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September 28, 2023

Docket Operations, M-30
U.S. Department of Transportation (DOT)
1200 New Jersey Avenue SE
Room W12-140, West Building Ground Floor
Washington, DC 20590-00001

Re: Docket No. FAA-2023-0855

Dear Sir or Madam:

The Town of Milton, Massachusetts ("Milton" or the "Town"), through its Select Board, is pleased to provide comments in response to the FAA's "Request for Comments on the Federal Aviation Administration's Review of the Civil Aviation Noise Policy" (the "Request for Comments").

As background, Milton is significantly overburdened with overflights to and from Boston's Logan International Airport ("Logan"). The noise and pollution burden has only increased during the past dozen years. The fleet mix has changed, with an increase in larger jets in operation; the volume of flights at Logan was increasing before the COVID-19 pandemic and is currently climbing back to pre-pandemic levels; and aircraft are overflying Milton at lower altitudes than they had previously, creating more and louder noise. However, the root of the problem is the FAA's implementation of Next Generation Air Transportation System ("NextGen") Performance-Based Navigation ("PBN"), which has caused flight paths to the Nation's airports, including Logan, to be concentrated over a fewer number of people. Prior to NextGen and PBN, air traffic was dispersed over wide geographic areas.

PBN has produced inequitable, unbearable and dangerous results for some neighborhoods, placing hundreds of loud, low-flying planes a day over the same people, disrupting sleep, creating anxiety, and increasing health risks for people exposed to concentrated airplane noise[1] and

[1] Residential exposure to aircraft noise and hospital admissions for cardiovascular diseases: multi-airport retrospective study *BMJ* 2013;347:f5561 doi: 10.1136/bmj.f5561 (Published 8 October 2013); Aircraft noise and cardiovascular disease near Heathrow airport in London: small area study *BMJ* 2013;347:f5432 doi: 10.1136/bmj.f5432 (Published 8 October 2013); Airport noise and cardiovascular disease *BMJ* 2013;347:f5752 doi:

pollution.[2] The noise burden has caused some residents to sell their homes. Post-pandemic, many people work from home full-time or part-time, but their work is interrupted by incessant airplane noise from the "highways in the sky" over their homes. We hear from residents of Milton who are not only annoyed by days of constant airplane noise, but are unable to sleep, work, enjoy being outdoors in their own backyards, and engage in conversation with neighbors because of the noise burden. In addition to residential neighborhoods, numerous public and private elementary schools and high schools, senior living communities, and a college are located under, and overburdened by, loud aircraft noise from concentrated RNAV arrival and departure flight paths at Logan. For the past decade, this Board and many of our employees and appointees have spent an exorbitant amount of time and resources battling the noise burden that the FAA's actions have imposed on our community.

Our comments herein respond to the numbered topics and questions raised by the FAA in Part II of its Request for Comments with respect to the civil aviation noise policy (the "Policy").[3]

Preliminarily, we make three important observations. First, we are not, nor should we be expected to be, noise experts. We are elected local government officials writing to you on behalf of our Town and on behalf of the approximately 28,000 residents of Milton. We believe our role is to identify existing noise conditions and problems with the FAA's current sole noise metric and suggest alternative noise measures for the FAA to evaluate and consider. The FAA employs many aviation specialists, noise experts, analysts, and scientists, and is in a much better position than most commenters will be to propose and analyze new noise metrics, particularly those of a technical nature. In our view, the FAA should consult with both the United States Congress and the United States Environmental Protection Agency ("EPA") about the relevance today of its decades-old Policy, the concerns raised by commenters, and proposed changes to the Policy. We urge you to do so.

Second, Milton is located approximately ten (10) miles southwest of Logan and, as such, would be characterized, for purposes of your Request for Comments, as an overflight or corridor community rather than as a community in the vicinity of an airport. Accordingly, our comments are directed at the FAA's Policy *as it relates to overflight communities*. As set forth below, we believe that both (a) the Day-Night Average Sound Level ("DNL") metric and (b) the FAA's use of DNL 65 dB as the level for determining whether noise impacts on overflight communities are significant are outdated, irrelevant and grossly inadequate in the age of NextGen/PBN aviation

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10.1136/bmj.f5752 (Published 8 October 2013). *See also* Soumya Karlamamgla, "How Noise Can Take Years Off Your Life," *The New York Times*, June 14, 2023.

[2] Although this comment letter addresses only noise because that is what the FAA's Civil Aviation Noise Policy governs, we note that air traffic generally, and PBN in particular, raise significant pollution-related public health concerns. Aircraft noise and pollution must be addressed by the FAA through both policy and its regulation and oversight of the Nation's air traffic.

[3] The Request for Comments states that the "policy is set forth in various agency regulations, orders, guidance and policy statements."

operations. We leave to other commenters suggestions for the Policy as it relates to communities that are adjacent to or in the vicinity of an airport.

Third, in addition to the comments provided herein, we support and endorse the comment letter filed or soon to be filed by the Massport Community Advisory Committee ("MCAC"). Among other things, we agree with the MCAC's summary of existing noise conditions in overflight communities; its call for the FAA to treat aircraft noise as a public health issue; its recommendation that the National Academies of Medicine prepare a consensus report on the public health issues caused by aviation noise; and its call for strict enforcement of violations of new noise metrics through noise-based landing fees, noise surcharges, and other mitigation methods.

Executive Summary

Mr. Don Scata, Manager of the Noise Division in the FAA's Office of Environment and Energy, summarized the problem well in his introduction to each of your four (4) Noise Policy Review webinars:

> "Historically noise issues were airport-centric, [the] result of infrequent operations and dispersed flight paths, and very loud jet aircraft. Noise concerns were raised primarily by communities immediately adjacent to airports. In communities[,] lived experience included low cadence of relatively loud aircraft noise events separated by long intervals. Our current noise problem is an airspace or overflight noise problem resulting from frequent operations, concentrated flight paths, relatively quiet aircraft, and noise concerns raised primarily by corridor communities further from airports. Communities['] lived experience includes a high cadence of daily, relatively quiet aircraft noise events separated by short intervals."[4]

For overflight or corridor communities such as Milton, DNL 65 dB is a wholly inadequate and outdated noise metric, and must be abandoned. A revised Policy must apply to commercial jets and all new entrants into the National Air Space, and create a system of metrics that captures noise burden by vehicle type, location and purpose. Such metrics should be companion, not supplemental, metrics. The FAA's Neighborhood Environmental Survey has shown that the Schultz Curve is outdated and not an appropriate method for representing community response to aircraft noise. We urge the FAA to revise its Policy to implement Number Above ("NA") 45 dB as an alternative noise metric for overflight communities.

As it revises the Policy, the FAA has an opportunity to reverse the public's negative perception and mistrust of the FAA, but that will happen only if the new Policy actually solves the noise problems that NextGen foisted upon overflight communities with no meaningful notice or public input. It is imperative that changes to the Policy, including the establishment of one or more noise metrics, be applied retroactively as well as prospectively. That is, a revised Policy must address

[4] FAA's Noise Policy Review Webinar #1 at 8:38 through 9:25, and Transcript, page 5. FAA's Noise Policy Review Webinar #2 at 8:37 through 9:25, and Transcript, pages 5-6.

current noise problems; it *cannot* be limited to only future decision-making and future environmental reviews. The FAA must collaborate with, and be much more responsive to, state and local government officials than it has been if it wishes to solve the serious public health issues caused by concentrating aircraft noise (and pollution) over residential and other populations.

Detailed Comments

1. Vehicle Type

Currently, the aviation noise that plagues Milton stems primarily from commercial jet arrivals to, and departures from, Logan. Helicopter activity (including but not limited to helicopter traffic over I-93 in East Milton) also contributes to the noise problem. We anticipate that, for the foreseeable future, these will remain the most significant causes of the noise burden on the Town. However, some areas of Milton have been impacted by noise from drones. Moreover, news reports and the Request for Comments indicate that advanced air mobility ("AAM") is an emerging system of automated transportation that is expected to carry passengers and cargo between relatively short destinations. As such, AAM, including but not limited to air taxis, can be expected to impose a substantial noise burden on communities across the country in the not too distant future.[5]

We urge the FAA to modify its Policy to apply to all current and future air vehicle activity. In addition to airplanes (commercial, private and governmental), the Policy should apply to drones, AAM and other future air vehicle activity. As required by the Aviation Safety and Noise Abatement Act of 1979 ("ASNA"), the Policy must use a system of metrics. The FAA now realizes that the system must capture noise burden by vehicle type, location (*i.e.*, in the vicinity of airport or vertiport or away from airport or vertiport (such as an overflight community)), and purpose (*e.g.*, for purposes of compliance with the National Environmental Policy Act of 1969 ("NEPA") or noise mitigation eligibility).

Your Request for Comments specifically mentions supersonic activity. In 2019, we provided comments to the United States Department of Transportation in response to the FAA's proposed revised regulations for "Special Flight Authorizations for Supersonic Operations" (Docket No. FAA-2019-0451). A copy of our comment letter dated August 21, 2019 is attached hereto as Exhibit A. In that letter, we objected to the proposed regulations, noting that until the FAA resolves the noise and pollution burdens that PBN has imposed on Milton and many other communities across the Nation, the FAA must not permit supersonic testing (let alone supersonic air travel) to occur. We also urged the FAA to seek guidance from the United States Congress and the EPA on the wisdom (or lack thereof) of permitting supersonic testing and travel. Our position with respect to supersonic activity has not changed since 2019. We reiterate the comments contained in our August 21, 2019 letter, and strongly oppose any consideration of supersonic activity by the FAA, whether through the Policy or any other means.

[5] Please see our comments on AAM in our letter to the U.S. Department of Transportation ("DOT") dated August 8, 2023 and submitted to Docket No. DOT-OST-2023-0079. Our comment letter was posted on August 10, 2023 with ID No. DOT-OST-2023-0079-0103.

2. Operations of Air Vehicles

As noted above, Milton would be characterized as an overflight community rather than a community in the vicinity of an airport. (Request for Comments, Part II.2.b and Part II.2.c) However, as drone activity continues to grow and AAM operations emerge, it is possible, and perhaps even likely, that Milton could eventually fall within the FAA's categories of communities that are in the vicinity of vertiports or "in the vicinity of UAS (drone) package delivery or other newly emerging technology operations." (Request for Comments, Part II.2.e)

For current subsonic fixed-wing commercial overflight operations, we are concerned about noise from flights en route to and from Logan and, in particular, flights that are making their final descent and approach to Logan. In our view, the FAA's revised noise metric(s) should be used for both the FAA's decision-making and its public disclosure of noise impacts. A system of noise metrics should allow for different metrics and thresholds for the FAA's Part 150 regulations and decision-making with respect to land compatibility, Part 161 determinations of eligibility, and NEPA reviews.

Arrivals to Logan's closely spaced parallel Runways 4R and 4L are (1) flying over Milton at altitudes that are too low and (2) far too often deploying landing gear over Milton, sooner than is necessary for safety purposes. Deployment of landing gear contributes to the noise that is heard by residents. Additionally, the Town is impacted by noise from concentrated flight paths for aircraft departing Runways 27 and 33L at Logan.

As discussed below, for overflight communities, DNL is an outdated and grossly inadequate noise metric and must be replaced by one or more alternative noise metrics. Companion metrics, not supplemental metrics,[6] are required to address the multi-level matrix of noise exposure by vehicle type, location and regulation. Additionally, runway use restrictions (especially at nighttime) should be imposed, and the FAA should impose monetary penalties on commercial and private airlines that violate the restrictions. Noise complaint data can and should help inform the FAA's revision of the Policy as well as its future rulemaking and decision-making.

At this time, we are not in a position to comment on the type(s) of noise metric(s) that should apply to drones or AAM operations. AAM technology is too new and emergent for us to have sufficient knowledge of it to comment. However, for the reasons stated below, at a minimum, DNL should not be the metric for determining acceptable levels of noise from drones and AAM. We expect that, similar to the problems created by PBN flightpaths, the frequency of drone/AAM noise events, not the loudness/intensity of the event, should be the primary factor captured by the noise metrics used for decision-making about drone/AAM noise exposure. Additionally, we encourage the FAA to use C-weighted measurements and estimates.

[6] Our understanding, based on the Request for Comments and the FAA's Noise Policy Review Webinars, is that supplemental metrics would not be used by the FAA in connection with decision-making under NEPA, but that companion metrics would be so used.

3. DNL

The Request for Comments concedes that the Policy is "based on research conducted many decades ago." In response to the ASNA, the FAA established, and continues to use, a single metric – DNL – to measure and analyze how aircraft noise is experienced by people on the ground. According to the Request for Comments, ASNA

> "requires the FAA to develop a single system for analyzing aircraft noise exposure; however, the system does not have to be composed of a single metric. Rather the system must have a high degree of correlation between the projected noise exposure levels and the surveyed reactions of people to those noise levels and must account for the intensity, duration, frequency, and tone of noise-producing activity, as well as the time of occurrence."

Pursuant to FAA Order 1050.1F, the FAA considers aviation noise impacts significant only if they are DNL 65 dB or greater.[7]

DNL has long been criticized as an adequate measure of aviation noise impacts. DNL is a flawed metric because it measures sound and averages it over a 24-hour period (a so-called "representative day") on an annual basis. Therefore, DNL dilutes actual noise impacts by averaging noise data over a daily basis and an annual basis. For communities like Milton, DNL's flaws also include the fact that, because of input assumptions, the software used to estimate DNL (AEDT) does not adequately capture noise events resulting from deployment of an aircraft's landing gear. Regardless of whether DNL was ever an appropriate metric for aviation noise, the FAA's reliance on DNL as its sole measure of noise is obsolete and irrelevant in the age of NextGen and PBN.

By diluting overflight noise over a 24-hour period and on an annual basis, DNL does not accurately measure the real life noise impacts to people on the ground. PBN causes overflight communities like Milton to experience, on some days, flyovers from several hundred airplanes and, on other days, zero flyovers. Averaging them on an annual basis dilutes the true level of annoyance, sleep deprivation, work and school interruption,[8] conversation interruption, and adverse health impacts that are suffered by people on the ground in Milton on days on which hundreds of aircraft fly overhead, separated by very short time intervals (i.e., a minute or two). No citizen of the United States lives in the FAA's model DNL world or experiences a "representative

[7] ASNA requires that the FAA's single system for assessing aviation noise is one "which includes noise intensity, duration, frequency, and time of occurrence", which is different than accounting for frequency as stated in the above quotation. "Including" frequency means that the metric distinguishes aviation noise burdens from, say, one hundred 94.4dBA SEL noise events close to an airport compared with one thousand 84.4 dBA SEL noise events in overflight communities, both of which would have a DNL of 65 dBA despite the 10-fold difference in frequency. Although DNL "accounts" for frequency in its logarithmic average, it does not "include" frequency in its representation of noise burden.

[8] With more people working from home post-pandemic, PBN has caused greater work interruptions in overflight communities than it did even a few years ago.

day" of airplane noise. People live in the real world and, all too often, the unlucky ones in overflight communities suffer the ill effects of hundreds of airplanes flying over them in an 18-hour period or longer.

The DNL metric also underrepresents the noise impacts attributable to the deployment of landing gear. When landing gear is being lowered, an airplane emits a loud whistling sound that is highly audible and disturbing to people on the ground. The deployment of landing gear only increases the noise annoyance that is already caused by the overflying aircraft. Our community has substantial experience with this issue, because pilots routinely deploy landing gear earlier than they need to, adding to the noise burden wrought by NextGen. At a minimum, the Policy should recognize early deployment of landing gear as a contributing factor to the noise burden in overflight communities, and take it into account in establishing one or more new noise metrics.

By the FAA's own admission, most overflight communities have DNL levels below 65 dB, yet still experience noise and disturbance at a level much greater than the DNL reveals.[9] During the FAA's Noise Policy Review Webinar #2, Ryan Weller, an environmental protection specialist with the FAA's Western Service Center, explained that DNL 65 dB is usually the level of noise experienced at an airport itself or by a community in the vicinity of an airport, whereas DNL contours for overflight communities are typically at lower levels (e.g., DNL dB ranges in the 40s and 50s). Mr. Weller observed that the FAA is considering and seeking comment on, among other things, whether "DNL is the right metric for addressing those communities that are farther away or, as we call them now, overflight communities, in the lower DNL levels, and does the DNL as a metric adequately address the impacts that those communities … are experiencing…."[10] During the same webinar, Andrew Brooks, Regional Environmental Program Manager for the FAA's Eastern Region Airports Division, referenced a presentation slide that showed both DNL contours for Logan and noise complaints filed by residents along Logan's arrival and departure RNAV corridors. Mr. Brooks acknowledged that

> "one of the things that we've realized, especially through the implementation of NextGen and precision based navigation, as these procedures come forward, is that the effects that communities are experiencing from these procedures are being experienced much farther afield than what our current Policy considers. And certainly seeing how those complaints have grown at farther areas, that's kind of our attempt to capture those concerns, those complaints, into a noise policy analysis to develop methods for analyzing those changes, disclosing those changes,

[9] In 2012, Milton residents filed 102 noise complaints with the Massachusetts Port Authority ("Massport"), which operates Logan. In 2016 and 2019, Milton residents filed 21,796 noise complaints and 41,575 noise complaints, respectively. Other communities that are impacted by departures and arrivals from and to Logan also experienced a significant increase in the number of noise complaints filed by residents.

[10] FAA's Noise Policy Review Webinar #2 at 1:02:50 through 1:04:45.

informing communities underneath those changes, and determining how those would influence future decisions moving forward."[11]

We applaud the FAA for acknowledging what citizens and elected officials across the country have been arguing to it for years: that NextGen, PBN, and concentrated RNAV corridors have called into serious question the legitimacy and relevance of the FAA's use of DNL 65 dB as a valid measure of noise exposure in overflight communities. For residents of these communities, it is possible that none of the hundreds of aircraft flying over them in a single stream, hour after hour for most of a day, will produce noise at a level of 65 dB. However, that does not mean that the noise generated by those hundreds of planes, separated by only a minute or two from each other, is insignificant. To the contrary, the concentration of flight paths traveled by hundreds of planes per day produces near-constant noise and a much greater level of annoyance, sleep deprivation, speech interference, and other adverse health risks than would a single overflight with a noise level of 65 dB.[12]

We believe that, for overflight communities, DNL must be either lowered significantly, *i.e.*, from DNL 65 dB to DNL 45 dB, or replaced with one or more alternative metrics that will accurately measure the noise that is experienced by people under concentrated RNAV corridors. The FAA's use of DNL 65 dB as the measure of significant noise exposure for overflight communities is in no way reflective of current conditions on the ground.

The FAA's framing paper entitled "The Foundational Elements of the Federal Aviation Administration Civil Aircraft Noise Policy: The Noise Measurement System, its Component Noise Metrics, and Noise Thresholds" (the "Framing Paper") identifies various other noise metrics. Among those metrics identified as "Single Event/Operational" on pages 12 and 13 of the Framing Paper are NA[13] and Time Above ("TA"). NA is defined as "[a] metric that presents the number of noise events that exceeds a specified noise level over a set time interval." TA is defined as "[a] metric that presents the total duration of noise events above a specified noise level over a set time interval." Examples provided for NA and TA in the Framing Paper use 60 dB as a threshold.

We believe that NA and TA are potential alternative metrics to DNL, but only if a reasonable dB level is used as the threshold. In our view, 60 dB is too high a threshold for overflight communities like ours, which is ten miles from the airport and, post-RNAV, is overflown by several hundred large aircraft at low altitudes when Logan's Runways 4R/4L are in use. NA and TA would have to be measured at a much lower level than 60 dB because the noise

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[11] FAA's Noise Policy Review Webinar #2 at 1:04:45 through 1:06:06.

[12] During the FAA's Noise Policy Review Webinar #2, Mr. Weller acknowledged, with respect to NextGen, that "it would be probably fairly annoying to have an aircraft fly over your house on a consistent basis where you only used to have one every so often…", and invited comments on alternative metrics. *See* FAA's Noise Policy Review Webinar #2 at 1:52:05 through 1:53:00. We agree with Mr. Weller except for his use of the word "fairly." We have been telling the FAA for years that hundreds of planes flying over Milton residents in an 18-hour period or longer is not only *extremely* annoying but unbearable and dangerous to public health.

[13] As noted above, NA means Number Above.

is virtually constant for 18 hours or more. An appropriate level would be 45 dB, because ambient noise levels in communities like ours tend to be in the 40s range.[14] The threshold should be *no more than* 50 noise events per 24-hour period. Additionally, we believe the FAA should use C-weighted measurements and estimates or, at a minimum, study whether both A-weighting and C-weighting are appropriate tools for new noise metrics and a new Policy.

Lastly, we note that noise complaint data can help the FAA identify where noise problems exist in corridor communities. We believe such data should be considered in the FAA's decision-making processes for determining whether noise impacts are significant. The United States Court of Appeals for the District of Columbia Circuit has held that noise complaints, in and of themselves, constitute substantial evidence of a noise problem regardless of whether DNL is above 65 dB. *See Helicopter Assoc. Int'l, Inc. v. F.A.A.*, 722 F.3d 430, 435-37 (D.C. Cir. 2013). Indeed, in that case, the FAA itself based its decision-making on noise complaint data.

In *Helicopter Assoc.*, the FAA, seeking to abate helicopter noise over residential populations on Long Island, mandated a specific route for helicopters traveling between New York City and Long Island. 722 F.3d at 432. The FAA modeled the noise impacts and concluded that the sound levels were below DNL 45 dB. *Id.* at 433. Despite the fact that DNL was well below 65 dB, the FAA "relied on a host of externally generated complaints from elected officials and commercial and private residents of Long Island" and decided to mandate a new helicopter route. *Id.* at 435-436. The Court of Appeals noted that DNL 65 dB

> "was established for use in mapping noise exposure within the vicinity of airports, not residential areas far removed from an airport environment (citation omitted). It serves as a reference point from which the FAA can reasonably deviate when determining whether a particular noise reduction intervention is in the public interest (citation omitted)."

Id. at 436. Accordingly, the Court of Appeals concluded that the petitioning helicopter association failed to meet its burden of proving that the FAA used an incorrect methodology. *Id.* at 437.

Noise complaints filed by residents in overflight communities such as Milton have increased dramatically.[15] The *Helicopter Assoc.* decision established the validity of noise complaints as a measure of significant noise impacts and annoyance to overflown residents, and affirmed the FAA's use of such data for decision-making purposes. In addition to establishing an alternative noise metric to DNL 65 dB, the FAA should take into account noise complaint data when making decisions that will impact overflight communities.

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[14] The World Health Organization recommends 45 dB (Lden) for aircraft noise exposure (and 40 dB (Lnight) for nighttime aircraft noise exposure). *See* https://cdn.who.int/media/docs/default-source/who-compendium-on-health-and-environment/who_compendium_noise_01042022.pdf?sfvrsn=bc371498_3.

[15] See footnote 9.

4. Averaging

For the reasons stated above, the FAA's use of DNL to model a representative day (referred to in the Request for Comments as an Average Annual Day ("AAD")) is outdated and irrelevant in the age of NextGen/PBN. Averaging dilutes the true level of annoyance, sleep deprivation, work interruption, and adverse health impacts that are suffered by people on the ground on days on which hundreds of aircraft fly overhead. Therefore, DNL, AAD and averaging are not appropriate ways to describe noise impacts for overflight communities burdened by NextGen. We do not believe that any other alternative averaging scheme is appropriate. For the reasons stated above, we recommend that NA 45 dB be used in place of any averaging for purposes of both decision-making and public disclosure of noise.

5. Decision-making Noise Metrics

With the implementation of NextGen/PBN beginning at least a dozen years ago at some airports, the FAA's decision-making metric for actions that are subject to NEPA and airport noise compatibility planning studies pursuant to 14 CFR part 150 is long overdue for an overhaul. DNL makes absolutely no sense as the FAA's metric when flight paths are concentrated over fewer people who experience hundreds of overflights on days that an RNAV path is in use. We reiterate that Milton often experiences overbearing, incessant noise from several hundred airplanes from early in the morning (i.e., approximately 5:00 a.m.) until well after midnight. On such days, there is no relief whatsoever. Yet DNL averages the 18 or more hours of constant noise on such days with the lack of noise that the same people experience when there are no overflights. The average result is misleading and in no way reflects the reality that people on the ground experience.

It has been disingenuous for the FAA, more than a dozen years after it began to implement NextGen, to cling to DNL as its sole noise metric when making decisions or taking any action. Increased noise complaint data from affected communities nationwide demonstrates how irrelevant and obsolete DNL has become. Moreover, elected officials at the federal, state, and local levels of government have, for years, brought to the FAA's attention serious public health concerns related to PBN's concentrated flight paths. Concerns and comments expressed by governmental officials on behalf of the people they represent should also be accorded weight by the FAA in its decision-making processes.

We identified above NA 45 dB as the noise metric that we believe should be used for overflight communities. Part II.5.b of the Request for Comments asks whether the FAA should "use a noise metric other than DNL to evaluate noise exposure in quiet settings, such as national parks, national wildlife and waterfowl refugees, etc." Our answer is yes, but the FAA's example is woefully inadequate. The FAA should use a noise metric other than DNL to evaluate noise exposure in all settings in overflight communities, and particularly those in which residential homes, schools, hospitals, senior living facilities, business districts, recreational facilities and the like are situated. Often, these areas are already subjected to noise from motor vehicle traffic, buses, trains, commercial and industrial operations, and everyday life. Residential populations should be accorded as much, if not greater, consideration than wildlife populations.

6. Communication

First, the FAA can improve communication regarding changes in noise exposure by meeting in person (and not solely via Zoom or other online platforms) with elected officials and members of the public in communities that bear the burden of the FAA's actions. Such corridor communities are easily identifiable; they are the communities that have been pleading for relief from aviation noise and concentrated flight paths caused by NextGen/PBN for the past decade. Noise complaints in unaffected communities are non-existent or minimal, whereas residents and elected officials in affected communities file many complaints and continue to seek relief from the FAA and airport operators. Therefore, it is reasonable for affected communities to expect the nine (9) regional FAA offices to host regional meetings to provide information about changes in noise exposure and actions that the FAA plans to take.

Second, we urge the FAA to listen to, and take seriously, the public health concerns voiced by residents and elected officials, engage in meaningful dialogue, and propose real-world, workable solutions to noise problems. For far too long, public perception has been that the FAA acts in a manner that is dismissive of both noise complaints and requests for relief from NextGen. If safety truly is at the core of the FAA's mission, vision, and values (as its mission statement on its website states), then the FAA must give serious consideration to the safety (*i.e.*, the public health) of people on the ground whose daily lives and well-being have been adversely impacted by the FAA's decision-making and abolish DNL as the noise metric for overflight communities. For overflight communities, DNL 65 dB should be replaced with NA 45 dB.

In response to Part II.5.c of the Request for Comments, we suggest that the FAA hold regional public information sessions about emerging AAM trends and how the FAA will regulate drones, AAM and the noise that they will generate. We suspect that most U.S. citizens are not well informed on the topic of AAM generally. The public will benefit from proactive educational outreach by the FAA.

7. NEPA and Land Use Noise Thresholds Established Using DNL or for Another Cumulative Noise Metric

We were not surprised to read in the Request for Comments that the FAA's "Neighborhood Environmental Survey results show [a] higher percentage of people who self-identify as 'highly annoyed' by aircraft noise across all DNL levels studied in comparison to the Schultz Curve." That study demonstrates that, as a result of PBN, the Schultz Curve is outdated as a method for representing community response to aircraft noise. The Schultz Curve should be replaced by the National Curve.

8. FAA Noise Thresholds Using Single-Event or Operational Metrics

The FAA notes in the Request for Comments that its Neighborhood Environmental Survey demonstrated that "people are bothered by individual aircraft noise events, but their sense of annoyance increases with the number of those noise events." This is hardly surprising. NextGen has placed hundreds of aircraft over Milton on many days of the year. The incessant loud noise

produced by hundreds of overflights at low altitudes substantially increases both the burden on Milton and its residents and results in increased noise complaints that Milton residents file with Logan's operator, Massport. The FAA must adopt a noise metric that takes into account the fact that, thanks to NextGen, some residential populations are exposed to hundreds of "single events" a day, while others rarely or never experience any aircraft noise.[16]

As noted above, we recommend that the FAA consider NA and TA as potential alternative metrics to DNL, but only if a reasonable dB level, such as 45 dB, is used as the threshold. We believe that an alternative noise metric of NA 45 dB makes the most sense for overflight communities such as ours.

9. FAA Noise Thresholds for Low-Frequency Events

The Request for Comments identifies as an example of a low-frequency event "the launch and reentry of commercial space transportation vehicles authorized by the FAA Office of Commercial Space Transportation." As there are no spaceports (launch/reentry sites) in the New England area, we offer no comments on this issue.

10. Miscellaneous

In response to part II.10 of the Request for Comments, we make two important comments.

A. Retroactive Application of Revised Policy

Any changes to the Policy, including but not limited to the establishment of one or more alternative noise metrics for overflight communities, must be accompanied by the FAA's commitment to revisit (and, more importantly, to resolve the noise and pollution problems associated with) extant RNAV flight paths. Changes to the Policy must *not* be applied only prospectively to future decision-making and actions by the FAA; they must address current problems.

When NextGen and PBN were first implemented, the serious public health risks to people in overflight communities could not have been known by the public, but could and should have been anticipated and known by the FAA. Over the past decade, the FAA has continued to roll out more RNAV paths at airports nationwide despite the outcry from affected communities and elected officials at all levels of government. Notwithstanding that the FAA has had at least ten (10) years' notice of serious public health issues stemming from NextGen, the FAA has stubbornly clung to its obsolete DNL 65 dB metric and resisted, until now, considering any alternative noise metric.

[16] In addition to the weaknesses described above, utilization of DNL pits communities against each other, and makes it more challenging to find community-based solutions to overflight noise. Utilizing a more accurate measure of noise and annoyance would help communities assist the FAA and local airport operators in identifying real solutions to noise complaints.

Through your various Noise Policy Review Webinars, FAA employees have stated that any revisions to the Policy will be applied only to future decision-making, and will not change existing noise exposure, existing flight paths, or completed or ongoing environmental reviews.[17] That position cannot stand the test of time. It would be unconscionable for the FAA not to use a revised Policy to solve serious, foreseeable, and existing public health problems that the FAA itself created when it implemented NextGen and PBN. The ongoing damage done to corridor communities across the country by the federal government only ensures the continuance of noise complaints, public outcry, and public pressure on Congress and the Executive Branch to act. The FAA would be wise to commit itself to using a revised Policy, among other measures,[18] to provide short-term and long-term relief to overflight communities.

B. FAA's Opportunity to Reverse Public Perception and Solve Problems

When reviewing comments and the Policy, the FAA should consider the adverse public perception of itself and its wholly inadequate response to community concerns about NextGen. In general, public trust in the federal government has declined in recent decades.[19] Specifically, the FAA's failure to abate civil aviation noise impacts on residential populations has created mistrust of the FAA, and will make it harder for the FAA to regulate AAM. It is imperative that the FAA relieve the noise burden on overflight communities in an expeditious, diligent manner and with a sense of urgency.

We cannot emphasize to you enough that Milton, and many other communities in Massachusetts and around the country, have been overburdened by aircraft noise (and pollution) for more than a decade. Despite substantial efforts since 2013 by Milton's local officials (including but not limited to this Board and our employees and appointed representatives to the Massport Community Advisory Committee and a volunteer advisory committee), State Senators, State Representatives, U.S. Senators, U.S. Representatives, and tax-paying residents, neither the FAA nor Massport has done *anything* to provide permanent or temporary relief to noise and pollution problems that the FAA created by implementing NextGen/PBN at Logan.

A multi-year study conducted by the Massachusetts Institute of Technology ("MIT") and funded pursuant to a joint agreement between the FAA and Massport produced, among other things, recommendations for regional dispersion of overflights arriving to Runway 4R at Logan (*i.e.*, three flyable alternative RNAV paths that would be used in rotation with the existing RNAV path) and the relocation of a waypoint for departures from Runway 27 at Logan. Both recommendations would help to reduce the substantial aviation noise burden on Milton. MIT delivered its recommendations to the FAA more than two years ago, but, to date, the FAA has

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[17] *See, e.g.*, FAA's Noise Policy Review Webinar #3 at 46:48 through 48:20; FAA's Noise Policy Review Webinar #4 at 1:53:53 through 2:00:02.

[18] PBN technology itself can be used to disperse air traffic. The below-referenced MIT study of operations at Logan demonstrated that it is possible to use multiple flight paths for arrivals to a single runway in rotation with each other to disperse air traffic and noise more equitably.

[19] *See* https://www.pewresearch.org/politics/2022/06/06/public-trust-in-government-1958-2022/.

failed to implement them, even on a trial basis. Despite the fact that Milton engaged extensively with the FAA, Massport and MIT during the study, the FAA has had zero proactive communication with Milton about MIT's recommendations during the past two years. Therefore, it should come as no surprise that the perception many people have of the FAA is that it does not take seriously the valid public health concerns that were first brought to its attention a decade ago. Sadly, the perception is that the FAA cares more about efficiency and fuel cost savings for commercial airlines than it does about the safety and health of people on the ground. However, the FAA now has an opportunity to change that perception and to take a leadership role on a critical environmental and health issue. We urge you to do so.

As an agency of the federal government, the FAA should engage with elected officials at the federal, state and local levels with respect to the Policy in a collaborative and meaningful way. Local government officials are your colleagues in government, and represent some of the same people that the FAA and the DOT serve. We offer these comments on the Policy in good faith and in the spirit of collaboration. We desire to work with you to achieve solutions that will benefit the people we represent and others similarly situated while at the same time being workable for the FAA.

11. Literature Review

We call to your attention the health studies (one of which is cited in Appendix 1 to the Framing Paper) and the recent article published in *The New York Times* that are cited in footnote 1 to this comment letter.

Thank you for the opportunity to comment on the Policy and for your consideration of our recommended modifications.

Sincerely,

MILTON SELECT BOARD

Michael F. Zullas, Chair

Erin G. Bradley, Vice Chair
Roxanne Musto, Secretary
Richard G. Wells, Jr., Member
Benjamin Zoll, Member

cc: U.S. Secretary of Transportation Pete Buttigieg
U.S. Senator Edward J. Markey
U.S. Senator Elizabeth Warren

Representative Stephen F. Lynch
Representative Ayanna Pressley
Attorney General Andrea Campbell
State Senator Walter F. Timilty
State Representative William Driscoll, Jr.
State Representative Brandy Fluker-Oakley
Milton Airplane Noise Advisory Committee
Milton Community Advisory Committee Representative
Milton Town Counsel

Exhibit A

Town of Milton Select Board's August 21, 2019 letter to the U.S. Department of Transportation
(re: FAA's proposed revised regulations for
"Special Flight Operations for Supersonic Operations")

See attached.

COMMONWEALTH OF MASSACHUSETTS
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MEMBER

August 21, 2019

Docket Operations, M-30
U.S. Department of Transportation
1200 New Jersey Avenue SE
Room W12-140, West Building Ground Floor
Washington, DC 20590-00001

Re: Docket No. FAA-2019-0451

Dear Sir or Madam:

The Town of Milton, Massachusetts, through its Select Board, hereby objects to the FAA's proposed revised regulations for "Special Flight Authorizations for Supersonic Operations," to be codified as 14 C.F.R. § 91.818.

Supersonic civil flights are prohibited without the FAA's express authorization. 14 C.F.R. § 91.817. This little-used FAA regulation dating back to 1973 allows the FAA to authorize supersonic flights for the purpose of testing and developing new aircraft. Currently, application requirements are found in Appendix B to 14 C.F.R. Part 91. In its June 28, 2019 notice of proposed rulemaking (the "Notice"), the FAA states that it has received only "a handful of inquiries since 1973" and has granted only three (3) authorizations for supersonic flight testing, two (2) of which related to the testing of an experimental space vehicle attached to an airplane. Notwithstanding this, according to the Notice, the FAA "expects that renewed interest in the development of supersonic aircraft will lead to increased requests to authorize flights in excess of Mach 1."

As a preliminary matter, we note that, in the four decades since the FAA promulgated 14 C.F.R. § 91.817 and Appendix B, there have been material changes in aviation operations both in the United States and internationally. For example, today there are more airlines than there were

in the 1970s; the fleet mix has changed, with an increase in larger (and louder) jets in operation; and the volume of flights has increased. Perhaps most significantly, in recent years, the FAA has implemented NextGen precision-based navigation, causing a concentration of flight paths at airports around the country. NextGen has produced inequitable, unbearable and dangerous results for some neighborhoods, placing hundreds of loud, low-flying planes a day over the same people, disrupting sleep, creating anxiety, and increasing health risks for people exposed to concentrated airplane noise and pollution.[1] For years, communities located near airports around the United States have been sounding the alarm about NextGen, raising serious public health concerns and seeking relief from the FAA. Yet the FAA has failed to address the noise and pollution problems wrought by NextGen.[2] After several years, no solutions to this FAA-created problem have been forthcoming from the FAA.

As leaders of a community with neighborhoods that are already significantly overburdened with overflights to and from Boston's Logan International Airport, we are very concerned about what the FAA described in the Notice as "renewed industry interest in developing new civil supersonic aircraft." The Notice makes clear that the FAA's revisions to Appendix B to Section 91.817 "are intended to support the growth of the civil supersonic industry." The Notice further states that technological advances as well as renewed industry interest "have prompted the FAA to consider policy and regulatory changes to enable the domestic certification and operation of [supersonic] aircraft." The Town of Milton strongly objects to the FAA's supporting or in any way fostering the advent of supersonic flights to, over or from the United States. Unless and until the FAA resolves the very significant NextGen-related airplane noise and pollution concerns that we and so many other communities have raised, the FAA should take no action to further the aviation industry's apparent recent interest in supersonic air travel. No supersonic testing, let alone supersonic air travel, should be performed until the FAA has fully addressed the problems caused by NextGen.

By the FAA's own admission, in the four decades since the FAA promulgated its existing regulations on supersonic aircraft, the airline industry has shown little commercial interest in supersonic air travel. Indeed, Concorde, the only supersonic commercial jet ever to be placed in service, ended operations in 2003. The combination of NextGen and supersonic air travel would have a disastrous environmental impact on our town and other communities around the country. Therefore, we believe that, before the FAA takes any action to "support the growth of the civil supersonic industry," the United States Congress and the United States Environmental Protection Agency (the "EPA") should weigh in on whether, as a matter of public policy, the encouragement and development of supersonic aircraft is in the Nation's best interest. We are sending copies of this letter to our Congressional delegation with a request that they consider the wisdom of permitting supersonic aircraft to fly over the United States as well as its regulation by

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[1] Residential exposure to aircraft noise and hospital admissions for cardiovascular diseases: multi-airport retrospective study *BMJ* 2013;347:f5561 doi: 10.1136/bmj.f5561 (Published 8 October 2013); Aircraft noise and cardiovascular disease near Heathrow airport in London: small area study *BMJ* 2013;347:f5432 doi: 10.1136/bmj.f5432 (Published 8 October 2013); Airport noise and cardiovascular disease *BMJ* 2013;347:f5752 doi: 10.1136/bmj.f5752 (Published 8 October 2013).

[2] In Boston, a study being performed by the Massachusetts Institute of Technology for the FAA and the airport operator is now in its third year. No interim relief has been provided to the affected communities, and none of the first round of recommendations has yet been implemented.

a federal agency that has thus far failed to resolve the serious damage that its NextGen program has caused to communities.

In addition to the foregoing general objection to the FAA's pursuit of supersonic air operations at this time, we offer the following comments on the specific text of the proposed revised regulation. The FAA proposes, in part, to move application criteria from Appendix B to 14 C.F.R. § 91.817 to a newly created Section § 91.818. While we do not object to a mere reorganization of existing application requirements, we do object to certain revisions to, and the substance of, portions of the proposed regulation. Additionally, in response to the FAA's request for comments on removing or retaining Section 91.818(b), we urge the FAA to remove such provision.

1. Time of Day

Proposed Section 91.818(a)(5) would require an applicant to include "the time of day the flights would be conducted." Section 91.818(a)(5) would make clear that "[p]roposed night operations may require further justification for their necessity." The increased noise from supersonic flights would be unduly burdensome during daytime hours, and even worse at night when people are trying to sleep. Under no circumstances should nighttime testing of supersonic aircraft be permitted. Communities that are already adversely affected by NextGen cannot and should not be subjected to the noise of supersonic jets, either during daytime or nighttime hours.

2. Additional Reason for Authorization

Currently, the FAA may authorize supersonic flights for only four (4) reasons: to show compliance with airworthiness requirements; to determine the sonic boom characteristics of an aircraft; to establish a means of reducing or eliminating the effects of sonic boom; and to demonstrate the conditions and limitations under which a supersonic flight will not cause a measurable sonic boom to reach the ground. To this list, the FAA proposes to add, through Section 91.918(a)(8)(v), a fifth reason: to measure the noise characteristics of an aircraft to either demonstrate compliance with noise requirements or determine limits for operation. The Notice describes this new reason for authorization as "forward-looking" because it may help establish noise limits for supersonic air travel, which do not currently exist. As stated above, unless and until the FAA adequately responds to and resolves the significant harm it has already imposed on communities as a result of its NextGen implementation, we object to any action that may add to the noise and pollution burden imposed upon people on the ground.

3. "Overocean" Testing

Section 91.818(a)(9) would require an applicant to show "why its intended operation cannot be safely or properly accomplished over the ocean at a distance ensuring that no sonic boom overpressure reaches any land surface in the United States." While the revised language is clearer and better than the existing text, we believe that the FAA must go further than requiring an applicant to justify its request for testing supersonic jet capability over land. Instead, the FAA should mandate that future supersonic testing be conducted over the ocean (in such a manner that no sonic boom overpressure reaches land) successfully before any testing over land is authorized.

4. Duration of Authorizations

Section 91.818(e)(1) would authorize the Administrator to determine the length of time that is necessary for supersonic flights to be flown in a test area, presumably on a case-by-case basis. The Notice states that Appendix B does not currently specify a maximum time period for testing supersonic flights. We believe that a bright line test must be provided in the regulation. A maximum allowable testing duration, which may be shortened but not lengthened by the Administrator, must be stated. We further believe that the FAA should seek the input of the EPA in determining the maximum allowable testing duration.

We agree with the FAA that an applicant should submit separate applications for testing supersonic flights for different phases of a project. However, we believe that the FAA must do more than "encourage" such separate applications; the regulation should be revised to mandate separate applications for distinct phases of a project.

5. Test Areas

The Notice provides that:

> "[t]o support the current development efforts of the industry, the FAA seeks to provide supersonic flight test applicants with the broadest opportunity to request an appropriate flight test area, consistent with applicable regulations. Whether an applicant chooses to request an area already used for non-civil supersonic flights or an area in another location would be up to the applicant. The ability to request a flight test area appropriate for an applicant's needs would allow the applicant to control the costs and benefits of various options, and to develop its business plan accordingly. The requirement to submit the environmental impact information remains, which allows the FAA to determine the acceptability of the location and the effect on the environment of the proposed flights as well as its duty to determine the level of review required under NEPA."

This paragraph makes clear that the FAA prioritizes the airline industry's business purposes and costs, not the need to protect either the health of people on the ground who would be affected by supersonic test flights or the environment. Section 91.818(a)(6) should not leave it up to aviation industry applicants to designate a test area to be overflown. If overland flights are to be considered, the regulation must designate as a test area either an area that is unpopulated or, at worst, one of the military test ranges (the locations of which are not disclosed in the Notice) that the FAA approved for three (3) previous applicants. According to the Notice, environmental impact statements have already been approved for such military test ranges. The Notice also points out that using these military sites will be "more efficient and less costly" than establishing a new test area. Therefore, these sites, not residential areas, should be the approved test areas. Specifically, we object to any testing of supersonic aircraft at or near Boston's Logan International Airport.

6. Supersonic Operations Outside Test Area

The Notice invited public comment on whether the FAA should maintain or remove a provision (Appendix B, section 2(b)) of the existing regulation that allows an applicant to request supersonic non-test flights outside of a test area. For the reasons stated in the Notice, we strongly urge the FAA to remove Section 91.818(b) from the proposed regulation. According to the Notice, the "prerequisites for this supersonic operation are considerable" and would be "difficult" to satisfy, and "the FAA knows of no aircraft that can meet the 'no overpressure' provision." Forty-five years after the existing regulation was promulgated, "no operator has applied for an authorization to demonstrate a supersonic flight capable of producing no measurable sonic boom overpressure such as to qualify for this operating allowance." Lastly, the Notice points out that "speeds slightly above Mach 1 are often the least fuel-efficient and may have the most negative effects on an aircraft."

We submit that removal of Section 91.818(b) from the proposed regulation will have no measurable consequence upon any aircraft that may be under development. Testing is a necessary prerequisite to commercial flight operations and would continue to be governed by the re-codified regulation. If at some point in time, the aviation industry is able to successfully test a supersonic flight first over the ocean and then over an appropriate overland test area, the FAA will have adequate time to write a new and suitable regulation to govern flights outside of a test area. Such a regulation would be informed by current aviation practice and conditions, not aviation practice and conditions that existed in the 1970s.[3] We believe that the FAA must seek current guidance from the EPA and the United States Congress on the critical issue of whether supersonic air travel is in the Nation's best interest and, if so, under what conditions and limitations it should be authorized. Removing Section 91.818(b) and crafting an appropriate new regulation only after successful testing is demonstrated and Congressional, EPA and other governmental and public input is obtained, is in the best interests of the people we represent and, in our opinion, the entire Nation.

[3] We submit that the Notice itself provides the obvious answer to the question of whether Section 91.818(b) should be included in the final regulation. The Notice states that "[t]he records of the adoption of this provision in 1973 contain no discussion of how these flights would be included in the overall operation of the national airspace system (NAS). The sheer volume of increased activity in the NAS since 1973 would demand a more comprehensive consideration of the impact of supersonic flights. Moreover, in the event that some level of supersonic boom or other noise generated by supersonic flight is determined to be consistent with the FAA's statutory authority to protect the public health and welfare, the FAA would consider all available regulatory tools . . . to allow such flights, *rather than rely on a 45-year-old standard that was included in a regulation designed primarily to approve test flights* (emphasis added)."

Lastly, as noted above, our position is that unless and until the FAA adequately resolves the significant noise and pollution burden it has imposed on our town and other communities through its implementation of NextGen's precision-based navigation, the FAA should pursue no new technology or measures that would add to that burden.

Thank you for your consideration of our comments.

Sincerely,

MILTON SELECT BOARD

Michael F. Zullas, Chair

Melinda A. Collins, Vice Chair

Anthony J. Farrington, Secretary

Kathleen M. Conlon

Richard G. Wells, Jr.

cc: U.S. Senator Edward J. Markey
U.S. Senator Elizabeth Warren
Representative Stephen F. Lynch
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