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VIA EMAIL AND VIA OVERNIGHT MAIL

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To Whom It May Concern:

The FAA’s proposed 4L RNAV procedure, applied to the closely spaced parallel Logan Runway 4L and 4R realities, is based on arbitrary and capricious assertions and assumptions, and is compounded by FAA’s material misstatements and omissions in its Draft EA and workshops.

It is important to note at the outset that there is no separate, independent federal oversight agency charged with watch-dog responsibilities to question FAA actions and disclosures before the proposed FAA procedure takes place.

For that reason, a public Comment Period can and should serve as an alert for affected residents to act as their own watch-dog, on alert for both arbitrary FAA rationales and materially misleading FAA justifications.

Accordingly, we submit these Comments, reserving all rights, and stating here explicitly that the EA process should be cancelled, rescinded, and the Draft EA withdrawn. In these Comments, we support that statement.

A. EXECUTIVE SUMMARY OF COMMENTS

But we also Comment on the material deficiencies in the Draft EA and workshops and state additions and revisions that would be needed to make clear the arbitrariness of FAA scope, method and disclosure. However, do not confuse that with this: the Draft EA website and the virtual workshops are not worth the paper they are not printed on.

In Section 1, we review the background to the March 20, 2017 IER, the public meetings that preceded it in 2015, and commentary by the undersigned [federal, state and municipal elected officials], and by community members, as background to the IER and CATEX that led to FAA’s commitment to conduct an EA of the proposed Runway 4L RNAV path.

In Section 2, we address FAA’s delay between 2015 and 2020 in conducting the EA and its arbitrary, capricious and self-contradictory “safety” reason for proceeding now amidst a Covid-19 pandemic and collapse in runway operations at Logan and across the US. That Section is in two parts: Section 2A, addressing the time frame 2015 to the onset of the pandemic; and Section 2B, addressing the time frame from pandemic onset to September 15, 2020.

In Section 3, we address FAA’s repeated denials of the undersigned elected officials’ requests for written answers to their technical questions regarding the Draft EA, and also FAA’s “virtual workshops” process. (See also the related Section 6 on FAA’s lack of transparency, material misstatements and omissions.)

In Section 4, we address the undifferentiated scope of FAA’s approach to the 4L RNAV analysis which we contend is an abuse of its discretion. We also address the FAA’s failure to complete a cumulative impacts analysis, and how that failure is also an abuse of discretion.

By undifferentiated scope we mean this: FAA’s confounding use, on the one hand, of a 1,173 square mile GSA for purposes of assessing overall air traffic compatibility across all 427,000 Logan Airport flight movements with, on the other hand, inapposite use of that same GSA 1,173 square mile GSA for assessing specific noise and health impacts of a proposed new RNAV procedure that originates southwest of the airport and proceeds for 15 miles from that point in concentrated fashion exclusively on a narrow sky-rail to the airport over noise sensitive areas.

The Draft EA fails to bifurcate the scope of the Assessment between (A) overall Logan air traffic compatibility, versus (B) focused evaluations of the proposed 4L RNAV path’s noise and other environmental effects on residents under that path and impacts on residents already under the nearby 4R RNAV path.

This unfocused scope is also methodologically unsound and is presented in a misstated manner which we address in Sections 5 and 6.

In Section 5, we address FAA’s 4L RNAV Draft EA methodology, including: materially understated noise impacts resulting from FAA’s exclusive use of the DNL metric without supplementation through use of the metric recommended for RNAV noise effect measurement; lack field work; failure to include noise contours even though the proposed 4L RNAV track is closely spaced adjacent to the extant 4L RNAV path; landing gear deployment modeling flaws; and disregard of 15R approach/circling to 4L alternatives.

In Section 6, we address FAA’s Non-Transparency, including its self-contradictory statements, selective and misleading disclosures, material misstatements and omissions and refusals to answer questions, which collectively render this Draft EA in need of being withdrawn and restated with requisite transparency.

In Section 7, we address FAA’s failure to identify, examine and pursue any available Alternatives (other than the “No Action” alternative) and specify several that require full development, full presentation and full discussion.

In Section 8, we address FAA’s failure to assess and present Environmental Justice impacts and alternatives.

In Section 9, we address FAA’s failure to identify, examine and pursue available mitigation measures.

In Section 10, we provide a summary of some important testimonial comments from impacted Milton residents, and our concluding remarks.

Draft November 12

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B. COMMENTS

1. 2015-2016: COMMUNITY INVOLVEMENT, IER, FAA INACTION

The first page of the Draft EA contains the following statement:

“In **March 2016**, the FAA completed a comprehensive Initial Environmental Review (IER) for the permanent implementation of a RNAV GPS IAP to Runway 4L at the Airport. The **IER concluded** that the proposed procedure qualified for the **categorical exclusion (CATEX)** found in Order 1050.1F, paragraph 5-6.5.g, entitled “Establishment of Global Positioning System (GPS), Flight Management System (FMS), Area Navigation/Required Navigation Performance (RNAV/RNP) or essentially similar systems that use overlay of existing light tracks.”

That IER is Appendix 1 to the Draft EA. It contains this statement at page 68. We have bold highlighted it for emphasis.

The FAA must:

Make a determination if the proposed project has the potential to become highly controversial.

The effects of an action are considered highly controversial when reasonable disagreement exists over the project’s risks of causing environmental harm.

Opposition on environmental grounds by a Federal, State or local government agency or by a Tribe, or by a substantial number of the person[s] affected by the action should be considered in determining whether reasonable disagreement regarding the effects of a proposed action exists (see FAA Order 1050.1F, Paragraph 11-5.b.(10)).

In fact, there was extensive opposition by Federal, State and local government and by a substantial number of the persons affected which had been raised repeatedly in meetings, in writing, and in virtual gatherings for years prior to the FAA’s March 2016 IER page 68 statement—and that opposition continues to this day.

Nevertheless, and despite longstanding elected official and public opposition, at page 78, the FAA asserted that effects on the quality of the human environment are **not likely to be highly controversial:**

9. Effects on the quality of the human environment that are likely to be **highly controversial on environmental grounds** (see Order 1050.1F, paragraph 5-2.b.(10)).

Yes **No** Possibly

The FAA went on to comment on that same page:

Comment:

As evidenced by comments received by the FAA following an outreach meeting on May 18, 2015 **there is opposition** from some residents of Milton, MA,

(approximately 108 comments received) and their elected officials regarding implementation of the Proposed Action (Runway 4L RNAV GPS IAP). Two members of the Logan Airport CAC from other communities and the Board of Health for the Town of Randolph also expressed opposition.

As stated in FAA Order 1050.1F, paragraph 5-2, **opposition alone is not sufficient for a Proposed Action or its impacts to be considered highly controversial on environmental grounds. There must be a reasonable disagreement regarding the impacts of the Proposed Action. Comments received indicate that the majority of the opposition is based on noise and air quality associated with current flights over Milton.**

The FAA's assertion that there is no reasonable disagreement is factually false and misleading, and administratively an abuse of discretion. The elected officials and residents living under the proposed 4L RNAV path are the relevant representatives and affected persons here.

Other Sections of these Comments will address FAA's basis for its contra-factual assertion that this matter is not highly controversial on environmental grounds. But we quote next FAA's purported support for this assertion so that it can be referred to below. FAA's assertion continues as follows. We have added some bold to highlight it:

To provide detailed information on noise impacts, FAA has done a full INM analysis for the FAA's Proposed Action, which includes analysis of the proposed JetBlue Runway 4L RVFP for cumulative impact purposes. Typically, a noise screen is conducted for these types of situation — adding instrument guidance an existing visual operation, without changing the type of aircraft, nor increasing the number of flights involved, or changing the area on the ground that is overflowed. The INM cumulative analysis findings (for both proposed procedures) are summarized in Table 14 (page 39). **People exposed to less noise outnumber those exposed to more noise by a 13:1 ratio.** Within the Baseline 45 dB DNL contour, the maximum DNL increase is 0.3 dB. All DNL increases are negligible in comparison to the applicable thresholds shown in Table 4. For the FAA's Proposed Action individually, the maximum DNL increase is 0.1 dB and the population exposed to a decrease in DNL exceeds those exposed to an increase by a ratio of 5-to-1 (Table 11, page 36).

In addition, the implementation the FAA's Proposed Action would result in **reduced fuel consumption and CO2 emissions.** Based on the findings of these detailed analyses, **there is no "reasonable" disagreement regarding the impacts of the proposed procedure.**

Disagreeing with FFA's proposal to concentrate flight tracks onto residents who will then live under a narrow sky-rail such that **13 times** as many people are **relieved** of the existing dispersed noise burden compared to the victims who will then have that **noise shifted onto them** is more than a reasonable disagreement. It is response to an authoritarian act that merits legitimate, reasoned officials' and public disagreement.

Similarly, disagreement on behalf of people to be exposed to proposed 4L RNAV path jet exhaust emissions presently dispersed across 13 times that many people is reasoned, and reasonable, disagreement. See also Sections 4 and 5 below.

The Draft EA goes on to state that “in July 2016 [FAA] elected to conduct an EA to further study the procedure.” (Draft EA page 1-1). But, the Draft EA immediately then states, [d]ue to budgetary constraints and other [unspecified] exigent circumstances, however, this effort was delayed.” Yes, FAA delayed for many years and nowhere is that delay further explained. In further disregard to residents’ lives, FAA now proceeds during a pandemic and air traffic near-shutdown. (See Section 2 below)

Lastly for this Section, we raise the following statutory comment:

The Draft EA does not explain how a CATEX that it determined in March 2016 complies with the requirements of the National Defense Authorization Act of 2017, Section 341(b)(4) enacted in December 2016. We highlight in bold for emphasis:

(b) Performance-based Navigation.--Section 213(c) of the FAA Modernization and Reform Act of 2012 (Public Law 112-95; 49 U.S.C. 40101 note) is amended by adding at the end the following:

“(4) Review of certain categorical exclusions.--

“(A) In general.--**The Administrator shall review any decision of the Administrator made on or after February 14, 2012, and before the date of the enactment of this paragraph to grant a categorical exclusion under this subsection with respect to a procedure to be implemented at an OEP airport that was a material change from procedures previously in effect at the airport to determine if the implementation of the procedure had a significant effect on the human environment in the community in which the airport is located.**

“(B) Content of review.--If, in conducting a review under subparagraph (A) with respect to a procedure implemented at an OEP airport, the Administrator, in consultation with the operator of the airport, determines that implementing the procedure had a significant effect on the human environment in the community in which the airport is located, the Administrator shall--

“(i) **consult with the operator of the airport to identify measures to mitigate the effect of the procedure on the human environment; and**

“(ii) **in conducting such consultations, consider the use of alternative flight paths that**

do not substantially degrade the efficiencies achieved by the implementation of the procedure being reviewed.

We are not aware of any review conducted by the FAA or that the operator of Logan Airport, Massport, was consulted by FAA. FAA apparently disregarded this mandatory duty required by Congress nearly four years ago.

2. 2017-2020: DELAY, AND THEN A MISLEADING SAFETY PREDICATE

a. January to Pandemic Onset

FAA took no action on its EA for years following the March 2016 IER. The economy was growing, planes were flying at increasing numbers per year on Logan runways including 4L and 4R. Community concerns about the high concentration of planes on the runway 4R approach continued, and at the urging of communities and elected officials, an FAA-Massport MIT assisted Study proceeded to examine ways to restore dispersion of flight paths toward pre-RNAV levels.

Then, in late 2019, FAA announced that it was going to proceed with the 4L EA after 5 years' delay. In response to that announcement, Milton's representative on the Massport Community Advisory Committee (MCAC) commenced what became a multi-month effort to gather information from FAA, including by requesting that it publish its unpublished Appendices to the IER and respond to questions about the proposed 4L RNAV path in relation to other 4L approach paths and the existing closely spaced parallel runway 4R RNAV path. The documentation of that effort is appended hereto as Appendix I and incorporated herein as part of these Comments as if fully set forth at this point.

Among other things, the FAA Regional Administrator was asked to provide in writing the specific approach procedures to 4L, both visual and instrument. On March 4, the Regional Administrator responded in writing as follows, after checking with the relevant FAA Points of Contact:

FAA Response: Currently, Runway 4L does not have an instrument approach procedure associated with it. We use a Visual Approach (no course or vertical guidance). When weather goes below a 3000ft. ceiling we can make an instrument approach to Runway 4R and circle to Runway 4L. We also can conduct an ILS approach to Runway 15R and when the pilot reports BOS in sight, the Tower clears the aircraft for a Visual Approach over the harbor to Runway 4L. The 15R situation is only good down to weather conditions of 1500ft. ceiling and 5 miles visibility. When circling from Runway 4R we can use about an 800ft. ceiling and 2 miles visibility.

When pilots are aware that they will be getting a Visual Approach to Runway 4L, they have the ability in their FMS to build a course and artificial glide slope if they choose. It would all depend on workload and Company requirements.

Other than the proposed RNAV RWY 4L, there are no other procedures planned. The old JetBlue visual procedure is no longer authorized.

The penultimate paragraph of that statement will be addressed in Section 3 of our Comments below.

b. Pandemic Onset, Community Requests to Defer This EA, and FAA’s Capricious “Safety” Rationale for Proceeding

In March-April 2020, the Covid-19 pandemic hit and the American society, health system, economy and air traffic were massively disrupted. Jet arrivals on runway 4L **plummeted 98%** in April to only 7 arrivals that entire month, and then only 5 arrivals during the month of May.

At the behest of Milton’s MCAC representative, the MCAC wrote to FAA on May 18, 2020 asking FAA to defer the 4L EA process because Covid-19 impacts and FAA’s already 5 year delay in proceeding with the EA respectively restricted residents from participating in any EA at this time and suspended any legitimate urgency for FAA to proceed with the EA now. Residents were (and still are) dealing with high incidence of Covid (and as this is written, with a second wave of high incidence), and severe economic impacts. Milton, Mattapan and Dorchester include many health care workers, essential workers on bus, rail and other basic services efforts whose lives are disrupted by those duties now. Home child care, unemployment, small business losses, food stamp needs all require extraordinary attention and time-consuming alternative measures, as the MCAC letter pointed out specifically.

Social gatherings are restricted and/or prohibited such that residents cannot meet to confer about the EA issues. Libraries are closed and residents without internet access have no practical alternative means of internet access because any libraries open at all limit such access to a few people for limited time each. Virtual meetings have serious limitations. The MCAC asked FAA to defer the EA until the later of January 1, 2021 or two months after flights to and from Logan Airport resume with volume and frequency similar to what can be expected in future years.

By letter dated June 11, 2020, FAA’s Regional Administrator refused MCAC’s request to defer the EA asserting:

1. that air operations had increased in May and early June;
2. that safety and efficiency were its priorities; and
3. those residents’ concerns were immaterial because FAA’s virtual workshop routine would suffice.

In actuality, the FAA’s assertion that air operations were increasing was false. Logan Airport reported that jet arrivals on 4L were, as stated above, 7 in April, 5 in May and only **3** in June. That was no basis to proceed with the EA. And single digit monthly jet arrivals on runway 4L continue today.

As to the assertion (3) that FAA’s virtual workshop would substitute for in-person gatherings of residents, it is obvious that in-person meetings of residents to prepare, discuss, review **among**

themselves are not part of FAA virtual workshops. And the material failings of those “workshops” are discussed separately in Section 3 below.

Turning now to assertion (2), there are two rationales for the proposed 4L RNAV that are repeatedly asserted in the Draft EA, and its predecessor IEA appended thereto: safety and efficiency. We address efficiency in Sections 4 and 5.

But here, in this Section 2B, we want to address at some length the FAA’s purported safety reason for FAA’s 4L RNAV initiative. We do so, not merely to negate **any** assertion that now is a time that FAA needs to proceed with the EA for safety reasons, but also to comment explicitly that FAA’s assertion of safety concern is a misleading predicate for the 4L RNAV proposal **itself**.

Regarding safety, the Draft EA states the following at page 1-3:

The implementation of the RNAV (GPS) RWY 4L procedure where no instrument procedure currently exists will improve safety by providing pilots with a stabilized approach and enables air traffic control to more precisely monitor each aircraft both vertically and laterally along the arrival track.

As support for its safety rationale for proceeding with an EA, the FAA had referred in its March 2016 IER to generalized US and worldwide safety statistics but offered **no** specific instance of any runway 4L safety concerns. (Draft EA Appendix A, page 32).

When the FAA by its June 11, 2020 letter denied MCAC’s request to defer this EA process, Milton’s MCAC representative on July 14, 2020, and the MCAC itself by separate letter that same day, each responded to FAA reiterating that the EA process must be deferred. In addition to reiterating the reasons for deferral stated above and addressing FAA’s disregard of those ongoing concerns in its June 11 letter, the MCAC representative pointed out that the FAA had not identified any specific safety incidents prompting the need for the EA to proceed now. The FAA again denied the requests to defer the EA by letter dated August 7, 2020 without further explanation of why.

Perhaps in light of the MCAC representative’s July 14 statement that (from the time of the FAA’s 2013-2016 analyses for its IEA through July 2020) FAA had not identified any specific safety rationale for proceeding with the EA now, the Draft EA, published on September 21, 2020, contains the following statement:

Circling Visual Approach to Runway 4L after conducting ILS RWY 15R approach to visual conditions

A circling approach can be used by the pilot to align the aircraft with the runway for landing when a straight-in approach is not possible or desirable.

The circling maneuver that is currently used for aircraft landing on Runway 4L is only available during VMC and marginal VMC.

When traffic and weather conditions dictate, **small, maneuverable Category A or Category B aircraft (limited to approach speeds of 120 knots or below) are able to follow the ILS straight-in approach to Runway 15R until descent below the cloud ceiling. Once the aircraft is below the cloud ceiling and has the Airport in sight, the pilot can execute a circling approach to land on Runway 4L.**

A circling approach, in this context, consists of an aircraft executing a turn to the south upon transitioning below the cloud ceiling. While remaining clear of clouds and **with the Airport in sight at all times**, the aircraft then maneuvers to a visual landing on Runway 4L. Pilots are responsible for maintaining visual separation from other traffic, including traffic landing Runway 4R, at all times when executing this maneuver. As this approach requires significant manual low-altitude maneuvering while maintaining visual separation from other traffic in busy airspace at an airport with multiple intersecting runways, it can be a challenging and potentially hazardous maneuver. **Numerous safety-related incidents have occurred with aircraft flying this procedure, including some particularly notable recent incidents as described below:**

* In October **2016**, a **DeHavilland Dash 8** passed directly over an Airbus A320 at low altitude while executing a go-around following an errant approach to Runway 4L's parallel Taxiway Bravo instead of the runway itself.

* In October **2019**, a **Cessna 414**, after receiving clearance to execute a final approach to land Runway 4L, mistakenly lined up with Runway 9 instead, where another aircraft was preparing for takeoff. Once the pilot of the Cessna realized there was another aircraft on the runway, he executed a go-around at low altitude, overflying a third aircraft by an estimated 300 feet.

* In October **2019**, a **DeHavilland Dash 8**, when flying the left downwind leg to Runway 4L after departing the ILS 15R approach course, extended the left downwind more than expected due to **excessive airspeed on that leg**. This resulted in ATC cancelling the approach clearance and instructing the aircraft to complete a go-around due to the imminent risk of an airspace incursion. Of the three described methods that pilots can currently follow to land on Runway 4L, **the change of runway and circling maneuvers are used far less frequently than visual approaches to the runway.** (Draft EA page 2-6)

We submit that there are these extraordinary elements to that FAA statement:

- 1) In all the many years that the 4L EA has been deferred, these are the **only** specifics mentioned;
- 2) **Each** of these three proffered scenarios occurred during **Visual Meteorological Conditions**, not during **IMC** for which FAA proposes the 4L RNAV to reduce late night arrival delays.

- 3) **Each** of these involved **old** propeller (Cessna 414) and turboprop DeHavilland Dash 8 (turbo-propeller) **small** (8 passengers, 36 passengers, respectively) planes. **Neither** Cessna 414 (built in the 1970s and early 80s) nor DeHavilland Dash 8 (built in the 1980s) are identified by FAA as having any gps capability on board —necessary for RNAV if the 4L RNAV had been in place. In other words, the 4L RNAV does not address that safety issue at all.
- 4) **Each** of the planes was in visual contact with the Logan runways, and the third scenario mentioned concerned excessive speed.

None of these anomalies in all these years is a basis to proceed with an EA now, when few planes are flying. But also consider this: In its last sentence the FAA states that this “Circling Visual Approach to Runway 4L” is used far less frequently than other visual approaches to runway 4L.” Then why not discontinue its use if it is unsafe, and in any event why use this as a reason to subject thousands of residents to the noise and pollution impacts of a concentrated RNAV path rather than mitigating that safety anomaly itself? (See Section 7 of these Comments)

Well, a complete reading of the Draft EA and its appendices, reveals that FAA may do just that: At Draft EA Appendix D page 8, FAA states: “[i]n the Proposed Action Alternative, **the ILS 15R circling transition to Runway 4L** will still be available, but based on consultation with Boston Consolidated TRACON (A90) personnel, **it is not expected that it will continue to be used.**”

Our comment is to agree that it need not be used and is not a safety reason to proceed with this EA now. To be clear, FAA still wants to associate the aircraft that used the 15R circling transition to Runway 4L with runway 4L **by another means**: “[i]nstead, Air Traffic Control (ATC) plans to assign the aircraft previously flying the ILS 15R circling transition to Runway 4L to **fly the RNAV (GPS) RWY 4L** in the Proposed Action Alternative.” (Draft EA Appendix D-8)

However, we submit that 4L or 4R without RNAV guidance in VMC can be used—and no RNAV is needed for that. No EA for 4L RNAV need proceed at **any** time for that purpose.

3. SEPTEMBER 15 - NOVEMBER 20, 2020: FAA FAILS TO ANSWER QUESTIONS OF ELECTED OFFICIALS AND OTHER RESIDENTS AND CONDUCTS OPAQUE, FORMULAIC “WORKSHOPS”

We begin this section with a quote from the FAA Regional Administrator’s March 4, 2020, statement about Runway 4L paths that we referred to in Section 2A above:

“When pilots are aware that they will be getting a Visual Approach to Runway 4L, they have the ability in their FMS to build a course and artificial glide slope if they choose. It would all depend on workload and Company requirements.”

Other than the proposed RNAV RWY 4L, there are no other procedures planned. The old JetBlue visual procedure is no longer authorized.

The statement in that first part of the quotation that “pilots and their airline companies can use their flight management systems **“to build a course and artificial glide slope if they choose”** is **a red flag**, raising the concern that FAA can allow **additional concentrated visual FMS-guided 4L flight paths to be built and flown over additional parts of Mattapan, Milton and Dorchester**, thereby adding yet more overflight burden than the proposed concentrated 4L RNAV path over residents’ homes, along with schools, hospitals and churches.

It is no solace that FAA adds that no other procedures “are planned.” There is **no statement** by FAA that any community engagement process would be required if FAA decides to accept an airline’s decision to “use their FMS to build a course and a glide slope if they choose” for repeated concentrated use.

Indeed, during the October 28 FAA virtual “workshop,” FAA’s presenters gave conflicting answers to the question of whether additional 4L flight paths could be added: The airline pilot presenter indicated that use of an aircraft’s onboard FMS to build a flight path is available, and the FAA representative stated only that the JetBlue procedure is no longer authorized, **without** addressing the fact that the FAA’s stated policy is that airlines can build their own FMS guided course if they choose.

Because of that FAA red flag, earlier in this EA process, the Town of Milton Select Board, along with Congressman Stephen Lynch, State Senator Walter Timilty, State Representative William Driscoll, and other residents, each asked the FAA in writing to provide in writing the FAA’s answer to the following question, so that residents would know what to expect, what is actually at stake here:

(D) provide a table, in format similar to Table 8 of Appendix A to the Draft EA, stating the **Estimated Annual Use** of 4L RNAV Approaches, on the basis of **Cleared IMC, Cleared VMC, Advisory IMC (if any), Advisory VMC** and Total Cleared+Advisory use while **including, listed separately**, as in Table 8, **any RVFP use**, in **each** of those categories.

(See Appendix I to these Comments which contains letters submitted by each of those elected officials asking that they receive FAA’s written response prior to the FAA “workshops.”)

The FAA never answered the elected officials’ question before, during, or after the FAA’s two “workshops.”

That question was one of several from elected officials to which the FAA failed respond.

On September 21, 2020, Zoom session with elected officials regarding the Draft EA, the FAA invited those elected officials to submit technical questions about the Draft EA. Soon thereafter, those elected officials submitted technical questions in writing, including the question quoted above, and sought written responses.

In response, the FAA sent emails stating that “questions will be addressed during the Boston public workshops.” (See Appendix I-1 to these Comments). The elected officials followed-up again, and sought written responses to the questions “as soon as practicable, and not halfway through the comment period and as part of workshops intended for the public.” (See Appendix I-2 to these Comments).

The FAA never responded to these questions about the Draft EA from elected officials – not in writing, and not as part of the workshops.

The FAA’s pattern of failing to respond to questions about the Draft EA continued during the virtual “workshops.”

During the October 23 FAA virtual workshop, the FAA did not answer a question submitted by a resident that was similar to the question from elected officials quoted above: “for the first year of 4L RNAV operation, what is the expected number of flights on the proposed 4L RNAV path, and on **each other** alternative 4L path expected to be in use if any.”

We will address this matter again the Sections 4 (Scope of the Draft EA), 5 (its Methodology) and 6 (its Lack of Transparency, Material Misstatements and Omissions).

As one prelude to those Comment Sections, we add this Comment on the virtual workshops process. The FAA’s technical workshop team members, including its consultants, from Washington D.C. Virginia, Dallas and Raleigh-Durham never visited Mattapan, Milton and Dorchester in connection with this EA, and, because of COVID-19 restrictions, never conducted an in-person session with residents, which is the standard process for a Draft EA.

The two workshops were recorded. So, any reader of the Comments can review those videos and form his or her own view of our Comment that the presentations by FAA were formulaic recitations of FAA positions, were arbitrarily selective in content, omitted material facts, and were wholly incomplete as information statements for the public.

As such, the Draft EA itself and its accompanying workshops and non-responses to officials’ questions are reminiscent of the misleading process and content of unregulated prospective investment “roadshows” that our federal securities laws long-ago outlawed. See Section 6 of these Comments.

4. SCOPE: THE DRAFT EA FAILS TO DIFFERENTIATE ITS GENERAL STUDY AREA FROM AN APPROACH STUDY AREA, IGNORES CSPR REALITIES, NOISE CONTOUR IMPACTS, AND SOOT, WITH SEVERAL RESULTANT SINGLE POINTS OF ANALYTICAL FAILURE AND CUMULATIVE ABUSES OF DISCRETION

a. The Draft EA Ignores 4L/4R CSPR Realities

The proposed arrival procedure to Runway 4L originates Southwest of Logan Airport beginning at an altitude of approximately 5,000 feet, at 15 nautical miles from the Runway 4L threshold. (Draft EA, Appendix A page 25). Residents familiar with the area will recognize that as in the Blue Hills area to the south of the Blue Hills Observatory. Runway 4L at Logan Airport sits 1500 feet to the West of its Closely Spaced Parallel Runway (CSPR) counterpart Runway 4R and should be analyzed together with it for reasons explained here.

That 1500 foot separation of Runways 4L and 4R at touchdown has fundamental significance for RNAV analysis because at the point of arrival procedure onset, 15 nautical miles Southwest of touchdown, the proposed 4L RNAV path and the extant 4R RNAV path are 4500 feet apart. The paths' lateral separation decreases at a rate of approximately 200 feet per mile over the 15 nautical miles to touchdown.

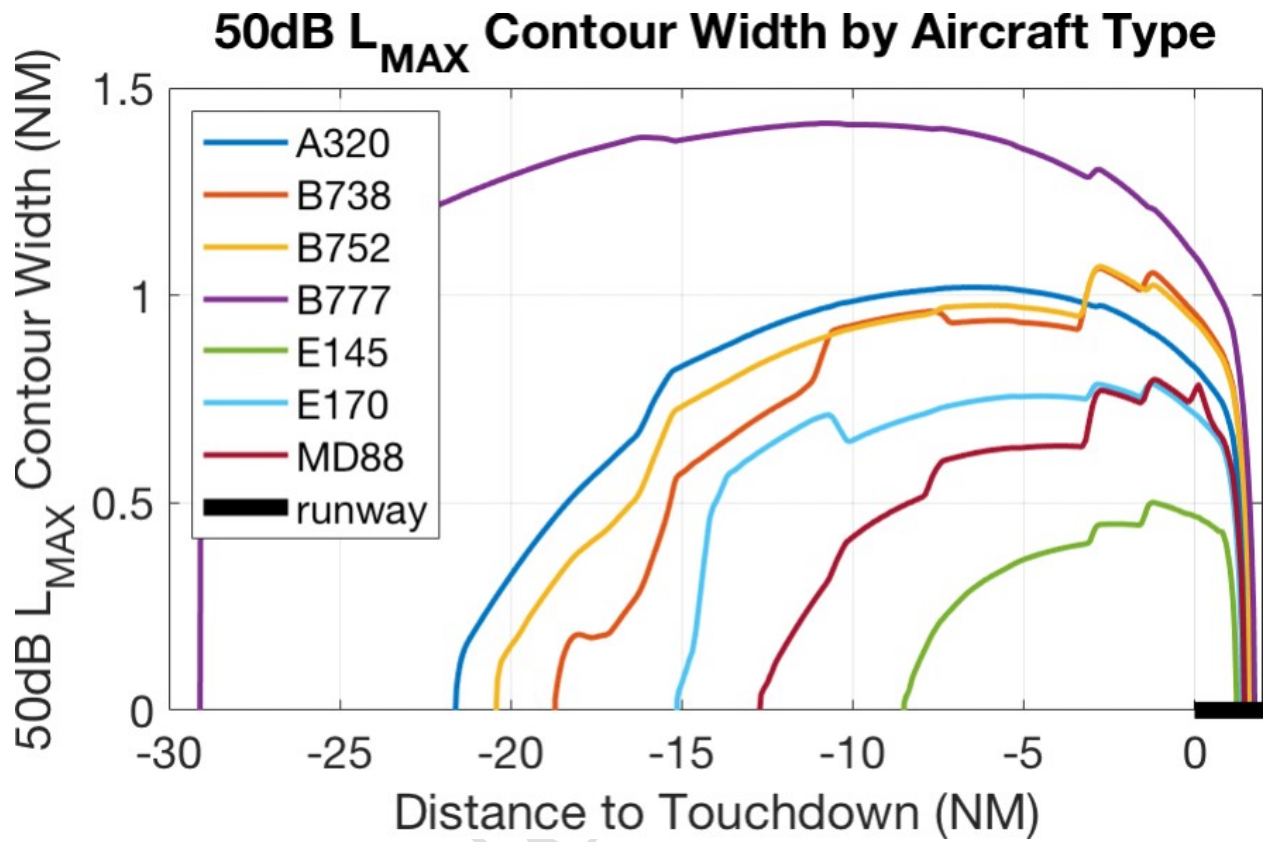
For that reason, it is important to consider alone and together the combined impacts of aircraft traversing the proposed 4L and extant 4R sky-rails on residents, schools, hospitals, churches and other noise sensitive areas under and adjacent to those CSPR paths. Noise perception depends critically on time and place, coincidence of event (overflight) and proximity. Locations such as Wellesley, Hopkinton, Watertown, Medford, Newton, Kingston or Sherborn may have their own issues, but they are **not** near the 4L/4R conical CSPS paths corridor, nor near planes passing along as it sits in the sky from its point of origin 15 nautical miles Southwest of Logan, where the 4L/4R paths are only 4500 feet apart, to touch down where the 4L/4R runways are 1500 feet apart.

In addition, one needs to take into account two dynamics:

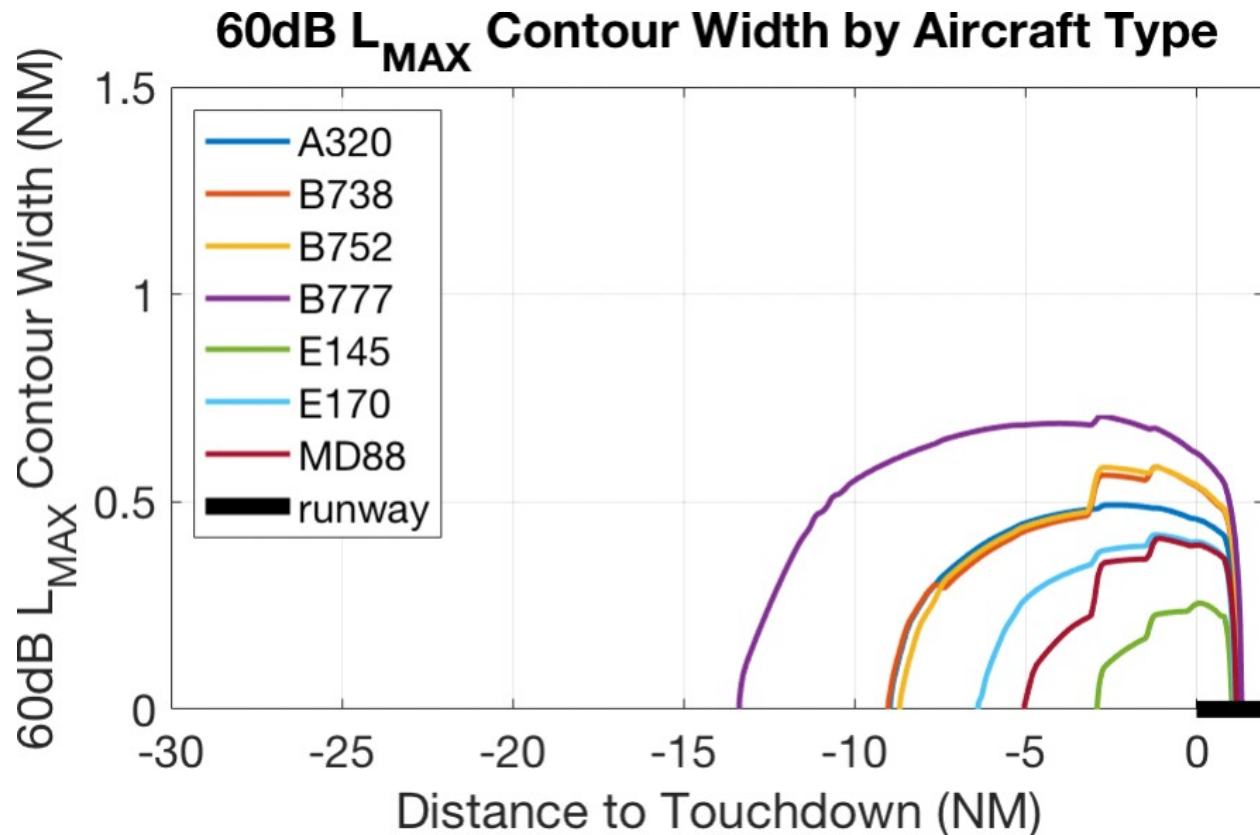
1. that planes proceeding along the 4L path create so-called **noise contours** that reach to the west and east side of each plane; and
2. by doing so, they extend 4L noise to the west of the path and 4R noise to its east; but also by extending 4L noise to the east toward the 4R path, and 4R noise to the west toward the 4L path create a **noise overlap** between the 4L and 4R paths increasing noise occurrence, intensity and duration in that between-CSPRs overflight area.

MIT identified aircraft noise contours as part of its work on the Massport-FAA study referred to earlier in these Comments. The following MIT diagram shows that from distances 15 nautical miles and less to touchdown many aircraft (each identified by type) generate noise contours of 50 and 60 decibels a mile wide (50 decibels) and half a mile wide (60 decibels). That contour width is wide enough to spread across the area between the proposed 4L RNAV and extant 4R RNAV flight paths as planes overfly residential Milton.

Figure 41. Approach L_{MAX} Contour Widths for 7 Fleet Types Following Radar Median Approach Profiles



Draft N



The foregoing paragraphs are prelude to this statement: the Draft EA's scope of analysis addresses none of the foregoing 4L/4R CSPR noise realities. Indeed, runway 4R is mentioned in the Draft EA at its Section 2.1.2 which only states its procedure elements, and in its Section 2.2.2.3 which exclusively addresses aircraft-to-aircraft wake turbulence issues created by 4L/4R closely spaced parallel flight tracks **without** any analyses of 4L/4R closely spaced parallel noise turbulence effects on residents.

In fact, once the Draft EA was published, the undersigned state and municipal elected officials had to request that the 4R RNAV flight path (not even shown by FAA on its "Noise Visualization" tool) be shown there. And each of those undersigned elected officials repeatedly insisted to no avail, that FAA address in writing the CSPR noise contour impacts, and noise metrics appropriate to be considered for noise sensitive areas. This has dispositive effects on the FAA's Draft EA methodology and non-transparency as will be discussed in Sections 5 and 6 of these Comments.

Instead, FAA's Draft EA deliberately, and we submit, in abuse of its discretion, uses a single geographical scope for all purposes of its Draft EA called a General Study area (GSA). The FAA's chosen GSA covers **1,173 square miles**, including 27,000 census centroids across locations far away from the proposed 4L RNAV approach path and the combined 4L/4R CSPR paths.

That huge geographical scope is appropriate for one purpose, namely, assessing **overall air traffic compatibility** across all 427,000 Logan Airport flight movements. In other words, assuring that aircraft using a proposed 4L RNAV path will be able to fit in amongst the totality of aircraft movements associated with all Logan arrivals and departures.

But, it is inarguable that locations that are **not near** the CSPR RNAV paths' **narrow conical corridor** (4500 feet wide at the start of the procedure and 1500 feet wide at touchdown) are not appropriate candidates for the specific tasks of noise measurement because residents of those locations are neither proximate to the 4L/4R overflights in location or in time. Residents of towns and cities such as Wellesley, Hopkinton, Watertown, Medford, Newton, Kingston or Sherborn and the other almost innumerable inapposite locations listed on FAA's Draft EA hundreds of pages long Appendix B are **not exposed to 4L/4R approach noise impacts**.

For that reason: **the Draft EA is fundamental flawed**. It fails to bifurcate the scope of the Assessment between: (A) overall Logan air traffic compatibility (for which a GSA of its scope is appropriate), versus (B) focused evaluations of the proposed 4L RNAV path's noise and other environmental effects on residents under that path and impacts on residents already under the nearby 4R RNAV path (for which the Draft EA contains no focused scope).

In these Comments, we will use the term Approach Study Area to refer to the Draft EA's missing focused scope defined by the conical corridor defined by the CSPR approach paths and their respective outreaching and inward/overlapping noise contours—none of which the Draft EA addresses. Using FAA's own practice of assigning acronyms, we refer to that as the missing **ASA**.

One might well ask why FAA chose not to prepare, include and present an ASA with associated, focused noise metrics and other environmental effects metrics. On the one hand, such reasoning is irrelevant to the fact that the Draft EA is materially incomplete, and reasons for such abuse of discretion are irrelevant. On the other, it may in part have to do with the following two admissions embedded in the FAA's many Draft EA pages and words.

First, at page 32 of Appendix A of the Draft EA contains the following statement. Note that INM refers to FAA's Integrated Noise Model:

The INM standard assumption is that, when aircraft are flying an approach below 3,000 feet, they utilize ILS guidance. While true for the vast majority of air carrier approaches at major U.S. airports, it is not true for approaches to Logan Runway 4L. While a non-standard profile could have been developed and used, that was not done because **reliable data for the associated noise emissions for each aircraft involved were not available**.

We submit that lack of reliable noise data for aircraft flying the conical corridor defined by the 4L/4R CSPR approach paths over Mattapan, Milton and Dorchester would certainly impede application of focused, appropriate noise metrics. Hence, no ASA analysis, though lack of data does not excuse the FAA's fatal omission of it.

Second, as discussed in Section 5, when asked at the October 28 FAA virtual workshop why noise monitors were not used as supplement to FAA's sole reliance on a computer noise model across the entire GSA, FAA's respondent replied that noise monitors would only allow **targeted** measurements and are therefore for **not practical**.

We agree that noise monitors would allow targeted measurements. That is their very purpose, and if used in the ASA as supplement to the FAA's noise model that is applied only to the GSA, they could have provided actual data otherwise unavailable and without which the Draft EA is materially incomplete. We disagree that such use of monitors is not practical. Many are in place and were not used. In addition, as a supplement, there is a practical alternative. We will address that in Section 5.

As discussed in the next Section, FAA did no field work at all for this EA at any time. Use of the existing field noise monitors could have been accompanied by some FAA soot monitoring. When residents living under the 4L/4R CSPS paths use hoses pointed skyward to wash down the clapboards of their houses in the Spring or Summer, they can place a tarp along the base of the wall to protect any shrubs or plants on the ground from the wash. Residents daily see the speckles of jet fuel soot on their white, or yellow, or other paint-colored outer walls. But when they do the wall wash, as their hose does its work, the soot turns to slurry cascading down clapboard after clapboard. And if the tarp began as a white or pale cloth, it becomes a blackened soggy reminder of what their own and their family members' lungs regularly absorb in their CSPR yards and neighborhoods.

The Town of Milton Board of Health registered its opposition to the proposed Runway 4L RNAV (and any use of a visual RVNP) by letter to the Town's Select Board dated October 6, 2020, which we quote here in its entirety and have included in the Appendix to the Comments:

TO: Milton Select Board members

FROM: Milton Board of Health

DATE: October 6, 2020

RE: Detrimental Health Effects of RNAV Plane Flights over the Town of Milton

The Milton Board of Health strongly opposes the proposed 4L RNAV and 4L visual approach RNAV. We strongly urge the FAA to halt any further implementation of these RNAV's.

The Town of Milton is 13.3 square miles in area, and is already experiencing an unfair distribution of flights compared to other surrounding communities. Milton residents have the highest number of complaints compared to all other communities.

The Town has experienced an exponential increase in RNAV's. As you know these RNAV's are highways in the sky: they are narrow concentrated paths for

the airplanes to fly along. We are very concerned about the potential health risks associated with repeat exposure. Already residents have told us about their worries, including soot falling on their cars, homes, lawns and gardens from the airplanes fine particulate matter. These airplanes are lower also, many are flying less than 3000 feet.

According to a LAX study, fine particulate matter can cause blocked coronary arteries as well as worsen respiratory diseases like asthma. Those with underlying conditions like asthma who also contract COVID-19 may develop more severe respiratory symptoms.

It should be noted that the LAX study authors stated that their findings could apply to any other large airport. In addition, other studies have demonstrated increases in blood pressure for those bothered by noise from aircraft while they were sleeping.

The residents in Milton will be put at a higher risk for illnesses if these proposed changes occur. Additionally, the location of these RNAV's would affect some of the most vulnerable populations including: elderly residents of Fuller Village, Milton Health Care nursing home facility, college students-Curry College, young children- Thatcher Montessori school, Delphi academy, Tucker Elementary School, just to name a few.

In the past, routes have gone out over the water, and not over populated communities and residential areas. These proposed changes will be going over residential areas and effecting homeowners and residents that never previously had routes over their homes.

We ask the Select Board to urge the FAA to consider the above factors and stop the implementation of these proposed RNAV's.

Respectfully,

Caroline A Kinsella B.S.N. R.N.

*Caroline Kinsella, BSN, RN, RS
Milton Health Director*

b. NEPA Requirements and Failure to Consider Cumulative Impacts

Under the NEPA, the FAA is required to evaluate the potential environmental effects of projects before “undertaking a major federal action which could significantly affect the quality of the human environment.” 42 US § 4332(2)(C). In addition to NEPA and the regulations implementing NEPA, the FAA has established its own regulations which set forth the process by

which an EIS or an EA must be conducted and the results evaluated. FAA Order 1050.1F, dated July 16, 2015, updates FAA Order 1050.1E to: “1) provide a clear, concise, and up-to-date discussion of the FAA’s requirements for implementing NEPA; and 2) clarify requirements in order to facilitate timely, effective, and efficient environmental reviews of FAA actions, including NextGen improvements.” Order 1050.1F applies to actions directly undertaken by the FAA and those where the FAA has sufficient control or responsibility to condition the license or project of a non-FAA entity.

While no formal scoping process is required for an EA, Order 1050.1F states that items considered within an EA should be similar to those considered within an EIS. We submit that, as set forth below, by not complying with its own internal procedures, and not preparing a thorough and comprehensive EA, or EIS, the FAA has been arbitrary and capricious.

1050.1F, paragraph 2-3.2(b) “Initial Environmental Review” requires that in evaluating the scope of an EA, the FAA must consider:

(1) Connected actions. Connected actions are closely related actions that: (a) automatically trigger other actions; (b) cannot or will not proceed unless other actions are taken previously or simultaneously; or (c) are interdependent parts of a larger action and depend on the larger action for their justification (see 40 CFR § 1508.25(a)(1), CEQ Regulations). Connected actions and other proposed actions or parts of proposed actions that are related to each other closely enough to be, in effect, a single course of action must be evaluated in the same EA or EIS (see 40 CFR §§ 1502.4(a) and 1508.25(a)(1), CEQ Regulations). A proposed action cannot be segmented by breaking it down into small component parts to attempt to reduce impacts (see 40 CFR § 1508.27(b)(7), CEQ Regulations).

(2) Cumulative actions. Cumulative actions, when viewed with other proposed actions, have cumulatively significant impacts. Cumulative actions should be discussed in the same EIS (see 40 CFR § 1508.25(a)(2), CEQ Regulations). (See Paragraph 4-2.d(3) for a discussion of cumulative impacts).

(3) Similar actions. Similar actions, such as those with common timing or geography, should be considered in the same environmental document when the best way to assess their combined impacts or reasonable alternatives to such actions is in a single document (see 40 CFR §§ 1502.4(b) through (c) and 1508.25(a)(3), CEQ Regulations).

In addition, FAA Order 1050.1F, paragraph 4-2(d) identifies the types of impacts that must be considered in each EA or EIA. It states:

Within each applicable environmental impact category, the EA or EIS must address the following types of impacts (for further details, see the 1050.1F Desk Reference):

(1) Direct impacts (see 40 CFR § 1508.8(a), CEQ Regulations);

(2) Indirect (including induced) impacts (see 40 CFR § 1508.8(b), CEQ Regulations); and

(3) Cumulative impacts (see 40 CFR §§ 1508.7, 1508.8, 1508.25, and 1508.27(b)(7), CEQ Regulations, and CEQ Guidance on Considering Cumulative Effects Under the National Environmental Policy Act (January 1997)). Cumulative impacts are those that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, whether Federal or non-Federal. If the proposed action would cause significant incremental additions to cumulative impacts, an EIS is required.

Taken together, these two sections of FAA Order 1050.1F mandate that the Draft EA for the Runway 4L RNAV consider the cumulative impact together of the proposed Runway 4L RNAV and its existing CSRR approach Runway 4R RNAV on the residents actually subjected to the combined ASA corridor noise effects noise effects. Instead of performing the required analysis, the Draft EA utterly fails to address cumulative impacts in any meaningful way. The cumulative impacts of imposing yet another concentrated flight path over Milton requires the completion of an EIS, and a full evaluation of the resulting environmental impacts, with a formal scoping process. The Draft EA is insufficient to meet the FAA's requirements to comply with NEPA, the CEQ regulations and guidance, and its own guidance, i.e. Order 1050.1

The EA attempts to address cumulative impacts at section 3.4.8 (p.3-34) and in section 4-4 (p. 4-25 to 4-27). In Section 3.4.8, the FAA dutifully recites:

Cumulative impacts refer to the impacts resulting from the effects of implementation of the Proposed Action with other actions in the GSA that when combined have the potential to affect the environment. The White House Council on Environmental Quality (CEQ) regulations define a cumulative impact as “an impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.”¹⁷ The CEQ regulations also state that cumulative impacts can result from individually minor, but collectively significant actions that take place over a period of time. The Proposed Action is only expected to change the arrival path for a subset of air traffic at the Airport and has no effect on any activities once the aircraft has touched down. This Proposed Action Alternative and the changes related to this Proposed Action Alternative will be considered against past, present, and reasonably foreseeable future actions with direct or indirect effects on the human environment.

Incredibly, the EA then goes on to consider undifferentiated impacts in and around the 1,173 square mile GSA as discussed above.

The FAA's 1,173 square mile GSA dilutes noise impact analysis to the point of elimination of the required focus on cumulative noise impacts upon CSRR dual RNAV path victims (proposed 4L/Extant 4R).

That fatal defect in FAA's Draft EA occurred precisely because FAA includes no targeted analysis of such cumulative noise impacts.

Using a GSA for an overall air traffic compatibility purpose, while failing to differentiate an appropriate CSPR approach paths' study area to provide the requisite cumulative noise analysis of the CSPR approach paths' impacts on overflown residents, is the definition of arbitrary and capricious.

The FAA then states, at page 3-34 to 3-35 of the Draft EA (emphasis added) further distracting focus from the actual CSPR noise corridor cumulative overflight impacts:

Because the Proposed Action concerns an arrival path, aviation-related projects associated with airports within the GSA were emphasized when assessing cumulative impacts; as these projects would be more likely to generate impacts similar to the Proposed Action. **Aside from Boston Logan International Airport, additional projects have been identified within the GSA and these projects at the Airport and the remainder of the airports within the GSA are identified in Table 3.4-7.** Non-aviation projects and plans within the GSA were also identified for consideration in the assessment of cumulative impacts. Regional and local plans for jurisdictions and agencies in the GSA were reviewed to identify projects which could contribute to cumulative impacts.

While these plans have been identified from across the GSA, the environmental consequences from the considered impact categories in this EA will be tabulated and reviewed relative to these projects to ascertain if any of plans meet the definition of cumulative impacts with respect to the Proposed Action. **Given that the project is entirely within the airspace around the Airport,** the potential for cumulative impact for non-aviation projects and plans will be judged relative to any significant or reportable impacts from the considered impact categories. **There are over 100 non-aviation projects that have recently occurred or are expected to occur in the reasonably foreseeable future within the GSA and given the large list,** these projects are listed in Appendix E.

Table 3.4-7 and Appendix E list construction projects such as gate expansions, runway reconstruction, and terminal modifications. This failure to differentiate distant noise occurrences throughout the GSA from noise effects within the CSPR approach path noise corridor (inclusive of construction project noise, if any, heard there) is fatal to the Draft EA because inclusion of the 100+ projects regardless of proximity to that corridor disables any focused overflight noise impacts analysis.

The FAA repeats this approach in section 4-8 if the EA. There the FAA summarily concludes that there are no environmental consequences from the proposed alternative, and then again tries to shift the focus to landside projects. It states, on page 4-26, in part:

In the research of potential projects at airports within the GSA, some of these projects at the Airport consisted of **projects on the landside area** such as the Logan Airport Parking Project and the Terminal C Canopy, Connector, and Roadway Project. These landside projects impacts would likely be limited to the landside areas but the environmental documents for the Framingham Logan Express Expansion, Logan Airport Parking, BOS Terminal C Canopy, Connector and Roadway, BOS Terminal E Modernization, and Logan Airport Renovations and Improvements at Terminals B & C/E projects were all reviewed for documentation of any noise impacts.

The EA makes only a passing reference to possible aviation noise from the imposition of this new RNAV, when it states, on page 4-27:

On top of the aviation and non-aviation projects already considered, the Proposed Action Alternative has already been considered for cumulative impacts relative to all of the existing arrival and departure procedures that exist at the Airport. The radar traffic data covering the period November 1, 2018 to October 31, 2019 that was used to build the No Action Alternative includes aircraft flying those existing procedures at the Airport and so the comparison between the No Action and Proposed Action alternatives considers the potential impact from all other existing Airport procedures. As there were no significant or reportable noise increases discussed in Section 4.6, the addition of the Proposed Action to the existing Airport airspace will not contribute to the exceedance of any noise threshold.

As a result, it can be concluded that the Proposed Action Alternative will not create a cumulative impact that will reach the significant or reportable threshold with respect to noise when environmental consequences are considered cumulatively with the consequences of past, present, and reasonably foreseeable projects.

By these Comments we reiterate our objection to those asserted conclusions. It is a matter of record that the elected officials submitting these Comments have long protested the imposition of hyper-concentrated RNAV path noise, which this EA will compound. And, for example, the Town of Milton stated its concerns in Section 10 of the following 2017 letter. Not only are there impactful noise increases from the new RNAV, the citizens of Milton have been complaining about such, as set forth in more detail in Section 10 of this letter.

Milton has long been concerned with how the FAA would view cumulative impacts in the EA, since the time which the EA was announced, and shared its concerns with the FAA Regional Counsel Mary McCarthy in a June 23, 2017 letter. That letter stated:

Milton is currently impacted by the ongoing overuse of Runway 4R (which already has an RNAV). . . Two new RNAVs for Runway 4L would bring the total number of RNAVs for Milton to five (5). Given Milton's unique circumstances, the FAA should and must analyze the cumulative impact of all five (5) RNAVs that

either already fly over or are proposed to fly over Milton, and not only the impact of the proposed 4L RNAVs in isolation.

The vast majority of the land use in Milton under the 4L RNAVs is residential. In addition to many single family and multi-family homes, this area also includes a large housing development for senior citizens, a nursing home, Curry College, Milton Academy, Beth Israel Deaconess Hospital – Milton, and three elementary schools. Combining increased throughput and residential neighborhoods increases the impact of aviation on those neighborhoods. The FAA must evaluate these impacts with a critical eye – particularly where schools and nursing homes, which are highly sensitive communities, are under the concentrated RNAV flight paths and impacted by the ongoing RNAV implementations. Moreover, the Fowl Meadow and Ponkapoag Bog, which is an “area of critical environmental concern,” as well as portions of the Blue Hills would also lie under the 4L RNAV.

The importance of evaluating cumulative impacts cannot be stressed enough. Runways 4L and 4R are parallel to each other and separated by only 1,500 feet. The homes of many Milton residents are “sandwiched” between the proposed 4L RNAV paths and the 4R RNAV path. Multiple schools and playgrounds also lie under or between these flight paths. As you know, in recent weeks Runway 4R has been closed for renovation. The temporary closure has resulted in either Runway 4L being used more frequently than it has in the past, or pilots using other flight paths that are between or near the proposed 4L RNAV paths and/or the 4R RNAV path. During the temporary closure of Runway 4R, many Milton residents who are typically adversely impacted by the FAA’s overuse of the 4R RNAV continued to be adversely impacted by arrivals to Runway 4L. Additionally, the Milton Board of Selectmen heard from residents of Milton who live near the proposed 4L RNAV paths and are newly impacted by continuous airplane noise. Thus, the recent temporary closure of Runway 4R confirms what common sense already tells us -- it is impossible for any environmental assessment of the impact of the two proposed Runway 4L flight paths to have any analytic value unless all of the impacts of Runway 4R (including noise, public health, and all other environmental impacts) are also evaluated at the same time and in conjunction with it, consistent with the cumulative impact requirements as set forth in Order 1050.1F.

The FAA has ignored the actual cumulative impacts from the imposition of Runway 4L on overflow approach corridor residents. Such an action is arbitrary, capricious and inconsistent with its obligations and mandates under NEPA.

5. METHODOLOGY

a. Undefined Permitted Use, Opaque as to IMC/VMC, Arbitrary and Misleading “Efficiency” Assumption

Our first set of Comments on methodology draw upon our Comments on Scope and begin with this predicate question:

What number and percentage of arrivals on runway 4L will follow the proposed 4L RNAV path in its first year of operation and what rate of growth of those two numbers is expected thereafter? The Draft EA nowhere addresses that question. That is a fundamental methodological flaw and material non-disclosure, as discussed further in Section 6.

Instead, the Draft EA, page 4-16, merely and only states that its analysis assumes that 255 new arrivals will be placed on the 4L RNAV procedure along with an unidentified number of former 15R circling procedure small aircraft flights:

Only two sets of flights were placed on the backbones representing the new procedure – **the 255 new net arrivals** that will be able to take place in IMC and cannot do so today, **and** the flights that were previously using the ILS **15R procedure** and circling to a visual landing on Runway 4L. All other flights in the No Action Alternative and the Proposed Action Alternative are identical. The noise analysis therefore reflects changes in noise exposure **solely** due to the implementation of the RNAV (GPS) RWY 4L procedure when compared to the No Action Alternative

Is that the entirety of proposed permitted 4L RNAV path use?

At the October 28, 2020 FAA virtual workshop, FAA consultant Donovan Johnson, who joined the Zoom event from Dallas, stated that other than those two 4L RNAV path arrival candidates (255 net new and whatever small aircraft 15R conversions occur) flights arriving on 4L “**will follow closely existing flight tracks.**”

But **nowhere** in the Draft EA does FAA commit that use of the 4L RNAV will be limited to 255 net new arrivals plus former small aircraft 15R circling procedure converts.

Nowhere in the Draft EA does FAA disclose what 4L flight path(s) will be flown by the JetBlue aircraft that formerly flew the now discontinued JetBlue Special RVNP. Nor has FAA responded to the undersigned elected officials’ request for written answers to those matters.

i. Opaque as to IMC/VMC Use

Nowhere does the Draft EA state that the 4L RNAV will **not** be used in **VMC** conditions. Such use is inconsistent with the FAA’s stated suggestion that the 4L RNAV path’s purpose is to **reduce arrival delays during extended IMC** as defined in the Draft EA (page 1-2).

Nowhere, does the Draft EA contain a Table such as that contained in its 2016 IER in which there, **Table 8** states “Estimated Annual Aircraft Use of RNAV Approaches” to Runway 4L, including “Cleared IMC”, Cleared VMC, “Advisory VMC” and Total annual aircraft use of 4L RNAV approaches. That table listed **10,860** Cleared and Advisory annual aircraft use of the 4L RNAV path assuming JetBlue aircraft to be included in its analysis.

Are we to assume that JetBlue aircraft will not use the proposed 4L RNAV path in VMC conditions, nor any other aircraft, on a cleared or advisory basis?

We reiterate therefore: What “existing” 4L approach flight paths will be used?

As we addressed in Section 4, **“reliable data for the associated noise emissions for each aircraft involved were not available”** for 4L VMC approach path aircraft for FAA to use for FAA’s INM model in 2016. The Draft EA does **not** state that it was able to obtain reliable actual VMC flight path data to input to its model for this Draft EA? If so **where is it?** If not, this Draft EA has materially insufficient empirical data.

Figure 8 of FAA’s 2016 IER (Appendix A to the Draft EA page 15) depicts a triangular image in **blue brush-stroke form** of some selected tracks for JetBlue Airlines flights (Airbus A320 and Embraer E190 jets) during April-May of 2013 using the VMC arrival procedure. **Does FAA** represent that such tracks are representative of where JetBlue jets will fly upon the implementation of the proposed 4L RNAV? Or, will JetBlue aircraft be able to use their “FMS to build a course and artificial glide slope if they choose.... depend[ing] on workload and Company requirements” as the FAA represented on March 4 of this year? **If so, that concentration has not been modeled or addressed in this Draft EA.**

What would preclude aircraft that fly the 4L RNAV path in extended IMC conditions from building its GPS another coordinates into their FMS and flying that 4L RNAV path in IMC conditions that are shorter than the hours stated in the Draft EA. or in VMC conditions? Nothing in the Draft EA addresses that.

ii. Arbitrary and Misleading “Efficiency” Assumption

The Draft EA’s stated efficiency purpose for the 4L RNAV procedure is in order to reduce late night arrival delays on runway 4R in “extended IMC conditions” by adding a net of 255 flights a year onto 4L arrivals. For the Draft EA, FAA chose to build a model based on assumed “eligible” weather conditions (6 consecutive hours or 8 out of 10 hours” of below 5 nautical miles visibility with the airport in Northeast configuration at least 80% of that time). Its model found only 7 such days for the baseline year. (Draft EA Appendix D page 10) We submit that residents under the 4L and 4R arrival paths will find the assertion that there are only 7 days a year of extended inclement weather conditions absurd. Will the FAA agree to limit use of the 4L RNAV to an additional 255 flights a year, given its stated purpose? Or is this model **a stalking horse for much more use of the 4L RNAV path in the actual weather conditions we experience?**

This is not Arizona, and there is no need for such **model-itis**. Various public records show that in 2019 there were 130 days reported as days with reportable rain, and there is little variation in that count depending on each recorder's method. Why didn't FAA state the number of **actual days** during which more than x number of Logan 4R arrivals were delayed for more than y hours in the baseline year? And state the number of actual days that more than x number of Logan 4R arrivals were delayed y hours beyond a scheduled arrival time of 10 pm?

Perhaps because the **US Department of Transportation Bureau of Transportation Statistics** public records show that during that baseline period **5% of all Logan arrivals were delayed due to weather. That does not suggest** a potential of net **255** new arrivals out of 4L's approximately 12,000 jet and small aircraft arrivals, and Runway 4R's more than 60,000 arrivals in the baseline year, but rather a total of $72000 \times 0.05 = 3,600$ delayed additional arrivals from which delayed but arrived before 10 pm would need to be calculated—and there again, the FAA's analyses are baseless and misleadingly materially **understate** the burden shift that any 4L RNAV would impose on the proposed 4L RNAV residents, schools, hospitals, churches and libraries— here **by a factor of 14 x multiplier**.

Without realistic data, the Draft EA model is arbitrary and fundamentally flawed. The FAA's stated "efficiency" purpose for its proposed 4L RNAV procedure is presented in a materially misleading way. It is cause for worry, not a don't worry marginal matter.

b. This Draft EA's Use of DNL: Dead on Arrival

The FAA's methodology as conceived and as applied to the introduction of an RNAV approach procedure for the Runway 4L component of the CSPRs 4L and 4R is materially incomplete, arbitrary and harmful as conceived and as applied in the Draft EA.

Like a doctor with discretion who applies the wrong medicine, it will make a bad situation worse. As is addressed in these Comments, the FAA's DNL metric as applied here, and as used as the sole metric for these CSPR approaches, is materially incomplete. Like a partial diagnosis, if used, it can and here does lead to a faulty calibration of the infection...here, of the noise impacts and other health effects.

i. GSA But No ASA and No Field Work

The Draft EA uses a GSA comprised of **1,173 square miles and 1,054,982 people** to develop a Yearly Day-Night Average Sound Level (**DNL**) range of 41.46 to 58.16 dB in the baseline year in Milton, 46.46 to 51.49 dB in Mattapan, and 47.26 to 60.58 dB in Dorchester. (FAA 1050.1f Desk Reference, February 2020 page 11-2).

As stated previously, the FAA did **no field work**, relying solely on its AEDT noise model and DNL metric. At its October 28, 2020 Draft EA virtual workshop, FAA's presenter, in response to questions, stated that use of field monitors "would only allow targeted measurements" and therefore are "not practical". We dispute that. **Sample testing** would have confirmed that actual overflight noise impacts are out of line with FAA's analyses.

For example, taking just two of the days between the first and second FAA virtual workshops and looking at field readings of noise impacts of overflights of Milton Hill showed dB readings exemplary of **any** day Runway 4R is in use:

October 25, 2020

4:40 pm	AAL 1569 from Phoenix	A321	72.3 dB
4:51 pm	UAL 385 from Denver	B738	73.4 dB
5:00 pm	AAL 1728 from Charlotte	B738	74.2 db
5:02 pm	AAL 1148 from Dallas	B738	73.7 dB

October 26, 2020

4:30 pm	AAL 2148 from Reagan National	A319	71.7 dB
4:50 pm	UAL 2068 from SFO	B738	74.2 dB
5:05 pm	AAL 1569 from Phoenix	A321	74.0 dB
5:13 pm	UAL 664 from Orlando	A320	75.0 dB
5:17 pm	SWA 950 from BWI	B73	75.4 dB

ii. No Noise Contours

Furthermore, despite the fact that Runway 4L overflies “noise sensitive areas” (NSA) as does its CFSR counterpart 4R, FAA developed no **noise contours** to assess cumulative impacts of their combined overlapping noise and health effects. Section 4 of these Comments contains MIT’s noise contour graphics and our related discussion. No contours analysis was included in the Draft FAA, and once it was published, the undersigned elected officials informed FAA in writing that they wanted noise contours included in the analysis and a written reply. The FAA ignored that request.

The FAA defines NSA as:

[a]n area where noise interferes with normal activities associated with its use. Normally, noise sensitive areas include **residential, educational, health, and religious structures and sites, and parks, recreational areas**, areas with wilderness characteristics, wildlife refuges, and **cultural and historical sites**. (Paragraph 11-5.b.(8) of FAA Order 1050.1F)

And the FAA’s Order 1050.1f Desk Reference Section 11-4 states:

In some cases, public understanding may be improved with a more complete narrative description of the noise events contributing to the DNL contours with additional tables, charts, maps, or metrics. In other cases, supplemental analyses may include the use of metrics other than DNL.

FAA did **none** of that.

Lastly, FAA’s regulation states that it is only **required** to employ noise contour analyses, even as to noise sensitive areas, for its “**larger scale air traffic airspace and procedure actions.**” But that: “If the study encompasses a **large geographical area**, it is not recommended that contours be created for the representation of results below DNL 55 dB due to fidelity of receptor sets needed to create an accurate representation of the contour.” Here the GSA is 1,173 square miles. However, the narrow ASA corridor that these Comments addresses is much less than 5% of that 1,173 square miles—not “large scale traffic airspace” at all.

iii. Dilutive DNL and No In-Use Metrics

Yet, although FAA stated that the Draft EA “will **focus on a change-in-exposure analysis**, which examines the change in noise levels as compared to population and demographic information at population points throughout the study area,” its over-broad GSA, and failure to include a focused ASA, using the DNL metric without field confirmation of metric supplementation is methodologically fatal to representative change-in-focus analysis. Why?—Because it is materially incomplete as to CSPR impacts precisely because the DNL metric as applied massively **dilutes** the **actual** Runway 4L **in-use** noise impacts by including days of the year when Runway 4L is not in use.

Runways 4L and 4R are used 34% of the days of the year according to Logan Airport published records—not 365 days of the year which the DNL 365 day metric includes. That is, Runway 4R and 4L were in use 121 days of the baseline year (November 1, 2018 to October 31, 2019).

So, consider this: In response to a resident’s Freedom of Information Act (FOIA) to FAA in connection with this Runway 4L Environmental Assessment, FAA was required to provide access to its AEDT model. The AEDT model shows that for this Draft EA’s **baseline year**, **the number of flights per day that meet an above 60 dB a day sound level threshold when divided by 365 days were: more than 150 flights a day under the 4R path.**

Consequently, the **above 60 dB sound level** number of flights during **121** days corresponds to residents’ **actual experience** of more than **450** flights a day in the CSPR corridor where impacts of both Runway 4R and 4L overflights are experienced.

And corresponding figures under the 4L Triangle, comprised of Beth Israel Hospital, St Elizabeth’s Church and Milton Academy, are 66 flights per 365 days and therefore actually more than 190 flights a day that create above 60dB sound level when 4L is in use.

The FAA's methodology does not even begin to address this. And—that is only the beginning of its flawed use of DNL.

The AEDT model also shows average time each day of the years' 365 days that residents' experience of noise above the 60dB sound level, which under Runway 4R is more than 50 minutes a day, and therefore more than **150 minutes every day 4R is in use. More than two and a half hours of the sound of planes approaching residents' yards, flying over and receding toward the airport—building in level from 45dB to over 70 dB and receding as the plane proceeds toward Logan . . . to the extent that on the days as a whole sound level is doubled across the day !**

In fact, 70 dB sound is perceived as **four times as loud** as 50 dB sound, and 60dB sound is perceived as **twice as loud as 50dB sound. For these reasons alone**, the assertion that no further analyses by FAA is needed due to yearly average DNL as low as 45 dB is fundamentally flawed and incomplete analysis as applied by FAA here. Noise rising to a 70dB crescendo then falling repeatedly 450 times, interrupting for two and a half cumulative hours across each overflight day with such annoyance is nowhere addressed by FAA's methodology.

But there is much more to be addressed.

iv. Missing Supplemental Metrics

The FAA's own regulation 1050.1f Desk Reference for noise analysis in its Section 11.4 states:

DNL analysis **may optionally be supplemented on a case-by-case** basis to characterize specific noise impacts. Because of the diversity of situations, the variety of supplemental metrics available, and the limitations of individual supplemental metrics, the FICON report concluded that the use of supplemental metrics to analyze noise should remain **at the discretion of individual agencies.**"

And one FAA's listed supplemental metrics is:

Maximum sound level (Lmax) defined as: A single event metric that is the highest A-weighted sound level measured during an event.

Notably, the US Federal Highway Department (which, like FAA is also part of the US Department of Transportation) also states:

U S Department of Transportation
Federal Highway Administration FHWA-HEP-17-053:
The LMAX, or Maximum Sound Level, descriptor is the highest sound level measured during a single noise event (such as a vehicle pass by), in which the sound level changes value as time goes on.

These statements concern noise measurement for **any** noise event analysis such as a single RNAV path noise analysis. And here we have a proposed new CSPR Runway 4L RNAV counterpart to the extant Runway 4R RNAV.

MIT's experts who studied the Logan Runway 4R RNAV path including reference to its present 4L CSPR counterpart wrote a methodological thesis in 2018 that specifically states that the Lmax noise metric is the appropriate measurement tool for supplemental RNAV analyses, superior to the yearly average DNL metric for that analysis, stating that overflight frequency is an important factor driving annoyance. N_{ABOVE} captures overflight frequency effects directly, essentially counting the number of qualifying events experienced by a surface observer over the period of interest. Lmax captures the overflight flight-by highest sound level. Together they measure repetitive high annoyance. Together they are used to target days that the approach path is in use, and in a focused way are also used to assess peak-day use repetitive noise annoyance, as MIT's expert's study shows.

For those reasons, N_{ABOVE} Lmax 60dB/50dB is a sine-qua-non of this EA analysis for the 4L CSPR RNAV procedure. Consequently, when the Draft EA was published **without** inclusion of Lmax analysis as a supplemental measure to DNL, at residents' request, our elected officials acted.

Each of the undersigned state and municipal elected officials **asked FAA in writing** to provide Nabove Lmax dB 60Day/50Night noise metric readings in writing prior to any FAA virtual workshops. They pointed out that the N_{ABOVE} Lmax metric is described by MIT avionics experts as a more appropriate measurement tool for noise effect analyses of proposed RNAV paths overflight noise impact than yearly average DNL for the reason that it focuses on the heightened noise effects of concentrated overflight paths by measuring the number of flights a day that have sound readings of at least 60 dB by day and 50dB—undiluted by days without overflights. **FAA never did so.**

v. **No Wake Turbulence Analyses**

The FAA's Draft EA Section 2.2.2.2 contains a recitation of aircraft in-flight wake turbulence. Wake turbulence forms behind an aircraft as it passes through the air. The Draft EA uses many paragraphs to address **wake turbulence modeling** for the CSPR 4R and 4L paths. That analysis is directed to the safety need for lateral and vertical separation of approaching 4R RNAV path (and visual or ILS path) aircraft from the proposed 4L RNAV path.

Approach paths 4L/4R are so closely parallel paths that the wake of a plane on the 4R approach path can affect the wake of a plane on the 4L approach path and vice versa.

But the Draft EA contains **no** analysis of the import of wake turbulence for the proposed 4L RNAV and its likely noise effects due to reduced aircraft separation and therefore increased overflight frequency—that is to say reduced time between aircraft overflying residents on a hyper-concentrated RNAV path by day and with its string of landing lights visible like bright beads stretching from Southwest sky for 15 miles by night.

FAA's ongoing efforts to reduce wake turbulence by "optimizing" the lateral and vertical spacing of aircraft will have the effect of enabling more planes to land each day on Runway 4L once it has an RNAV procedure, and enable "optimized" 4R arrivals spacing in relation to 4L aircraft as well. Yet FAA **denied** this in response to a direct question raised at the November 4, 2020 Massport Community Advisory Committee meeting at which FAA made a presentation about the 4L EA and Wake Turbulence stating: There will be no effect on 4L/4R capacity utilization.

However, FAA's own website contains this statement to the contrary:

From FAA website: Wake RECAT. Memphis Airport example 2012

"Last updated by FAA July 27, 2020"

January 30—**Capacity at Memphis International Airport has increased significantly since the FAA revised wake turbulence separation standards.** Memphis Tower and TRACON were the first facilities to apply the new standards on Nov. 1, 2012.

The re-categorization of separation standards (RECAT) resulted from **a decade of collaboration** between the FAA, DOT/Volpe National Transportation System Center, EUROCONTROL and the aviation industry. Experts in wake turbulence, and safety and risk analysis determined that **decreasing separation** between similar type aircraft is **as safe, or safer than current** standards....

The FAA estimates a **more than 15 percent increase in capacity at Memphis as a result of RECAT.** Overall, the FAA can accommodate nine additional flights per hour using the new separation standards. Lower fuel consumption and fewer emissions are added benefits of this newly gained efficiency.

The FAA plans to expand the new standards to other airports in 2013 and 2014, and estimates **an average capacity increase of 7 percent.** Capacity increases at each airport will depend on the mix of aircraft categories operating at that airport. For more information read the Safety Alert for Operators (SAFO) (PDF).

Will capacity utilization increase on Runway 4L arrivals by 7 percent (the average) or as much as in Memphis, 15 percent? What about 4R?

That 2012 statement by FAA was last updated only a few months ago and **remains current today.** For that reason, the Draft EA and FAA's presentation at the MCAC meeting on November 4, 2020 are materially incomplete, and contrary to FAA's wake turbulence re-categorization promotional statements and contrary to reality: an RNAV procedure on Runway 4L will bring more arrivals per hour on 4L and 4R.

vi. **No Analysis of Deployed Landing Gear Noise Effects**

Residents of Mattapan, Milton and Dorchester observe planes routinely overflying them on approach to Logan Airport with landing gear deployed miles **before** each plane passes over the Final Approach Fix (FAF), which for both 4L and 4R is 5 nautical miles from the airport, labeled MTTPN for Runway 4L and MILTT for Runway 4R. For readers, that is located at Cedar Grove (ironically not in Mattapan—perhaps CDRGR would be a better FAA acronym) and MILTT located at the Granite Ave entrance to the Expressway. (There are no markers at either location. It is all GPS coordinates now. The little white painted hut at MILTT was removed years ago.)

To be clear, **we recognize** that the timing of landing gear deployment is **determined at the discretion of the aircraft captain** subject to FAA’s **only** requirement that it must be deployed at the FAF. In this section we are **not suggesting** that landing gear must be deployed no earlier than at the FAF. We speak only about noise effects here.

Residents routinely observe landing gear already deployed by overflying aircraft at significant distances from the FAF. Reports of routine observations on Randolph Ave (the numbering of which increases with distance from MTAPN and MILT of aircraft approaching from the Southwest) at locations numbered in the 1151 Randolph Ave range or further are numerous. That is a far distance from the FAFs. Every one of the aircraft listed in Subsection B-i above had its landing gear deployed when it was observed. Notably also, in 2010, a teenager who hid in the landing gear enclosure of the left wing of a Boeing 737 on approach from Charlotte, NC fell to his death in the Brierbrook Road Blue Hills neighborhood when the landing gear was deployed, several miles from the FAF. Aircraft overflying locations such as the Runway 4L Triangle formed by Beth Israel Hospital, St. Elizabeth’s Church and Milton Academy, or the Milton Library are repeatedly observed with landing gear lowered.

When landing gear is deployed it accounts for 40% of total aircraft noise effect. This has been a concern to residents living under Runway 4L and 4R. For purposes of this Comment, we will leave aside landing gear deployment by propeller aircraft, and address that of jet aircraft. Nothing that follows is reflected in the Draft EA. We state that for these reasons.

In August 2020, after the FAA stated that it will proceed with this EA despite repeated reasoned requests to defer it, Milton’s MCAC representative submitted the following FOIA request to the FAA and received this FAA response:

The Federal Aviation Administration received your FOIA request dated July 14, 2020, to obtain the following information:

Request “Item 1.) Data showing the actual time, aircraft speed, and aircraft location when landing gear deployed by each aircraft that arrived on runway 4L, and the flight number, aircraft type and engine model.”

FAA Response: “We conducted a search within the Air Traffic Organization, Mission Support Services, Eastern Service Center, Operations Support Group. **As a result, records you requested in Item 1 do not exist.**”

The FAA has no data on when landing gear is deployed.

After determining that FAA has no landing gear deployment data at all, the representative submitted a FOIA request to review modeling inputs for the Runway 4L EA to determine what landing gear deployment assumptions it makes. There is no data or modeling information in the AEDT modeling about landing gear deployment.

Why is that alone a dispositive material methodological failure of this Draft EA?

Current professional studies report that landing gear accounts for about 40% of the total noise emitted by a long-range aircraft in approach conditions. And that it takes approximately 6 seconds to deploy landing gear. (See the references below.)

The FAA requires that an aircraft's landing gear is deployed as the plane passes by the FAF, located approximately 5 nautical miles from the threshold of the applicable runway, as stated above. That landing gear deployment requirement likely derives from FAA aircraft certification criteria by which each model of aircraft and its engine design is certified by means of measurement of noise as the aircraft passes by a certification point that the model assumes is at 1500 feet altitude. **That** is FAF altitude. On a 3 degree glide slope, that altitude places the aircraft 5 nautical miles from the runway threshold in the test modeling, the FAF.

However, as stated above, observation in the field indicates that aircraft on approach very often have lowered their landing gear after passing by the Initial Fix (IF), located 15 nautical miles from the airport threshold and miles before the FAF, not as the plane passes the FAF.

Lowered landing gear of long range aircraft approaching between the IF and FAF, contributing approximately 40% of total noise emitted by those long-range aircraft, is not accounted for in the FAA's noise model used in connection with its EAs. The FAA's modeling assumes only that landing gear are lowered as planes pass by the certification location.

The FAA does not require pilots to report lowering of landing gear at the time they do so, nor does it restrict them from doing so, absent exigent circumstances, prior to the FAF. There is no model data to reflect the realities of when landing gear is actually lowered along the arrival path prior to the FAF, and the Draft EA noise modeling results are fatally flawed for that reason.

Noise from deployed landing gears at higher speeds (i.e., when the aircraft is between the IF and FAF) is not measured as part of an aircraft's noise certification process and not incorporated into the AEDT noise model. Each aircraft's speed between the IF and the FAF, and the differential noise effect of higher speed at IF and thereafter, with landing gear deployed prior to FAF as the plane approaches is **not reflected in the FAA's EA model.**

As mentioned above, lowering a landing gear takes only seconds (six seconds for an Airbus A320) and could be done promptly at the FAF.

The EA modeling does not include any record of the location of lowered landing gear and accompanying **flight speed** with gear lowered for each flight approaching. As residents witness,

when landing gear is being lowered the jet aircraft emits a loud whistling sound—which is highly audible and disturbing. Total noise jumps. They are correct (see below).

Consequently, the contribution to noise impacts of those numerous flights in that important unrecorded regard is not addressed all on the Draft EA. For that reason alone, it does not present the material effects of this proposed Runway 4L procedure and should be withdrawn.

In sum, the FAA’s model does not track the material contributing grounds (i.e. observed landing gear noise source and effects) or give any proper consideration to the circumstances of lowered landing gear noise impacts on residents under the flight path between the IF and FAF.

Nor is the noise effect of lowered landing gear at higher aircraft speed between the IF and FAF given any proper consideration.

References:

ARC: JOURNAL OF AIRCRAFT Vol. 55, No. 6, November–December 2018

During aircraft approach to landing, when engines are operating at low thrust, the noise from the landing gear and the wheel bay cavity contributes substantially and can often be a major contributor to the overall noise signature of modern aircraft. Specifically, of the total aircraft noise that radiated from the landing gear, it varies for short-range to long-range aircraft from 31 to 40%, which compares significantly when compared to that from the engine, which ranges from 38 to 42% [4]. Because landing gear is typically deployed at the 1500 ft altitude position on the 3 degree glide slope, radiated noise disturbs communities for many kilometers outside the airport boundary.

[Citation: footnote[4]: Manoha, E., Sanders, L., and De La Puente, F., “Landing Gear Noise Prediction: What Is the Best Method?” Proceedings of 19th CEAS-ASC Workshop on Broadband Noise of Rotors and Airframe, The Aeroacoustics Specialists Committee of the Council of European Aerospace Societies, La Rochelle, France, 2015.

EU ACARE (Advisory Council for Aviation Research in Europe):

In terms of noise impact for the residential areas surrounding airports, takeoff and landing are the most critical phases of the flight. While noise emissions at takeoff are mainly dominated by engines, contributions of all other noise sources are evenly balanced during landing.

For a typical long-range airplane during the approach phase, around 54% of the noise stems from the airframe. Out of these 54%, 76% originate from the landing gear alone (see Figure 2 and Figure 3).

In total, the landing gear accounts for about 40% of the total noise emissions of a long-range airplane in approach conditions.

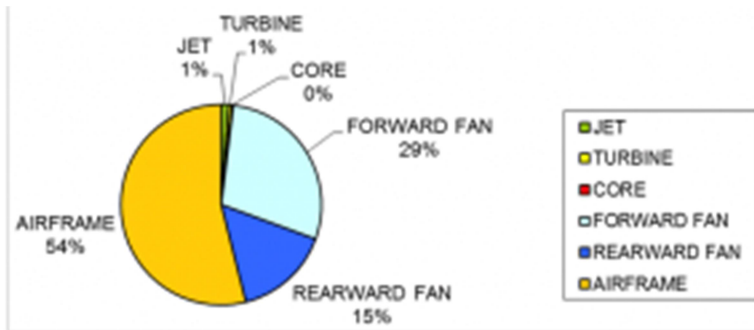


Figure 2 – Contribution to the overall noise emission of a typical long-range jet airplane during the landing phase

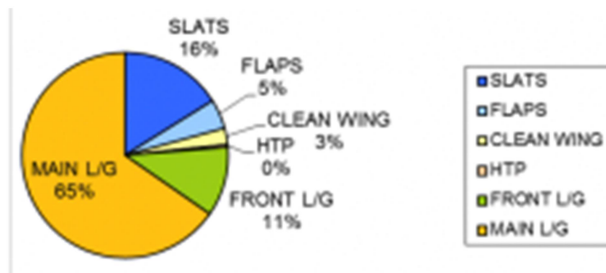


Figure 3 – Decomposition of airframe noise of a typical long-range jet airplane during the landing phase

6. NON-TRANSPARENCY, MATERIAL MISSTATEMENTS AND OMISSIONS, SELECTIVE DISCLOSURES, ARBITRARY REFUSALS TO DISCLOSE, SELF-CONTRADICTIONARY STATEMENTS

The proposed Logan Airport Runway 4L procedure would add a hyper-concentrated RNAV approach path to the narrow CSPR corridor already bordered by the adjacent extant Runway 4R RNAV path. To understand the fatally deficient recitations of the Draft EA and its associated virtual “workshops,” one needs to understand the applicable disclosure standards to be applied, and FAA’s disregard of them. That is needed for the following reason.

The Draft EA itself and FAA’s associated virtual workshops process contain materially incomplete, selective, and misleading statements as well as material omissions and self-contradictory statements. But consider this: The FAA’s practice of arbitrary and capricious scope and methodological analytics leads to, **but should not be confused with**, its **related, coincident** misstatements, and its refusals to disclose material information that would fill-in its material omissions, as well as its failures to address its selective statements’ disclosure gaps, all of which creates fundamental objective non-transparency.

So much so that residents potentially impacted by the proposed 4L RNAV approach procedure are not provided with the full and accurately presented set of facts that are reasonably considered important to their understanding of the situation. That is a separate and fatal deficiency in the Draft EA and its process for a distinct set of legal reasons.

It is a fundamental tenet of public disclosure, whether under or federal administrative procedures or federal securities disclosure laws, that without full and complete disclosure of material information by the proponent (here the FAA) to the recipient (here affected residents and others) there can be no adequately informed process.

Material misstatements and omissions disable and invalidate a disclosure process such as an EA Draft publication process and its workshops, making it uninformed, prejudicial to recipients, and unlawful.

The standard of disclosure as applied to this EA process is **objective**. The FAA has no discretion to depart from it.

Information reasonably believed by an objective observer to be important to the recipient's understanding of the proposal must be disclosed in full and complete fashion to the recipients. That did not happen here.

What does that mean?

In some instances, there is an independent agency to whom the proponent provides its proposed draft statement of information so that the independent agency can review it and clear it for public distribution, or require it to be amended for completeness and accuracy.

Proposed offerings of investment securities to the public by companies (the proponents of the offering) must go through SEC (Securities and Exchange Commission) pre-clearance review of their information statements by SEC staff for objective completeness and accuracy before the draft information statements can be approved for use by potential investors (the public recipient people and investment firms such as brokerages and pension funds).

In addition, meetings with potential investors, referred to as “roadshows” are held to the **same** standards of accuracy and completeness as the associated information statements.

The FAA has no independent federal agency to which it submits its Draft EA prior to publication for review. But that does not change the objective standard: the FAA cannot provide an objectively incomplete or mis-informative information statement, or workshop assertions, and there is ultimately objective review available in a court of law.

But there is no prior review by an independent federal disclosure watch-dog like the SEC. Nevertheless, the FAA cannot self-police its own draft assessment information statement content.

And in the absence of a federal watch-dog, citizens need to raise their voice to point out disclosure defects in the information that are **objectively important**—that is, **where there is a substantial likelihood that a reasonable recipient would consider the misstated, incomplete or omitted information important in determining how the proposal affects him or her or their family or organization.**

As to information **missing, omitted** from the draft information statement, that requires a determination whether under all the circumstances, the omitted fact would have assumed actual significance in the determination of the recipient of how the proponent's proposal affects him or her or their family or organization.

Those are the well-considered principles for determining the material accuracy and completeness of a proponent's information statement and our Comments are made on that basis. We submit that the following Comments address objectively important information that is misstated, incomplete or omitted such that in all the circumstances the missing misstated information would have actual significance to readers' determination of how the proposed 4L RNAV procedure will affect them. It needs to be provided.

Our effort in that regard is presented here, drawing upon the previous Sections of these Comments. The following format draws upon extant federal watch-dog formats.

a. Purpose and Need for the Proposed Action

Section 1.2 of the Draft EA states that **safety and efficiency** are the purposes of the proposed Runway 4R RNAV procedure.

Safety: Section 2.1.1 states that safety under the No Action Alternative is jeopardized by the Circling Visual Approach to Runway 4L after conducting ILS Runway 15R approach to visual conditions.

Please address in Section 2.1.1 the additional facts not presented regarding the only three instances referenced in the past 5 years as safety concern examples:

***Each** of these three proffered scenarios occurred during **Visual Meteorological Conditions, not during IMC** for which FAA proposes the 4LRNAV to reduce late night arrival delays.*

***Each** of these involved **old** propeller (Cessna 414) and turboprop DeHavilland Dash 8 (turbo-propeller) **small** (8 passengers, 36 passengers, respectively) planes. **Neither** Cessna 414 (built in the 1970s and early 80s) nor DeHavilland Dash 8 (built in the 1980s) are identified by FAA as having any gps capability on board —necessary for RNAV if the 4LRNAV had been in place. In other words, the 4LRNAV does not address that safety issue at all.*

***Each** of the planes was in visual contact with the Logan runways, and the third scenario mentioned concerned excessive speed.*

Please explain why the Circling Visual Approach to Runway 4L was not discontinued if it is unsafe and in light of the last sentence Section 2.1.1. of the Draft EA which states that the "Circling Visual Approach to Runway 4L is used far less frequently than other visual approaches to runway 4L."

Please explain why FAA did not and cannot discontinue its use if it is unsafe, and in any event why should this be a reason to subject thousands of residents to the noise and pollution impacts

of a concentrated RNAV path rather than mitigating that safety anomaly itself?

*Please disclose why this safety concern was not addressed without the need for a Runway 4L RNAV procedure previously and explain why the Draft EA did not give equal prominence by including in Sections 1.2 and 2.1.1 the disclosure contained in its Appendix D page 8 that “based on consultation with Boston Consolidated Tracon (A90) personnel, **it is not expected** that [the ILS 15R circling transition to Runway 4L] will continue to be used.”*

Please address whether Runway 4L and/or Runway 4R can be used in VMC for aircraft that have previously used the ILS 15R circling transition to Runway 4L.

Please amend Section 1.2 of the Draft EA to explain to readers concisely why, if the ILS 15R circling transition to Runway 4L will not continue to be used, and if Runway 4L and/or Runway 4R can be used in VMC for aircraft that have previously used the ILS 15R circling transition to Runway 4L, why there is a safety based need for the proposed 4L RNAV procedure. Please concisely explain it, and do so in Section 2.1.1 without placing any material aspect of the statement in an appendix. Specifically explain why only a proposed 4L RNAV procedure can address the safety need.

Efficiency: The Draft EA states in its Section 4.6.6 at page 4-16 that:

the Proposed Action Alternative... **includes an additional 255 net arrivals** annually to the Airport that are enabled by **increased efficiency at the Airport during IMC**. An associated 255 net departures annually are also included in the noise analysis. Only two sets of flights were placed on the backbones representing the new procedure – **the 255 new net arrivals that will be able to take place in IMC** and cannot do so today, and the flights that were previously using the ILS 15R procedure and circling to a visual landing on Runway 4L. **All other flights in the No Action Alternative and the Proposed Action Alternative are identical**. The noise analysis therefore reflects changes in noise exposure **solely** due to the implementation of the RNAV (GPS) RWY 4L procedure when compared to the No Action Alternative. A more detailed explanation of all of these modeling assumptions and how they were arrived at is available in Appendix D.

Please note that readers of the foregoing statement need to page through literally scores of pages of centroids listings in Appendix C in order to find material information that completes the above statement. Please note that Appendix C can be placed last in the Draft EA materials so that the present Appendix D is more accessible.

Please revise Section 4.6.6 to state there the following (from Appendix D):

[A] net total of 255 annual operations will be added to traffic at the Airport to represent additional operations that would currently be canceled under the No Action Alternative. This will occur because the additional gain in efficiency attributable to the Proposed Action increases

the Airport's hourly Average Arrival Rate (AAR) and allows additional arrival operations. These operations comprise:

* An **additional 359 annual arrivals to runway 4L**, representing flights that are no longer canceled or delayed due to additional runway throughput available with the RNAV (GPS) RWY 4L IAP.

* A **reduction of 104 annual arrivals to Runway 4R**, representing flights that can now use Runway 4L earlier in the day due to increased throughput and no longer need to wait to use Runway 4R.

Please note that the above stated calculation of how a total of 255 net added annual operations will be added to traffic at the airport deserves greater prominence in the Draft EA and should be concisely stated in Section 1 of a revised Draft EA.

Please confirm that nowhere in the Draft EA does FAA commit that the proposed 4L RNAV path will only be used in IMF conditions to provide a net total of 255 added annual operations at the airport.

If FAA commits to that, state so explicitly and prominently in Section 1 of a revised EA Draft.

If FAA does not commit to that, state so explicitly and prominently in Section 1 of a revised EA Draft.

Please see our related Comments below regarding the need to inform readers of the Draft EA of the noise and other health impacts of each of the foregoing eventualities:

—use of the 4L RNAV procedure only in IMF conditions limited to a net total of 255 added annual operations with no other changes in 4L operations; or

—use beyond IMC conditions and/or other permitted changes in operations such as, but not limited to, elective FMS use of gps guidance or cleared or advisory use of the proposed Runway 4L RNAV procedure in VMC.

In either event, prominent disclosure in plain English with accompanying graphics and table are required in order to provide objectively complete and accurate information.

b. Scope

The Draft EA, at various places states that FAA is using a **single GSA**.

That GSA is stated to be comprise an area of **1,173 square miles** (Section 3.2.1) for “**purposes of assessing overall air traffic compatibility**” across all **427,000 Logan Airport flight movements** (Section 3.4.6.2), and **27,080 census blocks** (Section 3.4.6.1) that include **1,054,982 people** (Table 3.4-5)

Please state prominently in one paragraph those combined GSA characteristics.

Please note prominently and explicitly that use of a single 1,173 GSA does not bifurcate

the scope of the Assessment between (A) overall Logan air traffic compatibility, versus (B) focused evaluations of the proposed 4L RNAV path's noise and other environmental effects on residents under that path and impacts on residents already under the nearby 4R RNAV path.

Please revise the Draft EA to explain to its readers that the FAA is permitted to supplement its analyses to better focus on noise and other environmental impacts by using a supplemental study area for those purposes. Here we refer to such a supplemental study area as the Approach Study (ASA).

Please provide supplement the Draft EA to include disclosure focused on the objectively material combined impacts of aircraft traversing the proposed 4L and extant 4R RNAV approach paths (and their Visual and ILS counterparts) on residents, schools, hospitals, churches and other noise sensitive areas under and adjacent to those CSPR paths.

Please address in a revised Draft EA that noise perception depends critically on time and place, coincidence of event (overflight) and proximity.

*Please acknowledge and address in a revised Draft EA that locations such as Wellesley, Hopkinton, Watertown, Medford, Newton, Kingston or Sherborn may be relevant to overall Logan air traffic compatibility assessment, but that they are **not** near the 4L/4R conical CSPS paths corridor, nor near planes passing along those approach paths from its point of origin 15 nautical miles Southwest of Logan, where the 4L/4R paths are only 4500 feet apart, to touch down where the 4L/4R runways are 1500 feet apart.*

Please describe in a revised Draft EA the material information concerning the noise and health impacts of planes passing along those CSPR approach paths from its point of origin 15 nautical miles Southwest of Logan, where the 4L/4R paths are only 4500 feet apart, to touch down where the 4L/4R runways are 1500 feet apart.

In doing so, please take describe two important aircraft noise dynamics that the Draft EA omits:

- (1) that planes proceeding along the 4L path create so-called **noise contours** that reach to the west and east side of each plane; and*
- (2) by doing so, they extend 4L noise to the west of the path and 4R noise to its east; but also by extending 4L noise to the east toward the 4R path, and 4R noise to the west toward the 4L path create a **noise overlap** between the 4L and 4R paths increasing noise occurrence, intensity and duration in that between-CSPRs overflight area.*

Please describe the approximate area of the ASA, from its origin 15 nautical miles Southwest of Logan, where the 4L/4R paths themselves are only 4500 feet apart, to touch down where the 4L/4R runways are 1500 feet apart and also including its respective noise contour areas to the west and east of the 4L/4R CSPR approach corridor.

c. Methodology

Permitted Use: The Draft EA does not define and state what the permitted use of the proposed 4L RNAV will be. **So that readers of it can understand what the expected use of the proposed Runway 4L RNAV:**

Please state in an early and prominent section of a revised Draft EA:

- (1) *the total number of arrival aircraft that will use the proposed 4L RNAV procedure in its first, second and fifth years of operation;*
- (2) *the percentage of Runway 4L arrivals that will use the proposed Runway 4L RNAV procedure in its first, second and fifth years of operation;*
- (3) *the total number of arrival jet aircraft that will use the proposed 4L RNAV procedure in its first, second and fifth years of operation;*
- (4) *the percentage of Runway 4L jet aircraft arrivals that will use the proposed Runway 4L RNAV procedure in its first, second and fifth years of operation.*

*So that readers of the Draft EA can understand the assumptions, if any, underlying the statements to be made upon revision of the Draft EA regarding each of the foregoing 4 total and percentage numbers, **state any important assumptions made for each, and in doing so:***

- (a) *state separately what assumptions are made about permitted use, including IMC use, VMC use, and use under any meteorological conditions of FMS-guided use of the Runway 4L RNAV path by aircraft other than the 359 arrival aircraft that the Draft EA presently references;*
- (b) *state clearly what assumption is made, if any, about the impact of **Covid-19 pandemic** induced uncertainties and flight curtailments in the statements to be made upon revision of the Draft EA regarding each of the foregoing 4 total and percentage numbers;*
- (c) *if uncertainty due to **Covid-19 pandemic circumstances have any influence on the degree of the FAA's confidence in the statements to be made upon revision of the Draft EA** regarding each of the foregoing 4 total and percentage numbers, state in the revised Draft EA what that influence is; and*
- (d) *state why the FAA is proceeding with this EA at this time when Runway 4L and Runway 4L arrivals are curtailed to a small fraction of baseline year operations and explain fully in the revised Draft EA why the FAA refused to postpone this EA process as have been repeatedly requested by the Runway 4L and 4R communities' federal, state and municipal officials if Covid-19 circumstances materially affect FAA's ability to answer matters (1) through (4) with confidence.*

The Draft EA nowhere states that the 4L RNAV procedure will not be used in VMC conditions.

The Draft EA does not contain a Table such as that contained in its 2016 IER in which there, **Table 8** states "Estimated Annual Aircraft Use of RNAV Approaches" to Runway 4L, including "Cleared IMC", Cleared VMC, "Advisory VMC" and Total annual aircraft use of 4L RNAV

approaches. That table listed **10,860** Cleared and Advisory annual aircraft use of the 4L RNAV path assuming JetBlue aircraft to be included in its analysis.

Please revise the Draft EA to state whether the Runway 4L RNAV Procedure will be used in any way by any aircraft in VMC Conditions.

Please revise the Draft EA to add a table stating “Estimated Annual Aircraft Use of RNAV Approaches” to Runway 4L, including “Cleared IMC”, Cleared VMC, “Advisory VMC” and Total annual aircraft use of 4L RNAV approaches so that readers can understand those matters.

Please similarly revise the Draft EA to state whether JetBlue aircraft will or will not use the proposed 4L RNAV path in VMC conditions and state separately whether any other airline’s aircraft included in that table will be permitted to use the proposed Runway 4L RNAV path on a cleared or advisory basis and in what condition or conditions.

Please revise the Draft EA to specifically state what VMC approach path or paths Jet Blue aircraft will be permitted to fly in VMC conditions and whether in light of the fact that JetBlue aircraft previously used the Special RVNP procedure, JetBlue air craft will be permitted to use their FMS to build a path and glide slope. If so, state whether or not the FAA will conduct an EA regarding such procedure in advance of its use.

Noise Emissions Data: In light of the statement at page 32 of Appendix A to the Draft EA that:

The INM standard assumption is that, when aircraft are flying an approach below 3,000 feet, they utilize ILS guidance. While true for the vast majority of air carrier approaches at major U.S. airports, it is **not true for approaches to Logan Runway 4L. While a non-standard profile could have been developed and used, **that was not done because reliable data for the associated noise emissions for each aircraft involved were not available.****

Please describe how, if at all, the FAA’s AEDT model developed a non-standard profile for approaches to Runway 4L for the associated noise emissions for each aircraft; and if any reliable data were used, state what it is and how it was obtained.

Please describe whether FAA used reliable data for the associated noise emissions for each aircraft based on any data specific to noise emissions over the ASA’s arrivals corridor and its adjacent east/west noise contour areas.

Please explain in the Draft EA why no noise monitors were placed, on a supplemental basis in the ASA to measure the associated noise emissions for each aircraft involved in the proposed 4L RNAV procedure, and/or as a check on the reliability of AEDT modeling.

If the answer to the foregoing request is that field work use of a monitor for such purpose is not or would not be “practical” explain why, and if cost is a factor, state that cost per monitor, and state whether FAA has the ability to use a portable monitor that can test different locations at different times.

Soot and Particulates Emissions Data: The Draft EA nowhere states that the FAA did any sample testing of aircraft engine emission particulates in the CSPR proposed 4L-extant-4R RNAV corridor and that corridor's aprons to the west and east sides of it. Closely Spaced Parallel Runway approach corridors pose a rare and exacerbated coincidence of hyper-concentrated noise and emissions.

That reality renders sole use of GSA of 1,173 square miles arbitrary and capricious as evidenced by the Draft EA's reliance on its assertion that 13 times as many people reside outside the CSPR corridor and its contour aprons as under it. That 13-to-1 assertion bears no reasonable relationship to the hyper-concentrated ASA CSPR realities that are not extant in the areas outside of the ASA. It attempts to dilute noise and pollutant impact analysis by ignoring hyper-concentration.

Please revise the Draft EA to include measurement and health expert evaluation for the proposed Runway 4L RNAV/extant Runway 4R RNAV CSPR ASA of: aircraft engine emission particulate residue; relevant resident interviews; house clapboard and other surfaces' aircraft engine emission soot accumulation sampling; and other measurements as directed by health expertise.

FMS: As quoted in Section 2A of these Comments on March 4, 2020, in response to a direct written question, the FAA Regional Administrator stated:

When pilots are aware that they will be getting a Visual Approach to Runway 4L, they have the ability in their FMS to build a course and artificial glide slope if they choose. It would all depend on workload and Company requirements.

The Draft EA does not negate that statement and leaves a reader uninformed on this fundamentally important question: will pilots be able, depending on workload and their Company requirements, to build a course and artificial glide slope if they choose?

Please revise the Draft EA to state yes or no to that question. Please concisely and clearly explain the import of that answer for Runway 4L approach path location and concentration in the revised Draft EA. Include in that statement whether such an FMS-built path can become a concentrated repeatedly used flight path used by that Company's flight operations. If so, state what prior FAA review, if any, will occur and what prior advisory information will be provided to residents of the ASA, including how much advance public notice will be given, and by what means, by the FAA of any proposed FMS-built path.

DNL: *Please revise the Draft EA to state the following clearly, prominently and explicitly in bold type:*

DNL is based on the yearly average annual day whether or not the applicable runway is in use.

For that reason, DNL dilutes the noise impacts of days in use by including days without use, thereby reducing overflights' noise impact on days in use by including in the DNL the noise impact calculation days when there are no aircraft overflying, thereby adding zero overflight noise impact for each such day and reducing annual noise impact analysis accordingly.

Please add to that revised Draft EA statement that due to its logarithmic nature, A-weighted decibel readings of 50dB, 60dB and 70dB scale as follows:

*60dB is perceived as **twice** as loud as 50dB;*

*70dB is perceived a **four** times as loud as 50dB and **twice** as loud as 60dB.*

Please include in that statement that FAA's AEDT model for the baseline year indicates that more than 150 aircraft overflew Milton Hill residents on an average annual day during the baseline year exposing residents to 60 dB or higher.

*Please include in that statement that Logan Runways 4L and 4R approach procedures are **in use 34% of the year** according to the public Massport website. Therefore, and accordingly the significant extent that DNL dilutes days of noise effect can be determined by multiplying the DNL metric's yearly annual average days stated factor by the inverse of the yearly percentage of **days in use**.*

*Please state that for that reason when Runways 4R and 4L were in use during the baseline year **in-use noise exposure** based on FAA's AEDT model indicates that Milton Hill residents were overflowed by more than 450 flights with noise exposure above the 60dB level.*

*Please add that according to the FAA's AEDT model on the average annual day (including when Runways 4L and 4R were **not** in use Milton Hill residents were subject to more than 50 minutes of noise above the 60dB level, and therefore on days when Runways 4L and 4R were in use in the baseline year those residents were subjected on average each and every in-use day to more than two hours and half hours of noise above the 60dB level as planes overflew in consecutive order at times 50 or 60 seconds apart during peak hours of the day and night.*

Please add that corresponding figures under the 4L Triangle, comprised of Beth Israel Hospital, St Elizabeth's Church and Milton Academy, are 66 flights per 365 days and therefore actually more than 190 flights a day creating above 60dB sound level when 4L is in use.

Resident dB readings of jet engine overflights during this Comment Period regularly exceed 70dB as referenced in Section 5B-1 of these Comments.

Please revise the Draft EA to include field work measurements of peak dB readings for jet aircraft on approach to Runway 4L and 4R, during a time period following these Comments and prior to the revised EA, listing the time of each siting, flight number, departure airport, and location of the aircraft at the time of siting.

For reasons stated below, include whether the aircraft's landing gear were observed to be deployed during the siting for each aircraft.

Supplemental Metrics and Noise Contours: The Draft EA contained no supplemental metrics and no noise contours despite repeated written requests of the [undersigned] federal, state and local elected officials and despite the need for them. Without such metrics, the use of the stated GSA without supplement of an ASA combined with use only of the yearly average day DNL metric without supplemental noise metrics and noise contours renders this Draft EA's noise methodology as applied arbitrary and capricious as well as materially incomplete and misleading.

Please revise the Draft EA to include this statement (highlighted in bold and prominently placed within its noise analysis section):

*“FAA’s Order 1050. If regarding Environmental Impacts, Section 11.4 states:
DNL analysis may optionally be supplemented on a case-by-case basis to characterize specific noise impacts. Because of the diversity of situations, the variety of supplemental metrics available, and the limitations of individual supplemental metrics, the FICON report concluded that the use of supplemental metrics to analyze noise should remain **at the discretion of individual agencies.**”*

***Supplemental noise analyses are most often used to describe aircraft noise impacts for specific noise sensitive locations or situations and to assist in the public’s understanding of the noise impact.** The selection of supplemental analyses will depend upon the circumstances of each particular project. In some cases, public understanding may be improved with a more complete narrative description of the noise events contributing to the DNL **contours with additional tables, charts, maps, or metrics.** In other cases, supplemental analyses may include the use of metrics other than DNL. There is no single supplemental methodology that is preferable in all situations and these metrics often do not reflect the magnitude, duration, or frequency of the noise events under study.”*

In light of the hyper-concentrated noise impacts in the ASA of the CSPR proposed Runway 4L RNAV approach procedure and its extant 4R RNAV counterpart:

Please revise the Draft EA to disclose the Nabove 50 flights peak period Lmax 60dB Day and 50dB Night sound level readings for baseline year and the first, second and fifth years of operation of the Runway 4L procedure and the Nabove 50 flights peak period Lmax 60dB Day and 50dB Night sound level readings for baseline year and separately for those same first, second and fifth years of corresponding operation of the extant Runway 4R RNAV procedure.

Please revise the Draft EA to point out the Nabove Lmax metric is described by MIT avionics experts as a more appropriate measurement tool for noise effect analyses of proposed RNAV paths overflight noise impact than yearly average DNL for the reason that it focuses on the heightened noise effects of concentrated overflight paths by measuring the number of flights a day that have sound readings of at least 60 by day and 50dB—undiluted by days without overflights.

Wake Turbulence Capacity Impact: The Draft EA uses many paragraphs to address wake turbulence modeling for the CSPR 4R and 4L paths. That analysis is directed to the safety need

for lateral and vertical separation of approaching 4R RNAV path (and visual or ILS path) aircraft from the proposed 4L RNAV path.

Approach paths 4L/4R are so closely parallel paths that the wake of a plane on the 4R approach path can affect the wake of a plane on the 4L approach path and vice versa. But the Draft EA contains **no** analysis of the import of wake turbulence for the proposed 4L RNAV and its likely noise effects due to reduced aircraft separation and therefore increased overflight frequency — that is to say reduced time between aircraft overflying residents on a hyper-concentrated RNAV path by day and with its string of landing lights visible like bright beads stretching from Southwest sky for 15 miles by night.

*Please revise Section 2.2.2.2 of the Draft EA to disclose that FAA’s ongoing efforts to reduce wake turbulence by “optimizing” the lateral and vertical spacing of aircraft **will have the effect of enabling more planes to land each day on Runway 4L once it has an RNAV procedure, and enable “optimized” 4R arrivals spacing in relation to 4L aircraft as well.** State the estimated increase in arrivals on Runways 4L and 4R resulting from the proposed Runway 4L RNAV procedure and wake turbulence optimization of Runway 4L and 4R approach path flights.*

*Please disclose that due to its Wake Turbulence Re-Categorization initiatives, FAA currently estimates “**an average capacity increase of 7 percent**” at applicable US airports, and achieved a **15 percent increase in capacity at Memphis airport, and:***

Please state the estimated percentage increase in arrivals on Runways 4L and 4R respectively and combined resulting from the proposed Runway 4L RNAV procedure and wake turbulence optimization of Runway 4L and 4R approach path flights.

Landing Gear Deployment: The Draft EA contains no mention of noise impacts of deployed landing gear on approach path noise.

Please revise the Draft EA to disclose that professional studies show that landing gear, when deployed, comprises 40% of total aircraft noise.

Please revise the Draft EA to disclose that FAA’s AEDT noise model has no “data showing the actual time, aircraft speed, and aircraft location when landing gear deployed by each aircraft that arrived on runway 4L, and the flight number, aircraft type and engine model.”

Please revise the Draft EA to disclose that for those reasons the AEDT model inputs to any noise metric are not reflective of landing gear deployment noise impacts, and for that reason are likely to materially understate aircraft approach noise impacts within the ASA as applied in this matter.

Please revise the Draft EA to state that residents’ of the ASA routinely report that sighting Runway 4L and 4R approach path aircraft with lowered landing gear miles to the Southwest of the MTAPN and MILTT final fix location and mark on the loudness of such noise.

Please revise the Draft EA to include any FAA field work it does to confirm this.

d. Process

The Draft EA needs to be candid and accurate regarding the Draft EA process.

Please revise the Draft EA to disclose that the proposed 4L RNAV procedure has been highly controversial since inception and remains so. That is a fact and not for FAA to claim otherwise.

Please revise the Draft EA to state that the MCAC repeatedly requested that this EA process be deferred and candidly state in the text of the revised Draft EA each of the Covid-19 related reasons stated in those requests. State also the actual low number of Runway 4L jet arrivals per month beginning with April 2020 (e.g. only 7 jet arrivals that month).

Please disclose that at September meetings with elected officials the FAA's Regional Administrator stated that those officials could submit technical questions for FAA to answer regarding the proposed 4L RNAV and that the officials did so, in writing asking for written response from the FAA before the FAA's two virtual workshops.

Please disclose that the FAA never answered those questions in writing at any time, nor during either workshop other than drawing a single line onto its visualization representing the Runway 4R RNAV path which it otherwise ignored. Please include by quotation each of the elected officials' written questions by adding a new prominent Section 1.1 to the initial pages of the Draft EA.

We reiterate that the Virtual Workshops are held to the same disclosure standard as the Draft EA and that elected officials' questions were not responded to there or otherwise addressed.

Please disclose the written questions that were submitted by email or text or other means for each virtual workshop.

Please revise the Draft EA to provide a new appendix with a transcription of any question on which an FAA representative, consultant or pilot remarked and all remarks stated upon that respective question.

Please revise the Draft EA to state that the FAA's technical workshop team members, including its consultants, from Washington D.C. Virginia, Dallas and Raleigh-Durham never visited Mattapan, Milton and Dorchester in connection with this EA, and, because of COVID-19 restrictions, never conducted an in-person session with residents, which is the standard process for a Draft EA in non-Covid-19 times. Residents were unable to have their own in person meetings on this matter due to Covid-19 restrictions.

7. ALTERNATIVES

First, as burdensome as the present CSPR Runway 4L/4R approach paths are upon the ASA residents, the No Action Alternatives bad as it is, is superior to the proposed Runway 4L RNAV procedure.

Looking at other alternatives than the present situation, residents have been clear for years that FAA needs to develop ways to restore the dispersion of aircraft that preceded its hyper-concentration of 70,000+ arrivals per year onto a thin sky-railed trapezoid 4500 feet wide at its Southwest start and 1500 feet wide at touchdown 15 nautical miles from that starting point.

The FAA held a virtual meeting among elected officials upon the publication of the Draft EA. The FAA did not record the meeting. At that meeting, Congressman Lynch, State Senator Timilty and State Representative Driscoll each stated that FAA itself needs to use its expertise to develop a set of dispersed procedures that will restore equitable sharing of the noise and pollution burdens. That can be done incrementally, but must start now, rather than this analytically arbitrary and unsupportable Runway 4L RNAV proposal, opaque in its timing, its presentation, its prospective intensity of use, and its actual impacts.

How? The FAA can and should:

- 1) Start to build a family of RNAV paths that begin to replicate prior Runway 4L/4R arrival path dispersion.
- 2) Use RNP technology (available on more than 60% of major airline aircraft) to create curved approaches, including over water, to begin to replicate prior Runway 4L/4R arrival path dispersion.
- 3) Use the very technology that FAA has been vague about inflicting on residents living under the Runway 4L path noise contours that is: FMS built paths and glide slopes with intelligent FAA field-work-generated, resident-involved governance procedures, to begin to replicate prior Runway 4L/4R dispersion.
- 4) Stop trying to force a highly controversial and highly burdensome procedure onto a highly problematic situation; and start engaging in real community involvement, not remote roadshow indifference.

Otherwise, this watch-dog will never rest from its vigilant opposition to authoritarian actions taken with consent of the people.

John Kennedy famously said in June 1963,

There are some who say that communism is the wave of the future. **Let them come to Berlin.**

And there are some who say, in Europe and elsewhere, we can work with the Communists. **Let them come to Berlin.**

And there are even a few who say that it is true that communism is an evil system, but it permits us to make economic progress. **Let them come to Berlin.**

We say:

There are some who say that RNAV is the wave of the future. **Let them come to Milton, Mattapan and Dorchester.**

And there are some who say, in airline headquarters and airfreight offices, we can work with the FAA. **Let them come to Milton, Mattapan and Dorchester.**

And there are even a few who say that it is true that the FAA is a closed system, but permits us to make progress. **Let them come to Milton, Mattapan and Dorchester.**

The FAA-residents dynamic needs to change.

8. THE EA FAILS TO INCLUDE CONSIDERATION OF ENVIRONMENTAL JUSTICE IMPACTS

The Draft EA fails to assess and present environmental justice (“EJ”) impacts and alternatives, as required by FAA Order 1050.1F, which sets forth the FAA’s policies and procedures for compliance with the National Environmental Policy Act. The Draft EA also fails to comply with Executive Order 12898, “Federal Actions to Address EJ in Minority and Low-Income Populations,” by providing (1) meaningful public involvement by minority and low-income populations and (2) analysis, including demographic analysis, which identifies and addresses potential impacts on those populations that may be disproportionately high and adverse.

Milton borders the Boston neighborhoods of Mattapan to the west and Dorchester to the north. Mattapan, Dorchester and the western part of Milton have large minority populations and low-income populations. The FAA is aware that the geographic area overflowed by arrivals to the closely-spaced parallel runways 4L and 4R includes communities with populations exceeding the poverty threshold and/or the minority threshold. See Attachment 4 to the FAA’s March 20, 2017 Air Traffic Initial Environmental Review (relating to the reconstruction of Runway 4R-22L, the temporary implementation of an RNAV approach to runway 4L, and a “side-step” maneuver to the RNAV approach for runway 4R). The communities shown in said Attachment 4 include Mattapan, Dorchester and parts of Milton.

Both FAA Order 1050.1F, Paragraph 2-5.2.b, and Executive Order 12898 require the FAA to provide an opportunity for meaningful public involvement by minority and low-income populations on proposed actions. For the reasons stated above in Section 2.B, residents of Milton, Mattapan and Dorchester have had no meaningful opportunity to provide input on the FAA’s analysis of the impacts of the Draft EA. Since the onset of the COVID-19 pandemic in February, 2020, residents of Mattapan, Dorchester and parts of Milton have dealt with a high

incidence of COVID-related illness and economic disruption. Social gatherings have been restricted, preventing residents from meeting to confer about the Draft EA. Many residents do not have internet access, and public libraries have been either closed or limited to short visits.

In Section 3.4.7 of the Draft EA, the FAA noted that its environmental analysis of the proposed 4L RNAV must consider “the potential of the Proposed Action Alternative to cause disproportionate and adverse effects on low-income or minority populations. In the event that adverse impacts are determined, applicable mitigations will be explored in order to avoid or minimize disproportionate impacts.”

In Section 4.7 of the Draft EA, the FAA concluded that:

Under the Proposed Action Alternative, there are no Census block groups of low-income concern that would exceed any applicable thresholds of significance for noise impact or air quality.

While the FAA does not define a threshold of significance associated with visual impacts, visual impacts associated with the 255 net new flights, as well as the flights that previously flew the ILS RWY 15R and transitioned visually to a landing on Runway 4L that now use the RNAV (GPS) RWY 4L approach in the Proposed Action, occur over an area with a high concentration of EJ Census block groups.

Additionally, it should be noted that the small increase in CO, associated with the 255 new flights, while marginal in the context of total Airport CO, emissions, does similarly occur over an area with a high concentration of EJ Census block groups. However, these new arrival operations comprise less than 0.5% of all arrivals at the Airport and given the high volume of flights currently using the Airport, any potential impacts are likely to be small and not detectable to most of the overflown population. As such, no persons of low income or minority populations are expected to experience disproportionately high and adverse effects. Accordingly, under the Proposed Action Alternative there would be no significant EJ impacts.

The EJ analysis underlying the Draft EA considers only the “255 net new flights” that the FAA anticipates will use the Runway 4L RNAV in the first year of its operation (i.e., 359 minus 104 that otherwise would have arrived to Runway 4R). By taking into account only 255 flights, the FAA’s EJ analysis is incomplete and inadequate. The FAA failed to consider the 4L JetBlue special path that flew over Milton, Mattapan and Dorchester and where those aircraft will fly in VMC and IMC if the 4L RNAV procedure is adopted, using Jet Blue, FMS or otherwise. Moreover, the Draft EA contains no data or images of flight path tracks over Mattapan in the baseline comparison year.

At the October 23, 2020 workshop, an FAA representative stated that the 4L JetBlue special path has not been used since 2014 and will be cancelled if the proposed 4L RNAV is implemented. However, on many other occasions, FAA representatives have stated that any airline that has an

arrival path programmed into its flight management system can request and obtain permission to use such path. Therefore, the former 4L JetBlue special path, even if it were to be officially “cancelled”, can be expected to remain in use by JetBlue and potentially other airlines. Yet, the Draft EA provides no information or analysis concerning the number of flights that would continue to utilize the 4L JetBlue special path (or use the 4L RNAV in lieu of it). Therefore, residents of Mattapan, Dorchester and the western part of Milton and their respective elected officials have no way of knowing what impact this “back door” use of the 4L JetBlue special path will have upon them.

At the FAA’s October 28, 2020 workshop, a Milton official asked the following question: “*What is the expected number of jet aircraft that will pass over Mattapan in the first year of operation after the proposed 4L RNAV path is implemented?*” The FAA could not answer this question. An FAA representative merely repeated that 359 flights are expected to use the 4L RNAV in its first year of operation. That fact is irrelevant to the question because the proposed 4L RNAV path does not fly over Mattapan. The Draft EA should have analyzed the impacts, including EJ impacts, of the 4L JetBlue special path as well as the anticipated use of the 4L RNAV. Not doing so is another fatal flaw in this Draft EA.

9. THE FAA FAILS TO IDENTIFY, EXAMINE AND PURSUE AVAILABLE MITIGATION MEASURES

The Draft EA fails to identify, examine, and pursue available mitigation measures. This requirement under a complete NEPA analysis requires an agency to evaluate measures to mitigate the impacts of the proposed/chosen alternative.

On page 85 of the Draft EA, Appendix X, the FAA provides the total of its mitigation analysis, as set forth below:

VII. Mitigation Are there measures, which can be implemented that might mitigate any of the potential impacts, i.e., GPS/FMS plans, nav aids, etc.?
 Yes No N/A

There are no impacts that require mitigation per FAA environmental requirements.

This is the sum total of the FAA’s effort to address mitigation. Of course, because of the scope of the EA, and how it defined the impacted areas, diluting the impacts on certain residents, then of course the FAA didn’t identify any impacts which required mitigation.

We note the following additional points:

There is no need to mitigate the assorted 15R Circling procedure safety risk--that VMC procedure has been discontinued.

The 4L RNAV IMC procedure won't mitigate a withdrawn VMC procedure that had no substantial safety need documented by this Draft EA.

As noted in Section 6 of these Comments, the Draft EA at Section 2.1.1 states that safety under the No Action Alternative is jeopardized by the Circling Visual Approach to Runway 4L after conducting an ILS Runway 15R approach to visual conditions.

Yet, this safety concern was not addressed prior to the asserted the need for a Runway 4L RNAV procedure previously and the Draft EA at Appendix D page 8 states that “based on consultation with Boston Consolidated Tracon (A90) personnel, **it is not expected that [the ILS 15R circling transition to Runway 4L] will continue to be used.**”

Given that the ILS 15R circling transition to Runway 4L will not continue to be used, and if Runway 4L and/or Runway 4R can be used in VMC for aircraft that have previously used the ILS 15R circling transition to Runway 4L, there is no safety based need for the proposed 4L RNAV procedure.

10. RESIDENT COMPLAINTS, COMMENTS AND OBSERVATIONS AND THE CONCLUSION TO THESE COMMENTS

a. Complaint Data from Residents

There is, by this date, mountains of data from Milton residents which indicate that the noise from airplanes in Milton is clearly heard above background noise in both commercial and residential areas, and the impact of that noise is increasing as new RNAVs are implemented. Residents of Milton filed only 102 noise complaints in 2012 21,796 noise complaints were filed in 2016, and 41,475 noise complaints were filed in 2019, which demonstrates the serious impact of these RNAVs on the overflowed communities, particularly the cumulative impact from increasing the number of flights. The Logan Noise Abatement Office received 2,331 total noise complaints in 2012, rising to 38,046 total noise complaints in 2016, and X in 2019. Arlington, Belmont, Cambridge, Cohasset, Dorchester, Hull, Hyde Park, Jamaica Plain, Medford, Nahant, Roslindale, Roxbury and Somerville have all filed an escalating number of noise complaints since 2012. The courts have recognized that noise complaints, in and of themselves, are substantial evidence of a noise problem, even absent corroborating data showing a DNL above 65. Helicopter Association International, Inc. v. FAA, 722 F.3d 430, 435-37 (D.C. Cir. 2013).

Specifically in Milton, between January 2012 and September 2020, residents of the Town filed 133,434 noise complaints, with complaint volumes rising steadily year over year at a compound annual growth rate of 135% until 2020 when the pandemic significantly curtailed air traffic globally.

Total number of noise complaints filed by year, in Milton:

2020 – 1,634
 2019 – 41,475
 2018 – 34,902
 2017 – 23,940
 2016 – 21,796
 2015 – 4,991

2014 – 2,669
 2013 – 1,925
 2012 – 102

In addition to filing noise complaints with Massport, residents shared their personal stories with the Milton Select Board, MCAC representative, and Airplane Noise Advisory Committee (ANAC) on multiple occasions. These complaints encompassed the following topics:

- Loss of sleep due to constant air traffic throughout the night
 - Loss of the enjoyment of their homes due to constant air traffic from morning until night, with flights often spaced approximately 1 minute apart
 - Irritability and fatigue due to constant noise
 - Inability to work from home due to constant noise
 - Inability to enjoy their yards or have family over due to constant noise
 - Needing to leave the house for hours or days at a time to find peace and quiet
 - Needing to move the family out of the house and into a hotel the night before exams in order to get a full night's sleep
 - Soot deposits on doors and windowsills from flights overhead
 - Selling the family home and moving out of Milton to find a quieter place to live
- [See resident comment letters, compiled in Appendix B]

b. Summary of Selected Resident Comment Letters on this Draft EA

Testimonial evidence from residents has helped identify specific concerns and problems, which the FAA must address as part of this Draft EA, but which the FAA has ignored. For example, residents have witnessed and have identified as an element of noise and annoyance, that when landing gear is being lowered the jet aircraft emits a loud whistling sound—which is highly audible and disturbing. As a result, the total noise jumps and the annoyance factor jumps.

Similarly, residents have identified:

[fill in with resident comment letter information]

As set forth above, the Draft EA does not spend any time addressing the annoyance factor and other impacts to residents from the imposition of additional RNAVs over the Town. Failure to address the impacts of airplane noise as a significant quality of life issue, and failure to properly consider the cumulative impacts of these issues within the Draft EA is fatal to its analysis and conclusions.

c. Conclusion

It is patently clear that the proposed 4L RNAV procedure is not needed for asserted avoidance of 15R Circling procedure safety reasons that have been shelved in any event, that it is not stated or assured to be limited to net 255 operations a year on IMC only, that it is not based on realistic IMC days a year, that its stated efficiency reasons are not valid because they hide its wake re-categorization capacity increase intentions, and so it is clear that it would only compound CSPR underlying residents' suffering by further hyper-concentrating combined overflights.

FAA cannot and does not state projected cleared and advisory VMC and IMC uses in the first, second or fifth years of operation of the proposed Runway 4L RNAV procedure. Present Covid-19 conditions would render any such assertion deeply suspect.

FAA's DNL metric has no reasoned application to these CSPR corridor's combined hyper-targeted in-use noise and particulate conditions, and FAA has offered no supplemental noise metrics, nor does FAA's AEDT model even record or reflect the impacts of routine aircraft landing gear deployment over the ASA far before the FAF, which upon deployment comprises 40% of total aircraft noise. Nor did FAA do any field work.

In sum, the proposed Runway 4L RNAV procedure justifications are arbitrary and capricious as applied here, and the FAA's assertions concerning the merits of the 4L RNAV procedure as applied here are characterized by materially misleading misstatements and omissions. We submit that the entire Draft EA should be stamped **Dead on Arrival**.

Therefore, the undersigned [federal, state and municipal elected officials], respectfully request that this terribly flawed, arbitrary, and capricious EA process should be cancelled and rescinded, and the Draft EA withdrawn.

Respectfully submitted by:

[Insert signature pages]