



Advanced Air Mobility: Integrating the Third Dimension into Metropolitan Transportation Systems

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Supporting the responsible integration of the third dimension into our daily transportation needs through education, communication, and collaboration.

CAMI is a 501(c)(3) nonprofit organization dedicated to the responsible integration of advanced air mobility into communities by providing education, communication, and collaboration.

CAMI understands the importance of connecting communities and industry by working with all stakeholders to develop advanced air mobility that integrates with existing and future urban and regional transportation systems.

CAMI educates and equips state and local decision makers, planners, and the public with the information they need to set policies and design infrastructure and systems to successfully integrate aviation into daily transportation options.

What is Advanced Air Mobility?



Nothing new: regional airline travel and helicopter service (e.g., Blade) are current/historical forms of AAM in service today.

Everything new: electric aircraft make AAM safer, quieter, greener, and more economical than ever before.

Urban Air Mobility, or UAM, refers to shorter distance urban use cases. **Regional Air Mobility, or RAM** refers to travel over longer distances away from the urban core.

Zones of Operation:

- City Center
- Suburbs to City
- Edge City to (Edge) City
- Rural Access
- Hub Airport Access

Types of Operation:

- Airline (micro haul)
- Air Metro
- On Demand (air taxi)
- Airport Shuttle
- Emergency Services

Systems Master Planning for Advanced Air Mobility



A comprehensive process which includes internal assessment, community engagement, resources and data collection, and development of an implementation plan. Considerations include:

- Integration into multi-modal transportation systems
- Incorporating local priorities and policies
- Addressing sustainability – environment, economy, equity
- Business models and forecasting
- Infrastructure mapping
- Airspace management and route design
- Grid capacity and power strategies
- Funding and timelines

AAM Infrastructure Considerations



- **Existing Transportation**
 - What are the existing and future planned forms of transportation, and what are their capacities?
 - What first- and last- mile connections are needed?
 - How do we prioritize public transportation, pooled vehicles and active transportation?
 - How will high volume vertiports impact public transport networks? Redistribution and congestion reduction or concentration leading to insufficient capacity at peaks?
- **Land use / Zoning**
 - What defines the area where we want to place infrastructure?
 - How do we integrate vertiports into nearby land uses?
- **Built Infrastructure**
 - What types of infrastructure need to be repurposed, renovated, or redeveloped to support AAM?
 - How much space do we need to accommodate eVTOL vehicles, parking, passenger facilities for future scaled operations?
- **Energy**
 - What are the anticipated forms of fuel – electricity, hydrogen, etc.
 - What capacities are needed, now and in the future, for generation, transmission and storage?

UAM Mobility Hubs

MOBILITY AREAS

CATCHMENT AREA

The area from which a major destination or transit service attracts people to use its service. The size of a catchment area may vary based on the type of destination/focal point at the core (e.g., a high-speed rail station will have a larger catchment area than a light rail stop).

ZONE

An area with a network of free-floating and station-based mobility options. Typically, up to 30 sq. miles (about 77.7 sq. kilometers).

CORE

Public transit station, major destination/focal point (e.g., government center). Typically, up to 1 sq. mile (about 2.6 sq. kilometers).



Shaheen and Cohen 2017; Shaheen et al. 2017

Transportation Modes

- Shared mobility, micromobility, public transportation, AVs, UAM
- Last mile delivery, UAS, robots, courier services

Transportation Services

- EV charging, AV parking, Battery charging and/or swapping
- Aircraft parking and airspace access
- Open access to accommodate a variety of aircraft types, operators, and users
- Facility security

Amenities

- Dining, retail, entertainment, fitness

Land Use

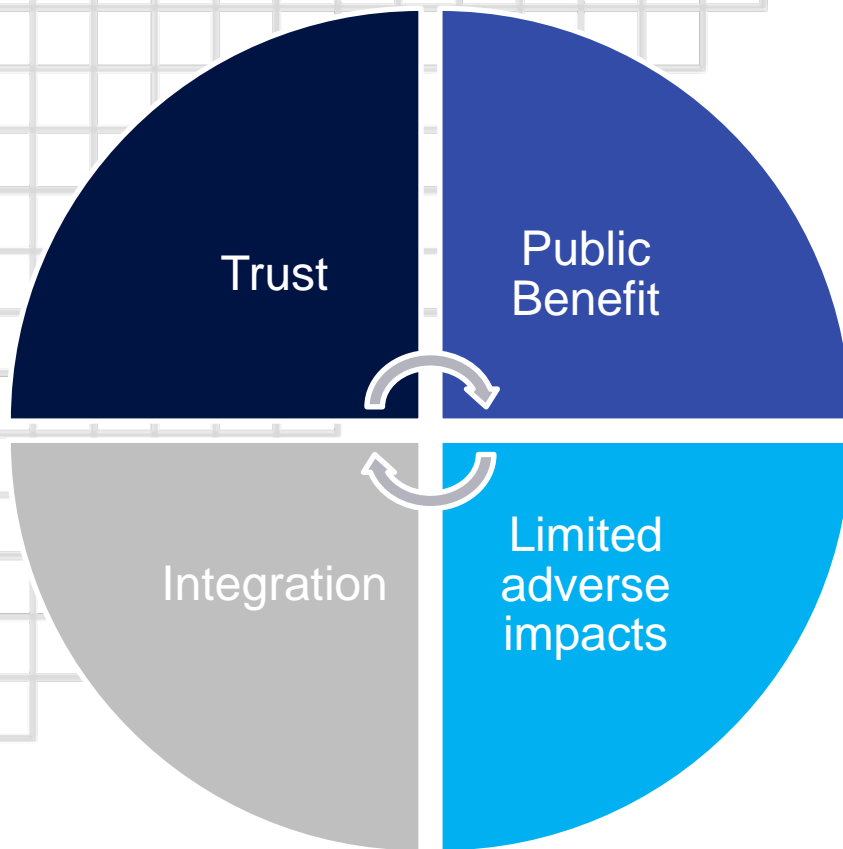
- Residential, hospitality, retail, mixed-use, public spaces

Other AAM Planning Considerations



- **How does AAM fit into the transportation ecosystem?**
- **How is AAM defined in local policies/ordinances?**
- **Should there be policy differentiation between use cases (e.g., emergency response, goods delivery, passenger mobility)?**
- **How are societal barriers and equity concerns identified and mitigated?**
- **How to manage demand among multiple service providers for vertiport access?**
- **Who pays for and controls vertiport access – public? private? PPP?**
- **How should rights-of-way be designed and preserved (vertiport curbspace and airspace access)**
- **How to address administrative issues, such as insurance, liability, signage, etc.**
- **How is AAM included in various long-range plans, policies and budgets?**
- **How is AAM funded?**

Public Acceptance is Multifaceted



Trust



Safe Vehicles



Safe Infrastructure



Secure Operations

Public Benefit



Emergency Services



Increased travel options



Economic opportunities

Limited Adverse Impacts



Noise and visual impact



Emissions and environment



Privacy

Integration



Existing transit & roads



Grid capacity



Social Equity

Systems Master Planning for Advanced Air Mobility - Recap



- **Start with a system plan to incorporate electric aviation into the macro regional fabric.**
- **Identify existing aviation assets both for VTOL and CTOL operations and assess their current contributions**
- **Develop a thorough understanding of how electric aviation can enhance or hinder the movement of people and goods in the area of study**
- **Assess large vertiport concepts vs smaller vertiport concepts and how they would affect road and public transport systems**
- **Determine which airspace restrictions are applicable**
- **Understand what automation does to capacity of vertiports - there are natural limits – recharging time, passenger processing space.**
- **Determine early opportunities to demonstrate public benefit.**
- **Consider the workforce development opportunities offered by AAM.**
- **Address equity issues upfront.**
- **Address environmental issues through planning and mitigation.**

URBAN AIR POLICY COLLABORATIVE™ | MISSION & PARTICIPANTS



The mission of the Urban Air Policy Collaborative is to develop a policy framework for the local implementation of advanced air mobility through the sharing of knowledge, discussion of issues, development of recommendations, and collaboration with peers through an ongoing program of workshops, presentation and conversations.



CAMI's Online Resources

CAMI Notes:

- What is Urban Air Mobility?
- Community Benefits of Urban Air Mobility
- eVTOL Aircraft: What they are & why they matter
- Urban Air Mobility Operations Overview
- Legal Considerations for Urban Air Mobility
Part 1: Aviation Law
- Components of Public Acceptance for AAM & UAM





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www.communityairmobility.org