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Testimony

Aviation Noise: Measuring Progress in Addressing Community Concerns
Written Testimony of Airlines for America

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On behalf of our Airlines for America® (A4A) members,[1] thank you Chairman Larsen and Ranking Member Graves for the opportunity to testify today. The U.S. airlines have long understood that if we are to remain a critical engine of prosperity and progress we must proactively address and reduce environmental impacts associated with flying. This is especially true with regard to aircraft noise, and engaging with and responding to concerns of local communities will continue to be essential to successfully addressing aircraft noise in the future.

With a strong track record of deploying new, quieter technology and implementing noise abatement operational procedures, the U.S. airlines have played a critical role in the tremendous reductions in aircraft noise exposure achieved in the United States to date. Indeed, Federal Aviation Administration (FAA) data confirm that the number of people exposed to significant levels of aircraft noise in the United States dropped by 94% between 1975 and 2019, even as enplanements nearly quintupled[2] and the importance of air transportation to the continued vitality and growth of our national, state and local economies dramatically increased. Before the COVID-19 pandemic U.S. airlines drove about 5% of the nation's GDP, transporting 2.5 million passengers and 58,000 tons of cargo per day, helping drive $1.7 trillion in annual economic activity and more than 10 million jobs.

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[1] A4A's members are: Alaska Airlines, Inc., American Airlines, Inc., Atlas Air, Inc., Delta Air Lines, Inc.; Federal Express Corporation, Hawaiian Airlines, JetBlue Airways Corp., Southwest Airlines Co., United Airlines Holdings, Inc. and United Parcel Service Co. Air Canada, Inc. is an associate member.

[2] From 1975 to 2019, the number of enplaned passengers grew from 202 million to 967 million, while the number of people exposed to significant levels of aircraft noise fell from 7 million to about 440 thousand. From 2000 to 2019, noise exposures were reduced by 50% while enplanements rose 37%. See: https://www.airlines.org/dataset/u-s-airlines-tremendous-noise-record. During this period, cargo service grew even more rapidly, rising over 600% from 6.2 revenue ton miles (RTMs) in 1975 to 43.5 RTMs in 2019. *See also* FAA, *Overview of FAA Aircraft Noise Policy and Research Efforts: Request for Input on Research Activities To Inform Aircraft Noise Policy*, 86 Fed. Reg. 2722, 2723 (January 13, 2021) ("Since the mid-1970s, the number of people living in areas exposed to significant levels of aircraft noise in the United States has declined from roughly 7 million to just over 400,000 today. At the same time, the number of commercial enplanements has increased from approximately 200 million in 1975 to approximately 930 million in 2018") (footnote omitted); FAA History of Noise ("In 1975, one person on the ground experienced significant noise exposure for every 30 enplanements, compared to today where more than 2100 enplanements are flown for every person on the ground experiencing significant noise exposure.") (available here: https://www.faa.gov/regulations_policies/policy_guidance/noise/history/).

Aircraft noise cannot be addressed in isolation as we face equally pressing needs to address other environmental impacts – especially climate change. This can be challenging as technologies and strategies that reduce noise can have independent, often countervailing effects on other environmental impacts. For example, procedures and technologies that reduce noise may negatively affect fuel efficiency and, thus, aircraft emissions, including emissions of greenhouse gases (GHGs). Despite these challenges, our success in dramatically reducing aircraft noise has been matched by equally dramatic success in reducing aircraft emissions. Over the past several decades, the U.S. airlines have improved fuel efficiency and reduced GHG emissions by investing billions in fuel-saving aircraft and engines, innovative technologies like winglets (which improve aerodynamics), and cutting-edge route-optimization software. As a result, between 1978 and 2019, U.S. carriers improved their fuel efficiency by over 135%, saving more than 5 billion metric tons of carbon dioxide (CO_2), which is equivalent to taking more than 27 million cars off the road on average in *each* of those years. Looking at a more recent snapshot, data from the Bureau of Transportation Statistics confirm that the U.S. airlines improved their fuel- and CO_2-emissions efficiency by 40% between 2000 and 2019.

As leaders of a global aviation coalition, we have been committed to aggressive emissions goals for many years. In March 2021, A4A and our carriers announced a significant strengthening of our goals: we pledged to work across the aviation industry and with government leaders in a positive partnership to achieve net-zero carbon emissions by 2050. A4A carriers also pledged to work with the government and other stakeholders toward a rapid expansion of the production and deployment of commercially viable Sustainable Aviation Fuel (SAF) to make 2 billion gallons available to U.S. aircraft operators in 2030. On September 9, 2021, as a complement to the federal government's announcement of a SAF "Grand Challenge," A4A and its members increased the A4A SAF "challenge goal" by an additional 50%, calling for 3 billion gallons of cost-competitive SAF to be available for use in 2030. These new goals were adopted in the midst of the most severe economic crisis the commercial aviation sector has ever faced, demonstrating the strength of the airline industry's commitment to the environment and the depth of our recognition that environmentally responsible growth is essential to the vitality of our sector.

We recognize that despite our tremendous progress to date, aircraft noise remains a critical concern to many, particularly local communities. As such, ensuring continued progress in addressing aircraft noise levels – together with reducing aircraft emissions – remains a critical concern to U.S. airlines. A4A and our members are especially attuned to the reality that any particular person experiencing aircraft sound may have a negative experience and that changes in the sound environment – including those resulting from changes in aircraft operations – can influence that experience. Accordingly, we are strongly committed to continued progress and support the array of aircraft noise management regulations and procedures in place to address aircraft noise as well as ongoing efforts to assess concerns about aircraft noise. Here, it is essential to continue to improve community engagement, to continue participation in processes leading to the adoption of new or changed aircraft operational procedures and to reaffirm and expand the commitment of funding for research and development of noise reduction technologies. Finally, we welcome and strongly support the FAA's initiative to conduct a comprehensive, evidence-based, and inclusive review of existing noise policy.

Airlines' Efforts to Address Aircraft Noise

The tremendous progress made in reducing aircraft noise over the last several decades did not occur by happenstance. Rather, this success is the result of hard work and collaboration among policymakers, including Congress, the FAA and state and local officials, and aviation stakeholders including airlines, airports, aircraft and engine manufacturers, and community representatives. A4A and our member airlines are proud to have had a critical role in this success and welcome this opportunity to briefly highlight the activities that have brought past progress. We are committed to continuing these efforts and are confident they will contribute to further reducing aircraft noise and positively and proactively addressing ongoing public concerns.

Reducing Aircraft Noise at the Source

Acquiring Quieter Aircraft

Reducing noise at the source is inarguably the best way to reduce aircraft noise impacts on communities and deployment of new, quieter aircraft has been a key focus of carriers. Indeed, the FAA has affirmed that "the single most influential factor" contributing to the dramatic decline in the public's exposure to aircraft noise has been the "transition to quieter aircraft, which effectively reduced the size of the areas around airports experiencing significant noise levels."[3] Despite the significant financial challenges posed by the COVID-19 pandemic, airlines have continued to invest heavily in new aircraft. From 2017-2021, U.S. cargo airlines spent approximately $20 billion on aircraft and related equipment and took delivery of 154 aircraft; for 2022, they plan to spend an additional $5 billion for new aircraft, with 77 on firm order. U.S. passenger airlines took delivery of more than 1,300 new aircraft from 2017-2021, spending approximately $48 billion on aircraft, with plans to spend approximately $15 billion this year[4] and firm orders for 2,198 new aircraft for delivery in 2022 and beyond. These new aircraft are 75% quieter than first generation jets and 50% quieter than jets coming off the line 10 years ago.[5] The practical impact of the 75% reduction noise produced by aircraft is to decrease the area impacted by aircraft noise by an even greater amount.[6] Operating much quieter aircraft also enables carriers to provide more service without increasing overall noise impacts to the

[3] 86 Fed. Reg at 2723.

[4] Total capital expenditures of U.S. publicly traded passenger airlines were $73 billion from 2017-2021 and are expected to reach a record $23 billion in 2022 alone. This tally includes payments made for aircraft and other flight equipment, ground and other property and equipment (e.g., vans, air stairs, lavatory trucks, deicing vehicles), airport and other facility construction and information technology. The expenditures for aircraft are conservatively estimated to account for two-thirds of total capital expenditures.

[5] CRS, *Supersonic Passenger Flights* (Nov. 14, 2018) at 11 ("[I]n general, the subsonic commercial aircraft fleet is considered to be 75% quieter overall than aircraft produced in the 1970s"): The Boeing Company, *2021 Sustainability Report* at 21 ("each new generation of Boeing airplanes reduces emissions and fuel use 15%-25% more than the previous generation and has noise footprints up to 50% smaller than its predecessors").

[6] See National Aeronautics and Space Administration (NASA), *Fact Sheet: NASA's Quiet Aircraft Technology Program* (available here: https://www.nasa.gov/centers/langley/pdf/70882main_FS-2002-09-73-LaRC.pdf). See also EASA, Aircraft Noise – Figure 2.1 (available here: https://www.easa.europa.eu/eaer/topics/technology-and-design/aircraft-noise).

communities they serve: as the FAA affirms, "the noise produced by one Boeing 707-200 flight, typical in the 1970s, is equivalent in noise to 30 Boeing 737-800 flights that are typical today."[7]

While the pandemic severely impacted the industry, it also accelerated the turnover of our industry's fleet as older, noisier, and less efficient planes have been grounded and will ultimately be replaced by quieter and more efficient aircraft as we continue to emerge from the crisis. As a result, carriers started 2021 with an operating fleet nearly 20% smaller than at the beginning of 2020, with the bulk of aircraft removed from service being older aircraft with greater noise footprints. In fact, in 2020, the top nine carriers retired 339 aircraft, with 280 more retirements announced to occur in the coming years. From 2017-2021, the 11 top passenger carriers and their regional airline partners removed over 1,500 aircraft from service, with over half removed in the last two years. So, as we build back our fleets from COVID-19 we will not only start from base fleet that is quieter but, as demand for air travel recovers, we will meet that demand by expanding our fleets with quieter (and more fuel-efficient) aircraft.

Supporting More Stringent Aircraft Noise Standards

A4A and our members have also strongly supported the development and implementation of increasingly stringent aircraft noise standards, which help ensure that as airlines acquire new aircraft those aircraft are ever quieter. As you know, aircraft noise certification standards are developed and approved at the international level through the International Civil Aviation Organization (ICAO) and incorporated into U.S. law by the FAA. International coordination and cooperation are critical to ensure aircraft manufacturers can market their aircraft throughout the world and airlines have access to aircraft with improved noise performance. A4A and its member carriers commit significant time and resources to the ICAO process and have long supported the development of successively more stringent aircraft noise standards as we see this as critical to helping reduce aircraft noise at the source. The latest ICAO noise certification standard (codified as the Stage 5 noise standard in the United States) went into effect for large aircraft at the end of 2017 and for small aircraft in 2020. This new standard requires a cumulative reduction of 7 decibels from Stage 4 standards (ICAO's Chapter 4 standards adopted in 2006), which required a cumulative reduction of 10 decibels from the Stage 3 (ICAO Chapter 3) limit.[8] In an August 2020 report, the U.S. Government Accountability Office (GAO) found that "96 percent of large commercial airplanes [in the United States] are able to meet stage 4 or 5 standards."[9] Importantly, the recent February 2022 meeting of ICAO's Committee on Aviation Environmental Protection (CAEP), agreed that it would explore development of a new "dual" standard governing aircraft noise and CO_2 emissions, updating the existing standards by combining them into one "integrated" standard that would strengthen both aspects.[10] This will be challenging, but as pointed out above there can be significant

[7] 86 Fed. Reg. at 2723 (footnote omitted).

[8] For more detailed discussion of the history of ICAO's noise standards, see Government Accountability Office, *Aircraft Noise – Information on a Potential Mandated Transition to Quieter Airplanes* (August 2020) at 7-10.

[9] *Id*, "Highlights" summary.

[10] The Obama Administration negotiated the existing first-of-its-kind CO_2 Certification Standards for Aircraft, which were adopted by ICAO in 2017 and adopted into U.S. law in January 2021 (*Final Rule, Control of Air Pollution From Airplanes and Airplane Engines: GHG Emission Standards and Test Procedures*, 86 Fed. Reg. 2136 (Jan. 11, 2021) and will not be fully implemented until 2028.

interdependences (tradeoffs) between noise and CO_2 emissions and A4A is fully supportive of this effort. A4A – as always – will be participating in this ICAO effort to establish a standard that will provide the foundation for the production and certification of even quieter and more fuel-efficient aircraft in the future.

Supporting Investment in Research & Development

The U.S. airlines also are engaged in public-private partnerships with FAA, National Aeronautics and Space Administration (NASA) and aircraft and engine manufacturers to further advance quiet aircraft technology through efforts such as FAA's Continuous Lower Energy, Emissions and Noise (CLEEN) and Center of Excellence for Alternative Jet Fuels and Environment (ASCENT) programs. The CLEEN program has the longstanding goal to achieve a 25dB cumulative noise reduction relative to Stage 5. As part of CLEEN III, the noise goal has been updated to include a new element that explicitly targets reductions in community noise exposure. CLEEN has supported development of multiple technologies that help reduce noise, including adaptive trailing edge systems, advanced acoustic fan and liners, and composite frame, integrated propulsion system nacelle and ultra-high bypass propulsion technologies. An analysis completed by the Georgia Institute of Technology has confirmed that technologies developed "in the first phase of CLEEN will contribute to a 14% decrease in the land area exposed to significant noise, as defined by a day-night noise level (DNL) of 65 dB."[11] CLEEN III will support development of quiet high-lift systems and landing gears as well as advanced engine fan, combustor and nacelle technologies that will further reduce noise.[12] Importantly, Clean III also includes an effort to develop "noise-optimized flight path algorithms with integration into the Air Traffic Management System" to enable reduction of community noise exposure. As discussed above, airlines are investing billions to acquire these technologies in the form of new aircraft and engines as they become available. Importantly, CLEEN and ASCENT are also advancing our understanding of the relationship between aircraft noise exposure and health impacts, helping ensure that policy is based on sound, peer-reviewed science.

Responsibly Implementing New Noise-Reducing Aircraft Operational Procedures and Championing Community Engagement

Implementation of the Next Generation Air Transportation System (NextGen) has been a key priority of both the FAA and airlines as it is essential to improving the safety, efficiency and capabilities of the National Airspace System (NAS). Performance Based Navigation (PBN) is a core element of NextGen and a key to delivering its benefits including the potential to reduce environmental impacts on communities. NextGen not only improves safety of flight, it also critically improves efficiency, which directly translates into emissions reductions, not only of carbon emissions but other "criteria" pollutants subject to National Ambient Air Quality Standards (NAAQS), such as oxides of nitrogen (NOx, a precursor to the formation of ozone) and particulate matter (PM). Reductions of such pollutants can be particularly relevant in areas that have failed to attain NAAQS (known as non-attainment areas), many of which are urban

[11] Continuous Lower Energy, Emissions and Nosie Program (CLEEN) Summary and Status Report (available here: https://www.faa.gov/newsroom/continuous-lower-energy-emissions-and-noise-cleen-program#_Toc80621736). An analysis of the noise benefits of CLEEN II technologies is expected this year.

[12] See https://www.faa.gov/newsroom/continuous-lower-energy-emissions-and-noise-cleen-program

areas where achieving environmental justice is a particular challenge that must be met.[13] Accordingly, A4A and our member carriers are keen to ensure implementation of NextGen delivers these benefits to local communities.

Implementation of new procedures can also reduce net noise exposures around an airport. However, we recognize that in some cases PBN procedures may concentrate flight paths such that certain members of the community experience more noise or frequency of noise events, while others benefit from noise reductions. In addition, there have been challenges in communicating to affected communities the potential changes in the noise environment that can come with implementation of new procedures. No one benefits when new procedures are put in place after public consultation only for the procedures to be questioned on grounds that potential impacts were not properly communicated. Airlines devote a great deal of time and resources to ensure the successful development and implementation of new procedures. Uncertainty regarding newly adopted procedures not only puts their considerable benefits at risk but raises the specter of reverting to less efficient procedures that potentially increase overall noise impacts as well as emissions.

For these reasons, A4A and our members have championed improvements to the process used to develop new procedures to ensure communities are heard and their views taken into account as the procedures are developed and implemented. For example, A4A and our members were active participants in the NextGen Advisory Committee's (NAC) PBN Blueprint Community Outreach Task Group, which developed recommendations and best practices for community engagement for large and small NextGen projects, much of which centered on engaging with communities regarding aircraft noise exposures.[14] More recently, A4A was the principal author of a report prepared to respond to the FAA's request to the NAC for further advice regarding "delivery and use of PBN capabilities and in achieving operational benefits."[15] This report underscored that "the aviation community supports the sentiments in the FAA Administrator Dickson's January 24, 2020 letter to House of Representatives Member, Eleanor Holmes Norton, that the FAA is committed to engagement and dialogue with communities."[16] The report went on to affirm:

> There is a recognition from the aviation community and the FAA that ***this engagement must include local communities***. The FAA has employed a series of enhancements to its community engagement efforts, incorporating interface opportunities at several points throughout the procedure development process. This engagement occurs early and

[13] A4A and its members have long supported development and implementation of increasingly stringent aircraft engine standards governing NOx emissions. In addition, we strongly support the Environmental Protection Agency's pending proposal to adopt PM standards for aircraft engines. *Control of Air Pollution from Aircraft Engines: Emissions Standards and Test Procedures,* 87 Fed. Reg. 6324 (February 3, 2022).

[14] *See* PBN Blueprint Community Outreach Task Group – Report of the NextGen Advisory Committee in Response to a Tasking from The Federal Aviation Administration (June 2016).

[15] Letter from Daniel K. Elwell, FAA Deputy Administrator (December 10, 2019), included as Appendix A to *Final Report of the Major Air Carrier Performance Based Navigation (PBN) Way Forward Workgroup for the FAA's PBN Clarification Tasking to the NextGen Advisory Committee (NAC)* (June 2020) (2020 PBN Way Forward Report).

[16] 2020 PBN Way Forward Report at 18-19.

> often on multiple levels to ensure an understanding of the need for the procedural changes and what the proposed changes could mean to the community.
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> ***While this engagement has increased the time and cost associated with the development and implementation of PBN procedures, it is necessary and appropriate***. The expectation of the Workgroup is that the FAA's efforts to expand community engagement and to increase outreach and partnership with airport authorities will help address concerns and decrease costly challenges. ***The aviation community will continue to support the FAA in its community engagement efforts to further the common goal of national PBN proliferation***.[17]

We have done more than just champion improvement of community outreach efforts: A4A and our members have been actively engaged in numerous community roundtables throughout the country. A4A, for example has presented by invitation to community roundtables for Ronald Reagan National (DCA), Charlotte Douglas International (CLT), San Francisco International (SFO), Chicago O'Hare International (ORD) and Minneapolis-St. Paul International (MSP) and participated directly in former Congressman Rouda's Coastal Orange County Aircraft Noise Mitigation Task Force. A4A has also facilitated our members' participation in multiple FAA community outreach sessions regarding procedure changes, including at the Las Vegas, Denver, South-Central Florida, Northern California and Southern California Metroplexes. A4A members also have proactively engaged with communities, participating directly in community roundtables dedicated to addressing aircraft noise issues at airports throughout the country, including:

- DCA: Reagan National Community Noise Working Group
- Seattle International (SEA): SEA Stakeholder Advisory Round Table (StART)
- John Wayne International (SNA): City of Newport Beach and Airport Working Group; Coastal Orange County Aviation Noise Task Force
- Los Angeles International (LAX): LAX/Community Noise Roundtable
- John F. Kennedy International (JFK) and LaGuardia International (LGA): New York Community Aviation Roundtable, JFK Airport Committee and LGA Airport Committee
- Fort Lauderdale-Hollywood International (FLL): Broward County Aviation Department Noise Abatement Committee
- Baltimore/Washington Thurgood Marshall International (BWI): DC Metroplex BWI Community Roundtable
- Louisville Muhammad Ali International (SDF): SDF Community Noise Forum
- CLT: Airport Community Roundtable
- ORD: O'Hare Noise Compatibility Commission
- San Francisco International (SFO): SFO Airport/Community Roundtable
- MSP: Metropolitan Airports Commission – Noise Oversight Committee
- Boston Logan International (BOS): Massport Community Advisory Committee
- San Diego International (SAN): Airport Noise Advisory Committee

In this context, it is important to point out that to successfully address impacts of aircraft noise on communities, all stakeholders need to pull in the same direction. We note that even with strong engagement from airlines, airports and other community members warning against adoption of local plans that permit land uses incompatible with aircraft noise, local governments

[17] 2020 PBN Way Forward Report at 19 (emphasis added).

have nonetheless approved such plans. Recently, the City of Newport Beach approved a 13-acre development including a 314-apartment building near John Wayne International Airport, and the Fairfax County Board of Supervisors approved the construction of residential townhouses directly under the flightpath and within Dulles International Airport's 65 dBA DNL noise contours. Certainly, such actions are not the only reason for the challenges we all face in addressing aircraft noise and, as discussed in detail above, airlines recognize their responsibility to take strong measures to reduce noise impacts. However, it is imperative that local governments also take into account public concerns about aircraft noise and act responsibly when considering land use decisions within their jurisdictions.

Supporting Airports in the Development of Airport Noise and Land Use Compatibility Planning Studies (Part 150 Studies)

Airlines also support airports in the development of Airport Noise and Land Use Compatibility Planning Studies (known as "Part 150 Studies" because they are undertaken pursuant to a process defined in 14 CFR Part 150).[18] Under the FAA's Part 150 program, an airport can voluntarily develop a Noise Exposure Map and consider noise mitigation measures to reduce exposure to significant aircraft noise levels around airports both by reducing existing and preventing new noncompatible land uses, such as residential housing or schools. Such measures are included in a Noise Compatibility Program (NCP) developed through a collaborative process which must include public notice and opportunity to comment before it is submitted to FAA for approval. Airlines have participated alongside community members in the development of Part 150 Studies across the country. Noise mitigation measures can include noise insulation and land acquisition programs as well as aircraft noise abatement routes and procedures.[19] The programs are largely funded through two sources, Passenger Facility Charges (PFCs, federally approved local taxes collected by airlines and remitted to airports) and Airport Improvement Program (AIP) grants (funded through the Airport and Airway Trust Fund, which is predominately funded through taxes on airlines and their customers). To date, more than 250 airports have used the Part 150 process to implement noise mitigation measures costing nearly $10 billion.[20]

Looking Forward – Airlines Support Taking a Hard, Evidence-Based Look at Noise Policy

A4A and our members welcome FAA's recent confirmation that it is undertaking a comprehensive review of current federal policy on aircraft noise. We agree with FAA Administrator Dickson's affirmation that this review must be "thorough and nuanced" and based on evidence,[21] including data developed through FAA research and its Neighborhood

[18] This program is authorized by the Aviation Safety and Noise Abatement Act of 1979, 49 U.S.C. §47501 et seq.

[19] Implementation and funding of measures included in a Part 150 NCP requires more than FAA approval of the NCP; other requirements, such as FAA safety review and final approval of noise abatement procedures and compliance with requirements under the National Environmental Policy Act (NEPA) are prerequisites to implementation and funding.

[20] FAA has provided nearly $6 billion in AIP grants, while airlines have collected more than $3.4 billion in PFC revenue devoted to noise mitigation measures.
https://www.faa.gov/airports/environmental/airport_noise/part_150/funding/

[21] Letter from FAA Administrator Dickson to the Honorable Stephen F. Lynch (May 10, 2021).

Environmental Survey (NES), as detailed in its recent Federal Register Notice on FAA Aircraft Noise Policy and Research Efforts.[22] This science-based approach to assessing current aircraft noise policy is completely consistent with the law and common sense.

We commend the FAA's decision to avail itself of the Federal Mediation and Conciliation Service to ensure the process is broadly inclusive and attracts participation from all interested stakeholders, including local communities. An inclusive, science-based discussion that "challenge[s] long-standing assumptions"[23] is entirely appropriate. Among the important issues that will be considered are (a) whether the Day-Night Average Sound Level (DNL) metric should continue to be used as the metric to assess noise exposure, (b) if so, whether the DNL 65 dBA should continue to define the "significant noise exposure threshold" and the compatibility of residential land uses, and (c) whether the use of alternative or supplemental metrics may be appropriate in some circumstances. In this context, we also commend the FAA statement that it "will not make any determinations on implications from the emerging research results for FAA noise policies until it has carefully considered public and other stakeholder input, and assesses the factors behind any increases in community impacts from aircraft noise exposure."[24] This is particularly important where the issues are so complex and nuanced. For example, the GAO has observed:

> Using additional metrics for regulatory activities or as a significance threshold could require policymakers to develop new standards against which to judge aircraft noise and balance competing priorities regarding the safety and efficiency of the national airspace, aviation noise, and fuel emissions, among others. Additionally, other available metrics may not incorporate all of the elements of noise required by law (for instance, metrics conveying the number of overhead flights may not account for the duration of noise events). It is also important to recognize that the extent to which FAA can address noise impacts identified through the use of supplemental metrics may be limited due to a range of constraints related to airspace safety and security as well as competing priorities such as fuel efficiency.[25]

Additionally, the airport-specific results from the NES show that responses to aircraft noise exposure at the same DNL varies widely, suggesting that more than just aircraft noise exposure is driving those responses. A science-based assessment of aircraft noise policy requires an understanding of the role co-determinants play in people's responses to aircraft noise. It will also be important for FAA to consider that if, as the Congressional Research Service has observed, its "findings and recommendations based on these studies support an adjustment to the 65dB threshold, this would have policy and budgetary implications," including increasing airport funding needs for Part 150 programs and potentially reducing the tax base of local

[22] 86 Fed. Reg. 2722 (January 13, 2021).

[23] Letter from FAA Administrator Dickson to the Honorable Stephen F. Lynch (May 10, 2021).

[24] 86 Fed. Reg. 2722, 2728 (Jan. 13, 2021).

[25] GAO, *Aircraft Noise – FAA Could Improve Outreach through Enhanced Noise Metrics, Communication and Support to Communities* (September 2021) at 29 (footnote omitted).

governments surrounding airports by taking away land available for commercial/residential development.[26]

These are all important considerations that must be taken into account in the FAA's review of current aircraft noise policy. A4A is confident that the inclusive, evidence-based approach the FAA has committed to will produce effective results and provide the foundation for successfully addressing aircraft noise impacts in the future.

CONCLUSION

A4A remains committed to using all the tools in our toolbox to strive for an aviation system that is safe and efficient, while minimizing the impact of noise and emissions.

[26] Congressional Research Service, Federal Airport Noise Regulations and Programs (September 27, 2021) at 15.