

The most effective way of protecting communities from aircraft noise is appropriate land use planning to avoid new residential developments in areas where aircraft noise will be highest. The Environmental Impact Statement (EIS) sets out measures to minimise noise impacts on the community. Planning controls have been in place in the areas surrounding the Western Sydney Airport site at Badgerys Creek for nearly three decades, limiting the amount of noise-sensitive development near the airport site. It is expected that these planning controls will be refined once flight paths for the airport have been finalised.

## How is aircraft noise measured?

The EIS uses a number of different measures to describe the level of noise exposure predicted for aircraft operations at the airport. Each measure has different purposes and takes account of factors such as aircraft noise levels, the frequency of overflights and the character of the noise in different ways.

Based on indicative flight paths for Western Sydney Airport, Australian Noise Exposure Concepts (ANEC) were developed. ANECs are charts that compare noise exposure levels for different flight path options. This is useful for understanding the areas in which the highest noise levels would be experienced. ANECs are used to inform land use planning.

The EIS also uses the 'Number above' system, which indicates how many aircraft noise events are predicted to exceed a particular decibel level each day. For example, the N70 measure shows the number of aircraft noise events above 70 decibels that would be experienced per day.



Operating modes are determined by the orientation of an airport's runways. Western Sydney Airport's runways will be on a north-east/south-west or 50/230 degree orientation. There are three main operating modes for the airport:

- **'05 mode': aircraft approach and depart the airport in a south-west to north-east direction.**
- **'23 mode': aircraft approach and depart the airport in a north-east to south-west direction.**
- **Head-to-head operations, where aircraft take off and land at the same end of the runway, which can be used to reduce noise over residential areas during night time operations.**

# Western Sydney Airport

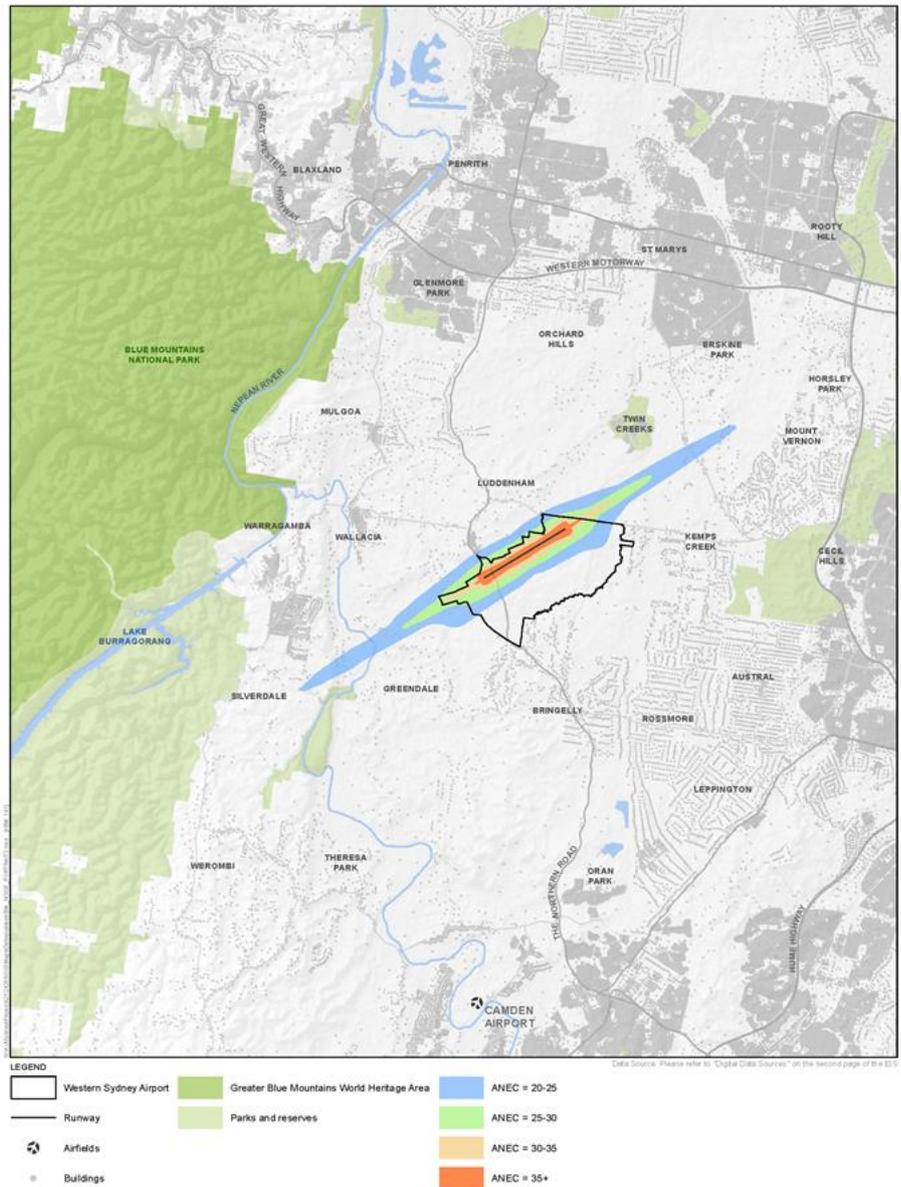
## Noise assessment

A noise modelling tool is available at [www.westernsydneyairport.gov.au](http://www.westernsydneyairport.gov.au).

This tool presents the findings of the noise assessment on a map, showing predicted noise levels at particular locations in Western Sydney.

Over an average 24-hour period, around 1,500 residents are predicted to experience five or more aircraft noise events above 70 decibels. This level of noise is similar to a passing car.

The combined ANEC for the 05 and 23 operating modes for Stage 1 airport operations is pictured.



## Further assessment and mitigation

The EIS noise assessment is based on indicative flight paths, which enabled a valid and contemporary assessment of the potential impacts of aircraft operations at Western Sydney Airport.

As the flight paths are further developed and finalised, the potential noise impacts of different flight path options will continue to be reviewed, including via further environmental assessment and community consultation. The process to finalise the flight paths will seek to further reduce aircraft overflights of residential areas, and minimise noise impacts on communities and noise-sensitive areas. This process will also provide information on any proposed noise amelioration measures.

More information on is available in the fact sheet *Flight paths for Western Sydney Airport* and in the EIS (Volume 1, Chapter 7).