CoastAdapt

Snapshot

# Planning for Brisbane Airport's new runway: accounting for climate change


## Summary

Brisbane Airport is the third busiest airport in Australia. Close to Moreton Bay, the airport is low lying. Continual increase in demand has resulted in the construction of a second parallel runway. To ensure that the airport can operate continually over its projected lifespan, it was important to consider climate change implications in the design. Accordingly, a runway height of 1.5 m above the minimum regulatory requirements was adopted. Other climate change adaptation actions were also implemented including channels to reduce tidal flooding, and construction of a seawall. Stakeholder engagement around the design was considerable: conducted over a period of almost two years it implemented a range of engagement options.



## Keywords

Brisbane Airport Runway, consultation, critical infrastructure


Risks associated with storm surge and sea-level rise were considered for this project. Based on the combined effect of tide level, storm surge effect and wave propagation, the most appropriate option was determined to be a runway height of 1.5 m above the minimum regulatory requirements for flood and storm tides and predicted sea-level rise. The placement of the runway was a major consideration as there was a need to reduce potential impact on Moreton Bay, which is both a marine park and Ramsar site.

Due to its profile and complexity the project required significant engagement with a broad range of stakeholders. Accordingly, a stakeholder engagement process was conducted over almost two years in order to understand stakeholder perspectives across a diverse range of issues. Consultation included the use of a range of materials and activities including:

- information kits
- project website
- freecall information line
- media announcements
- print advertising
- fact sheets
- public information sessions
- project displays in shopping centres and libraries
- targeted briefings with key stakeholder groups.

Following this engagement, several decisions were made about the design. The level adopted for the new runway—at 5.0 m above Airport Datum—ensures that there will be sufficient freeboard above the design storm tide level (see Figure 1). Furthermore, the taxiways that link the new runway with the apron areas are also set above the 1 in 100 storm surge event. The selected height of the runway—at a level that will cope with seas and storm surge well above design level—addresses concerns regarding risks during the life of the project (see Figure 2).

A suite of other measures was implemented to reduce exposure to long-term climate change. They included the construction of tidal channels and the installation of a new sea wall along the northern boundary of the airport.


*Figure 1: Annotated image of Brisbane Airport showing the placement of the new runway. Photo: © Brisbane Airport Australia.*

*Figure 2: Brisbane Airport's second runway under construction. Photo: © Brisbane Airport Australia.*

## Further reading


A case study of Brisbane Airport's new parallel runway project. Accessed 15 June 2017. [Available online at: www.nccarf.edu.au/localgov/case-study/brisbane-airport-new-parallel-runway-project].

More information from Brisbane Airport's website. Accessed 15 June 2017. [Available online at: www.bne.com.au/corporate/bne-major-projects/brisbane-airports-new-parallel-runway].



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