

Comment to FAA REDAC Committee

April 17, 2024 Meeting



The FAA shared an update on the Noise Policy Review at the ANE Symposium on March 6th, 2024. For the Federal Register Notice on Noise Policy Review, 4,857 comments were received.

The AICA encourages REDAC to read our FAA Noise Policy Federal Register comment, [Docket ID No. FAA-2023-0855-2206](#), because it provides a balanced representation from communities to inform your research and to support a National Airspace System that works for all. The AICA comment was endorsed by 643 comments.

To facilitate the submission of a meaningful comment to the FAA Noise Policy FRN, FAA and AICA jointly hosted a 2-hour panel discussion. This included 5 panelists. I was one of the three AICA panelists and Don Scata was one of the two FAA panelists. This dialogue was very valuable. I encourage REDAC to pursue a similar dialogue opportunity with researchers and selected and knowledgeable community members, in addition to allowing the public to submit comments to REDAC. Please consider better engagement with the community for a balanced perspective. If the FAA can do it, REDAC certainly can.

I am speaking at NOISE-CON 2024 in June about “Realizing a 21st Century Noise Policy”. Here are some key points I will make and could inform REDAC research and recommendations:

- The current FAA noise policy does not reflect the 21st century airspace environment. Better quantification of noise impacts and annoyance are needed to represent how Communities experience noise, gain public trust, and improve the accuracy of noise impacts prediction.
- Aircraft are quieter than decades ago. However, this is misleading because the noise footprints have changed under the NextGen concentration of aircraft, the number of operations has increased tremendously, and newer aircraft are aerodynamically much more efficient, which creates over energy problems in the descent and require aircraft to deploy speed-reducing devices (flaps, slats, landing gear). Engine noise is typically not the issue on descents because airframe noise, not engine noise, is the dominant noise for 50% on arrivals. The new noise is not engine noise, it is airframe noise, which needs as much attention or more than engine noise.
- More research is needed on the accuracy of AEDT for communities away from airports now that there are NextGen corridors. The FAA’s recent response on the ASCENT Project 53, *Validation of Low-Exposure Noise Modeling by Open-Source Data Management and Visualization Systems Integrated with AEDT* (ASCENT - The Aviation Sustainability Center – <https://ascent.aero/>, recently published in the Journal of Acoustical Society of America, “While we view Project 53’s initial results as useful, they are too narrowly focused to draw broad conclusions regarding the overall accuracy of AEDT’s noise modeling capability and its ability to meet the requirements for which it was developed.” Hence, this is why we need more research on AEDT’s accuracy, especially on arrivals noise, given that AEDT predictions are used to assess noise for significant impact decisions, formulate the NES national curve, and inform follow-on research related to the future FAA noise policy. The FAA needs to establish the accuracy of the AEDT modeling predictions. Any analytical model has error bars, including AEDT. The FAA says that we won’t know AEDT’s accuracy without doing enough research. However, there isn’t enough research done unless REDAC does it. So please recommend research to be done.
- Schultz’s 1978 study stated potential reasons for the data scatter in surveys and data points regarding annoyance such as the differences between measured noise and the actual noise exposure and background noise. The FAA presentation on FAA Aircraft Noise Impacts Research

Roadmap at NOISE-CON 2010, emphasized the need to address the large scatter, data variability of community survey data on annoyance such as looking into the number and types of aircraft operating, when aircraft operate, step changes in noise levels versus gradual or very small changes, background noise, and frequency of noise events. The extensive data from the NES could be used to review critical and additional factors to explain airport-to-airport differences in dose-response curves such as ambient noise, modeled noise and actual noise experienced, NextGen versus non-NextGen respondents, differences in vicinity to airport versus overflight communities. Despite the Schultz and FAA comments 45 and 14 years ago respectively, the understanding of data variability for annoyance for reasonable factors remains unanswered. Analyzing N-Above-Ambient (how many aircraft above ambient noise) as a more representative metric than DNL of the Communities' lived experience is required. Please support this request.

- It is understood that no single noise metric can cover all situations. Metrics to represent the 21st century must however represent the Communities' lived experience and meet ASNA requirements. We need the best metrics and we need accurate tools (AEDT) that capture the noise experience of communities. The MIT theses of Brenner and Yu, both overseen by Hansman inform AICA's recommendations for best metric criteria, namely: good predictor of annoyance level based on the NES data, peak day not Average Annual Day calculations, correlation with complaints, disclosure of the count of aircraft noise events, noise level experienced by people (e.g., people do not hear SEL or DNL), understandability, consideration of ambient noise, and penalties for nighttime and cadence of noise events.

All of the above are important requests but they are irrelevant unless there is a willingness to embrace new thinking for a 21st century noise policy.

- Address two distinct noise environments: vicinity to airports (within the DNL 65 contour) and overflight communities (outside of the DNL 65 contour).
- Use the same metric for decision-making and understanding.
- Use the count of events to represent the communities lived experience, especially for overflight communities.
- Recognize that ASNA requires a single system not a single metric.
 - The Introduction section of the report Analysis of the Neighborhood Environmental Survey, January 2021 states and misinterprets ASNA: "Through the Aviation Safety and Noise Abatement Act (ASNA) of 1979, Congress directed the Federal Aviation Administration (FAA) to establish a **single metric** [emphasis added] for assessing land use compatibility with respect to noise from aircraft operations, and to establish standards and methods for assessing the noise environment associated with ongoing aircraft operations near airports.
- Establish error bars on modeled noise because they need to be considered in the significant impact decisions. The current consensus on AEDT's accuracy of + or - x dB should be reflected immediately in noise modeling estimations and decisions.

Many ideas were shared for REDAC to consider for a balanced, independent, and inclusive analysis and/or research. We are available to support your efforts.

Respectfully submitted,

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