

**MASSPORT CAC SUBCOMMITTEE  
ENVIRONMENT & HEALTH**

Logan-Related Noise in Winthrop and Line-of-Sight Communities  
3/18/19 Minutes

**Members in Attendance**

Wig Zamore (Somerville) (Chair), William Deignan (Community Development Department, Cambridge) and Andrea Adams (Department of Community Development & Planning, Watertown)

**I. Introduction by Subcommittee Chair**

Wig Zamore introduced himself and the other Subcommittee Members. He used a short PowerPoint presentation to introduce the main topic of the meeting, Logan-related noise in Winthrop and Line-of-Sight Communities. He used a slide showing Runway 33L departures and Logan Noise Patterns for 2015, noting the route concentration. He noted that aircraft noise goes in all directions, not just straight down. Using a 2015 Day-Night Average Sound Level (DNL) graphic from 2015, he noted that people can just barely perceive the difference between 5DNL or 5dbA. Perception of noise, and individualized noise annoyance are key concepts. To illustrate this, he showed the Fidell Associates graph of a curve comparing a formal noise annoyance curve done by the Air Force with newer formal “noise annoyance” surveys. Mr. Zamore noted that the circles denoting “*high noise annoyance*” spanned four to five orders of magnitude: Although aviation noise annoyance may be able to be equitably managed, it cannot be eradicated. He then showed a 2017 scatterplot done by the World Health Organization which used data from various airlines between 2001 and 2009. He also noted that although aircraft noise per the WHO has been determined to not be as probative of noise annoyance as noise from cars or trains, we must respect individuals’ determination of their own noise annoyance as shown by Fidell. Mr. Zamore then showed a series of charts that compared various negative health outcomes (annoyance, sleep affects, cardiovascular disease, hearing and cognitive impairment) noting that the WHO disability weighting for hypertension and cardiovascular disease was much higher than for sleep impairment and annoyance. In closing, Mr. Zamore noted that people further from Logan may have just as high an annoyance level as those for people in the closer and Line-of-Sight communities, even though the overall health impacts are highest in those towns closer to Logan.

Matthew Romero introduced himself as the new Executive Director of the MassPort Community Advisory Committee. He noted the MassPort CAC represents 35 municipalities, with 41 representatives. He also noted this meeting of the Subcommittee had been requested by Mr. Falbo of Winthrop.

**II. Presentation by Flavio Leo, Director of Aviation Planning & Strategy**

Flavio Leo, MassPort’s Director of Aviation Planning & Strategy, gave a slideshow entitled “*Soundproofing 101.*” He showed a slide of the four weather-dependent runway configurations, noting that Point Shirley in Winthrop is most affected by Runway 9-27. He explained that the Federal Aviation Administration has a nation-wide soundproofing program, and requires every airport to use a specific mathematical model to determine the initial relative level of sound impact. In the case of Logan, MassPort recommended corrections to the model based on flight over water, topography/hills, and take off roll. Mr. Leo noted the current model was used in the 2016 Environmental Data Report (EDR). He noted the FAA has indicated to MassPort the current model includes the corrections recommended by MassPort. He said the model is populated with various data that comes from Mr. Iacovino’s office, including but not limited to aircraft type, stage, size, flight path, operational status, and data from ground sound monitors. He said the model is also based on the Fidell Curve as shown by Mr. Zamore. Ultimately, he said the FAA cutoff for soundproofing is at or above 65 DNL. He said once a location is determined to be within that sound contour (as shown by Mr. Zamore), MassPort is required to measure the sound level at the location.

A member of the audience asked how the sound is measured at the residence? Mr. Leo said it’s a straight test of sound levels.

Mr. Leo noted the 2016 EDR used the newer model for sound contour determination. He said the AEDT model, will generate new contours to be submitted to the FAA for review and approval in Summer/Fall, 2019. He said this iteration will use data from 2017-2018 as inputs.

Ronald Vecchia, Town Council President, Winthrop, said that the sound contours are not a reliable indicator of on the ground measurements. He asked if MassPort had taken account of this, and adjusted the model? He also asked where the ground monitors in Winthrop were located?

Mr. Leo said the most recent data could be found in Chapter 6 of the 2016 EDR, and the location of the Winthrop monitors could be provided to Mr. Vecchia. He also showed a slide which indicated a sound contour in purple, with adjustments to it overlaid in yellow. He said the FAA allows airports to make adjustments for land use patterns, and MassPort's general policy is to expand the contour to include entire parcels, thereby terminating it at street boundaries. He said the noise contours are updated annually.

Mr. Leo noted that MassPort has been undertaking property soundproofing since 1985. He showed a graph which indicated that East Boston and Winthrop had the highest numbers of soundproofed properties (including schools). He showed a slide which described the relative sound output from aircraft engines, noting that this was in large part the reason why the noise contours around Logan have "shrunk," and pulled closer into the airport. He noted areas now between contours (colored yellow) which had been soundproof in the past, and now would not fall within the baseline 65 DNL contour, and therefore wouldn't be eligible for soundproofing today.

A member of the audience asked about vibration. She said her home, a wooden structure, is much affected, and shakes when airplanes pass overhead. Mr. Iacovino, Manager, Noise Abatement Office, said sound is a pressure wave, and as such, certain structures, particularly older wooden ones, are "excited" by low-frequency sounds.

A member of the audience asked about various types of noise. He said a high-pitched noise travels "across the marsh" and seems to be coming from aircraft taxi operations. Mr. Leo and Iacovino said that MassPort has done some studies of ground noise in particular locations. Mr. Iacovino noted some noise complaints have come from Chelsea that could be traced back to ground operations. He stressed the need for granular data when people call the Noise Abatement Office: Time of day, location, type of sound (e.g., whine), duration, etc. He said this type of information would help the Noise Abatement Office determine what might have been producing the sound.

A member of the audience asked how successful MassPort had been in receiving FAA funds for soundproofing? Mr. Leo said that when FAA approves the newest contours (which are expected to be submitted in Summer/Fall 2019), the soundproof "program" is then developed. He said Mr. Iacovino and his staff look at the areas that fall within the 65 DNL contour, and look at past data on locations already soundproofed, and then generate an estimate of the number of properties eligible for soundproofing. Mr. Leo said that this is then sent to FAA, and the FAA staff assemble a "package" for each airport, and that, as well as the overall nation-wide funding allotment determines how much money MassPort receives for soundproofing. He said there were no guarantees as to any specific amount of money, but suggested that the longevity and sophistication of MassPort's program had been successful in the past in garnering substantial funds for soundproofing.

Winthrop Council President Vecchia asked if MassPort would be surveying properties that had been soundproofed in the past, to determine how to make those measures functional again? He noted that many of the locations in the first rounds of soundproofing now had very old and no longer functional windows and other measures. Mr. Leo responded that MassPort had requested this, and wanted to revisit old properties, and the FAA responded that they were not sure this was an eligible activity. The FAA conducted a study and monitoring of old windows through the Transportation Research Board/Airports Collaborative Research Program. Based on this study, the FAA undertook their own study of houses in East Boston and Winthrop, and determined that the previously installed windows were “good,” and as such, properties were not eligible for a second round of soundproofing. He noted that the FAA provides the funding for soundproofing, and won’t authorize MassPort spending Federal monies if they determine that something is not an eligible activity. He noted the FAA considers the airport as a whole; as a single Federal funding entity.

A member of the audience asked if MassPort mapped or was planning to map the incidence of asthma and Chronic Obstructive Pulmonary Disease (COPD)? Mr. Leo noted that the FAA won’t recognize these factors in determining noise contours. Nonetheless, he said that academics and epidemiologists, such as Mr. Zamore, are monitoring air quality at airports, including Logan.

A member of the audience questioned why MassPort was able to spend Federal monies on soundproofing when the blast fence was removed? Mr. Leo said the removal of the blast fence was a particular project. As such, soundproofing certain homes was done as a mitigation of a specific project impact, not as part of the Noise Abatement Office’s typical soundproofing program.

A member of the audience noted that the Massachusetts Water Resources Authority (MWRA) spent monies on soundproofing homes. Mr. Iacovino acknowledged this, and noted it was MWRA monies, not from MassPort. He also noted that the MWRA followed the Noise Abatement Office’s protocols in establishing a particular property’s eligibility for soundproofing.

A member of the audience asked about Seaview Avenue in Winthrop. Mr. Leo said this area of Winthrop may have been within the 65 DNL threshold contour at one time. He suggested that as the noise contours “shrank” back towards the airport, this area may have fallen “out” of the threshold contour. At the same time, he noted that the Noise Abatement Office always looks back at eligible areas and properties that have not been soundproofed yet, when each new round of funding become available.

A member of the audience asked how runway use is determined? Mr. Leo showed his prior slide of the four overarching runway configurations, and said a Control Tower/FAA determination selects available runways, primarily having to do with the prevailing weather pattern(s).

### **III. Presentation by Frank Iacovino, Manager, Noise Abatement Office**

Mr. Iacovino, Manager of the Noise Abatement Office, gave a history and current status of the sound insulation program. He said “insulation” is a better word than “proofing,” in that the intent is to dampen sound from outside reaching the interior of a space, or house, or school, etc. He showed a series of slides, beginning in 1976 that showed how the noise contours have changed. He noted the 1976 contours were protruding way into the water off the Southern edge of the airport. He said this was primarily due to very noisy “Stage One” aircraft. He noted the contours are based on aircraft data.

He said the factors that insulate a space from sound are uniform, as are the places in a structure that are more porous to sound: Windows, doors, vents, chimneys – things that “pierce” the building’s envelope. As such, multiple systems are critical to reducing noise. He noted that the overall noise signature of aircraft has also dropped over time. He noted that the sound insulation program also looked at air-conditioning, so that windows could remain closed in the warmer months, thereby providing more sound attenuation.

Mr. Iacovino described the “Room of Preference” part of the sound insulation program. He said this involves a “retrofit” of a room with a second wall, an interstitial insulated space, and new window and door openings. He noted this could reduce the sound level inside the selected room by 40 dB.

Mr. Iacovino noted that MassPort used to be able to base choices on a 5 dB reduction between the exterior sound and interior sound levels. He noted a new criterion is that MassPort must also find that there is a 45 dB or greater exposure.

A member of the audience asked what happens during the site sound test done by MassPort if the wind shifts? Mr. Iacovino said that the Noise Abatement Office staff create a sound level on site by using a very large and strong loudspeaker. He noted this allows the site test to be done at ground level.

Andrea Adams, Watertown MassPort CAC representative, asked if MassPort had a general cost figure for a typical sound insulation program at a residence? Mr. Leo said the factors and costs vary significantly, because the particular situation dictates the types of sound insulation measures used. At the same time, he said MassPort will and has provided all of its data to a homeowner, particularly in the case of a property that undergoes an acoustical test, and found not to be eligible for the program.

Jerry Falbo, Winthrop MassPort CAC representative, noted that Point Shirley routinely exceeds 65 DNL. He said this makes it “uninhabitable.” He asked what MassPort intends to do about this? He also asked if MassPort sees any advantage to Point Shirley relative to the FAA Reauthorization Act? Mr. Leo said that the FAA has studied both noise and health impacts, and has offered the FAA this data as part of its study (relative to the Reauthorization Act’s requirements) for Logan. As for sound levels and sound insulation of residences in Point Shirley, he said the FAA has outlined the regulatory space in which MassPort must operate.

A member of the audience asked what other measures can reduce aircraft and/or airport noise? Mr. Leo noted that MassPort has advocated single engine taxi maneuvers, plug-in at gates that allow planes to power their internal systems instead of leaving engines on, and that the Airbus fleet is retrofitting older planes with Vortex generators, to reduce a distinctive “whine” that one family of aircraft makes while flying. He also noted that the airlines at Logan often “roll out” newer, quieter models at the airport, so Logan gets the benefit of the newest technology more rapidly.

#### **IV. Audience Questions and Answers**

Gail Miller from Air, Inc. questioned whether MassPort could utilize revenue derived from the vehicle parking garages without the FAA’s “restrictions” on expenditure of “Federal” funds on sound insulation programs? Mr. Leo said the FAA publishes guidance on how Logan can collect and spend revenue. He said he would have to look into this specific question.

## **V. Public Comment**

Winthrop Town Council President Vecchia said he and his constituents were disappointed that properties can't be "re-soundproofed." He also noted a severe problem with propeller driven aircraft overflights. He expressed concern about the volume of these overflights in recent months, the higher noise levels, and concerns about aviation gasoline (AVGAS) impacts. He also stressed the absence of a night curfew has been and continues to be devastating to Winthrop residents. He noted in particular the past six months have been severely bad.

Ms. Gina Cassetta, Point Shirley, Winthrop resident, said the data she received from MassPort shows that this area routinely exceeds 75 DNL on a yearly basis. She said this means that large sections of Point Shirley are "uninhabitable." She said the data was from Noise Monitor #4 (*Monitor #4 is located in Point Shirley at the intersection of Bayview Ave. and Grandview Ave., adjacent to Coughlin Park*). She said the average DNL is 73, with 99% of the daily DNLs at or exceeding 65 DNL. She also noted the measured DNL for seven months was 75 DNL. She questioned what MassPort was going to do, given that the area was "uninhabitable."

## **VI. Adjourn**

Mr. Zamore asked for a motion to adjourn the meeting. Ms. Adams moved to adjourn the meeting, and the motion was seconded and unanimously approved. Meeting adjourned at 8:35 PM.