

**SUMMARY OF AVIATION-IMPACTED COMMUNITIES
ALLIANCE/STUDIO CITY FOR QUIET SKIES/UPROAR LA
COMMENTS TO NASA ON INFORMATION COLLECTION FOR
REMOTELY ADMINISTERED PSYCHOACOUSTIC TEST FOR ADVANCED
AIR MOBILITY NOISE HUMAN RESPONSE**

**Prepared and presented by Jesse Chancellor to the DC Metroplex BWI Community Roundtable
25 June 2024**

BACKGROUND

- Advanced Air Mobility (AAM)/Urban Air Mobility (UAM) aircraft are expected to include low flying drones, flying taxis, etc. with vertical or short takeoff and landing capability to move people and cargo.
- The National Aeronautics and Space Administration (NASA) seeks to execute a remotely administered test on human response to noise to acquire responses to simulated AAM/UAM vehicle noise.
- Seeking to determine statistically significant differences in annoyance between subjects who live in low versus high ambient noise environments.
- Focused on areas of likely initial AAM/UAM operations (Los Angeles, Dallas, and New York City).
- Test subjects will participate in an online test application using their own computers and audio playback devices.
- AAM is coming. NASA's test findings apply to all communities to determine AAM annoyance levels and there will be subsequent research based on the obtained data.

NASA requested comments on:

- (1) Whether the proposed collection of information is necessary for the proper performance of the functions of NASA, including whether the information collected has practical utility;
- (2) the accuracy of NASA's estimate of the burden (including hours and cost) of the proposed collection of information;
- (3) ways to enhance the quality, utility, and clarity of the information to be collected; and
- (4) ways to minimize the burden of the collection of information on respondents, including automated collection techniques or the use of other forms of information technology.

Deadline for Comments was May 15, 2024

AVIATION-IMPACTED COMMUNITIES ALLIANCE/STUDIO CITY FOR QUIET SKIES/UPROAR LA COMMENTS

- For NASA to incorporate design that accurately reflects how impacted communities experience noise, which current FAA noise policy and metrics based on government agency and non-government agency research do not.
- The AAM)/UAM technologies are expected to have negative impacts from the number and type of aircraft such as:
 - the loudness (including the whirring of the multiple rotors),
 - visual pollution,
 - the sheer frequency of noise events,
 - hovering,
 - low altitude of overflight,
 - time of day (noise in the early AM and late PM hours has greater impact),
 - privacy concerns,
 - threat to wildlife and their habitat, and
 - the safety risk associated with more and different types of aircraft overhead.
- Drawing upon our communities' experience with the FAA implementation of NextGen, if the design, execution, and derived findings truly reflect the lived experience of communities who may experience AAM/UAM impacts then there is practical utility. Otherwise, no.
- Some terminology is too vague or will have unrealistic dB levels (e.g., "high" and "low" ambient noise with unspecified dB levels).
- The FAA's Neighborhood Environmental Survey (NES) from 2021 shows that a much greater proportion of people are highly annoyed by aircraft noise across all levels of DNL than was previously thought. Significant noise annoyance occurs at DNL levels significantly below 65 dB in the new National curve. The Schultz curve corresponds to 12.3% annoyance for DNL 65 dB. Extrapolating the same 12.3% of annoyance on the National NES curve corresponds to DNL 46 dB.

The groups also urged NASA “to ensure scientific and ethical integrity” by employing the following:

- Peer review and disclosure of reviewers.
- Disclosure of organizations involved with the design, execution, and findings (e.g., review of documents) by including who, organization, and how they were involved.
- Make available the raw data (or open data) so it is accessible and discoverable for additional researchers to build on the findings.
- Document participant selection criteria and process.
- Disclosure of AAM/UAM aircraft types, mix, error bars, altitudes, hovering, and what noise levels were used for the test.
- The community groups said the study should explicitly state important areas it is not covering such as:
 - Only covering a single AAM/UAM event (with single vehicle type and manufacturer), not the annoyance from the total count of AAM/UAM event overflights (multiple AAM/UAM events with a fleet mix); and
 - Only covering an AAM/UAM event (with single vehicle type and manufacturer) and did not consider the annoyance from the cumulative aviation impacts on the participant (existing aircraft noise included from multiple vehicles and multiple airports) that is a major factor in annoyance.