

AIRCRAFT NOISE










OVERVIEW

- Understanding noise
- Measuring noise
- Illustrating noise

PROJECT UPDATE JULY 2017

Typical sound levels

	Emergency Siren 140+ dB(A)
	Roadways 80 dB(A)
	Construction Site 90 dB(A)
	Cafes 50-70 dB(A)
	Modern twin-engine jet (at take-off at 152m distance) 81 dB(A)
	Libraries 30-40 dB(A)
	Passenger car (60km/h at 7m distance) 70 dB(A)

Every person's reaction to noise is different and subjective. To better describe aircraft noise levels, the Australian Government, in consultation with industry and the community, developed a system called the N70.

The N70

An N70 diagram shows contour lines over a map of Brisbane. The contour lines show the area within which a stated number of flights (eg 5, 10 or 50 flights) generating noise of 70 decibels or more occur in a specified period of time.

Brisbane Airport Corporation (BAC) has undertaken extensive aircraft noise modelling for a range of existing and future scenarios, including when Brisbane's new runway is operational. These are available to view as N70s online at www.bne.com.au/experience-centre.

An example of an N70 diagram and the information it contains is overleaf.

Why 70 decibels?

- A noise level of 70 decibels outside a building would generally result in an internal noise level of approximately 60 decibels, if windows are open
- This noise level is considered sufficient to disturb conversation, in that a speaker would generally be forced to raise their voice to be understood, or some words may be missed in speech from a TV or radio

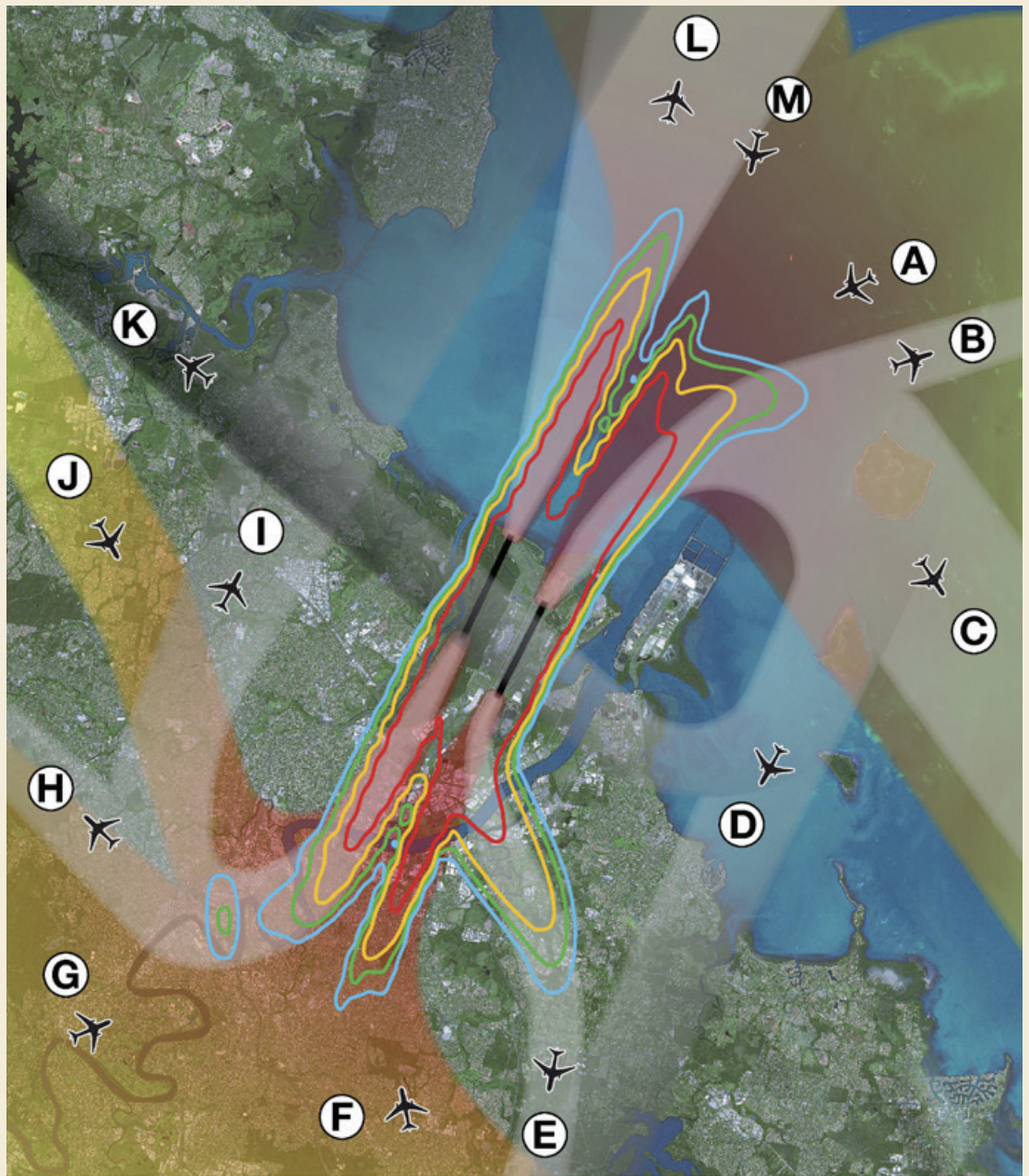
- If the windows were closed you would expect the noise inside to decrease by a further 10 decibels to 50 decibels
- If you are outside, you would experience a noise level of 70 decibels
- The list (at left) gives an indication of the types of decibel levels experienced from a range of typical everyday situations

What is a decibel?

Noise is measured on a logarithmic scale with the decibel (dB) as the unit of measure. Measurements of noise usually have a correction factor applied to reflect the sensitivity of the human ear. This factor is referred to as "A-weighting" and environmental noise is usually measured in dB(A) units.

The noise level of normal daytime urban-based activities typically varies between 40dB(A) and 85dB(A). On this scale, a change in noise level of 10dB(A) is perceived to be a doubling or halving in loudness. For example, most humans perceive a noise event of 85dB(A) to be about twice as loud as an event of 75dB(A).

About Brisbane Airport: Brisbane Airport is the third busiest airport in Australia and operates 24 hours a day, seven days a week. It is Australia's largest capital city airport (by land size) and has two major terminals providing services to 31 airlines flying to 80 international and domestic destinations. In FY17 Brisbane Airport welcomed more than 22.7 million passengers through its facilities.



Flight path	Flight path type	Average number of jet flights on flight path	Expected minimum and maximum numbers of jet flights on path	Percentage of Brisbane Airport's total jet flights on path	Percentage of days with no jet flights on path
A	Arrival	107	0 - 215	18%	19%
B	Departure	8	0 - 16	1%	25%
C	Departure	6	0 - 13	1%	29%
D	Departure	88	0 - 184	15%	25%
E	Departure	104	0 - 199	17%	19%
F	Arrival	91	0 - 196	15%	26%
G	Arrival	13	0 - 133	2%	26%
H	Departure	14	0 - 29	2%	20%
I	Departure	38	0 - 76	6%	20%
J	Arrival	36	0 - 95	6%	31%
K	Departure	10	0 - 18	2%	27%
L	Departure	37	0 - 74	6%	26%
M	Arrival	49	0 - 95	8%	20%

Altitude Key

Arrivals
Mean Altitude 4,500 ft

Departures
Mean Altitude 12,000 ft

Contour Key

The number of overflights of 70dB(A) and above during the indicated time period

- 5 to 9 overflights
- 10 to 19 overflights
- 20 to 49 overflights
- 50 or more overflights

Image for illustrative purposes only – not to be used for interpreting flight paths.

Important Notice: This information has been prepared by, or on behalf of, Brisbane Airport Corporation Pty Limited about Brisbane's new runway at Brisbane Airport. While care has been taken to ensure the information is accurate and up to date, it is provided for information purposes only.

There are many sources of information to learn more about aircraft noise at Brisbane Airport in addition to the N70s online:

- Read the Flight Path Monitoring System Reports for Brisbane at www.airservicesaustralia.com
- View aircraft movements and noise levels on Webtrak at www.airservicesaustralia.com/aircraftnoise/webtrak
- Read about how aircraft noise is managed at Brisbane in the "Above and Beyond" booklet at www.bne.com.au/corporate/flight-paths
- The same website also has Brisbane Airport Current and Future Flight Path and Noise Information Booklets Part 1 and 2, a summary of the "Above and Beyond" booklet, and an "Identify That Aircraft" poster
- The Brisbane Airport Master Plan 2014, which looks at planning for the airport over the next two decades, is available at www.bne.com.au/publications