

# The Effect of Noise Pollution on Neighboring Communities of Logan Airport

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Aerial view of Logan Airport.

## Introduction to Noise Pollution & Logan Airport

- ❖ The World Health Organization defines noise above **65 decibels** as noise pollution.
- ❖ A single aircraft produces **130 dB**.
- ❖ The primary source of noise from the airport is that of aircraft takeoff and landing operations.
- ❖ Logan Airport has caused many nearby communities to complain, limit their outdoor times and more.
- ❖ The majority of the neighborhoods affected by the noise pollution from Logan Airport are in East Boston.
- ❖ More information can be found [here](#).

## Decibels

| Decibel | Comparative Examples of Noise Levels |
|---------|--------------------------------------|
| 50-60   | Normal conversation                  |
| 70-75   | Loud radio                           |
| 75-80   | City street                          |
| 80-90   | Busy restaurant                      |
| 90-100  | Power tools                          |
| 100-120 | Chain Saw                            |
| 110-120 | Angle grinding                       |
| 120-130 | Rivet hammer                         |
| 120-140 | Air-craft taking off                 |

Information on decibel levels can be found [here](#).

## Neighboring Communities Affected by Logan Airport

- ❖ Orient Heights is affected by airport noise of **70-75 dB**.
- ❖ Neighborhoods within East Boston that are affected by **65 dB** of airport noise include Eagle Hill, Jeffries Point, Lower Eagle Hill, Lower Orient Heights, parts of Orient Heights and Castle Island in South Boston.
- ❖ Above are all communities affected by noise pollution, as defined by the WHO.
- ❖ Some other communities affected by Logan Airport with a noise level of **60 dB** in South Boston are Fort Point, Seaport, City Point, D Street/Broadway. In Dorchester these communities include Neponset/Port Norfolk and Harbor Point. Some areas in East Boston include sections of Jeffries Point, Lower Eagle Hill, Eagle Hill, Orient Heights, and Lower Orient Heights. Then, the Marina Bay in Quincy along with parts of Everett, Chelsea, Revere, and Winthrop are all affected by noise levels of **60 dB** or above.
- ❖ More details about affected communities can be found [here](#).

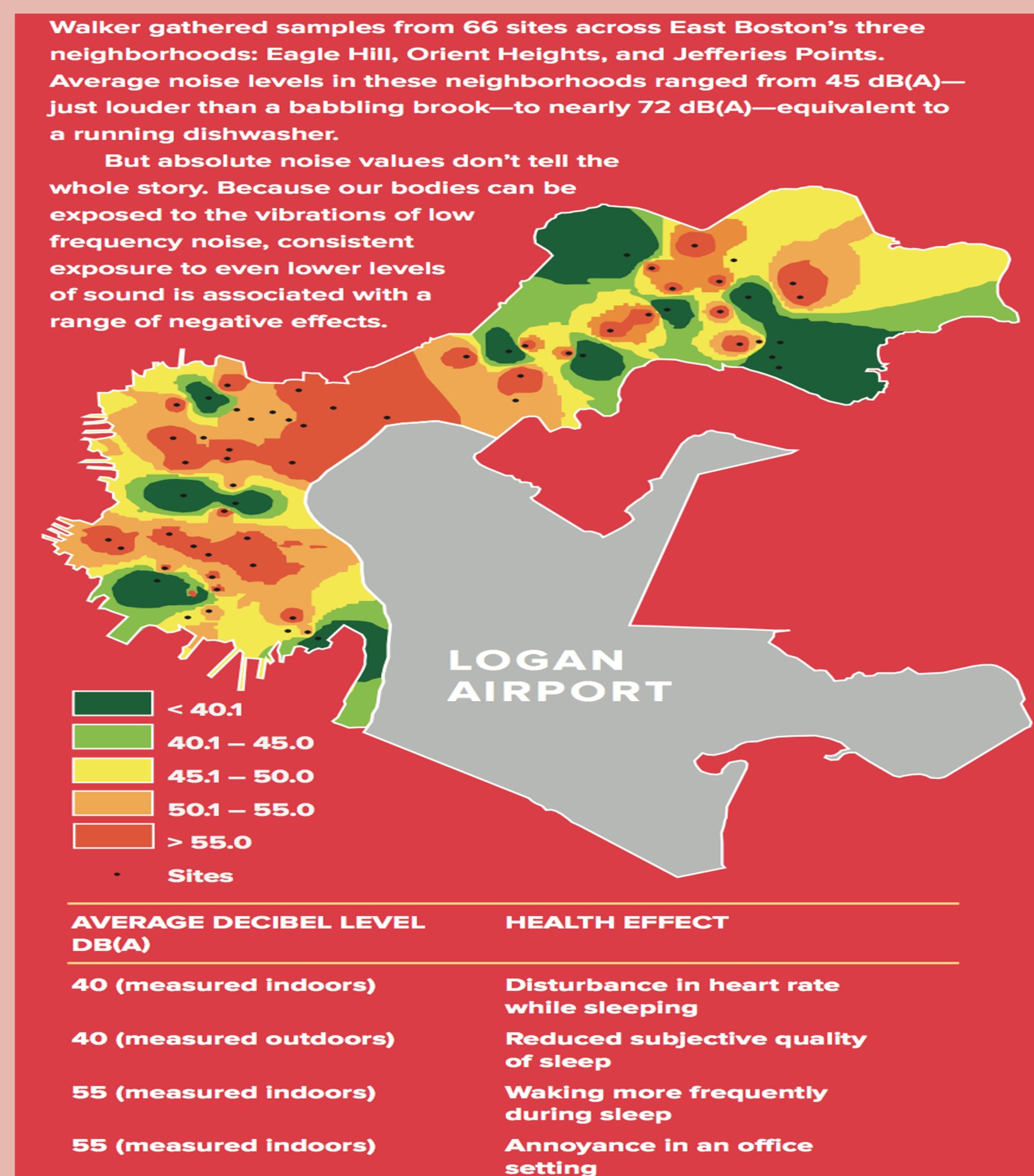
## Long Term Effects

- ❖ There are physical, psychological, sleep, behavioral, and memory and concentration issues affected by noise pollution.
- ❖ Potential **physical** health effects: respiratory problems, high pulse, high blood pressure, headaches, gastritis, colitis and heart attacks.
- ❖ Potential **psychological** health effects: stress, fatigue, depression, anxiety and hysteria.
- ❖ Potential **sleep/behavioral** health effects: Aggressiveness, irritability, lack of sleep.
- ❖ Potential **memory/concentration** effects: ability to focus, low performance.

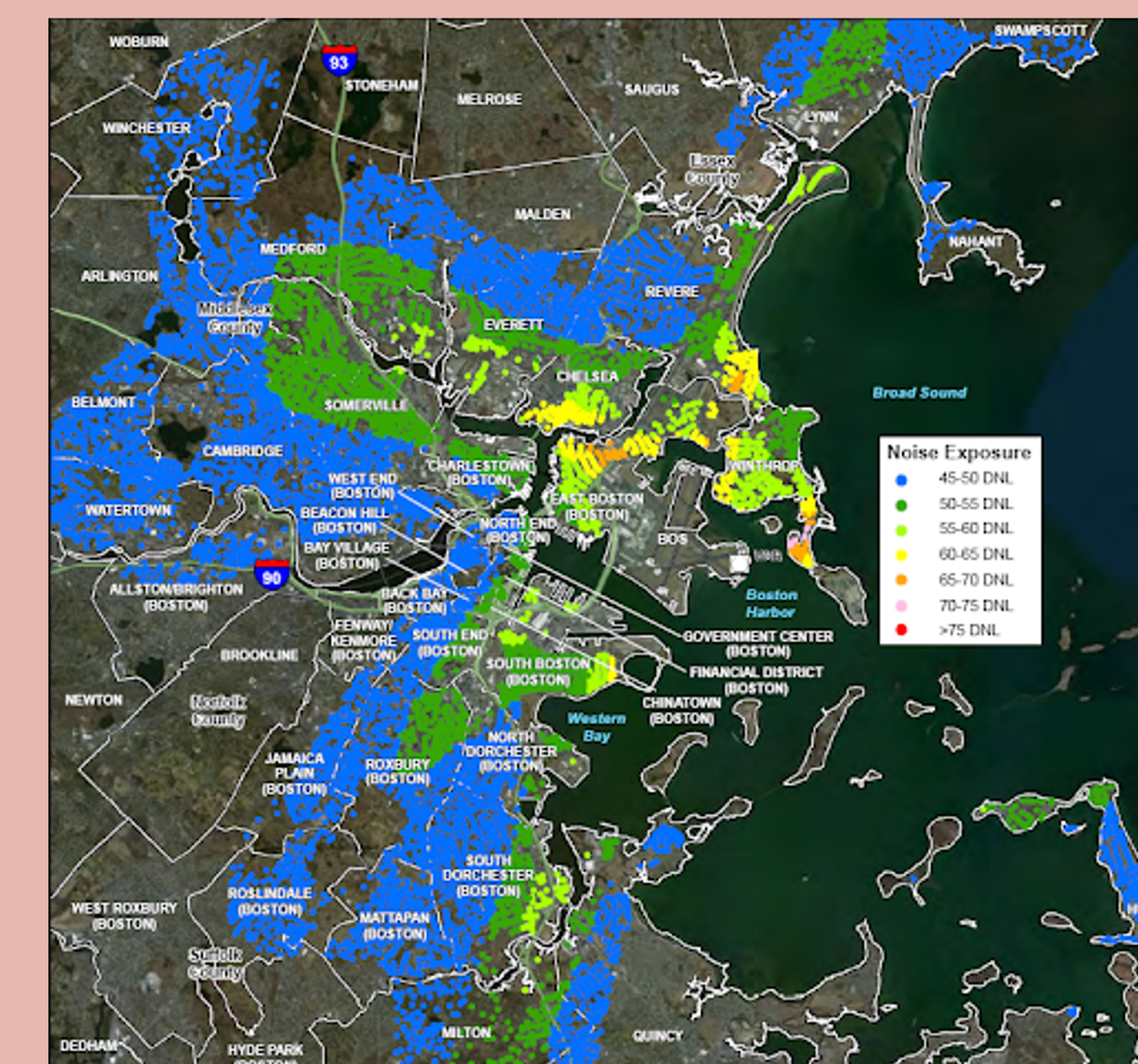
## Reducing Noise Pollution Within Logan Airport

- ❖ Logan was one of the first airports in the nation to install a noise monitoring system in communities.
- ❖ In 1986, Massport instituted noise abatement rules to reduce impact of noise from aircraft operations on neighboring communities. The Boston Logan International Airport Noise Rules included:
  - Prohibition of old, noisy engine technology and restrictions on certain runways.
- ❖ Other ways of reducing Noise Pollution include:
  - Opting for alternatives means of transport such as bicycles or electric vehicles over taking the car.
- ❖ Governments can also take measures to reduce noise pollution. For example:
  - Replacing traditional asphalt with more efficient options that can reduce traffic noise by up to 3 dB, among others.

Other helpful information can also be found on CBS Boston's [YouTube channel](#).



A layout of decibel levels around Logan Airport.



Noise exposure chart of nearby communities.



An airplane taking off from Logan Airport.

## Noise complaints by community

Massport data from monthly noise complaints against Logan Airport include communities that claim more suffering since a change in 2013.

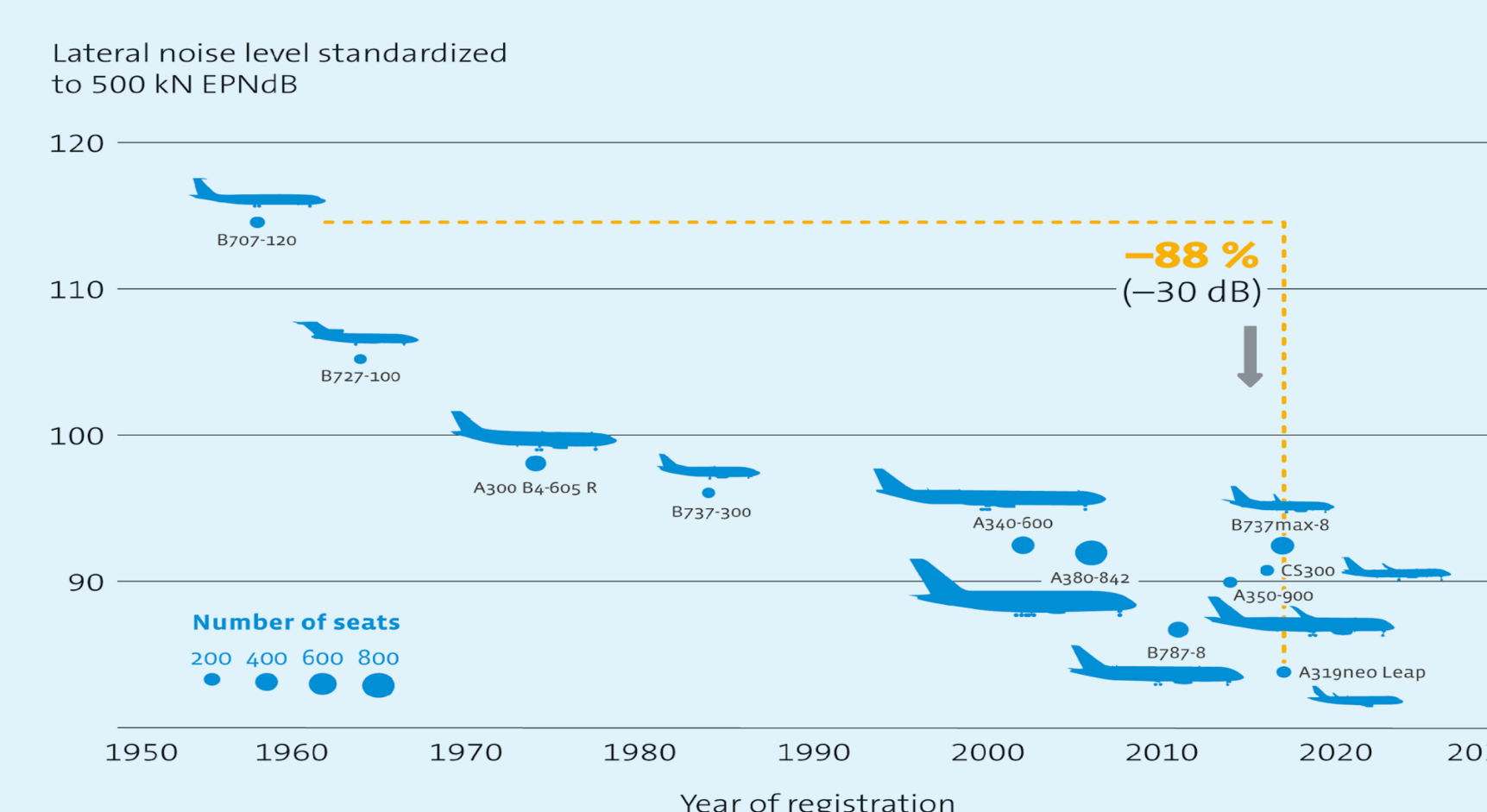
|                   | 2013 | 2014  | 2015  | 2016  | 2017  | Jan. '18 |
|-------------------|------|-------|-------|-------|-------|----------|
| <b>Cambridge</b>  | 263  | 574   | 1,658 | 2,143 | 1,761 | 61       |
| <b>Somerville</b> | 162  | 1,580 | 1,906 | 1,806 | 3,840 | 371      |
| <b>Arlington</b>  | 6    | 308   | 1,903 | 1,962 | 2,225 | 73       |
| <b>Belmont</b>    | 603  | 1,646 | 705   | 538   | 1,147 | 32       |
| <b>Watertown</b>  | 190  | 515   | 295   | 260   | 824   | 19       |
| <b>Medford</b>    | N/A  | 750   | 503   | 1,787 | 7,861 | 399      |

Source: Massport

Graphic: Marc Levy

A graph showing complaints according to nearby communities from 2013-2018.

## Development of aircraft noise emissions



Aircraft emissions chart.

## Citations

- ❖ <http://boston.neighborhoodx.com/lists/index?g=119>
- ❖ <https://www.iberdrola.com/environment/what-is-noise-pollution-causes-effects-solutions#:~:text=According%20to%20the%20National%20Park,the%20extinction%20of%20species>
- ❖ [https://img.huffingtonpost.com/asset/5b9e57733c000032000a8136.jpeg?ops=scalefit\\_720\\_noupscale](https://img.huffingtonpost.com/asset/5b9e57733c000032000a8136.jpeg?ops=scalefit_720_noupscale)
- ❖ <https://www.cambridgeday.com/2018/02/28/communities-enduring-logan-flight-noise-see-cause-for-optimism-in-mit-center-study/>
- ❖ <https://www.google.com/url?sa=i&url=https%3A%2F%2Fboston.eater.com%2F2016%2F5%2F24%2F11761032%2Flogan-airport-dining-guide-boston&psig=AOvVaw1peSLYp6tg-SpR5NBiXq5y&ust=1617113687908000&source=images&cd=vfe&ved=0CAIQjRqjFwoTCODix4rY1e8CFQAAAAAAdAAAAABAD>
- ❖ <https://www.massport.com/logan-airport/about-logan/noise-abatement/>
- ❖ <https://www.bdl.aero/en/topics-and-positions/sustainability/aircraft-noise/>
- ❖ <http://brooklinebeacon.com/2014/12/20/logan-airport-aircraft-noise-over-brookline/>
- ❖ <https://www.pinterest.com/pin/742038476095833692/>
- ❖ <http://noiseandthecity.org/mapping-bostons-soundscape/>
- ❖ <https://www.youtube.com/watch?v=3wDilqxSvHE>