

30. Introduction

30.1. Background

The Department of Infrastructure and Regional Development (the Department) is proposing the design, construction and operation of the proposed Western Sydney Airport (proposed airport) to cater for ongoing growth in demand for aviation services within the Sydney region and to support economic and employment growth in Western Sydney. This draft Environmental Impact Statement (EIS) has been prepared in accordance with the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) to support the determination of an Airport Plan under the *Airports Act 1996* (Airports Act).

A draft Airport Plan has been developed to provide the strategic direction for the development of the proposed airport and includes a specific proposal for the Stage 1 development and an indicative concept for the long term development. Volume 2 of the draft EIS provides a detailed consideration of the potential environmental impacts arising from the Stage 1 development.

However it is recognised that approval of the proposed Stage 1 airport infrastructure would facilitate future growth in aviation capacity and consequently, additional impacts beyond the level assessed for the Stage 1 development would be expected. While the long term airport development described in this document would not be authorised by the Airport Plan, a strategic level assessment of the potential implications has been undertaken to support consideration of the Stage 1 development and long term planning and land use strategies.

This volume (Volume 3) provides a strategic level assessment that considers these potential issues and implications based upon the indicative design concepts presented in the draft Airport Plan.

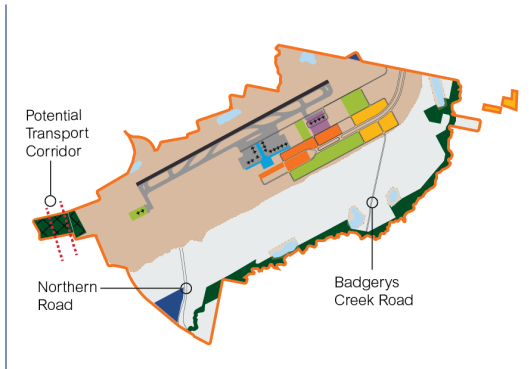
30.2. The long term development

30.2.1. Progressive development and approvals

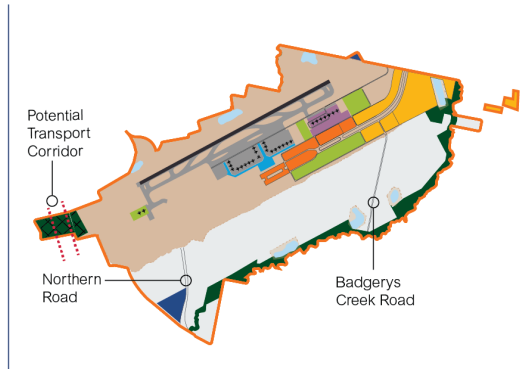
The long term development of the proposed airport would incrementally build upon the Stage 1 development as demand increases beyond 10 million annual passengers. Additional aviation infrastructure and support services such as taxiways, aprons, terminal buildings, fuel pipeline, rail and other support facilities will be provided to service the growing demand.

The need for a second runway would be triggered when the operational capacity approaches 37 million annual passengers which is equivalent to approximately 164,000 air traffic movements per year. Based on current projections, a second runway is forecast to be required by around 2050 and is proposed to be located parallel to the first runway with a separation distance of approximately 1,900 metres. The long term airport is forecast to service approximately 82 million passengers, which is equivalent to approximately 370,000 air traffic movements per year. Indicative configurations of the progressive development of the proposed airport are presented in Figure 30-1.

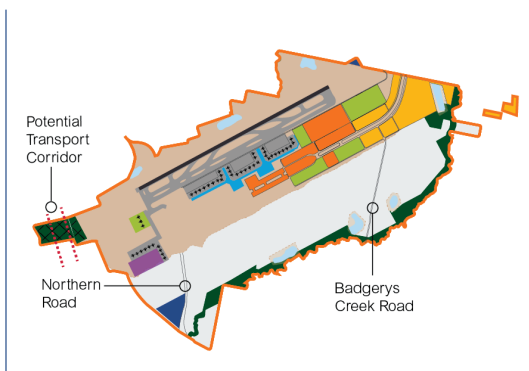
2025–2030 (STAGE 1)



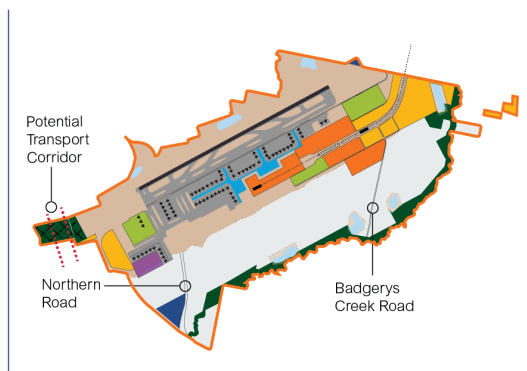
2035



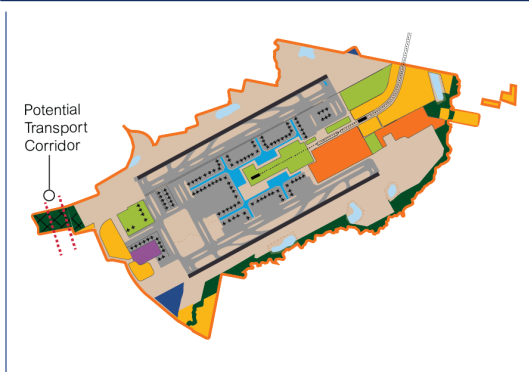
2042



2050



2058




2063 (LONG TERM)



KEY

Site boundary	Amended land form	Terminal	Ancillary support	Surface car parking lot
Runway	Taxi area	Cargo	Business development	Detention pond
			Proposed acquired land	Environmental conservation

Figure 30-1 – Indicative configurations and sequencing of the progressive development of the proposed airport



The proposed airport is anticipated to be developed and operated by an Airport Lessee Company (ALC). The Airport Plan will provide the strategic direction for the airport site from the date of its determination until the first master plan is in place. As required under the Airports Act, within five years of an airport lease being granted to the ALC, or in a longer period as approved by the Minister for Infrastructure and Regional Development, the ALC will be required to submit a draft master plan for approval. The master plan would, among other purposes, set the strategic direction for the airport site for a period of 20 years. Under the Airports Act, the ALC will be required to prepare new master plans every five years. Once an airport lease is granted, the ALC would also be required to prepare major development plans and seek building approvals in accordance with the provisions of Part 5 of the Airports Act for all future development at the airport site.

The final concept for the long term airport development will be developed by the ALC as part of the master planning process. All future development would be subject to further assessment and approval requirements in accordance with the Airports Act. It is anticipated that assessment of each development stage will be considered in the context of the rapidly changing regional land use setting and will be reflective of technological advances in the aviation industry.


30.2.2. Preliminary airspace design

Airservices Australia provided a preliminary assessment of air traffic management arrangements for airspace in the Sydney region associated with the introduction of flights to and from the proposed airport (Airservices Australia 2015). The preliminary airspace assessment was limited to a conceptual proof-of-concept design to establish whether safe and efficient operations could be introduced at the proposed airport.

In the long term, the operation of parallel runways at the proposed airport could potentially achieve around 100 aircraft movements per hour (one landing or one arrival constitutes an aircraft movement), with Sydney Airport maintaining a movement rate of 80 per hour. The preliminary analysis also suggests that the following issues would need to be assessed in detail as part of the future airspace design process prior to the commencement of parallel runway operations at the proposed airport:

- changes to Sydney Airport flight paths to maintain independent operations at the proposed airport and Sydney Airport, and to achieve the anticipated capacity;
- changes to flight paths serving Bankstown Airport, in particular instrument flight rules operations, in order to maintain independent operations at the proposed airport and Bankstown Airport, and to achieve the anticipated capacity;
- resolution of a potential constraint associated with the restricted airspace area over the Defence Establishment Orchard Hills; and
- further consideration of noise and visually sensitive receivers, such as residential areas and tourism attractions within the Greater Blue Mountains World Heritage Area.

The conceptual airspace design presented in this draft EIS has not been developed to a level of detail necessary for implementation. A separate regulated airspace design process would be required to develop actual flight paths suitable for implementation.



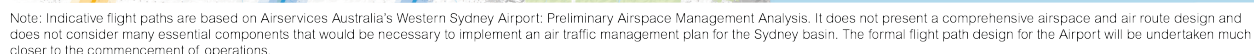
Importantly, the conceptual design did not consider potential noise abatement opportunities, which would form a major part of the subsequent design work required prior to implementation. Consultation with airlines and other stakeholders would be undertaken through the design process, which would be subject to a separate regulatory assessment process. This process would be undertaken closer to the commencement of operation at the proposed airport.

Important considerations in airspace design include:

- efficient use of the Sydney region airspace and integration with the national air traffic network as a whole;
- airspace protections for other aerodromes in the Sydney region, including Defence establishments;
- the available navigational technologies both on ground and in aircraft at the time;
- opportunities to minimise potential noise and amenity impacts and other potential environmental issues; and
- operator and airline preferences and requirements.

The development of the airspace design would also be subject to environmental assessment and community and industry consultation prior to commencement of operations at the proposed airport.

While particular flight paths are depicted as single lines of travel, it is not always possible for each aircraft to fly precisely along the same line. In practice, flight paths tend to be corridors up to several kilometres wide. Indicative flight paths for the long term operation with parallel runways are presented in Figure 30-2 and Figure 30-3.



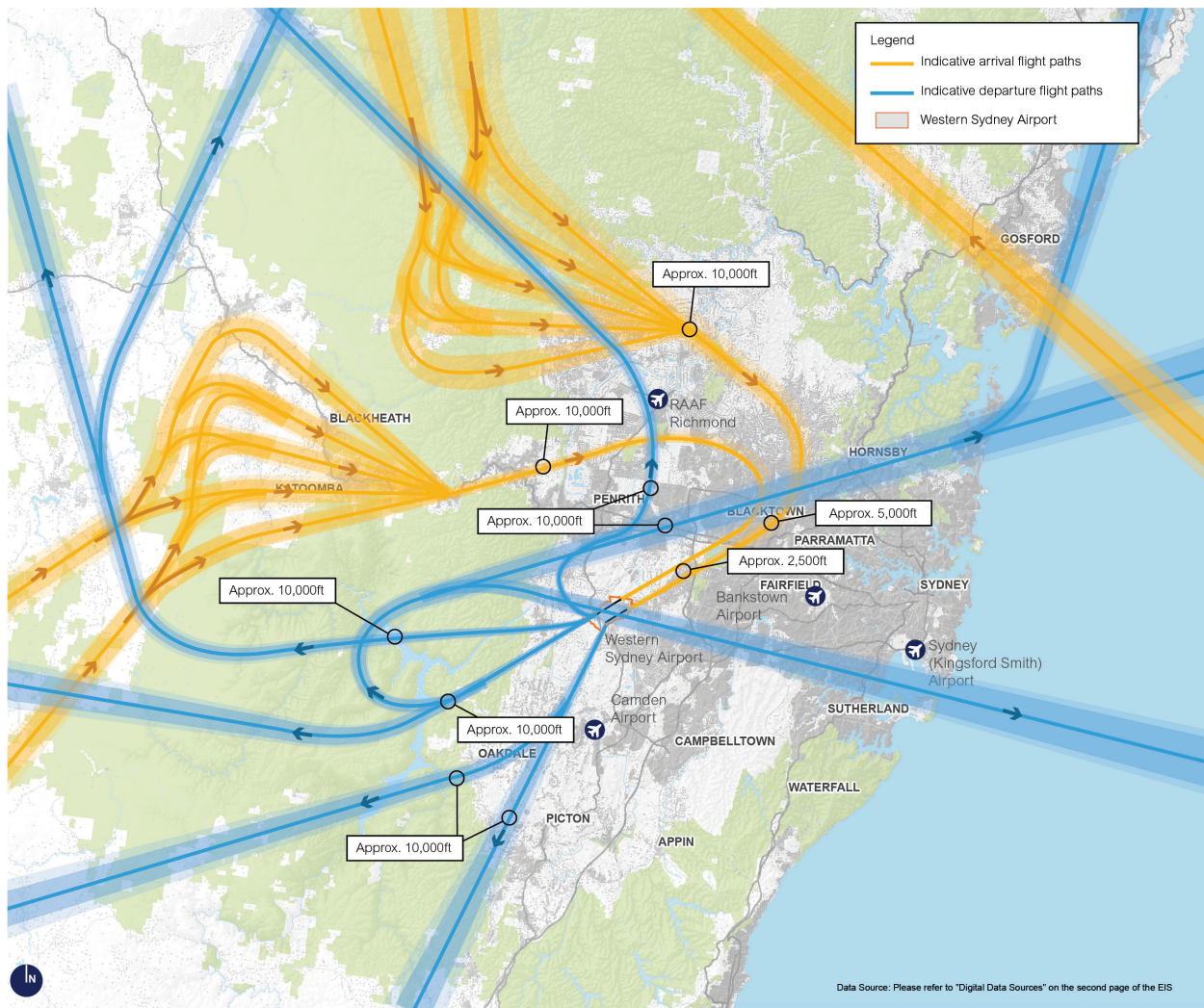


Figure 30-3 – Long term indicative flight paths for operating mode 23

30.3. Strategic level assessment

A detailed assessment of environmental impacts potentially arising from the construction and operation of the Stage 1 development is presented in Volume 2 of this draft EIS. The assessment was based upon clearly defined construction and operation parameters described in detail in Volume 1 of this draft EIS and in Part 3 of the draft Airport Plan.

Volume 3 provides a strategic level assessment of an indicative long term airport development, which is expected to include two parallel runways and supporting facilities with capacity for up to 82 million annual passengers and approximately 370,000 air traffic movements to be reached by around 2063. A strategic level approach reflects the difficulty in attempting an assessment within the context of a number of significant uncertainties relevant to the long term proposal, including:

- the far-reaching horizon over which predictions are required to be made extending between 35-50 years into the future;
- the indicative concepts for the future configuration and operation of the site by the future ALC;
- the actual aviation demand realised in future years;
- advances in technology and changes to combustion emissions;
- changes in land use patterns and population density over the forecast period; and
- the currently available environmental information and limited data on likely future baseline conditions.

The focus of the strategic level assessment for the long term development therefore centres on the key potential impacts of the expanded airport operations. Owing to the incremental nature of infrastructure provision over the period between Stage 1 and the longer term and consistent with the strategic approach adopted, construction impacts are not considered. Key issues include: noise, air quality, traffic, transport and access, surface and groundwater, planning and land use, landscape and visual amenity, social impacts and impacts on the Greater Blue Mountains World Heritage Area. Other potential issues are also in a concise and consolidated chapter.

It is recognised that aircraft noise is one of the most sensitive issues associated with the potential future development of the proposed airport and an increase in air traffic movements has the potential to increase the extent and magnitude of noise disturbance to the surrounding community. Taking this into consideration, an additional assessment of aircraft noise from a potential 2050 airport development scenario where the single runway is operating at a capacity of around 37 million annual passengers or approximately 185,000 aircraft movements per year has been conducted. This scenario provides an assessment of the extent of noise exposure and associated potential impacts when the single runway is at the maximum capacity that may be facilitated as a result of the Stage 1 development. To achieve aircraft movements in excess of the Stage 1 forecast, it is anticipated that additional infrastructure such as expansion of the taxiway system, apron and terminal would also be required. This additional infrastructure and capacity expansions would be subject to separate approvals in accordance with the Airports Act.

Consistent with the strategic approach adopted and the uncertainties noted above, this volume also does not provide any specific mitigation measures. Instead, issues for future consideration have been provided for consideration by the relevant party.

30.4. Purpose and structure of this volume

This volume is intended to provide additional information to support the consideration of the Stage 1 development assessment. For the likely key operational impacts of the proposal, additional strategic level impact assessment has been undertaken in accordance with the EIS Guidelines and using similar methods and procedures as for the Stage 1 development documented in Volume 2.

In addition to its primary role, to support the authorisation of the Airport Plan, it is also intended that the information in this volume would be of interest to NSW Government stakeholders as well as the community and could be used to inform longer term land use planning strategies. It is noted however that the future airport development concepts and subsequent impacts predicted are indicative and may change as a result of future design and development processes.

The remainder of this volume is structured as follows:

- Chapter 31 Noise;
- Chapter 32 Air quality;
- Chapter 33 Traffic, transport and access;
- Chapter 34 Surface water and groundwater
- Chapter 35 Planning and land use;
- Chapter 36 Landscape and visual amenity;
- Chapter 37 Social;
- Chapter 38 Greater Blue Mountains World Heritage Area;
- Chapter 39 Other environmental matters; and
- Chapter 40 Conclusion and recommendations.

The EIS technical reports in Volume 4 also contain more detailed information regarding the potential impacts and implications of the long term airport development.