



# ✂ Noise News

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## Current and Prospective Research of Noise Impacts on Health

### Massachusetts General Hospital

In November 2019, Massachusetts General Hospital published a study finding a plausible mechanism linking excess aviation and traffic noise to cardiovascular effects.

This study included 498 adults that underwent brain and artery imaging and were followed for 5 years to see if they experienced any major cardiovascular disease events (MACE), such as strokes and heart attacks. The researchers used U.S. Department of Transportation data to look at aggregate noise impacts over the course of 24 hours for each participant’s residential address. The researchers specifically evaluated the mechanism between noise and MACEs by measuring activity of the amygdala, a part of the brain crucial to processing emotions and stress responses. These associations were further adjusted to account for other risk factors, like socioeconomic factors, air pollution, and previous disposition towards cardiovascular events.

About 40 (8%) of the participants experienced a MACE over a median period of 4.06 years. The researchers found that every 5-dBA increase resulted in a 34% increase in experiencing a MACE. Using this research as a baseline, they are planning to investigate the link between noise exposure and other chronic diseases like obesity and diabetes, as well as use this information to develop relevant interventions.

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**“The researchers found that every 5 dBA increase resulted in a 34% increase in experiencing a [major cardiovascular event].”**

## Federal Aviation Administration

The Federal Aviation Administration (FAA) is currently seeking funding from the Office of Budget and Management (OBM) for a two-year National Sleep Study looking at the relationship between aircraft noise events and the probability of waking up. The goal is to develop nationally representative exposure-response relationships between aircraft noise and their effect on communities. On November 27, 2019, the FAA put out a call for public comments on their request to OBM.

The pool of participants will be drawn from a postal survey asking questions about sleep quality, annoyance level, and how they have coped with the noise and sleep disruptions. The selected participants will be mailed instrumentation to measure wrist movement, noise in the bedroom, changes in heart rate and body movement. The methodology for this study has been developed through FAA's Center of Excellence of Alternative Fuels and the Environment, known as the Aviation Sustainability Center (ASCENT). However, many of the airlines found that this solicitation was lacking in details of the study itself. A representative from the trade group Airlines for America indicated that there was not enough information to comment substantively, and that there was concern over the use of postal surveys for recruitment.

Other FAA research that is in progress, required from prior authorization directives, includes a study on possible health and economic impacts resulting from overflight noise. FAA has given \$1.7 million dollar grant to Massachusetts Institute of Technology and Boston University School of Public Health to conduct these studies within the next 3 years. Rebecca Cointin, the Acting Director of the FAA's Office of Environment and Energy, indicated that this study would use the FAA's Aviation Environmental Design Tool (AEDT) to generate noise contour data in conjunction with pre-existing nationally representative cohorts, like the Nurse's Health Study, and data on businesses in the area.

Sources: Airport Noise Report, Boston Globe, Massachusetts General Hospital Noise Regulation Report

## House Democrats' Infrastructure Bill Supports Noise Abatement

On January 29<sup>th</sup>, House Democrats unveiled a five-year, \$670 billion infrastructure plan to address essential infrastructure needs. The plan itself is quite broad, focusing on all infrastructure, with specific aviation investments as a core part of it.

The entire plan is expected to create 10 million jobs and to address the climate crisis. Within this plan includes \$30 billion to specifically address aviation noise and emissions, although the details on how are not completely specified. Some of the goals of the aviation spending are as follows:

- Incentivizing development of new aircraft and aircraft-related technology to reduce emissions and noise.
- Increasing research on overflight noise and implementation of noise mitigation/alleviation policies to improve quality of life for nearby communities.
- Creates an Airport and Airway Investment Program, funded by the Airport and Airway Trust Fund, that would help with overall modernization programs and improve airport capacity. This would also speed up completion of the FAA's NextGen airspace modernization program.

The amount provided by the proposed infrastructure bill exceeds the \$3.35 billion dispensed in authorized grant funding from the FAA's Airport Improvement Program, and the \$3.5 billion airports themselves can raise through the current passenger facility charge (PFC).

Sources: Airports Council International-North America, House Committee on Transportation & Infrastructure, Noise Regulation Report

## FAA-Allocated Funds through Grants and Airport Improvement Program for FY 2019

The FAA provides funding for noise mitigation projects through two pockets of funding: the Passenger Facility Charge (PFC) that is levied by airports, and the federal Airport Improvement Program (AIP) that comes directly from the FAA.

### Passenger Facility Charges

In FY 2019, the FAA allocated 3.2% (\$3.52 billion) of all PFC revenue (totaling \$108.5 billion) for airport noise mitigation projects. There were 109 airports that used monies from PFCs for noise mitigation projects. These expenditures are as follows:

\$ Amount Used for Noise Mitigation	Percent	Types of Projects
\$1.54 billion	44.0%	Multi-phase
\$1.39 billion	39.7%	Soundproofing
\$517.6 million	14.7%	Purchasing land/easements
\$20.6 million	0.6%	Miscellaneous
\$19.1 million	0.5%	Noise Monitoring Systems
\$18.5 million	0.5%	Planning

During FY 2019, LAX was the first airport to use over \$1 billion in noise mitigation in mostly residential neighborhoods. Other airports that exceeded \$100 million included Chicago O’Hare, Chicago Midway, Phoenix Sky Harbor International, and Minneapolis International.

### Airport Improvement Program

For AIP grants, about \$70.5 million for noise-related projects were issued in FY 2019 to 17 different airports. The funding amount for FY 2019 was \$46.2 million less than the FY 2018 totals (\$116.8 million) that went to 16 airports. These totals are listed on the next page.

\$ Amount Used for Noise Mitigation	Number of Airports	Types of Projects
\$54.9 million	10	Residential sound insulation
\$9.1 million	1	Sound insulation of public buildings
\$0	0	Noise monitoring systems/installation
\$3.6 million	7	Noise compatibility planning studies
\$2.9 million	1	Land acquisition and sound insulation

Most of the highest mitigation grant awards went to sound insulation programs, and were allocated to San Diego, Seattle-Tacoma, Forth Worth Alliance, Key West, and others.

Source: Airport Noise Report, Noise Regulation Report

## LAX and BOS Encourage Compliance with Noise Abatement

### LAX

In January 2020, Los Angeles World Airports (LAWA) launched the Fly Quieter Program (FQP) at LAX, a new public awareness program to recognize airlines that try to operate more quietly and be more considerate of nearby communities. They are describing it as a program to encourage better compliance with LAX noise abatement procedures, to use quieter aircraft, and take upon themselves voluntary efforts. Other airports such as Chicago O’Hare, Seattle-Tacoma, SFO, and others have programs with similar features, but the LAX program stands out with an additional point system for being more proactive. LAWA has developed a scoring system with additional criteria. Some of the criteria in the FQP include having the quietest fleet, no departure turns before reaching the shoreline, and greater stakeholder engagement. Points will be publicly tracked and LAX will publicly recognize operators that make extensive efforts to reduce the noise burden.

**BOS**

In Massachusetts, congressional lawmakers are more directly requesting major airlines to make efforts in reducing airport noise. While MA lawmakers are engaged legislatively to reduce airport noise, they are also making direct asks to airlines. Senators Elizabeth Warren (D-MA) and Edward J Markey (D-MA), and Representatives Stephen F. Lynch (D-MA-8), Joseph P Kennedy III (D-MA-4), Katherine Clark (D-MA-5), and Ayanna Pressley (D-MA-7) all signed this letter, specifically asking American, Delta, and Southwest to take efforts to retrofit their aircraft with noise-reducing generators, and provide information about that effort by February 28.

Back in 2016, the Massachusetts Port Authority (Massport) and the FAA signed a Memorandum of Understanding (MOU) agreeing to develop strategies to reduce noise levels. JetBlue, Air France, British Airways, United, and a few others have already taken measure, or are planning to take measures to retrofit their aircraft. The letter specifically notes that, in response to a similar congressional letter sent in 2018, JetBlue announced it would retrofit its entire Airbus fleet. The letter also notes some of the other legislative action that MA congressional leaders have undertaken and are continuing to engage in.

Source: Airport Noise Report, CBS Boston, Office of Elizabeth Warren

## **Proposed Legislation Would Lower DNL Needed for Noise Compatibility Grant**

In the House of Representatives, Representative Grace Meng (D-NY-6) has introduced a new bill expanding home eligibility under the FAA's Part 150 Airport Noise Compatibility Program (ANCP) on January 14th. The bill, entitled the Decrease Noise Levels Act, would require the FAA administrator to change Part 150, Title 14 of the Code of Federal Regulations, to decrease the day-night average noise level (DNL) threshold from its current level of 65 dB to 60 dB immediately, and to adjust any relative ranges to make them consistent with the reduction. If passed, the bill would then subsequently require the FAA to publish a publicly available report detailing plans and strategies to reduce the DNL in residential areas to 55 dB within 10 years. Additionally, the FAA would need to include in its community outreach about the DNL the results of studies of metrics alternative to the DNL when they are completed. These alternative metrics studies were previously included in provisions of the FAA Reauthorization Act of 2018, also by Representative Meng's efforts.

The DNL is an average measure of the noise level experienced in an area in the daytime and the nighttime, with nighttime noise (10pm-7am) measurements artificially increased by 10 dB before averaging. As it currently stands, airports whose operations result in noise levels at or exceeding a 65 dB DNL are considered "incompatible" with noise sensitive land uses, like parks and residential areas. Under the FAA's Part 150 ANCP, homes that are within this 65 dB DNL contour are eligible for federally funded noise insulation programs. About 80% of funding for the ANCP comes from Airport Improvement Program grants, and 20% comes from the airport itself. The lowering of the DNL threshold from 65 to 60 DNL would, therefore, make thousands to millions more homes eligible for federal grant-funded noise insulation.

In a press release, Representative Meng noted that Europe has noise limits that are almost 10 dBA lower than the United States, and that the derivation of the present DNL standard has been in place since the 1970s, and requires updating to adjust to today's air traffic regime.

Representative Meng is the former co-chair and a founding member of the Congressional Quiet Skies Caucus. Her district, which covers various neighborhoods in Queens, has been affected by flight path changes resulting from the FAA's NextGen modernization program.

Source: Airport Noise Report, Columbia University Mailman School of Public Health, Office of Grace Meng

## San Diego Community Group Sues Airport Authority Over Insufficient Noise and Environmental Mitigation Plan

On February 7, the community group Quiet Skies San Diego sued the San Diego County Regional Airport Authority over their approval of the Environmental Impact Report (EIR), issued by San Diego International Airport, in the San Diego County Superior Court.

The EIR is in support of the Airport Development Plan, which was recently approved at the beginning of January by the airport authority. This plan would add 11 new gates and create space for overnight jet parking, which Quiet Skies San Diego has projected would increase the amount of operations per hour from 36 to 50, or a 38% increase.

Quiet Skies San Diego, the plaintiff group in the case, is comprised of residents from San Diego and neighboring towns and cities, including La Jolla, Mission Beach, Ocean Beach, Pacific Beach and Point Loma. The group was formed in response to increased noise experienced from the implementation of the FAA's NextGen program. They are in favor of "smart growth", meaning that expansion and development must be balanced with proper noise and environmental mitigation.

This lawsuit specifically comes after the group accused the airport of rushing completion of both the Airport Development Plan and the EIR without waiting for the results of two ongoing aviation and noise studies: one on Flight Paths and Procedures and a Part 150 Airport Noise Compatibility Study. Both in-process studies are expected to be

completed in mid-2021 before being submitted to the FAA for comment and for implementation.

The plaintiffs are being represented by the firm Chatten-Brown, Carstens & Minter LLP. They are arguing that the EIR itself violates the California Environmental Quality Act (CEQA). The EIR makes the claims that the medical evidence of detrimental impacts resulting from noise is uncertain, and that the animal and human studies on this relationship have not been definitive or conclusive. Since there is lack of complete scientific certainty, the EIR summarily dismisses the concern, but the plaintiffs argue that CEQA does not require complete certainty before analyzing potential impacts and consideration of mitigation measures. The plaintiffs charge that it is this lack of consideration of feasible mitigation for increasing noise levels that has violated CEQA.

The plaintiffs have specifically asked the court to rescind parts of this report that violate the obligations of the airport authority to disclose possible environmental harm resulting from operations and growth, and to adopt or consider reasonable mitigation measures.

Source: Airport Noise Report, NBC San Diego

## FAA Administrator Response To Congressional Quiet Skies Caucus Elicits Criticism

On January 24, FAA Administrator Steve Dickson responded to an extensive detailed letter in response to questions and concerns raised by the House of Representatives Quiet Skies Caucus. The original letter covered requests regarding the status of noise issues and abatement in mainly East Coast airports, progress on requested annoyance and flight dispersal studies, and other project specifics. Central to this letter was inquiry regarding FAA's lack of responsiveness to community concerns, and how the FAA planned to build that capacity, as well as how the FAA would help to reduce the noise

burden resulting from its NextGen airspace modernization initiatives.

In his response, Administrator Dickson indicated that “not seen evidence of a lack of responsiveness to community concerns from FAA”, that the FAA could only engage community concerns through airport roundtables, and that “aircraft noise is a shared responsibility by the aviation industry, not solely an FAA issue”. He stated that the FAA does not determine overall consumer demand or control airport building decisions.

The FAA Administrator’s response has been sharply criticized by lawmakers. Representative Stephen Lynch (D-MA-8) and Eleanor Holmes Norton (D-DC) released a joint press release on February 26, calling it the “latest failure by FAA to respond to constituent requests”. They focused on the Administrator’s lack of recognition the responsiveness problem, as well as not recognizing the FAA’s role in noise concerns. They both indicated they would continue using their oversight function on committees to direct the FAA in addressing impacted communities.

Barbara Lichman, an expert in aviation law and blogger at Aviation & Airport Development Law News, also indicated that FAA has more control over noise issues than portrayed in the letter. “FAA takes the position that it is powerless to influence the factors that are the primary cause of airport noise such as numbers of people that want to fly, and goods that must be delivered by air” she wrote, “While that may be true with respect to demand for air travel, it is patently untrue with respect to supply.” In particular, she highlighted that FAA does have to sign off on proposed airport reconfigurations if it will “affect adversely the safety, utility or efficiency of the airport”, and that the FAA has control over expansions of airport capacity with its authority.

Source: Office of Representative Stephen Lynch, Office of Representative Eleanor Holmes Norton, Aviation & Airport Development Law News