

AGENDA ITEM 8 - PowerPoint Presentation



Trust

Integrity

Value

Empathy

Innovation

FAA Western-Pacific Region Briefing on Advanced Air Mobility (AAM)

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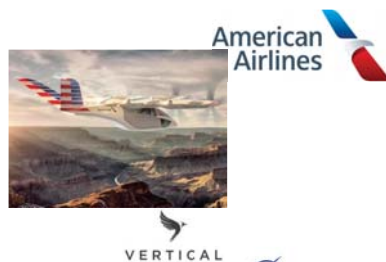


What is Advanced Air Mobility (AAM)?

- AAM is an **emerging aviation ecosystem** that leverages new aircraft, and an array of innovative technologies, to provide the opportunity for more efficient, more sustainable, and more equitable options for transportation.
- **Legal definition:** AAM means “A transportation system that transports people and property by air between two points in the United States using aircraft with advanced technologies, including electric aircraft or electric vertical take-off and landing aircraft, in both controlled and uncontrolled airspace.”
 - Established by the U.S. Congress in the AAM Coordination and Leadership Act, October 2022
- AAM is not a single technology, but rather a **collection of new and emerging aviation technologies**, particularly in new aircraft types and new types of operations such as “air taxis”.
- AAM aircraft sometimes referred to as “**Powered-Lift**” aircraft



Advanced Air Mobility (AAM) Industry Snapshot

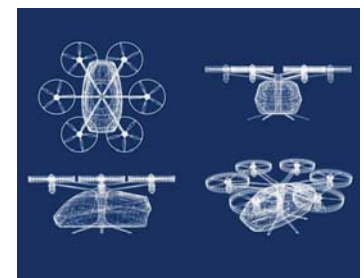


- First electric vertical takeoff and landing (eVTOL) aircraft expected to be FAA certified in 2025
- Predicted to be a \$30B market by 2030
- New venture capital funded “disruptive” manufacturers backed by traditional operators
- Initial business cases
 - Air taxi (airport to city pair)
 - Cargo (small market to hubs)
 - Medical transport
- Initial operations look like traditional helicopter / General Aviation piloted aircraft, but plan rapid shift to autonomous
- Unique, yet-to-be-built “ecosystem” needs to support vertiports, charging, routes, & automation

Balancing the Pace of Innovation and Safe Operations

FAA’s Role in Advanced Air Mobility

- Ensure this new generation of aircraft maintains the **highest level of operational safety** that defines commercial aviation today.
 - ✓ **Certify** AAM aircraft designs and production
 - ✓ **Finalize** the Operating Framework for pilots and companies
- **Integrate** these new aircraft into the existing aviation system safely.
- **Develop safety and design standards** for AAM ground infrastructure, i.e. “Vertiports”.
- **Engage** with State, Local, and Tribal governments and communities.
- **Environmental Review**, depending on the type of project and whether FAA approval is required.
- **International harmonization** with our partners, to adopt common certification and integration standards.



Anticipated AAM Roles for Local & State Governments

- ✓ Land Use
- ✓ Zoning
- ✓ Funding
- ✓ System Planning
- ✓ Vertiport Siting
- ✓ Governance
- ✓ Construction Permitting
- ✓ Building Codes
- ✓ Licensing
- ✓ Oversight (particularly for AAM operations outside of existing airports)
- ✓ Multi-Modal Considerations
- ✓ Utilities and Electrification upgrades
- ✓ Community Engagement and Awareness
- ✓ Equity and Accessibility
- ✓ Economic and Community Benefits
- ✓ Environmental Review

- Planners should be familiar with how their region is addressing all these topics to enable AAM operations in their area.
- Source: FAA Sidebar Article, American Planning Association – Planning Advisory Service Report on Advanced Air Mobility, p. 32, March 2024

Recommended Planning Actions for Airports interested in AAM Operations

- ❑ **Include** Advanced Air Mobility in an airport’s standard planning processes.
- ❑ **Talk** to airport stakeholders to identify if/when they plan to add AAM aircraft to their fleet or provide new services.
- ❑ **Consider** the airport’s electrification needs, both airside and landside, to support AAM and other electric aircraft.
- ❑ **Follow** standard airport airspace analysis and Airport Layout Plan (ALP) processes in coordination with the FAA’s Office of Airports.
- ❑ **Reminder:** For Federally-obligated airports (i.e. accepted grants or property), all airport **Grant Assurances** apply to this emerging sector of aviation.

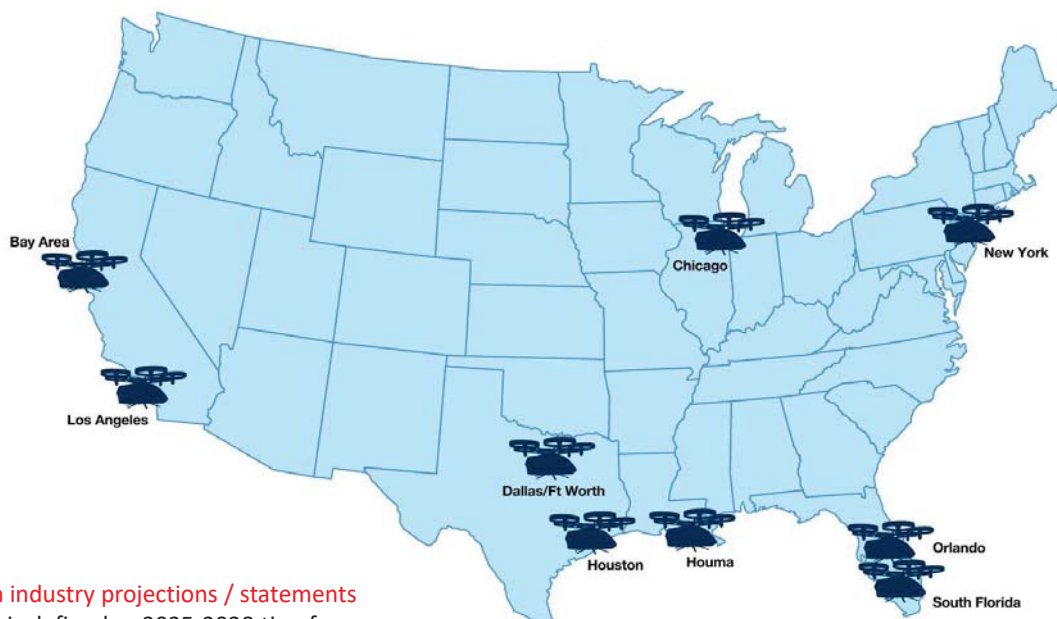


Innovate28 (I28) Initiative – Safety Focused Approach

- The FAA created a programmatic portfolio approach called **Innovate28** that integrates all cross-agency efforts toward user initial entry into service goals (2025 – 2028 timeframe).
- Updating our **regulatory framework** to address the unique aspects of new hybrid, non-traditional aircraft entering the existing aviation system.
- **Whole of government approach** needed to support integration of a new class of aircraft, flying in constrained airspace, needing new support infrastructure, and accelerating to autonomous operations environment.
- USDOT-led AAM Interagency Working Group developing a **National Strategy for AAM**, identifying key national issues for implementation: security, power/energy, infrastructure, community impacts, spectrum, and supply chain. This effort was directed by Congress, and the National Strategy is expected to be published in late 2024.



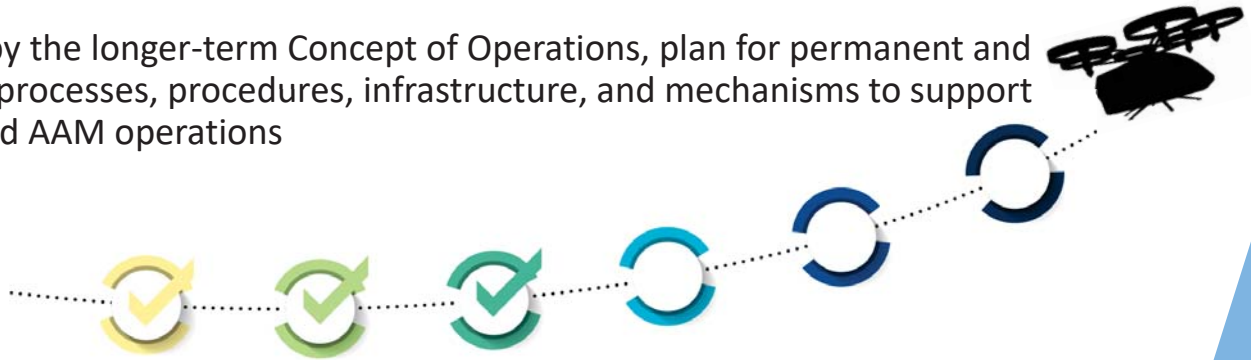
Potential Near-Term AAM Operations Locations



based upon industry projections / statements
'near-term' is defined as 2025-2028 timeframe

Innovate28 Goals for Near-term Operations

- ✓ Define and complete agency actions needed to enable AAM operations in locations determined by industry in the near-term leading up to 2028
- ✓ Provide an FAA focal point on AAM issues, and provide programmatic support that coordinates efforts across the agency on behalf of specific key projects
- ✓ Develop a repeatable process to allow ease of implementation in other locations
- ✓ Guided by the longer-term Concept of Operations, plan for permanent and scalable processes, procedures, infrastructure, and mechanisms to support continued AAM operations



Significant AAM Activities & Milestones (recent)

- **September 2022** – FAA issues interim design guidelines for Vertiports (Engineering Brief No. 105)
- **October 2022** – AAM Coordination and Leadership Act signed into law (P.L. 117-203)
- **May 2023** – USDOT Request for Information published in the Federal Register (to inform National Strategy on AAM)
- **May 2023** – FAA announces an updated blueprint for long-term AAM Concept of Operations
- **June 2023** – FAA publishes comprehensive proposed rule on training and certifying “Powered-Lift” aircraft pilots
- **July 2023** – FAA publishes the Innovate28 Implementation Plan, focused on Near-Term AAM Operations
- **October 2023** – FAA + U.S. Air Force sign Memorandum of Understanding on AAM research and data sharing
- **December 2023** – Autonomy Working Group Kickoff
- **February 2024** – AAM Interagency Working Group Community Workshop in Fort Worth, TX
- **March 2024** – FAA finalizes airworthiness criteria for the first AAM aircraft (Joby Aviation)



Source: <https://www.faa.gov/air-taxis>

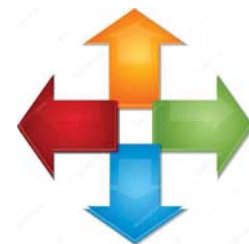
Significant AAM Activities & Milestones (upcoming)

- **April 17, 2024 11:00am pacific** – AAM Community Engagement Webinar, available on FAA YouTube Channel
- **July 30 to Aug. 1, 2024**, FAA Drone and AAM Symposium, Baltimore, MD Convention Center
- **Fall 2024** – Expected publication of the Powered-Lift final rule for training and certifying pilots
- **Late 2024** – Expected publication of the AAM National Strategy by the U.S. Department of Transportation
- **Late 2024** – Updated interim design guidelines for Vertiports
- **2025** – Type Certification of first AAM Aircraft (design approval)
- **2025** – Expected publication of comprehensive Advisory Circular on Vertiport Design
- **Ongoing** – Various AAM research efforts funded in FY 2024 appropriations, and requested in FY 2025 FAA Budget Request



Early Engagement and Multi-Dimensional Engagement

- **Collaboration** and early engagement at all levels of government is **essential** for the successful implementation of AAM operations
- Engagement on AAM should be **Multi-Dimensional**
 - **Far-reaching** (all relevant stakeholders, public and private sectors)
 - **Horizontal** across local jurisdictions
 - **Vertical** (i.e. local, state, tribal, and Federal government agencies, departments, and officials)
- AAM industry has a leading role in **community engagement** in the areas they would like to operate in the future
- We encourage cities, municipalities, and AAM operators to **engage** with FAA **early** in the planning process to discuss potential operations, vertiport locations, routes, and other AAM infrastructure
- Consider AAM's role in transportation **holistically**. This new era in aviation holds the potential to re-examine traditional paradigms between ground and air transportation.



Environmental Review for AAM Operations

- Facilitating **environmentally responsible** AAM operations is an important topic the FAA is actively working.
- FAA’s environmental responsibilities for AAM may depend on the proposed operations and the location.
 - For example, construction of a proposed vertiport on a Federally-funded airport would trigger FAA environmental review.
 - However, construction of a vertiport on private property may not.
- Stakeholders including state/local/tribal entities, communities, AAM operators, and the FAA have an important role in planning for future AAM operations.

AAM Resources for SCAG Transportation Committee Members

FAA Advanced Air Mobility Webpage	https://www.faa.gov/air-taxis
Innovate28 Implementation Plan	https://www.faa.gov/air-taxis/implementation-plan
Urban Air Mobility Concept of Operations version 2	https://www.faa.gov/newsroom/faa-releases-airspace-blueprint-air-taxis
FAA Engineering Brief No. 105 (interim design guidelines for Vertiports)	https://www.faa.gov/sites/faa.gov/files/eb-105-vertiports.pdf
FAA YouTube Channel (archived AAM Webinar Playlist)	https://www.youtube.com/playlist?list=PL5vHkqHi51DRxl1efuBT_Ilca_9zSNkRu
Upcoming Webinar specifically on AAM Community Engagement, April 17 th at 11:00am pacific time	https://www.youtube.com/watch?v=1sfVuJIPQoY
USDOT / Volpe Center – Thought Leadership Series on AAM (archived webinars, Nov. 2023 – Feb. 2024)	https://www.volpe.dot.gov/events/and-away-innovations-advanced-air-mobility
American Planning Association, Planning Advisory Service Report on Advanced Air Mobility, published March 8, 2024	https://www.planning.org/publications/report/9286262/
FAA’s Advanced Aviation Advisory Committee (all meetings open to the public)	https://www.faa.gov/uas/programs_partnerships/advanced_aviation_advisory_committee
Community Air Mobility Initiative (non-profit organization)	https://www.communityairmobility.org/
NASA’s AAM Ecosystem Working Groups (open to any interested stakeholders)	https://nari.arc.nasa.gov/aam-portal/
FAA’s Western-Pacific Regional Office webpage	https://www.faa.gov/about/office_org/headquarters_offices/ara/western_pacific

Thank You!

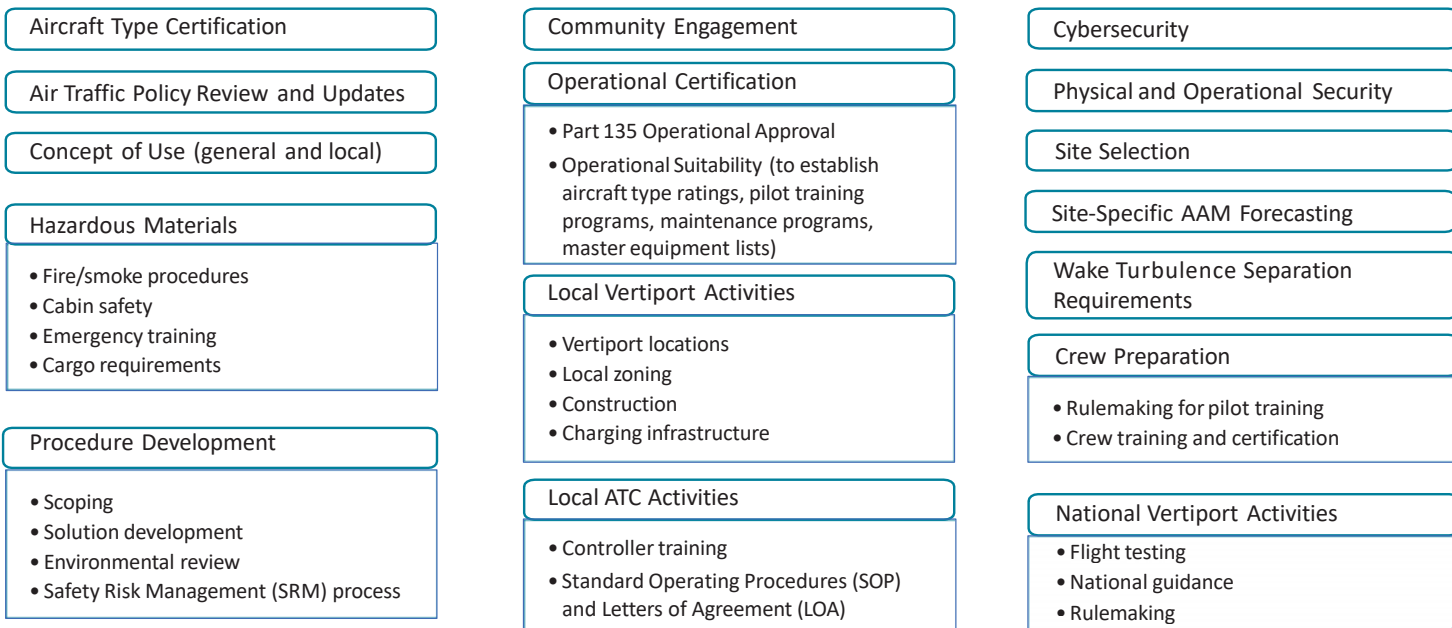
Questions?



Backup Slides



Key Innovate28 Activities



➤ The list includes the FAA, other federal government agencies, State-Local-Tribal-Territorial governments, industry, and other stakeholder activities.

AAM Airspace Integration Assessments

- The majority of AAM operators are targeting use cases **at major airports** in complex operating environments
- The FAA is **developing strategies** to understand aircraft performance, and how they may impact existing operations
- **Complementary integration efforts** support our overall process for getting to ‘yes’ safely as we develop an AAM ecosystem encompassing infrastructure, airspace considerations, energy management, etc.
 - Work with airport authority, operators, and Air Traffic Controllers to identify beneficial and safe use cases
 - Operational and flight testing
 - Modeling and simulation

