



## STUDIO CITY FOR QUIET SKIES

### COMMENT TO FAA REDAC COMMITTEE

September 27, 2022

#### **STATEMENT OF PROBLEM – ADVANCED AIR MOBILITY (AAM) AND URBAN AIR MOBILITY (UAM):**

There is evidence that the aviation industry and FAA are rushing headlong toward implementation of an entirely new mode of aircraft, Advanced Air Mobility (AAM) and Urban Air Mobility (UAM). "Proponents of AAM envision developing large-scale operations over time, with thousands of aircraft eventually operating in high densities across most urban areas." (GAO, May 2022, p9). Implementation must not occur and be accepted as a foregone conclusion without first establishing a regulatory and environmental framework that explores the following crucial issues:

- Assessment of Public Benefit
- Safety
- Potential/Likely Adverse Impacts

#### **Assessment of Public Benefit:**

Perception of public benefit is industry-driven and not supported by evidence and data. We cannot afford to **assume public benefit** without crucial examination of the issues. To do so would express a willingness to **retrofit regulation** and **delay examination of safety and adverse impacts** until after implementation. "Wait and see" experimentation, followed by examining "lessons learned" has not worked in the past (e.g., NextGen) and has not served the public. If there is not enough data available to establish benefit, implementation must be delayed. Community acceptance should not be the goal of community engagement.

Unsupported claims that UAM/AAM will be clean, quiet, and equitable should be examined.

- Clean: Clean operation is well into the future. Fossil fuel, "clean fuel," and electricity will all be used to operate these engines. Recharging of electric batteries presents challenges to the electric grid.
- Quiet: Joby's first noise study performed by NASA in Summer 2021, shows noise readings up to 85dB, even though the study was designed to minimize impacts by avoiding terrain and flying only during benign wind conditions (*Acoustic Flight Test of the Joby Aviation Advanced Air Mobility Prototype Vehicle*. Kyle A. Pascioni, NASA Langley Research Center). These noise levels will not be acceptable in cities, especially at densities Industry expects.
- Equitable: Although cities are working to devise a way to equitably deliver UAM availability while avoiding adverse impacts to equity communities, it is not likely that UAM, with seating for 2-4 passengers will serve the general public. Further, it is impossible to serve a community without impacting residents as UAM will necessarily traverse every community it serves to and from the nearest vertiport. The public would be better served by improving public ground transportation and phasing down the use of cars.

### **Safety:**

At this point, neither operational nor regulatory infrastructure is known. "Because these new designs have characteristics of both airplanes and helicopters, they do not fit into FAA's definitions for either of those classes." (GAO May, 2022)

Many key issues required for safe implementation of UAM/AAM are in progress but unresolved. The FAA holds responsibility for regulation of the airspace, including certification of aircraft and pilots; the National Airspace System; Flight Operations; Flight Paths; Flight Procedures; Performance Standards, Air Traffic Control.

Safety of aircraft in the air is always considered a priority. However, the safety of those on the ground, communities under the aircraft, is never adequately considered. Vehicles flying as low as 350 feet Above Ground Level present unprecedented challenges. As noted in Los Angeles 2021 Urban Airport Mobility: Policy Framework Considerations, "**Operating in low-level airspace increases the importance of existing and new regulations that address safety systems in UAM aircraft designs and operations**" (*Urban Air Mobility: Policy Framework Considerations*, Los Angeles DOT, 9/13/21). Safety is paramount in the air and on the ground -- people in their homes, offices, and schools, as well as to users of UAM.

### **Potential/Likely Adverse Impacts:**

Thus far AAM/UAM impacts to communities have not been considered, such as: safety, human health impacts from noise and degraded air quality, aesthetics, loss of privacy, children's learning, quality of life, economic, impacts of new vertiport infrastructure, and electric grid use. These and other impacts must be thoroughly studied prior to any implementation of AAM/UAM

### **RESEARCH REQUESTED:**

Research and resultant data are necessary. The objective of research is to thoroughly **examine the potential impacts** of the addition of UAM/AAM to the complex National Airspace System (NAS), prior to rollout. This data will serve **to guide the establishment of a Regulatory Framework for UAM, which is yet undefined**. Research to include:

- Scientific Studies to produce data and analysis of **potential and likely impacts** affecting airspace safety; human health (to include noise, air quality, children's learning); loss of privacy under and surrounding new flight paths and aircraft infrastructure, environmental damage, and **cumulative aircraft impacts** that will be produced by adding this additional layer of aircraft, recognizing that UAM/AAM will be additional to other aircraft impacts of all kinds, including drones.
- Study and analysis to determine if there is a genuine public benefit from UAM/AAM.
- Assessment of safety with the addition of this new modality of aircraft, including aircraft, pilots, airspace, infrastructure.

### **REGULATORY FRAMEWORK REQUESTED:**

UAM requires comprehensive new **Regulations** specific to this unique modality, which is neither helicopter nor plane, and requires extensive new ground-based infrastructure within populated residential and commercial areas. Regulations to include:

- A 10-15-year, **staged plan for the rollout** of new aircraft modalities, UAM/AAM, to include revokable pilot programs, and stage by stage operational, regulatory, and environmental thresholds that must be met for advancement to the next stage. Every stage would fully consider and incorporate newly available data and analysis, prior to rollout and widespread adoption. A detailed plan would include multiple opportunities for community engagement.
- Regulations must address safety, human health impacts, loss of privacy, economic damage, environmental impacts, and quality of life impacts on the ground from UAM/AAM.
- Regulations must include a **Community Engagement** component. Such inclusion must start now, before decisions are made. The research will provide the data citizens need to enter the discussion and to adequately be represented throughout. Right now, Community Engagement is happening after decisions are made. Include groups formed and mobilized in response to NextGen, which relocated and concentrated noise over new communities across the nation. Community Engagement must include representatives of these communities and all communities now and throughout the regulatory process, implementation, and post implementation.
- **UAM/AAM should remain outside the scope of ANCA of 1990.**

Respectfully Submitted,  
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**RELEVANT REFERENCES FROM PUBLISHED GAO MAY 2022, TRANSFORMING AVIATION:**

*“AAM Industry Will Need Public Acceptance to Succeed: FAA and NASA officials, and many of the stakeholders we spoke with, said that for the AAM industry to succeed, it will need to convince the public that AAM operations are safe, reliable, quiet, and equitable. Twenty-eight stakeholders we spoke with identified community engagement as an issue that remains to be resolved prior to the widespread adoption of AAM services.... In 2021 we reported that noise from helicopters—the aircraft with flight profiles most similar to eVTOL aircraft—can expose the public to a variety of potentially negative effects, ranging from annoyance to more serious medical problems such as sleep disruptions and cardiovascular disease. Although AAM companies have stated that the electric motors used on eVTOL aircraft are significantly quieter than traditional internal combustion engines, these aircraft will still have rapidly spinning propellers, and it is not yet known how much noise they will produce. In addition, some stakeholders identified public perceptions regarding the safety of eVTOL aircraft as vital to community acceptance. They noted that the public has never seen these aircraft in operation, and acceptance of large numbers operating in close proximity to people and buildings will require a concerted effort on the part of industry and government to show these aircraft’s safety by demonstrating safe, reliable operations” (GAO 22-105020, Transforming Aviation, May 2022, p14).*