

BCA

Business Council of Australia

Impact and mitigation of aircraft noise

Submission to the Rural and
Regional Affairs and Transport
References Committee

April 2024

Key points

- Efficient and effective air transport services are essential to Australia, handling over 94 million passenger journeys each year, supporting over 700,000 jobs, and moving billions of dollars in freight.
- There must be a balanced approach that addresses community concerns around noise, while also recognising the social and economic benefits of aviation growth.
- New generation aircraft are significantly reducing aircraft noise, 50 per cent below the previous generation.
- Airlines put operational measures in place to help further mitigate noise.
- It is important to note that changes to flight paths to mitigate against noise can lead to increased fuel burn and greenhouse gas emissions.
- Airports are nationally significant infrastructure and should be protected from urban encroachment. The National Airports Safeguarding Framework provides guidance for this.
- Operating restrictions such as curfews or movement caps are detrimental to the efficient operation of an airport and can have significant flow-on impacts for the travelling public.
- Given their negative impact, as a general principle the BCA does not support any extension of operational restrictions at airports in Australia.

Context

Key points:

- Efficient and effective air transport services are essential to Australia, handling over 94 million passenger journeys each year, supporting over 700,000 jobs, and moving billions of dollars in freight.
- There must be a balanced approach that addresses community concerns around noise, while also recognising the social and economic benefits of aviation growth.

The Business Council of Australia (BCA) represents Australia's largest employers from across the economy, including in the aviation, tourism, and transport industries. Across our membership, whether directly involved in the aviation industry, as a consumer of aviation services, or as a participant in segments of the broader economy facilitated by aviation, efficient and effective air transport services are an essential part of doing business.

More than that, in a nation with such large distances between major centres, and that is so geographically isolated from the rest of the world, Australia is and will remain for the foreseeable future reliant on aviation to bridge the tyranny of distance. That is what makes aviation so central to the national economy. It moves people for business and leisure, facilitates our tourism industry, and moves high value freight. The economic value of aviation goes far beyond the revenue derived by an airport or airline.

In 2018, prior to the COVID-19 pandemic, the Australian Government estimated that the aviation sector directly contributed around \$20 billion to the economy and employed around 90,000 people¹. More broadly, including adjacent and other indirect beneficiaries, IATA estimated that the sector supported some 716,000 jobs and contributed US\$69 billion to the Australian economy².

Air freight transports high priority and high value goods, ranging from retail items (in particular supporting the eCommerce industry) to high-value fresh produce, pharmaceuticals, and specialist parts. Whilst tonnage rates are relatively small, the high value of items means that air freight represents 21 per cent of the value of Australia's international trade³.

Two years since the nation's borders reopened following the pandemic, BITRE data shows that domestic passenger numbers have returned to where they were pre-pandemic, with international passenger numbers also almost fully recovered. In the year ending January 2024, over 57 million domestic and 36 million international passengers flew through the nation's airports. There were 14 airports nationwide that handled at over one million passengers, of which three handle more than 20 million passengers a year (Sydney, Melbourne, and Brisbane)⁴.

As outlined by the recent Aviation Green Paper, it is expected that aircraft movements will triple by 2050. The Green Paper also outlines the challenge – to balance community concerns around noise with the social and economic benefits of aviation growth⁵.

The BCA welcomes the fact that the Government, through the Green and White Paper process, is examining the issue of aviation noise as part of a broader context in terms of the aviation industry.

¹ The Future of Australia's Aviation Sector: Flying to Recovery Issues Paper 2020, Department of Infrastructure, Transport, Regional Development, and Communications.

² The Importance of Air Transport to Australia, IATA, 2019.

³ National Freight Data Hub, Department of Infrastructure, Transport, Regional Development, Communications and the Arts, 2022

⁴ Bureau of Infrastructure and Transport Research Economics (BITRE).

⁵ Aviation Green Paper, Department of Infrastructure, Transport, Regional Development, Communication, and the Arts, 2023.

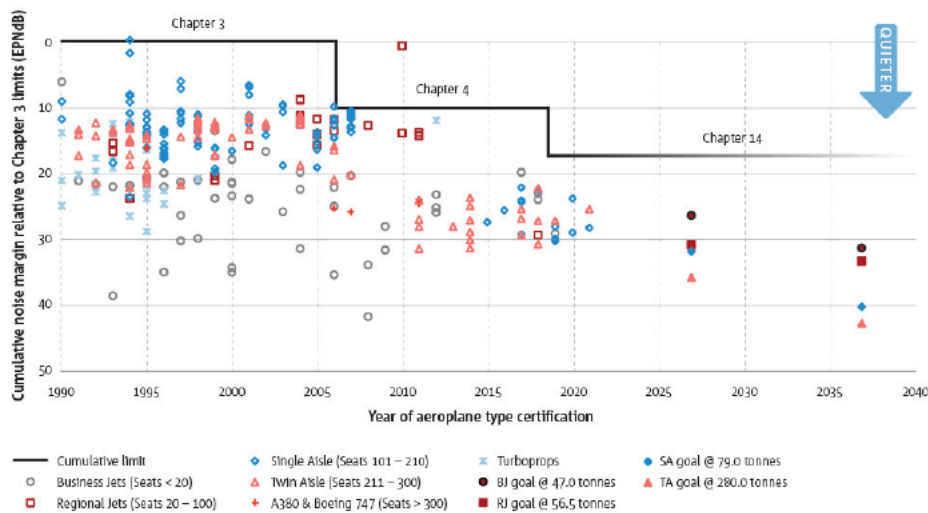
Addressing noise at the source

Key points:

- New generation aircraft are significantly reducing aircraft noise, 50 per cent below the previous generation.
- Airlines put operational measures in place to help further mitigate noise.
- It is important to note that changes to flight paths to mitigate against noise can lead to increased fuel burn and greenhouse gas emissions.

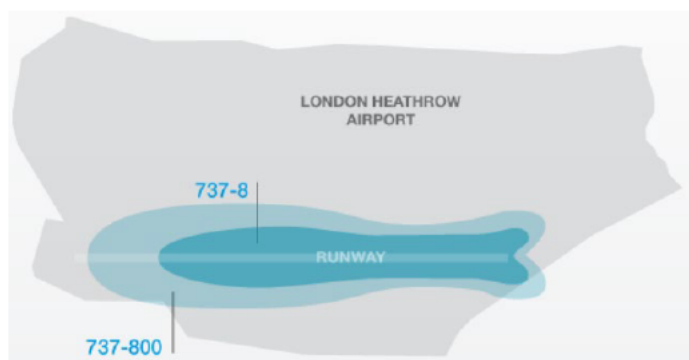
Over the last several decades there have been significant advances in aircraft, with modern planes having substantially lower noise profiles than those that were operating just a few years ago. This advancement directly addresses noise at the source (i.e. from the aircraft itself).

According to the 2022 European Aviation Environmental Report, aircraft designs certified during the last 10 years (e.g. Boeing 737MAX, 787; Airbus A320neo, A350, A330neo) have a cumulative margin of 5 to 15 decibels of effective perceived noise below the latest standard ('Chapter 14 noise standard')⁶.



Reduction of certified aircraft noise levels over time

As an example, the latest generation of single aisle aircraft, which are currently being rolled out by Australia's major domestic carriers – the Boeing 737 MAX (Virgin) and Airbus A320neo (Qantas) – reduce operational noise footprint by around 50 per cent⁷ when compared with the previous generation of single aisle aircraft that currently form the bulk of their fleets.



737-800 compared with 737 Max 8
Noise footprint overlay at London Heathrow



A321ceo compared with A321neo
Noise footprint overlay at Sydney Airport

⁶ European Aviation Environmental Report 2022, European Union Aviation Safety Agency.

⁷ Boeing, Airbus

Australia's largest carrier, Qantas, has a major fleet renewal program underway, which over the next decade will see older aircraft retired and replaced with newer and much quieter Airbus A320neo, A220, A350, and Boeing 787 aircraft.

Airline operational procedures also typically seek to operate aircraft efficiently, which delivers reduced noise levels. Examples given by the Qantas Group include:

- Noise abatement departure procedures, where an aircraft climbs quickly to reduce the time at lower altitudes.
- Noise abatement approach procedures, where an aircraft descends continuously toward the runway at a lower engine power setting.
- Reduced thrust take-off, minimising the amount of engine power and therefore noise required for take-off.
- Minimum use of reverse thrust on engines after landing.
- Single engine taxi in, which involves shutting down one of the aircraft's engines after landing (up to two of four engines for the A380), as the aircraft moves to the terminal.

In addition to airline operational procedures, amendments to flight paths (typically set by Airservices Australia) can direct aircraft away from residential areas and other sensitive receivers. Amending flight paths can lead to additional greenhouse gas emissions and increased fuel use, so the noise benefit needs to be balanced with the impact to emissions. This can occur for example when an aircraft is diverting around residential areas resulting in longer distances being travelled, or departing into a tailwind which requires higher engine power settings. While the industry is migrating to Sustainable Aviation Fuels that will lower overall emissions, this change will take time.

Land use planning

Key points:

- Airports are nationally significant infrastructure and should be protected from urban encroachment. The National Airports Safeguarding Framework provides guidance for this.

As Australia moves to meet ambitious (and needed) housing supply targets, it is important that lands around major airports are preserved from urban encroachment. Large airports are high value nationally significant assets, which each service a large geographic and population area. Their efficient usage must be protected by appropriate safeguards so that those assets continue to be available for use by the broader community.

Urban encroachment can introduce conflicts between aviation and residential land uses, with the potential for operational constraints being imposed on airports and their supporting facilities. Beyond noise implications, there are also safety consequences for inappropriate development around airports. Appropriate development controls and buffers must be maintained to ensure that incompatible land uses managed.

The National Airports Safeguarding Framework provides guidance for planners in relation to aircraft noise sensitive developments and aviation safety where it relates to urban planning. The Framework was first adopted in 2012, where it was agreed by the Commonwealth, and state and territory governments. In respect to noise, the guidelines apply to:

- rezoning of greenfield areas for noise sensitive uses.
- rezoning of brown-field areas for noise sensitive uses.
- assessment of new development applications for noise sensitive uses within existing residential areas.

The Framework provides guidance around thresholds for noise events per day, and the appropriate approach to managing those from a planning perspective depending on circumstance.

When the Framework was reviewed in 2021, it was found that:

“Each of the states/territories have incorporated some form of planning requirements into their respective planning frameworks ... however, for local governments, the incomplete introduction of planning mechanisms to address [aviation]-related issues continues to be a hindrance in the consideration of development applications in the vicinity of airports.”⁸

The review made eight recommendations, including settings a 2027 timeframe for the inclusion of the Framework’s provisions into state and territory planning regimes.

⁸ National Airports Safeguarding Framework 2019 Implementation Review, October 2021

Airport operating restrictions

Key points:

- Operating restrictions such as curfews or movement caps are detrimental to the efficient operation of an airport and can have significant flow-on impacts for the travelling public.
- Given their negative impact, as a general principle the BCA does not support any extension of operational restrictions at airports in Australia.

Four Australian airports have operational curfews in place, one of which is Australia's largest and busiest airport – Sydney. Uniquely, Sydney Airport is also subject to a legislated hourly movement cap of 80 movements an hour counted in 15-minute rolling intervals. Sydney Airport provides an example of the impact such curfews and caps have on the productivity of an airport, underlying the importance of not expanding these types of restrictions further.

The restrictions in Sydney were put in place in the mid-1990s, and artificially limit capacity of the Airport. This means that a major national asset is restricted from being used to its full and best capacity.

A typical year-round international service has been estimated to generate \$122 million in economic activity and create 1,300 jobs. An average daily year-round A380 service is estimated to generate \$211 million in economic activity and create 2,200 jobs.⁹ This means significant value to the Australian and NSW economies is being lost with each service unable to operate due to these restrictions. This is economic benefit foregone due to the regulation of the airport, which prevents the infrastructure being operated to its full potential.

While the business case for Western Sydney Airport is predicated on capturing some of this demand and the economic benefit that it delivers, it acknowledges and makes plain that the existing airport will remain the preferred destination for full-service carriers¹⁰.

The restrictions on Sydney Airport not only lead to a suboptimal utilisation of existing assets, but have major flow on implications to the rest of the national aviation network. The movement cap can prevent recovery from disruptions such as those caused by serious weather events or other delays. This lack of flexibility impacts on airlines and passengers not just flying into and out of Sydney, but also at other airports around the nation as onward legs of aircraft are impacted by flow on delays. It also limits the slots available for airlines, reducing the choice of carrier and destination for passengers.

Furthermore, it constrains the ability for some freight services to operate overnight, which is particularly important given airport congestion during the day and the priority of passenger aircraft in the terminals can limit the ability for dedicated freight aircraft to operate.

The current movement and curfew restrictions placed on Sydney Airport impact on flexibility and operational efficiency to the detriment of passengers. Given the economic, efficiency, and productivity cost, it is the BCA's view that there must be no new curfews or movement cap restrictions imposed in Australia.

⁹ Economic contribution of Sydney Airport, Deloitte Access Economics, 2018

¹⁰ Western Sydney Airport Business Case Summary, 2016

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