



# Components of Public Acceptance for AAM & UAM

*Public acceptance hinges on balancing benefits against adverse impacts, earning trust, and integrating successfully*

A resource prepared by:

## The Community Air Mobility Initiative (CAMI)

Supporting the responsible integration of the third dimension at the state and local level.

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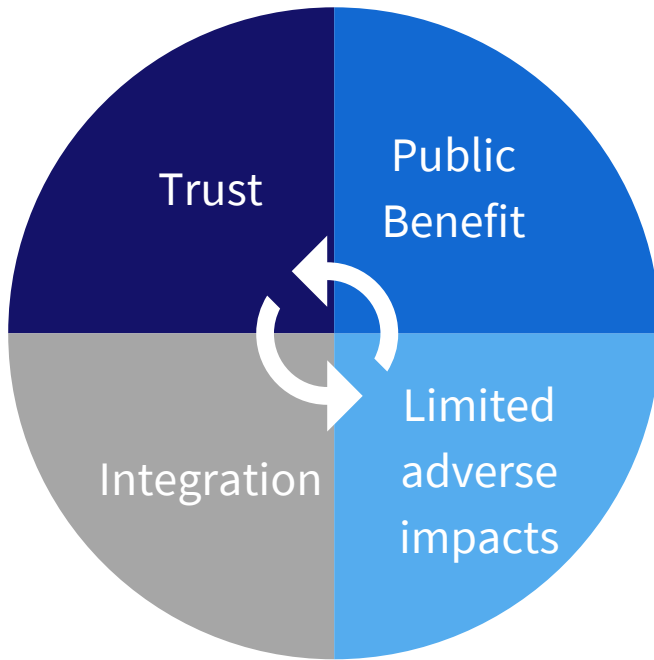
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# What influences Public Acceptance?

*Safety, Public Benefit, Integration, and Limited Adverse Impacts are all necessary factors*



## Public Acceptance



Public acceptance of advanced and urban air mobility (A/UAM) is far from guaranteed. Current responses to traditional general aviation, particularly helicopters, and new technology such as 5G mobile connectivity provide examples of the widespread resistance that can be encountered when there is a lack of public trust and the direct benefit to the community is unclear.

The conversation around public acceptance for A/UAM is often focused on noise. While quiet operations are necessary, they are not sufficient to guarantee widespread acceptance. Trust, public benefit, and integration with the community must accompany limiting the adverse impacts.

## Trust

- Safe Vehicles
- Safe Infrastructure
- Secure Operations

## Public Benefit

- Emergency Services
- Increased travel options
- Economic opportunities

## Integration

- Existing transit & roads
- Grid capacity
- Social Equity

## Limited Adverse Impacts

- Noise and visual impact
- Emissions and environment
- Privacy

# Factors determining Public Acceptance

*Trust must be earned and Public Benefit must be demonstrated*



To earn public trust, safety is non-negotiable, but what is "safe enough"? The FAA uses a concept called the "safety continuum" to determine the certification rigor that is appropriate to a given project. (This is what results in different certification requirements for commercial airliners and small personal recreational aircraft.) Each of us also applies our own levels of risk tolerance to daily activities, a tolerance that is often influenced by familiarity but also takes into account the utility that we get from the activity.

For the A/UAM industry to earn the public's trust, the aircraft, infrastructure, and operations must all be seen as being "safe enough". The legacy of safety that has been built already in the aviation industry is being leveraged to this new mode of transportation. Commercial aviation is widely acknowledged as the safest way one can get from place to place. Even general aviation, with which the public is often less familiar and therefore less comfortable, has a long-standing safety culture on which to build. Enhancing this perception of safety and ensuring the security of operations is a top priority for the industry and is an early opportunity for public outreach and education. The more the traveling, and the non-participatory, public can gain familiarization with this new form of transportation, the more readily trust can be built.

Beyond safety, communities must see a benefit to the introduction of urban air mobility. If UAM is seen as inaccessible for most people or only of benefit to a select few, it is less likely to be tolerated, regardless of the objective magnitude of any adverse impacts. Basically, without clear benefit, the cost-benefit trade off will always tend towards too high of a cost. The benefits of UAM are discussed in more depth in CAMI's *Community Benefits of UAM*: many of them may be surprising. They include improved emergency response times, increased connectivity between rural and edge communities to the economic, educational, and medical opportunities within the urban core, the potential for greater sustainability in a community's transportation landscape through electrification, workforce development, increased utility of existing community airports, and the ability to pair flight with ground transit to encourage a wider variety of ridership and traffic management options.

A virtuous cycle can be encouraged in which public benefit is increased, thus driving greater acceptance, and thus increasing the opportunities for UAM to provide a meaningful positive impact. This long-term vision for maximizing public good also has the potential to maximize the potential ultimate UAM market size.

# Factors determining Public Acceptance

*A/UAM must be integrated and its adverse impacts acknowledged and minimized*



Traditionally aviation has been kept separate from other forms of transportation. Between airport fences, security, and other precautions, it is deliberately a world unto itself. While it is imperative that safety and security be maintained in UAM operations, to fulfill its potential, UAM must be much more tightly integrated with other modes of transportation. This integration needs to consider the existing transportation landscape, accessibility, social equity, and secondary impacts. Some of the ways that this integration can be accomplished are to connect to existing transit with "urgency trip" pairing and deliberate rail or bus station access, to address transportation deserts through vertiport placement, and to include equity and accessibility considerations when determining landing and route locations. Local jurisdictions can influence this integration through strategic use of land use permissions.

Integrating into the existing power grid is another key for long term success of UAM. Electrification of both ground and air travel will require significantly more power than is currently demanded in many locations. Not only must this power be transmitted and stored, it must be generated in a sustainable way in order to mitigate some of the potential adverse environmental impacts of UAM.

Other potential adverse impacts include noise (of course), visual clutter, shifts in ground congestion patterns, an increased risk of urban sprawl, and battery disposal. By being transparent about these potential negative impacts early in the development and integration of UAM in a community, the industry can gain the trust of, and work with local leaders to mitigate the impacts that can't be avoided. Local decision makers also have the greatest ability early in the process to chart a course that builds in mitigations and maximizes benefits for UAM long term.



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