

# Advance Australia fair

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## New-build and upgrade projects continue throughout the country. *Ruth Barnard reports*

Solid progress is expected on several Australian airport construction and expansion programmes over the course of 2019. Earthworks will continue on the greenfield site of Western Sydney Airport (WSA), while Melbourne develops a new runway under its 20-year masterplan. Another 20-year masterplan is being finalised for the current airport serving Sydney, a major terminal and airfield development programme is under way at Brisbane, and Perth is consolidating its terminal infrastructure.

The WSA project at Badgerys Creek passed a milestone on 24 September 2018 with a groundbreaking ceremony attended by Australian Prime Minister Scott Morrison. Initial earthmoving work – conducted by a joint venture (JV) between CPB Contractors (a subsidiary of the Chinese CIMIC Group) and Lendlease – prepares the ground for runway and terminal construction at WSA. About 1.8 million m<sup>3</sup> of earth will be shifted by the end of 2019. A major contract to shift 22 million m<sup>3</sup> of earth will be awarded in mid-2019, according to developer WSA Co.



*Aerial view of Brisbane Airport. (BAC)*

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Arup is delivering airport planning services, and its technical and engineering consultants will help WSA Co to get the most out of emerging digital technologies that streamline the passenger journey and improve operational efficiency (for example, a 5G network is planned to function across the WSA site). Functional airport planning for the physical design of the terminal and airside facilities will be delivered under a separate, as yet unawarded contract.

In mid-2018, WSA Co appointed Bechtel as delivery partner to manage the construction process and ensure the project is completed with the highest safety and quality standards. Bechtel was also awarded a contract to support WSA Co in airport design development work.

Bechtel occupies a similar delivery management role for the ongoing expansion programme at Gatwick. It also designed and built expansions to Dubai International Airport, and managed construction of Hong Kong International Airport.

The Australian government has committed USD5.3 billion over a 10-year period to fund Phase I construction of WSA, which is scheduled to be operational in 2026 as a full-service airport with international, domestic, and regional flights. Qantas and Virgin Australia are committed to operate from WSA, representing a major vote of confidence and reflecting strong growth forecasts for the Asia-Pacific aviation market.

### **20-year visions for Sydney and Melbourne**

The new WSA represents an unprecedented level of competition for Sydney Airport, although an upgrade and expansion strategy is in place. In August 2018, operator Sydney Airport Corporation (SAC) released a preliminary 20-year masterplan covering the period to 2039.

The strategic document sets out plans for continued infrastructure development of the airport, to include a new terminal, apron and stand facilities, and a ground transport centre in the North West Sector of Terminal 1; a satellite pier development, apron and stand infrastructure, airside terminal and satellite pier connections in the South West Sector; a new terminal, apron and stand infrastructure, and ground transport and utilities improvements in the North East Sector T2/T3 Integrated Operations Precinct; and apron and stand infrastructure, satellite pier development, an airside terminal and satellite pier connections in the South East Sector.

SAC forecasts that passenger traffic at Sydney will increase from 43.3 million in 2017 to 65.6 million in 2039, with international passengers expected to be the main driver of growth. By 2039, the traffic mix is forecast to be 48% international and 52% domestic, and aircraft movements are expected to grow by 17% to 408,260 between 2017 and 2039. Total freight volume at Sydney is forecast to grow by 58% to 1 million tonnes in 2039.

An important objective of the Master Plan 2039 is to continually improve environmental performance at the airport to reduce its carbon footprint; ensure the airport is resilient to climate change; conserve significant items of natural, indigenous, or heritage value; and protect environmentally significant areas.

While it plans for the next 20 years, Sydney Airport has also tested technology with the potential to improve the passenger experience in the short term. For example, it partnered Qantas in a facial recognition trial on selected flights from 21 June to 11 December 2018. The 'couch-to-gate' biometrics system, when fully tested, will mean passengers will be able to complete most stages of their airport journey using their face as a single biometric identity token, replacing the need to show a passport or boarding pass.

The trial tested facial biometrics in four key stages in the passenger journey: automated check-in, bag drop, lounge access, and boarding. Additional steps proposed for future trials include mobile check-in and automated border processing.

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