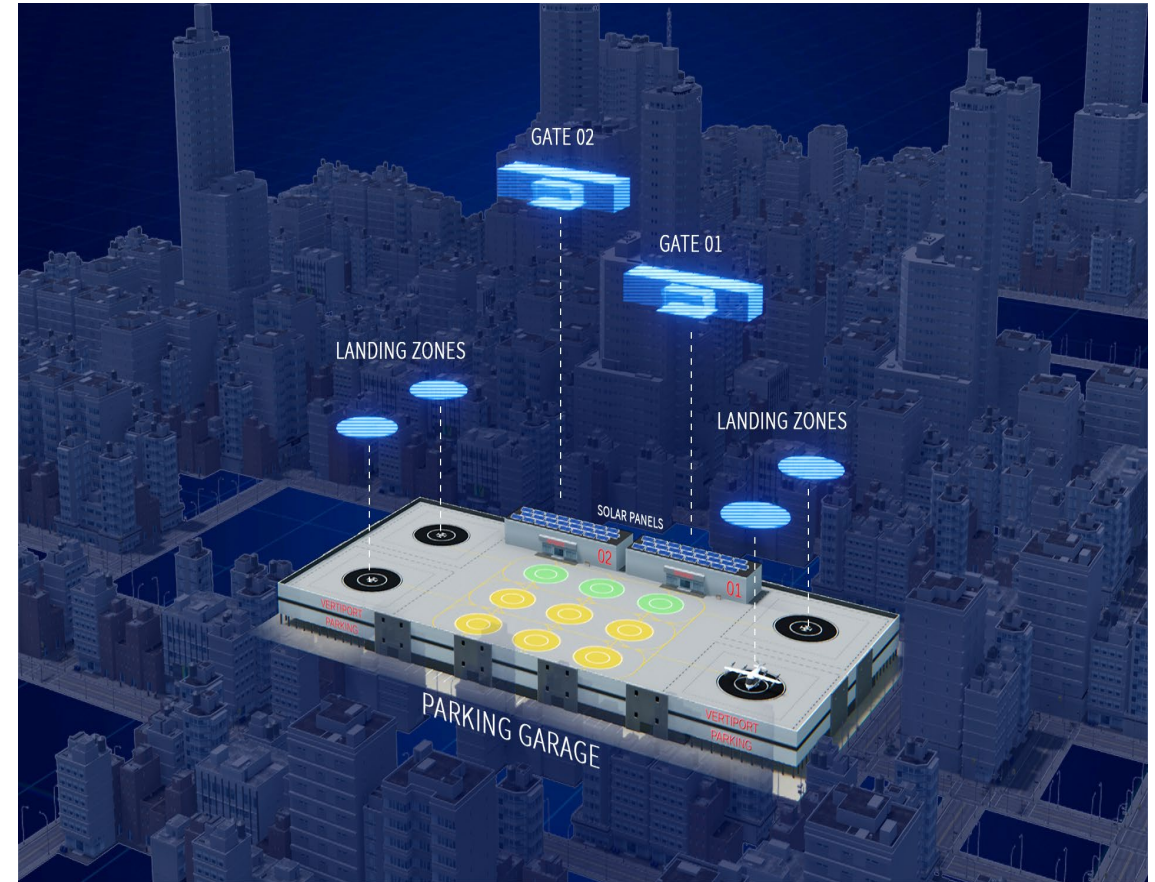Congresswoman Nicole Malliotakis**

House Exploratory Committee Bill 516

- **Created working group to plan for, coordinate efforts related to:**
  - Safety
  - Operations
  - Infrastructure
  - Physical Security
  - Cybersecurity
  - Federal Investment
- **Necessary for AAM ecosystem development**
  - Grow transportation options
  - Economy/ jobs
  - Environmental sustainability/ tech
  - Emergency preparedness and competitiveness
- **Sponsors**
  - Sen. Jerry Moran (R-KS)
  - Sen. Sinema, Kyrsten [D-AZ]
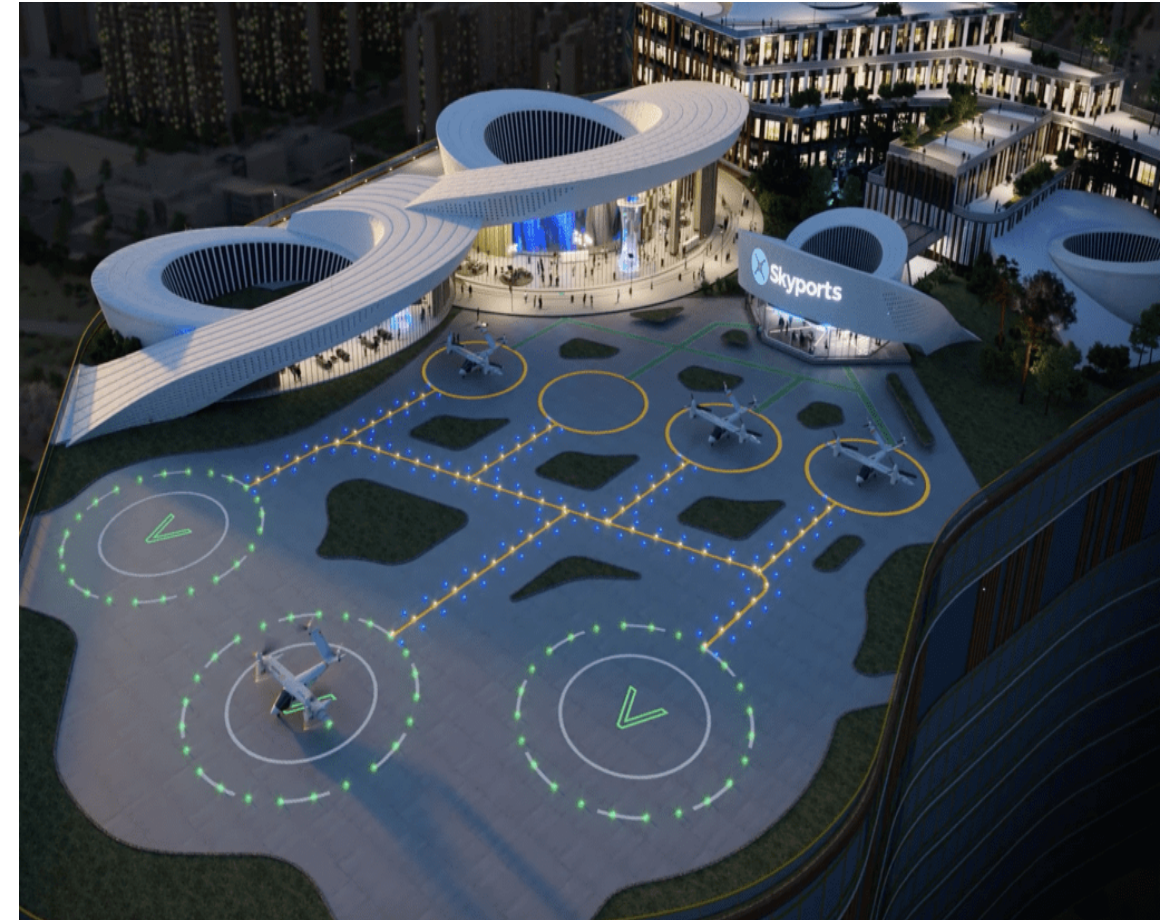 - Commerce, Science, and Transportation Committees
- **Enacted Oct 17, 2022**

Senate UAM Funding Bill 4246

- **2-year grant program of $24 million**

- **To develop & implement infrastructure necessary for AAM**
  - **Heliports → Vertiports**

- **Sponsors**
  - **Sen. Alex Padilla (D-CA)**
  - **Sen. Jerry Moran (R-KS)**
  - **Commerce, Science, and Transportation Committees**

- **Placed on Senate legislative calendar**

House UAM Funding Bill 6270

- **2-year grant program of $24 million**
- **To develop & implement infrastructure necessary for AAM**
- **Sponsor**
  - **Rep. Rick Larsen (D-WA)**
- **Committee**
  - **Transportation & Infrastructure**
- **Passed June 2022, received in senate**

Climbing to Altitude – Discussion Topics

- **Industry's role** & perspective on government's involvement
  - *What is needed from government to Democratize UAM & AAM?*

- **Congress' vision** for emerging AAM mode

- **Regulatory governance:** role of federal, state & local gov't

- **Coordination & communication** (policy/research):
  - *What coordination is necessary for success between Congress, the Private sector, US DOT/FAA & TRB/ACRP?*

- **Funding** opportunities

- **Research:** Study timing & future AAM research needs -
  - *Testing*
  - *Infrastructure development*
  - *Use case scenarios*
  - *Safe AAM deployment*
  - *Multimodal connectivity*

System Planning for On-Demand Aviation

Moderated by

Clint Harper, NASA Ames Research Center

System Planning for On-Demand Aviation

Robin Grace
Chief UAS Operations,
MassDOT

Paul Damron
Advanced Air Mobility
Manager, UDOT

Kathryn Purwin
CEO, Helinet Aviation
Services

Laura Chace
President and CEO,
ITS America

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System Planning for On-Demand Aviation

- Examine the integration of disruptive transportation technologies into existing transportation systems.

- Share experiences from helicopter and drone operators, showcasing diverse missions and associated challenges.

- Drive discussions on the challenges and opportunities surrounding the adoption of on-demand aviation technologies.

- Share real-world examples of AAM UAS operations and discuss their potential impact on industry and communities.

Day 1 Wrap-up

Tomorrow's sessions will cover

- Safety
- Public good uses cases
- Stakeholder and community engagement
- Scaling and governing AAM
- Security considerations

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Please join us for food, refreshments, and Q&A with Peter Irvine, USDOT

3rd Floor Atrium

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Agenda

Day 2: July 11

1. Fireside Chat

2. What Problems is On-Demand Aviation Trying to Solve?

3. Stakeholder and Community Engagement

4. Scaling and Governing AAM

5. Security Considerations for AAM

6. Town Hall

Fireside Chat

Moderated by

Dr. Daniel Friedenzohn, Embry-Riddle Aeronautical University

Fireside Chat

Chris Hart
Founder,
Hart Solutions LLC

Laura Chace
President and CEO,
ITS America

What Problems is On-Demand Aviation Trying to Solve?

Moderated by

Adam Cohen, UC Berkeley and San Jose State University

What Problems is On-Demand Aviation Trying to Solve?
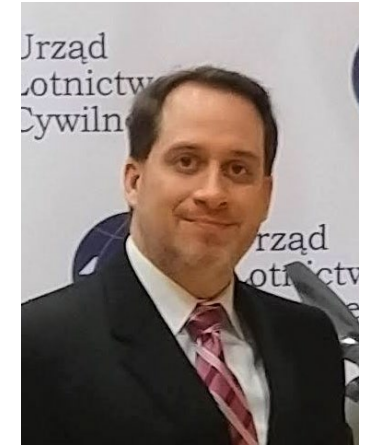
Justin Towles
President,
Crown Consulting

Lt. Col. John Tekell
Agility Prime Lead,
AFWERX

Patrick Rizzi
Counsel,
Hogan Lovells

Carl Dietrich
Founder and President,
Jump Aero

Ryan Steinbach
Aviation Policy Coordinator,
USDOT

Stakeholder and Community Engagement

Moderated by

Yolanka Wulff, Community Air Mobility Initiative

Stakeholder and Community Engagement

Colleen D'Alessandro
New England Regional
Administrator, FAA

Gaël Le Bris
Vice President, Aviation
Planning, WSP USA

Sjohnna Knack
Director, Planning and Environmental
Affairs, San Diego International Airport

Darlene Yaplee
President and Co-
Founder, AICA

Scaling and Governing AAM

Moderated by

Christopher Oswald, ACI-NA

Scaling and Governing AAM

Alex Gertsen
Director, Airports &
Ground Infrastructure,
NBAA

Naashom Marx
Director of Strategic Innovation –
Advanced Mobility,
CVG International Airport

Scott McMahon
Executive Director and
President,
DM Airports, LTD.

Scaling and Governing AAM: Meeting Infrastructure Needs at Airports and Vertiports

Discussion topics

- AAM roles and infrastructure needs:
  - At existing airports and heliports
  - At new facilities
- Information needed to plan and develop this infrastructure
- Key challenges to infrastructure provision
- Short and mid-term research needs to support new entrant accommodation

Security Considerations for AAM

Moderated by

Michael Rucinski, TSA

Security Considerations for AAM

Greg Bowles
Head of Government
Affairs, Joby Aviation

Jens Hennig
Vice President of
Operations, GAMA

John Murphy
Senior Director of
Security Policy, Supernal

Robert DeFrancesco
Head of Security,
Archer

Town Hall

**Facilitated by
Adam Cohen**

How can research support on-demand services and AAM policy, planning, and implementation?

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Wrap-up

Thank You For Attending!

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