Noise Action Plan for Brisbane

Arrivals over land from the north and west to the new runway

Package 3, preferred option 1.2

This preferred option proposes changes to the arrival paths over land to the new runway from the north and west, when the winds are blowing from the north during the day (6am to 10pm). The arrival paths support long approaches for all planes, which would also connect into the legacy runway at night (10pm to 6am) and short approaches for planes equipped with the required navigation technology (see **Figure 1,** below).

All options for Package 3 of the Noise Action Plan for Brisbane, which aims to reduce the concentration of flights over the most affected communities, are outlined in the *Phase 6 Overview*.

This preferred option aims to:

- reduce concentration of flight paths and associated noise by having more space between the three arrival paths
- reduce the number of people experiencing both arrivals and departures by separating the arrival path from the north and the departure path to the west
- reduce engine noise by keeping arrivals higher for longer and letting aircraft glide as they descend
- reduce concentration of arrivals on the long approach by introducing additional short approach connections.

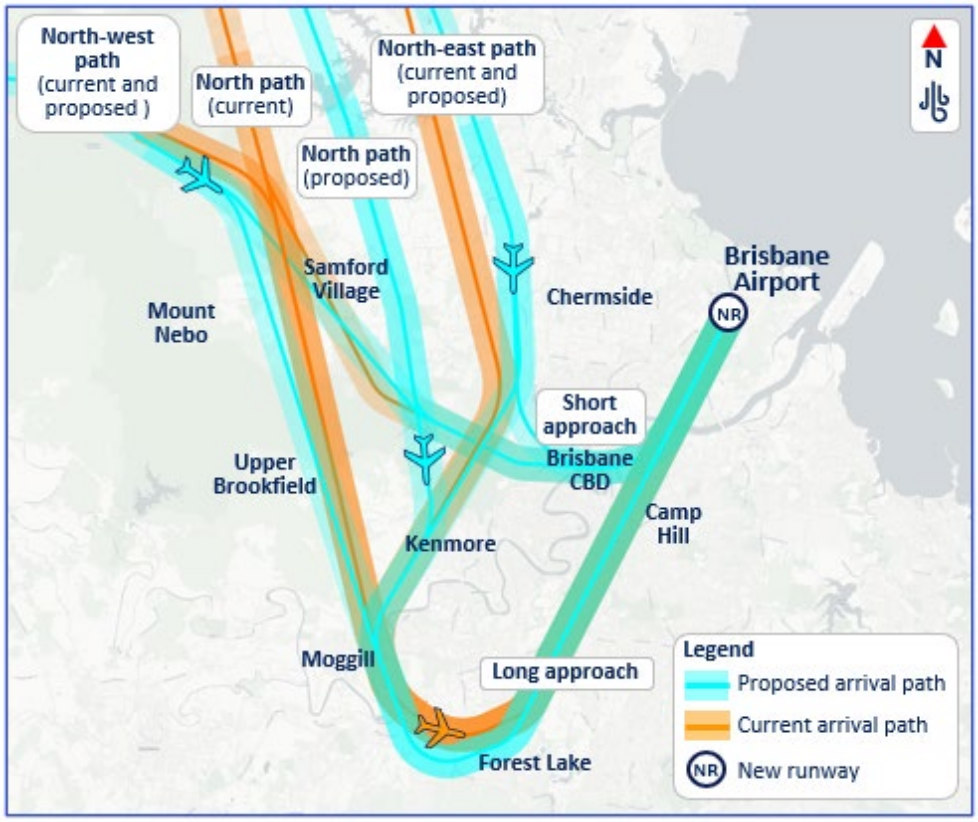

Figure 1: Current (orange) and proposed (blue) arrival paths for long (ILS) and short (RNP-AR) approaches to the new runway, with 1km buffers either side

Naming of flight paths

In aviation, flight paths are referred to by waypoint names.

A waypoint is a geographical location used to define a point on a flight path. They typically take the form of a five-letter capitalised word.

In this information sheet, the flight paths are referred to by the direction planes are flying to or from. Some community members may be more familiar with their waypoint names.

Arrivals

North-west path = WOODY
North path = SMOKA
North-east path = MORBI

Departures

West path = WACKO

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Long and short approaches

The runway aligned long approaches are the primary approaches at Brisbane Airport. They follow an Instrument Landing System (ILS), which is a navigation aid that helps pilots align with the runway, maintain the correct descent angle, and land safely, even in poor weather or low visibility.

The shorter curved approaches, called Required Navigation Performance – Authorisation Required (RNP-AR), can only be flown by aircraft equipped with advanced navigation equipment and a certified crew. In 2024, the current RNP-AR approach from the north was used by approximately 8% of all flights arriving over land to the new runway.

Preferred option

This preferred option has three key change proposals:

1. Adjusting the three arrival paths to distribute flights more evenly over a wider area, including shifting the busy arrival path from the north away from the departure path to the west that currently tracks over some of the same communities
2. Increasing the altitudes of the arrival paths so planes can be higher over communities
3. Introducing new short approaches for north-west and north-east arrivals, aligned to the current short approach for arrivals from the north, to reduce traffic on the long approach

If this preferred option progresses to final design and implementation, we would also connect these new flight paths to the legacy runway for night-time operations when the wind is from the north (with the exception of the short approaches as these cannot be used at night due to noise abatement procedures).

Additional changes are required to improve safety during the turn onto the ILS enabling planes to land reliably in all weather conditions with a more stable descent; these are detailed in the information sheet for *Arrivals over land to support independent parallel runway operations* (preferred option 3.1, also currently being engaged on).

These change proposals are explained below.

Adjust the long approach arrival paths to distribute flights

This builds on initial options engaged on in October 2023 and in August 2024 where we sought feedback on a concept that aimed to split the north-west and north arrival paths slightly to reduce flight path concentration over communities west of the airport.

What the community told us

- The initial concept didn't move the north arrival path far enough to make a noticeable difference to noise.
- Some communities experience aircraft noise regardless of wind direction because they are under arrivals and departures.
- The concept could shift flights over new residential areas further west that may not currently be impacted by aircraft noise.
- Suggestions included exploring broader options to separate the busy north arrival path (used when winds are from the north) and the west departure path (used when winds are from the south) to reduce this concentration of flights.

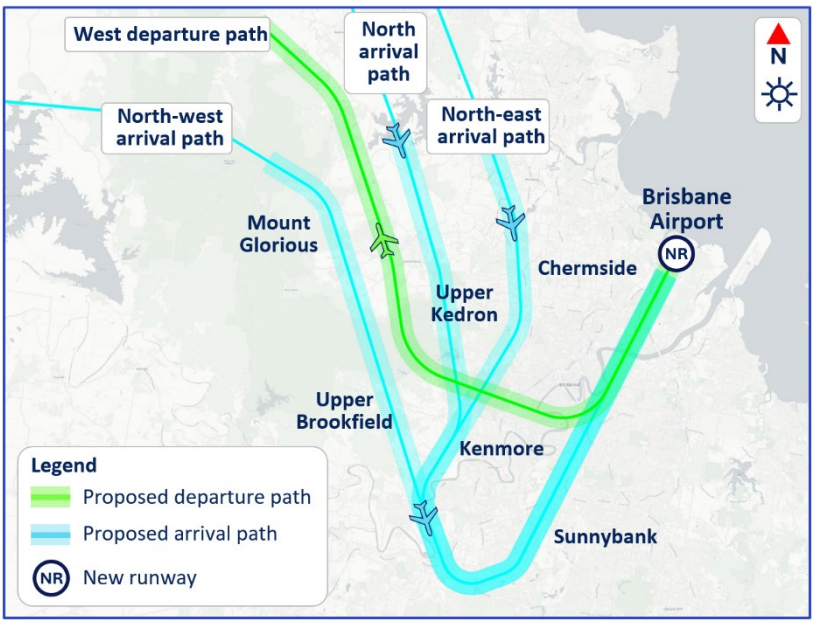

Figure 2: Proposed (blue) long approach arrival paths, with 1km buffers either side. Location of the proposed departure path to the west – towards waypoint WACKO – is shown in green (see preferred option 1.1, *Departures over land to the north and west*).

The preferred option proposes:

- spreading the three long approach arrival paths over a wider area, moving the north-west path slightly further west, and the north-east path slightly further east, so the busy north path can be located centrally between each path
- moving the arrival path from the north away from the preferred option for departures to the west (see **Figure 2**, above) and the information sheet for *Departures over land to the north and west*, preferred option 1.1, also currently being engaged on.

This change would spread arrival paths across areas north of the airport and would avoid overflight of the same communities by arrivals during northerly winds and departures during southerly winds.

Increase altitudes on arrival paths

There are altitudes requirements on the arrival paths. Arriving planes must descend below these altitudes to maintain separation from departing planes that travel over the arrivals. The initial concept presented in August 2024 did not consider altitude requirements, however feedback received during this engagement has led to the development of this preferred option.

What the community told us

- Many residents voiced concern about arrivals being too low, too early, a long way from the airport.
- Some residents told us they experience additional noise as planes descend to get below the maximum altitude.

The preferred option proposes:

- increasing altitude limits on the three arrival paths to allow for more gradual descent and reduced engine noise.

The altitude of each arrival path would increase at the waypoint where the path commences by a range of 3000ft to 6000ft (900m-1200m) depending on the path (see aircraft altitudes on **page 5** for more information). The altitude at the point where planes turn to join the ILS would not change.

New short approaches for north-west and north-east arrival paths

In August 2024, we engaged the community on an initial concept for changes to short approach arrival paths to the new runway. The concept aimed to redirect some non-jet aircraft away from the long approach, where flights are currently concentrated, onto the existing short approach to better share these operations, where the planes are equipped and certified to do so.

What the community told us

- Many residents in areas aligned with the new runway, who are affected by flights using the long approach, supported introducing a new short approach for non-jet aircraft arriving from the north-west and north-east.
- Others suggested suitably certified planes should also be able to use short approaches from other arrival paths, not just the path from the north.
- Communities already affected by noise from the existing short approach, expressed concerns that the proposal would increase flights over their areas.

Figure 3: Current long and short approach flight paths (orange) and proposed (blue) short approach flight paths, with 1km buffers either side

The preferred option proposes:

- new short approaches for arrivals from the north-west and north-east arrival paths (see **Figure 3**, right); these paths are mostly used by non-jet aircraft
- the new short approaches would be available to all planes with the required navigation technology to use them (in 2024, 47% of all aircraft operating at Brisbane Airport were equipped to fly the short approaches)
- adjusting the current short approach for the north arrival path, which is mostly used by jets, to align with proposed changes outlined on page 2.

This change would enable more planes to use short approaches, reducing the use of the long approaches during daytime hours and providing an opportunity for better balance in the use of long and short approaches.

Comparison of key metrics

Please refer to the *Phase 6 Overview* for general information on key metrics.

Where there is no current short approach, the data provided for comparison below is based on use of the current long approach. If additional short approaches are introduced, some traffic will move from the long approach to the short approach, providing greater noise sharing across long and short approach communities.

For some long approach metrics, information is provided from where the flight paths start only to where they turn to begin final approach (see **Figure 1**, page 1). This is because we are also engaging on other proposed changes that may affect metrics for these paths (see *Arrivals over land to support independent parallel runway operations*, preferred option 3.1). This applies to length of arrival paths (**Table 1**) and number of people overflown (**Table 5**). For clarity, these tables present only data specific to this preferred option and not for the full arrival paths to the new runway.

Length of the arrival paths

Shorter flight paths can generally be expected to reduce fuel consumption and CO_2 emissions. Additional information about aircraft emissions can be found in the *Environmental Impact Assessment: Arrivals over land*.

Long approaches

Arrival flight path	Flight path length (NM) (current flight paths)	Flight path length (NM) (preferred option)	Difference
North-west path	38	39	↑ 1
North path	44	47	↑ 3
North-east path	49	51	↑ 2

Table 1: Comparison of current and proposed path distances (long approaches)

Short approaches

Arrival flight path	Flight path length (NM) (current flight paths)	Flight path length (NM) (preferred option)	Difference
North-west path	58 (long approach)	44 (short approach)	↓ 14
North path	51 (short approach)	50 (short approach)	↓ 1
North-east path	69 (long approach)	51 (short approach)	↓ 18

Table 2: Comparison of path distances for the current and proposed arrival paths

Noise impacts: population numbers

Long approaches

The population affected within these areas is included in preferred option 3.1, *Arrivals over land to support independent parallel runway operations*.

Short approaches

Flight path		Population counts in +60dB noise contours	Difference: proposed vs current	Population counts in +70dB noise contours	Difference: proposed vs current
North-west path	Current (long approach)	53,100	↑ 9600	1200	↑ 100
	Proposed (short approach)	62,700		1300	
North path	Current (short approach)	105,700	↑ 2800	12,400	↑ 100
	Proposed (short approach)	108,500		12,500	
North-east path	Current (long approach)	55,500	↑ 10,700	1300	0
	Proposed (short approach)	66,200		1300	

Table 3: Comparison of population numbers in areas +60dB and +70dB

Aircraft altitudes

Long approach

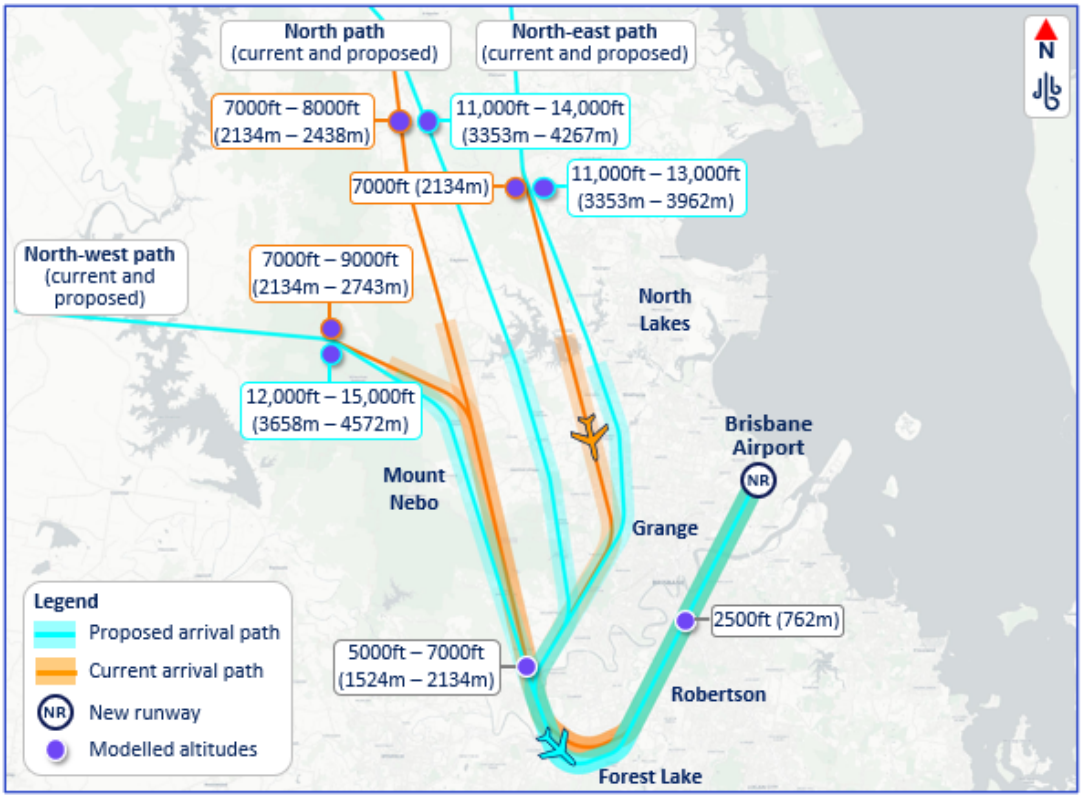

Figure 4: Current (orange) and proposed (blue) arrival paths for long approaches to the new runway, with 1km buffers either side

Short approaches

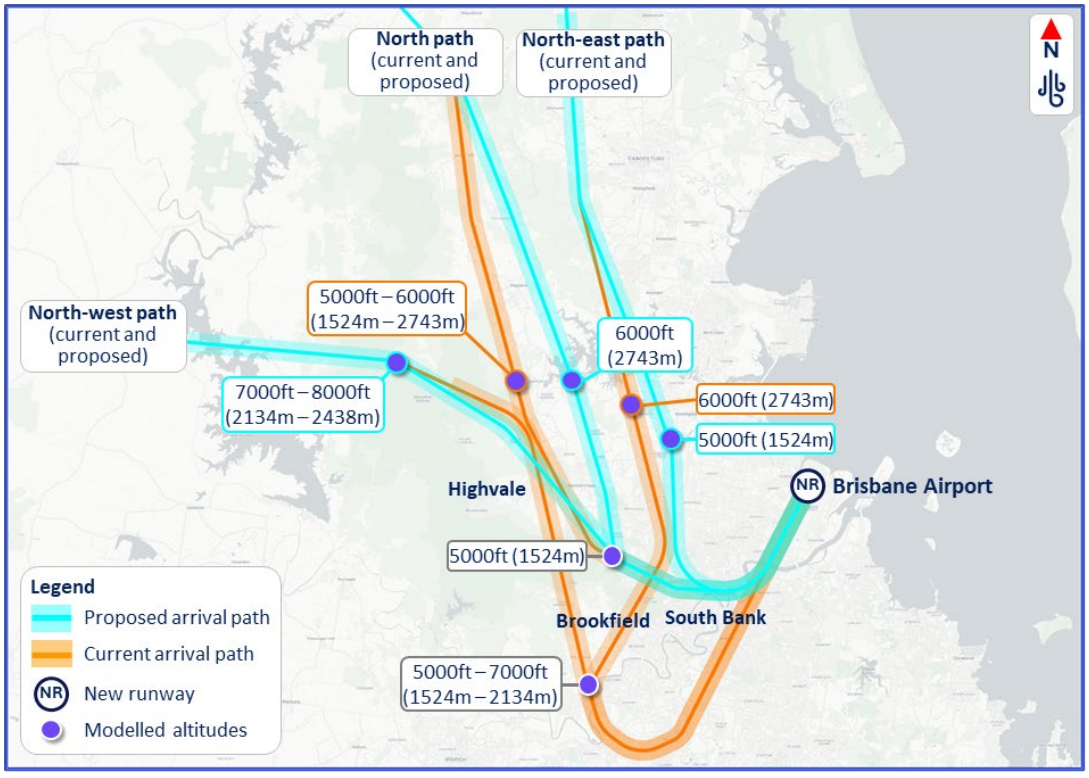

Figure 5: Current north (orange) and proposed (blue) arrival paths for short approaches to the new runway, with 1km buffers either side

How often are the flight paths used?

The same number of planes are expected to use each of the three arrival paths.

The number of planes likely to use the proposed north-west and north-east short approaches are estimates based on the current ratio of long to short approaches observed on the arrival path from the north.

Current flight path	Long approach		Short approach	
	Average number of flights each day	Highest number of flights each day	Average number of flights each day	Highest number of flights each day
North-west path	3	17	<1 (estimated)	3 (estimated)
North path	16	92	2	16
North-east path	8	46	1 (estimated)	8 (estimated)

Table 4: Average daily and peak daily flight numbers for long and short approaches on the three arrival paths

Number of people overflown

Long approaches

Arrival flight path	Population overflown (current flight paths)	Population overflown (preferred option)	Difference
North-west path	5100	4800	↓ 300
North path	5700	17,800	↑ 12,100
North-east path	59,000	70,300	↑ 11,300
Communities subject to both arrivals and departures to the west	1500	400	↓ 1100

Table 5: Comparison of population overflown within 1km of current and proposed arrival paths (long approaches)

Short approaches

Arrival flight path	Population overflown (current flight paths)	Population overflown (preferred option)	Difference
North-west path	113,400 (long approach)	97,600 (short approach)	↓ 15,800
North path	97,900 (short approach)	103,200 (short approach)	↑ 5300
North-east path	167,200 (long approach)	143,100 (short approach)	↓ 24,100

Table 6: Comparison of population overflown within 1km of current and proposed arrival paths

Note on population metrics

It is important to recognise that while some of the proposed preferred options increase the population overflown or the number of people affected at different noise levels, the shift of operations over these areas reduces the number of people subject to both arrival and departure operations.

This approach supports noise sharing, helping to distribute aircraft noise more equitably and reducing the impact on communities previously affected by concentrated operations in all wind conditions.

More information

- Brisbane Baseline Model – use interactive maps to look up addresses, zoom in, compare current and proposed flight paths including modelled noise contours, and watch videos of all the options in this round of engagement
- Information sheet for the initial concept for *Arrivals over land from the north and west* from previous engagement PDF (944KB)
- *Preferred Options Environmental Impact Assessment: Arrivals over land* – note, this a detailed technical document
- *Phase 6 Overview* – a summary of all options in this round of engagement and methodology for producing key metrics

Next steps

Airservices Australia is seeking community feedback on the preferred option for *Arrivals over land from the north and west to the new runway* (preferred option 1.2). Your input will help determine how these change proposals should move forward to final design and implementation.

Key questions for community feedback

Please give us your feedback using the **online survey.** If you prefer to provide feedback via email or mail, we encourage you to structure your responses using these key questions:

1. On a scale of 1 (very poorly) to 5 (very well), how well do you think these change proposals meet the aims of this preferred option as outlined on page 1 of this information sheet?
    - Adjust the long approach arrival paths to distribute flights 1 2 3 4 5
    - Increase altitude requirements on arrival paths 1 2 3 4 5
    - Introduce new short approaches for the north-west and north-east paths 1 2 3 4 5
2. Please explain your rating – what are the main benefits and/or drawbacks of these change proposals that influenced your score?
3. Do you have any other feedback on this preferred option?

Feedback closes Sunday 17 August July 2025

Contact us:

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