Sydney Airport

Master Plan 2045

Preliminary Draft

SYD

Acknowledgement of Country

Sydney Airport acknowledges the Dharawal People of Coastal Sydney who are the Traditional Custodians of the lands, waterways and skyways where we work and live. We pay our respects to them, Elders past and present, and to other Aboriginal and Torres Strait Islander peoples who have made this area their home. We recognise the continuation of cultural, spiritual and educational practices of First Nations peoples throughout Australia.

DISCLAIMER

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Sydney Airport would like to thank our Master Plan photographer, Kurt Ams.

September 2025

Foreword

I'm proud to share Sydney Airport's preliminary draft Master Plan 2045, our long-term vision for how the airport will grow and evolve over the next 20 years.

Sydney Airport is more than just a transport hub. It's where holidays begin, where families reunite, where business happens, and where cultures connect. With over 50 airlines linking Sydney to more than 100 destinations around the world, we are Australia's gateway to the globe, and one of the country's most iconic pieces of infrastructure.

While we connect the world to you and you to the world, we also play a significant role in the economy, generating $45.3 billion in annual activity and supporting jobs, tourism, and development across NSW and Australia.

Planning for our future means ensuring the airport continues to serve you, our communities, passengers and partners, safely, efficiently, and sustainably.

A lot has changed since our last Master Plan in 2019. The aviation sector, and the world, has faced some of the most challenging times in recent memory. These experiences have demonstrated the importance of staying flexible, responsive, and resilient. That's exactly what this plan is designed to do.

By 2045, we expect to welcome more than 72 million passengers annually, representing 79% of the total forecast for major airports in Sydney. Meeting this growing demand, while continuing to provide a world-class experience, is no small task. That's why we've set ambitious goals across our operations, with a focus on safety, accessibility, customer service, and environmental performance. These efforts are expected to contribute an estimated $70.6 billion annually to the economy by 2045.

Our Master Plan details how we'll improve and expand our terminals, airfield, ground transport and commercial offerings, ensuring the airport continues to evolve with the needs of our community and passengers. It also includes our new five-year Airport Environment Strategy, which will fully integrate environmental goals into our long-term planning. This reflects our strong commitment to reducing emissions, building climate resilience, and operating more sustainably.

We know that how we operate has a real impact on traffic, local amenities, jobs, and the environment. That's why we're working closely with our airline partners, industry stakeholders and, most importantly, with you. We want this to be a plan that reflects your priorities and helps shape a future that benefits everyone.

Sydney Airport has proudly served as Australia's gateway for over 100 years. As we look ahead, we want to ensure that we continue to grow in a way that reflects your needs, values, and expectations. We look forward to hearing your thoughts as we plan for the future, together.

Scott Charlton
Chief Executive Officer

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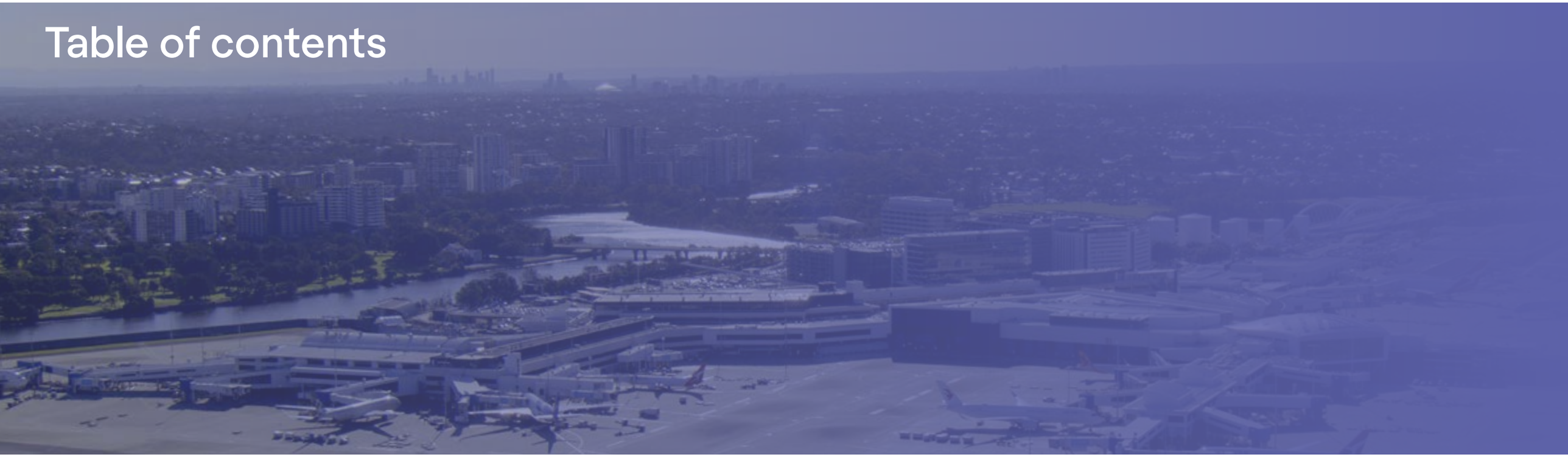

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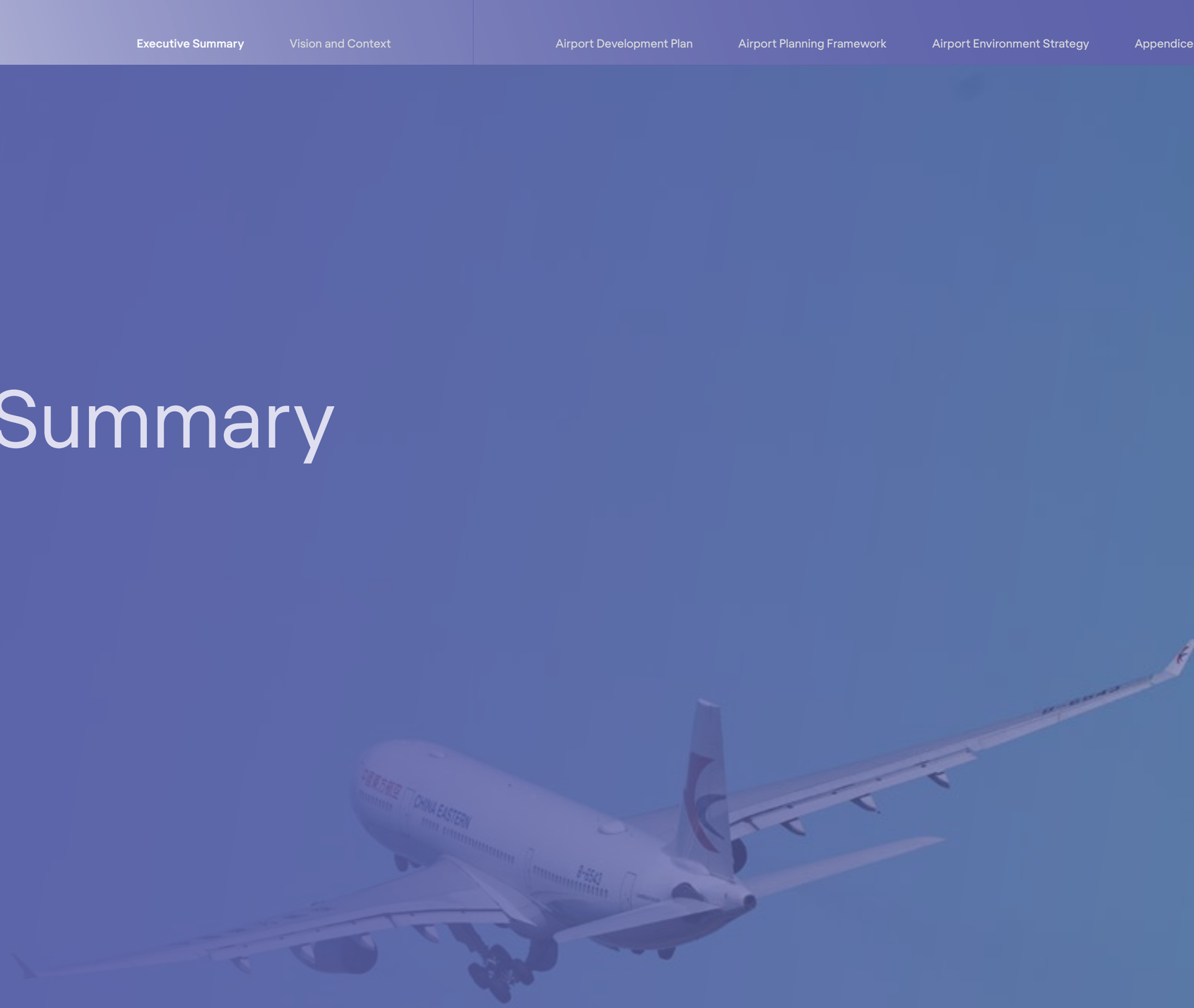

SYD

Executive Summary

1. Introduction

Sydney Airport is Australia's premier international gateway.

The Sydney Airport Master Plan 2045 (Master Plan 2045) delivers a flexible blueprint for Sydney Airport's future development as we move towards servicing our two-billionth passenger by 2050.

Featuring a multi-part Airport Development Plan, airport planning frameworks, and our five-year Airport Environment Strategy 2025–2030 (AES), Master Plan 2045 outlines the 20-year strategy to deliver our vision.

Vision

Our vision is to deliver long-term sustainable growth to Sydney Airport, making it a leading global airport and the most connected airport in Australia.

Development Objectives

- Implement terminal upgrades to enhance experiences, safety and security of passengers and airport users
- Implement innovative ground transport solutions to improve access to, from, and through the airport
- Improve environmental performance by minimising the impacts of airport operations and development
- Be an industry-leader in aviation decarbonisation and climate change response
- Embed sustainability into airport decision making
- Effectively manage aircraft noise
- Upgrade the airfield to meet the expected growth in passengers, flights and air freight
- Support the local community through inclusion, wellbeing and economic growth
- Engage and communicate with stakeholders and listen to the local community

Executive Summary

1. Introduction

Developing Master Plan 2045

Master Plan 2045 envisions Sydney Airport's evolution, supporting growth while keeping the community and environment in focus.

Air traffic forecasts provide a solid foundation for Master Plan 2045. They were prepared by aviation specialists and Tourism Futures International, in consultation with major airlines and industry associations.

Sydney Airport in 2045:

72.6m
passengers

385,000
passenger aircraft movements (RPT)

1.4m
tonnes of freight

In 2045, Sydney Airport is expected to support or facilitate $70.6 billion in total economic activity and 559,000 full-time jobs.[1]

Sustainable growth of Sydney Airport – and the development of new, improved infrastructure – is critical to meeting forecast demands, achieving our vision and objectives, and delivering benefits for the economy, community, and other stakeholders.

As such, development of Master Plan 2045 has followed a thorough process, to comply and align with the:

- *Airports Act 1996*
- *Airports Regulations 2024*
- *Airports (Environment Protection) Regulations 1997*
- Australian Government's 2024 *Aviation White Paper – Towards 2050*
- Sydney Airport *Community and Stakeholder Consultation and Engagement Strategy*.

We are continually striving to minimise the airport's environmental footprint and improve environmental performance. Central to this is an understanding of the importance of decarbonisation and climate resilience, and an ambition to achieve net zero for emissions under Sydney Airport's operational control (Scope 1 and Scope 2 emissions) by 2030. Planning for the next 20 years has been informed by these themes.

We are committed to developing and maintaining strong connections with the local community, their public representatives, key stakeholders, and the people of NSW.

This preliminary draft version of Master Plan 2045 will be publicly exhibited for 62 business days, inviting everyone in the community to contribute ideas, suggestions and comments. We will listen to feedback from the community and stakeholders and, where possible, resolve concerns.

1. 2024 Deloitte Access Economics.

2. Airport Development Plan

To accommodate growth and achieve our vision and objectives, we have outlined Sydney Airport's plans for airfield, aviation facilities, terminal and infrastructure improvements over the next 20 years.

We aim to deliver:

- Enhanced passenger experiences
- Continual investment, improvement and innovation in operational efficiency
- Sustainable growth to meet demand
- Flexibility to adapt to change as required

All future developments will adhere to relevant regulations and safety standards. Map ES2-1 identifies the sectors where development is proposed during the planning period. We will work in consultation with stakeholders to meet the needs of the community.

Executive Summary

2. Airport Development Plan

Terminal Development Plan

Sydney Airport's Terminal Development Plan focuses on optimising infrastructure use to accommodate projected passenger, aircraft and ground transport traffic flows.

Planned improvements

- Flexible, upgraded infrastructure (like more contact stands that connect planes to terminal) to handle different aircraft, changing airline needs, and varying demand for international, domestic and regional flights.
- Holistic accessibility through our Disability Access Facilitation Plan.
- Enhanced passenger experience and connectivity and reduced minimum connection times (MCTs) by streamlining the transfer process and improving the airside transfer corridor between terminal precincts.
- Enhanced safety and security, including the introduction of advanced screening technologies.
- Increased capacity with the integration and expansion of international, domestic and regional operations in the T2/T3 Integrated Operations Precinct.

Airfield Development Plan

The Airfield Development Plan sets out to improve airfield and aviation support infrastructure to align with proposed terminal developments. Plans have been tested via extensive simulation modelling.

Proposed improvements prioritise responsible growth to reduce environmental impacts. The airport will remain flexible to accommodate new aircraft types, technologies and decarbonisation initiatives, such as sustainable aviation fuel (SAF) and hydrogen and battery electric aircraft, while taking a sustainable approach to all developments.

Planned improvements

- Taxiway and apron developments to facilitate the T2/T3 Integrated Operations Precinct.
- Activating remote aircraft parking stands in the North East, South East and South West sectors.
- Additional storage areas for ground support equipment (GSE).
- Expansion of the Jet Fuel Infrastructure (JFI) facility and extension of apron hydrant systems to serve new terminal infrastructure and remote stands.
- Progressive relocation of aviation support facilities in the North East Sector and new aviation support facilities in the South East Sector.
- Consolidation and redevelopment of freight facilities in the North West and North East sectors.
- Additional contact stands and flexibility at Terminal 1.
- New technology to improve airfield efficiency.
- Extension of Taxiway B.

Map ES2-1 Airport Development Plan 2045

Legend

- Proposed aprons and taxiways
- Proposed T1 Terminal expansion and improvements
- Proposed T2/T3 Terminal expansion and improvements
- Proposed freight and aviation logistics facilities
- Proposed aircraft maintenance facilities
- Sydney Airport boundary
- Sydney Airport freehold land
- Terminal and precinct buildings
- Apron and taxiways
- Runways
- LGA boundary
- Existing roads
- Northern Lands Sector
- North East Sector
- South East Sector
- South West Sector
- North West Sector
- Proposed landside road corridor
- Proposed airside road corridor
- Sydney passenger rail
- Sydney freight rail
- Train station

Executive Summary

2. Airport Development Plan

Commercial Development Plan

The Commercial Development Plan outlines potential commercial and property developments to improve operational efficiency, by providing facilities for airlines and industry partners, and choice and convenience for airport users.

Opportunities for such developments in landside areas of the airport include:

- On-airport facilities for the aviation community, such as office facilities for government agencies, airlines, and other airport service providers and users.
- A range of hotel accommodation choices.
- Retail and food and beverage premises.
- A range of car parking and rental car products, servicing different customer needs.

Utilities Development Plan

Sydney Airport owns and maintains a comprehensive network of utilities supplying power, water, sewer, natural gas, telecommunications and stormwater infrastructure across the airport site. The Utilities Development Plan outlines our investment in a modern utilities network to safeguard the sustainability and viability of supply arrangements, and improve reliability, resilience and redundancy.

Planned improvements

- Modernisation and upgrade of key electrical feeds, using sustainable products and technologies where possible.
- Investigating increased recycled water treatment capacity to improve environmental performance.
- Upgrades to trunk drainage systems, including the optimisation of catchments, improving management and resilience.
- Network expansion to facilitate development in new areas.
- New utilities infrastructure to the South West and South East Sectors to facilitate aviation operations and reduce reliance on auxiliary power units (APUs), improving environmental, and work health and safety (WHS) outcomes.

Ground Transport Development Plan

How people travel to and from Sydney Airport is critical to airport operations. We are committed to providing a range of travel options that meet our customers' needs. Every journey matters.

To cater for increased demand and enhance passenger experiences, our Five-Year Ground Transport Plan and 20-Year Ground Transport Strategy outline improvements to network performance. Through infrastructure investment, demand management, advocacy and behaviour change, we want to give customers travel options and make their journey smooth and easy.

In the next five years and beyond, potential developments aim to:

- Reduce congestion and conflict points.
- Improve conditions for public and active transport, with upgraded facilities and infrastructure to support increased bus and train services.
- Utilise advanced technology to improve information access and wayfinding.
- Respond to increasing demand for rideshare services by reconfiguring taxi and rideshare facilities to optimise use of available space.

Key initiatives include:

- Improving performance at Departures kerb at all terminals.
- Improving rideshare and taxi operations and holding facilities.
- Short-term interventions at T2/T3 to support terminal integration.
- Improving parking and drop-off performance by balancing demand and capacity.
- Advocating for the removal of the Station Access Fee and increased public transport services.
- Improving provision for active transport including wayfinding, infrastructure, network monitoring, and advocating for external network upgrades.

Executive Summary

3. Airport Planning Framework

Master Plan 2045 outlines the airport planning frameworks to be followed for future developments, supporting aviation operations and the implementation of the Airport Development Plan. Planning frameworks inform on-airport planning, as well as NSW government and council initiatives in areas around the airport.

Land Use Plan

The Land Use Plan provides the community, government and stakeholders with an understanding of future activities that may be located across the Sydney Airport site, guiding future development and outcomes.

The Land Use Plan explains how the site may be used, outlining eight land use zones, their objectives and permissible activities. This considers the preservation of appropriate land for the airport's core aviation use, supporting infrastructure and business, and environmental conservation.

Sydney Airport's land use planning is modelled on the NSW planning scheme and serves to inform our development approval processes.

Aircraft noise

Sydney Airport aims to better manage the impact of aircraft noise, which is a significant environmental concern for many in the community.

Master Plan 2045 outlines:

- Key considerations for managing aircraft noise.
- The roles and responsibilities of Sydney Airport, government and industry.
- How we implement the four pillars of International Civil Aviation Organization's (ICAO) Balanced Approach to Aircraft Noise Management.

Safeguarding Sydney Airport

Safeguarding the airport requires a robust safety and security framework, investment in enhanced infrastructure and technology, and ongoing collaboration with all levels of government.

Key points

- The draft Australian Noise Exposure Forecast 2045 (ANEF 2045) contained within Master Plan 2045 is a key land use planning tool, designed to inform planning and development decisions by NSW Government and local councils by identifying areas that may be exposed to aircraft noise.
- Master Plan 2045 identifies how we are managing and improving safety and security, such as a $55 million investment in the replacement of the landside perimeter fence line, scheduled for completion by the end of 2026.
- Sydney Airport oversees development on-site and works with agencies and councils to be sure planning and development outside the airport boundary follow the National Airport Safeguarding Framework (NASF) when relevant.
- Sydney Airport supports the NASF and the goal of improving airport safeguarding measures across the country. Master Plan 2045 explores how the NASF applies to the airport and surrounding areas.

Executive Summary

4. Airport Environment Strategy 2025–2030

The Airport Environment Strategy 2025–2030 (AES) outlines our commitment to continual improvement of environmental performance and reducing our environmental footprint. This includes the frameworks in place to be sure that airport operations meet relevant environmental legislation and standards, such as our Environmental Management System (EMS), governance frameworks, and risk management, training and reporting processes.

Based on an environmental risk assessment of airport activities – and considering regulatory requirements and stakeholder views – the AES identifies 10 key environmental management areas, which require controls to prevent or reduce damage to the environment or our community.

These areas are explored in detail, including objectives, context, a risk assessment of impacts and mitigation controls, monitoring measures, and additional actions planned for the duration of the AES.

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Vision and Context

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Section One **Vision and Context**

1. Introduction

Sydney Airport is Australia's premier international gateway. For more than 100 years, it has connected people, places and communities, supported the creation of new jobs locally and across Australia, and contributed to our thriving tourism and freight industries.

During the first century of airport operations from 1919 to 2019, Sydney Airport serviced a cumulative one billion passengers. We are working towards servicing our two-billionth passenger by 2050. We need to be prepared to meet this forecast demand, for the benefit of our communities, stakeholders, airlines, industry, and the NSW and Australian economies.

Master Plan 2045 outlines a clear strategic direction for the responsible growth of the airport over the next 20 years.

Master Plan 2045 is a flexible blueprint for Sydney Airport's future that is adaptable to changing conditions in the economy and aviation industry. Development objectives for the airport are identified, exploring how development will sustainably meet the future needs of airlines, passengers and other airport users.

Responding to forecast aircraft and passenger numbers, the Master Plan outlines Sydney Airport's existing and expected future contribution to the local, state and national economies, and the tourism and freight industries.

Master Plan 2045 includes our:

- Airport Environment Strategy 2025–2030
- Draft 2045 Australian Noise Exposure Forecast (ANEF)
- 20-year Airport Development Plan (including a five-year Ground Transport Plan)
- Airport planning frameworks.

Master Plan 2045 is a key source of information for the local community, the Australian, NSW and local governments, aviation industry stakeholders, and the business community.

Reading Master Plan 2045

Future development options are variously described in Master Plan 2045 as "proposed", "planned", "potential", "likely", "possible", and other terms with similar meaning. In each case, these terms are describing potential developments at the airport at various stages in the planning and approval process that may be implemented over the period of Master Plan 2045.

Timing for the delivery of these developments will be further subject to prevailing economic conditions, technological advancements, and consultation with key stakeholders and the broader community.

Legislative framework

Sydney Airport operates in accordance with Commonwealth legislation, governing its day-to-day operations, protection of airspace, future development, and environmental and aircraft noise management. Additionally, NSW legislation applies where no Commonwealth law exists, where the Commonwealth law operates concurrently with state legislation, or for freehold lands owned by Sydney Airport that are not part of the Commonwealth airport site.

Master Plan 2045 is a statutory document prepared in accordance with the *Airports Act 1996* (Airports Act) and our legislative obligations, illustrated in Figure 1-1.

Figure 1-1 Commonwealth legislative framework

Sydney Airport

GENERAL AIRPORT
- Airports Act 1996
- Airports Regulations 2024
- Airports (Building Control) Regulations 1996
- Airports (Control of On-Airport Activities) Regulations 1997
- Airports (Environment Protection) Regulations 1997
- Airports (Protection of Airspace) Regulations 1996
- Sydney Airport Demand Management Act 1997
- Sydney Airport Demand Management Regulations 1998

AIRPORT CURFEWS
- Sydney Airport Curfew Act 1995
- Sydney Airport Curfew Regulations 2023

AVIATION SAFETY AND SECURITY
- Airspace Act 2007
- Airspace Regulations 2007
- Civil Aviation Act 1988
- Civil Aviation Regulations 1988
- Civil Aviation Safety Regulations 1998
- Aviation Transport Security Act 2004
- Aviation Transport Security Regulations 2005

ENVIRONMENT
- Environment Protection and Biodiversity Conservation Act 1999
- Treasury Laws Amendment (Financial Market Infrastructure and Other Measures) Act 2024

Section One Vision and Context

1. Introduction

Requirements for an airport master plan

The Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts (DITRDCSA) is responsible for administering the Airports Act and its associated regulations.

The Airports Act requires federally leased airports, including Sydney Airport, to have a master plan for the airport that has been approved by the Minister for Infrastructure, Transport, Regional Development and Local Government (the Minister).

Under Section 70 of the Airports Act, a master plan is required to:

- Establish the strategic direction for efficient and economic development at the airport over the planning period.
  See Section 1 – Chapter 2 and Chapter 3
- Provide for the development of additional uses of the airport site.
  See Section 2 – Chapter 10
- Indicate to the public the intended uses of the airport site.
  See Chapters 7 to 13
- Reduce potential conflicts between uses of the airport site and ensure that uses of the airport site are compatible with the areas surrounding the airport.
  See Section 3 – Chapter 13
- Ensure that all operations at the airport are undertaken in accordance with relevant environmental legislation and standards.
  See Section 4 – Airport Environment Strategy 2025–2030
- Establish a framework for assessing compliance at the airport with relevant environmental legislation and standards.
  See Section 4 – Airport Environment Strategy 2025–2030
- Promote continual improvement of environmental management at the airport.
  See Section 4 – Airport Environment Strategy 2025–2030

Master Plan 2045 has been prepared in accordance with statutory requirements (see Appendix D for details) and following an extensive community and stakeholder consultation process (see Chapter 5).

Additionally, the Australian Government has announced that regulations will be amended to require airport master plans to address climate resilience, decarbonisation and disability access, which we have incorporated in anticipation of this change (see Chapter 4 and various strategies throughout Master Plan 2045).

Master Plan process

Preparation of Master Plan 2045 has followed the master planning process for airports, outlined in the Airports Act (see Figure 1-2).

This preliminary draft version of Master Plan 2045, prepared following detailed initial technical and stakeholder engagement, will be on public exhibition for 62 business days from Wednesday 17 September 2025 to Friday 12 December 2025. All stakeholders and members of the local community are invited to make a submission during the exhibition period.

After the public exhibition, Sydney Airport will carefully consider all feedback and update to create the draft Master Plan 2045. The draft Master Plan 2045 will then be submitted to the Minister for consideration.

Should the Minister approve the draft Master Plan 2045, it will become the final Master Plan 2045.

For more information, see Chapter 5 Stakeholder and Community Engagement.

Figure 1-2 Developing Master Plan 2045

Section One **Vision and Context**

2. Vision for Sydney Airport

Our vision is to deliver long-term sustainable growth to Sydney Airport, making it a leading global airport and the most connected airport in Australia.

This Master Plan outlines our 20-year strategy to deliver this vision.

Section One **Vision and Context**

2. Vision for Sydney Airport

Key considerations

The Australian Government's 2024 *Aviation White Paper – Towards 2050* (the White Paper) identifies a series of key considerations for airport master plans:

Accessibility
Precinct-wide, public transport, cars, and active transport

Access for general aviation purposes

Decarbonisation and climate resilience

Community
Transparency and completeness of the Master Plan consultation process

Management of aircraft noise

These considerations underpin the development objectives of our plan.

Development objectives

Master Plan 2045 has been prepared in accordance with the following objectives, which guide future development at Sydney Airport.

Implement terminal upgrades to enhance experiences, safety and security of passengers and airport users

- Safeguard the airport's aviation operations through improvement and innovation, compete locally and abroad to grow aviation demand
- Deliver timely, flexible, optimised infrastructure capacity and facilities to service new and existing international markets
- Enhance user accessibility

Implement innovative ground transport solutions to improve access to, from, and through the airport

- Partner with the Australian, NSW and local governments to support increased public and active transport use
- Deliver strategic infrastructure upgrades to optimise use of available space
- Use advanced technology and demand management tools to enhance access and experiences

Improve environmental performance by minimising the impacts of airport operations and development

- Work cooperatively and proactively with regulatory agencies, airport stakeholders and business partners to prioritise environmental management
- Deliver continual environmental improvement across pollution management, flora, fauna, heritage and sustainability

Be an industry-leader in aviation decarbonisation and climate change response

- Develop and implement decarbonisation initiatives
- Advocate for and help drive the development of a local sustainable aviation fuel (SAF) industry
- Strengthen resilience to the impacts of climate change

Embed sustainability into airport decision making

- Reduce the impact on, and seek opportunities to enhance, the natural and built environment
- Reduce waste where possible and promote sustainable use of energy, water and materials
- Ensure the application of the Built Environment Sustainability (BES) Standards to Sydney Airport infrastructure and building projects

Effectively manage aircraft noise

- Support the International Civil Aviation Organization's Balanced Approach to aircraft noise management
- Meet growing demand and maximise efficiency within existing operational restrictions
- Continue to facilitate implementation of noise sharing under the Long-Term Operating Plan for Sydney Airport by maximising flights over Botany Bay rather than residential areas

Upgrade the airfield to meet the expected growth in passengers, flights and air freight

- Be flexible and adaptable in future planning
- Improve the long-term efficiency of the airport, for optimal use of the airfield
- Invest in terminal and airfield infrastructure
- Utilise new technology

Support the local community through inclusion, wellbeing and economic growth

- Stimulate leisure and business travel to generate benefit and value for the economy
- Maintain access arrangements for regional airlines
- Facilitate the activities of businesses operating at the airport
- Contribute to the growth of tourism, trade and jobs in the NSW and Australian economies
- Support and invest in our local communities through established grant programs and the creation of local jobs

Engage and communicate with stakeholders and listen to the local community

- Consult the community transparently, regularly and genuinely, including through the Sydney Airport Community Forum
- Constructively and proactively engage with elected officials representing the community, relevant Australian and NSW Government agencies, and local government
- Communicate in a variety of ways so that important information is accessible for all stakeholders

Section One **Vision and Context**

3. Strategic context and economic significance

Sydney Airport is one of Australia's key infrastructure assets, connecting Sydney to over 100 regional, national, and international destinations.

Located 8 km from the Sydney CBD and major tourist destinations, Sydney Airport is an essential part of Australia's transport network, contributing significantly to the local, state and national economies.

Master Plan 2045 is informed by the strategic objectives and planning frameworks of Bayside and Inner West councils and the NSW Government, and a broader range of macroeconomic, societal and industrial factors.

Sydney Airport in 2024

301,319
total aircraft movements

41.4 million
total passengers
International **16.3** million | Domestic[1] **25.1** million

0.6 million
tonnes of freight

105
international, domestic and regional destinations

In 2024, Sydney Airport directly and indirectly supported or facilitated:

$45.3b
in economic activity[2]

354,800
full-time equivalent jobs[3]

$20.2b
in freight export revenue

+$586m
invested into the airport since 2024

Transport connections

Key rail connections
to and from metropolitan Sydney are supported by heavy rail and the Metro network.

Modeshare proportions
Public transport **23%** | Private or other **77%**[4]

Planned upgrades to rail infrastructure
will enable more services per hour to and from the Sydney CBD[5]

1. Domestic, including regional.
2. Representing 1.5% of Australia's gross domestic product (GDP) – 2024 Deloitte Access Economics.
3. Including 35,500 direct jobs at the airport and 49,100 indirect jobs – 2024 Deloitte Access Economics.
4. 2024 AECOM.
5. TfNSW – Rail Service Improvement Program.

Map 3-1 Sydney Airport context and existing facilities

Legend

- Sydney Airport boundary
- Sydney Airport freehold land
- Terminal and precinct buildings
- Apron and taxiways
- Runways
- LGA boundary
- Existing roads
- Northern Lands Sector
- North East Sector
- South East Sector
- South West Sector
- North West Sector
- Sydney passenger rail
- Sydney freight rail
- Train station

Section One Vision and Context

3. Strategic context and economic significance

Strategic context

Our previous master plan established a solid planning framework for the development of Sydney Airport over the 20-year planning period. Master Plan 2045 builds upon this framework, considering economic, social and industrial factors, accounting for changes to Sydney Airport's operating environment over the intervening period and into the future.

Such factors include:

- Travel and tourism industry trends, such as changing airline business strategies, technological advancements, and the impacts of unforeseen geopolitical and market events.
- Planning for the opening of Western Sydney International Airport (WSI) in 2026.
- Changes to how people access Sydney Airport, including mode share, public transport connectivity and infrastructure delivery (such as the new Sydney Gateway, linking the airport's passenger terminal precincts to Sydney's motorway network).
- Increased awareness of behaviours that shape environmental and sustainability outcomes, and the importance of decarbonisation of the transport sector.

Relevant government strategies and plans

The NSW Government has recognised the economic importance of Sydney Airport to facilitate growth and prosperity. State strategic documents address how future planning will improve the airport's accessibility and promote economic activity.

Local environmental plans (LEPs), local strategic planning statements (LSPS) and the Greater Sydney Region Plan acknowledge the importance of enhancing and protecting the functions and roles of international trade gateways, Sydney Airport and Port Botany.

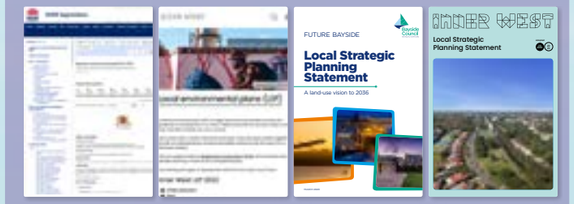
These strategies lay out a roadmap for collaboration between government and industry, to enable growth and improve efficiency and safety. Across these documents (see Figure 3-1), a range of common themes emerge for Sydney Airport, including:

- The airport will continue to play a key role in realising a prosperous NSW of the future.
- The protection and growth of Sydney Airport, while minimising negative impacts on urban amenity, is vital. Key priorities include preventing inappropriate developments or incompatible land uses in areas near the airport, retaining and managing employment and urban services land, minimising land use conflicts, and protecting airspace.
- The freight logistics and handling sector is a critical economic enabler, with freight moving through Sydney Airport forecast to increase significantly over the planning period.
- There is a need for improved infrastructure and strengthened connections between Sydney Airport, the Sydney CBD, Greater Parramatta, WSI and beyond, supporting the efficient movement of people and goods for a world-class travel experience.

Master Plan 2045 is informed by and responds to the strategic objectives and planning frameworks of the NSW and local governments. For more on how Master Plan 2045 aligns with planning schemes, laws and regulations, see Chapter 13 Land Use Planning and Appendix E.

Figure 3-1 Relevant government strategies and plans

Local Government



- Bayside Local Environmental Plan 2021 (Bayside LEP)
- Inner West Local Environmental Plan 2022 (Inner West LEP)
- Bayside Local Strategic Planning Statement 2020
- Inner West Local Strategic Planning Statement 2020

NSW Government

- NSW Visitor Economy Strategy 2035
- Future Transport Strategy
- NSW Freight and Ports Plan (2018–2023)
- Six Cities Region: Discussion Paper
- Greater Sydney Region Plan – A Metropolis of Three Cities (2018)
- Eastern City District Plan

Section One Vision and Context

3. Strategic context and economic significance

Economic contribution of Sydney Airport

Sydney Airport is Australia's largest transport and logistics hub. Substantial investments by airlines and other nearby businesses, and the presence of established route networks, provide invaluable strategic economic and commercial advantages to Sydney, NSW and Australia.

With each flight providing significant economic contributions, sustainable growth of the airport is critical to achieving the NSW Government's targets for visitor growth and employment in nearby local government areas.

Sydney Airport will invest in flexible long-term planning to support ongoing economic contribution while accommodating the aviation industry's volatility and uncertainty.

In 2020, the implementation of lockdowns and border closures at the start of the COVID-19 pandemic led to a sharp and immediate decline in flight and passenger numbers, with total passengers dropping by 71% across Australia and 75% at Sydney Airport.

The aviation sector started to recover strongly in 2022 and by the end of 2024 the total number of passengers passing through Sydney Airport had reached 93.2% of pre-pandemic levels.

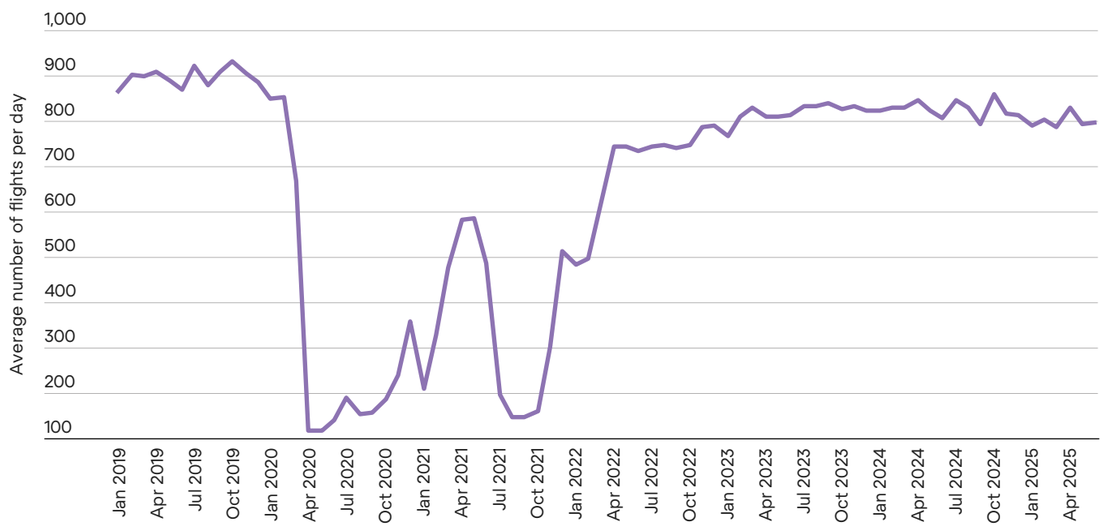
Figure 3-2 demonstrates the significant number of daily flights at the airport, the impacts of unforeseen global events, and the industry's ability to recover.

Annual contribution of a typical daily international service

$172m
to the economy[1]
($329m for a daily A380 service from Singapore)

1,100 jobs
direct + indirect[1]
(2,000 for an A380)

Figure 3-2 Average number of daily flights at Sydney Airport



1. 2024 Deloitte Access Economics.

Key indicators

A 2024 Deloitte Access Economics study found Sydney Airport generated 1.5% of Australia's GDP and 3% of national full-time jobs in 2023. Figure 3-3 compares these 2024 figures with the contribution expected by 2045.

Figure 3-3 Key indicators of Sydney Airport's economic contribution

In 2024 there were:

84,600 full-time jobs
directly and indirectly supporting Sydney Airport's operations

- 35,500 of which directly support operations
- Approximately 11,000 of these workers live within 10 km of the airport, with another 11,000 living within 20 km of the airport

354,800 full-time jobs
supported or facilitated by Sydney Airport

Total economic activity
$45.3 billion

Expected by 2045:

105,700 full-time jobs
directly and indirectly supporting Sydney Airport's operations, representing an increase of 40%

- 44,500 of which directly support operations

559,000 full-time jobs
supported or facilitated by Sydney Airport

Total economic activity
$70.6 billion

Section One **Vision and Context**

3. Strategic context and economic significance

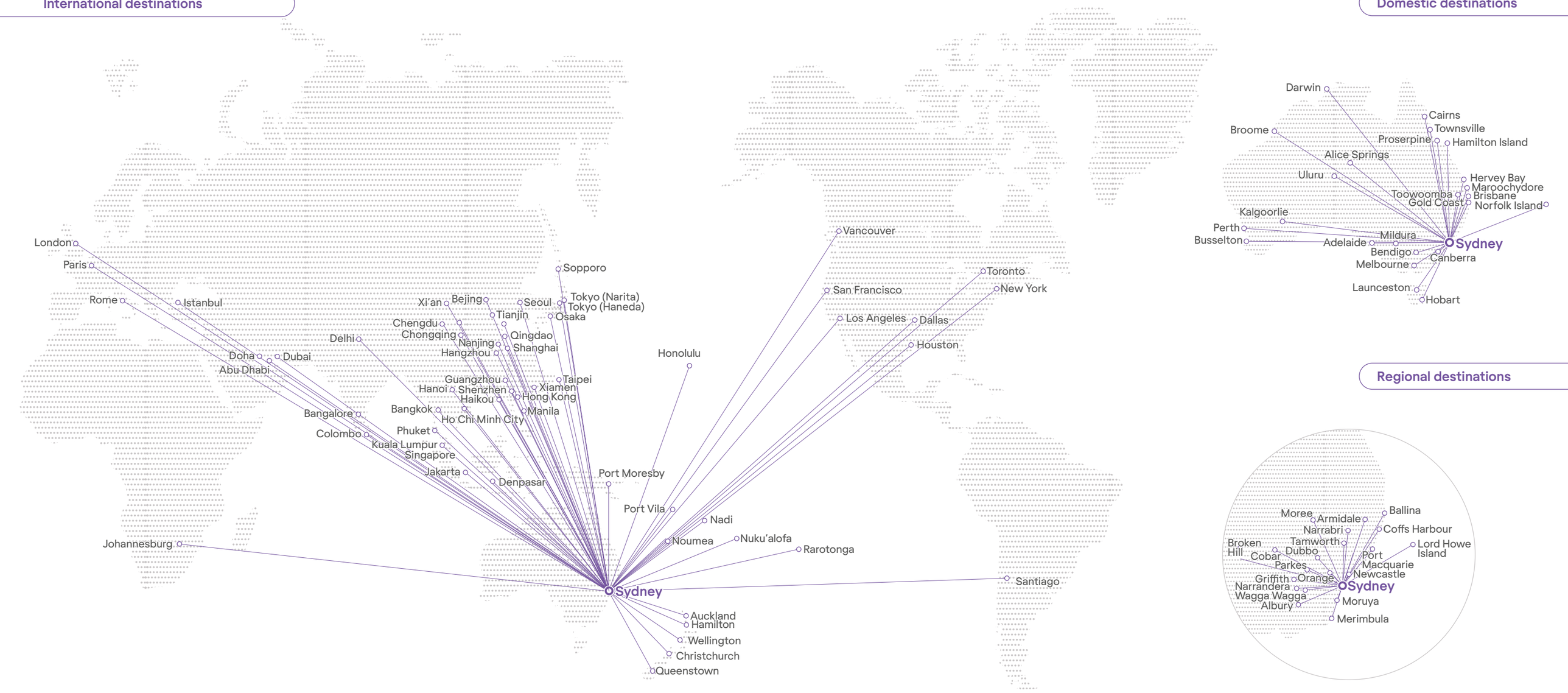
Connectivity

Over 50 international, domestic, and regional airlines, serving 31 countries and 105 destinations from Sydney Airport (see Map 3-2).

Map 3-2 Sydney Airport destinations

International destinations

Domestic destinations



Regional destinations

Section One **Vision and Context**

3. Strategic context and economic significance

Connecting regional NSW

Sydney Airport's extensive regional route network (see Map 3-2) connects 20 NSW communities to Sydney and onward destinations, providing access to vital resources such as health and education.

Most communities are well-serviced in peak periods, with the Australian Government supporting the continuation of regional services during peak times via guaranteed slot allocation protections. These are expected to remain in place through the Master Plan 2045 planning period.

In response to increased demand, airlines have commenced up-gauging of aircraft across some service routes. This trend is expected to continue, enabling future growth in regional air travel.

Section One Vision and Context

4. Decarbonisation and climate resilience

Sustainability is integral to our business strategy, long-term success, and the delivery of our purpose: to be a leading global airport connecting Australia.

Our environmental, social and governance (ESG) framework is focused on three strategic pillars:

Being a responsible business

Advancing a more sustainable future

Supporting our people and communities

Decarbonisation and climate resilience present a significant opportunity to achieve our growth ambitions and long-term business resilience.

Master Plan 2045 addresses:

- Decarbonisation of the aviation sector, the Australian Government's White Paper, and how Sydney Airport will work with industry to help decarbonise operations.
- SAF and the potential of a domestic renewable fuels industry.
- Application of the BES Standards (launched in 2024) to Sydney Airport infrastructure and building projects.
- Sustainability trends in ground transport.
- Opportunities for decarbonisation and climate resilience initiatives.

Sustainability considerations in this Master Plan are informed by recent achievements and commitments, including:

- In May 2025, Qantas and Sydney Airport signed an MoU to support Australia's domestic SAF industry.
- The largest ever commercial importation of SAF into Australia made by Sydney Airport, Qantas, Ampol and a coalition of organisations in May 2025.
- Participation in the Australian Airports Association (AAA) Sustainability Working Group identifying changes required to airport operations and infrastructure that will support decarbonising aviation. Sydney Airport will chair the Jet Zero Council for two years from September 2025.
- Significant investment into our energy efficiency program from 2022.
- Securing the equivalent of 100% renewable electricity for Sydney Airport from 1 January 2025.
- Earning Airport Carbon Accreditation Level 4 in May 2025.
- Introduction of the new Australian Sustainability Reporting Standards in 2025.

Net zero Scope 1 and 2 emissions by 2030

In 2021, Sydney Airport announced its commitment to achieve net zero for emissions under its operational control (Scope 1 and Scope 2 emissions) by 2030.

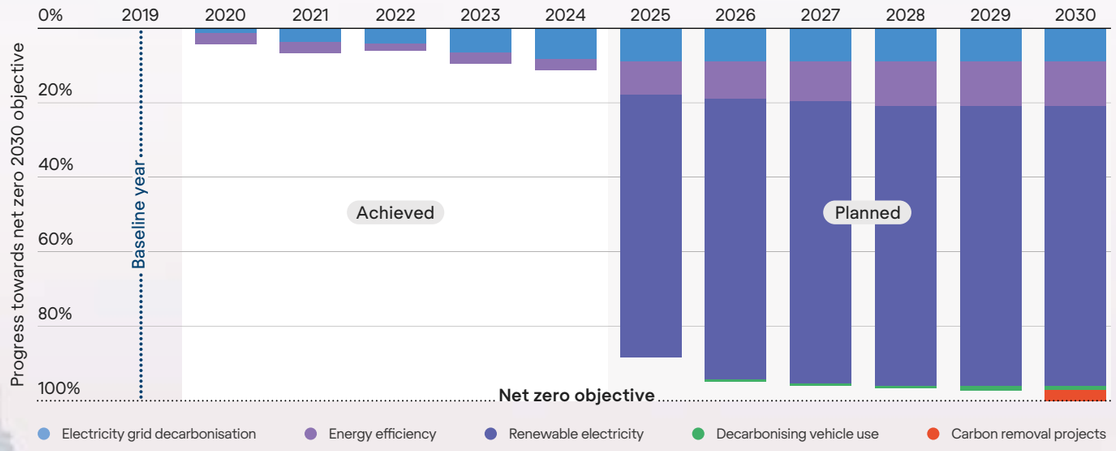
We have developed a detailed roadmap (Figure 4-1) to support this commitment, which the board of Sydney Aviation Alliance Holdings Pty Ltd (SAAHPL) approved in 2023. This roadmap details the key initiatives planned to reduce and eventually eliminate our emissions (where practicable) and the estimated timing and potential emissions savings from these initiatives.

Significant progress has already been made, including securing the equivalent of 100% renewable electricity from 1 January 2025. Sydney Airport will be 85% of the way to achieving its net zero emissions objective (for Scope 1 and 2 emissions) from 1 January 2026.[1]

Net zero initiatives 2025–2029

- The equivalent of 100% renewable electricity from 1 January 2025 through a power purchase agreement (PPA) for the procurement of renewable electricity with large-scale generation certificates which match/offset Sydney Airport's consumption.
- Projects designed to be energy efficient to reduce baseload electricity consumption.
- Gas efficiency initiatives and exploring options to degasify or contract renewable gas supply through renewable gas certificates.
- Converting light service vehicles to electric alternatives where feasible.
- Exploring options for decarbonising the bus fleet.

Figure 4-1 Net zero 2030 roadmap – Scope 1 and 2 emissions (tCO2e) savings



1. Via procurement of renewable electricity with large-scale generation certificates which match/offset Sydney Airport's consumption.

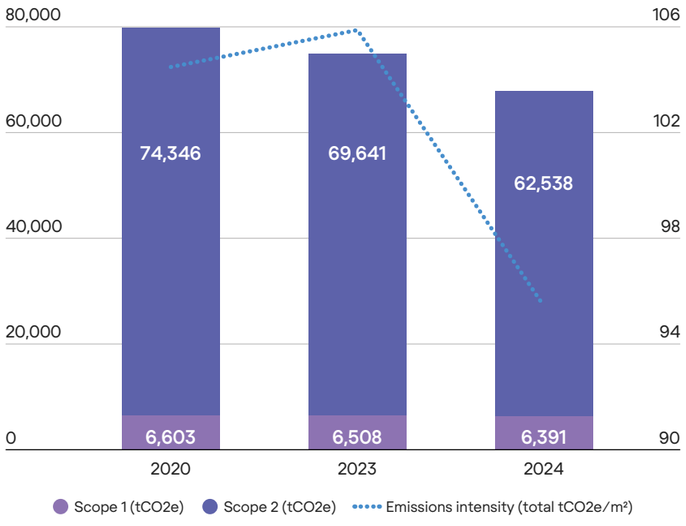
Section One Vision and Context

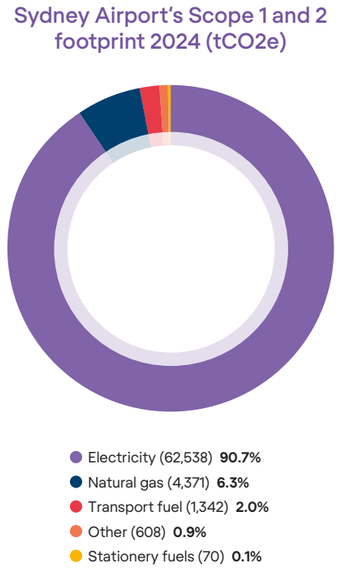
4. Decarbonisation and climate resilience

Emissions under Sydney Airport's operational control

Sydney Airport's own operations (Scope 1 and 2 emissions) produced 68,929 tonnes of carbon dioxide equivalent (tCO2e) in 2024. This represents a 10% decrease in emissions compared to 2023. Our electricity use (Scope 2 emissions) was again the largest contributor to our carbon footprint in this category, accounting for 91% of Scope 1 and 2 emissions.

Figure 4-2 Sydney Airport's Scope 1 and 2 emissions, year-on-year (tCO2e)





Scope 1

Sydney Airport's 2024 Scope 1 emissions were primarily made up of natural gas used for thermal heating (68%) and transport fuels used by Sydney Airport and contractor vehicles across the precinct (16%). Scope 1 emissions were reduced compared to 2023 (~3% decrease), driven by a reduction in natural gas consumption through optimisation of HVAC systems.

Scope 2

Scope 2 emissions in 2024 were 62,538 tCO2e, driven by electricity usage across the airport precinct (excludes tenant electricity use). This is a 10% decrease compared to 2023.

This was driven by a decrease in electricity consumption (delivered by our energy efficiency programs) and further supported by a reduction in the NSW grid emissions factor (as a result of an improved renewable energy mix).

Supporting decarbonisation of Sydney Airport's value chain (Scope 3 emissions)

In 2024, we reviewed how we measure Scope 3 emissions to follow the Greenhouse Gas (GHG) Protocol and industry best practice. This review also identified extra Scope 3 categories to include.

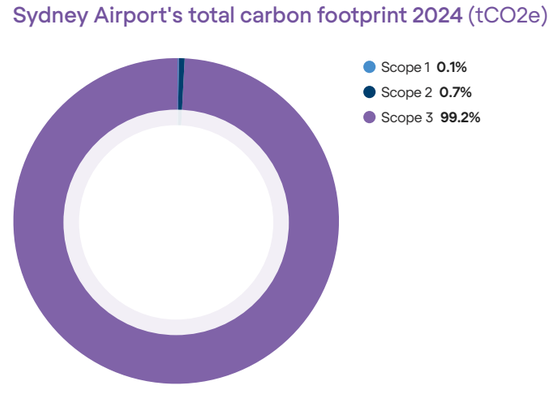
From 2024 onwards, our Scope 3 emissions inventory will include full flight emissions (emissions from all departing flights from Sydney Airport to the next destination airport), and emissions related to capital goods, and purchased goods and services. We will use updated calculation methods and emissions factors for some Scope 3 categories (e.g., ground support equipment, auxiliary power units) to better align with best practice.

Our total Scope 3 emissions in 2024 (including full flight emissions and other additional categories) are estimated to be 8,420,565 tCO2e (using estimation methods consistent with the GHG Protocol) – see Figure 4-3. Most of these emissions were made up of flight-related emissions (take-off, taxiing, cruise, climb, descent and landing), which were 7,913,029 tCO2e. The rest of our Scope 3 emissions in 2024 were generated predominately from:

- Auxiliary power units (APUs) (126,658 tCO2e)
- Ground support equipment (GSE) (19,558 tCO2e)
- Tenant energy consumption (46,486 tCO2e)
- Construction and capital works (138,902 tCO2e)
- Operational procurement of goods and services (27,977 tCO2e)
- Passengers and staff commuting to and from the airport (132,954 tCO2e).

Sydney Airport's Scope 3 emissions are forecast to increase with passenger growth, depending on which decarbonisation scenario unfolds within Australia.

Figure 4-3 Sydney Airport's Scope 3 footprint and total carbon footprint 2024



Section One Vision and Context

4. Decarbonisation and climate resilience

Opportunities to decarbonise Scope 3 emissions

By definition, Scope 3 emissions are outside Sydney Airport's control.

Sydney Airport is exploring ways we can influence operational improvements to aircraft, airfield and airspace efficiency, the use of SAF, decarbonisation of ground operations, and non-aviation changes that would result in low-impact emissions reduction (see Table 4-1). It is our long-term ambition for 50% of fuel uptake at the airport to be SAF by 2050, although we recognise that this will require the right policy settings by government and the development of a domestic SAF industry.

Table 4-1 Scope 3 decarbonisation opportunities

Aviation emissions			Airport emissions
Cleaner aircraft and fuel	Airfield and airspace optimisation	Airfield decarbonisation and efficient taxiing	Non-aviation levers
– Influence use of fuel-efficient aircraft – Advance a domestic SAF industry	– Support improvements to airfield efficiency – Advocate to improve airspace efficiency	– Drive increased utilisation of ground power units (GPU)/preconditioned air (PCA) systems – Enable decarbonisation of GSE fleet – Collaborate to decarbonise aircraft taxiing	– Drive reduction in construction emissions – Enable reduction in tenant energy use – Improve recycling rates in terminals – Facilitate increase in airport staff public transport mode share – Enable higher electric vehicle penetration in car rental fleet

Aviation sector decarbonisation trends

Currently, aviation contributes around 2% of global human-induced GHG emissions[1]. Through various industry associations – such as the International Civil Aviation Organization (ICAO), International Air Transport Association (IATA) and Air Transport Action Group (ATAG) – the global aviation industry has committed to achieving net zero by 2050.

Unlike some other industries, there is no clear pathway for the aviation sector to transition to a net zero future. Decarbonisation will require significant improvements in airfield and airspace efficiency, new propulsion technologies, and more fuel-efficient aircraft.

SAF is widely recognised as the primary pathway for aviation to credibly decarbonise in the medium-long term.[2] This is particularly true in Australia, where our large landmass, geographical isolation and dispersed population make us heavily reliant on air travel with limited viable alternatives.

In its White Paper,[3] the Australian Government provides actual and projected future Australian domestic and international aviation emissions forecasts through to 2050 under different scenarios (Figure 4-4).

For domestic aviation, it forecasts a continued rise in emissions if nothing changes except improvements in aircraft fuel efficiency (the fixed technology scenario). Legislated Safeguard Mechanism reforms could help to reduce emissions (BAU scenario incl. Safeguard Mechanism), while the use of SAF could see a significant decline in emissions (BAU plus SAF/biofuels).

Similarly, for international aviation the White Paper forecasts a sharp increase in emissions in the fixed technology scenario (see Figure 4-5).

The White Paper utilises the ICAO Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) in its BAU scenario forecasts, which also show an increase in emissions from Australian international aviation to 2050.

The most promising international aviation scenario assumes an increased supply and uptake of SAF and could see Australia's relevant emissions continue to increase to 2040 (but at a much slower pace) and then fall to around 2018–2019 levels by 2050, resulting in a carbon neutral growth scenario from a 2019 baseline.

Australia could become a major global producer of SAF and other renewable fuels, but clear government policy is needed now to build a local market and attract private investment. This would help decarbonise aviation and position Australia as a world leader in SAF production.

For more on how Sydney Airport can accommodate SAF in its jet fuel infrastructure (JFI), see Chapter 9 Airfield Development Plan.

1. Sydney Airport, 2023. ***Sydney Airport's Aviation Green Paper Submission***. agp 2023-submission-c133-sydney-airport.pdf (infrastructure.gov.au).
2. International Air Transport Association (IATA) Net Zero Roadmaps.
3. Commonwealth of Australia, 2024. ***Aviation White Paper: Towards 2050***. Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts, Canberra.

Figure 4-4 Actual and projected Australian domestic aviation CO2e emissions under alternative scenarios

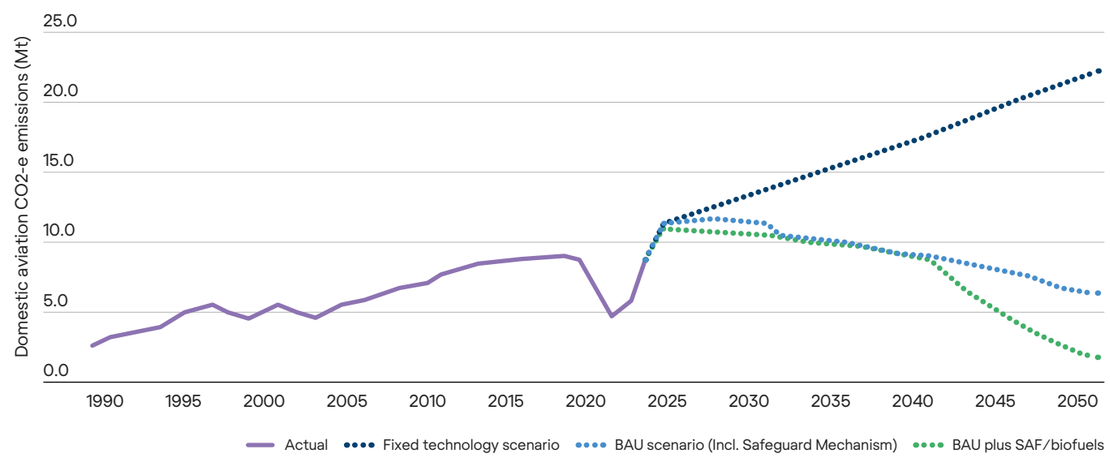
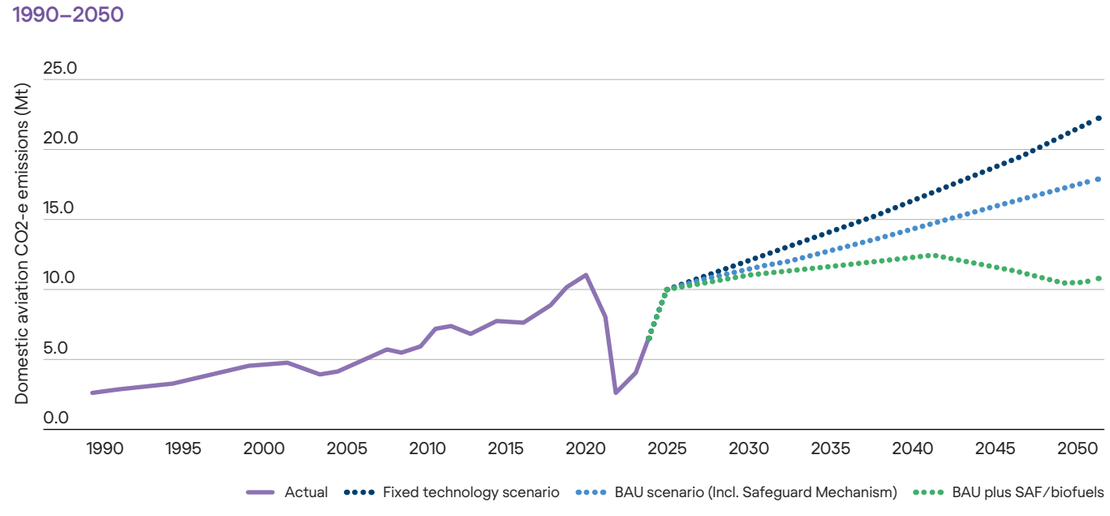


Figure 4-5 Actual and projected Australian international aviation CO2e emissions under alternative scenarios



Section One **Vision and Context**

4. Decarbonisation and climate resilience

Climate resilience at Sydney Airport

Sydney Airport is an essential piece of regional and national infrastructure, supporting our communities' mobility and economic growth.

Our operations deliver high levels of availability, reliability and resilience. We recognise that climate change has the potential to affect our business through physical and transition risks.

We are committed to maintaining the resilience of Sydney Airport against emerging physical and transition risks posed by climate change, to support continued operations and growth. We have modelled various scenarios to assess the impact of things like extreme heat, heavy rain and flooding. See Table 4-2 for current and planned adaptation measures to mitigate the impacts of these risks.

Table 4-2 Climate risks and adaptation measures

Risk	Description	Adaptation measures
Heavy rain and flood events	An increase in frequency, intensity, and/or duration of flooding results in airside and landside operational disruptions and/or infrastructure damage.	**Existing:** – Flood modelling – Stormwater management resilience strategy – Airfield management serviceability procedures – Asset maintenance and upgrades – Operational business continuity planning and emergency planning – Safety and evacuation procedures and training **Planned:** – Future investments and upgrades to flood resilience measures
Extreme heat	Increases in extreme temperatures leads to: – Increased power demand resulting in higher rates of grid power failure and more frequent use of generators leading to increased operational costs. – Heat damage to assets and asset degradation. – Potential aircraft take-off impacts from heat.	**Existing:** – Heat mapping – Safety procedures and first aid training – Aircraft ground handling procedures **Planned:** – Heat safety mitigations on the aprons – Early engagement with airlines on potential aircraft take-off impacts
Lightning and convective storms	Increased frequency and likelihood of lightning storms and/or convective storms (strong winds, intense rainfall, strong tides) cause aviation safety risks and result in operational disruptions and/or equipment and infrastructure damage.	**Existing:** – Thunderstorm warning system – Asset maintenance and upgrades – Operational business continuity planning and emergency planning – Safety procedures and training
Wind	Increased likelihood of wind speeds exceeding defined thresholds leading to increased operational disruptions and capacity restrictions.	**Existing:** – Comprehensive weather event monitoring and operational planning controls to prepare for strong wind events – Use of the cross runway in high cross-wind events **Planned:** – Working with government to review SYD runway wind limits to align with global best practice and aircraft specifications

Sydney Airport's BES Standards requires all airport-led building and infrastructure projects to address flood and heat resilience during design phase. The level of climate resilience built into the design of infrastructure is determined on a project-by-project basis per the requirements in Table 4-3 and based on the asset life, criticality and vulnerability.

Table 4-3 Flood and heat resilience in Sydney Airport's BES Standards

Resilience	Requirement
Flood	– Comply with the flood immunity requirements in the Sydney Airport Services Masterplan – Buildings (no ponding above 0.3m of ground floor level, 1% Annual Exceedance Probability (AEP)); – Safeguard from future flooding by reviewing SYD flood modelling data, applying 2050 time horizon under Representative concentration pathways (RCP) 8.5, or 2050 time horizon under RCP 4.5 as appropriate for the project based on asset life, criticality, and vulnerability; and – Assess the project against the Development Framework for Flooding Considerations to address heavy rain and flooding impacts.
Heat	– Review current heat related risks as per SYD heat mapping data and identify mitigation measures as they apply to the project lifecycle; – New roofing must meet solar reflectance index (SRI) values to reduce the heat island effect; and – Safeguard from future extreme heat by reviewing SYD heat mapping data, applying the 2050 or 2090 time horizon as appropriate for the project based on its life, criticality, and vulnerability.

Section One **Vision and Context**

5. Stakeholder and community engagement

Sydney Airport is committed to developing and maintaining strong and positive relationships with the local community, their elected representatives in the Australian and NSW parliaments and local government, key aviation, business and tourism stakeholders, and the broader NSW community.

Sydney Airport's approach to community engagement

Engage

We genuinely consult and engage with community, government and stakeholders about the operation of, proposed development at, and future planning for Sydney Airport.

Cooperate

We work cooperatively with all levels of government and other organisations that have roles and responsibilities involving or affecting Sydney Airport.

Communicate

We communicate relevant and accurate information about Sydney Airport in a timely manner, in a form that is easy to understand and in a way that reaches all stakeholders and community.

Listen

We listen to and genuinely consider feedback from the community and other stakeholders and, where practicable, resolve issues of concern.

Consultation and preparation of Master Plan 2045

Throughout the preparation of Master Plan 2045, we followed Sydney Airport's *Community and Stakeholder Consultation and Engagement Strategy*, which is based on guidance from the International Association for Public Participation (IAP2).

To be sure everyone can contribute – regardless of age, education, language, cultural background and accessibility – Sydney Airport will use a range of ways to engage with the community.

Figure 5-1 Master Plan 2045 preparation process

November 2023 to August 2025	August 2024 to September 2025	September to December 2025	December 2025 to February 2026	March 2026
Community and stakeholder consultation commences	**Preparation of PDMP**	**Public exhibition of PDMP and engagement activities**	**Preparation of DMP**	**Submission to the Minister for consideration**
– Sydney Airport Community Forum. – Federal and state government agencies, ministers and members of parliament. – Local councils. – Business, tourism and industry groups. – Airlines. – Other aviation industry/related stakeholders.	– SYD formally advises state and local government of its intention to prepare the Master Plan. – Preliminary Draft Master Plan (PDMP) is informed by the feedback and comments received during the initial consultation process. – Draft ANEF is prepared.	– PDMP made widely available to the public and stakeholders. – SYD representatives available for questions. – Various means of submission/ commenting on the PDMP offered. – Steps taken to reach everyone in the community, including language translations, community information sessions, brochures and connecting with regional NSW.	– All comments received will be acknowledged with a letter or email of receipt. – Revisions made to the PDMP based on submissions from stakeholders to form the Draft Master Plan (DMP).	– The final decision whether to refuse or approve a DMP rests with the Minister for Infrastructure, Transport, Regional Development, Sports and Local Government.

Section One Vision and Context

5. Stakeholder and community engagement

Preparing the Airport Environment Strategy 2025–2030

In addition to the above stakeholder engagement and public exhibition processes, the *Airports Regulations 2024* require a specific consultation process to be undertaken when preparing the Airport Environment Strategy 2025–2030 (AES), which forms part of this PDMP. This will include targeted consultation with airport tenants who, under the Airports Act, must take all reasonable steps to comply with the AES.

Communication of the AES

Once approved as part of the Master Plan, the AES will be publicly available on the Sydney Airport website.

All training information that includes AES requirements will be reviewed to determine if updates and retraining are required.

Tenants and operators will be provided with information on the revised AES, including where it can be accessed.

Sites of Indigenous significance

We partnered with the Gujaga Foundation to engage with the local First Nations community to determine if there are sites of Indigenous significance on the airport site. The Gujaga Foundation provided information on the significance of Botany Bay as a whole. This led to the production of a Connecting with Country report, which has been incorporated into the AES, in consultation with the Gujaga Foundation.

Environmental management

To identify activities at the airport that have the potential to impact the environment, and identify appropriate controls and action plans to reduce impacts, we consulted with:

- Department of Climate Change, Energy, the Environment and Water (DCCEEW)
- DITRDCSA
- Australian Heritage Council
- Sydney Water
- NSW Government and associated agencies
- Airport tenants
- Airservices Australia

Key stakeholder workshops

Prior to development of the AES, we convened a deliberative engagement community panel. This panel, which comprised members of the local community, explored the topics in the AES to determine which aspects the community found most significant. The AES has been written to reflect the results of this engagement.

Section One Vision and Context

6. Air traffic forecasts

The proposed developments in Master Plan 2045 are informed by forecast passenger numbers, aircraft movements and freight volumes.

Growth forecasts are critical to establishing a robust foundation for planning, enabling us to continue to deliver benefits for the economy, community, passengers and other stakeholders.

Larger, quieter and more fuel-efficient aircraft will mean that passenger numbers are forecast to grow at a faster rate than aircraft movements, delivering positive economic outcomes while reducing community and environmental impacts.

In 2045, Sydney Airport expects to handle:

72.6 million annual passengers

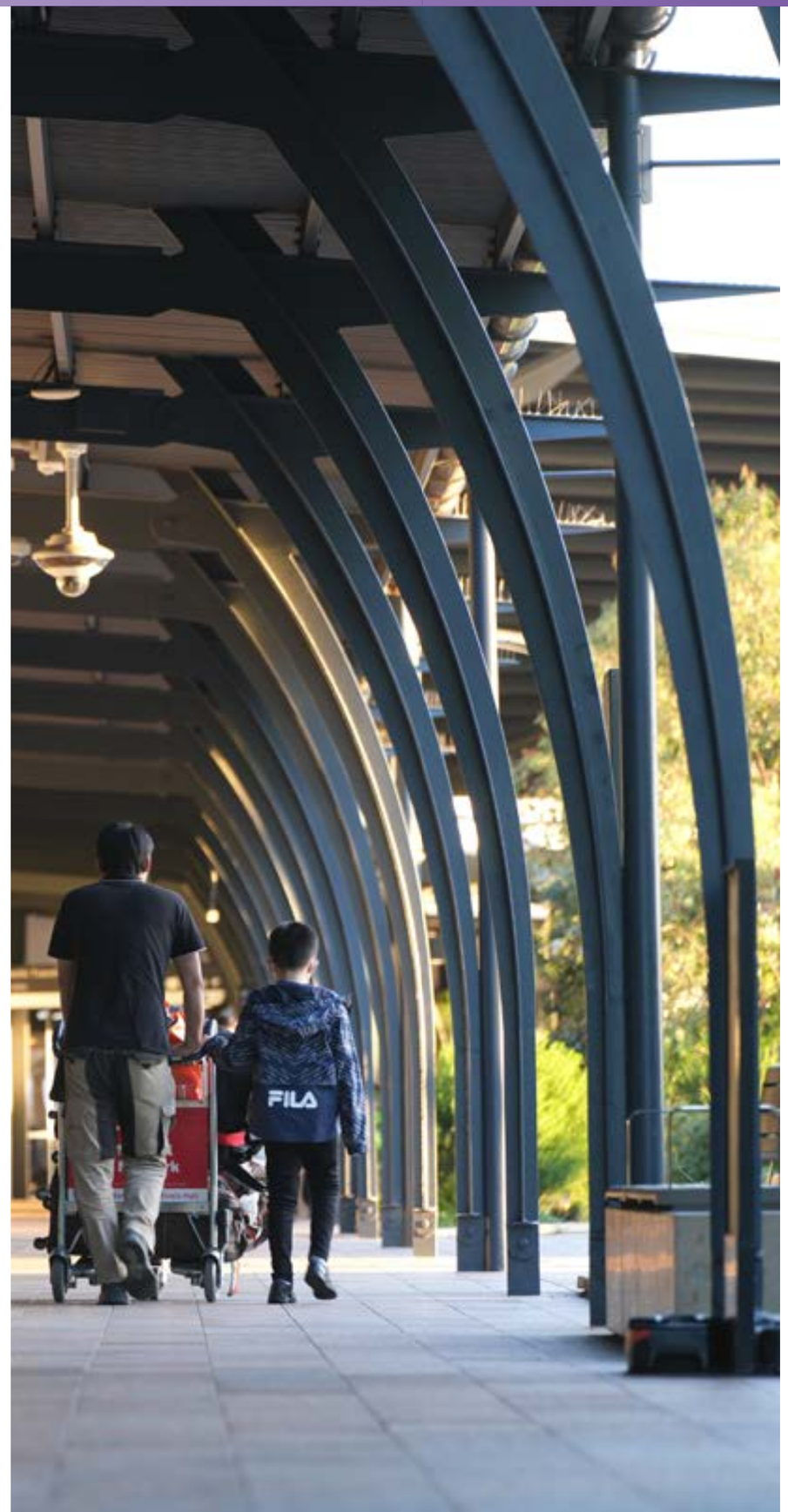
- International passengers are the main driver of growth, forecast to increase from 16.3 million in 2024 to 36.4 million in 2045, contributing greatly to our state and national economies.
- Domestic and regional passenger numbers are forecast to increase from 25.1 million in 2024 to 36.2 million in 2045.

385,000 annual passenger aircraft movements[1]

1.4 million tonnes of freight

- 133% increase from 2024, with passenger aircraft to account for approximately 80% of freight volume, providing a vital income stream for airlines.

1. TFI 2023.



Forecast approach

Aviation industry trends and assumptions

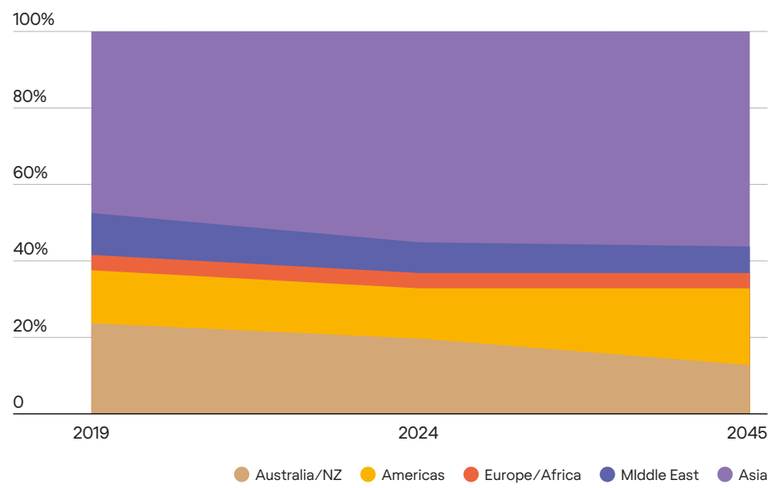
Over the 20-year planning period, Sydney Airport will continue to be influenced by ongoing and emerging trends in the aviation industry and the global economy.

Although some external factors can cause unpredictable disruptions, passenger numbers historically return to pre-event levels once the circumstances stabilise. For example, the pandemic caused a significant and sustained disruption to the aviation industry, where flight numbers took four years to return to pre-pandemic levels.

While our flexible approach to development planning will allow Sydney Airport to adapt to unforeseen changes, forecasts for Master Plan 2045 assume the following long-term growth trends will continue to 2045:

- Next-generation aircraft are larger, quieter, safer, more fuel-efficient and comfortable, reducing noise and environmental impacts. As airlines increase productivity and improve load factors, the average passengers per aircraft movement increases, providing a sustainable growth pathway without excessive aircraft movements.
- Passenger demand grows more rapidly than the general economy, with competitive airfares, low-cost carriers (LCCs) and changes to air rights increasing the number of leisure passengers.
- Shifts in airline alliances and partnerships account for changing passenger offerings and incentives.
- Strong economic growth in Asian and Middle Eastern markets, with airlines upgauging (increasing size of) aircraft and increasing their services to Sydney Airport.
- Scheduling changes, new direct services, maturation of routes and aircraft utilisation causes ‘peak spreading’ or the growth of off-peak aircraft movements.

Figure 6-1 Proportion of international aircraft seats by region of airlines

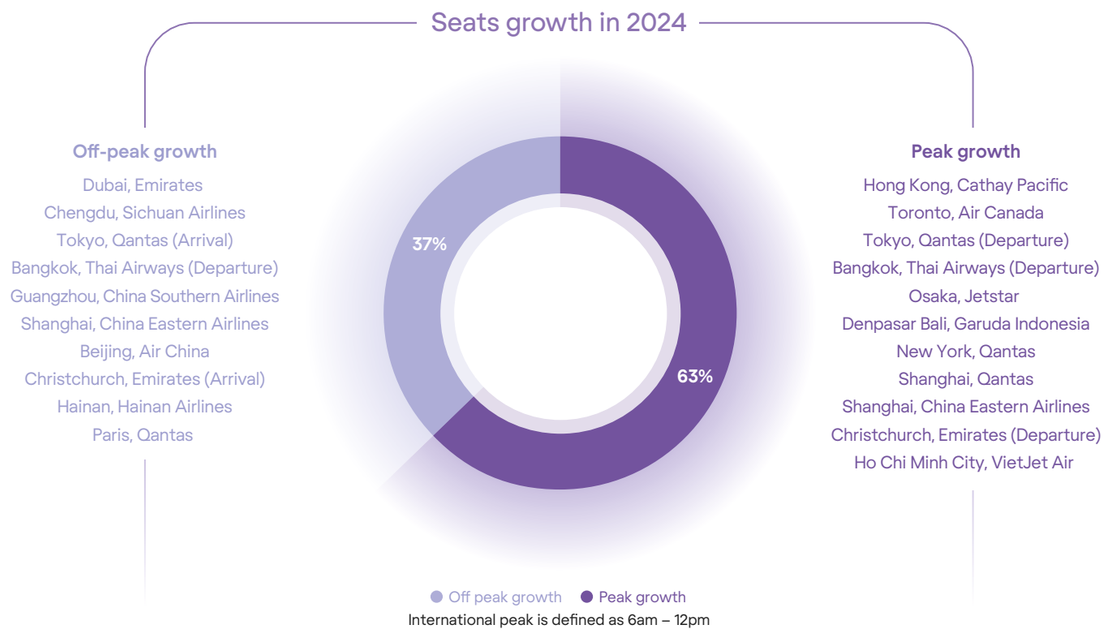


Section One **Vision and Context**

6. Air traffic forecasts

Seats in 2024 experienced significant growth in comparison to 2023, with an increase of 10%. As highlighted in Figure 6-2, approximately two thirds of new seats commenced in 2024 were in the peak periods while the remaining 37% were outside peak periods.

Figure 6-2 Timing of seats commenced in 2024



Passenger and aircraft movement forecasting method

In consultation with major airlines and airline associations, forecasts used throughout Master Plan 2045 were prepared by aviation industry specialists, Tourism Futures International (TFI).

TFI's forecasting method:

1. **Top-down econometric modelling**
   considering GDP for Australia and visitor countries, NSW Gross State Product (GSP), Australian trade weighted index, and global exchange rates. Forecasts from the International Monetary Fund (IMF), Organisation for Economic Cooperation and Development (OECD), governments and central banks were used.
2. **Development of segment-based forecast models**
   for individual domestic routes and countries for the international market.
3. **Review of the fleet orders of airlines and forecasts of aircraft type by aircraft manufacturers.**
4. **Consultation with key airlines**
   Virgin Australia, Qantas Group and Air New Zealand, and the Board of Airline Representatives of Australia (BARA). Meetings were held regarding the preparation of the draft forecasts.
5. **Benchmarking of the outputs**
   against other state, national and global forecasts by the:
   - Bureau of Infrastructure, Transport and Regional Economics (BITRE)
   - Tourism Forecasting Committee
   - Aircraft manufacturers
   - US Federal Aviation Administration
   - Eurocontrol
   - UK Department of Transport

TFI's modelling produced an overall Sydney Basin traffic forecast. Beyond 2026, when WSI commences operations, an assessment of Sydney Airport's estimated share was undertaken, considering its proximity to the Sydney CBD and network connectivity for international, domestic and regional travellers.

Following consultation with the airlines, aircraft movement forecasts were generated, corresponding to passenger forecasts and average passenger numbers per movement.

2045 forecasts

Passenger numbers

Total passenger numbers at Sydney Airport are forecast to increase by 75% from 41.4 million in 2024 to 72.6 million in 2045 (see Figure 6-3).

International passengers
36.4 million
up by 123%

Domestic passengers and regional passengers
36.2 million
up by 44%

On average, this equates to compound annual growth rate (CAGR) of 3.9% for international, and 1.8% for domestic/regional passenger numbers (pax), respectively.

Figure 6-3 Historical and forecast passenger growth, 2019 to 2045

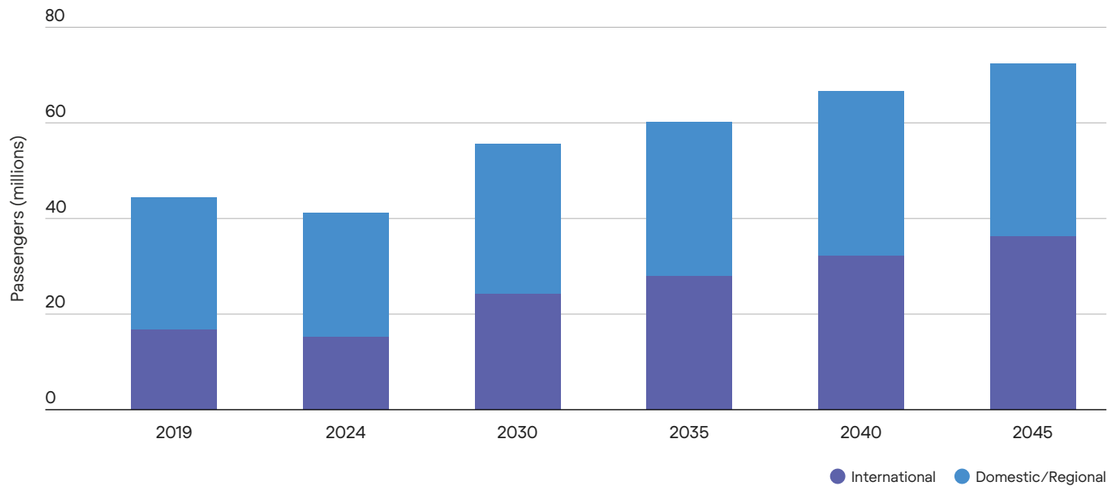


Table 6-1 Compound annual growth rate of passenger numbers

	2024 pax (m)	Percentage of total %	2045 pax (m)	Percentage of total %	CAGR %
International	16.3	39.4	36.4	50.1	3.9
Domestic and Regional	25.1	60.6	36.2	49.9	1.8
Total	**41.4**	**100**	**72,600,000**	**100**	**2.7**

Section One Vision and Context

6. Air traffic forecasts

Passenger aircraft movements

Total passenger aircraft movements at the airport are forecast to reach 385,000 in 2045 – a 1.8% (CAGR) increase from 2024 (see Table 6-2).

Figure 6-4 Historical and forecast aircraft movement growth, 2019 to 2045

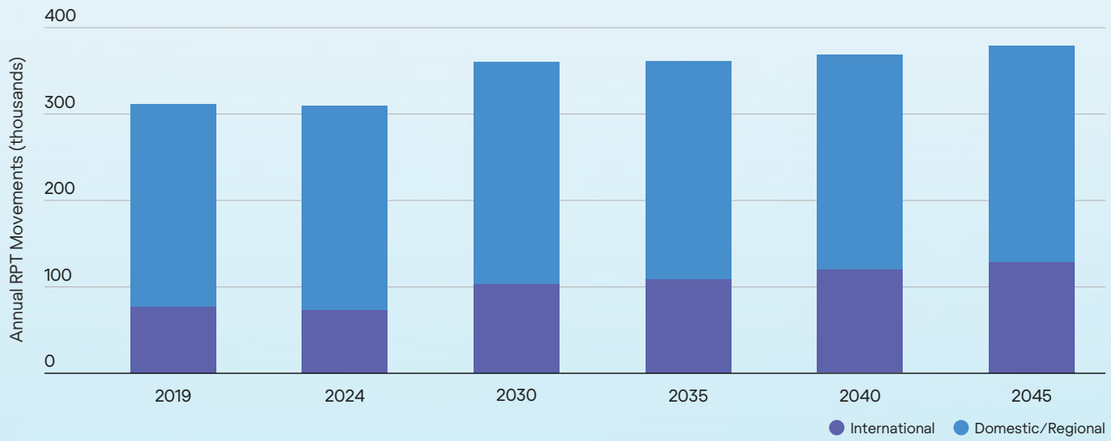


Table 6-2 Aircraft movement forecasts

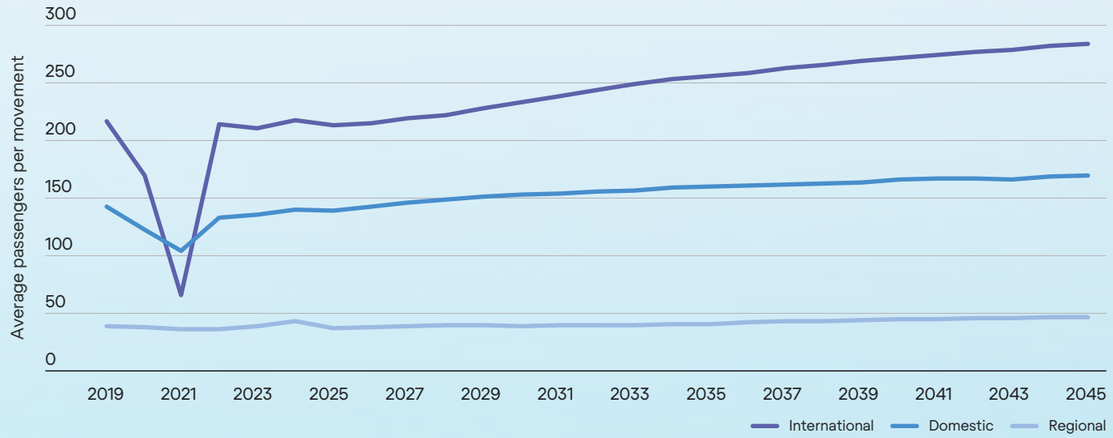
	2024	Percentage of total %	2045	Percentage of total %	Percentage of CAGR %
International	74,930	24.9	130,130	32.5	2.7
Domestic and Regional	212,245	70.4	254,870	63.8	1.7
Freight	12,235	4.1	10,848	2.7	(0.6)
GA/CA/other	1,909	0.6	4,156	1.0	3.8
Total	**301,319**	**100.0**	**400,004**	**100.0**	**1.4**

Average number of passengers per flight

Over the next 20 years, passengers per aircraft are expected to increase by 1.2% (CAGR).

The average number of passengers per flight on regional services is expected to increase from 36 in 2024 to 47 in 2045. Advances in aircraft technology means regional jets will not be louder than the turbo props they are expected to replace. The average number of passengers per flight is also expected to increase from 134 to 170 on domestic services and from 210 to 284 on international services (see Figure 6-5).

Figure 6-5 Historical and forecast average passengers per movement, 2019 to 2045



General and business aviation

Sydney Airport is Australia's primary passenger aviation hub, catering for dedicated freighters, executive aviation and general aviation (GA). In 2045, we anticipate up to 4,156 general and business aviation, and other movements.

While Sydney Airport will continue to maintain its emphasis on international, domestic and regional passenger services, we will continue to provide appropriate levels of access and infrastructure for general and corporate aviation, including aeromedical services. Landing facilities for rotary wing aircraft will continue to be provided.

Section One **Vision and Context**

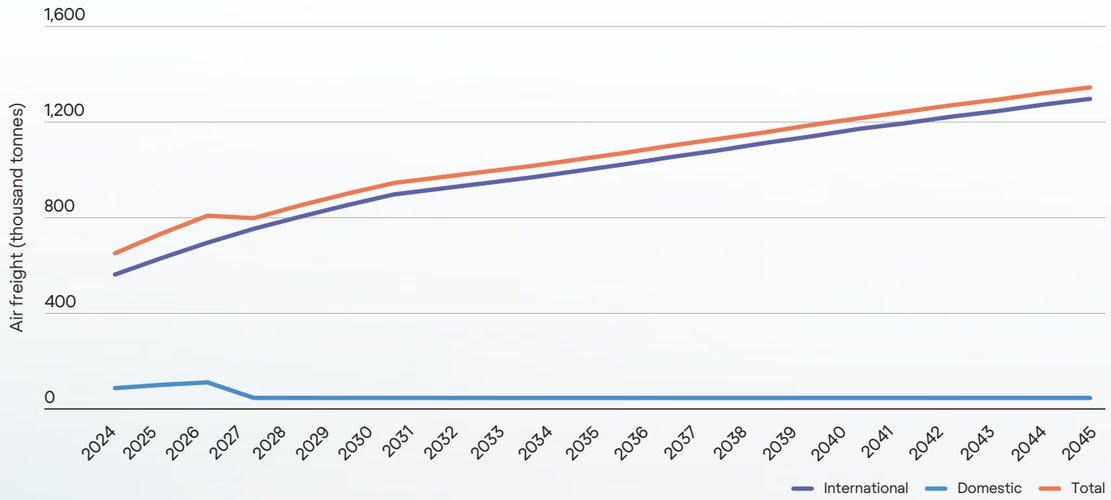
6. Air traffic forecasts

Air freight

Air freight is a critical economic activity at Sydney Airport. We handle around half of the country's international air freight, providing a significant revenue stream for passenger airlines and dedicated freight carriers.

By 2045, total freight processed is expected to increase from 0.6 million tonnes in 2024 to 1.4 million tonnes – a CAGR of 4.3% (see Figure 6-6). From 2026 to 2027, Sydney Airport expects to see an initial reduction in freight processed, accounted for by the opening of WSI and the potential shift of some dedicated freight traffic. This is expected to be a short-term impact, as subsequent growth is expected to return freight processing volumes to pre-WSI levels by 2028. Dedicated freighter movements of 10,848 are forecast by 2045.

Figure 6-6 Air freight forecasts, 2024 to 2045

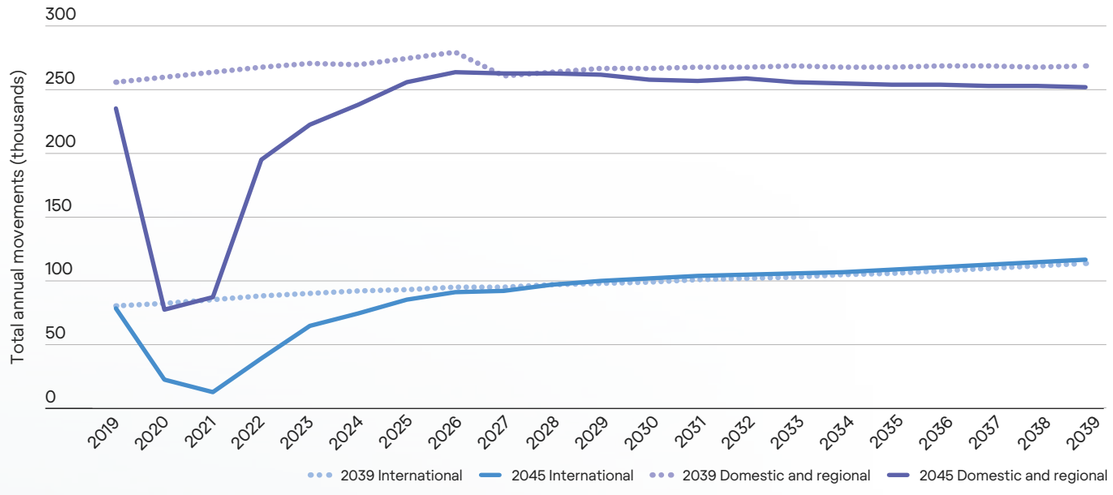


Benchmarking of the traffic forecasts

Comparison to Master Plan 2039

Master Plan 2039 forecast 65.6 million passengers and 382,305 passenger aircraft movements by 2039. Over the same period, Master Plan 2045 forecasts 72.6 million passengers and 385,000 passenger aircraft movements (see Figure 6-7).

Figure 6-7 Comparison with Master Plan 2039 aircraft movement forecasts



Section One **Vision and Context**

6. Air traffic forecasts

Comparison with historical performance

Sydney Airport handles approximately 40% of Australia's international and 21% of domestic and regional air passengers. From 2017 to 2024, our passenger traffic decreased at a rate of -0.6% annually, from 43.3 million to 41.4 million.

Across the same period, annual passenger aircraft movements decreased from 313,857 to 311,600, indicating a -0.1% CAGR. This is attributed to the impacts of the pandemic.

Table 6-3 compares the recent and forecast growth rates for international and domestic (including regional) passengers, and aircraft movements.

Steady growth is forecast for all passengers and aircraft movements.

Table 6-3 Historical and forecast CAGR of passenger numbers

	Passengers %	Passenger aircraft movements (RPT) %
International		
2017 to 2024	(0.4)	0.2
2024 to 2045	3.9	2.7
Domestic and Regional		
2017 to 2024	(0.7)	(1.7)
2024 to 2045	1.7	0.9
Total 2017 to 2024	**(0.6)**	**(0.1)**
Total 2024 to 2045	**2.7**	**0.2**

Section One **Vision and Context**

6. Air traffic forecasts

Representative days and noise sharing

To determine infrastructure and operational requirements, a schedule was developed for a 'busy day' in 2045. This approach is consistent with previous master plans, as well as slot coordination practices.

The schedule analysis considered:

- The operational suitability of an aircraft type for a given route network.
- The aircraft rotations compatible with a high level of utilisation.
- The use of commercially feasible arrival and departure timings throughout the network.
- Anticipated utilisation of next-generation aircraft.
- All relevant regulatory requirements.

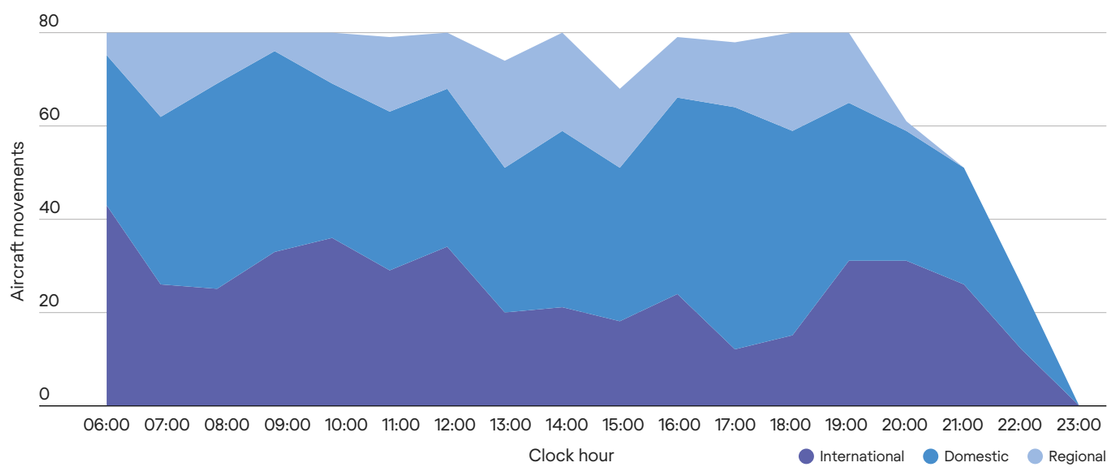
The 'busy day' is not the busiest forecast day, rather, it is a representation of a busier than average day in peak season. The effect this will have on noise sharing opportunities under the LTOP for Sydney Airport is discussed in Chapter 14 Aircraft Noise.

Hourly aircraft movements throughout the 2045 schedule, broken down by flight category, are shown in Figure 6-8. This addresses Sydney Airport's normal 17-hour operating day between 6am and 11pm.

During the 11pm to 6am curfew period, it is expected that there will be no freight and GA aircraft movements. This is the result of legislation which allows the government to remove permitted curfew movements at Sydney Airport once WSI is opened.

It is expected that NSW regional air traffic at Sydney Airport will continue to account for a substantial proportion of slots in the peak hours in 2045.

Figure 6-8 Forecast schedule hourly aircraft movements, 2045



Section Two

Airport Development Plan

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76 9. Airfield Development Plan
88 10. Commercial Development Plan
93 11. Ground Transport Development Plan
106 12. Utilities Development Plan

Section Two Airport Development Plan

7. Development Plan overview

To accommodate growth and achieve our vision and objectives, the Airport Development Plan outlines Sydney Airport's plans for airfield, aviation facility, terminal and infrastructure improvements over the next 20 years.

The Airport Development Plan contains Sydney Airport's:

- Terminal Development Plan
- Airfield Development Plan
- Commercial Development Plan (identifying complementary and beneficial landside commercial property opportunities)
- Ground Transport Development Plan
- Utilities Development Plan

We will facilitate sustainable long-term growth through careful planning, remaining flexible and agile to changing market trends, industry needs and passenger demands.

See Appendix C for a detailed breakdown of existing facilities at Sydney Airport.

Key achievements since approval of Master Plan 2039

The Master Plan 2039 Airport Development Plan identified a series of priorities for the initial five-year planning period. Many of these have been progressed or delivered (see Table 7-1), improving operational efficiency and capacity, and facilitating future growth.

This progress forms the foundation for Master Plan 2045 development planning.

Table 7-1 Key achievements since Master Plan 2039

Development / Initiative	
Terminal	– Commenced major refurbishments of T2 check-in and security hall including major technology changes to enhance passenger check-in and security screening experience.
	– Upgraded and streamlined security and screening facilities at all terminals.
	– Upgraded the T1 inbound primary lines to improve efficiency and processing rates using biometrics, self-service processing and installation of additional eGates.
	– Upgraded baggage handling with new screening machines.
	– Upgraded accessibility compliance and installed hearing loop throughout T2 and T3 gate lounges.
	– Redesigned, upgraded and constructed new bathrooms across the three terminals, delivering adult changing places facilities, greater accessibility, more parent facilities and better amenity.
	– Redeveloped the T1 Departures entry, with an iconic timber wall feature and entry to enhanced security hall access.
	– Upgraded T1 Bussing Facility.
Airfield	– Delivered four new Code E layover bays, upgraded the existing two Code E parking bays in the South East Sector and extended Taxiway J to the east to Taxiway D.
	– Upgraded bays 30, 32, 34 and 36 on the Terminal 1 Pier B South aprons to accommodate longer, new generation aircraft, and replaced aged and deteriorating apron pavement.
	– Upgraded and replaced approximately 5 km of airside security fence line to align with new legislative requirements.
	– Upgraded Northern Pond apron bays 83, 84 and 85 from layover positions to serviced active bays with in-ground fuel supply, ground power, PCA systems, guidance systems and additional area for GSE.
	– Upgraded 16R approach with high-intensity approach lights (HIAL).

Section Two **Airport Development Plan**

7. Development Plan overview

Table 7-1 Key achievements since Master Plan 2039 continued

Development / Initiative	
Commercial	– Constructed new North East aircraft hangar with associated maintenance facilities and parking.
	– Upgraded the T1 Singapore Airlines Lounge to enhance the passenger experience.
	– Activated more than 12,000 m² of land in the South East Sector for airport use.
	– Provided Australia's first in-airport hotel, T1 Aerotel, situated landside within the T1 Arrivals hall.
Ground transport	– Opened Sydney Gateway with TfNSW, linking Sydney Airport to the motorway network.
	– Improved valet offering, including the introduction of premium parking service at T1 and Fast Park Valet at T2, and the upgrade of Qantas Valet at T3.
	– Moved Uber pick-up zones kerbside at T1 and T3.
	– Demolished P1 and opened surface level car park Prime Park.
	– Active transport link opened, connecting the international and domestic precincts to the improved cycle network, including the provision of improved lighting and CCTV.
	– Adjusted and extended T2 Departures kerb, delivering more drop-off capacity.
	– Upgraded peak-time departures overflow operations at T1, including line marking, barriers and wayfinding.
	– Installation of digital variable message signs to provide real-time information.
Utilities	– Replaced the main substation for Sydney Airport, the AZS, with modern electrical equipment and controls.
	– Upgraded the main substation at T2 (Substation 21) with new infrastructure and technology.
	– Replaced T3 chillers and cooling systems with efficient state-of-the-art infrastructure.
	– Upgraded terminal sewer systems for more reliability and resilience.
	– Modified and upgraded the high voltage and hydraulic network to enable construction of Sydney Gateway.
	– Upgraded JFI to improve capacity, resilience, and environmental outcomes.

Section Two Airport Development Plan

7. Development Plan overview

20-year Airport Development Plan summary

Our 20-year development plans aim to deliver:

- An enhanced passenger experience across the entire airport precinct.
- The continual improvement of operations.
- Sustainable growth to meet increasing demands (see Chapter 6 Air traffic forecasts).
- The flexibility to adapt to change as required.

Any future development at Sydney Airport, from construction to operational stage, will adhere to all relevant Australian aviation safety standards, including the National Airports Safeguarding Framework (NASF) and Sydney Airport's BES Standards.

Key regulators and authorities – including DITRDCSA, Airservices Australia and the Civil Aviation Safety Authority (CASA) – will be consulted through the design phase of proposed developments, prior to approval being sought and the commencement of construction.

Airport sectors

Master Plan 2045 divides Sydney Airport into six sectors, each comprising an airside and a landside component, except for the Runways Sector. Minor adjustments have been made to the identifying sector boundaries included in Master Plan 2039. As there are no proposed changes to runways during the Master Plan period, sector boundary revisions aim to improve the clarity and legibility of proposed developments across the sectors.

Proposed improvements in the Airport Development Plan are shown for each sector in Map 7-1.

Runways Sector

Proposed taxiway improvements set out to:

- Reduce taxiing times.
- Facilitate airline operating efficiency, including the introduction of international, domestic and regional operations in the North East Sector.
- Eliminate crossings of the main and busiest north-south runway for arrivals/departures originating from/taxiing to the North East Sector.
- Support new apron developments and operations in the South East and South West sectors.

North West Sector

NW

- Expansion of T1 terminal infrastructure, accommodating additional airline and gate lounges, contact gates, processing area, security and border passenger processing facilities, passenger dwell and retail areas, and baggage check-in, reclaim and handling facilities.
- Apron and stand infrastructure, facilitating aircraft arrivals and departures, including fixed electrical ground power units (FEGPU), PCA and fuel.
- Consolidation of air freight facilities.
- Ground transport upgrades for better access to terminal landside areas and utilities improvements.
- Hotel, office and commercial developments of up to 120,000 m^2 floor space.
- An inter-precinct passenger transfer product.
- Expansion of the JFI facility.
- Development of sustainable technologies to optimise environmental outcomes, and energy and water efficiencies.

Map 7-1 Airport Development Plan – Sectors

Legend

- Sydney Airport boundary
- Sydney Airport freehold land
- Runways
- LGA boundary
- Existing roads
- Sydney passenger rail
- Sydney freight rail

Section Two **Airport Development Plan**

7. Development Plan overview

North East Sector

NE

- Expansion of T2, facilitating next-generation check-in and security facilities.
- Investment in new technology, refurbishment and upgrade of passenger processing facilities in T2 and T3.
- Links between T2 and T3 for passenger and baggage handling facilities.
- Facilities for the processing of international passenger operations.
- Apron and stand infrastructure to increase contact gate capacity and facilitate arrivals and departures. This may include FEGPU, PCA, fuel, swing gates for international and domestic operations, and regional aprons.
- Improved inter-precinct passenger transfer product(s).
- Relocation and redevelopment of aircraft maintenance facilities.
- Consolidation and modernisation of air freight facilities.
- Ground transport upgrades for better access to landside areas and utilities improvements.
- Hotel, office and commercial developments of up to 120,000 m^2 floor space.
- Integration of sustainable technologies to optimise environmental outcomes, and energy and water efficiencies.

South East Sector

SE

- Apron and stand infrastructure, facilitating aircraft arrivals and departures, including FEGPU, PCA and fuel.
- Subject to market demand, areas to accommodate commercial facilities, car parking, car rentals, aircraft maintenance facilities, aviation support infrastructure, and corporate and general aviation facilities.
- New air traffic control and firefighting facilities in a centralised location, near existing facilities.
- Ground transport facility expansion and utilities improvements.
- Infrastructure to accommodate an airside connection between the aprons and terminal areas.
- Consolidation of air freight facilities.

Northern Lands Sector

N

- New landside and airside aviation support activities including freight, catering, GSE maintenance, truck staging, car parking and vehicle storage.
- Additional landside and airside access connections and ground transport infrastructure.

South West Sector

SW

- Progressive extension of active gates.
- Infrastructure to accommodate an airside shuttle bus service between the South West and North West sectors.
- Apron and stand infrastructure, facilitating aircraft arrivals and departures, including FEGPU, PCA and fuel.

Implementation

Sydney Airport's development plans are flexible, designed to be adapted as needed in the face of changing property and aviation industry trends, utility demands, ground transport context, and more.

We will work closely with industry and commercial partners to monitor demand and continually improve the passenger experience. As such, our development plans will evolve in consultation with stakeholders.

Aviation operations and safety remain key considerations when progressing and assessing proposed developments. This includes factors such as:

- Windshear and turbulence
- Public Safety Areas (PSA)
- Obstacle Limitation Surfaces (OLS)
- Noise and air quality during construction and operation
- PANS-OPS.

Section Two **Airport Development Plan**

8. Terminal Development Plan

Sydney Airport's Terminal Development Plan accommodates the projected passenger, aircraft and ground transport traffic flows over the planning period of Master Plan 2045. We are focused on enhancing the passenger experience, creating operational efficiencies and optimising infrastructure use, while remaining flexible to change as it happens.

Key objectives

Increased capacity with the integration and expansion of international, domestic and regional operations in the T2/T3 Integrated Operations Precinct.

Accommodating growth to 2045 with flexible, optimised infrastructure to cater for different aircraft, changing airline business models, and fluctuating demand for international, domestic and regional operations.

Enhanced safety and security, including the introduction of advanced screening technologies.

Improved passenger experience through enhanced inter-terminal connectivity, integrated terminal operations, and access to improved transport facilities and services.

Enhanced airline efficiency of inter/intra-precinct transfers by reducing minimum connection times (MCT) and improving aircraft utilisation.

Holistic accessibility through our Disability Access Facilitation Plan.

Improved landside road network and terminal kerbside through the upgrade of road links between airport sectors.

Sustainable growth, with BES Standards adopted for terminal development projects.

Potential terminal developments

Across both the T1 International Operations Precinct and the T2/T3 Integrated Operations Precinct, proposed developments aim to improve the passenger experience and meet demands, even on our busiest forecast days.

Subject to aviation needs, collaboration with our airline partners and extensive community consultation, potential developments to Sydney Airport terminals in the near future may include:

- New generation technology, and the refurbishment and upgrade of passenger facilities to improve the door-to-door experience of passengers, including terminal access from ground transport facilities.
- Upgraded contact gates (direct terminal access for planes) accommodating a broader range of aircraft to support aircraft utilisation and airline service delivery.
- Additional and upgraded passenger and baggage processing facilities (including advanced check-in technology, and bag drop, biometrics, security and border processing equipment) to improve integration, efficiency and flexibility.
- Integration of sustainable technologies, design and operations that deliver environmental solutions, such as energy and water efficiencies, through our BES Standards.
- Additional gate lounges, retail, airline lounges and contact stands (plane parking positions) to meet airline-demand.
- An autonomous inter-precinct passenger transfer product that will improve passenger experience and reduce MCT.

Section Two **Airport Development Plan**

8. Terminal Development Plan

T1 International Operations Precinct

Throughout the planning period, the T1 International Operations Precinct can be incrementally expanded to accommodate future demand.

As outlined in Map 8-1, developments at T1 may include:

- South West Sector bay activation.
- A northern terminal extension, providing additional facilities including bussing, seamless transfer, and baggage reclaim.
- A southern terminal expansion, accommodating a new bussing lounge and passenger processing facilities.
- Additional contact bays for next-generation aircraft.
- Apron reconfiguration to cater for next-generation aircraft.
- Improvements to baggage handling systems and inbound and outbound processing facilities to improve resilience, redundancy, and capacity.
- Enhanced ground transport facilities.
- City View expansion providing integrated and centralised passenger dwell, retail and airline lounge opportunities.

T2/T3 Integrated Operations Precinct

An expanded T2/T3 Integrated Operations Precinct – with new infrastructure between/or adjacent to the existing T2 and T3 terminals – will provide Sydney Airport with the flexibility and capacity to meet increased and fluctuating demand for international, domestic, and regional operations. An adaptable approach with improved security processing will make welcoming international arrivals smoother through a new centralised point.

Over the 20-year planning period, there are a series of proposed changes specific to the T2/T3 precinct that will support aircraft utilisation and airline service delivery.

As outlined in Map 8-2, changes could include:

- The integration of T2/T3 into a single terminal precinct with improved connectivity, flexible facilities, increased contact aircraft bays, and increased capacity for international and domestic departures and arrivals.
- International capability through a common-use outbound terminal processor with segregated international arrivals.
- Apron reconfiguration to cater for a greater variety of operating aircraft.
- Staged retention of Jet Base infrastructure as required to meet aircraft maintenance requirements.
- Automation of passenger services.
- New associated freight facilities to cater for the integrated operations.

T1 Pier B East Bussing

Map 8-1 T1 International Operations Precinct Terminal Development Plan 2045

A Southern Terminal Expansion

Expansion for additional aviation support (baggage, terminal and bussing) and commercial facilities

B Pier B South Extension

Extension to accommodate additional aircraft contact capacity (access directly to terminal)

C South West Sector Activation

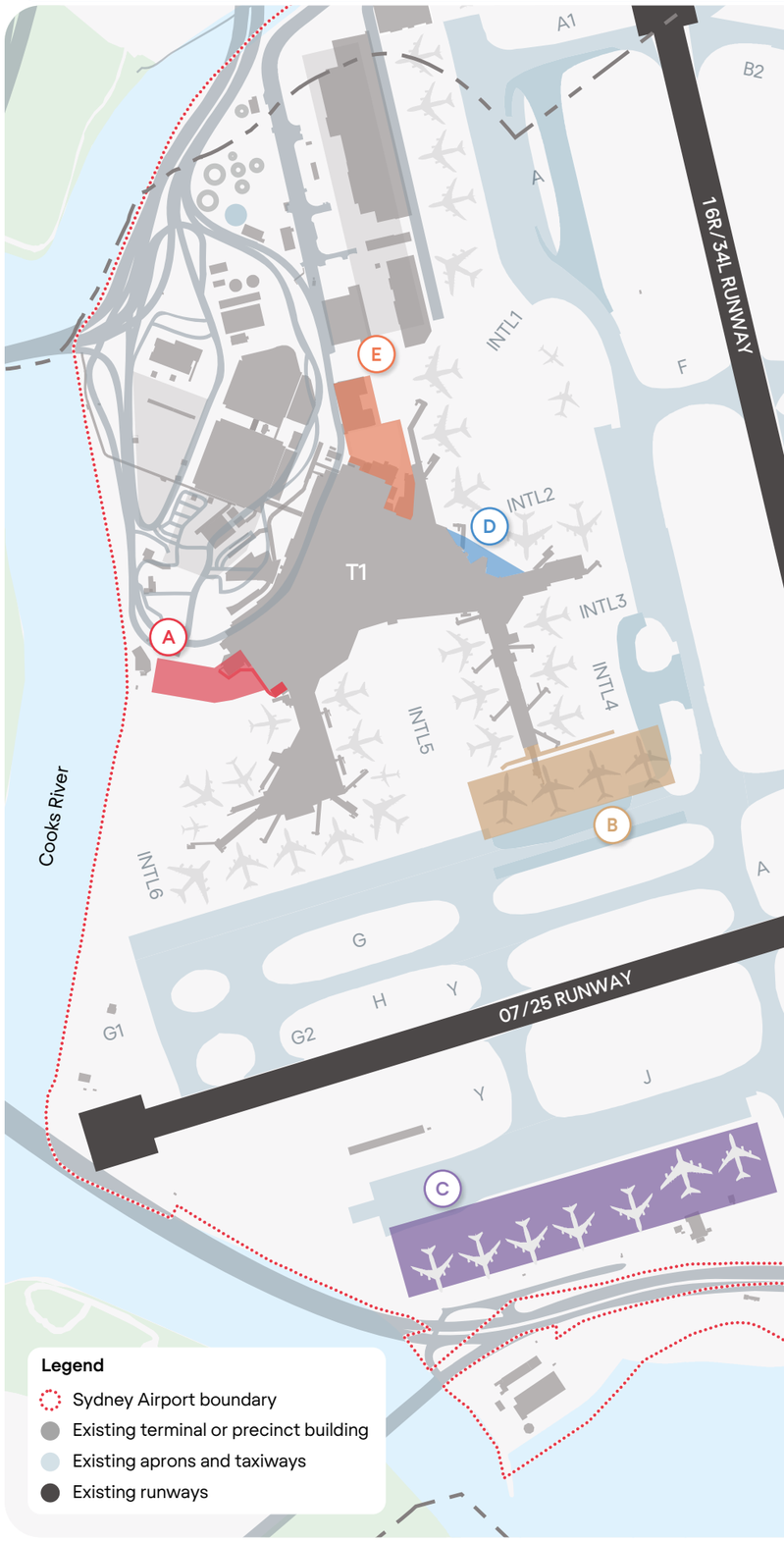
Activation of existing layover bays to allow arrival and departure of passenger aircraft

D City View Expansion

Expansion to accommodate additional seating, retail, food and beverage with potential bussing and airline lounge

E Northern Terminal Expansion

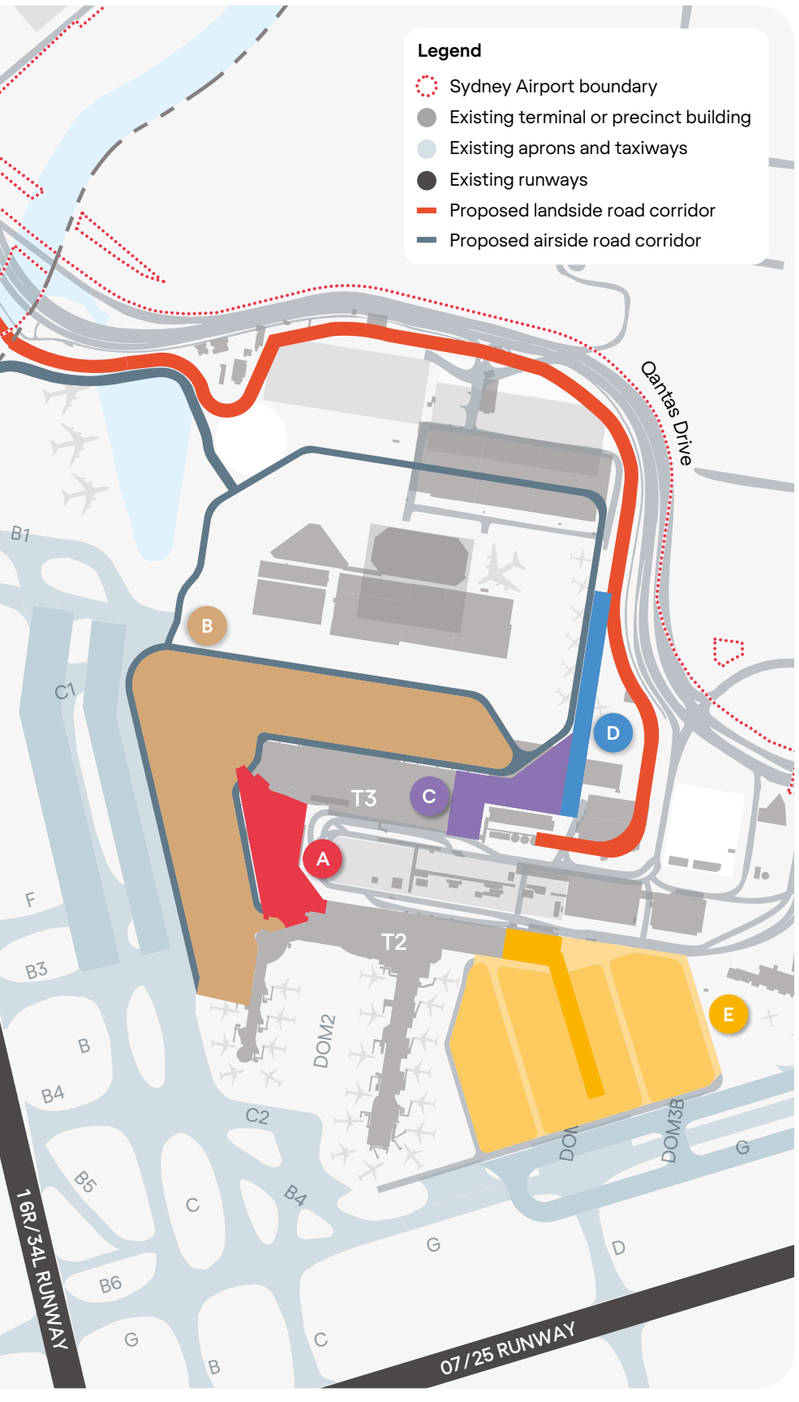
Expansion for additional lounges and aviation support (baggage, terminal transfer and bussing)



Section Two **Airport Development Plan**

8. Terminal Development Plan

Map 8-2 T2/T3 International Operations Precinct Terminal Development Plan 2045



A New Western Concourse

Expansion and link between T2 and T3 to accommodate domestic and international aircraft, passenger processing and dwelling areas, retail, food and beverage, other commercial uses, bussing and airline lounges

B T3 Rotunda upgrades

Upgrade of existing terminal rotunda to accommodate domestic and international aircraft, passenger processing and dwelling areas, retail, food and beverage, and other commercial uses

C T3 North Face upgrades

Upgrade of existing terminal to accommodate domestic and international aircraft, passenger processing and dwelling areas, retail, food and beverage, and other commercial uses

D New T3 North Pier

Extension to accommodate additional contact gates, airlines lounges, new dwell area, retail, and food and beverage areas

E New T2 Pier C

Extension to accommodate additional contact gates, airline and departure lounges, new passenger dwell area, retail, and food and beverage areas

Artist's impression: Western Concourse.

Departing passenger plan

Before heading to the airport, passengers will use smart airport technology to access information on optimal travel modes, vehicle and people traffic, and anticipated travel and processing times.

Departing passengers will soon be able to directly access our terminals in weather-protected connections from multi-modal transport facilities, minimising interaction with vehicles.

Passengers will use new-generation bag drop facilities, skipping the check-in counter and enjoying the efficiency of an improved baggage handling system.

New technologies, such as biometrics, will improve emigration, border control and security processing to facilitate a seamless passenger experience. Any future security requirements, including enhanced inspection points, changed technology, screening facilitation, or intervention rates, will be accommodated within the expanded footprint of the terminal.

After security, all passengers proceed to an enhanced retail and entertainment environment, with dwell zones, airline lounges and gate lounges directly boarding aircraft through new aerobridge and associated support facilities.

For passenger boarding at remote aprons, convenient shuttle bus services will transfer passengers from new facilities to remote active stands. In a northern T1 extension, passengers may board aircraft directly from airline lounges.

Airline product differentiation is offered through dedicated departures processing facilities, accessible directly from ground transport facilities.

Section Two Airport Development Plan

8. Terminal Development Plan

Arriving passenger plan

Passengers arriving at Sydney Airport will enjoy improved efficiency and reduced processing time. Smart airport technology will enable staff to respond in real-time, direct passengers to optimal processing paths, and utilise both landside and airside space effectively.

Arriving and departing international passengers will continue to be separated inline with security and border control requirements.

Expanded facilities and new technologies offer passengers a smoother border control processing experience. We will continue to work with the Australian Government agencies responsible for border control to accommodate customs and quarantine requirements.

The arrivals and baggage reclaim halls may be expanded with additional baggage reclaim units to meet future demand.

Transfer facilities for moving between international and domestic or regional flights remain adjacent to the terminal. Passengers will be processed through a common-use transfer lounge and can travel between the T1 International Operations Precinct and the T2/T3 Integrated Operations Precinct via an airside corridor.

Terminating passengers continue to have the choice of transport modes including train, bus, taxi, rideshare, limousine, rental car, and public parking facilities.

Intra-terminal transfer passenger plan

Intra-terminal transfer facilities for international travellers transferring or transiting within T1 will use a common transit screening point.

Transfer facilities for passengers moving between international, domestic and regional flights within the T2/T3 Integrated Operations Precinct are planned to be under ‘one roof’ and incorporated into terminal expansions and new infrastructure. Proposed new airside and landside links will be provided between the T2 and T3 buildings.

Facilities will be enhanced as needed to meet future requirements.

Inter-precinct airside transfer plan

We are reducing inter-precinct transfers and minimum connection times (MCT).

While some airlines currently provide passengers with a dedicated inter-precinct transfer product, passengers of other airlines use the Sydney Airport T-Bus, trains, rideshare services or taxis to travel between the precincts.

The ability to transfer passengers and baggage within the same or adjacent terminal facility is the most reliable, convenient and efficient method of transfer, significantly reducing the MCT.

New airside transfer services and conveyance of rolling stock will let passengers move between flights without being processed twice, using a dedicated shuttle corridor for easy connections.

Section Two Airport Development Plan

9. Airfield Development Plan

The Airfield Development Plan sets out to improve airfield and aviation support infrastructure, responsibly planning for forecast demand in 2045.

To support terminal developments, Sydney Airport's airfield will be better equipped to accommodate growth. Simulation modelling has validated plans to improve taxiing, passenger experience, and operational efficiency.

All plans will include sustainable technologies and practices that meet our BES Standards, delivering environmental solutions.

Taxiways and aprons

- Facilitate integrated operations in the T2/T3 Precinct.
- Additional and upgraded contact capacity at T1.
- Additional active remote aircraft parking stands in the North East, South East and South West sectors to increase capacity.
- Additional active remote aircraft parking in the South East Sector.

Supporting infrastructure

- Additional storage areas for GSE, along with further deployment of next-generation FEGPUs and PCAs at aircraft parking stands.
- Expansion of the JFI facility and extension of apron hydrant systems to serve new terminal infrastructure and remote stands.
- Progressive relocation of aviation support facilities in the North East Sector and new aviation support facilities in the South East Sector.
- Continuous improvements to air navigation and surveillance.

Freight facilities

- Consolidation and redevelopment of freight facilities in the T1 International Operations Precinct and T2/T3 Integrated Operations Precinct.
- Development of new freight and logistics facilities in the North West, North East, Northern Lands and South East sectors to provide efficient and effective handling of freight.

The Airfield Development Plan prioritises sustainable growth while minimising environmental impacts. We will stay flexible for new aircraft types, industry trends, and decarbonisation initiatives like SAF and hydrogen and electric planes, and focus on sustainability in all developments. For example:

- Energy efficiency initiatives will be integrated into taxiway and apron improvement projects.
- All new aircraft maintenance hangars will be free of perfluoroalkyl and polyfluoroalkyl substances (PFAS).
- BES Standards will be adopted by Sydney Airport airfield infrastructure projects.

Airfield development approach

Apron and parking stand demand

Planned apron and parking stand developments are designed to meet the 2045 'busy day' forecast for aircraft parking and airfield demand (see Chapter 6 Air Traffic Forecasts), based on the largest aircraft using each stand.

Testing confirms they will meet forecast demand (see Table 9-1), and the flexible design can adapt to changing airline needs.

Table 9-1 Forecast apron and parking stand demand, 2045

Contact/Bus	Category	T1	T2/T3
	Active		
Contact	Widebody	25	12
Bus	Widebody	16	
Contact	Narrowbody	2	32
Bus	Narrowbody	3	12
Active total	**102**	**46**	**56**
	Layover		
	Widebody	26	
	Narrowbody	8	
Layover total		**34**	

Airfield modelling

Based on a series of assumptions agreed with Airservices Australia, we undertook airfield simulation modelling to verify the capacity and efficiency of the 2045 Airfield Development Plan.

The airfield modelling used a gate-to-gate fast-time simulation model, structured around:

- The Airfield Development Plan for the 2045 airfield movement area layout.
- The 2045 representative busy day forecast schedule.
- Weather assumptions facilitating maximum runway capacity in parallel runway modes of operation (RMO) 9 and 10 used during peak demand periods.
- Calibration and testing against the existing traffic and movement area configuration.

Proposed taxiway enhancements consider congested areas, with new taxiway configurations developed to minimise conflicts under the most demanding conditions. As shown in Map 9-1, these enhancements are proposed to be delivered in the short-to-medium term. The modelling demonstrates:

- Improved capability for aircraft departure queues near runway thresholds.
- Reduction in aircraft taxiing conflicts.
- Capability to assist with disruption management.
- Capability to accommodate the performance characteristics of all aircraft types.
- Elimination of the need for jet aircraft operating from the North East Sector to cross Runway 16R/34L.
- Enhanced efficiency, safety and environmental outcomes with aircraft departures to the west from taxiway extensions to the south of Runway 16R/34L.

Section Two Airport Development Plan

9. Airfield Development Plan

Proposed airfield developments

Taxiway developments

1. Realignment of Taxiways B and C between the Runway 16R threshold and Taxiway G if required to accommodate independent Code E operations, and retain Code F capability on Taxiway B
2. Taxiway access improvements to the reconfigured maintenance and freight precinct in the North East Sector
3. Dual taxiway A to facilitate improved efficiency
4. Extension of Taxiway U1 between Taxiway L and B10 to enhance safety and provide taxiway flow flexibility
5. Development of an additional entry/exit taxiway on Runway 16L/34R between Taxiways T2 and T3 for more efficient regional aircraft operations
6. Extension of Taxiway B to the full length of Runway 16R/34L, eliminating runway crossings and allowing for intersection departures to optimise runway efficiency, increase safety, and reduce fuel burn
7. Development of an additional runway crossing on Runway 16R/34L between the extended Taxiway B and Taxiway A (south of Taxiway L)
8. Development of an eastern rapid exit taxiway (RET) to B10 for Runway 16R arrivals heading to the North East Sector
9. Potential realignment of Taxiway G south of T2 and development of a new parallel Code C taxiway to improve aircraft circulation

Apron and parking stand developments

North East Sector (T2/T3 Integrated Operations Precinct)

10. Development of the existing T3 terminal building to allow for progressive upgrades to Code E contact swing gates, accommodating increased wide body aircraft, and international and domestic operations
11. Development of T2 Pier C to provide contact gate for displaced domestic demand
12. Development of additional remote Code C/TP gates for displaced domestic demand
13. Redevelopment of DOM1 Southern hangar line to provide taxi access for larger aircraft types and additional Code C/TP gates for displaced domestic demand
14. Terminal integration to facilitate international and domestic swing gates

South West Sector

15. Progressive extension of active gates

South East Sector

16. New remote parking and development precincts to provide flexibility to meet future requirements for apron and aviation support (i.e. freight, GSE storage, catering and maintenance)

North West Sector

17. Potential additional contact capacity at T1 Pier C
18. Potential additional contact capacity at T1 Pier B South

Map 9-1 Airfield Development Plan 2045

Section Two Airport Development Plan

9. Airfield Development Plan

Airfield supporting infrastructure

Sydney Airport continually upgrades airfield supporting infrastructure to meet demand and improve safety and operations.

Sydney Airport utilises precision approach aids such as instrument and satellite landing systems (ILS) and distance measure equipment (DME) systems, which aircraft utilise. These services are provided by Airservices Australia, which also supplies Required Navigation Performance (RNP) approach procedures enabled by Global Navigation Satellite System (GNSS).

Most modern aircraft can fix their position using air navigation systems, such as satellite-assisted navigation technology.

On-board aircraft technologies support standard instrument departures (SIDs) and standard arrival routes (STARs).

For more information on existing air navigation and surveillance technologies and infrastructure, see Appendix C.

Air traffic control (ATC) and Aviation Rescue Fire Fighting Service (ARFFS)

Proposed developments to the South East Sector in Master Plan 2045 will be designed to accommodate the existing ATC tower sightlines and ARFF line-of-sight requirements, along with navigational and radar aids and future airside fire station requirements.

Given the criticality of these services to all airport users, we maintain an ongoing dialogue with Airservices Australia on a range of issues, including:

- The impact and timing of any developments on the manoeuvring area.
- Protection of potential sites for any new ATC tower and advanced surface movement guidance and control system (A-SMGCS) remote units, with appropriate sites to be made available when required.
- Protection of centralised location for airside fire station.

Aviation supporting infrastructure

Aviation support infrastructure is essential to airport operations and includes facilities for:

Air freight | **Flight catering** | **Aircraft maintenance** | **Supply, storage, and distribution of aviation fuel** | **Ground support equipment**

Sydney Airport will continue to support aviation infrastructure, with growth driving future developments such as terminal and apron expansion, and possible expansion and relocation of some aviation support infrastructure.

The Airfield Development Plan provides Sydney Airport with maintenance and engineering facilities across the aerodrome to accommodate latest generation aircraft, including:

- Additional aircraft parking.
- Increased aviation fuel storage areas.
- New GSE storage areas.
- Additional areas for maintenance, flight catering, and freight handling and transport facilities.
- Upgraded capacity and distribution for utilities and services.

Corporate and general aviation

Sydney Airport will continue to facilitate corporate and general aviation uses, as well as essential aeromedical services.

Legacy support facilities in the North East Sector may be progressively upgraded or relocated to accommodate larger, modern aircraft. The South East Sector can accommodate such facilities where required.

Ground support equipment (GSE)

GSE refers to the range of motorised and non-motorised equipment used to service aircraft between flights while passenger and cargo loading and unloading, maintenance and other activities are carried out. This includes baggage and cargo equipment, buses, stairs, vehicles used for aircraft refuelling, waste disposal, servicing and catering, and more.

For efficiency of aircraft turnaround, it is important GSE storage and staging is accessible from aircraft parking positions. The required area depends on the number of each aircraft type served during peak periods.

Many ground handlers, contracted to airlines to provide aircraft support services, utilise the GSE. The Airfield Development Plan proposes more GSE storage and maintenance facilities at new parking stands and remote areas to improve efficiency and use across the airfield.

New GSE storage and maintenance facilities are proposed in the South East Sector, to replace facilities that are to be relocated to accommodate expansion in the North East and North West sectors.

Additional satellite facilities will continue to be provided near terminals.

Sydney Airport will keep exploring and using new technology to boost efficiency, cut emissions and reduce manual handling.

Section Two Airport Development Plan

9. Airfield Development Plan

Aviation fuel

Sydney Airport acquired the JFI facility in September 2020 and appointed Skytanking, a global leader in aviation fuelling services, to operate and maintain it from 1 October 2020.

The JFI facility is expected to remain and be expanded on its current location in the northern part of the North West Sector. It comprises:

- Five storage tanks with a maximum capacity of 29 megalitres (ML) of aviation fuel, which currently provides up to three days' supply for the airport.
- 11 hydrant pumps, used to pressurise the hydrant lines, with a capacity of 45,000 L per minute at 1,000 kilopascals (kPa).
- Approximately 11 km of underground pipelines (the reticulation hydrant network) connecting the storage tanks to the international and domestic terminals.
- 170 hydrant points at the aprons of the international and domestic terminal aircraft bays.

In addition to the JFI, some corporate and GA operators at Sydney Airport have small refuelling storage facilities and equipment close to their operations.

The area surrounding Sydney Airport contains significant aviation fuel supply and storage infrastructure, with an estimated storage capacity of approximately 196 ML.

While some jet fuel is supplied to the Sydney Airport JFI facility by trucks, it is primarily sourced via two independently owned pipelines:

- Viva Energy pipeline from Clyde Terminal.
- Ampol pipeline from Kurnell Terminal via Port Botany.

Aviation fuel is pumped through the Ampol pipeline from separate facilities, including the Ampol Kurnell facility and the Vopak storage facilities in Port Botany.

Aviation fuel imports are currently handled through Gore Bay and Port Botany terminals and distributed across Sydney Airport via a network of underground pipelines from the JFI to apron hydrant outlets, adjacent to aircraft gates.

Into-plane (ITP) dispensing is undertaken directly by the fuel companies (or their appointees) at the aircraft parking position. Where hydrant access is not available, bulk tanker vehicles are used to fuel some aircraft.

To meet forecast demand for aviation fuel, the following will be required:

- Upgraded supply from Port Botany.
- New storage tanks and related pumping equipment and pipework.
- Extended and augmented hydrant lines, servicing new terminal extensions, aircraft parking configurations, and remote active aprons.
- Tankering operations to remote aprons where hydrant access is not available.
- Upgrades or relocation of ITP workshop and ancillary facilities.

Sustainable aviation fuel (SAF)

Sydney Airport supports the Australian Government's work to develop a domestic low-carbon liquid fuels industry and is committed to helping grow a local SAF industry. In May 2025, this commitment was formalised in an MoU with Qantas to work towards this goal through joint advocacy and research.

As discussed in Chapter 4 Decarbonisation and climate resilience, SAF is widely recognised as the primary pathway for aviation to credibly decarbonise in the medium-long term. With IATA's goal to reach net zero carbon emissions in aviation by 2050, it is expected that use of SAF will increase through the planning period.

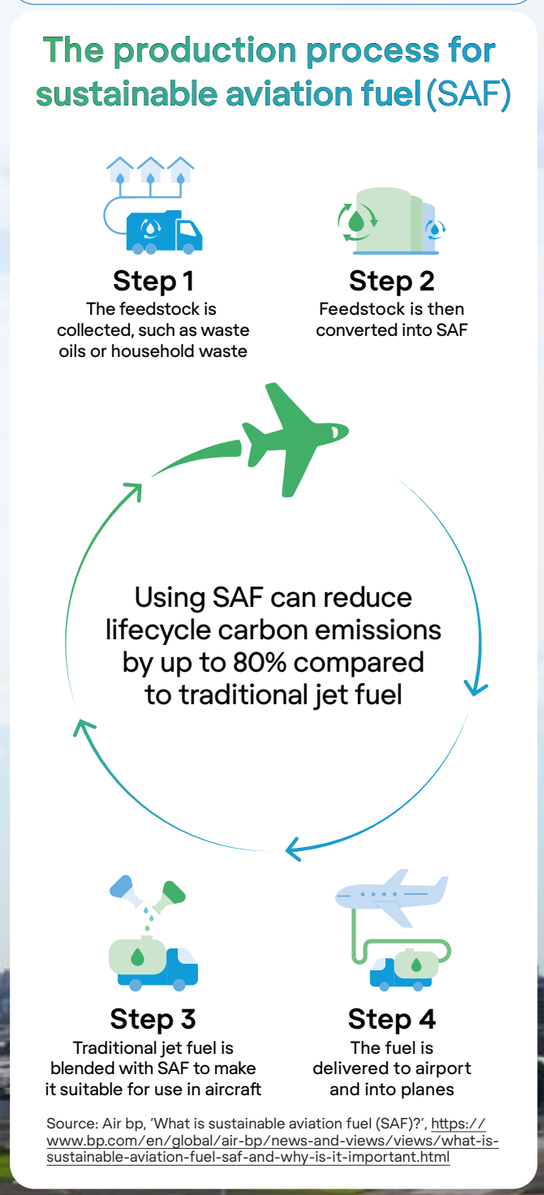
Our long-term goal is for 50% of fuel at Sydney Airport to be SAF by 2050, although we recognise that this will require the right policy settings by government and the development of a local SAF industry. Progress has already been made towards this goal, with the largest ever commercial import of SAF into Australia made in May 2025.

Currently, the blending of up to 50% SAF with conventional aviation fuel (CAF) is acceptable for use in commercial aircraft of all ages (this limit is expected to increase in the future). Blended CAF and SAF is likely to be the predominant fuel type required for aviation energy from 2025-2050.

Sydney Airport is well placed to receive SAF blended as a drop-in fuel in Jet A1. For continued compliance with the aviation fuel supply chain standards (JIG standards), 100% SAF would need to be manufactured by the approved pathways, certified for use, and blended off-site (see Figure 9-1). If this standard is met, there are no physical or other barriers to the use of blended SAF at Sydney Airport.

No changes to infrastructure, fuel quality controls, or operating standards are needed to accept blended SAF as a drop-in fuel. This allows for use of SAF as an interim solution while electric and clean hydrogen powertrains are developed, tested and deployed, and while the ground infrastructure is built out.

Figure 9-1 SAF production process



Source: Air bp, 'What is sustainable aviation fuel (SAF)?', https://www.bp.com/en/global/air-bp/news-and-views/views/what-is-sustainable-aviation-fuel-saf-and-why-is-it-important.html

Section Two Airport Development Plan

9. Airfield Development Plan

Air freight facilities

Sydney Airport has a number of freight facilities in the North West and North East sectors, servicing international and domestic freight. These facilities are leased and operated by a variety of companies.

The total on-airport land and building areas (warehouse and office total area) dedicated to freight are outlined in Table 9-2. On-airport infrastructure is supported by an off-airport air freight ecosystem, including freight forwarders and ground transport service providers that interface with the Cargo Terminal Operators (CTOs).

Table 9-2 Size of freight facilities at Sydney Airport, 2024

Terminal precinct	Land area (ha)	Building area (m^2)
T1	9.2	37,823
T2/T3	4.5	25,099
TOTAL	**13.7**	**62,922**

Sydney Airport aims to be a more active player working collaboratively in the air freight supply chain to improve outcomes for all participants.

A potential investment will deliver full-service on-airport freight facilities. The world-class solution will enhance connectivity with Australia's national supply chain and drive further efficiency in air freight processing to meet global KPIs.

The development of additional freight facilities will:

- Provide sufficient cargo terminal operating facilities in the vicinity of passenger terminals to support growth in freight volumes (i.e. up to 1.4 million tonnes by 2045).
- Improve airport land and infrastructure efficiency.
- Improve safety and reduce congestion by minimising the interface between landside freight and passenger traffic.

Accordingly, we propose to consolidate freight facilities at the T1 International Operations Precinct and the T2/T3 Integrated Operations Precinct, and develop new areas and ground access arrangements as illustrated in Map 9-2.

Flight catering facilities

While there is a facility in the North East Sector, most flight catering facilities are located off-airport.

Flight catering facilities will continue to operate from a balance of on and off-airport locations. There is potential for new facilities to be located on the airport site, if demand requires.

Map 9-2 Proposed freight and aviation logistics facilities

Section Two **Airport Development Plan**

9. Airfield Development Plan

Aircraft maintenance facilities

Any development of aircraft aprons, maintenance or other support facilities at Sydney Airport will maintain the integrity of associated Airservices Australia facilities, including radars, navigation aids and fire stations.

Proposed aviation support facilities for use by airlines, third-party service providers and their customers may include hangars, workshops, offices and staff amenities.

While line maintenance is usually undertaken at the aircraft gate, new facilities would cater for:

Base maintenance
Requiring 20 to 36 hours ground time in a hangar with simple access docking, or at an apron from the terminal. Some non-routine maintenance and supplemental checks can be carried out at an aircraft parking position in favourable weather conditions.

Heavy maintenance
Requiring significant ground time (6 to 50 days) in a hangar with extensive docking capability.

Proposed developments by sector (see Map 9-3)

North East Sector

In support of the proposed T2/T3 Integrated Operations Precinct, two aircraft maintenance areas in the North East Sector may be expanded, accommodating forecast passenger growth:

- Areas north of the existing T3 can potentially be made available for development of new maintenance and engineering facilities to the northern perimeter of the current site.
- The eastern part of the sector will be used for the maintenance and facilitation of GA and corporate aviation aircraft.
- New maintenance hangar.

South East Sector

Land in the South East Sector will be available to accommodate the relocation of displaced facilities and to meet demand for new facilities. This may include:

- New maintenance (typically for base maintenance), engineering and aviation support facilities.
- A range of hangar or canopy bays adjoining aircraft apron parking.
- Other existing developments, including contractor compounds, rental car, vehicle maintenance and catering facilities, may be retained in their current location or relocated over time.

Northern Lands Sector

Developments in the Northern Lands Sector may include:

- Development of airport logistics facilities such as catering, freight and vehicle staging.
- Consolidation of current airfield security gates to a primary location between the North West and North East sectors.

Map 9-3 Future aircraft maintanence facilities

Section Two **Airport Development Plan**

10. Commercial Development Plan

The availability of key services and amenities for airport passengers and workers is essential to providing convenience, time savings, simplified commuter travel and healthy lifestyle choices. The Commercial Development Plan proposes developments to improve efficiency and serve airlines, industry partners and airport users.

Such developments to landside areas of the airport could include:

On-airport offices for government agencies, airlines, and other airport service providers in aviation.

Retail and food and beverage premises on-airport, outside of terminals.

A variety of convenient hotel accommodation choices.

Rental car products, servicing different market segments.

Warehousing, maintenance and storage facilities.

Most of Sydney Airport is dedicated to aviation, leaving limited land for commercial use.

Our planning focuses on agility and flexibility, guided by customer research to anticipate changing needs and meet demand for diverse services from thousands of daily passengers, community and business partners.

These priorities are outlined in the Airport Development Plan (Map ES2-1) and detailed in Chapter 13 Land Use Plan.

Commercial services at Sydney Airport

- Hotel accommodation
- Commercial and serviced offices
- Meeting, conference and function facilities
- Food and beverage outlets
- Medical facilities
- Banking
- Convenience stores
- Staff support services
- Luggage services
- Rental car
- Pet consignment and boarding
- IT services
- Advertising and commercial signage
- Airline lounges
- Retail facilities
- Currency exchange

Commercial development strategy

Sydney Airport's strategy for commercial development seeks to provide for a range of commercial land uses that support the airport's aviation function, while providing civic amenity.

We are aware of increasing demand from businesses and agencies for facilities close to the airport or airside that support their operations, such as administrative offices. The timing and details of proposed developments will also be informed by market-driven factors and demand.

When assessing options and the merits of commercial developments, Sydney Airport considers the highest and best use of the subject land, customer value, and both developmental and operational sustainability credentials, through implementation of our BES Standards.

Our highest priority is the delivery of aviation needs and proposed terminal and airfield improvements (see Chapter 8 and Chapter 9). These developments may progressively displace some existing commercial activities.

The relocation of activities will be facilitated by ongoing occupancy tenure reviews and exploration of short-to-medium term alternative land uses. Land that isn't required for aviation uses until later in the planning period could accommodate commercial activities in the intervening period.

Section Two Airport Development Plan

10. Commercial Development Plan

Potential commercial development by sector

Map 10-1 indicates potential commercial developments by airport sector, including Sydney Airport freehold land. Aimed at supporting forecast growth and changing needs and trends, it identifies general long-term development considerations and proposed improvements for the first five years of the planning period.

North West Sector (to 2030)

Commercial floor space capacity: 120,000 m² (excluding T1)

1. Additional hotels totalling 200–500 rooms adjacent to T1

Other potential changes/additions:

2. Commercial development adjacent to the waterfront along the banks of the Cooks River and at the southern end of T1
3. T1 terminal upgrades/modifications may result in the relocation of existing airline, agency and service provider office accommodation, creating opportunities for lounges and hotel accommodation and commercial development

North East Sector (to 2030)

Commercial floor space capacity[1]: 120,000 m²

4. Additional hotels totalling 500–900 rooms

Other potential changes/additions:

5. Provision has been made to satisfy a variety of commercial demands, including offices, hotels, service and other facilities, and advertising signage
6. New/upgraded facilities, developed in response to proposed terminal and airfield developments (such as offices, freight, aircraft maintenance and facilitation, catering, and vehicle servicing)

South East Sector (to 2030)

Freight, logistics and industrial floor space capacity: 70,000 m²

7. Upgrade or new roadside services at the corner of General Holmes Drive and Foreshore Road to support anticipated ground access arrangements
8. Aviation support facilities (such as freight and logistics) to the south of General Holmes Drive to accommodate displaced facilities

Other potential changes/additions:

9. Current commercial uses, including rental car support and vehicle servicing facilities, part of the Blu Emu car park, and more, may be displaced for aviation-focused developments
10. Botany Bay foreshore may be used for commercial activities
11. Transport for NSW (TfNSW) may develop truck inspection facilities along Sydney Airport's Foreshore Road land separated from the airport by the Mill Stream stormwater drainage canal. Sydney Airport remains interested in establishing an adjacent roadside service centre, associated facilities, and advertising signage areas in conjunction with any TfNSW development

Northern Lands Sector (to 2030)

Freight, logistics and industrial floor space capacity: 150,000 m²

Sydney Gateway connections facilitate the use of land north of the Alexandra Canal for potential landside and airside aviation support activities such as freight, catering, GSE storage and maintenance, truck staging, car parking, and vehicle storage.

12. The relocation of displaced activities, currently undertaken elsewhere on airport. Additional access connections and ground transport infrastructure are expected to be delivered as part of developing this area

Other airport lands

Sydney Airport may establish roadside services areas and advertising adjacent to transport routes on freehold land.

1. Excluding T2, T3 and potential terminal expansions.

Map 10-1 Commercial Development Plan 2045

Section Two Airport Development Plan

10. Commercial Development Plan

Impact on local employment

Sydney Airport facilitates commercial developments which generate significant employment opportunities and have a major influence on the economy.

Table 10-1 outlines the forecast direct employment levels and economic impact of the airport precinct for the period to 2030.

Table 10-1 Sydney Airport impact on the local economy and employment

	2025	2026	2027	2028	2029	2030
Direct jobs (FTE) (number)	38,300	39,800	39,900	40,300	41,000	41,500
Direct economic impact (billions)	$7.6	$7.9	$7.9	$8.0	$8.1	$8.2

Source: 2024 Deloitte Access Economics.

11. Ground Transport Development Plan

Ground access within the airport precinct and beyond is important to our passengers and community. Our forecast growth to 2045 will increase demand on the internal and external transport networks.

To cater for this demand and enhance passenger experiences, our Five-Year Ground Transport Plan and 20-Year Ground Transport Strategy outline proposed improvements to network performance, centred around four key themes.

Infrastructure investment

Strategic network upgrades that are integrated with land use planning.

Demand management

Consideration of Travel Demand Management (TDM) tools for road-based trips such as pricing mechanisms, and dynamic demand and product management supported by real-time information.

Advocacy

Working with internal and external stakeholders to facilitate parallel planning and infrastructure that supports our goals.

Behaviour change

Provide greater user choice, encouraging staff and passengers to use more public or active transport to support sustainability and preserve road capacity.

In the next five years and beyond, potential developments aim to:

- Reduce congestion and conflict points.
- Improve conditions for public and active transport, with upgraded facilities and infrastructure to support increased bus and train services.
- Utilise advanced technology to improve information access and wayfinding to enable better travel choices and experiences.
- Respond to increasing demand for rideshare services by reconfiguring taxi and rideshare facilities to optimise use of available space.

Section Two Airport Development Plan

11. Ground Transport Development Plan

Ground transport planning approach and considerations

Our Ground Transport Development Plan is informed by existing ground transport arrangements, trends and assumptions that will impact traffic demand, and a range of internal and external issues and opportunities.

To validate our plan, Sydney Airport has conducted transport modelling to understand our network constraints in the future. This provides confidence that proposed ground transport solutions will effectively accommodate forecast traffic volumes and passenger expectations relating to sustainability and service.

Ground transport since Master Plan 2039

As with broader airport developments, ground transport planning for the next 20 years is heavily influenced by the events, progress and trends since Master Plan 2039 was published.

The impacts of the COVID-19 pandemic were significant, beyond the initial sharp decline and then return of travel. Changes to preferred modes of transport, and therefore shifts in the demand for services and supporting infrastructure, have had a lasting effect.

These unforeseen changes meant that some aspects of the Five-Year Ground Transport Plan 2019–2024 were not delivered as intended.

Despite these challenges we have continued to invest in ground transport in recent years and will continue to explore further previously proposed developments in the years to 2030.

Key infrastructure changes since 2019

Sydney Airport, TfNSW and partners have delivered several internal and external transport infrastructure projects which improve mode choice and passenger experience. Developments shown in maps 11-1 and 11-2 reduce travel times and congestion and make it easier and safer for people to get to and from the airport precinct by public or active transport. These include:

- Improved road and freight access via Sydney Gateway (opened September 2024) and other major road upgrades, such as the new St Peters Interchange, M4-M8 Link Tunnels and Rozelle Interchange.
- New, easier and safer active transport connections between all terminals and Tempe and Mascot with over 3 km of pedestrian and cycling paths, a footbridge, and additional bike parking. Speed calming measures have been implemented to slow traffic in high walking and cycling areas.
- Improved user experience with ongoing upgrades to the T8 train line as part of the More Trains More Services program, and increased access to public transport with the opening of Sydney Metro City.
- Additional parking and pick-up and drop-off facilities at all terminals, and new Uber ranks at T1 and T3 kerbsides for streamlined pick-ups, supporting efficient use of private vehicles, taxis, rideshare, coaches and minibuses.
- Share bike trials to test demand for these services.

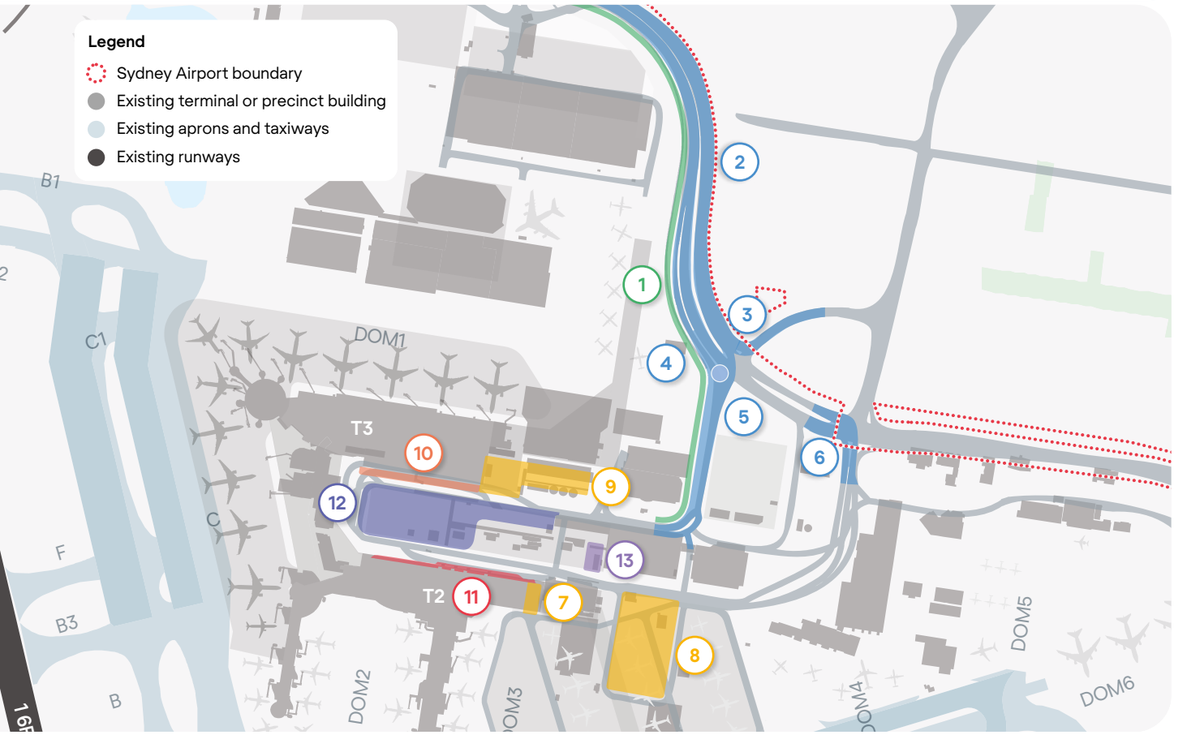
Map 11-1 Ground transport improvements at T1 since 2018

1. Delivery of an active transport link connecting T1 and T2/T3 as part of the Sydney Gateway project
2. Widening of Airport Drive as part of the Sydney Gateway Project, improving journey times and user experience
3. Delivery of the New Link Road Freight access link
4. Delivery of T1 Premium Valet product at T1 Departures
5. Provision of Uber facilities at T1 kerbside to provide greater customer choice
6. Introduction of Uber holding area at T1 to provide more capacity

Section Two Airport Development Plan

11. Ground Transport Development Plan

Map 11-2 Ground transport improvements at T2/T3 since 2018



1. Delivery of an active transport link connecting T1 and T2/T3 as part of the Sydney Gateway project
2. Widening of Qantas Drive as part of the Gateway Project, improving journey times and user experience
3. Improvements to the left turn from Qantas Drive to Robey St as part of the Sydney Gateway Project, improving journey times and user experience
4. Improvements to the left turn from Seventh Street to Qantas Drive as part of the Sydney Gateway project, improving journey times and user experience
5. Optimisation of traffic signals as part of the Sydney Gateway Project, improving journey times and user experience
6. Dedicated flyover from Qantas Drive to T2/T3 entry as part of the Gateway Project, improving journey times and user experience
7. Delivery of a T2 Premium Valet offering
8. Delivery of FastPark Valet services at T2
9. Expansion of Qantas Valet at T3 (under construction)
10. Provision of Uber facilities at T3 kerbside to provide greater customer choice
11. Continued optimisation of operations at T2 Departures kerb
12. Delivery of an interim solution at P1 car park
13. Upgraded end-of-trip facilities (in progress)

Forecasts, trends and assumptions

In line with air traffic forecasts (see Chapter 6), ground transport demand is expected to rise with the increase of passengers, their greeters and farewellers, and the staff needed to meet operational demand. As shown in Figure 11-1, ground transport traffic demand is forecast to grow by up to 32% by 2030 and up to 66% by 2050.

To effectively and sustainably support forecast growth, we need to understand current and future traveller behaviour and how people will travel to and from the airport over the next 20 years.

While remaining flexible to change, ground transport planning and modelling in Master Plan 2045 assumes a range of ongoing trends will continue.

Passenger expectations

With increasing focus on decarbonisation and reducing the impacts of airport operations, customers and stakeholders expect sustainable ground transport options. We anticipate increasing demand for infrastructure, such as charging stations, that supports electric vehicle usage, and more efficient and accessible public and active transport options.

Technology and demand for access to live information has also evolved since Master Plan 2039. As advancements continue, passenger expectations for the use of information technology to improve travel experiences will rise.

Mode share

Sydney Airport's 2024 Ground Transport Survey showed a change in how passengers travel to the airport. There has been significant increase in rideshare and on-demand services, with a general decline in taxi use. It is expected that rideshare will continue to gain a higher proportion of mode share with a corresponding reduction in taxi shares.

Currently, the majority of greeters, farewellers and staff travel to the airport by private car or by train. Our Ground Transport Survey found that many staff who drive to work do so because the cost of public transport is too high, but the majority would consider travelling by train if driving was not an option.

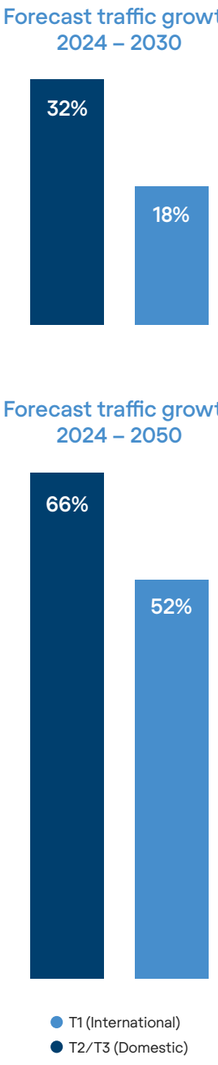
We expect these trends to continue unless public transport (including frequency, cost and wider network connectivity) to the airport is improved.

While relevant long-term data is limited, informal observations of on-demand e-bike and bike rack usage suggests that demand for active transport is increasing as connectivity is improved.

Sydney Airport extended peak times

Sydney Airport experiences an early morning peak and late evening peak which do not correspond with the traditional traffic peaks seen on the broader transport network. This means that at these times when demand on the airport is highest, the frequency of public transport is generally lower, increasing demand and pressure on the road network.

Figure 11-1 Forecast ground transport traffic growth



Section Two Airport Development Plan

11. Ground Transport Development Plan

Issues and opportunities

In developing Master Plan 2045, we have identified key issues and opportunities for improvement across the existing airport ground transport infrastructure and Sydney's broader transport network.

Capacity constraints

Sydney Airport's terminal precincts see several capacity constraints, particularly kerbside, approaching departures at T1, at the exit road to Airport Drive, and the airport exit at Seventh Street. The T2/T3 Integrated Operations Precinct's horseshoe design means that the precinct is spatially constrained and is likely to see increasing challenge with future changes to land use.

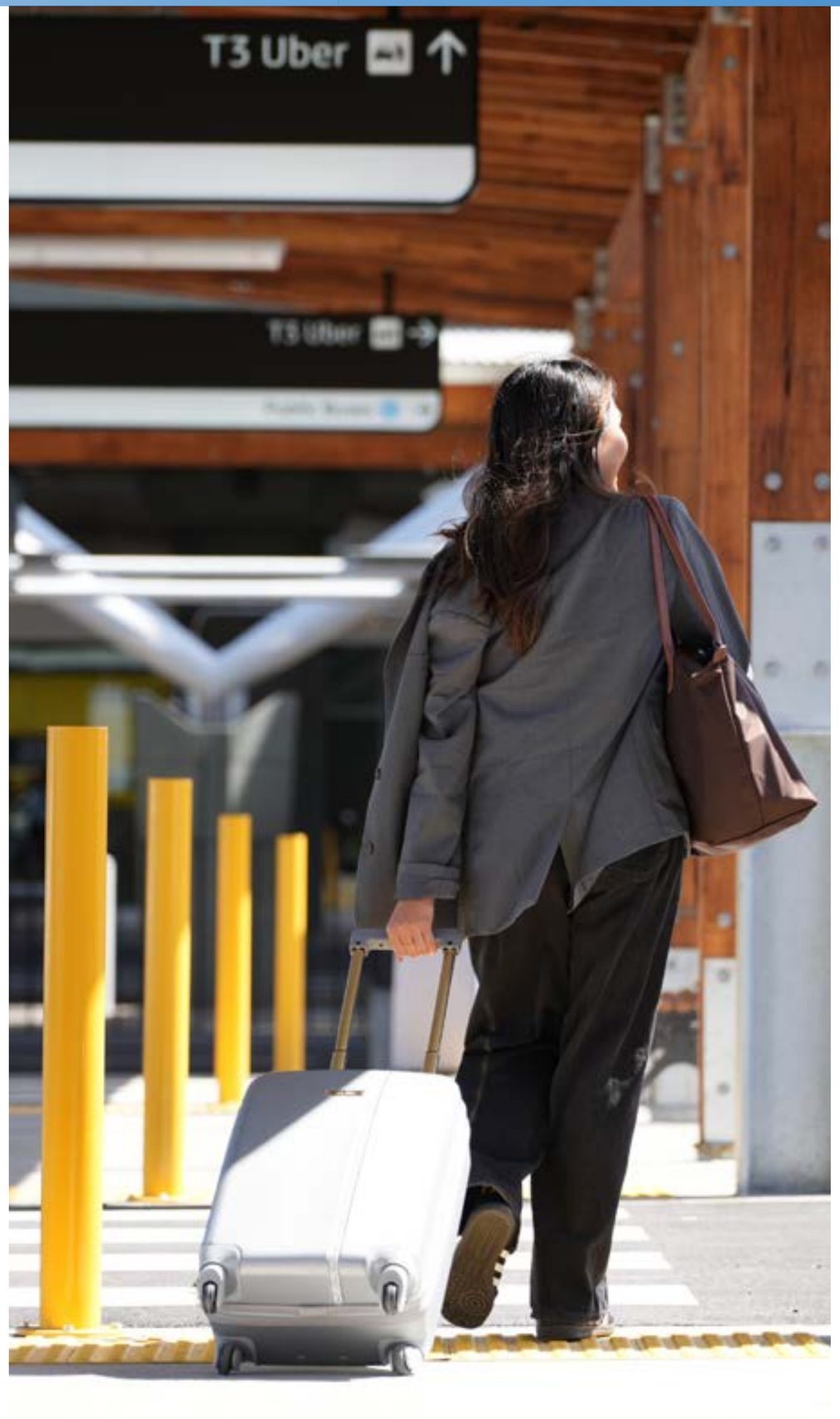
Recirculation of rideshare and taxis is placing additional pressure on the existing network and the taxi holding area is often at capacity. Modelling shows taxi and rideshare pick-up points will exceed capacity within the planning period.

In addition to network constraints, insufficient parking capacity and long wait times impact customer experience at the Blu Emu car park.

Land use changes

Over the planning period, proposed changes to land use will impact how people move around the airport, presenting an opportunity to update the ground transport network to optimise access and wayfinding. Land use changes that will have a large impact on the ground transport network include:

- Northern Lands Sector development including a new car park and other commercial facilities.
- Introduction of new and upgraded freight facilities in the North West and North East sectors.
- Eastern terminal expansion, facilitating international operations at T2/T3.
- Expansion of remote parking facilities.



External transport networks

While external road and public transport networks are beyond our remit, Sydney Airport continues to work with the NSW Government for mutually beneficial network outcomes. Ground transport planning is informed by recent government improvements, planned infrastructure developments, and strategies including the Future Transport Strategy to be sure our internal changes support the broader vision for transport in NSW.

Planned external network changes – through projects such as the Western Harbour Tunnel, the M6 Motorway Extension, including upgraded active transport facilities, and the delivery of Sydney Metro Southwest and West – will provide more route choice and impact how people arrive at the airport.

Public transport is a vital component of the ground transport network to and from Sydney Airport, with the airport rail stations currently servicing around 25,000 trips on a busy day.

As part of the Rail Service Improvement Program, the NSW Government has indicated that the T8 rail line servicing the airport has the potential to provide greater long-term capacity. In March 2025, funding was announced for a preliminary business case for upgrades to support more public transport trips to the airport.

Master Plan 2045 considers how Sydney Airport could be better served by public transport. Sydney Airport will continue to identity opportunities to enhance the journey quality for public transport users upon arrival at the airport precinct. In addition to reducing the cost and increasing the frequency of rail services, we continue to advocate for increased bus connectivity such as:

- A rapid bus route between Sydenham and Mascot train stations, capitalising on the new Sydney Metro.
- The extension of route 420 to better service southern suburbs.
- An extension of route 477 from Miranda to Rockdale to reach the airport precinct, servicing the catchment south of Rockdale, where a significant proportion of our workforce reside.
- Enhancements to services offered during Sydney Airport's peak hours, noting that these often fall outside of the wider network peak periods.

Section Two **Airport Development Plan**

11. Ground Transport Development Plan

Five-Year Ground Transport Plan (2025–2030)

Over the next five years, we will implement solutions to improve reliability and efficiency of travel to, from and through the airport precinct.

We are focused on:

Reducing congestion and conflict points

Supporting the uptake of sustainable modes by improving conditions for public and active transport

Improving information access and wayfinding to enable better travel choices and enhanced passenger experiences

This will be achieved through infrastructure delivery, demand management initiatives, policy, technology and advocacy.

In addition to the proposed developments (outlined opposite and in maps 11-3 and 11-4), we will:

- Continue to advocate for enhanced and more affordable public transport.
- Continue to identify opportunities to improve journey quality for public transport users upon arrival into the airport precinct.
- Make sure publicly available information on our website reflects the latest changes to the transport network and explore ways to provide live updates and journey planning advice.
- Explore options and mechanisms to manage growth in pick-up and drop-off demand and diversify terminal access, such as multiple drop-off locations within the airport precinct.
- Investigate infrastructure solutions that encourage the use of electric vehicles by passengers and operators of rental car, driver and rideshare services.
- Champion the development of an overarching Sydney Airport Ground Transport Strategy that will set the long-term direction and priorities for ground transport planning at Sydney Airport.

Active transport

To encourage more active transport, especially for staff, we will focus on improving facilities and closing gaps in the network to provide a seamless user experience.

We will investigate monitoring of active transport links and deliver quick end-of-trip upgrades.

Improved connections, signage and public information will also support pedestrian wayfinding in both terminal precincts.

Road network upgrades

Targeted network upgrades will be required to reduce pinch points, provide access to changed land uses, improve efficiency, and accommodate future demand.

An extra exit lane may be added from Cooks River Drive to Airport Drive. We will collaborate with TfNSW to optimise signals at the Seventh Street/Qantas Drive junction and deliver localised upgrades to the Seventh Street approach.

We will review and upgrade access routes to support freight, particularly from Sydney Gateway through the New Link Road and around the Northern Lands Sector to T2/T3.

Parking

Parking facilities will be reviewed to accomodate expected demand and trends that arise in the coming years.

Proposed parking improvements include:

- Providing parking options in the Northern Lands Sector, with a shuttle bus service to connect to the terminal.
- New multi-storey P8 parking facilities for passengers, delivering approximately 3,000 additional spaces.
- New multi-storey P9 car park, delivering approximately 3,000 additional spaces.
- Elevated parking access directly from Centre Road at T2/T3.
- A new car park at P1.
- Improved valet services and vehicle storage.
- Capacity and access upgrades to support the augmentation of the Blu Emu parking facility.
- Enhancements to the shuttle service to improve journey times and user experience between remote parking facilities and terminals.

Rideshare and taxi

To respond to the increasing demand for rideshare services, we will reconfigure and maximise use of available space in all terminal precincts.

Changes may result in:

- Optimisation of Taxi, Uber, limousine and other rideshare facilities at T1.
- Adjustments to T2 arrivals kerb to accommodate Uber.
- Centralising of taxi services at T2/T3.
- Relocating existing holding areas across both precincts.

To mitigate the impact of recirculation at T1, an access road from Departures Plaza to Cooks River Avenue will provide a dedicated recirculation lane for Uber vehicles, removing them from the core network.

Demand management

There is a limit to the amount of traffic that can be accommodated within the footprint of the airport, particularly within the T2/T3 Integrated Operations Precinct's horseshoe area, which has terminals to the north and south. A long-term land use reconfiguration and modal shift exercise is required to maximise efficiency inside the precinct and beyond. This may include:

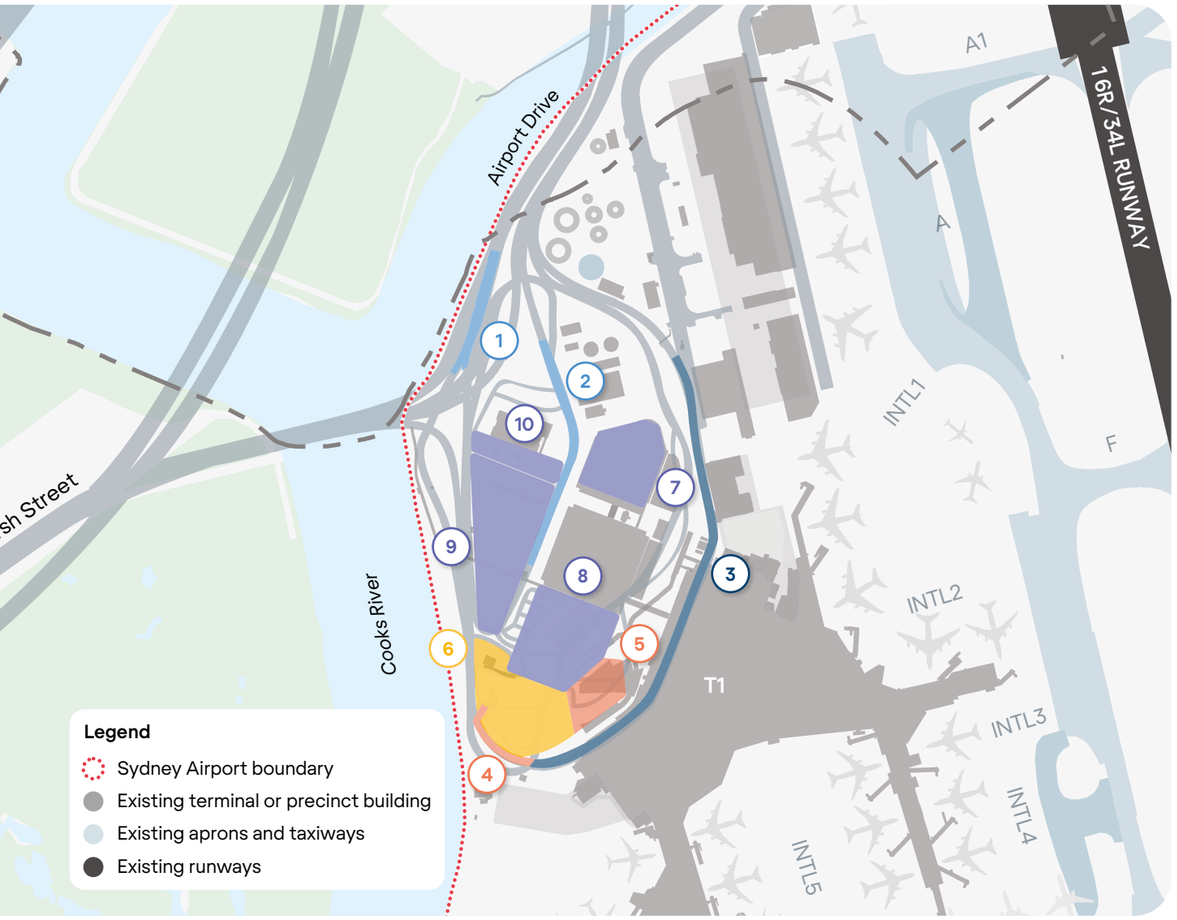
- Relocation of shuttle services adjacent to P3.
- Relocation of dock facilities.
- Implementation of drop-off facilities at Arrivals level during peak periods.
- Ground transport interchange at P1.

As we continue to advocate for more bus services, future provision of a ground transport interchange facility (likely integrated within a car park) would provide the necessary additional bus bay capacity. As required, we will also work with TfNSW to upgrade access routes to support reliable journey times and enhance passenger experiences.

Section Two **Airport Development Plan**

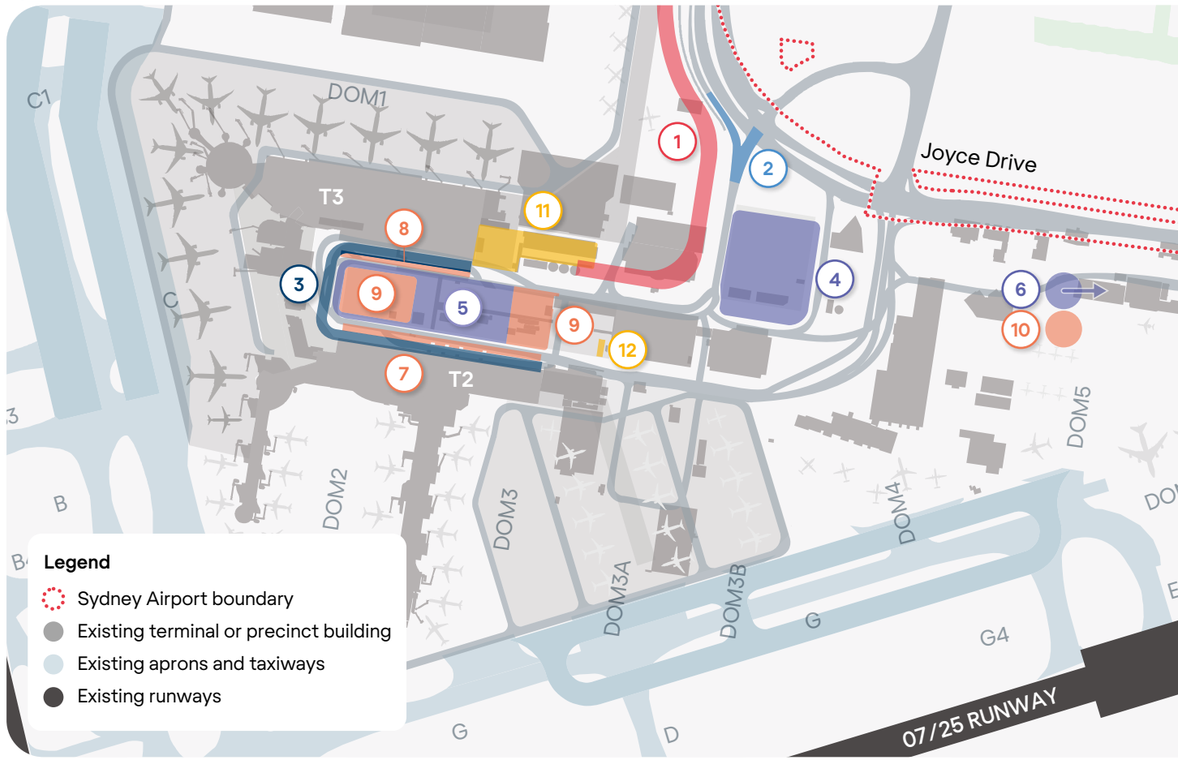
11. Ground Transport Development Plan

Map 11-3 Five-Year Ground Transport Plan for T1 (2025–2030)



1. Provide an additional exit lane at Airport Drive to increase capacity
2. Improve parking access/egress to streamline customer journeys
3. Optimise activities at the departures kerb to maximise operational efficiency
4. Infrastructure to reduce the recirculation of Ubers on the road network
5. Reconfigure the taxi/Uber areas for improved pick-up efficiency and reduced wait times
6. Consolidate activities in holding areas to maximise operational efficiency
7. Review parking products and capacity at P6 car park
8. P8 multi-storey car park, including a variety of drop-off options for customers
9. P9 alternate drop-off and multi-storey car park
10. Enhancements to P9 express pick-up area

Map 11-4 Five-Year Ground Transport Plan for T2/T3 (2025–2030)



1. Proposed landside road corridor
2. Identify improvements to the Seventh Street junction approach to improve driver experience, particularly in relation to weaving
3. Optimise activities at the departures kerbs to maximise operational efficiency
4. Investigate the use of P4 car park for mixed-uses, including pick-up, drop-off, parking and/or valet products to expand parking capacity
5. Deliver a ground transport interchange within a multi-storey car park, collocated with VIP and rental products and incorporating alternate drop-off facilities. There is also the opportunity to incorporate alternate drop-off facilities to provide greater customer choice
6. Expand the Blu Emu site to provide additional capacity for employees and long-stay customer parking
7. Consider options to relocate the T2 Uber pick-up facilities and incorporate technological advances to reduce congestion and wait times
8. Consider options to enhance the T3 Uber pick-up facilities and incorporate technological advances to align with broader airport reconfiguration and reduce wait times
9. Investigate the suitability of a centralised domestic taxi pick-up facility to improve overall network operation and improve customer experience
10. Explore the viability of introducing a rideshare and taxi holding area to a consolidated site to expand capacity and reduce network congestion
11. Increase storage capacity for valet to meet demand (currently under construction)
12. Relocate existing end-of-trip facilities to a permanent location, supporting active travel uptake across the domestic precinct

Section Two Airport Development Plan

11. Ground Transport Development Plan

20-Year Ground Transport Strategy

In the years to 2045, Sydney Airport will strategically optimise ground transport facilities to meet forecast demands for sustainability and service levels, while remaining flexible to respond to unforeseen events. Our 20-Year Ground Transport Strategy supports shifts in ground transport needs and how people move around the airport as a result of the development of the T2/T3 Integrated Operations Precinct and other land use changes.

We will continue to develop road and ground transport upgrades across the airport precinct and the surrounding road network, integrating government transport projects and strategies.

Across all ground transport developments, we will actively seek out ways to use technological advancements to deliver efficiencies, increased sustainability and enhanced passenger experiences.

Airport-wide developments

It is likely that many of the focus areas identified in the five-year plan will continue over the next 20 years. Our work could include:

- Optimising existing facilities and delivering terminal connections to respond to changes in the airport such as the Northern Lands Sector development, T2/T3 terminal integration, Blu Emu car park changes, and T2 Pier C expansion.
- Considering parking arrangements, including the expansion or relocation of the Blu Emu car park, delivery of new car parks, and the introduction of changes to payment mechanisms.
- Monitoring active transport uptake and responding to anticipated demand by upgrading facilities.
- Wayfinding upgrades as required to support changes to the network and/or land use.
- Upgrades to bus bays and access routes to accommodate additional services, and continued advocacy for a ground transport interchange.
- Advocating for additional public transport services and the removal of the Station Access Fee.
- Maintaining and improving publicly available travel information, including identifying initiatives to provide live information direct to travellers.
- Providing travel planning advice to staff and exploring other initiatives to support the transition of viable trips to active or public transport.
- Improving integration of public transport and terminal facilities.

T1 International Operations Precinct

The addition of extra lanes towards the T1 Departures kerb and from Cooks River Avenue to Airport Drive will reduce congestion, with other improvements to be considered as further details are confirmed around land use changes.

We will support the continued delivery of pick-up and drop-off enhancements at T1, including broader reconfiguration of the southern end of the T1 precinct.

T2/T3 Integrated Operations Precinct

Initiatives to support long-term changes to ground transport demand at the T2/T3 Integrated Operations Precinct may include:

- Relocation of the FastPark Valet facility to P1.
- Relocation of freight facilities to enable T2 expansion.
- Improved integration of rail and ground transport facilities within P1.
- Widening of Ross Smith Avenue.

Section Two Airport Development Plan

12. Utilities Development Plan

Sydney Airport owns and maintains a comprehensive network of utilities to supply power, water, sewer, natural gas, telecommunications, and stormwater infrastructure across the airport site.

We're investing in a modern utilities network to:

Support Sydney Airport's forecast growth

Improve the sustainability and viability of supply arrangements

Improve reliability, resilience and redundancy

Decarbonise and provide climate resilience

Working closely with utility providers, we will continue to expand and improve the utilities network to meet increases in demand and reliably support airport operations and growth (see Map 12-1). Innovative design, material selection and new technologies will position infrastructure to actively contribute to decarbonisation.

Potential developments:

- Modernisation and upgrade of key electrical feeds, utilising sustainable products and technologies where possible.
- Increased recycled water treatment capacity to improve resilience and environmental performance.
- Potable water supply.
- Upgrades to trunk drainage systems, including the optimisation of catchments, improving management and resilience.
- Network expansion to facilitate development in new areas.
- New utilities and the replacement of current infrastructure to facilitate aviation operations and reduce reliance on aircraft APUs, including FEGPUs and PCA.
- Additional aviation fuel tank.

Effective demand management and investigations into alternative supply solutions are well underway. Initiatives implemented in recent years include the expansion of the current Airport Zone Substation, and implementation of the Energy Plan.

Electrical network

The airport is connected to the external electrical grid by Ausgrid at two points in the North West and North East sectors, feeding an internal network that is owned and maintained by Sydney Airport. This supply is supported by numerous diverse feeders, for a high level of redundancy.

In accordance with CASA and ICAO requirements, Sydney Airport has a back-up power system, which allows continuation of essential aviation operations during mains outage events.

In recent years, Sydney Airport has undertaken substantial works to improve capacity, reliability and redundancy, including:

- Reconfiguration of networks to remove single points of failure.
- Retirement or replacement of old equipment.
- Network expansion, across the airport site.

Energy efficiency

We have recently made substantial investments in the optimisation of energy usage, including demand-side management, installation of energy efficient equipment, and feasibility studies for alternative generation sources. Notably, this includes the installation of new:

- Energy efficient chillers at T3.
- LED lighting on our runways and taxiways.
- Lighting in the terminal and baggage handling areas, reducing energy usage by 30%.

Sydney Airport will continue to implement demand-side management measures to monitor the practicality and feasibility of alternative supply options.

Proposed electricity infrastructure

As development progresses across the airport, the electrical network will be augmented and upgraded as required. Sydney Airport works closely with Ausgrid to be sure the supplying grid can service this growth.

In addition to enhancing the lead-in supply capacity, the on-airport network will need to be bolstered to support growth, while delivering reliability and redundancy. Such expansion and improvements will need to consider demand-side management and sustainability initiatives.

Network development will consider:

- Upgrades to zone substations in the North East and North West sectors.
- Ongoing replacement and retirement of aged equipment.
- Improved interconnectivity between sectors to enhance redundancy.
- Augmentation of the network capacity to supply proposed developments, including electrification projects.
- Alignment of the electrical network development with broader sustainability initiatives, such as expansion of ground power and PCA to aircraft parking positions.
- Resilience planning to respond to network outages.
- Climate resilience, including planning for extreme weather events, assessment of asset vulnerability and criticality, and lifespan of the asset.
- Solar infrastructure.
- Opportunities to introduce a battery energy storage solution.

Section Two Airport Development Plan

12. Utilities Development Plan

Water supply

The airport receives potable water from the external Sydney Water network at multiple points across the site. In the North West and North East sectors, this supply feeds a network of tanks, pumps and pipes that are owned and maintained by Sydney Airport. Generally, other areas across the site are supplied directly via Sydney Water assets.

Additionally, Sydney Airport operates a recycled water treatment plant in the North West Sector. This system provides non-potable water for toilet flushing and air conditioning cooling towers in the T1 precinct, reducing reliance on potable water sources.

To assess efficiency and reliability, we have conducted studies on the status of our water supply network. These studies will inform future infrastructure planning and investment.

Water efficiency

As part of our commitment to reduce water consumption per passenger, we have implemented conservation measures such as water-efficient fittings, leak detection infrastructure, and alternative supply options.

The North West Sector recycled water treatment plant is currently capable of meeting over 60% of the airport demand within the T1 precinct.

Sustainability will be central to future water network development. We will explore the expansion of the recycled water plant to introduce recycled water in other areas of the airport and improve water efficiency.

Proposed water infrastructure

We work closely with Sydney Water to make sure the external network can accommodate the forecast growth at Sydney Airport.

Network-wide developments will include water saving and recycling initiatives, and ongoing maintenance and upgrades, such as:

- Exploring different connection points to improve reliability and resilience.
- Investigating recycled water capacity to address increased demand for non-potable water sources.
- Upgrading supply arrangements and assets, and increasing storage capacity in the North East and North West sectors.
- Expanding the reticulation network to support development in areas with limited supply and align with water saving efficiencies.
- Ongoing investment to improve network reliability and efficiency.

12. Utilities Development Plan

Stormwater

As Sydney Airport is bordered by water bodies with large upstream catchments, flood events can cause significant water level increases.

Sydney Airport has 11 internal sub-catchments that ultimately drain to Botany Bay. The airport site is relatively self-contained, with minimal external areas contributing to runoff in the airport catchment.

We maintain an extensive stormwater drainage network with water quality control assets including:

- Gross pollutant traps.
- Ongoing water quality monitoring.
- Flame traps on aprons.
- Emergency shut-off valves for spill containment and spill response.

Sydney Airport has undertaken a flood study to assess the resilience and performance of the stormwater network, which may be affected by increased frequency and intensity of rainfall, rising sea levels, and other climate change impacts.

The flood study is a key input in the development of Sydney Airport's Stormwater Resilience Management Strategy, which will guide investment in infrastructure based on our flood risk appetite to improve resilience to flooding.

We are also investigating the potential redirection of stormwater from the North East Sector to the South East Sector to optimise catchment management.

Proposed stormwater infrastructure

New developments and aircraft parking areas may require additional or upgraded stormwater assets. While it is unlikely proposed developments will increase stormwater runoff, all new developments will be assessed for water quantity and quality mitigation measures, to minimise off-site impacts.

Water sensitive urban design is a consideration in the development assessment process for infrastructure projects. These initiatives will assist Sydney Airport in meeting key water cycle commitments, including:

- All public space and public realm water will come from alternative (non-potable) sources.
- All terminal and airport buildings will have access to alternative water sources.
- Key pollutants in stormwater will reduce, relative to untreated runoff.

Proposed developments must meet flood immunity criteria, including appropriate floor levels and supporting resilience infrastructure. Where existing flood issues are identified, we will assess the feasibility of implementing appropriate management and mitigation measures.

Sewerage

Sydney Airport operates an internal sewerage network, with gravity mains and pump stations connecting to the external Sydney Water network in multiple locations. This network discharges into the Southern and Western Suburbs Ocean Outfall Sewer (SWSOOS), which extends from the Malabar Wastewater Treatment Plant (WWTP).

A portion of sewage from the North West Sector is diverted from our recycled water treatment plant before being sent to the external network.

Recent upgrades have focused on improving network reliability and redundancy, including refurbishment of the critical pump station in the North East Sector. Major pumping stations are equipped with emergency storage and backup power for resilience during outages.

Recycled water

Around 50% of the sewage from the North West Sector is recycled through our water treatment plant, easing the burden on the external network and reducing the volume of effluent discharged to the WWTP.

Through water saving measures, a reduction in overall water consumption will lower the per passenger amount of sewage requiring treatment and disposal.

Proposed sewerage infrastructure

To keep up with forecast growth, we will need to upgrade existing gravity mains and increase the capacity of existing sewage pump stations, associated emergency storage and rising mains.

Sydney Airport will coordinate the planning of these works with Sydney Water to confirm the external network can support future demand.

Development of the sewerage network will consider:

- Reconfiguration of the network and external discharge arrangements, facilitating future connections within the North West Sector.
- Minor extensions of the reticulation network and minor network diversions, facilitating new development footprints.

Section Two **Airport Development Plan**

12. Utilities Development Plan

Natural gas

Jemena supplies natural gas to Sydney Airport via high-pressure mains to facilities in the North East, North West, and South West sectors.

This natural gas supplies the T3 trigeneration facility, which Sydney Airport does not intend to augment.

As part of an electrification initiative, we are currently investigating how we can reduce reliance on natural gas heating boilers.

This would be achieved with electrification resulting in less gas use.

Aviation Fuel

As outlined in our Airfield Development Plan, Sydney Airport has extensive infrastructure supporting the supply and storage of aviation fuel. Over the planning period, we plan to improve this infrastructure through:

- The introduction of up to two additional fuel tanks.
- Pump and pipeline upgrades.
- The expansion of hydrant lines.

Communications

We are deploying a new campus communications and core network, enhancing resilience and technology services across Sydney Airport.

Optical fibre networks support the Airport Management System, along with critical operational and security functions, while a second secure network serves airside areas for airfield lighting control and monitoring. These networks integrate with Airservices Australia's communication systems for navigational aids.

We manage the installation of telecommunications infrastructure, including cabling for voice, video, data and mobile/wireless systems, while providing commercial access to third parties on the external network.

Proposed communications infrastructure

As new developments are planned and delivered, new and upgraded communication networks will be required. Sydney Airport will facilitate the integration of emerging technologies as part of the ongoing extension and improvement of our communications infrastructure.

Map 12-1 Utilities Development Plan 2045

Section Three

Airport Planning-Framework

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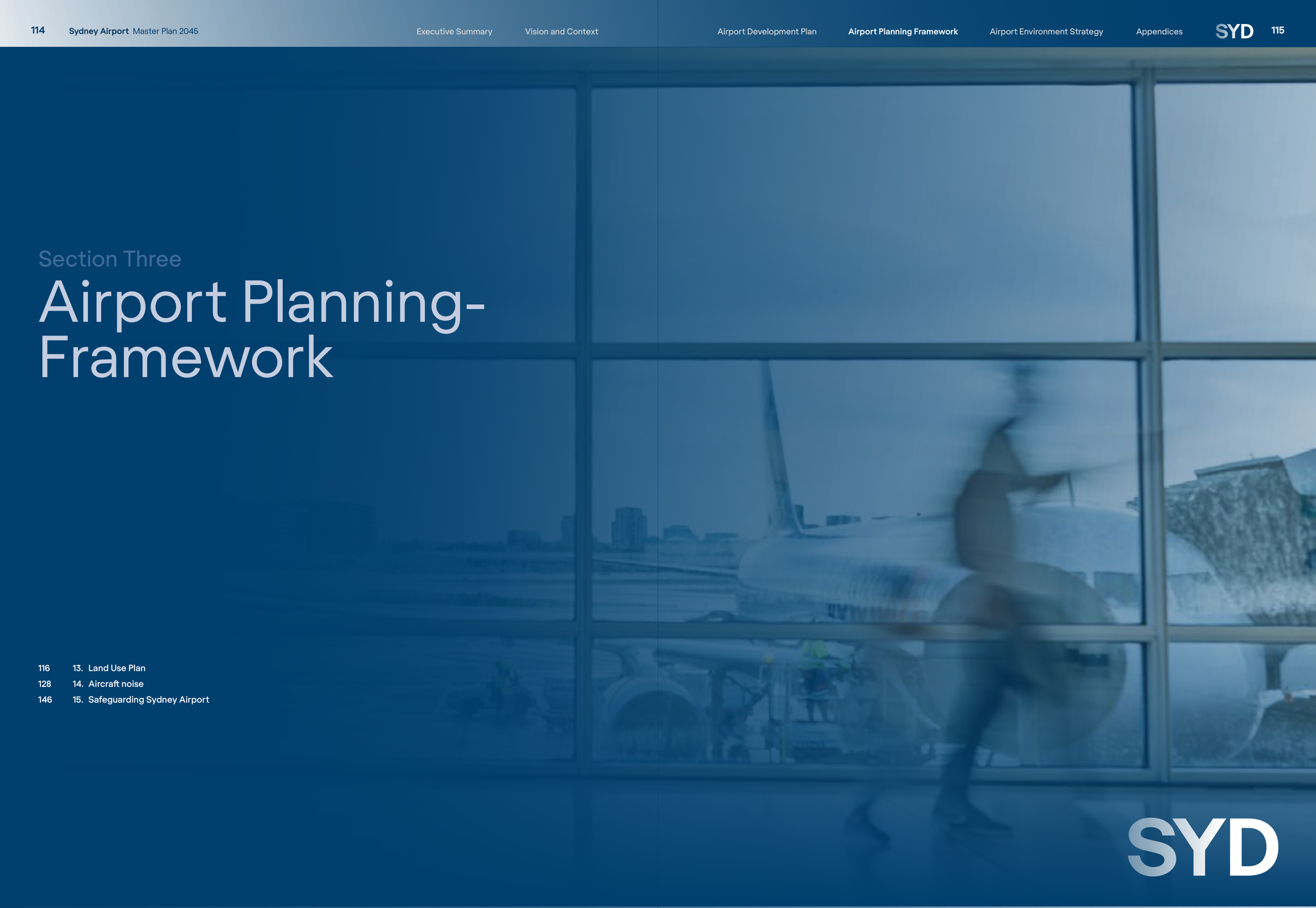


Section Three **Airport Planning Framework**

13. Land Use Plan

In accordance with Section 70(2) of the Airports Act, this Land Use Plan provides the community, government and stakeholders with an understanding of future activities that may be located across the Sydney Airport site.

The Land Use Plan guides future development without locking in development outcomes, providing a degree of certainty for stakeholders, while allowing flexibility to adapt to change.

The Land Use Plan outlines how the site may be used, identifying eight land use zones (see Map 13-1), their objectives, and permissible activities.

AD1	AD2	AD3	AD4	AD5	BD1	BD2	EC1
Aviation Activity and Aviation Support Facilities	Airport Terminal and Support Services	Airport Logistics and Support	Utilities Reservation	Aviation Reservation	Business Development	Enviro-Business Park	Environmental Conservation

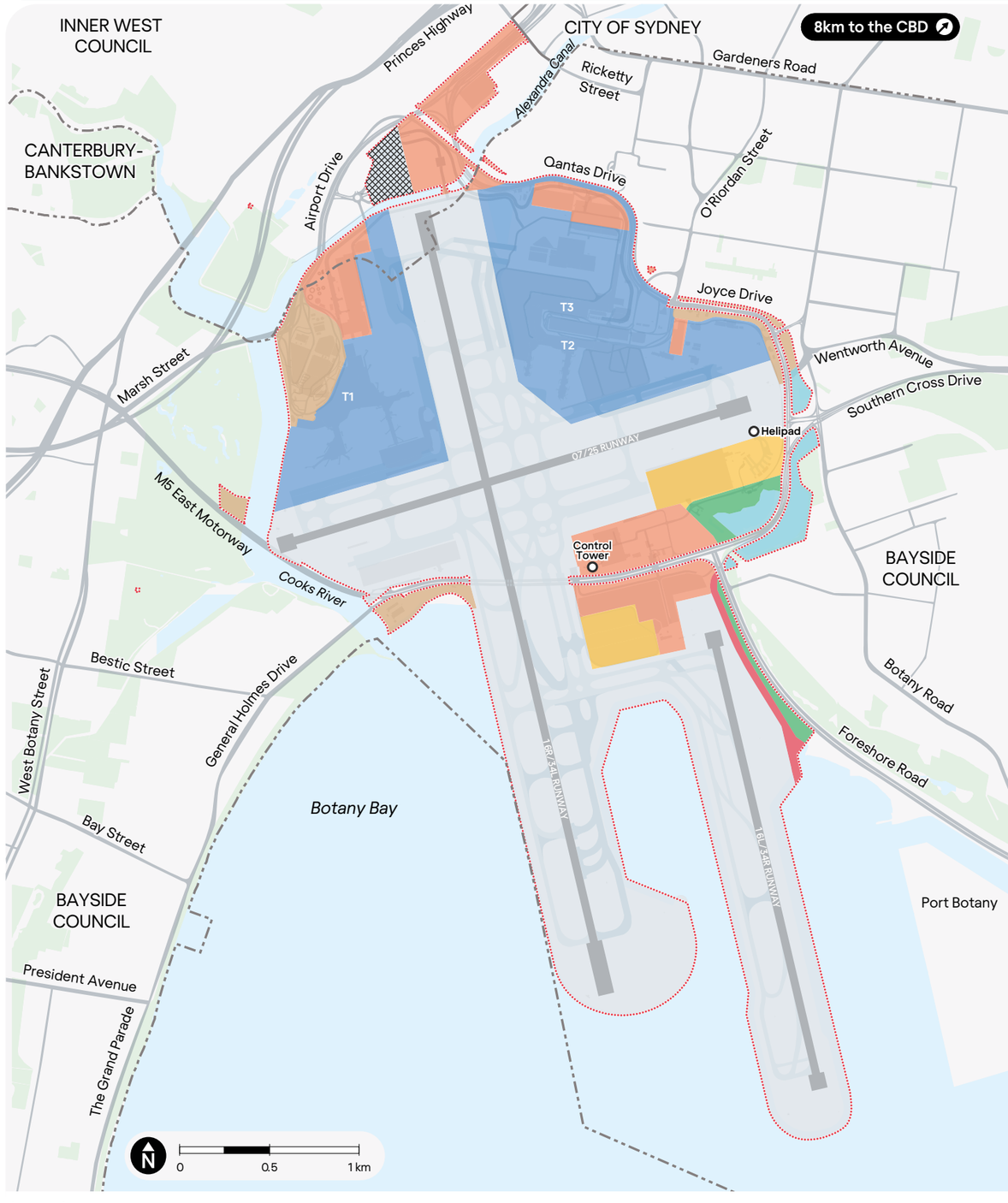
Updates in the 2045 Land Use Plan

The following changes to the land use zones reflect updates to the Airport Development Plan and the environmental value of the airport land:

- Land zoned in the North East Sector, and part of the land in the North West Sector, is proposed to be rezoned from AD2 – Airport Terminal and Support Services to AD3 – Airport Logistics and Support.
- Land in the South East Sector is proposed to be rezoned from AD1 – Aviation Activity and Aviation Support Facilities to AD3 – Airport Logistics and Support, and AD5 – Aviation Reservation.
- Land in the South East Sector is proposed to be rezoned from EC1 – Environmental Conservation to AD4 – Utilities Reservation, to more accurately reflect the condition of the Mill Stream.
- Minor housekeeping changes to BD1 and BD2 zone areas.

Land use zone		Approximate area (ha)
AD1	Aviation Activity and Aviation Support Facilities	531.0
AD2	Airport Terminal and Support Services	186.5
AD3	Airport Logistics and Support	87.8
AD4	Utilities Reservation	5.7
AD5	Aviation Reservation	29.7
BD1	Business Development	32.7
BD2	Enviro-Business Park	11.0
EC1	Environmental Conservation	16.1
Total		**900.5**

Map 13-1 Land Use Plan



Legend

- **AD1** Aviation Activity and Aviation Support Facilities
- **AD2** Airport Terminal and Support Services
- **AD3** Airport Logistics and Support
- **AD4** Utilities Reservation
- **AD5** Aviation Reservation
- **BD1** Business-Development
- **BD2** Enviro-Business Park
- **EC1** Environmental Conservation
- Sydney Airport boundary
- Sydney Airport freehold land
- LGA boundary
- Existing roads

Section Three **Airport Planning Framework**

13. Land Use Plan

Land use planning framework

Where possible, this Land Use Plan uses definitions, terminology and controls from the *Standard Instrument – Principal Local Environmental Plan* (Standard Instrument LEP), which serves as a template for all LEPs across NSW, stipulating land use zones and permitted uses. Some proposed land uses may not be defined within the Standard Instrument LEP.

Development on the airport site must be compliant or permissible within the controls of the relevant zone, aligning with its objectives. In the event there is a conflict between an existing land use and its zone provisions, existing land uses can continue, with any redevelopment in the curtilage of the current site deemed an existing permissible use.

For freehold land holdings not subject to the Airports Act, the NSW planning system applies. This includes zoning, permitted uses and assessment requirements in the Inner West LEP 2022.

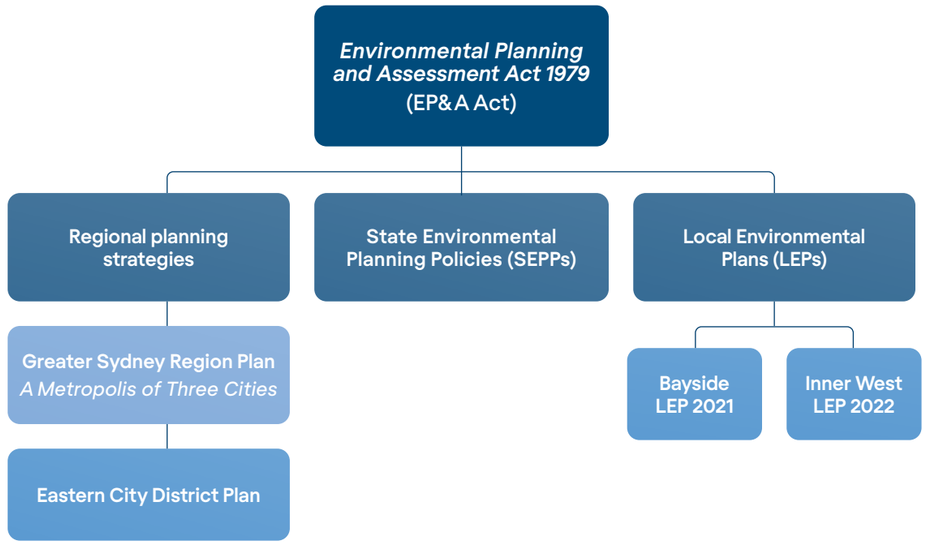
For reference, roads and runways are incorporated into the zones and sectors in which they are located.

Consistency with NSW planning schemes

The NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) and associated regulations are legislative instruments for land use planning, outlining the preparation of environmental planning instruments (including SEPPs and LEPs), development assessment, and environmental assessment procedures.

Preparation of Master Plan 2045 and this Land Use Plan remain consistent with the EP&A Act and the relevant state, regional and local planning schemes (see Figure 13-1). Appendix E addresses how Master Plan 2045 is consistent with these and other relevant laws, regulations and planning policies, including the Standard Instrument LEP.

Figure 13-1 Relevant NSW planning schemes



Land use zones

AD1 – Aviation Activity and Aviation Support Facilities

Zone	Zone primarily caters for aviation activities to meet aviation requirements.
Objectives	1. Protect the long-term viability and operational efficiency of Sydney Airport for its primary aviation function. 2. Provide for aviation activities and aviation support facilities. 3. Facilitate compatible and ancillary functions within the zone, provided development does not render the land permanently unfit for aviation activities. 4. Coordinate the orderly and economic use and development of land until such time as it is required for aviation activities or aviation support facilities. 5. Appropriately consider and manage heritage items.
Context	Aviation activity, airfield operations and air freight volumes provide the fundamental basis for the planning of airport facilities. Air traffic forecasts (see Chapter 6) and the Airfield Development Plan (see Chapter 9) influence the land area requirements for aviation activities and aviation support facilities.
Approximate area	531 ha (representing 59% of the total area of Sydney Airport).
Localities	Runways, South East, and South West sectors.
Permissible land uses	Refer to Table F-1

AD2 – Airport Terminal and Support Services

Zone	Passenger terminals and services supporting the needs of travellers and the airport's workforce.
Objectives	1. Protect the long-term viability and operational efficiency of Sydney Airport for its primary aviation function. 2. Facilitate development of contemporary passenger terminals and related facilities for the handling, transfer and processing of passengers that are capable of meeting the standards expected by international, domestic and regional travellers, as well as supporting the needs of Sydney Airport's workforce. 3. Provide for aviation activities and support facilities. 4. Facilitate compatible and ancillary functions within the zone provided development does not render the land permanently unfit for aviation activities. 5. Encourage employment opportunities. 6. Appropriately consider and manage heritage items.
Context	Growth of international, domestic and regional air traffic will require continual upgrade and expansion of the passenger terminals and support activities (including landside access, car parking and utilities). To accommodate forecast passenger growth, the Master Plan proposes changes to terminals and associated facilities. See Chapter 6 Air Traffic Forecasts and Chapter 8 Terminal Development Plan.
Approximate area	186.5 ha (representing 21% of the total area of Sydney Airport).
Localities	Land in the North West and North East sectors, specifically the: – T1 International Operations Precinct – T2/T3 Integrated Operations Precinct
Permissible land uses	Refer to Table F-2

Section Three **Airport Planning Framework**

13. Land Use Plan

AD3 – Airport Logistics and Support

Zone	Land earmarked for existing and potential future airport logistics and freight development.
Objectives	1. Protect the long-term viability and operational efficiency of Sydney Airport for its primary aviation function. 2. Facilitate the development of freight services and airport logistics (and ancillary office space). 3. Facilitate compatible and ancillary functions within the zone provided that development does not render the land permanently unfit for aviation activities. 4. Be sure development is compatible, where practicable, with surrounding land uses in this area. 5. Appropriately consider and manage heritage items.
Context	Sydney Airport handles about half of Australia's international air freight. To accommodate and support projected growth in air freight, significant areas of land are earmarked as AD3. Part of the Northern Lands Sector is now used for the Sydney Gateway connection, which provides direct motorway access to the T1 and T2/T3 terminal precincts from St Peters Interchange. New airside and landside links will unlock opportunities for future freight development in the Northern Lands Sector, as contemplated in the Airport Development Plan.
Approximate area	87.8 ha (representing 9.7% of the total area of Sydney Airport).
Localities	Northern Lands (approximately 27 ha or 57% of AD3 land), North West, North East, and South East sectors.
Permissible land uses	Refer to Table F-3

AD4 – Utilities Reservation

Zone	Three small portions of land that are separated from the main Sydney Airport site, supporting the provision of infrastructure.
Objectives	1. Accommodate special uses off the airport site that are consistent and compatible with surrounding development and land use zones. 2. Appropriately consider and manage heritage items.
Context	Utility reticulation and augmentation are essential components of infrastructure management and improvement.
Approximate area	5.7 ha (representing 0.6% of the total area of Sydney Airport).
Localities	One parcel of land in the South East Sector, next to Foreshore Road, one parcel adjoining the North East Sector; one parcel near the Princes Highway, north west of the North West Sector; and one parcel in Barton Park, south west of the M5 East Motorway.
Permissible land uses	Refer to Table F-4

AD5 – Aviation Reservation

Zone	Land reserved for future aviation activities and aviation support facilities, to be incrementally released over the next 20 years as required.
Objectives	1. Protect the long-term viability and operational efficiency of Sydney Airport for its primary function. 2. Coordinate the orderly and economic use and development of land until such time as it is required for aviation activities or aviation support facilities. 3. Integrate compatible aviation, business and industrial activities in accessible locations. 4. Facilitate the development of freight services and airport logistics (and ancillary office space). 5. Encourage appropriate employment opportunities in accessible locations. 6. Be sure that development will not render the land permanently unfit for aviation activities or aviation support facilities when it is required for these purposes. 7. Appropriately consider and manage heritage items.
Context	Until such time that the subject land is required for aviation activities or aviation support facilities, Master Plan 2045 will facilitate the highest and best use of the land. There are numerous commercial activities that can be undertaken on that land in the intervening period. Sydney Airport will pursue development strategies that consider the necessary controls for the delivery of aviation needs, detailed throughout Master Plan 2045. This includes ongoing tenure reviews and the consideration and implementation of temporary and alternative uses.
Approximate area	29.7 ha (representing 3.3% of the total area of Sydney Airport).
Localities	Two parcels in the South East Sector.
Assessment requirements	Before development approval is granted within the AD5 zone for a use that is for non-aviation purposes, the consent authority must consider whether: – The proposed development will render the land unfit for aviation purposes. – Appropriate provisions are in place so the land can be vacated as it becomes needed for aviation activities or aviation support facilities. Such measures are to be documented in an application for development approval.
Permissible land uses	Refer to Table F-5

Section Three **Airport Planning Framework**

13. Land Use Plan

BD1 – Business Development

Zone	Land dedicated to on-site business development to provide employment opportunities, support the local workforce, and locate suitable businesses along significant corridors.
Objectives	1. Enable a mix of business, retail and industrial uses in locations that are close to and that support the functioning of the airport. 2. Integrate suitable and compatible land uses in accessible locations so as to maximise public transport patronage and encourage active transport. 3. Encourage employment opportunities and promote businesses along main roads. 4. Enable a limited range of other land uses that will provide facilities and services to meet the day-to-day needs of the local workforce. 5. Appropriately consider and manage heritage items. 6. Maximise, where possible, the use of existing access and egress points to the on-airport road network.
Context	The development of these areas for business purposes and resulting floor space will be restricted by operational aviation requirements and physical constraints associated with development, including: – Air navigation services requirements – OLS requirements – Building height – Building separation – Landscaping – Internal circulation areas and parking – Access and egress points. It is envisaged that development within the BD1 zone will be accessed via the airport's internal road network, with existing access and egress points utilised where possible.
Approximate area	32.7 ha (representing 3.6% of the total area of Sydney Airport).
Localities	Six locations, primarily on the periphery of Sydney Airport, within the North West, North East, South East and South West sectors, identified as surplus to aviation requirements and where good access is available to the on-airport and external road network. In designating this land for the purposes of business development, regard has been given to ground access issues contained in Chapter 11 Ground Transport Development Plan.
Assessment requirements	Before development approval can be granted within the BD1 zone, the consent authority must consider whether the proposed development will not adversely impact on any aviation activity or aviation support facility, either existing or proposed during the planning period.
Permissible land uses	Refer to Table F-6

BD2 – Enviro-Business Park

Zone	Caters for environmentally sensitive business uses on land within and adjacent to Cooks River, and Mill and Engine ponds.
Objectives	1. Provide for a limited range of sustainable development, particularly for business purposes, that will not compromise the ecological, cultural or scientific value of this land or adjacent land including the Mill and Engine ponds. 2. Enable delivery of buildings that achieve design excellence with particular regard to the surrounding natural and built environment and the associated sensitivities. 3. Encourage appropriate employment opportunities in accessible locations. 4. Enable a limited range of other land uses that will provide facilities and services to meet the day-to-day needs of the local workforce. 5. Incorporate appropriate environmental management principles and controls into development proposals. 6. Appropriately consider and manage heritage items.
Context	Only developments that are consistent with the sensitivities of the environmental values of the land and its surrounds will be permitted in this zone. Any development in this zone must: – Have no more than a minor impact on the environment – Take measures to avoid, reduce or minimise impacts – Not pose a significant risk to the health of the immediately adjoining biophysical environment – Comply with the AES. The development of these areas for enviro-business purposes will be restricted by operational aviation requirements and biophysical constraints associated with development, including: – Air navigation services requirements – OLS requirements – Building height – Building separation – Landscaping – Internal circulation areas and parking – Access and egress points.
Approximate area	11 ha (representing 1.2% of the total area of Sydney Airport).
Localities	South East Sector, including sections of the Mill and Engine Pond areas.
Assessment requirements	Before development approval is granted, the consent authority must be satisfied that the proposed development will not adversely affect Sydney Airport land or the environmental values of the area. The design, construction and operation of associated developments will need to consider the proximity of the sensitive areas and investigate the incorporation of appropriate mitigating strategies, such as the provision of setbacks and reserves.
Permissible land uses	Refer to Table F-7

Section Three **Airport Planning Framework**

13. Land Use Plan

EC1 – Environmental Conservation

Zone	Land with environmental value within and adjoining waterways on the eastern part of the airport site, which form part of the Botany Wetland System and the wider aquatic environment of Botany Bay.
Objectives	1. Protect the ecological and scenic values of the waterways in this area. 2. Maintain the health and natural flows of the waterways. 3. Enable maintenance dredging of the Mill Stream and related activities to maintain water depths and to manage and control sediment accumulation. 4. Appropriately consider and manage heritage items.
Context	The Sydney Airport Wetlands require ongoing maintenance to facilitate natural flow of water to Botany Bay and prevent the spread of weeds.
Approximate area	16.1 ha (representing 1.8% of the total area of Sydney Airport).
Localities	Land with environmental value within and adjoining the eastern part of the airport site, including the Engine Ponds and Mill Pond.
Assessment requirements	For the purposes of the EC1 zone, advertisements and advertising structures are to be erected only along the roadside. Before development approval is granted within this zone, the consent authority must first be satisfied that the proposed development will not adversely impact on neighbouring environmentally sensitive areas. The design, construction and operation of such developments will need to consider the proximity to the sensitive areas and investigate the incorporation of appropriate mitigating strategies, such as the provision of setbacks and reserves.
Permissible land uses	Refer to Table F-8

Land use zones for land not subject to the *Airports Act 1996*

Sydney Airport owns land within the Northern Lands Sector, used for operational purposes. As freehold land (not Commonwealth-owned), these parcels are subject to provisions of the NSW planning system, rather than the Airports Act.

The parcels, identified on Map 13-1, are zoned E4 General Industrial under the Inner West LEP 2022. It is proposed this land will be used for car parking, vehicle storage, freight and logistics, consistent with the AD3 zone in Master Plan 2045.

Sensitive developments

Section 71A of the Airports Act requires a Master Plan to identify any proposed 'sensitive development' which is defined as development of, or a redevelopment that increases the capacity of, a residential dwelling, community care facility, preschool, primary, secondary, tertiary or other educational institution, or hospital.

A sensitive development does not include an aviation education facility, accommodation for students studying at an aviation educational facility at the airport, a facility with the primary purpose of providing emergency medical treatment that does not have inpatient facilities, or a facility with the primary purpose of providing in-house training to staff, or of an organisation conducting operations at the airport.

Under s89A of the Airports Act, sensitive developments are prohibited except in exceptional circumstances.

No sensitive developments are proposed to be located at Sydney Airport in the Sydney Airport Master Plan 2045.

Section Three **Airport Planning Framework**

13. Land Use Plan

On-airport development approval process

Sustainable, responsible development of Sydney Airport is essential. To minimise environmental impacts and promote safe and appropriate development, Sydney Airport administers a rigorous development assessment process (see Appendix E). This is conducted in accordance with the *Airports (Building Control) Regulations 1996*, which stipulate that any building activity (referred to as a 'development' in Master Plan 2045) requires Sydney Airport's written approval and the consent of the Airport Building Controller (ABC).

Development proposals are subject to a planning and environmental impact assessment that considers Master Plan 2045 (including the AES), the Airports Act and Regulations, and the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), prior to consent being granted.

This process identifies and addresses the following potential issues:

- Stakeholder impact identification
- Infrastructure impacts
- Environmental impacts and management
- Current and future adjoining development interfaces
- Compliance of the built product
- Property and legal risk issues.

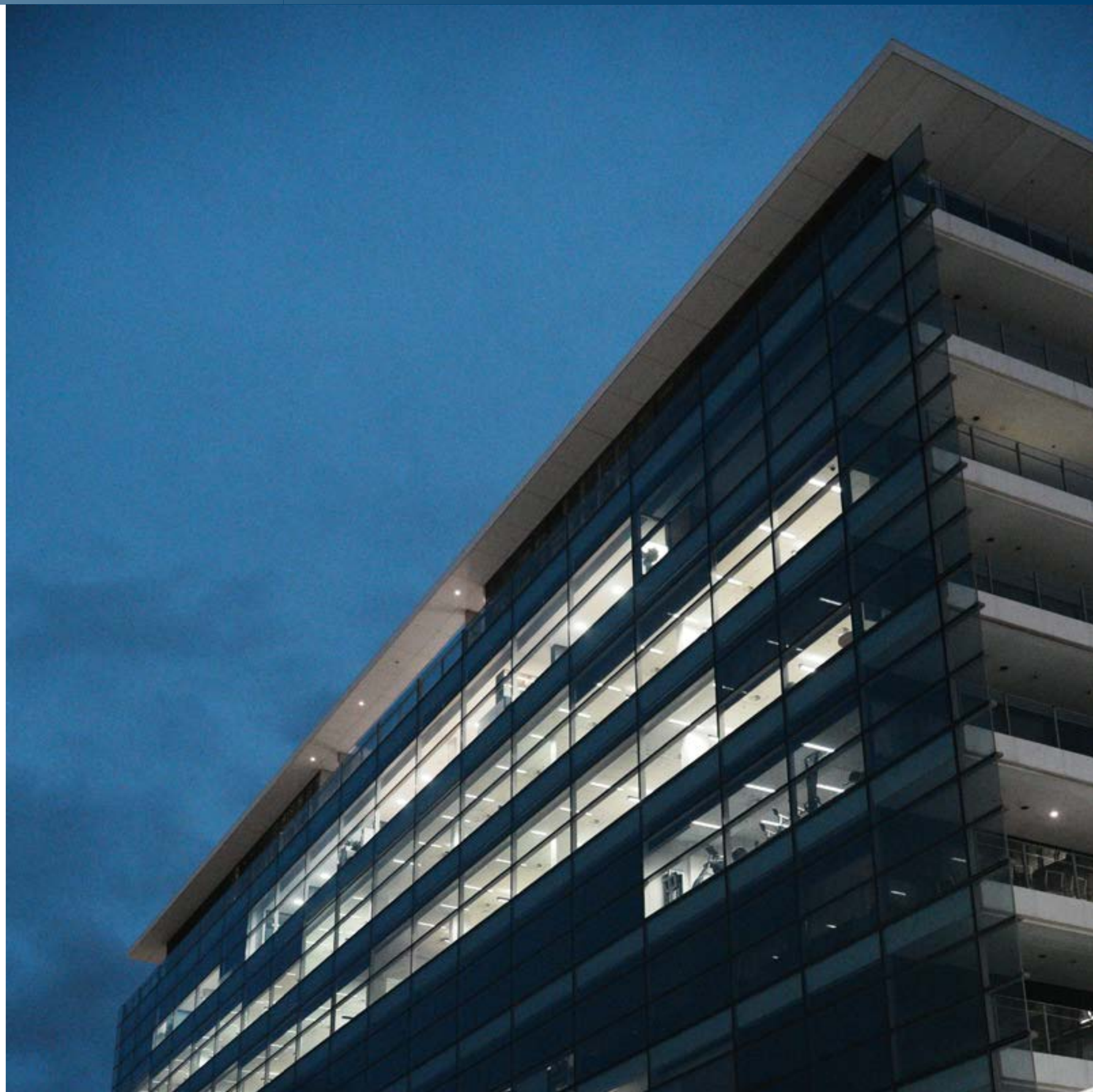
The use of a building or land will be permitted to continue, subject to compliance with existing approvals and lease provisions.

Major airport development

If a proposed development is deemed to meet one of the conditions as defined under Section 89 of the Airports Act, a major development plan (MDP) must be prepared.

A major airport development includes, but is not limited to:

- Constructing a new runway or extending the length of a runway.
- Constructing a new taxiway or extending the length of a taxiway where the construction significantly increases the capacity of the airport and exceeds $25 million.
- Constructing a new building wholly or principally for use as a passenger terminal, where the building's gross floor space is greater than 500 m^2.
- Extending a building wholly or principally for use as a passenger terminal, where the extension of the building's gross floor space is by more than 10%.
- Constructing a new building where the building is not wholly or principally for use as a passenger terminal and the cost of construction exceeds $25 million.
- Development that is likely to have significant environmental or ecological impact.
- Development of a kind that is likely to have significant impact on the local or regional community.



Section Three **Airport Planning Framework**

14. Aircraft Noise

For those living near airports or under flight paths, aircraft noise can be a real challenge.

Sydney Airport is working with the community, industry, and all levels of government to find better ways to manage and reduce its impact.

Key points

Aircraft noise occurs during all phases of flight, including on-ground.

Aircraft noise is influenced by many factors, including the aircraft's characteristics, the weather and pilot performance.

Runway use is rotated under the government's LTOP to share noise impacts fairly.

As flight numbers returned to pre-COVID levels in 2024, community concerns about aircraft noise spiked.

When WSI opens, aircraft noise patterns in some areas near Sydney Airport will change.

Managing aircraft noise impacts is a responsibility shared by Sydney Airport, ICAO, airlines, aircraft and engine manufacturers, regulators, and government authorities.

Sydney Airport's role in noise management

Provide and maintain infrastructure to facilitate noise sharing.

Manage ground-based noise complaints and control engine ground running by following the Airport Environment Strategy guidelines.

Support the increased use of quieter, new generation and more fuel-efficient aircraft.

Provide clear, easy-to-access information on forecast noise impacts, including flight paths, how often planes fly overhead and planned quiet periods.

Sydney Airport is actively involved in the Sydney Airport Community Forum (SACF), addressing aircraft noise and related environmental concerns. We also support ICAO's Balanced Approach, which includes:

Noise reduction at the source through quieter aircraft, advanced engine technologies, and airframe design improvements.

Land use planning and controls to protect communities from noise disturbance, alongside passive noise control initiatives.

Noise abatement procedures (NAPs) for both air and ground operations.

Restrictions on certain aircraft types and limitations on runway use and operating hours.

Sydney Airport will continue to facilitate implementation of noise sharing under the LTOP for Sydney Airport by maximising flights over Botany Bay rather than residential areas.

Section Three **Airport Planning Framework**

14. Aircraft Noise

Governance of aircraft noise

Numerous government and industry bodies and regulatory authorities share responsibility for aircraft noise management.

At Sydney Airport, ground-based noise is managed separately from aircraft noise caused by taxiing, landing, taking off or in-flight.

Activities like engine ground running are regulated with rules that balance safety, relevant standards and noise minimisation. Ground-based noise is addressed in our AES in Chapter 17 Pollution Management.

Sydney Airport works closely with all levels of government, SACF, the local community, and airlines to responsibly balance the many economic and social benefits of the aviation industry with its unavoidable noise impacts.

Figure 14-1 Aircraft noise roles and responsibilities

The International Civil Aviation Organization (ICAO)

United Nations' specialist civil aviation agency prepares global aircraft noise standards, and international aviation laws and regulations.

Airlines

All airlines that use Sydney Airport maintain aircraft to meet required noise standards and are responsible for flight operations and schedules.

Aircraft Noise Ombudsman (ANO)

Independent administrative reviewer of Airservices' aircraft noise-related activities.

Sydney Airport Community Forum (SACF)

The primary body for consultation on the LTOP, providing advice to the Minister, Sydney Airport and aviation authorities on aircraft noise abatement and related environmental issues.

Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts (DITRDCSA)

Australian Government department administers the Airports Act and relevant regulations, enforces movement limit and curfew, advises the Minister on aviation policy, and supports the SACF.

Airservices Australia

Australia's national air navigation service provider managing Air Traffic Control, publishes information on noise abatement and impacts, implements noise sharing, determines flight paths, handles aircraft noise complaints, and more.

NSW and Local Governments

Determine the strategic planning frameworks across the Sydney metropolitan area with the aim to avoid inappropriate development in areas that may be subject to excessive aircraft noise impacts.

Sydney Airport

Provides and maintains on-airport infrastructure for the use of quieter aircraft and to facilitate noise sharing outcomes, publishes easily accessible information in master plans about forecast noise impacts, oversees strict guidelines that control noise generated by engine ground running, and responds to ground-based noise complaints.

Section Three **Airport Planning Framework**

14. Aircraft Noise

Describing aircraft noise

Aircraft noise is caused by air passing over the aircraft fuselage and wings and the aircraft's engines. It varies according to a range of factors, including:

- Aircraft characteristics (engines, airframe, age, size, type, number)
- Weight and load factor
- Altitude, speed, thrust settings
- Airline-specific operating procedures
- Weather conditions
- Pilot performance

Aircraft noise happens in the air and on the ground.

The community is generally most concerned about noise during take-off and landing (when the aircraft is closer to the ground), flight paths, and how often and when planes fly.

Many residents value periods of 'respite' with no aircraft noise.

Sound is measured in decibels (dB), and an 'A-weighted' sound level (dB(A)) represents how sound is perceived by the human ear. In everyday movements with background noise, a 3 dB change is the minimum detectable difference, but is typically unnoticeable.

The ANEF provides for the four times weighting of night-time noise events between 7pm and 7am to take account of residents' increased sensitivity during evening and sleeping hours.

Aircraft noise impacts and community concerns

During the global COVID-19 pandemic, the number of flights at Sydney Airport fell from an average of more than 900 per day in 2019 to around 120 per day in 2020. Some runways were closed or rarely used. People living near the airport who had historically heard aircraft noise experienced little or no noise throughout this time.

Since the end of lockdowns in late 2021, there has been a strong recovery in aviation activity. By 2024, the average number of flights per day at Sydney Airport had returned to around 850 – more than 90% of pre-pandemic levels.

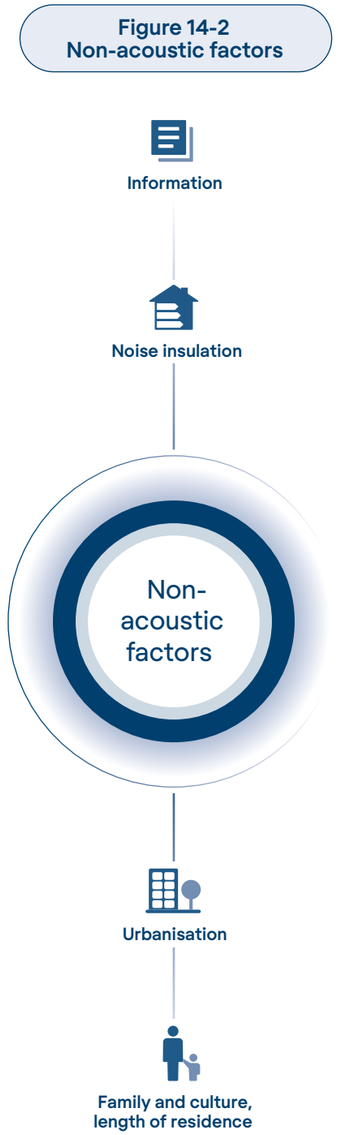
This unprecedented growth in flights over a relatively short period of time – combined with more people working from home than ever before – led to a spike in noise complaints, which had been steadily declining for many years.

The effects of noise on health and wellbeing have been widely studied, showing links between excessive noise exposure, annoyance, and in some cases, adverse health impacts.

Evidence shows factors like lifestyle expectations, culture, airport perception or reputation, access to information, urbanisation, and mental health can influence how people report annoyance as much as actual noise levels (Figure 14-2).

This is why we proactively engage with our local communities to better manage noise from aircraft arrivals and departures. Open and transparent communication about the effects of airport operations can also foster understanding and help to reduce community concerns.

Figure 14-2
Non-acoustic factors



Western Sydney International Airport (WSI)

To balance the competing needs of community, environment and industry, WSI's flight paths were designed and tested by an expert steering group established by the Australian Government. Sydney Airport was an observer on the group, which included DITRDCSA, CASA, Airservices Australia, WSI, and other experts and agencies.

The final *WSI Airspace and flight path design Environmental Impact Statement* (EIS) (released on 7 November 2024), indicates that changes to some of Sydney Airport's flight paths are required. These 'facilitated changes' aim to safely integrate the WSI control area and flight paths while providing for safe and efficient operations for all aircraft in the Sydney Basin (including those flying to and from Sydney Airport).

Following release of the final EIS, the detailed planning and technical design process for the WSI airspace and flight paths is underway, led by Airservices Australia.

When WSI opens, the pattern of aircraft noise in some areas in the vicinity of Sydney Airport will change, including in areas to the west and north-west of the airport. This change is reflected in the ANEF and other noise metrics included in this chapter.

Section Three Airport Planning Framework

14. Aircraft Noise

The Four Pillars of the ICAO Balanced Approach

Sydney Airport follows ICAO's Balanced Approach which aims to improve environmental outcomes associated with aircraft noise impacts on communities living near airports or under flight paths.

As a reference, ICAO's primary policy on aircraft noise, including detailed guidance on noise reduction, is outlined in Guidance on the Balanced Approach to Aircraft Noise Management (Doc 9829).

Pillar 1 – Reduction of Noise at the Source

Each ICAO member state is responsible for the implementation of the organisation's standards for noise emitted by civilian aircraft. For instance, in Australia, new, stricter Chapter 14 standards have applied to all newly certified larger aircraft on or after 31 December 2017 and for lower weight new aircraft from 2020.

Fleet renewal and modernisation programs being implemented by airlines flying to and from Sydney Airport are seeing the progressive introduction into service of new generation, quieter aircraft, including the Boeing B787, B737MAX, B777X, Airbus A350, A330 NEO, A321XLR and A320neo. (See Figure 14-3.)

These have replaced or are replacing older, noisier aircraft types such as the Boeing B747, B767, B737-800, and the Airbus A330, A340 and A380. This trend towards more fuel-efficient and quieter aircraft flying to and from Sydney Airport will continue throughout the planning period.

Pillar 2 – Land-use Planning and Management

The use of land surrounding an airport should be carefully planned and managed to minimise the impact of aircraft noise on the community.

Planning instruments

To limit the inappropriate development of sensitive land uses in noise-affected areas around Sydney Airport, we regularly update the ANEF (see Chapter 15 Safeguarding Sydney Airport) and work closely with the NSW Government and councils on land use planning and controls (see Chapter 13 Land Use Plan).

Mitigation instruments

Some councils require noise insulation to be included in new residential developments located within designated ANEF noise contours.

Financial instruments

From 1994 to the early 2000s, the Australian Government's Aircraft Noise Amelioration Program funded the voluntary acquisition of properties and provided financial assistance for the noise insulation of residential and institutional buildings in areas severely affected by aircraft noise. All eligible properties have now been insulated (including 4,083 homes and 99 public buildings), and 147 residences were voluntarily acquired to create a new park known as Sydenham Green.

Figure 14-3 Sydney Airport fleet mix

Change in aircraft fleet mix flying to and from Sydney Airport 2024–2045

Very Large Widebody Jet (VLWB)
A380
2024 – 2%
2045 – 0%

Widebody Jet (WBJ)
B787, B777X, A330, A350
various models
2024 – 19%
2045 – 30%

Narrowbody Jet (NBJ)
A220, A320, A321, B737
various models, E2-190
2024 – 56%
2045 – 49%

Turboprop (TP)
Dash 8, SAAB 340,
Jetstream 41
various models
2024 – 23%
2045 – 20%

Pillar 3 – Noise Abatement Procedures

The use of preferential runways and flight paths, along with noise abatement procedures (measures to minimise noise) to be used by pilots, are some of the measures implemented to minimise aircraft noise in the vicinity of Sydney Airport (see Figure 14-4).

Since 1997, Airservices Australia has administered the LTOP, a preferential runway regime founded on the principle of noise sharing. Airservices Australia has extensive information on the development, implementation, and historic and current usage of the runway ends, flight paths and the various LTOP Runway Modes of Operation (RMOs) on the Aircraft in your Neighbourhood website.

There are nine defined RMOs with different combinations of flight paths (see figures 14-5 and 14-6, and Appendix G).

When safe to do so, the preference is to use flight paths that direct aircraft over water (i.e. Botany Bay and the Kurnell sandhills to the south of the airport), rather than residential areas. More than half of Sydney Airport's flights typically use these flight paths. The remaining flights are spread across 14 flight paths to the east, west and north of the airport.

The noise sharing RMOs that rely on the use of all three of Sydney Airport's runways are modes 5, 7 and 14a. Modes 12 and 13, which involve only the east-west runway being used because of weather conditions, also result in noise sharing outcomes.

Simultaneous opposite direction parallel runway operations (SODPROPS) is the LTOP's preferred RMO – with flights mainly over Botany Bay – but for safety reasons, it limits use to around 5% of the time.

Noise sharing is also achieved when only the two north-south runways are used – for example, northbound departures from the parallel north-south runway all turn east and count as easterly movements under the LTOP.

Sydney Airport is exploring ways to improve noise sharing using just the north-south runway.

It is anticipated that the noise sharing RMOs can, subject to forecast or prevailing weather and traffic levels, continue to be used throughout the planning period.

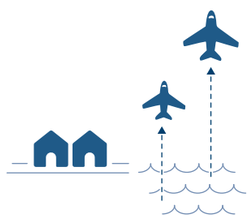
Figure 14-6 shows the estimated times that noise sharing RMOs will be available for use on the forecast representative busy day in 2045 (subject to weather conditions). On days with less traffic than the representative average day, noise sharing RMO availability is expected to be greater than shown.

Figure 14-4 Noise abatement procedures

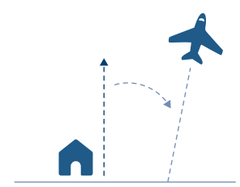
Noise emission reduction
This includes operational measures that reduce aircraft noise emissions during the initial or final stages of flight (for example the use of lower thrust or drag settings).

Increase in noise source distance
This includes measures that increase the distance between the source of aircraft noise and the ground, particularly ground-based noise sensitive receptor (i.e. residential dwelling). For example, flight profiles that keep the aircraft higher on approach (e.g. steeper angle or continuous descent) or on take-off (continuous climb-out).

Reduction in exposed population
This includes operational measures aimed at reducing the population exposed to aircraft noise by overflying less populated areas (i.e. over water and non-residential land). This can involve the use of specific flight tracks, or the preferential use of runways at certain times of the day/night subject to the prevailing wind direction.



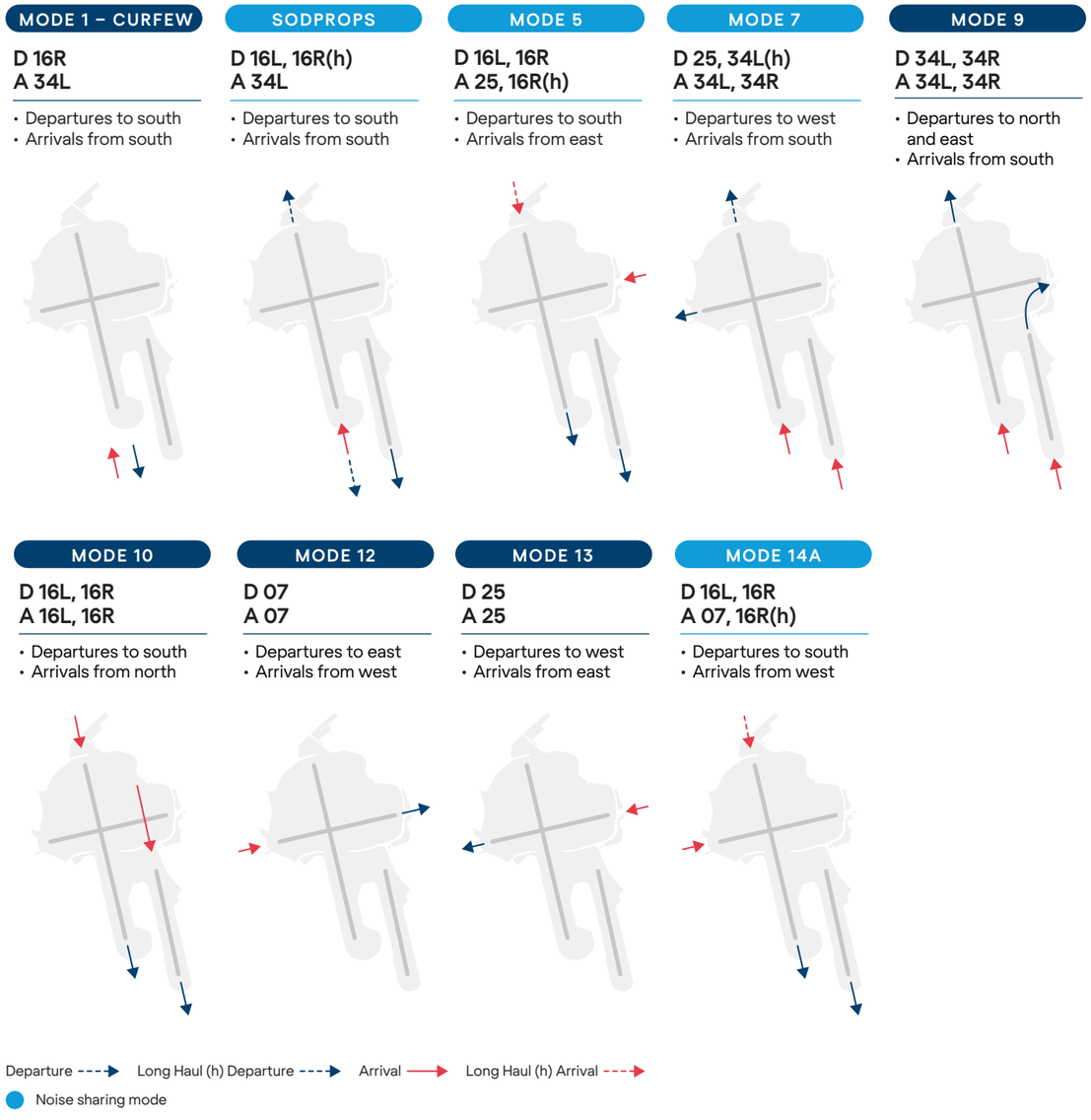
Aircraft noise respite
This includes operational measures that provide respite from aircraft noise by runway alternation (i.e. partial or full) or the rotation of flight tracks. Respite can also be provided with operating restrictions which are covered by the fourth pillar of ICAO's Balanced Approach.



Section Three **Airport Planning Framework**

14. Aircraft Noise

Figure 14-5 Runway modes of operation



Source: Sydney Airport Operational Statistics January 2018

Pillar 4 – Operating Restrictions

The operating restrictions that apply at Sydney Airport include:

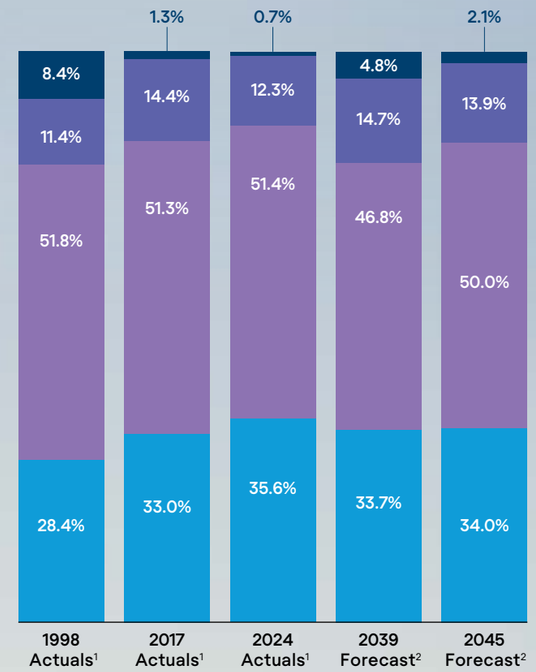
Sydney Airport Curfew Act 1995 **(Curfew Act)**

- 11pm to 6am curfew (restricts operations to specific types of aircraft or operations, and specific runway assignment rules).

Sydney Airport Demand Management Act 1997**, as amended in 2024**

- Maximum of 80 movements per regulated hour, although up to 85 per hour will in future be allowed in limited circumstances following significant flight disruptions caused by adverse weather or the like. This will not result in an increase to overall daily flight numbers.
- Guaranteed regional airline access to Sydney Airport.
- The LTOP and its various RMOs.
- Noise certification of aircraft.

Figure 14-6 Runway end impacts since 2018



1. Demand: annual average.
2. Demand: busy day.

Section Three **Airport Planning Framework**

14. Aircraft Noise

Aircraft noise mapping

Numerous metrics and outputs are used to describe current and forecast aircraft noise impacts, including:

- ANEF
- Flight path charts
- Forecast average daily jet aircraft movements and respite periods for each flight path
- Charts showing aircraft noise levels between 6am and 11pm (N70)

Airservices Australia provides historical and current flight path movement, respite and N70 charts on its website. This allows for comparison between forecasted, past and present noise impacts.

Australian noise exposure forecast

The ANEF is predominantly a land use planning tool, guiding decisions made by the NSW and local governments concerning the zoning of land in the vicinity of an airport. The draft 2045 ANEF, and comparison with that in Master Plan 2039, are provided in Chapter 15 Safeguarding Sydney Airport and Appendix H.

Aviation safety will always remain paramount at Sydney Airport. We are also focused on improving environmental outcomes, passenger outcomes and airfield efficiency. In supporting these goals. Sydney Airport believes two changes could be considered in the future, both of which require consultation with government, airlines, pilots, the community and other stakeholders. An assessment of impacts, if any, would then be undertaken.

First, consideration should be given to reinstating the previous cross-wind limit for use of any given runway from 20 to 25 knots (when safe to do so), as was the case before 2000. This would significantly reduce flight cancellations and delays in adverse weather conditions, which can inconvenience up to 100,000 airline passengers and many more across Australia.

Second, jet aircraft could be permitted to depart to the north from the main north-south runway at the intersection of a taxiway further to the north, rather than use the full length of the runway as occurs now. Known as intersection departures, this change would only occur when it was safe to do so and would significantly improve airfield efficiency, reduce fuel burn and emissions. Aviation safety would also be enhanced by significantly reducing the number of aircraft required to cross an active runway to use its full length.

Flight paths

The Australian Government determines flight paths used by aircraft arriving at or departing from Sydney Airport.

Maps 14-1 and 14-2 illustrate flight paths used by both jet and non-jet aircraft during the early stages of flight (just after take-off) or the final stages (just before landing). In practice, flight paths can vary by several kilometres, due to factors such as weather conditions, aircraft separation requirements, or variations in aircraft performance.

Master Plan 2045 accommodates facilitated changes to the Sydney Basin airspace that are required to safely integrate the WSI control area and flight paths while providing for safe and efficient operations for all aircraft in the Sydney Basin.

Some of Sydney Airport's existing flight paths will be affected, including those used by aircraft departing to the west from Runway 25 and to the north from Runway 34L. The flight paths shown in Maps 14-1 and 14-2 assume that these changes will come into effect when WSI opens in the second half of 2026.

Flight path movements and respite

Flight path movement charts are an effective tool for reporting Sydney Airport's pattern of noise exposure in areas around the airport. Airservices Australia's 'Aircraft in Your Neighbourhood' website includes up to date information on the daily use of each of Sydney Airport's runways.

Map 14-3 shows the forecast average daily jet flight path movements for 2045.

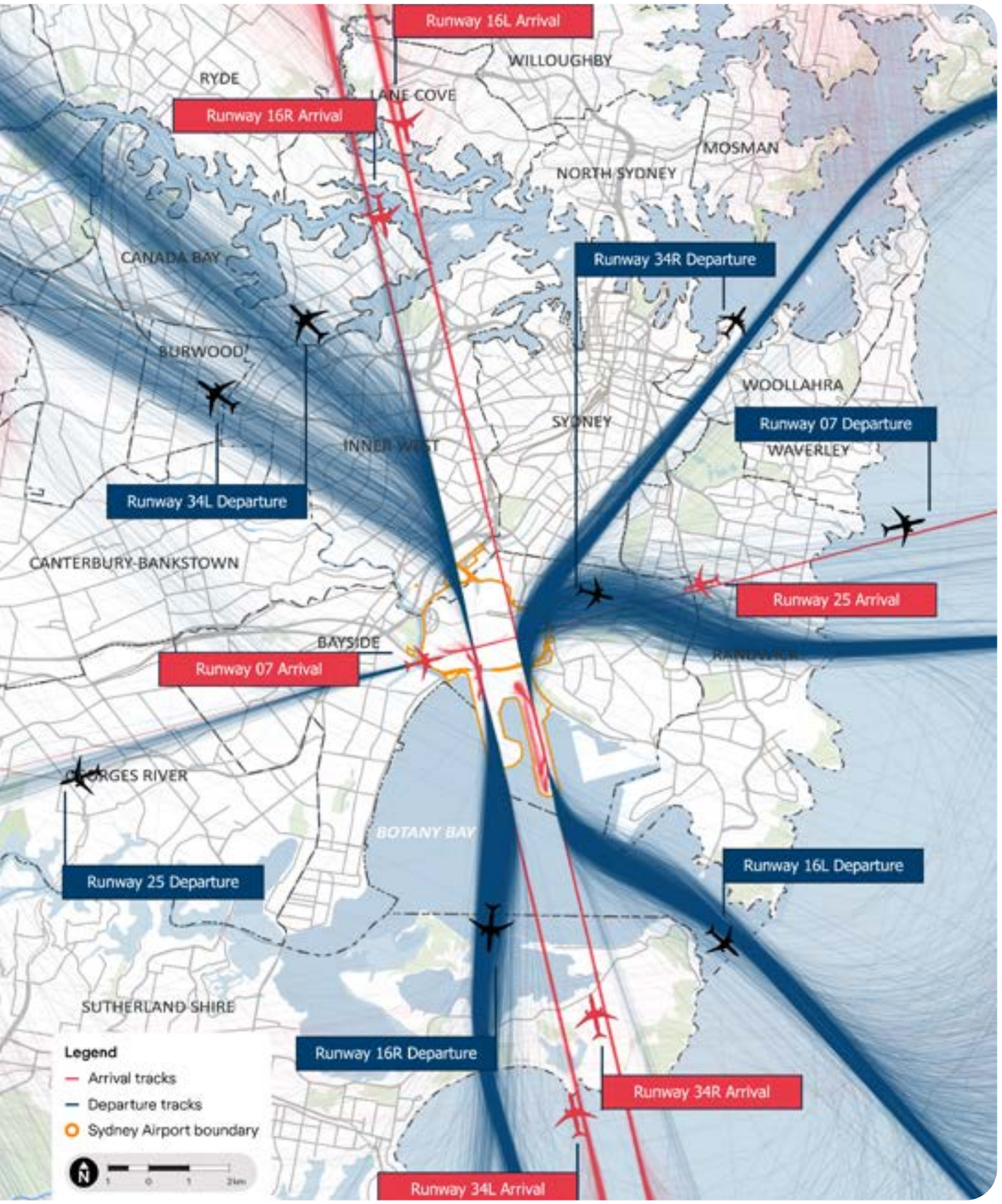
Map 14-4 shows the forecast average daily respite periods for jet aircraft in 2045, based on the number of full clock hours (e.g. 9:00 to 10:00) with no aircraft movements on a specific flight path. These periods are reported as a percentage of the total number of clock hours in the applicable timeframe. The figures represent respite during three periods:

- morning – 6am to 7am
- daytime – 7am to 8pm
- evening – 8pm to 11pm.

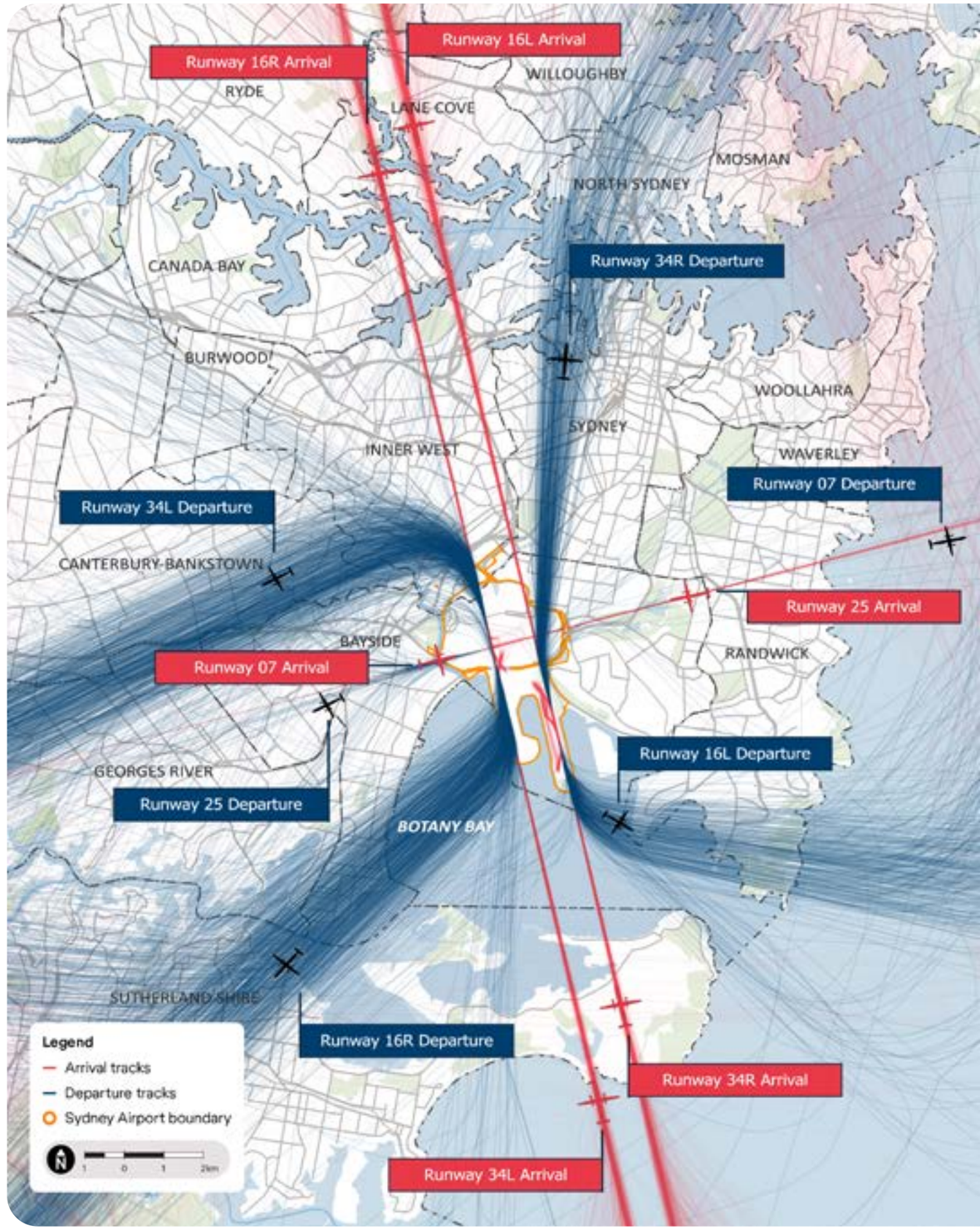
Section Three **Airport Planning Framework**

14. Aircraft Noise

Map 14-1 Flight paths at Sydney Airport (jet aircraft) 2024



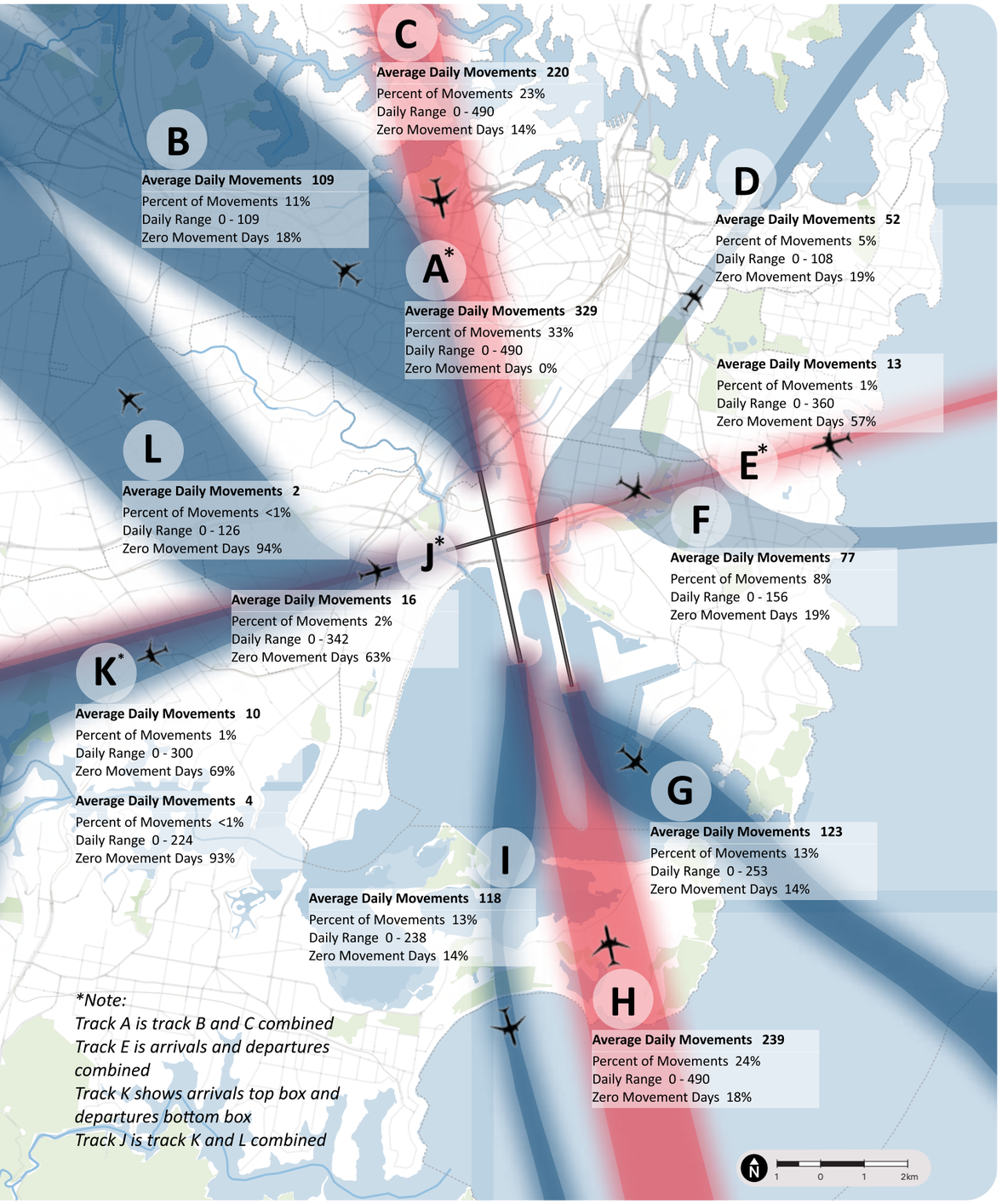
Map 14-2 Flight paths at Sydney Airport (non-jet aircraft) 2024



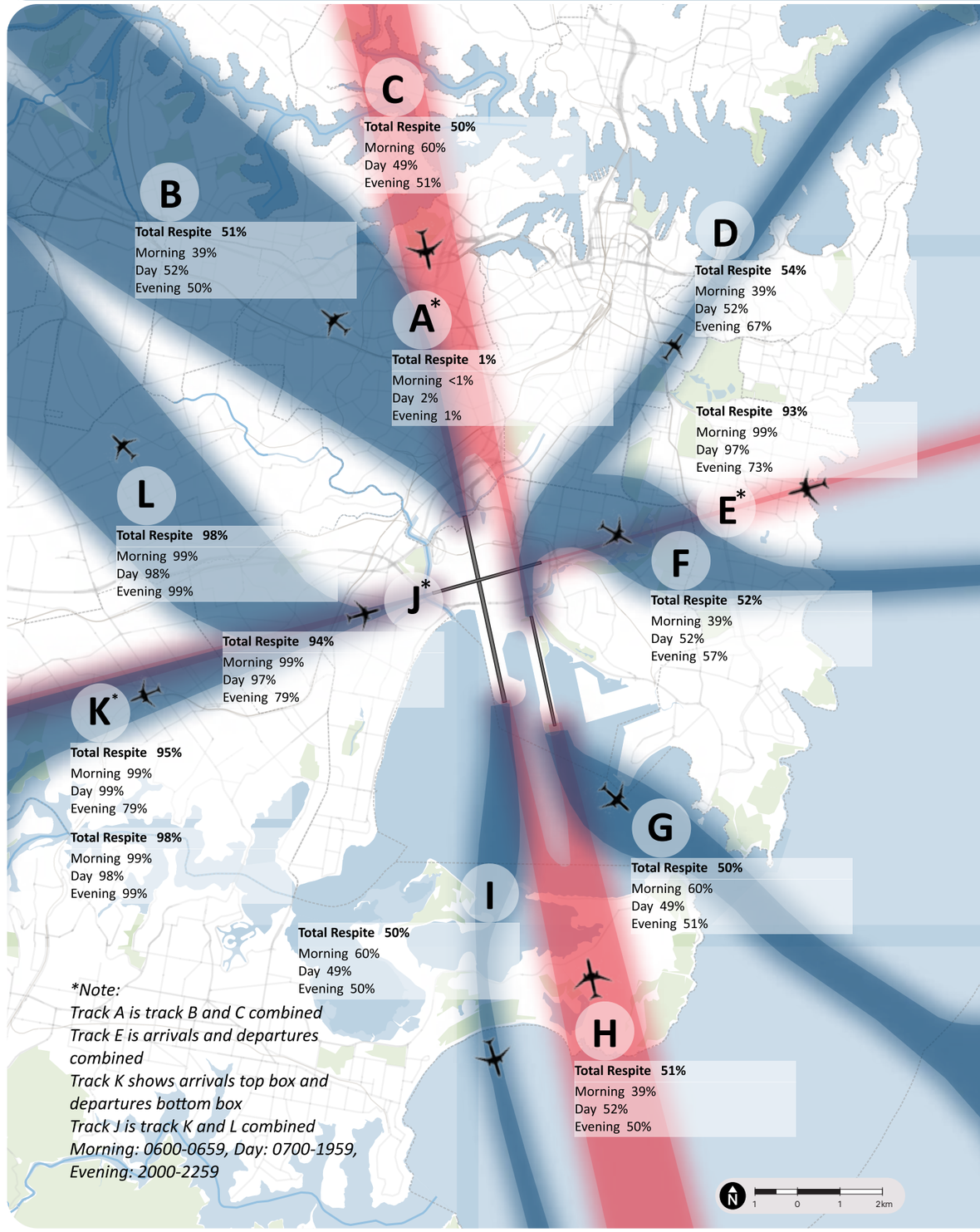
Section Three **Airport Planning Framework**

14. Aircraft Noise

Map 14-3 Average daily jet aircraft movement periods 2045



Map 14-4 Average daily jet aircraft respite periods 2045



Section Three **Airport Planning Framework**

14. Aircraft Noise

Frequency-based aircraft noise charts

Frequency-based measures of aircraft noise communicate how often a noise level is exceeded in an area.

The single event level of 60 dB(A) is specified in the *Australian Standard AS2021:2015* as the indoor sound level for homes in typical domestic areas at which noise may interfere with conversation, radio or television. As an external noise event at this level is reduced by approximately 10 dB(A) by the material of a house, contour maps (N70) are used to show the number of events exceeding 70 dB(A).

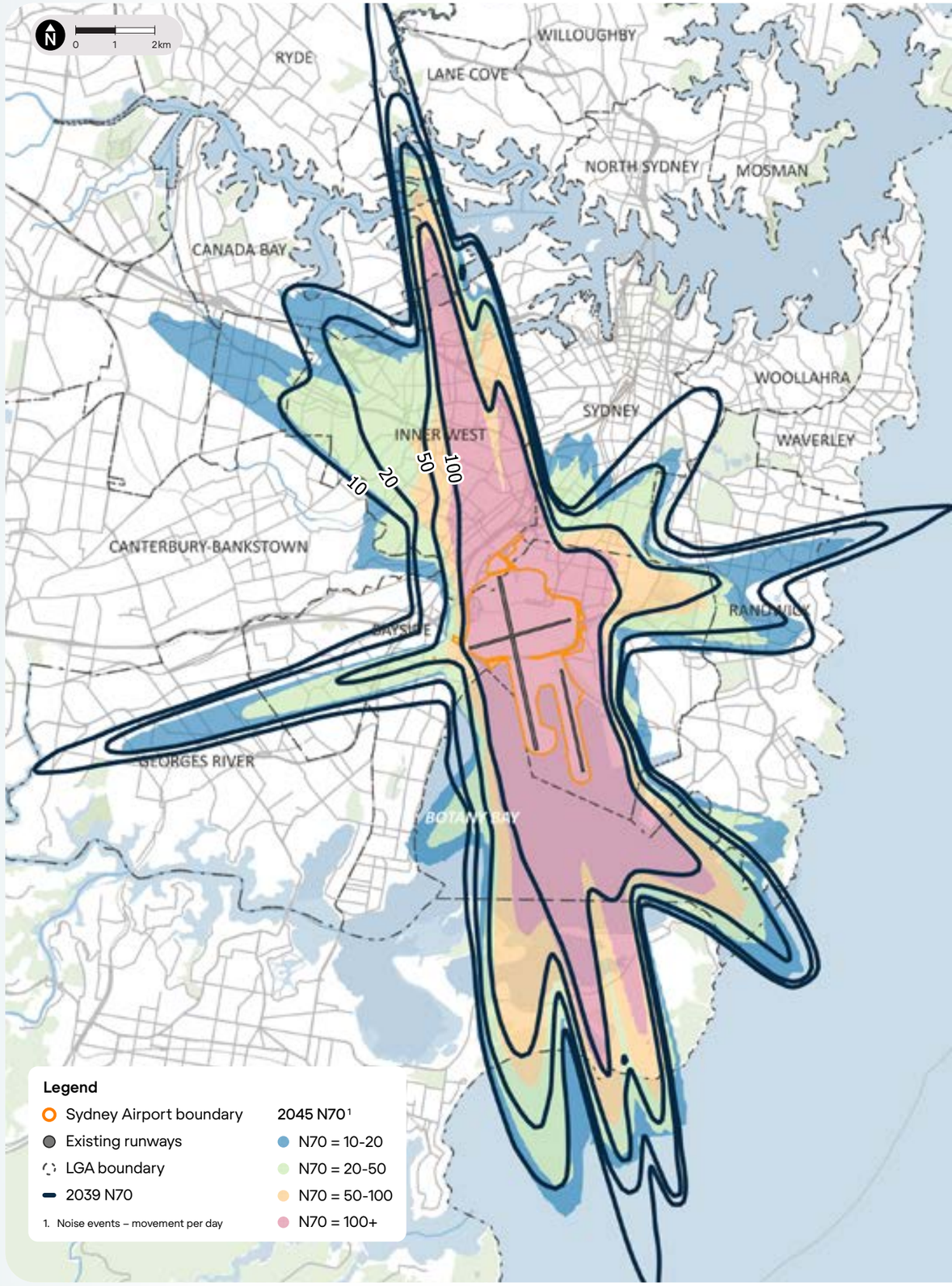
Map 14-5 represents the forecast N70 chart for Sydney Airport in 2045, relative to the 2039 contours.

Operations allowed during the curfew period

Under the Curfew Act, if the Minister specifies in the *Government Gazette* that WSI is able to be used for night aircraft movements, the only flights able to operate between 11pm and 6am at Sydney Airport will be those involved in an emergency (such as Air Ambulance), or when a dispensation under the Curfew Act has been issued to allow an aircraft to operate in exceptional circumstances.

The Curfew Act imposes a penalty of 1,000 penalty units for any operator of an aircraft that breaches the curfew.

Map 14-5 N70 contours 2045 (draft) and 2039



Section Three **Airport Planning Framework**

15. Safeguarding Sydney Airport

Safety and security are central to operations and growth at Sydney Airport. Responsibility is shared by the airport, its partners, and all levels of government.

The safeguarding of Sydney Airports considers:

Proactive management of safety, security, and protection of airport operations.

Investment in enhanced infrastructure and technology is key to maintaining a safe and secure hub.

The NASF principles and guidelines aimed at:

- Minimising noise-sensitive development near the airport and communicating noise metrics.
- Enhancing safety by ensuring aviation safety guidelines are considered in land use planning.

Key points

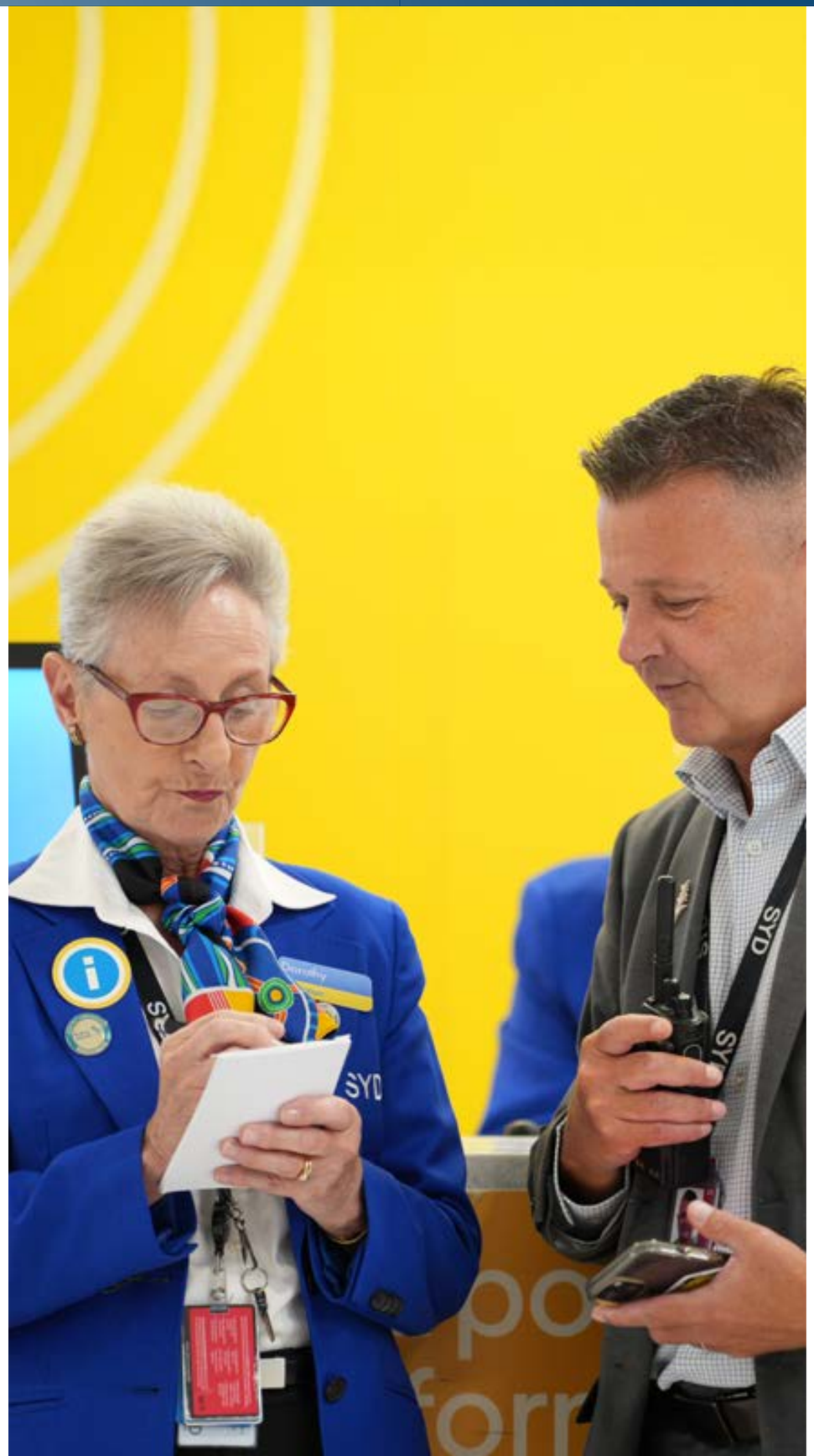
Sydney Airport is investing $55 million in the replacement of the landside perimeter fence line, scheduled for completion by the end of 2026.

While Sydney Airport controls on-site activities, development outside the airport boundary is subject to assessment by NSW Government agencies or local councils. A high degree of coordination is required to safeguard future growth and operations.

The ANEF contained within Master Plan 2045 is a key land use planning tool, designed to inform planning and development decisions by NSW Government and local councils.

There is strong government support for airport safeguarding, but improvements can be made to Sydney Airport's safeguarding framework.

Sydney Airport supports the NASF and the National Airports Safeguarding Advisory Group's (NASAG) recommendations for improving airport safeguarding measures across the country.



Airport security

Sydney Airport proactively, consistently and significantly invests in infrastructure and technology that improves the safety and security of our operations. For example, Sydney Airport has recently invested $55 million in the replacement of the landside perimeter fence line, fitted with the latest security technology. These upgrades are expected to be completed by the end of 2026.

Our robust safety and security framework involves collaboration between Sydney Airport, the AFP, government agencies, airlines, and tenants of the airport. Further, a comprehensive suite of governance mechanisms and protocols provide confidence that relevant policies and procedures are followed.

Infrastructure and technology

The nature and type of security threats facing public facilities across the world continues to evolve. The protection of passengers, equipment and infrastructure at Sydney Airport necessitates higher levels of:

- Access control integration and automation.
- Intrusion and perimeter detection.
- Screening equipment.

In response to the evolving threat environment, we continue to work closely with the Department of Home Affairs Cyber and Infrastructure Security Group (CISG), and all other government law enforcement and intelligence agencies to introduce improved screening processes and technologies. This includes remote screening and the use of artificial intelligence.

To improve efficiency and levels of service, we are moving towards integration and automation of our security infrastructure. This is evident in recently deployed upgrades, shown in Figure 15-1.

Aviation Transport Security legislation associated with security restricted areas (SRA), require aviation industry participants to:

- Ensure that a person or vehicle can only enter the SRA if the person and their vehicle are authorised to do so.
- Implement random and unpredictable screening of people, vehicles and accompanying goods entering the SRA in accordance with an Aviation Screening Notice.
- Introduce security awareness training about the new measures for airport and airline workers who regularly work within an SRA.

A summary of the key changes and how we will meet these requirements is shown in Table 15-1.

Section Three **Airport Planning Framework**

15. Safeguarding Sydney Airport

Table 15-1 Airside security regulations

Regulation requirement	Description	Sydney Airport's approach to meet requirement
Access control	Requirement to conduct access checks for persons and vehicles entering the SRA.	Conducting physical face to aviation security identification card checks.
Screening measures	Requirement to conduct random and unpredictable screening of non-exempt persons, vehicles and goods transitioning into the SRA.	Introducing new screening technology at pedestrian and vehicle entry points into the SRA.
Training	Requirement to deliver security awareness training for all airport and airline workers, contractors, and others who regularly work in the SRA.	Continuous updates of Sydney Airport's Security Awareness Guide and the use of Sydney Airport's Security Awareness Test (prior to the issuing of ASIC's or access control cards).

Framework to manage safety and security

To be successful in our commitment to maintaining a safe, secure and reliable airport operating environment, we implement the following robust management frameworks:

- **Safety Management System (SMS):** Is an integrated management system for effectively managing safety, risk and compliance to the CASA Manual of Standards, and work health and safety (WHS) legislation.
- **Sydney Airport Traffic Management Plan:** Addresses the flow of road traffic around airport operations and infrastructure, and the interaction between vehicles and the immediate environment, including the processes undertaken to eliminate and/or reduce risks.
- **Transport Security Program:** Describes the airport's security management system, including the security risk context, mitigation measures, and emergency and contingency plans.

Security management is undertaken in accordance with the regulatory obligations specified in the *Aviation Transport Security Act 2004* and the *Aviation Transport Security Regulations 2005*.

We conduct regular security risk assessments, based on the threat level established by the Australian Government. Legislation, local security risk context, and our operational environment inform how we achieve certain security outcomes.

Sydney Airport's security plans and strategies take a preventative approach, aligned with what the Australian Government acknowledges is the most practical mitigation strategy in the current environment.

Safety and security culture

Individuals play a key role in delivering security outcomes. Accordingly, Sydney Airport fosters a strong safety and security culture among airport staff.

We invest in regular staff security awareness campaigns and simulated scenarios. These position our staff to identify and report suspicious, unusual or changed behaviours by members of the public or fellow staff.

Governance mechanisms

Safeguards is Sydney Airport's centralised and integrated management system, supporting our safety and security framework. We actively seek to minimise any impacts on passengers and airport workers caused by security measures, without compromising safety and security or compliance with legislation.

As regulator, CASA conducts annual surveillance events of Sydney Airport, assessing compliance with approved operational procedures and checking that facilities meet requirements under the CASA Manual of Standards. Annual aerodrome technical inspections complement CASA surveillance.

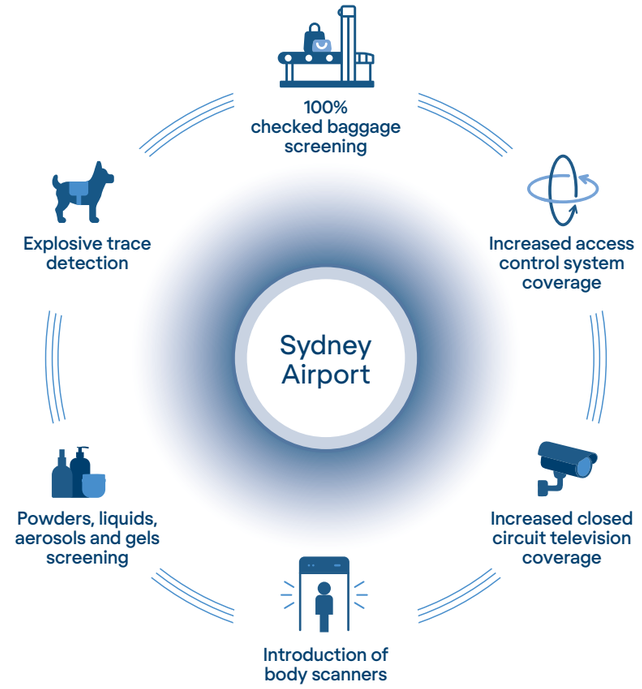
Sydney Airport engages a qualified, government-licensed security service provider, taking a collaborative approach to deliver 'professional security with service and integrity'. This approach has seen improvements to the delivery of contracted security services, and the perception and experience of aviation security.

The main security functions that are undertaken at Sydney Airport, including passenger and checked baggage screening, are illustrated in Figure 15-1.

To monitor contractor compliance with the Safety Management System, Sydney Airport administers health and safety assurance framework. In addition, Sydney Airport has a dynamic security assurance program, incorporating a robust system of independent testing, addressing current and emerging trends.

The CISG conducts quarterly audits of Sydney Airport to assess compliance with government-mandated airport security requirements. We are also audited by international and domestic airlines, and other international government and regulatory agencies.

Figure 15-1 Sydney Airport security technologies



Security by design

The Airport Development Plan (see Chapter 7) adopts a 'security by design' approach. Considering security during the detailed design phase can minimise costs, improve efficacy and accommodate passenger needs. Effective planning examines security factors including structural design, blast mitigation, roadway design, vehicle access control and crowd management.

As the spaces most densely populated with passengers and vehicles, 'front of house' areas are a focus of the Airport Development Plan. As an example of security by design considerations, increased separation distances, and adherence to government intelligence and law enforcement directives for the safe management of these areas, remain a priority for future development at Sydney Airport.

Section Three **Airport Planning Framework**

15. Safeguarding Sydney Airport

Airport safeguarding

The use of land surrounding an airport can directly impact its ability to operate efficiently and accommodate growing demands for aviation services. For example, if a new building physically intrudes into an existing flight path's airspace, the safe use of a particular runway could be limited or stopped.

Other off-airport development impacts could include:

- Complaints about aircraft noise and calls for further restrictions on airport operations from residents in new developments in areas too close to the airport that are already affected by aircraft noise.
- Air turbulence or windshear generated by large permanent and temporary structures (including industrial/construction activities, infrastructure buildings or large shipping vessels), which may constitute a hazard to aircraft in flight or further constrain airport operations.
- Wildlife which may constitute a flight hazard (such as birds or bats) may be attracted by certain land uses or activities.

Effectively safeguarding our operations is critical to protecting the social and economic benefits of the airport. While Sydney Airport controls development and activities on-airport, off-airport development must be managed cooperatively with external agencies and authorities.

Sydney Airport works with the NSW Government and councils to make sure the planning and development decisions made in areas outside the boundary of Sydney Airport consider and, where relevant, comply with the NASF Guidelines.

National Airport Safeguarding Framework

The purpose of the NASF is to enhance the current and future safety, viability and growth of aviation operations, by supporting and enabling best-practice land use assessment and planning.

The NASF applies to all airports in Australia, influencing planning and development outcomes in areas around airports. This includes development activity that may intrude into operational airspace and/or affect aircraft navigational procedures.

The NSW Government is responsible for the implementation of the NASF into its planning system. The NSW Government's Greater Sydney Region Plan 2018 states that policy aims to:

"Manage the interfaces of industrial areas, trade gateways and intermodal facilities by… recognising and giving effect to the National Airports Safeguarding Framework, incorporating noise, turbulence and wildlife safety measures."

This plan is being reviewed by the NSW Government.

To date, full implementation of the NASF has been slow.

In 2021, the National Airports Safeguarding Advisory Group (NASAG) – which comprises federal, state and territory governments, and the Australian Local Government Association – conducted an NASF review. Sydney Airport supports all eight of its recommendations for future action. These were:

1. Federal/state/territory ministers endorse an intergovernmental agreement to standardise a national approach to airport safeguarding.
2. NASAG continues to oversee implementation of the NASF.
3. NASAG to implement a schedule for ongoing review of all NASF Guidelines, to ensure the currency and functionality of the framework.
4. Australian Government to include provisions relating to consideration of the NASF in legislation for the 22 leased federal airports (by 2027).
5. State/territory governments to implement the Principles and Guidelines of NASF in their planning regimes (by 2027).
6. State/territory governments to develop and disseminate clear policy/guidance on the status of the NASF (for that individual jurisdiction) and how it should be applied to large and small airports.
7. Airports initiate a process for regular consultation/engagement with local government on NASF issues.
8. Federal/state/territory governments, peak aviation industry bodies and peak planning bodies to contribute to the development of NASF educational materials for use by planning practitioners, local government, tertiary institutions and the building/development industry.

The NASF is comprised of nine guidelines (see Figure 15-2), which can be found on the DITRDCSA website.

Figure 15-2 NASF Guidelines

Guideline A
Measures for managing impacts of aircraft noise

Implementing the right land use and planning controls and acoustic standards is the most effective way of managing aircraft noise intrusion in areas where high levels of noise are forecast.

An ANEF, developed as a land use planning tool to manage noise-sensitive land uses around the airport, enables the NSW Government and local councils to make informed planning and development decisions.

ANEF preparation requires consultation with the NSW Department of Planning, Housing and Infrastructure (DPHI), and local government authorities in areas around the airport. The system underpins the *Australian Standard AS2021:2015*.

The draft ANEF 2045 for Sydney Airport (see Map 15-1 and Appendix H) contained in this preliminary draft version of Master Plan 2045 considers:

- Aircraft movement forecasts to 2045 including aircraft fleet mix and origins/destinations.
- Airfield layout, RMOs, associated arrival and departure flight paths, and air traffic controller allocations to runways and flights paths for each RMO/route.
- Terrain elevation.
- Meteorological conditions as they affect runway direction, aircraft performance and atmospheric noise dispersion.
- Opportunities to use noise sharing RMOs based on runway demand/capacity and weather.

As expected when a new ANEF is prepared, contours shown in the draft ANEF 2045 differ to those in ANEF 2039 (see Map 15-2). In some areas, the contours move further away from the airport (increasing the area affected by the ANEF), while in others, they move closer (decreasing the affected area).

These differences are a result of:

- Forecast increased aviation activity over the planning period, which will see flights increase to just over 400,000 per annum.
- An expected increase in international passengers and therefore international flights over the period to 2045, with aircraft flying to or from international destinations typically larger than those flying to or from destinations within Australia.
- The assumption that some of the growth in international flights will be accommodated on Sydney Airport's parallel north-south runway (noting that such international flights already operate from that runway now), to allow balanced operations between runways.
- The assumption that WSI opens in late 2026, which has informed aviation activity forecasts and changes to Sydney Airport's flight paths.
- Updated meteorological data.
- Updated software.

Section Three **Airport Planning Framework**

15. Safeguarding Sydney Airport

Guideline B
Managing the risk of building generated windshear and turbulence at airports

Windshear and turbulence from buildings, structures, and objects situated close to runways have the potential to impact aviation operations. NASF Guideline B provides a layered risk approach to the siting and design of buildings near airport runways.

Sydney Airport's development approval process requires consideration of NASF Guideline B for all on-airport development. The airport's windshear assessment envelopes are based on Guideline B (see Map 15-3).

Air turbulence caused by the venting of gases from stacks, or other events that affect the normal flight of aircraft operating in prescribed airspace, is defined as a 'controlled activity' under the Airports Act. Assessments are undertaken on a case-by-case basis with input from the Australian Government, including agencies such as CASA, Airservices Australia and DITRDCSA.

Guideline C
Managing the risk of wildlife strikes in the vicinity of airports

In accordance with aviation safety regulations, Sydney Airport monitors and controls the presence of birds and other wildlife on or in the vicinity of the airport. Relevant practices and procedures are described in a Wildlife Management Plan.

Developed in consultation with surrounding councils, the Wildlife Management Plan is based on knowledge of local wildlife populations and the hazards various wildlife species pose to aircraft. Sydney Airport works with these councils to determine appropriate strategies to manage wildlife hazards, including development of planting guidelines to reduce attraction of wildlife such as birds and flying foxes.

Sydney Airport also continues to work with agencies of the Australian and NSW governments to eliminate the bird-attracting sewage overflows from Sydney Water's Southern and Western Suburbs Ocean Outfall Sewer, which passes across the airport.

When Sydney Airport is notified of off-airport development or other applications, it undertakes an assessment for wildlife strike implications, requesting appropriate conditions as deemed suitable. However, this may not capture all potentially important land use proposals, given that the wildlife hazards risk zones outlined in Guideline C extend 13 km from the airport.

Guideline D
Managing the risk of wind turbine farms as physical obstacles to air navigation

There are currently no wind turbine farms in the vicinity of Sydney Airport.

Guideline E
Managing the risk of distractions to pilots from lighting in the vicinity of airports

Under the *Civil Aviation Regulations 1988*, CASA has the authority to control ground lights where they have the potential to cause confusion or distraction to pilots in the air.

CASA has established guidelines on the location and permitted intensities of ground lights within a 6 km radius of airports. Within this radius, there is a primary area that is divided into four lighting zones, reflecting the degree of 'interference' ground lights can cause as the pilot approaches landing.

These guidelines assist lighting designers and installation contractors working in the vicinity of an airport. External advertising, sports field floodlighting and street lighting are examples of lighting sources requiring consideration.

Map 15-4 illustrates the lighting restriction zones associated with each of the Sydney Airport runways.

Guideline F
Managing the risk of intrusions into the protected airspace of airports

Australian Government regulations recognise the need to restrict the height of buildings and other structures (such as cranes) near airports or under flight paths, formally known as 'prescribed airspace'. These regulations aim to ensure that:

- The airspace used by aircraft is obstacle-free.
- Radar and other air navigation equipment can operate free from interference.
- Airport safety lights are not obscured.

An airport's prescribed airspace includes the following:

- **Obstacle Limitation Surface (OLS):**
  The OLS is defined by international specifications, is determined by the Australian Government, and regulated by CASA. It defines the airspace surrounding an airport that must be protected from obstacles to ensure aircraft flying in good weather during the initial and final stages of flight, or in the vicinity of the airport, can do so safely.
- **Procedures for Air Navigational Services – Aircraft Operations (PANS-OPS):**
  At major airports, radio and satellite navigation aids enable aircraft to fly safely in poor weather (known as 'non-visual conditions'). In such conditions, visibility can be close to zero due to cloud or fog. To avoid collisions, pilots need to know that the airspace they are flying in is free of obstacles.
- **Other surfaces:**
  Other surfaces are defined to ensure off-airport obstacles do not interfere with signals from ground-based air navigation equipment (such as radar) or obscure airport safety lights (such as HIAL).

  If radar signals are interfered with, a pilot may receive inaccurate information about the location of the aircraft in relation to the ground or the airport's runways. If the HIAL are obscured, particularly in low visibility conditions when they are most needed, a pilot may lose sight of the runway just before touch down. Both scenarios pose an obvious risk to safety.

Under section 182 of the Airports Act, activities resulting in intrusions into an airport's prescribed airspace are called 'controlled activities', requiring the approval of the Australian Government. It is an offence to carry out a controlled activity without approval or to breach a condition of a controlled activity approval.

Under the Airports Act, councils with boundaries that fall within Sydney Airport's protected airspace must review building and development applications received for any potential permanent or temporary intrusions into prescribed airspace.

During the master planning period, Sydney Airport expects there to be changes to its prescribed airspace, brought about by ICAO.

Sydney Airport's prescribed airspace

Airspace protection primarily focuses on ensuring off-airport development activity does not compromise aviation safety or limit use of a particular runway. It involves aspects of land use planning and development control, which need to be managed cooperatively with the NSW and local governments.

Charts showing Sydney Airport's prescribed airspace can be downloaded at Airspace protection.

Sydney Airport conducts annual obstacle monitoring surveys and publishes the results on its website. Daily obstacle monitoring is conducted by airport operations staff, in conjunction with approved building activities within the airport vicinity, to maintain the safety, efficiency and regularity of aircraft operations into and out of the airport.

Guideline G
Protecting aviation facilities – communications, navigation and surveillance

Airservices Australia operates several radio navigation aids at Sydney Airport that provide guidance to aircraft operating in poor weather conditions. Airservices Australia also operates several systems that provide surveillance of aircraft in the air, and aircraft and vehicles operating on the ground at the airport.

To satisfy performance requirements, airspace restrictions are established for each item of equipment and procedure. Sydney Airport's first preference is that there are no infringements of airspace restrictions. However, it may be possible in some cases (subject to detailed modelling and analysis) to permit infringements of the protective surfaces without degradation in system performance. Protection of the navigation aid and radar restricted surfaces is a mandated requirement of Civil Aviation Safety Regulations (CASR) Part 139 and CASR Part 171.

NASF Guideline G also seeks to protect communications, navigation and surveillance (CNS) facilities off-airport.

Guideline H
Protecting strategically important helicopter landing sites

As this guideline defines a helicopter landing site as an area 'not located on an aerodrome', it is not applicable to Sydney Airport.

Guideline I
Managing the risk in public safety areas at the ends of runways

ICAO data indicates that, if an aircraft accident occurs, it will likely occur within 1,000 metres of the runway on approach or within 500 metres of the runway end on departure.

PSAs at each end of a runway are designed to protect public safety. Sydney Airport's PSAs are shown in Map 15-5.

A PSA covers this zone, limiting the storage of hazardous materials and on- and off-airport land uses that increase the number of people, working or congregating in the area.

Guideline I suggests two suitable methods for a planning-led approach to the assessment of PSAs:

- UK NATS Methodology.
- Queensland State Planning Policy.

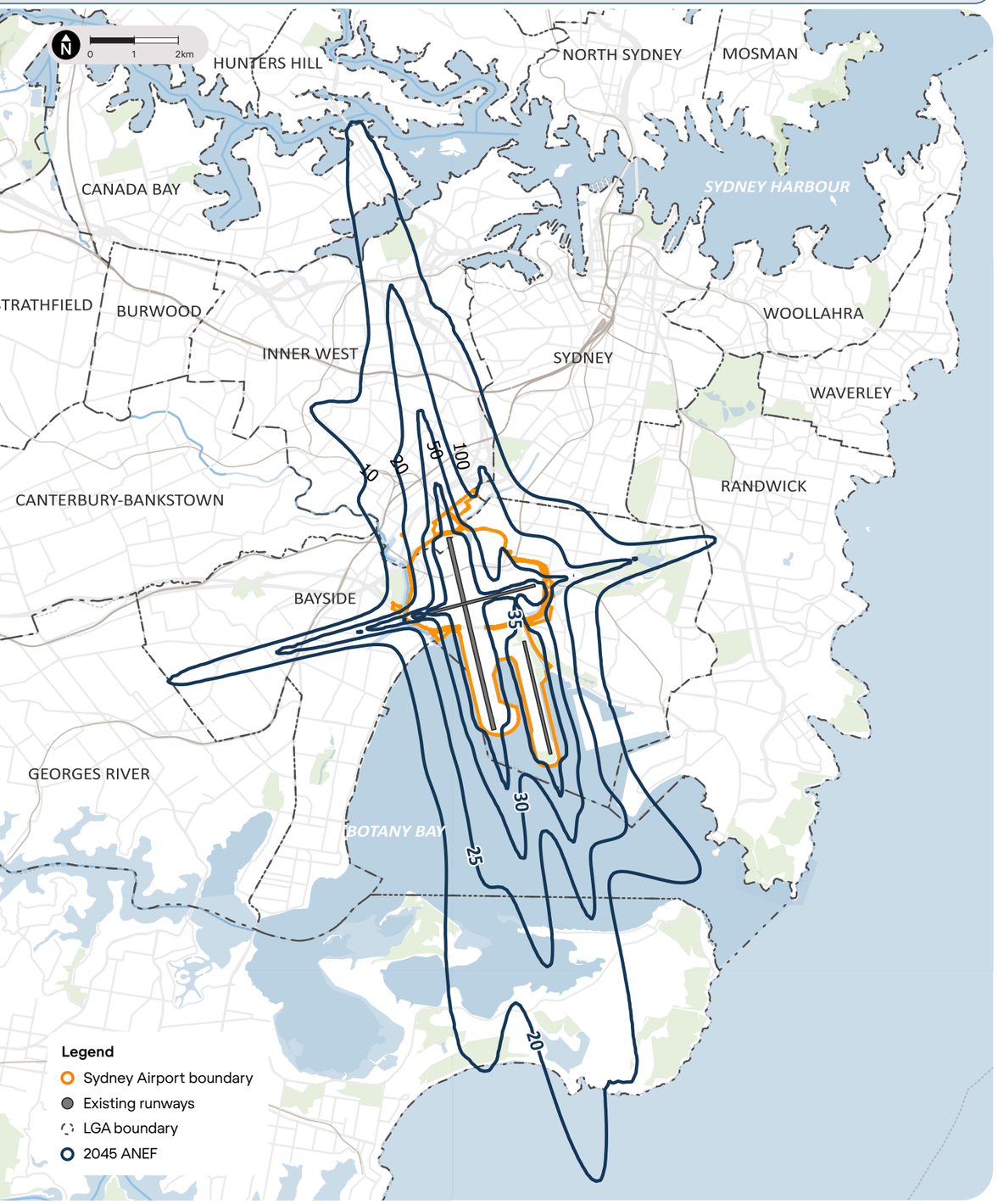
At Sydney Airport, crash risk and public safety are prioritised in land use planning and the development approval process. Depending on the type of development proposed, Sydney Airport undertakes a safety case.

Off-airport land use zoning falls within the jurisdiction of the relevant local government authority. No legislation or guidelines presently exist that dictate permissible off-airport land uses with respect to aircraft crash risk. Sydney Airport will continue to work with the NSW Government and surrounding local government authorities on the implementation of NASF Guideline I.

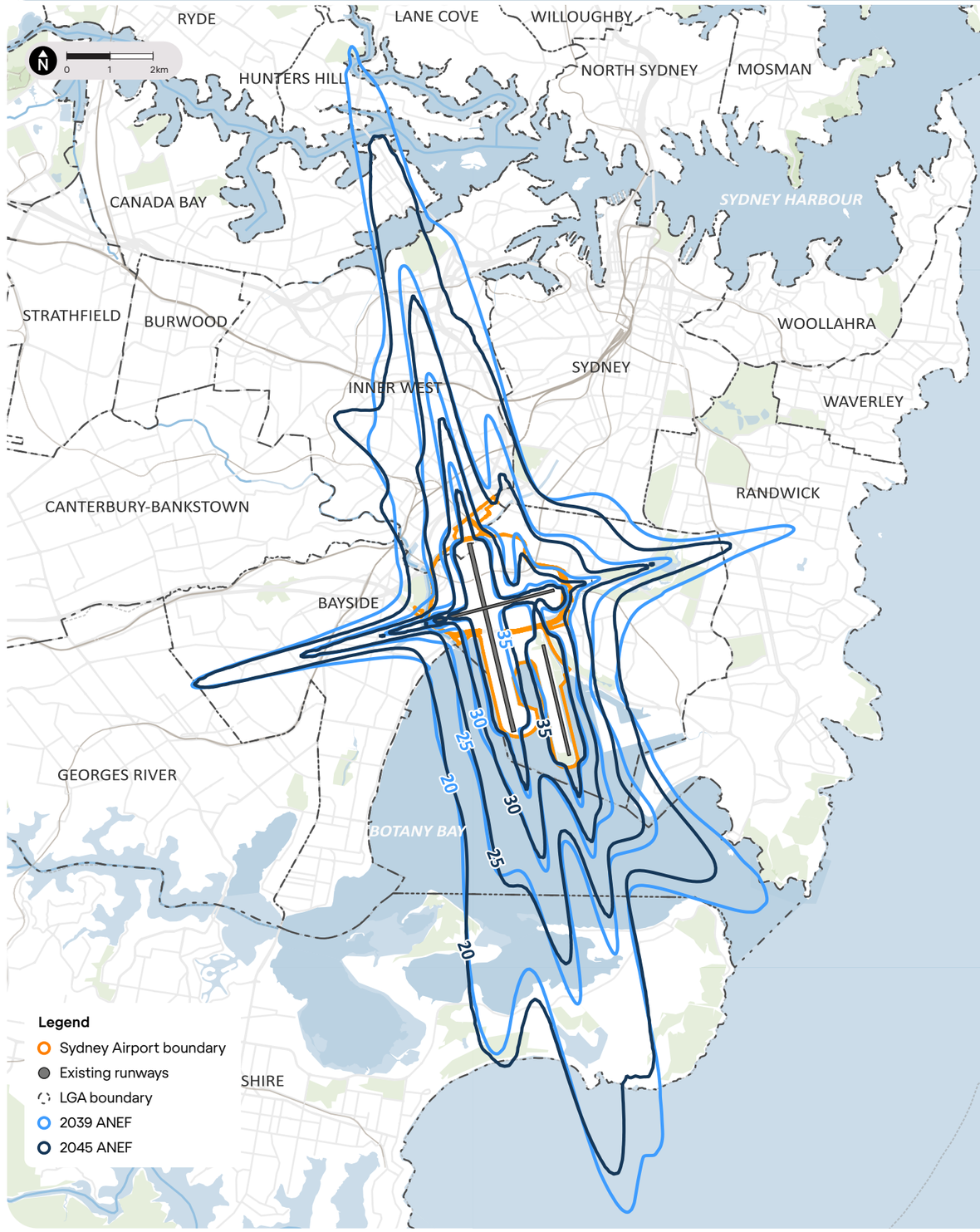
Section Three **Airport Planning Framework**

15. Safeguarding Sydney Airport

Map 15-1 Draft ANEF 2045



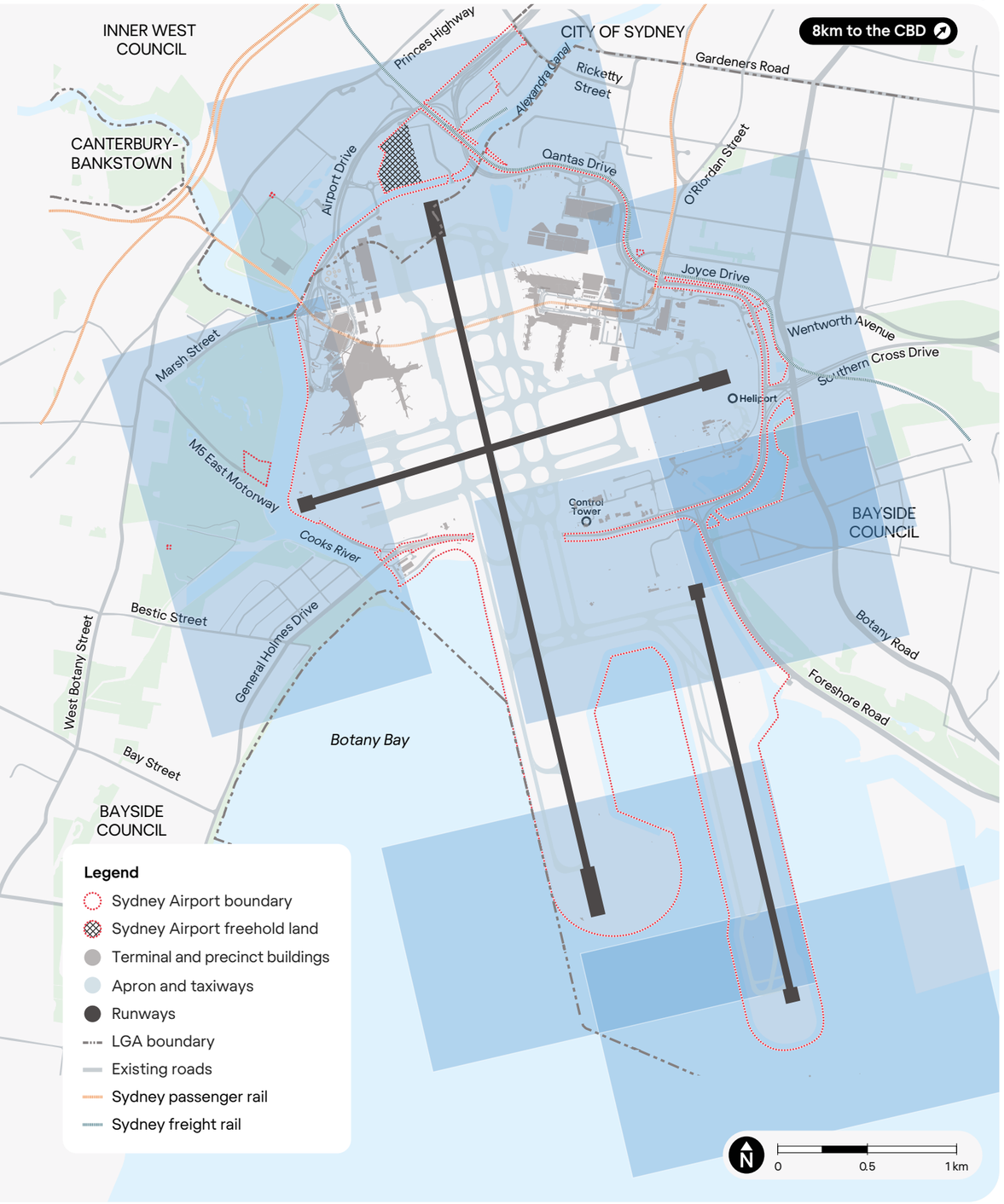
Map 15-2 Draft ANEF 2045 and ANEF 2039



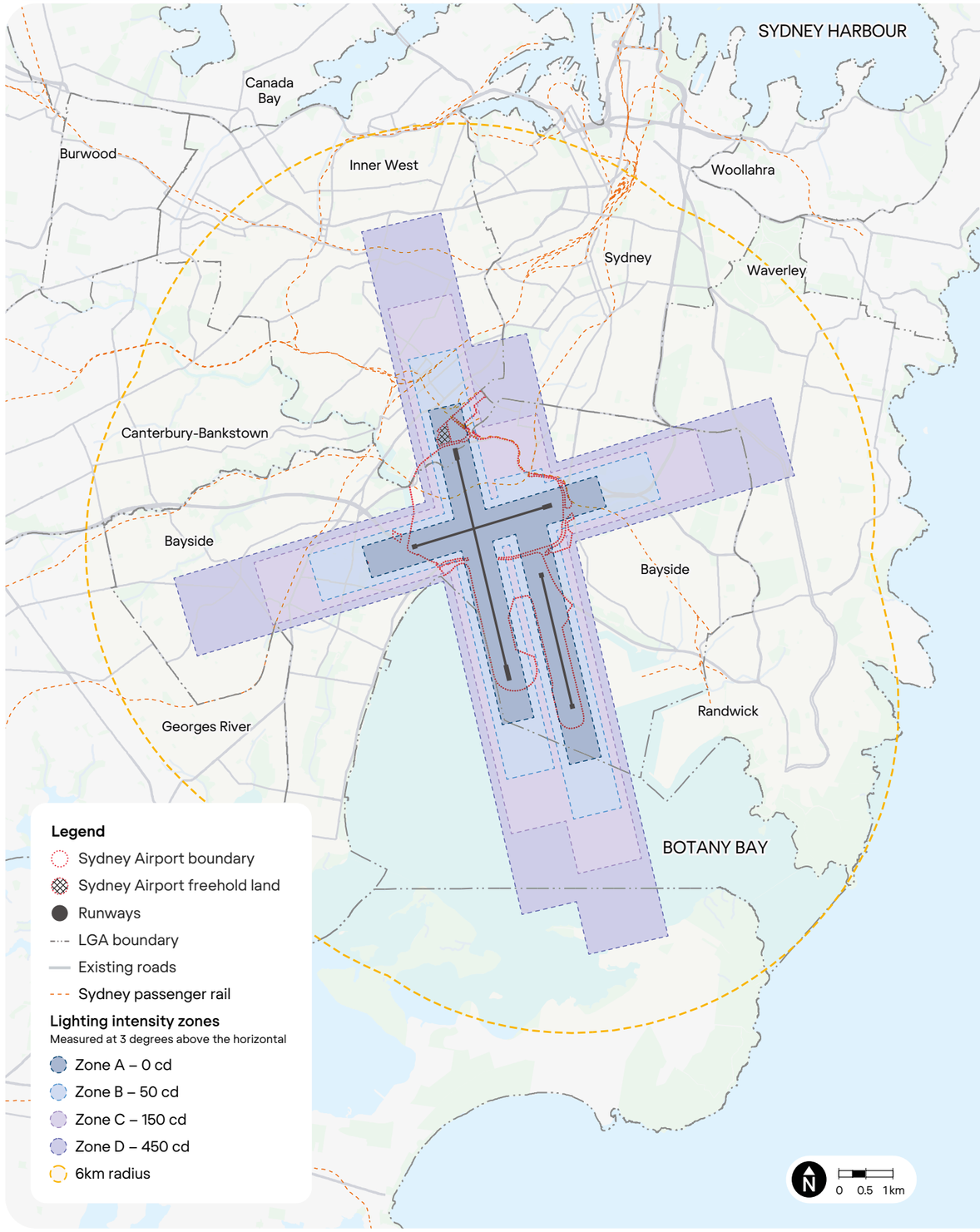
Section Three **Airport Planning Framework**

15. Safeguarding Sydney Airport

Map 15-3 Windshear assessment envelopes



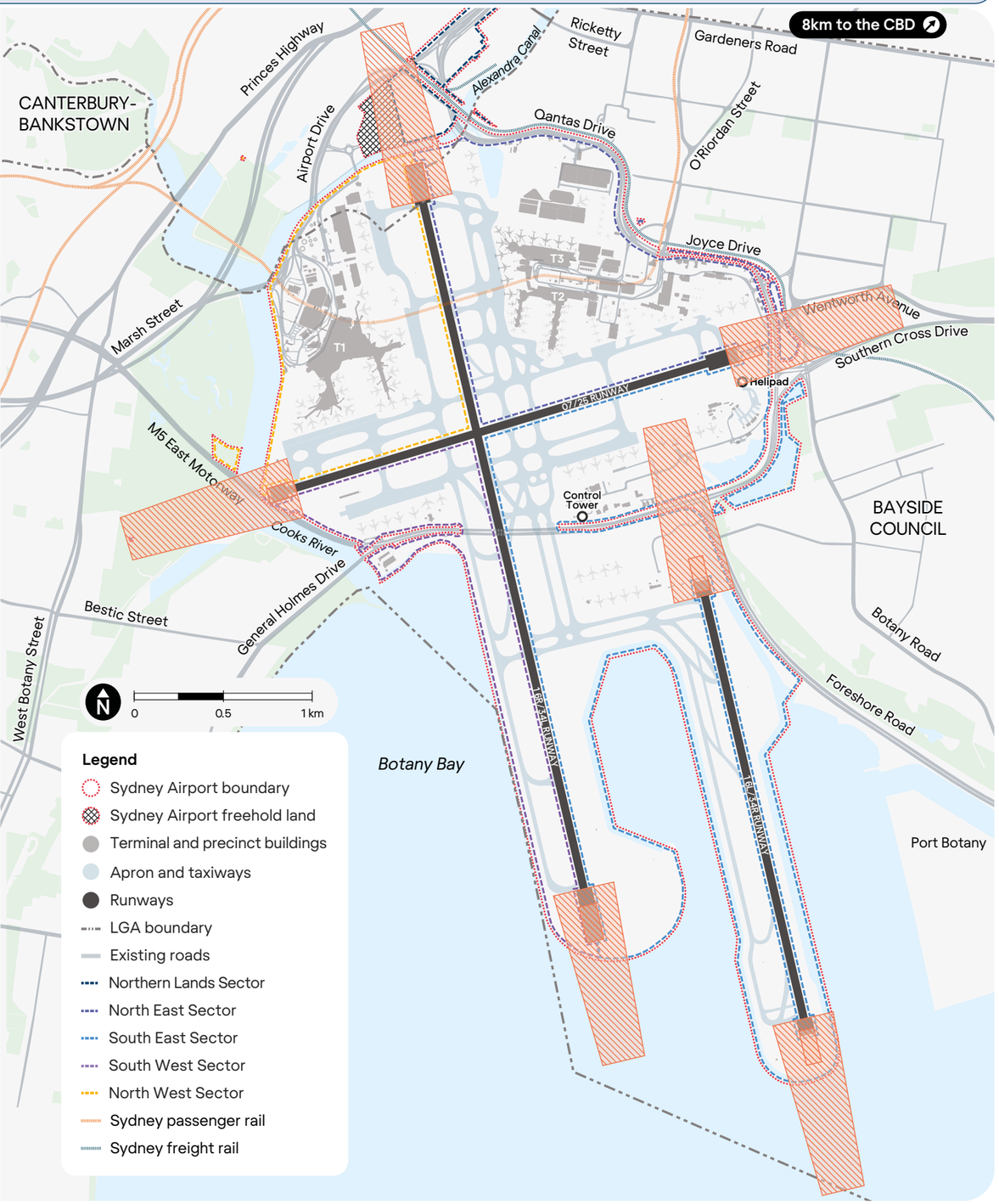
Map 15-4 Restricted lighting plan

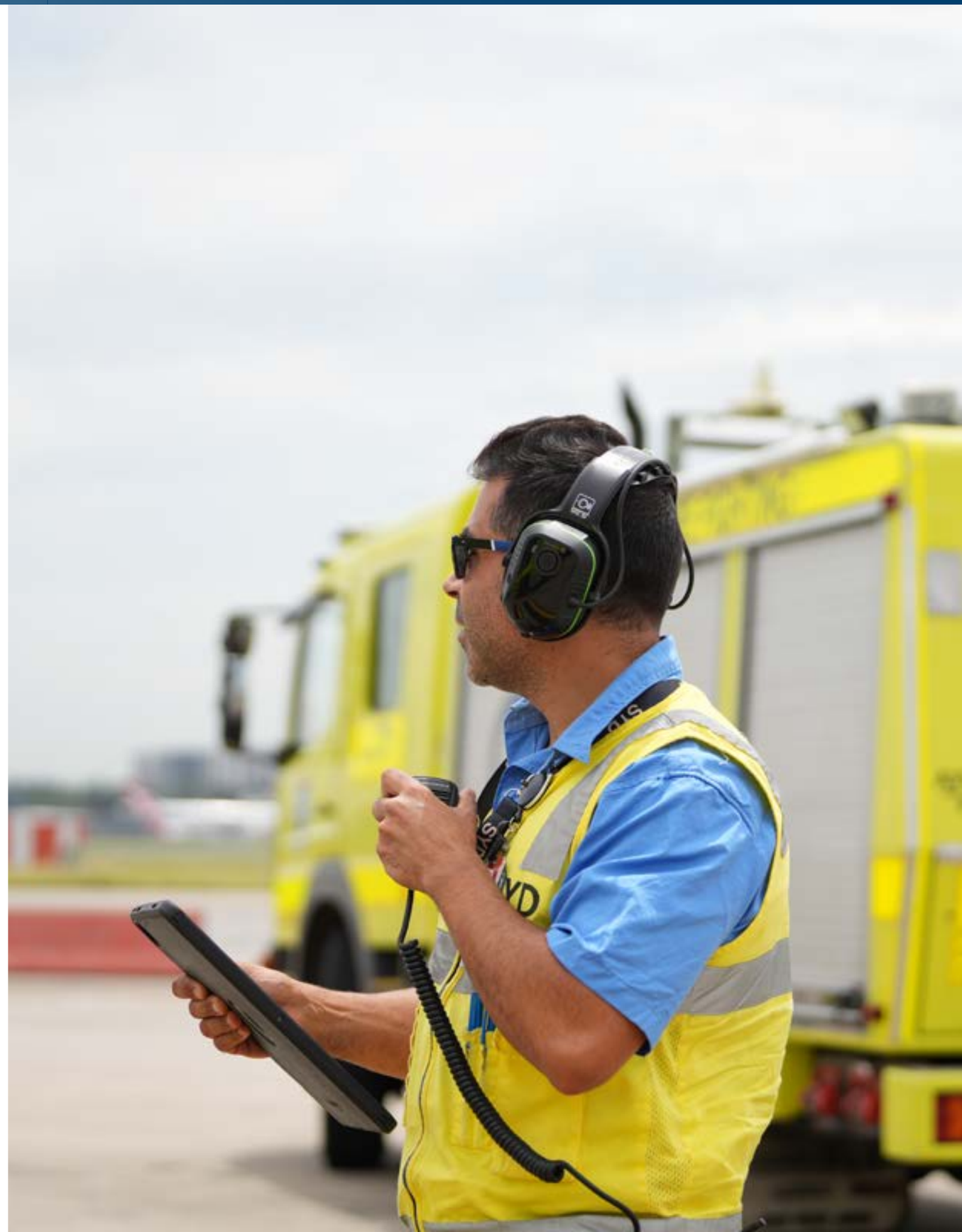


Section Three **Airport Planning Framework**

15. Safeguarding Sydney Airport

Map 15-5 Sydney Airport public safety areas





Section Four **Airport Environment Strategy**

Section Four

Airport Environment Strategy 2025–2030

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170 17. Pollution management
184 18. Flora, fauna and heritage
196 19. Sustainability

SYD

Section Four **Airport Environment Strategy**

16 Introduction to the AES

This Airport Environment Strategy 2025–2030 (the AES) details our commitment to continual improvement of environmental performance.

The 2025–2030 AES has been prepared to meet the requirements of Section 71(2)(h) of the Airports Act and Sections 16 and 17 of the *Airports Regulations 2024*. The purpose of the strategy is to provide an overview of:

- Our objectives for the environmental management of Sydney Airport.
- The areas to be considered environmentally significant.
- Identification of the sources of environmental impact.
- Our framework for effective environmental management at the airport.

The AES covers all operations at Sydney Airport that are conducted on land held under the airport head lease with the Australian Government. It does not include freehold land that we own or occupy outside the airport head lease, which is governed by NSW law.

Strategy requirements and context

This AES is a core component of our planning regime and sits within the Sydney Airport Master Plan 2045. Various contextual information can be found throughout the Master Plan:

- Legislative framework and implementation by the Airport Environment Officer (AEO) appointed by DITRDCSA (See Chapter 1 Introduction).
- Compliance with statutory requirements (See Appendix D).
- Sydney Airport's location and map (See Chapter 3 Strategic Context and Economic Significance).
- History of Sydney Airport and detailed description of facilities (See Appendix C).
- Consultation process for the development of this AES (See Chapter 5 Stakeholder and Community Engagement).

Environmental significance

Local waterways surrounding Sydney Airport include Alexandra Canal, Cooks River and Botany Bay. These are largely tidal waterways which service large upstream urban catchments. Numerous nearby parks also create areas of open space with native vegetation. Remnant wetlands located within the airport precinct include Engine Pond West, Engine Pond East and the Mill Pond – these form part of the larger Botany Wetlands.

As the third water supply for Sydney, wetlands upstream of the airport have historical significance and are listed on the NSW State Heritage Register and on the Sydney Water Heritage and Conservation Register.

The Sydney Airport ATC Tower on General Holmes Drive is a Listed Place on the Commonwealth Heritage List. There are no listed sites of First Nations significance within the airport, however we recognise that Botany Bay and surrounding areas have importance to the local First Nations community.

We have not identified any areas of the airport that are environmentally significant for this AES period. The one item of exceptional heritage value (the ATC Tower) is not owned or occupied by Sydney Airport and is protected under the EPBC Act. See Chapter 18 Flora, fauna and heritage.

The heritage categorisation of three areas has changed, following updates to the Heritage Management Plan (i.e. the runways, Keith Smith Avenue and Sydney Airport Wetlands; see Chapter 18 Flora, fauna and heritage). There is also a change in the characterisation of the Sydney Airport Wetlands, which were noted in the previous AES for 'biodiversity value' by virtue of being on the Directory of Important Wetlands Australia. The Wetlands are now recognised as being protected under the EPBC Act as Commonwealth land.

Section Four **Airport Environment Strategy**

16 Introduction to the AES

Environmental management at Sydney Airport

Environmental Management System (EMS)

Sydney Airport's EMS provides a robust and systematic approach to environmental management that focuses on:

- Understanding and controlling environmental risk and opportunities.
- Assessing performance and incorporating continual improvement.
- Understanding and operationalising compliance requirements.

The EMS (Figure 16-1) has been prepared taking into account legal and other requirements (including the Sydney Airport Environment Policy, this AES, and our legislative obligations) and is compliant with the relevant international standard, *AS/NZS ISO 14001:2015 Environmental management systems – Requirements with guidance for use*.

Figure 16-1 Sydney Airport EMS overview

The EMS is reviewed every two years and updated as required. This allows us to respond to changes to our overall strategy, relevant legislation and stakeholder expectations, as well as implement technological advancements and lessons learned from audits and incidents. As part of a continual improvement process, the EMS will evolve over the AES period to meet the needs of managing the airport. Amendment of the EMS is undertaken in consultation with the AEO and finalised procedures are provided to the AEO.

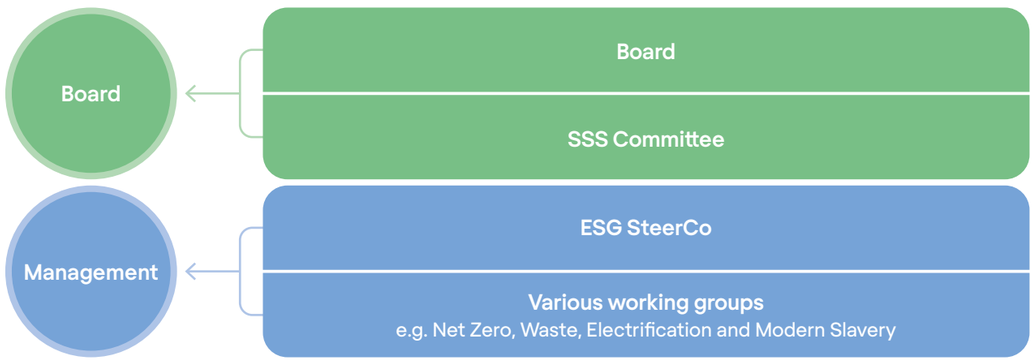
Governance framework

Our ESG framework (Figure 16-2) provides confidence that environmental management is appropriate, proportional to the risk, and transparent, to allow us to make informed and appropriate decisions.

The Board's Safety, Security and Sustainability (SSS) Committee oversees and reviews the effectiveness of Sydney Airport's sustainability and environmental policies, strategies, initiatives and systems as well as our performance and reporting.

The ESG Steering Committee (SteerCo) provides direction on our sustainability, and environment strategies and objectives. The SteerCo is supported by various cross-functional working groups across the business, which guide and deliver our strategic initiatives.

Figure 16-2 ESG framework



Section Four Airport Environment Strategy

16 Introduction to the AES

Training

It is vital that those working at the airport understand their impact on the environment and their responsibilities under the AES and relevant regulations.

Sydney Airport staff complete a corporate induction program covering all aspects of airport operations, including environmental management with a specific training package provided for roles that interact with the EMS and the environment. Information regarding environmental management and relevant contact people is located on the Sydney Airport intranet for all staff to access.

Sydney Airport staff that have specific environmental obligations, including Environment Team members, receive targeted training to ensure they are aware of the requirements of their role and are up to date with new technologies and changing management techniques.

Our contractors also complete an induction program that includes environmental management, so they understand environmental requirements at the airport, and how to report incidents.

Our tenants receive information through the SYD Terminal Operations Manual, which includes information on the Sydney Airport Environment Policy, EMS, AES and construction processes. Leases, agreements, and contracts contain environmental obligations.

Contractors that may have specific environmental requirements in their scope of work will be provided with task-specific information, which may include information regarding contamination management plans. This may be presented as a site induction session or provided as information in tenders.

Information regarding environmental management, which includes requirements to meet regulatory and AES compliance and, where appropriate, have management plans or systems that include training requirements, is readily available for our operators and contractors on the InfoSYD portal.

All training and information associated with environmental management is reviewed on a regular basis and updated as required, to ensure current requirements and management techniques are understood.

Annual reporting

As outlined in the *Airports (Environment Protection) Regulations 1997*, Sydney Airport is required to provide an annual environment report to the Secretary of the DITRDCSA, including progress in "achieving the policies and targets in the environment strategy".

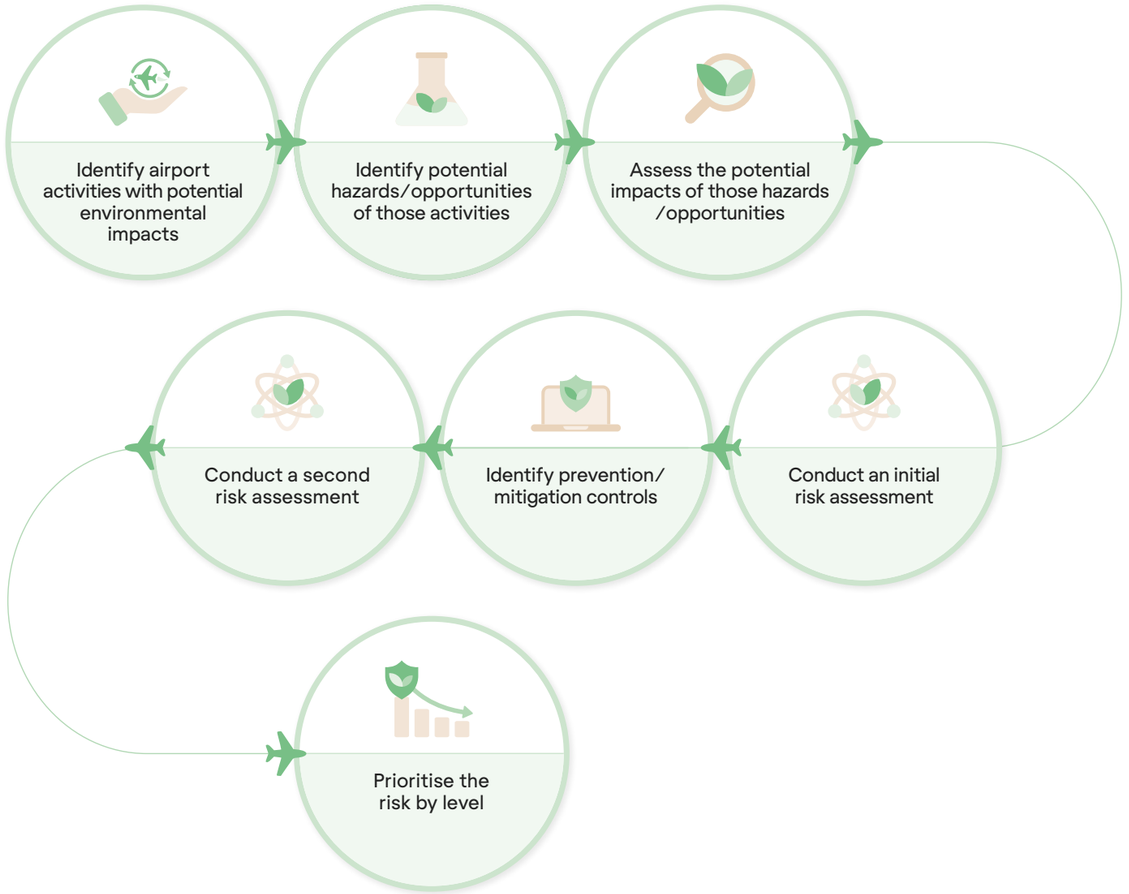
Additionally, we are bound by corporate laws that require climate disclosure through annual reporting, including the *Treasury Laws Amendment (Financial Market Infrastructure and Other Measures) Act 2024*. Annual reports will include the results of the monitoring outlined in this AES.

Environmental risk management

Sydney Airport's risk management process (Figure 16-3) has been followed to evaluate all airport activities for their environmental risk and opportunities.

As required under the *Airports (Environment Protection) Regulations 1997*, we maintain an Environmental Site Register which outlines our environmental risks, opportunities, and the measures taken to manage them.

Figure 16-3 Risk management process



There are parties other than Sydney Airport that conduct activities that may have an environment impact. In order to manage environment risk associated with these activities, Sydney Airport conducts the following:

Tenants – Tenants are assessed on the risk of their activities. We have differing levels of controls that are incorporated into sub-leases that can include developing and implementing an EMS compliant with ISO 14001 or developing and implementing an environmental management plan (EMP) compliant with ISO 14001. Documented audit activities are undertaken for tenants that have an EMS or EMP and inspections are undertaken that include all tenants including low risk tenant activities.

Contractors – Environmental requirements are included in contracts, including construction projects, as applicable and dependent on the risk associated with the works. This may include preparation of Construction Environmental Management Plans.

Operators – Operator agreements contain environmental requirements, as applicable to the activities undertaken. This may include the need to have environmental management plans that comply with ISO 14001.

Section Four **Airport Environment Strategy**

16 Introduction to the AES

Environmental management areas

Following an environmental risk assessment of airport activities – and taking into account regulatory requirements and stakeholder views – we have identified 10 key focus areas for environmental management to prevent or minimise damage to the environment or our community.

Pollution management

- Air quality
- Surface water quality
- Ground-based noise
- Contamination management

Flora, fauna and heritage

- Flora and fauna
- Heritage
- First Nations heritage

Sustainability

- Greenhouse gas emissions
- Natural resource use
- Waste

Falling into three natural categories, these environmental management areas are explored in detail in chapters 17–19.

Each section includes objectives, context, a risk assessment of impacts and mitigation controls, monitoring measures, and additional actions planned for the duration of this AES.

As airport activities are undertaken by multiple parties, each section also identifies those responsible for the various activities and associated controls that are implemented to manage impacts.

The parties identified include:

- **SYD**
  Operations undertaken directly by Sydney Airport.
- **Tenants/operators**
  Tenants are organisations that hold a sub-lease from us to occupy airport space for their operation, while operators hold an agreement with us to conduct operations that allow the movement of aircraft through our facilities.
- **Contractors**
  Contractors engaged by us or by our tenants/operators.
- **Other parties**
  Entities or persons that use or manage land within the airport without a lease or operating agreement with us (e.g. the general public; utility providers).

Timeframes associated with action plans are broken down into the following categories:

- **Short term** – to be conducted in years one to three of the AES.
- **Long term** – to be conducted in years four to five of the AES.
- **AES period** – actions will occur across the entire AES period and will continue past this, as appropriate.

All actions associated with prevention or mitigation measures will be undertaken across the entire AES period and will likely continue into the future where the risk remains.

Section Four **Airport Environment Strategy**

17 Pollution management

Air quality

Overview

Sydney Airport has conducted air quality monitoring for many years. We have our own air quality monitoring station on the airfield which was installed in 2017 and we use portable low-cost sensors to provide additional local data.

We currently monitor for:

- Carbon monoxide
- Nitrogen oxide
- Nitrogen dioxide
- Nitrogen oxides
- Ozone
- Particulate matter (PM_{10} and $PM_{2.5}$)
- Volatile organic compounds (VOCs) including benzene, toluene, ethylbenzene, xylene and acrolein.

We also measure temperature, relative humidity, wind speed, wind direction, rainfall and solar radiation. By comparing Sydney Airport results to data from the NSW Office of Environment and Heritage air quality monitoring stations in Earlwood and Randwick, we have a good baseline to understand the air quality at the airport.

Air monitoring results to date show that specific pollutants measured at the airport are generally consistent with those pollutant levels in the local area.

An air emissions inventory was prepared in 2025 by Zephyr Environmental, specialist air quality consultants, for Master Plan 2045 to understand how emissions will change in the future. Using 2023 as a baseline year, the inventory projects emissions for 2030 and 2050 using available data on projected aircraft movements, types of aircraft, ground-based sources, and plans for electrification, as described in Master Plan 2045.

Air modelling to assess air emissions for Master Plan 2045, conducted based on the baseline year of 2023 by Zephyr Environmental, shows that Sydney Airport contributes less than 2% of air emissions in the local area. Other significant local sources of air emissions include major roads and tunnels, the port facility and heavy industry.

The inventory found that aircraft movements were the major source of air pollutants in 2023, contributing the most nitrogen oxides and VOC. PM_{10} and $PM_{2.5}$ emissions were fairly equally attributed to aircraft movements and APUs. The emissions inventory projects that pollutants will increase in proportion to growth in aircraft movements, which will remain the largest source of air pollutants in 2030 and 2050.

Projections for air quality include the following:

- Nitrogen oxides will increase around 12% in 2030 and 27% in 2050, compared with 2023 levels.
- PM_{10} and $PM_{2.5}$ will decrease in 2030 due to higher uptake in GPUs and APUs and less reliance on aircrafts using fuel. While they will increase slightly in 2050 due to higher aircraft movements and our requirement to increase the uptake, emissions in 2050 should still be below 2023 levels.
- VOCs will increase by around 11% in 2030 and 15% in 2050 compared to 2023 emissions. This projected slowdown in increases is due to expected changes in fuel mixes, with more sustainable aviation fuels being used in the future.

Air quality monitoring, as defined under the *Airports (Environment Protection) Regulations 1997*, does not include pollution generated by an aircraft. As such, our monitoring is primarily focused on activities undertaken by the airport and support operations.

Monitoring focuses on the quality of ambient air in relation to national health standards and applies to workers and the general public using the airport, as well as the surrounding communities. Workplace exposure (relating to specific activities that have a higher risk of chemicals and other materials in the area surrounding a worker) is covered in our safety requirements under WHS laws.

Objectives

Minimise the impact of airport operations and construction on air quality surrounding the airport.

Section Four **Airport Environment Strategy**

17 Pollution management

Air quality

Table 17-1 Air quality risk processes

Identified aspect	Who conducts the activity: SYD	Tenants/ operators	Contr- actors	Other parties	Potential impact	Prevention or mitigation measures
Maintenance and construction in operational and non-operational areas using plant, equipment and vehicles powered by fossil fuels	✓	✓	✓		Reduced air quality	**SYD** – EMS Air Quality Management Procedure – EMS Tenant Management Procedure – EMS Contractor Management Procedure – SYD BES Standards – SYD Net Zero Roadmap **Tenants/operators** – Environmental requirements in leases, licences and agreements **Contractors** – Planning approval process – Environmental requirements in contracts
Maintenance and operation of assets that include air conditioning or refrigeration equipment	✓	✓	✓		Reduced air quality Emission of ozone depleting substances from air conditioning and/ or refrigeration systems	**SYD** – EMS Air Quality Management Procedure – EMS Contractor Management Procedure **Tenants/operators** – Environmental requirements in leases, licences and agreements **Contractors** – Environmental requirements in contracts
Operation and maintenance of tenancies and assets, including use of fixed and mobile plant and equipment		✓	✓	✓	Reduced air quality Emission of ozone depleting substances from air conditioning and/ or refrigeration systems	**SYD** – EMS Air Quality Management Procedure – EMS Tenant Management Procedure **Tenants/operators and other parties** – Environmental requirements in leases and licences
Airfield operations, including use of fixed and mobile plant, equipment and aircraft, that use fossil fuels		✓	✓	✓	Reduced air quality	**SYD** – EMS Air Quality Management Procedure – EMS Tenant Management Procedure – EMS Contractor Management Procedure – Provision of GPUs and PCA **Tenants/operators and other parties** – Environmental requirements in leases and licences – Environmental clauses in airport operation and airline agreements **Contractors** – Environmental requirements in contracts

Table 17-1 Air quality risk processes continued

Identified aspect	Who conducts the activity: SYD	Tenants/ operators	Contr- actors	Other parties	Potential impact	Prevention or mitigation measures
Operations on land contaminated due to historic land use	✓	✓	✓	✓	Reduced local air quality due to soil vapour emissions Asbestos or contaminated dust emissions	**SYD** – EMS Contamination Management Procedure – EMS Contaminated Sites Register – EMS Tenant Management Procedure – EMS Contractor Management Procedure **Tenants/operators and other parties** – Environmental requirements in leases and licences **Contractors** – Planning approval process – Environmental requirements in contracts

Table 17-2 Air quality monitoring

The following actions will be undertaken to monitor effectiveness of prevention or mitigation measures.

Monitoring action	Conducted by	Frequency or timeframe
Implementation of the EMS requirements, including relevant procedures	SYD Audit Team, Environment Team	EMS Audit Program
Tenant Audit Program	Environment Team	Annual
Air quality monitoring program – general airport	Appropriately qualified and experienced environmental professional	Annual reporting of continuous data
Air quality monitoring program – VOC	Appropriately qualified and experienced environmental professional	Quarterly
Implementation of the BES Standards via internal project approval stages	Sustainability Team	Annual
Tracking against Net Zero Roadmap implementation	Sustainability Team	Quarterly
Surface gas monitoring related to Gateway development footprint	Appropriately qualified and experienced environmental professional	Six monthly
Monitoring of GPU/PCA use, with information provided to airlines and ground handlers	Sustainability Team	Six monthly

Table 17-3 Air quality action plans

The following actions have been identified to deliver continual improvement.

Monitoring action	Timeframe
Working closely with airlines to increase usage of GPUs and PCA	AES period
Review the VOC monitoring program to determine if it is required on an ongoing basis and update frequency as required	Short term

Section Four Airport Environment Strategy

17 Pollution management

Surface water quality

Overview

Sydney Airport is surrounded by several waterways including Botany Bay to the south, Sydney Airport Wetlands to the east, Alexandra Canal to the north and Cooks River to the west. These waterways convey surface water to Botany Bay and eventually to the ocean, except for Engine Pond West which collects stormwater locally but is not connected on the surface to larger flowing waterways. The upper reaches of the Sydney Airport Wetlands are freshwater, due to the historic installation of weirs. All other waterways are influenced by local tides.

Sydney Airport is located in a highly disturbed environment, with waterways seeing significant urban stormwater inflows from industrial, commercial and residential areas. We have undertaken studies of the surrounding aquatic environment. Under the Australian and New Zealand water quality guidelines[1], the ecosystem health around the airport has been described as a highly disturbed system, which is equivalent to the default guideline values for 80% to 90% species protection levels accounting for an estuarine environment.

The largest impacts to surface water quality on the airport are sewer overflows from the SWSOOS and PFAS from former firefighting training activities.

Sydney Airport owns and operates extensive stormwater systems across the airport. Controls in place to manage water quality include flame traps in aprons, settling/holding ponds, gross pollutant traps and shut-off valves for spill containment. Spill management equipment is located across the airport to prevent unplanned releases reaching drains or waterways. Sydney Airport also engages a contractor to provide spill response services, including vacuum trucks to clean unplanned spills.

Sydney Airport has conducted surface water sampling for over 20 years and has a detailed understanding of the quality of runoff across the airport. This allows us to analyse trends and identify any upcoming areas of concern. Our compliance monitoring program provides a benchmark of the local environment and includes the surrounding waterways so we can assess the airport's impact upon them. We also conduct management monitoring to allow us to manage activities on airport.

Objectives

Minimise the impact of airport operations and construction on water quality in water bodies on or adjacent to the airport.

1. Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2018 – https://waterquality.gov.au/anz-guidelines.

Table 17-4 Surface water quality risk processes

	Who conducts the activity					
Identified aspect	**SYD**	**Tenants/ operators**	**Contr-actors**	**Other parties**	**Potential impact**	**Prevention or mitigation measures**
Management of airport land and assets, including maintenance and development activities	✓	✓	✓	✓	Erosion of land and sedimentation of drains and waterways Discharge of groundwater leading to surface water contamination Disturbance of contaminated soil leading to contaminated runoff Use of chemicals, such as de-rubberisation chemicals, causing contaminated runoff Runoff from activities, including chemical storage, causing water contamination Movement of litter onto land and into waterways	**SYD** – EMS Water Quality and Management Procedure – EMS Contamination Management Procedure – EMS Tenant Management Procedure – EMS Contractor Management Procedure – Maintenance contractor for clean-up response **Tenants/operators and other parties** – Environmental requirements in leases, licences and agreements **Contractors** – Planning approval process – Environmental requirements in contracts
Aviation activities, including refuelling, maintenance and emptying aircraft waste tanks		✓			Contaminated runoff causing contamination of waterbodies	**SYD** – EMS Water Quality and Management Procedure – EMS Tenant Management Procedure – Spill truck contractor **Tenants/operators** – Environmental requirements in leases and licences – Environmental clauses in airport operation and airline agreements
Tenant activities		✓			Processes causing contamination of rainwater runoff Movement of litter onto land and into waterways	**SYD** – EMS Water Quality and Management Procedure – EMS Tenant Management Procedure **Tenants/operators** – Environmental requirements in leases and licences
Use of local roads and shared user paths	✓	✓	✓	✓	Incidents causing surface water contamination Movement of litter onto land and into waterways	**SYD** – EMS Water Quality and Management Procedure – EMS Environmental Incident Response Procedure – Spill truck contractor

Section Four Airport Environment Strategy

17 Pollution management

Surface water quality

Table 17-4 Surface water quality risk processes continued

Identified aspect	Who conducts the activity: SYD	Tenants/ operators	Contr- actors	Other parties	Potential impact	Prevention or mitigation measures
Landscape management, including the use of pesticides and herbicides		✓	✓		Contamination of waterways Loss of flora and fauna	**SYD** – EMS Water Quality and Management Procedure – EMS Landscape Management Procedure – EMS Contractor Management Procedure **Contractors** – Environmental requirements in contracts
Fire services and training exercises		✓			Contaminated runoff entering waterways from training exercises Contaminated runoff from PFAS-impacted areas from former fire training	**SYD** – EMS Water Quality and Management Procedure – EMS Contamination Management Procedure – EMS Tenant Management Procedure **Tenants/operators** – Environmental requirements in leases and licences
Sewerage systems and pumping stations, including the operation of airport sewer systems, the recycled water treatment plant and third-party infrastructure, such as Sydney Water's SWSOOS	✓	✓		✓	Impact to water quality and aquatic flora and fauna from increased nutrient load Decrease to recreation activities due to biological hazards	**SYD** – EMS Water Quality and Management Procedure – EMS Tenant Management Procedure **Tenants/operators:** – Trade waste permits – Environmental requirements in leases, licences and agreements **Other parties:** – Sydney Water Authorisation as issued by DITRDCSA

Table 17-5 Surface water quality monitoring

The following actions will be undertaken to monitor effectiveness of prevention or mitigation measures.

Monitoring action	Conducted by	Frequency or timeframe
Implementation of the EMS requirements, including relevant procedures	SYD Audit Team, Environment Team	EMS Audit Program
Tenant Audit Program	Environment Team	Annual
SYD compliance monitoring	Appropriately qualified and experienced environmental professional	Six monthly
SYD surface water compliance monitoring	Environment Team	Monthly project control group meetings

Table 17-6 Surface water quality action plans

The following actions have been identified to deliver continual improvement.

Monitoring action	Timeframe
Review the effectiveness and efficiency of the water quality monitoring program and update as required	Short term
Continue working with Sydney Water to improve water quality in Mill Stream	AES period

Section Four **Airport Environment Strategy**

17 Pollution management

Ground-based noise

Overview

Noise is generated at Sydney Airport from a variety of sources, including vehicles, ground-based equipment servicing aircraft, aircraft operations, building operations and construction works.

Noise associated with the AES does not include aircraft noise (landing and take-off, flight overhead and when an aircraft is moving under its own power) which is managed by Airservices Australia under the *Air Navigation (Aircraft Noise) Regulations 2018*. This means that the only aircraft noise covered by the AES relates to push back and engine runs.

Sydney Airport has developed a noise model that allows us to assess noise sources as required and model the impact on the local community, including from aircraft operations and aircraft engine runs. This gives us flexibility to assess change within the airfield quickly and make data-driven decisions about our operations.

The AES is limited to the impact of operations on the surrounding community and does not cover noise impacts to workers or the public on the airport site.

Objectives

Minimise the impact of noise on our surrounding communities.

Table 17-7 Ground-based noise risk processes

Identified aspect	Who conducts the activity: SYD	Tenants/ operators	Contr-actors	Other parties	Potential impact	Prevention or mitigation measures
Tenant and operator activities		✓			Noise from tenant activities	**SYD** – EMS Noise Management Procedure – EMS Tenant Management Procedure **Tenants/operators** – Environmental requirements in leases, licences and agreements
Construction and maintenance activities, including maintenance of pavements		✓	✓		Noise from plant and equipment used Vibration from plant and equipment used	**SYD** – EMS Noise Management Procedure – Planning approval process **Contractors** – Planning approval process – Environmental requirements in contracts
Operation of aircraft on the ground, including engine runs and use of auxiliary power		✓			Noise from aircraft	**SYD** – EMS Noise Management Procedure – SYD Engine Operating Procedure, as updated **Airfield operators** – Environmental clauses in airport operation and airline agreements

Table 17-8 Ground-based noise monitoring

The following actions will be undertaken to monitor effectiveness of prevention or mitigation measures.

Monitoring action	Conducted by	Frequency or timeframe
Implementation of the EMS requirements, including relevant procedures	SYD Audit Team, Environment Team	EMS Audit Program
Tenant Audit Program	Environment Team	Annual
Noise complaint analysis	Environment Team	Quarterly

Table 17-9 Ground-based noise action plans

The following actions have been identified to deliver continual improvement.

Monitoring action	Timeframe
Conduct an assessment of current and potential engine run locations to minimise impact on local community and update procedures, as necessary	Short term
Review and update the noise model to be sure it is up to date and representative of the local environment	Short term

Section Four **Airport Environment Strategy**

17 Pollution management

Contamination

Overview

As one of the oldest operating airports in the world, Sydney Airport operations have spanned times when pollution control was not regulated. Legacy contamination is present at various locations across the airport. Soil quality has been impacted by legacy fuel storage and use (hydrocarbons), firefighting exercises (PFAS), aircraft maintenance activities (oils and solvents), asbestos from older building materials, and significant amounts of fill material used to build the airport.

We have conducted comprehensive investigations to understand the contamination status of the airport. Airport users engaging in activities that involve ground intrusion are required to consult our Contaminated Sites Register and Contamination Management Guideline to check the activities will not exacerbate contamination risk and to protect workers who may come into contact with contamination.

Sydney Airport conducts compliance groundwater monitoring to understand the impact the airport has on the surrounding environment. We also conduct periodic management monitoring to assist in management of operations.

We will continue to work with our tenants, operators and contractors to be sure that contamination is managed, including instances where Sydney Airport is not the polluter.

Objectives

Prevent the contamination of soil through the operation and development of the airport.

Minimise the impact of historic contamination on our surrounding environment.

Participate in the PFAS – Airports Investigation Program.

Section Four Airport Environment Strategy

17 Pollution management

Contamination

Table 17-10 Contamination risk processes

Identified aspect	Who conducts the activity: SYD	Tenants/ operators	Contr- actors	Other parties	Potential impact	Prevention or mitigation measures
Disturbance of known contaminated land from maintenance or development	✓	✓	✓	✓	Further soil and/ or groundwater contamination Contamination of waterways Build-up or release of soil vapour	**SYD** – EMS Contamination Management Procedure – EMS Contaminated Sites Register – Planning approval process **Tenants/operators and other parties** – Environmental requirements in leases, licences and agreements **Contractors** – Planning approval process – Environmental requirements in contracts
Storage and use of chemicals, including fuels, in above and below ground storage systems	✓	✓	✓	✓	Spills leading to soil or groundwater contamination Contamination of waterways	**SYD** – EMS Contractor Management Procedure – EMS Tenant Management Procedure – SYD Fuel System Operation Plan – Maintenance processes for fuel vessels and systems – Spill truck contractor **Tenants/operators and other parties** – Environmental requirements in leases and licences – Environmental clauses in airport operation and airline agreements **Contractors** – Planning approval process – Environmental requirements in contracts
Use of plant and equipment throughout the airport and airfield	✓	✓	✓	✓	Spills leading to soil or groundwater contamination Contamination of waterways	**SYD** – EMS Contractor Management Procedure – EMS Tenant Management Procedure – Spill truck contractor **Tenants/operators and other parties** – Environmental requirements in leases and licences – Environmental clauses in airport operation and airline agreements **Contractors** – Planning approval process – Environmental requirements in contracts

Table 17-10 Contamination risk processes continued

Identified aspect	Who conducts the activity: SYD	Tenants/ operators	Contr- actors	Other parties	Potential impact	Prevention or mitigation measures
Tenant activities		✓			Spills leading to soil or groundwater contamination Contamination of waterways	**SYD** – EMS Tenant Management Guideline – Spill truck contractor **Tenants/operators** – Environmental requirements in leases and licences – Environmental clauses in airport operation and airline agreements
Importation of material during development			✓		Non-compliant material causing soil or groundwater contamination	**SYD** – EMS Natural Resource Use Guideline – EMS Contractor Management Guideline **Contractors** – Planning approval process – Environmental requirements in contracts

Table 17-11 Contamination monitoring

The following actions will be undertaken to monitor effectiveness of prevention or mitigation measures.

Monitoring action	Conducted by	Frequency or timeframe
Implementation of the EMS requirements, including relevant procedures	SYD Audit Team, Environment Team	EMS Audit Program
Review of the Contaminated Sites Register	Environment Team	Annual
Tenant Audit Program	Environment Team	Annual
Spills data analysis	Environment Team	Quarterly
Compliance groundwater monitoring	Appropriately qualified and experienced environmental professional	Annual

Table 17-12 Contamination action plans

The following actions have been identified to deliver continual improvement.

Monitoring action	Timeframe
Conduct a full review of the Contamination Management Guideline and update as required	Short term
Develop a groundwater well mapping tool for Sydney Airport use	Short term
Develop a contamination mapping tool for Sydney Airport use	Short term
Continue to engage with those parties responsible for material contamination of airport sites (including Airservices Australia) to implement management and improvement plans and also ensure the safety of workers currently working on and adjacent to those sites	AES period
Participate in the PFAS – Airports Investigation Program with an aim to develop and implement with relevant operators an airport-wide PFAS Management Plan	AES period

Section Four **Airport Environment Strategy**

18 Flora, fauna and heritage

Flora and fauna

Overview

Due to the highly disturbed nature of the airport and the surrounding area, there are no areas of remnant vegetation within the airport precinct. All vegetation has been planted, providing value to Sydney Airport and surrounding areas by reducing heat island effects, improving air quality, and offering visual amenity and benefit to local wildlife. This value is relative to the airport's highly urbanised setting. Management of vegetation at the airport is carried out in accordance with our Landscape Management Procedure, which includes requirements for offsetting trees that are removed.

Vegetation planted must meet aviation safety requirements, including height restrictions and restrictions on plant species that may attract large numbers of birds or bats, which present an aviation risk by increasing the likelihood of bird strikes.

Areas nominated for rehabilitation include Engine Pond East, Mill Pond and the airport land adjacent to Tower Beach.

To help manage the risk of bird strikes, Sydney Airport conducts monitoring of bird numbers on and around the airport, to determine whether active management of birds is required. This may include dispersal of birds to move them away from areas used by aircraft.

Migratory birds that have been identified through our monitoring include:

- Channel-billed Cuckoo
- Little Tern
- Crested Tern
- Silvereye
- Bar-tailed Godwit

Pied Oystercatchers have also been observed around the airport. The Pied Oystercatcher and the Little Tern have been listed as endangered in NSW, and the Little Tern is listed as endangered under the EPBC Act. The birds have been observed feeding and resting, largely at the mouth of Mill Stream. Any works being undertaken in areas where these birds are identified will require assessment to be sure they are protected.

Objectives

Minimise the impact of airport operations on local flora and fauna.

Maintain vegetation quality in non-operational areas of the airport.

Appropriately manage and control exotic species and species which present a risk to aircraft safety.

Section Four Airport Environment Strategy

18 Flora, fauna and heritage

Flora and fauna

Table 18-1 Flora and fauna risk processes

Identified aspect	Who conducts the activity: SYD	Tenants/ operators	Contr- actors	Other parties	Potential impact	Prevention or mitigation measures
Spread of weeds through airport precinct, both terrestrial and aquatic	✓	✓	✓		Reduced quality of native flora and fauna Potential spread of pests to off-site areas	**SYD** – Landscaping contract – EMS Landscape Management Procedure – EMS Tenant Management Procedure **Tenants/operators** – Environmental requirements in leases and licences **Contractors** – Planning approval process – Environmental requirements in contracts
Feral animal habitat or refuge through airport precinct	✓	✓			Loss of native fauna	**SYD** – SYD wildlife management processes – EMS Tenant Management Procedure – Maintenance of airfield security fencing **Tenants/operators** – Environmental requirements in leases and licences
Impact to native species from use of pesticides, herbicides and through maintenance		✓	✓	✓	Loss of native flora and fauna	**SYD** – Landscaping contract – EMS Landscape Management Procedure – EMS Tenant Management Procedure **Tenants and other parties** – Environmental requirements in leases and licences **Contractors** – Planning approval process – Environmental requirements in contracts
Development and maintenance activities		✓	✓	✓	Loss of flora from tree removal	**SYD** – Planning approval process – EMS Landscape Management Procedure – Offsetting requirements from EMS Landscape Management Standard **Other parties** – Environmental requirements in licences **Contractors** – Planning approval process – Environmental requirements in contracts

Table 18-2 Flora and fauna monitoring

The following actions will be undertaken to monitor effectiveness of prevention or mitigation measures.

Monitoring action	Conducted by	Frequency or timeframe
Implementation of the EMS requirements, including relevant procedures	SYD Audit Team, Environment Team	EMS Audit Program
Offsetting requirements implementation	Environment Team	Annual
Tenant Audit Program	SYD Audit Team	Annual
Weed survey	Appropriately qualified and experienced environmental professional	Annual
Ecological survey (landside areas)	Appropriately qualified and experienced environmental professional	Every two years
Maintenance contractor procedure reviews	Environment Team	On contract commencement or renewal

Table 18-3 Flora and fauna action plans

The following actions have been identified to deliver continual improvement.

Monitoring action	Timeframe
Continue rehabilitation/planting areas in the Sydney Airport Wetlands	AES period
Landscape and planting design guides to be developed	Long term
Prepare and implement a rehabilitation plan for the airport land adjacent to Tower Beach	Prepare – Short term Implement – Long term
Investigate the feasibility of increasing aquatic biodiversity around the airport, considering aviation safety constraints, and develop an appropriate action plan	Short term

Section Four **Airport Environment Strategy**

18 Flora, fauna and heritage

Heritage

Overview

The airport site has a long history beyond aviation use and has played a significant role in the development of the aviation industry and Sydney more broadly. Our Heritage Management Plan informs our Heritage Management Procedures, which are implemented for any works that may impact items of heritage value.

The heritage categorisation of three areas has changed, following updates to the Heritage Management Plan (i.e. the runways, Keith Smith Avenue and Sydney Airport Wetlands).

The Heritage Management Plan was updated to assist in preparation of the AES. The update included assessment of every item in the previous Heritage Management Plan against the heritage criteria outlined in the Commonwealth Heritage List (DCCEEW 2021). This approach differed from the previous assessment, where the whole airport was assessed against this criteria, but not every item.

The result was a change in the heritage significance of a number of items, including the three items previously identified as of exceptional significance, being the runways, Keith Smith Avenue and Mill Pond (included in the wetlands item). It is noted that the Sydney Airport ATC Tower was not listed as exceptional in the previous AES, however its listing on the Commonwealth Heritage List occurred in 2016.

Sydney Airport has developed rapidly over its history, keeping up with advances in aviation technology and passenger needs. Ongoing development is a key part of the significance of Sydney Airport, and we should continue to recognise the evolution of the site.

We recognise a range of Sydney Airport locations identified as having exceptional or high heritage value.

Exceptional value

- Sydney Airport ATC Tower
  Is currently listed on the Commonwealth Heritage List. Owned and occupied by Airservices Australia, its protection and management falls under the EPBC Act.

High value

- Alexandra Canal
  Is currently listed on the NSW State Heritage Register. A small portion of the southern bank wall sits on airport land, along the northern boundary of the airport.
- Botany Pumping Station
  Provided the third water supply to Sydney, pumping water from the wetlands to the Crown Street Reservoir.
- Engine and Mill ponds
  Were instrumental in providing waterpower for Simeon Lord's flour and wool mills, as well as supporting the third water supply to Sydney through the Botany Pumping Station.
- Sewage Pumping Station 38
  Is listed on the NSW State Heritage Register and the Sydney Water Heritage and Conservation Register. The building is currently operated and maintained by Sydney Water.

Objectives

Minimise the impact of operations and development on items of heritage significance.

Section Four Airport Environment Strategy

18 Flora, fauna and heritage

Heritage

Table 18-4 Heritage risk processes

Identified aspect	Who conducts the activity: SYD	Tenants/ operators	Contr-actors	Other parties	Potential impact	Prevention or mitigation measures
Use of heritage buildings, including operations and maintenance	✓	✓		✓	Damage to heritage assets	**SYD** – Planning approval process – EMS Heritage Management Procedure – EMS Tenant Management Procedure – Heritage Management Plan for exceptional and high significance items **Tenants/operators and other parties** – Environmental requirements in leases and licences – Planning approval process – Heritage Management Plan for exceptional and high significance items
Development or construction near heritage assets			✓	✓	Damage to heritage assets	**SYD** – EMS Heritage Management Procedure – EMS Contractor Management Procedure – SYD BES Standards **Contractors** – Planning approval process – Environmental requirements in contracts

Table 18-5 Heritage monitoring

The following actions will be undertaken to monitor effectiveness of prevention or mitigation measures.

Monitoring action	Conducted by	Frequency or timeframe
Implementation of the EMS requirements, including relevant procedures	SYD Audit Team, Environment Team	EMS Audit Program
Tenant Audit Program	Environment Team	Annual
Heritage item inspections	Environment Team	Annual

Table 18-6 Heritage action plans

The following actions have been identified to deliver continual improvement.

Monitoring action	Timeframe
Structural assessment of Botany Pumping Station to assess safety risks	Short term
Review and update the maintenance processes for the Botany Pumping Station, taking into consideration the structural assessment	Short term

Section Four **Airport Environment Strategy**

18 Flora, fauna and heritage

First Nations heritage

Overview

This is the first Sydney Airport AES that has included a dedicated section for First Nations heritage. In preparation of the AES we consulted with our partner, the Gujaga Foundation, who identified that the whole of Botany Bay was important to their community. In order to fully understand this, we commissioned a report using the NSW Government Connecting with Country framework. The outcomes of this report have provided the information in the AES.

Sydney Airport is located on the land of the Dharawal people of coastal Sydney, a cultural landscape stretching from Sydney Harbour to Shoalhaven. The Dharawal people of coastal Sydney used the land for fishing and hunting for thousands of years to apply their cultural responsibilities with the immediate and broader neighbouring tribes. The Traditional Custodians had a close connection with the flora and fauna of the area and moved with the coastline, which has shifted significantly over the last 20,000 years.

Early Dharawal ancestors in the area at the time of colonisation included:

- Mahroot, who led fishing and whaling expeditions and secured land to build a commercial enterprise.
- Pemulwuy, who speared Governor Phillip's gamekeeper in 1790 at the Cooks River and started the Pemulwuy-led war of resistance.
- Biyarrung, also known as Biddy Giles, who ran fishing and hunting tours through her cultural area and tried to increase people's understanding of First Nations people.

The Dharawal clan lived alongside the early Sydney settlements in the early stages of the colony. In 1883, the Aborigines Protection Board was established, and Aboriginal people were moved to the La Perouse Aboriginal Reserve and Mission. Today, Dharawal people from the La Perouse community still have ongoing connection to their ancestral lands, including those around Botany Bay.

The landscape around the airport has been heavily modified, so evidence of historic places, if present, is likely to be buried under current infrastructure. Known sites from historical records are located primarily on the southern portion of the airport, around the original Cooks River estuary and the old river alignment.

These include:

- Former burial site found near the old Ascot Racecourse site.
- Camp at the mouth of the Cooks River, seen by early settlers in 1788.
- The location of the spearing of Governor Phillip's gamekeeper John McIntyre, by Pemulwuy, near the mouth of the Cooks River.
- Location of workplaces of First Nations people, including the general airport and Kookaburra Holdings, located at the airport.

Sydney Airport has an Innovate Reconciliation Action Plan (RAP), which covers the period September 2024 to September 2026. We will use our RAP to manage aspects of First Nations heritage and relationships with our local community. During the AES period, we will continue to maintain strong relationships with the Traditional Custodians of the land and promote reconciliation through our sphere of influence. While referenced here, the RAP is not tied to the AES and operates as an independent document and program.

Our partner in all First Nations heritage matters is the Gujaga Foundation, which is 100% owned and controlled by Traditional Owners of coastal Sydney and the Illawarra. Members of the foundation are descendants from original inhabitants at the time of colonisation.

Objectives

Establish processes to consider First Nations heritage applicable to airport operations.

Gamay Dancers at Sydney Airport

Section Four Airport Environment Strategy

18 Flora, fauna and heritage

First Nations heritage

Table 18-7 First Nations heritage risk processes

	Who conducts the activity					
Identified aspect	**SYD**	**Tenants/ operators**	**Contr- actors**	**Other parties**	**Potential impact**	**Prevention or mitigation measures**
Discovery of First Nations heritage items during development or maintenance works		✓	✓	✓	Damage to heritage assets	**SYD** – Planning approval process – First Nations Heritage Management Procedure (to be developed) – Tenant Management Procedure **Tenants/operators and other parties** – Environmental requirements in leases and licences **Contractors** – Planning approval process – Environmental requirements in contracts
Use of the land	✓	✓	✓	✓	Impact to First Nations value of the land	**All** – Not included in this AES; addressed through RAP processes

Table 18-8 First Nations heritage monitoring

The following actions will be undertaken to monitor effectiveness of prevention or mitigation measures.

Monitoring action	Conducted by	Frequency or timeframe
Implementation of the EMS requirements, including relevant procedures	SYD Audit Team, Environment Team	EMS Audit Program

Table 18-9 First Nations heritage action plans

The following actions have been identified to deliver continual improvement.

Monitoring action	Timeframe
Conduct further research to understand the First Nations sites known at the airport, to understand their importance to the Dharawal people of coastal Sydney	Short term
Determine how to best recognise the above locations	Short term
Work with the local Indigenous community to develop a Sydney Airport First Nations Heritage Management Guideline that provides guidance on how to protect First Nations heritage, if discovered	Short term

Section Four **Airport Environment Strategy**

19 Sustainability

Greenhouse gas emissions

Overview

Sydney Airport recognises that climate change can potentially affect business operations through physical and transition risks. In Chapter 4 of Master Plan 2045, we address the contribution of the aviation industry to global human-induced GHG emissions, the importance and difficulty of decarbonisation of the sector, and our commitment to transitioning to a net zero future for Scope 1 and 2 emissions (for emissions we control).

At Sydney Airport, Scope 1 emissions primarily come from fuels for vehicles and backup generators, emission of refrigerants from cooling equipment, and gas used for heating. Scope 2 emissions generally relate to the grid electricity used to power the airport.

Our Scope 3 emissions are the largest component of our GHG emissions, mostly contributed to by aircraft using the airport. Scope 3 emissions are a complex area to address and we have commenced planning to understand how this can be achieved. All plans and controls will require implementation through close collaboration with our supply chain to reduce emissions. See Chapter 4 Decarbonisation and Climate Resilience for more.

The *Corporations Act 2001* requires climate-related disclosures to be made in a sustainability report, as part of the annual financial report suite. This must address the content requirements in *Australian Sustainability Reporting Standard (ASRS) AASB S2 Climate-related Disclosures (Climate Disclosures)*. The annual financial report (including climate disclosures) must be lodged with the regulator, the Australian Securities and Investments Commission (ASIC), and be made available on Sydney Airport's website from the day it is lodged with ASIC.

Objectives

Take active steps to decarbonise the direct emissions of our operations.

Take active steps to decarbonise our indirect emissions through our value chain.

Table 19-1 Greenhouse gas emissions risk processes

Identified aspect	Who conducts the activity: SYD	Tenants/ operators	Contr-actors	Other parties	Potential impact	Prevention or mitigation measures
SYD's use of fossil fuels in vehicles, plant and equipment	✓				Production of SYD Scope 1 emissions from operations, contributing to climate change	**SYD** – Plant and equipment replacement program, switching to electric or other decarbonised technologies
SYD's use of electricity	✓				Production of SYD Scope 2 emissions from operations, contributing to climate change	**SYD** – Procurement of a renewable PPA
Aviation operations at the airport using fossil fuels and electricity		✓		✓	Production of SYD Scope 3 emissions, contributing to climate change	**SYD** – Scope 3 emissions objectives and long-term ambitions
Tenant, contractor and other parties' use of fossil fuels and electricity		✓	✓	✓	Production of SYD Scope 3 emissions, contributing to climate change	**SYD** – Scope 3 emissions objectives and long-term ambitions – Procurement of a renewable PPA
Use of natural resources in products in operations and development				✓	Production of SYD Scope 3 emissions, contributing to climate change	**SYD** – Scope 3 emissions objectives and long-term ambitions

Table 19-2 Greenhouse gas emissions monitoring

The following actions will be undertaken to monitor effectiveness of prevention or mitigation measures.

Monitoring action	Conducted by	Frequency or timeframe
Scope 1 emissions monitoring (Sydney Airport petrol, diesel, natural gas, refrigerants) – provided in mandatory disclosure	Sustainability Team	Annual
Scope 2 emissions monitoring (Sydney Airport purchased electricity) – provided in mandatory disclosure	Sustainability Team	Annual
Scope 3 emissions monitoring (Sydney Airport value chain emissions) – provided in mandatory disclosure once required	Sustainability Team	Annual

Table 19-3 Greenhouse gas emissions action plans

The following actions have been identified to deliver continual improvement.

Monitoring action	Timeframe
Continue working towards net zero emissions by 2030 (Scope 1 and Scope 2)	AES period
Work with key value chain stakeholders to address Scope 3 emissions	AES period
Implement the BES Standards across Sydney Airport's buildings and infrastructure capital works portfolio	Short term – AES period

Section Four **Airport Environment Strategy**

19 Sustainability

Natural resource use

Overview

Sydney Airport uses a variety of natural resources throughout operations and improvement works, including maintenance, building upgrades and new developments. Resources used are contained in building materials, plant and equipment, and potable water.

The airport uses potable water across the precinct within buildings, landscaping and supplying aircraft. All water for the T2/T3 precinct is sourced from Sydney Water's town water supply. The T1 International Operations Precinct utilises a component of recycled water for toilet flushing, air conditioning cooling systems and irrigation, which is sourced from an on-site recycled water treatment plant. This plant takes sewage from the T1 terminal building and provides a high level of treatment to allow reuse, reducing our reliance on Sydney Water's town water supply. One deep groundwater bore is located within the airport, which is used primarily for landscaping works.

Sydney Airport will continue to improve the efficiency of its potable water use through the replacement of fixtures and fittings with more efficient ones. We will continue to utilise the recycled water treatment plant to reduce potable water use at the T1 International precinct.

We are committed to reducing the use of natural materials through sustainable construction activities. This process starts with refurbishing existing buildings to reduce new builds and also designing spaces to be used flexibly to maximise the use of new developments. The last phase is using sustainable products, such as replacing new material with recycled material where feasible during design and development project phases.

Objectives

Minimise the environmental footprint of the airport by using natural resources efficiently to operate and develop the airport.

Section Four Airport Environment Strategy

19 Sustainability

Natural resource use

Table 19-4 Natural resource use risk processes

Identified aspect	Who conducts the activity: SYD	Tenants/ operators	Contr-actors	Other parties	Potential impact	Prevention or mitigation measures
Use of natural resources through operation, construction and maintenance activities	✓	✓	✓	✓	Depletion of natural resources Production of Scope 3 GHG emissions	**SYD** – EMS Natural Resources Management Procedure – SYD BES Standards – EMS Tenant Management Procedure – EMS Contractor Management Procedure **Tenants/operators and other parties** – Environmental requirements in leases and licences **Contractors** – Planning approval process – Environmental requirements in contracts
Use of potable water supplies in buildings, assets and to supply aircraft	✓	✓	✓	✓	Depletion of potable water supplies Scarcity of water during droughts	**SYD** – Recycled water treatment plant for T1 International precinct – EMS Natural Resources Management Procedure – SYD BES Standards – EMS Tenant Management Procedure – EMS Contractor Management Procedure **Tenants/operators and other parties** – Environmental requirements in leases and licences **Contractors** – Planning approval process – Environmental requirements in contracts
Production of wastes from maintenance and construction activities, including waste concrete and asphalt			✓		Opportunity to reuse material rather than use virgin natural resources Reduction in Scope 3 GHG emissions	**SYD** – EMS Natural Resources Management Procedure – SYD BES Standards – EMS Contractor Management Procedure **Contractors** – Planning approval process – Environmental requirements in contracts

Table 19-5 Natural resource use monitoring

The following actions will be undertaken to monitor effectiveness of prevention or mitigation measures.

Monitoring action	Conducted by	Frequency or timeframe
Implementation of the EMS requirements, including relevant procedures	SYD Audit Team, Environment Team	EMS Audit Program
Tenant Audit Program	Environment Team	Annual
Collection of construction contractor waste data	Project Management Teams	Monthly throughout project
Collection of water usage data, including water produced by the recycled water treatment plant	SYD Utilities Team	Quarterly
Analysis of construction waste data (following implementation of electronic collection system)	Environment Team, supported by Sustainability Team	Six monthly

Table 19-6 Natural resource use action plans

The following actions have been identified to deliver continual improvement.

Monitoring action	Timeframe
Implement the BES Standards across Sydney Airport's buildings and infrastructure capital works portfolio	Short term – AES period
Develop tenancy fit-out sustainability requirements to encourage improvement in the sustainability performance of tenant fit-outs, including defit works	Short term
Investigate additional potable water metering across the airport	Short term
Investigate opportunities for material reuse on construction projects, with SYD standards for approved products and develop an action plan for implementation, as appropriate	Short term

Section Four **Airport Environment Strategy**

19 Sustainability

Waste

Overview

Waste is generated at Sydney Airport from a variety of activities, including operation of buildings and terminals, tenant and airline activities, construction, maintenance, and quarantine activities.

Solid waste generated at the airport includes food waste, office paper, packaging wastes, quarantine wastes, foreign object debris, scrap metals, timber, building materials, animal wastes and litter. Litter is collected from the general areas of the airport, as well as from gross pollutant traps located in waterways. Quarantine waste cannot be recycled and is required to be disposed of by an Australian Quarantine and Inspection Service (AQIS) approved provider. These wastes are disposed of to secure landfill or incineration.

Liquid waste generated at the airport includes sewage, waste oils and lubricants, trade wastes (containing various contaminants including solids and oils and grease), liquid wastes from oil and water separators and grease traps and waste cooking oil. Liquid wastes are disposed of differently to solid wastes and are either removed from site for treatment or disposed of to the sewerage network. Where trade waste enters the surrounding sewerage network, we comply with Sydney Water requirements, including holding trade waste permits.

We run various recycling programs, including a container deposit scheme, commingled recyclables, paper and cardboard waste, and organics recycling. We also believe that the best solution to waste management is to avoid producing waste in the first place. We have worked with our retailers to ban single-use plastics, in line with NSW plastics ban guidance. To date this has included banning lightweight single-use plastic bags, plastic straws, stirrers and cutlery, and expanded polystyrene food containers.

Objectives

Reduce the generation of waste through operation and development of the airport.

Maximise the amount of waste diverted from landfill.

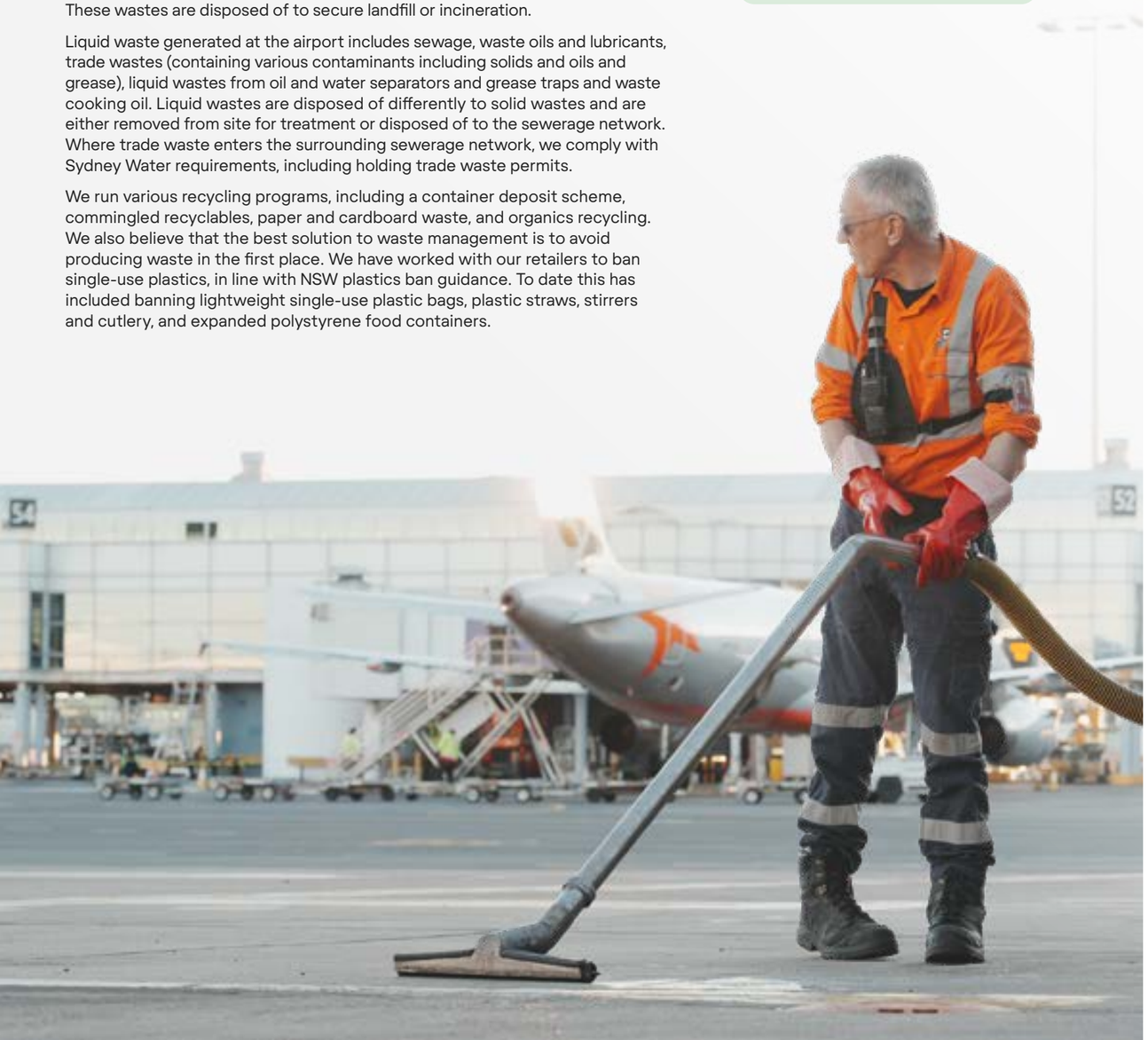


Table 19-7 Waste risk processes

Identified aspect	Who conducts the activity: SYD	Tenants/ operators	Contr-actors	Other parties	Potential impact	Prevention or mitigation measures
Movement of litter in the environment from: – **Public use of land around the airport, including roads and shared user paths** – **Movement of waste from off-site to on-site through drainage systems** – **Movement of waste around the airport, including from aircraft to waste storage areas**	✓	✓		✓	Aviation hazard from FOD Contamination of surface water Reduced visual amenity	**SYD** – Maintenance contract for non-operational areas to manage litter – Maintenance contractor for litter pick up – Provision of bins and waste storage areas – EMS Tenant Management Procedure **Tenants/operators and other parties** – Environmental requirements in leases and licences – Environmental clauses in airport operation and airline agreements
Generation of waste	✓	✓	✓	✓	Depletion of natural resources Use of landfill space	**SYD** – Recycling programs, including provision of appropriate bins – Organics recycling program – Container recycling program – Retail protocols (including no single-use plastics) – SYD BES Standards – Reuse of materials in projects (e.g. reuse of asphalt and concrete) – Operational waste management processes – EMS Waste Management Procedure – EMS Tenant Management Procedure – EMS Contractor Management Procedure **Tenants and other parties** – Environmental requirements in leases and licences – Environmental clauses in airport operation and airline agreements **Contractors** – Planning approval process – Environmental requirements in contracts
Storage of waste material	✓	✓	✓	✓	Litter moving into the environment Contamination of surface water	**SYD** – Maintenance contract for non-operational areas to manage litter – Maintenance contractor for litter pick up – Provision of bins with lids and waste storage areas – EMS Waste Management Procedure – EMS Tenant Management Procedure – EMS Contractor Management Procedure **Tenants and other parties** – Environmental requirements in leases and licences – Environmental clauses in airport operation and airline agreements **Contractors** – Environmental requirements in contracts – Planning approvals process

Section Four Airport Environment Strategy

19 Sustainability

Waste

Table 19-7 Waste risk processes continued

Identified aspect	Who conducts the activity: SYD	Tenants/ operators	Contr-actors	Other parties	Potential impact	Prevention or mitigation measures
Disposal of waste	✓	✓	✓	✓	Inappropriate waste disposal leading to contamination of land or waterways	**SYD** – Operational waste management processes – Use of licensed waste contractor – EMS Waste Management Procedure – EMS Tenant Management Procedure **Tenants and other parties** – Environmental requirements in leases and licences – Environmental clauses in airport operation and airline agreements
Generation of trade waste	✓	✓	✓	✓	Inappropriate waste entering sewer Inappropriate waste entering stormwater	**SYD** – Trade waste agreements – Use of licensed waste contractor for grease traps and oil/water separators – EMS Waste Management Procedure – EMS Tenant Management Procedure – EMS Contractor Management Procedure **Tenants and other parties** – Environmental requirements in leases, licences and operation agreements – Trade waste agreements, as required **Contractors** – Planning approval process – Environmental requirements in contracts

Table 19-8 Waste monitoring

The following actions will be undertaken to monitor effectiveness of prevention or mitigation measures.

Monitoring action	Conducted by	Frequency or timeframe
Implementation of the EMS requirements, including relevant procedures	SYD Audit Team, Environment Team	EMS Audit Program
Tenant Audit Program	Environment Team	Annual
Waste composition audits	Specialist environmental consultant	Five yearly
Waste tracking for Sydney Airport	Specialist environmental consultant	SYD terminal and precinct waste – six monthly
Waste tracking for contractors	Project Manager	Construction contractors – monthly report

Table 19-9 Waste action plans

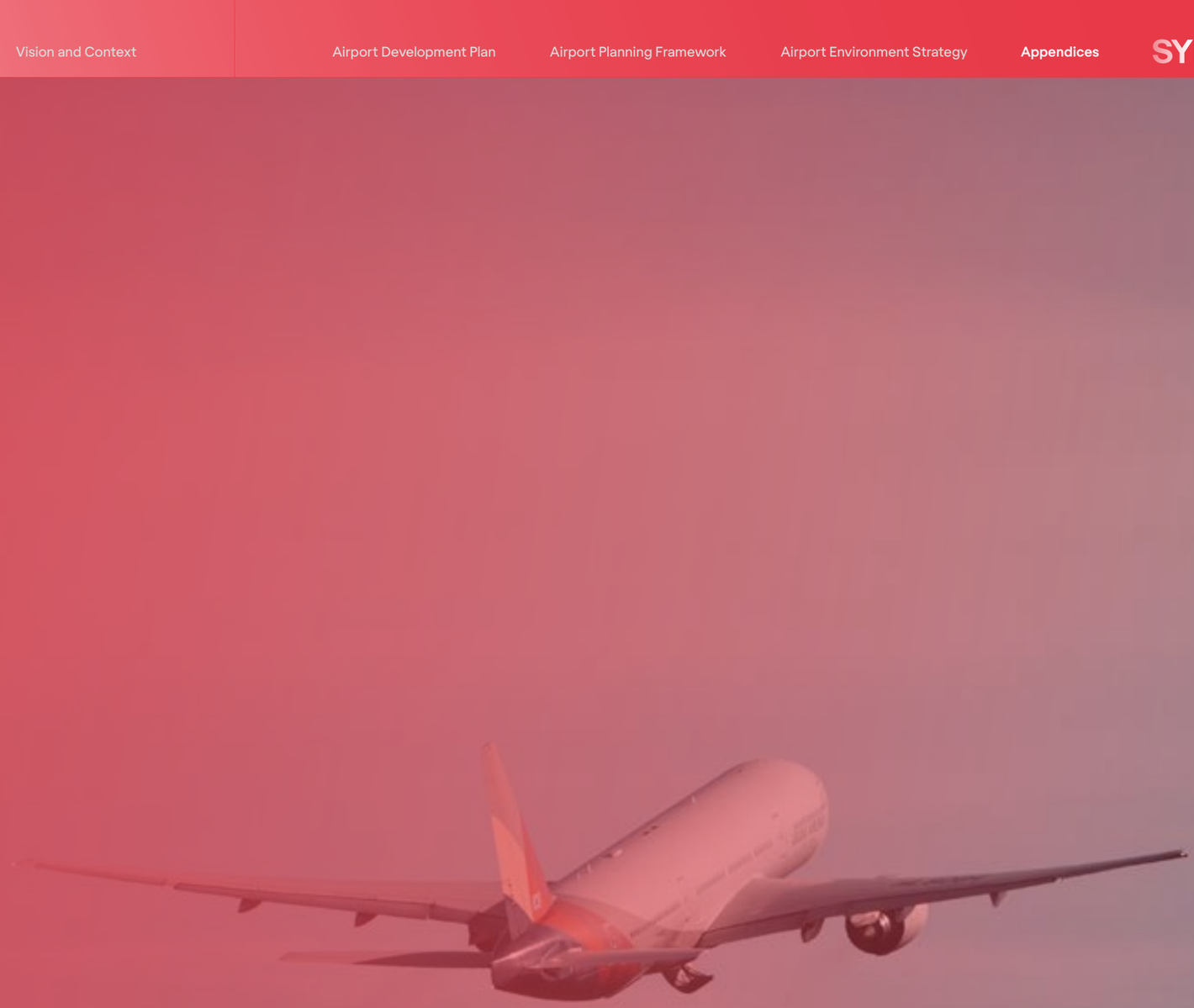
The following actions have been identified to deliver continual improvement.

Monitoring action	Timeframe
Develop tenancy fit-out sustainability requirements to encourage improvement in the sustainability performance of tenant fit-outs, including defit works	Short term
Collect information on litter removal, including quantity and composition, and commence reporting on our website to inform the community	Short term
Work with surrounding councils and other relevant authorities to reduce the amount of litter in waterways around the airport	Long term

Section Five Appendices

Section Five

Appendices



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Section Five Appendices

Appendix A
Abbreviations

Abbreviation	Name in full
AAA	Australian Airports Association
ABC	Airport Building Controller
ADSB	Automatic dependant surveillance broadcast
AEO	Airport Environmental Officer
AES	Airport Environment Strategy
AFP	Australian Federal Police
ANEF	Australian Noise Exposure Forecast
APU	Auxiliary power unit
ARFF	Airport Rescue and Fire Fighting
ASMGCS	Advanced surface movement guidance and control system
ATC	Air traffic control
BARA	Board of Airline Representatives of Australia
BES Standards	Built Environment Sustainability Standards
BITRE	Bureau of Infrastructure, Transport and Regional Economics
CAF	Conventional aviation fuel
CAGR	Compound annual growth rate
CASA	Civil Aviation Safety Authority
CBD	Central business district
CCTV	Closed circuit television
CEO	Chief executive officer
CISG	Cyber and Infrastructure Security Group
CTOs	Cargo Terminal Operators
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DITRDCSA	Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts
DME	Distance measuring equipment
DMP	Draft master plan
EMP	Environmental Management Plan

Abbreviation	Name in full
EMS	Environmental Management System
EP&A Act	*Environmental Planning and Assessment Act 1979 (NSW)*
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Cth)
ESG	Environmental, social and governance
FEGPU	Fixed electrical ground power unit
FTE	Full-time equivalent
GA	General aviation
GDP	Gross domestic product
GHG	Greenhouse gas
GLS	GBAS landing systems
GNSS	Global navigation satellite system
GSE	Ground support equipment
GSP	Gross State Product
HIAL	High intensity approach lighting
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
ILS	Instrument landing system
IMF	International Monetary Fund
ISO	International Organization for Standardization
ITP	Into-plane
JFI	Jet fuel infrastructure
JUHI	Joint user hydrant installation (now referred to as jet fuel infrastructure (JFI) facility)
LCC	Low-cost carrier
LEP	Local environmental plan
LGA	Local government area
LTOP	Long Term Operating Plan for Sydney Airport and Associated Airspace
MCT	Minimum connection time
MDP	Major Development Plan

Abbreviation	Name in full
MOS	Manual of standards
MOU	Memorandum of Understanding
N70	Noise events louder than 70dB(A)
NASAG	National Airport Safeguarding Advisory Group
NASF	NASF National Airports Safeguarding Framework
NSW	New South Wales
OECD	Organisation for Economic Co-operation and Development
OLS	Obstacle limitation surface
PANS-OPS	Procedures for air navigation services – aircraft operations
PCA	Preconditioned air
PDMP	Preliminary draft master plan
PFAS	Perfluoroalkyl and polyfluoroalkyl substances
PPA	Power purchase agreement
PSA	Public safety area
PSZ	Public safety zone
RET	Rapid exit taxiway
RMO	Runway mode of operation
RNP	Required navigation performance
RPT	Regular public transport
SACF	Sydney Airport Community Forum
SAF	Sustainable aviation fuel
SEPP	State Environmental Planning Policy
SIDs	Standard instrument departures
SMR	Surface movement radar
SODPROPS	Simultaneous opposite direction parallel runway operations
STARs	Standard arrival routes
SWSOOS	Southern and Western Suburbs Ocean Outfall Sewer

Abbreviation	Name in full
T1	Terminal 1
T2	Terminal 2
T3	Terminal 3
T-Bus	Sydney Airport terminal transfer shuttle bus service between T1 and T2/T3
TFI	Tourism Futures International
TfNSW	Transport for New South Wales
WHS	Work health and safety
WSI	Western Sydney International (Nancy-Bird Walton) Airport
WWTP	Wastewater treatment plant

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Term	Definition
Advertisement	A sign, notice, device or representation in the nature of an advertisement visible from any public place or public reserve or from any navigable water.
Advertising structure	A structure used or to be used principally for the display of an advertisement.
Aircraft apron	The part of an airport where aircraft are parked and serviced, enabling passengers to board and disembark and cargo to be loaded and unloaded.
Aircraft maintenance facility	A building or place used for the repair and fitting of accessories to aircraft or vehicles associated with airport operations, and includes work involving body building, panel building, panel beating, spray painting or chassis restoration.
Airport	A place used for the landing, taking off, parking, maintenance or repair of aeroplanes, and includes associated buildings, installations, facilities and movement areas and any heliport that is part of the airport.
Airport Master Plan	The principal planning document required under the *Airports Act 1996*, setting out a 20-year plan for each leased federal airport.
Airservices Australia	The Australian Government agency providing air traffic control management and related airside services to the aviation industry.
Airside	The aircraft movement area of an airport, adjacent land and buildings that is access-controlled.
Airside passenger holding facility	A building or place (not a terminal) where aircraft passengers can wait to board aircraft, including amenities for those passengers such as lounge/seating areas, food and drink premises, and retail premises.
Amusement centre	A building or place (not being part of a pub or registered club) used principally for playing: a) Billiards, pool or other like games, or b) Electronic or mechanical amusement devices, such as pinball machines, computer or video games and the like.
Animal boarding or training establishment	A building or place used for the boarding, keeping, dog training for border security purposes or caring of animals for commercial purposes, and includes an ancillary veterinary hospital.
Aprons	Aprons are defined areas for the safe parking of aircraft. The transfer of passengers and freight between aircraft and terminal facilities as well as servicing and maintenance of aircraft in between flights takes place on aprons.
Australian noise exposure forecast (ANEF)	A set of contours showing forecast of future aircraft noise levels. The ANEF is fundamentally a tool for land use planning, and is used in *AS 2021:2015 – Acoustics – Aircraft Noise Intrusion – Building Siting and Construction* to define areas where construction of certain building types is "acceptable", "conditionally acceptable" and "unacceptable". At ANEF values less than 20, all building types are considered "acceptable", and hence 20 ANEF is the lowest-valued contour generally shown on ANEF charts. ANEF maps are subject to review and endorsement by Airservices Australia.
Aviation activity	Any activity for the arrival, departure, movement or operation of aircraft and includes aircraft aprons, helipads, heliports, runways, taxiways and the like.
Aviation support facility	Any aircraft maintenance facility, engine-run area, ground support equipment, airline catering, airline office, transport depot and associated ground-based activities necessary for the orderly and efficient operation of aviation activity.
BES Standards	Standards which seek to deliver sustainable development practices across all stages of building and infrastructure projects at Sydney Airport. The BES standards define both mandatory minimum requirements as well as optional requirements for aspiring towards enhanced sustainability outcomes on development projects at Sydney Airport.
Building identification sign	A sign that identifies or names a building and that may include the name of a building, the street name and number of a building, and a logo or other symbol, but that does not include general advertising of products, goods or services.
Bulky goods premises	A building or place used primarily for the sale by retail, wholesale or auction (or for the hire or display of) bulky goods, being goods that are of such a size or weight as to require: a) A large area for handling, display or storage, or b) Direct vehicular access to the site of the building or place by members of the public for the purpose of loading or unloading such goods into or from their vehicles after purchase or hire And including goods such as floor and window supplies, furniture, household electrical goods, equestrian supplies and swimming pools but does not include a building or place used for the sale of foodstuffs or clothing unless their sale is ancillary to the sale or hire or display of bulky goods.
Business identification sign	A sign that indicates: a) The name of the person or business, and b) The nature of the business carried on by the person at the premises or place at which the sign is displayed And may include the address of the premises or place and a logo or other symbol that identifies the business.
Business premises	A building or place at or on which: a) An occupation, profession or trade (other than an industry) is carried on for the provision of services directly to members of the public on a regular basis, or b) A service is provided directly to members of the public on a regular basis And may include, without limitation, premises such as banks, post offices, hairdressers, dry cleaners, food and drink premises, travel agencies, internet access facilities, medical centres, betting agencies and the like, but does not include sex service premises.
Car park	A building or place primarily used for the purpose of parking motor vehicles, including any manoeuvring space and access thereto, whether operated for gain or not and may include valet parking services and car wash facilities/services.
Child care centre	A building or place used for the supervision and care of children that: a) Provides long day care, pre-school care, occasional child care or out-of-school-hours care, and b) Does not provide overnight accommodation for children other than those related to the owner or operator of the centre but does not include: a) A building or place used for home-based child care, or b) An out-of-home care service provided by an agency or organisation accredited by the NSW Office of the Children's Guardian, or c) A baby-sitting, playgroup or child-minding service that is organised informally by the parent of the children concerned, or d) A service provided for fewer than 5 children (disregarding any children who are related to the person providing the service) at the premises at which at least one of the children resides, being a service that is not advertised, or e) A regular child-minding service that is provided in connection with a recreational or commercial facility (such as a gymnasium), by or on behalf of the person conducting the facility, to care for children while the children's parents are using the facility, or f) A service that is concerned primarily with the provision of: i. lessons or coaching in, or providing for participation in, a cultural, recreational or religious or sporting activity, or ii. private tutoring, or g) A school, or h) A service provided at exempt premises (within the meaning of Section 200 of the *Children and Young Persons (Care and Protection) Act 1998*), such as hospitals, but only if the service is established, registered or licensed as part of the institution operating on those premises.
Civil Aviation Safety Authority (CASA)	An independent statutory body responsible for regulating aviation safety in Australia and the safety of Australian aircraft overseas.

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Term	Definition
Code	Australia has adopted ICAO methodology of using a code system, known as the Aerodrome Reference Code, to specify the standards for individual aerodrome facilities which are suitable for use by aeroplanes within a range of performances and sizes. Ascending letters indicate increasing aircraft size, for example a Boeing 737 or Airbus A320 is a Code C aircraft, a Boeing 747-400 or Airbus A330 is a Code E aircraft and the Airbus A380 is a Code F aircraft.
Convenience store	Premises used for the purposes of selling small daily convenience goods such as foodstuffs, personal care products, newspapers and the like to provide for the day-to-day needs of people who live or work in the local area, and may include ancillary services such as a post office, bank or dry cleaning but does not include restricted premises (eg brothels). Convenience store has the same definition of "neighbourhood shop" (per the NSW LEP Standard definition).
Development	For the purposes of this Master Plan means: a) Constructing buildings or other structures, b) Altering the structure of buildings or other structures, c) Undertaking, constructing or altering earthworks (whether or not in relation to buildings or other structures), d) Undertaking, constructing or altering engineering works, electrical works or hydraulic works (whether or not in relation to buildings or other structures), e) Demolishing, destroying, dismantling or removing: i. Buildings or other structures, or ii. Earthworks, or iii. Engineering works, or iv. Electrical works, or v. Hydraulic works f) Undertaking land clearing.
Earthworks or engineering works	Means: a) Runways, taxiways and aprons, b) Surface car parks c) Retaining walls d) Dams e) Roads f) Railways g) Pipelines h) Tunnels.
Educational establishment	A building or place used for education (including teaching), being: a) A school, or b) A tertiary institution, including a university or a TAFE establishment that provides formal education and is constituted by or under an Act.
Entertainment facility	A theatre, cinema, musical hall, concert hall, dance hall and the like, but does not include a pub, nightclub or registered club.
Environmental facility	A building or place that provides for the recreational use or scientific study of natural systems and including walking tracks, seating, shelters, board walks, observation decks, bird hides or the like, and associated display structures.
Environmental protection works	Works associated with the rehabilitation of land towards its natural state or any work to protect land from environmental degradation, and includes bush regeneration works, wetland protection works, erosion protection works, dune restoration and the like.
Existing leases	All existing leases and interests in the land at the time the head lease was granted which are in effect as of the date of the Master Plan.
Flight path movement maps	These maps provide an indication of where aircraft fly and how many overflights there are over a particular period.
Food and drink premises	Premises that are used for the preparation and retail sale of food or drink (or both) for immediate consumption on or off the premises, and includes any of the following: – A restaurant or cafe – Take away food and drink premises – A pub – A small bar.
Freight handling and transport facility	A facility used principally for the bulk handling of goods for transport by road, rail, air or sea including any facility for the loading and unloading of vehicles, aircraft, vessels or containers used to transport those goods and for the parking, holding, servicing or repair of those vehicles, aircraft or vessels or for the engines or carriages involved.
Function centre	A building or place used for the holding of events, functions, conferences and the like, and includes convention centres, exhibition centres and reception centres, but does not include an entertainment facility.
Gate	Physical location where passengers depart/arrive at terminal to access aircraft – either directly for contact stands or via bus or walking for remote stands.
Ground transport interchange	A ground transport interchange facilitating a bus and coach pick-up/drop-off facility and parking /storage of vehicles, approved as part of the "T2/T3 Ground Access Solutions and Hotel Major Development Plan" (MDP) approved by the Commonwealth on 20 March 2015. This MDP also allows for the construction of new roads, a reconfiguration of existing roads, and the construction of a new hotel within Sydney Airport's T2/T3 precinct.
Helipad	A place not open to the public used for the taking off and landing of helicopters.
Heliport	A place open to the public used for the taking off and landing of helicopters whether or not it includes: a) A terminal building, or b) Facilities for the parking, storage or repair of helicopters.
Heritage item	A building, work, archaeological site, tree, place or Aboriginal object described in an inventory of heritage items that is available at the head office of Sydney Airport.
Heritage significance	Archaeological, architectural, cultural, historical, natural or aesthetic value, scientific or social value.
Hotel or motel accommodation	A building or place (whether or not licensed premises under the *Liquor Act 2007* in accordance with the *Airports (Control of On-Airport Activities) Regulations 1997* Part 1A): a) comprising rooms or self-contained suites, and b) that may provide meals to guests or the general public and facilities for the parking of guests' vehicles but does not include backpackers accommodation, a boarding house, bed & breakfast accommodation or farm stay accommodation.
Industrial retail outlet	A building or place that: a) is used in conjunction with an industry (including a light industry) but not in conjunction with a warehouse or distribution centre, and b) is situated on the land on which the industry is carried out, and c) is used for the display or sale (whether by retail or wholesale) of only those goods that have been manufactured on the land on which the industry is carried out. but does not include a warehouse or distribution centre.
Industry	Means the manufacturing, production, assembling, altering, formulating, repairing, renovating, ornamenting, finishing, cleaning, washing, dismantling, transforming, processing, recycling, adapting or servicing of, or the research and development of, any goods, substances, food, products or articles for commercial purposes, and includes any storage or transportation associated with any such activity.
Instrument landing system	Instruments capable of providing both directional and glide slope guidance.
Jet Base	Jet Base located in the North East Sector of the airport adjacent to Terminal 3.

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Term	Definition
Kiosk	Retail premises used for the purposes of selling food, light refreshments and other small convenience items such as newspapers, films and the like.
Landscape and garden supplies	A building or place used for the storage and sale of landscaping supplies such as soil, gravel, potting mix, mulch, sand, railway sleepers, screenings, rock and the like, and/or a building or place the principal purpose of which is the retail sale of plants and landscaping and gardening supplies and equipment. It may, if ancillary to the principal purpose for which the building or place is used, include a restaurant or cafe and the sale of any of the following: outdoor furniture and furnishings, barbeques, shading and awnings, pools, spas and associated supplies, and items associated with the construction and maintenance of outdoor areas; pets and pet supplies and/or fresh produce.
Landside	The area of an airport and buildings to which the public normally has free access.
Light industry	A building or place used to carry out an industrial activity that does not interfere with the amenity of the neighbourhood by reason of noise, vibration, smell, fumes, smoke, vapour, steam, soot, ash, dust, waste water, waste products, grit or oil, or otherwise, and includes high technology industry.
Liquid fuel depot and distribution facility	Storage and distribution premises that are used for the bulk storage and distribution of petrol, oil, petroleum or other inflammable liquid for aircraft and airport vehicles.
Major development plan	A requirement under the *Airports Act 1996* for airport lessee-companies to provide information to the Australian Government and the public about significant planned development on leased federal airport sites.
Manoeuvring areas	That part of the aerodrome to be used for the take-off, landing and taxiing of aircraft, excluding aprons.
Marina	A permanent boat storage facility (whether located wholly on land, wholly on the waterway or partly on land and partly on the waterway) together with any associated facilities, including any: a) Facility for the construction, repair, maintenance, storage, sale of hire of boats, and b) Facility for providing fuelling, sewage pump-out or other services for boats, and c) Facility for launching or landing boats, such as slipways or hoists, and d) Associated car parking, commercial, tourist or recreational or club facility that is ancillary to a boat storage facility, and e) Associated single mooring.
Medical centre	Business premises used for the purpose of providing health services (including preventative care, diagnosis, medical or surgical treatment, counselling or alternative therapies) to outpatients only, where such services are principally provided by health care professionals and may include the ancillary provision of other health services.
Mixed use development	A building or place comprising two or more different land uses, identified as permissible in the zone.
Movement areas	That part of the aerodrome to be used for the take-off, landing and taxiing of aircraft, consisting of the manoeuvring area and the aprons.
N60	Noise events louder than 60dB(A).
N70	Noise events louder than 70dB(A).
N70 contours	These are one of a number of alternative noise descriptors. N70 refers to the number of noise events louder than 70dB(A) over a particular period. The level of 70dB(A) has been chosen because it is equivalent to the single event level of 60dB(A) specified in the Australian Standard AS2021 as the indoor design sound level for normal domestic areas in dwellings. An external single event noise level will be attenuated by approximately 10dB(A) by the fabric of a house with the windows open. An internal noise level of 60dB(A) is likely to interfere with conversation or with listening to radio or television. Airservices Australia publish regular N70 contour charts which will be able to be compared to the chart shown in the Master Plan.
Navigational aids	Any aircraft surveillance equipment, control towers, radars, visual and non-visual navigation aids and the like.
Office premises	A building or place used for the purpose of administrative, clerical, technical, professional or similar activities that do not include dealing with members of the public at the building or place on a direct and regular basis, except where such dealing is a minor activity (by appointment) that is ancillary to the main purpose for which the building or place is used.
Parking space	A space dedicated for the parking of a motor vehicle, including any manoeuvring space and access to it, but does not include a car park.
Passenger transport facility	A building or place used for the assembly or dispersal of passengers by any form of transport, including public transport and facilities required for parking, manoeuvring, storage or routine servicing of any vehicle that uses the building or place.
Precision approach runway, category I	An instrument runway served by instrument landing systems (ILS) or microwave landing systems (MLS) and visual aids intended for operations with a decision height not lower than 60m (200ft) and either a visibility not less than 800m or a runway visual range not less than 550m.
Pub	Licensed premises under the *Liquor Act 1982*, the principal purpose of which is the sale of liquor for consumption on the premises, whether or not the premises include hotel or motel accommodation and whether or not food is sold on the premises, but excludes gaming facilities.
Public administration building	A building or facility used for offices, administrative, training, equipment storage, or other like purposes by the Crown, a statutory body, a council or an organisation established for public purposes, and includes police station, customs, aviation rescue and fire fighting services and the like.
Public Safety Zone	A designated area of land at the end of airport runways within which certain planning restrictions may apply.
Rapid exit taxiway	Taxiways linked to runways at an angle that permit aircraft to exit the runway at higher speeds.
Recreation area	A place used for outdoor recreation that is normally open to the public, and includes: a) A children's playground, or b) An area used for community sporting activities, or c) A park, reserve or garden or the like d) Any ancillary buildings but does not include a recreation facility (indoor), recreation facility (major) or recreation facility (outdoor).
Registered club	A registered club means a club that in accordance with the requirements of the *Airports (Control of On-Airport Activities) Regulations 1997*, holds licence under the *Liquor Act 2007*.
Research station	A building or place for the principal purpose of agricultural, environmental, fisheries, forestry, meteorological, minerals, scientific or soil data collection or research and includes any associated facility to education, training, administration or accommodation.
Respite	A respite hour is a whole clock hour where there are no aircraft movements over a particular area in that hour.
Restaurant	A building or place the principal purpose of which is the preparation and serving, on a retail basis, of food and drink to people for consumption on the premises, whether or not liquor, takeaway meals and drinks or entertainment are also provided.
Retail premises	A building or place used for the purpose of selling items by retail, or for hiring or displaying items for the purpose of selling them by retail or hiring them out, whether the items are goods or materials (or whether also sold by wholesale).
Road	A public road or a private road within the meaning of the *Roads Act 1993* and includes a classified road.
Runway strips	Runway strips are areas surrounding a runway and are provided to reduce the risk of damage to aircraft running off runways and also to provide obstacle-free airspace for aircraft flying over the area during take-off or landing operations.

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Term	Definition
Runways	Runways are the defined areas provided for the landing and taking-off of aircraft. Sydney Airport has three runways, which are identified by international convention by a two-part designator derived from the direction in which the aircraft is flying: – Runway 16R/34L is the main north-south runway – Runway 16L/34R is the shorter parallel north-south runway – Runway 07/25 is the east-west runway. Runways 16R and 16L are used by aircraft landing or taking off towards the south. 16 approximates to a compass bearing of 160°. The R and L designators refer to right and left respectively when viewed from the direction in which the aircraft is flying. This serves to distinguish between the respective runways. Runway 34L is used by aircraft landing or taking off towards the north. 34 approximates to a compass bearing of 340°. Runway 34R is used by aircraft landing towards the north and taking off to the north-east and east. Runway 07 is used by aircraft landing or taking off towards the east. 07 approximates to a compass bearing of 70°. Runway 25 is used by aircraft landing or taking off towards the west. 25 approximates to a compass bearing of 250°.
Scope 1 emissions	Scope 1 greenhouse gas emissions are the emissions released to the atmosphere as a direct result of an activity, or series of activities at a facility level. Scope 1 emissions are sometimes referred to as direct emission.
Scope 2 emissions	Scope 2 greenhouse gas emissions are the emissions released to the atmosphere from the indirect consumption of an energy commodity. Scope 2 emissions from one facility are part of the scope 1 emissions from another facility.
Scope 3 emissions	Scope 3 emissions are indirect greenhouse gas emissions other than scope 2 emissions that are generated in the wider economy. They occur as a consequence of the activities of a facility, but from sources not owned or controlled by that facility's business. Some examples are extraction and production of purchased materials, transportation of purchased fuels, use of sold products and services, and flying on a commercial airline by a person from another business.
Self-storage units	Storage premises that consist of individual enclosed compartments for storing goods or materials (other than hazardous or offensive goods or materials).
Service station	A building or place used for the sale by retail of fuels and lubricants for motor vehicles, whether or not the building or place is also used for any one or more of the following: a) The ancillary sale by retail of spare parts and accessories for motor vehicles b) The cleaning of motor vehicles c) Installation of accessories d) Inspecting, repairing and servicing of motor vehicles (other than body building, panel beating, spray painting or chassis restoration) e) The ancillary retail selling or hiring of general merchandise or services or both.
Sewage reticulation system	A building or place used for the collection and transfer of sewage to a sewage treatment plant or water recycling facility for treatment, or transfer of the treated waste for use or disposal, including associated: a) Pipelines and tunnels, and b) Pumping stations, and c) Dosing facilities, and d) Odour control works, and e) Sewage overflow structures, and f) Vent stacks.
Shop	Premises that sell merchandise such as groceries, personal care products, clothing, music, homewares, stationery, electrical goods or the like or that hire any such merchandise, and includes a convenience store but does not include food and drink premises or restricted premises.
Signage	Any sign, notice, device, representation or advertisement that advertises or promotes any goods, services or events and any structure or vessel that is principally designed for, or that is used for, the display of signage, and includes: a) Building identification signs, and b) Business identification signs, and c) Advertisements, d) but does not include traffic signs or traffic control facilities.
Simultaneous opposite direction parallel runway operations	A noise sharing procedure where aircraft depart and arrive over Botany Bay. Runway 16L is used for departures and Runway 34L is used for arrivals. This can only be operated in good weather conditions with low winds.
Stand	Physical location of an aircraft parking position for either passenger or cargo aircraft.
Storage premises	A building or place used for the storage of goods, materials, plant or machinery for commercial purposes and where the storage is not ancillary to any business premises or retail premises on the same parcel of land.
Structures	Means: a) Bridges b) Fences c) Towers and pylons d) Tents and other temporary structures.
Sydney Gateway	A high capacity road link between WestConnex at St Peters Interchange, Sydney Airport and Port Botany, opened by Transport for NSW in September 2024.
Takeaway food and drink premises	Food and drink premises that are predominantly used for the preparation and sale of food or drink (or both) for immediate consumption away from the premises.
Taxiways	Taxiways are defined paths providing for the safe and expeditious surface movement of aircraft between runways and aprons. Due to its traffic levels, Sydney Airport has a complex taxiway system including rapid exit taxiways (RETs). RETs enable aircraft, after landing, to vacate runways at higher speeds, thus reducing runway occupancy time.
Temporary structure	Includes a booth, tent or other temporary enclosure (whether or not part of the booth, tent or enclosure is permanent), and also includes a mobile structure.
Terminal	Terminal means a transport building or place used for processing, assembling, boarding and disembarking of passengers to/from aircraft and includes associated facilities to support airport operations and passengers.
Thresholds	Points on the runway from which the landing distance available to an aircraft is measured. A threshold is determined with reference to the obstacle-free approach gradient required for the particular category of runway. Where there is no obstacle infringement, the threshold and runway end normally coincide. Where obstacles infringe the approach surface it is necessary to displace the threshold to achieve the required obstacle-free gradient. A number of Sydney Airport's runways have displaced thresholds.
Tourist or visitor accommodation	A building or place that provides temporary or short-term accommodation on a commercial basis, and includes hotel or motel accommodation, serviced apartments, bed and breakfast accommodation and backpackers' accommodation.
Transfer corridor	Provision of an area for the facilitation of inter-terminal transfers of passengers and baggage.
Transport depot	A building or place used for the parking or servicing of motor powered or motor drawn vehicles used in connection with a passenger transport undertaking, business, industry or shop.
Trigeneration plant	A plant that simultaneously provides electricity, heating, and cooling.

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Term	Definition
Utility undertaking	Any of the following undertakings carried on, or permitted to be carried on by authority of any government department or under the authority of or in pursuance of any commonwealth or state Act: a) railway, road transport, water transport, air transport, wharf or river undertakings b) undertakings for the supply of water, hydraulic power, electricity, liquid fuel, or gas or the provision of sewerage or drainage services, and c) a reference to a person carrying on a utility undertaking includes a reference to a council, electricity supply authority, government department, corporation, firm or authority carrying on the undertaking.
Vehicle sales or hire premises	A building or place used for the display, sale (whether by retail or wholesale) or hire of motor vehicles, caravans, boats, trailers, agricultural machinery and the like, whether or not accessories are sold or displayed there.
Warehouse or distribution centre	A building or place used mainly or exclusively for storing or handling items (whether goods or materials) pending their sale or distribution, but from which no retail sales are made.
Waterway or foreshore management activities	Activities comprising: a) Riparian corridor and bank management, including erosion control, bank stabilisation, re snagging, weed management, revegetation and the creation of foreshore access ways, b) In-stream management or dredging to rehabilitate aquatic habitat or to maintain or restore environmental flows or tidal flows for ecological purposes, and c) Coastal management and beach nourishment, including erosion control, dune or foreshore stabilisation works, headland management, revegetation activities and foreshore access ways.
WestConnex	A motorway linking the M4 motorway, the M5 motorway, and including the M4 East and M8.
Wholesale supplies	The display, sale or hire of goods or materials by wholesale only to businesses that have an Australian business number registered under the *A New Tax System (Australian Business Number) Act 1999*.
Works depot	A building or place used for the storage (but not sale or hire) of plant, machinery or other goods (that support the operations of an existing undertaking, including construction) when not required for use. This includes ancillary temporary office facilities and amenities supporting such a depot.

Appendix C
History of Sydney Airport and existing facilities

C1 Key stages in the development of Sydney Airport

Key stages in the development of Sydney Airport are set out in Table C1-1 below:

Table C-1 Development of Sydney Airport

	Year	Activity	Master Plan implications
Pre-aviation		The land on which the airport is sited – the northern shore of Botany Bay – is within the land on which Dharawal people of coastal Sydney have lived for tens of thousands of years.	A number of studies have been undertaken and have indicated that there are no First Nations archaeological sites or areas of potential archaeological sensitivity within the airport.
	19th century	Freshwater supply for Port Jackson sourced from ponds on eastern side of airport site (1835). Construction of Alexandra Canal which was planned to connect Botany Bay with Port Jackson. During late 19th and early 20th centuries, airport site is used for industrial buildings including textile and flour mills.	Any impacts on the Engine and Mill Ponds, as Commonwealth land, would be assessed having regard to the EPBC Act.
	1911	The first flight occurs when an aircraft takes off from the former Ascot Racecourse (now part of the airport site), piloted by JJ Hammond.	Post 1945 Cooks River is diverted and two new runways are built. Key elements of existing airport laid out – in particular the runway.
	1919	First passenger flight piloted by Sydney Airport's founder Nigel Love.	
	1920s	Mascot Aerodrome officially opens and Australian Government acquires the aerodrome.	This is part of a program to develop a nationwide airport network.
	1930s	Additional land is purchased, the main runway is surfaced with gravel and two ancillary grass runways are laid out.	These early runways were located in the vicinity of what is the T2/T3 and Jet Base.
	1940 -1945	New passenger terminal opens and airport is further developed during World War II to enhance its civilian and military facilities.	Elements of this building remain in the T2/T3 precinct and have been identified as having heritage significance.
Into the jet era	**1959**	Arrival of B707 and other jet and turbo-prop aircraft ushers in rapid growth in air travel.	Curfew at Sydney Airport first introduced after the government decided that these older noisy jet aircraft "will not be scheduled to take off or land during the quiet hours of the night".
	1968	North-south runway (16R/34L) is extended by land reclamation into Botany Bay to cater for long-haul international jets.	Curfew remains a key operating influence for Sydney Airport.
	1970	First stage of international terminal opens on current site.	Location of General Holmes Drive under the runway and diversion of the southern and western suburbs ocean outfall sewer.
	1970s	Further expansion of the international and domestic terminals. In 1972, Runway 16/34 is extended into Botany Bay to its present length of 3,962m.	

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Appendix C
History of Sydney Airport and existing facilities

Table C-1 Development of Sydney Airport continued

	Year	Activity	Master Plan implications
Major airport expansion	**1992**	Major expansion of International terminal adds eight gates for B747-400 aircraft.	
	1994	The parallel runway (16L/34R) opens at its current length of 2,438m. New flight paths added.	
	1996	Current control tower opens.	Complements parallel runways.
	1997	Aircraft movement cap of 80 flights per hour is legislated.	The Long Term Operating Plan commences. Noise insulation program commences and is completed by the late 1990s.
	2000	International and domestic terminals significantly upgraded and expanded.	
	2000	Significant ground access infrastructure developed – the Airport Rail Link, the Eastern Distributor and M5 East Motorway.	
Post-privatisation	**2002**	Sale of Sydney Airport to Southern Cross Airports Corporation is completed.	Statutory requirement for development of a 20-year Master Plan for the airport.
	2004	Sydney Airport Master Plan 03/04 approved.	Sets out planning proposals for Sydney Airport for a 20-year period to 2023/24.
	2006	T1 gate/terminal upgrades to facilitate A380 capacity.	
	2007	The first ever commercial flight by the new generation quieter A380 lands at Sydney Airport. Sydney Airport will soon become one of the busiest A380 airports in the world.	
	2009	Sydney Airport Master Plan 2009 approved.	Sets out planning proposals for Sydney Airport for a 20-year period to 2029.
	2011	Sydney Airport announces New Vision that will see terminal precincts transformed into integrated international, domestic and regional precincts without any change to operating restrictions.	The feedback and comments received during consultation on the New Vision have informed the preparation of the development plan in this Master Plan.
	2002 –2013	Over $2 billion of investments and other initiatives during the past decade have led to increased service levels, enhanced safety and security, delivered environmental improvements and increased capacity to meet demand. Key projects include terminal upgrades, new car parks, new checked baggage screening facilities, runway end safety areas and making Sydney Airport ready for larger, quieter and more fuel efficient aircraft.	
	2014	Sydney Airport Master Plan 2033 approved.	Sets out planning proposals for Sydney Airport for a 20-year period to 2033.
	2015	Sydney Airport takes control of the operation of T3 giving Sydney Airport control of 100% of the airport's terminal footprint.	
	2018	Sydney Airport Master Plan 2039 approved.	Sets out planning proposals for Sydney Airport for a 20 year period to 2039.
	2018	Wentworth Avenue to General Holmes Drive extension completed.	
	2024	Sydney Gateway completed.	
	2024	Additional South East Sector aprons.	

C2 Existing facilities

Existing terminals

Passenger terminals serve the needs of various user groups, by:

- Processing check-in, security, border controls, aircraft boarding and disembarking, and baggage handling for travellers.
- Providing for passengers waiting for or transferring between flights.
- Providing passengers and airport visitors with facilities including food and beverage, toilets, shopping, and other activities.

Infrastructure such as landside access, car parking, and utilities support the operation of terminals and inform the overall passenger experience.

Throughout its operational life, Sydney Airport has substantially invested into terminals. Terminal 1 (T1) and Terminal 2 (T2) are respectively the common user international and domestic facilities, while Terminal 3 (T3) is currently a dedicated Qantas domestic terminal.

Terminal 1

- T1 is the current international terminal, located in the North West Sector of the airport. Since its opening in 1970, the terminal has been subject to extensive modification and expansion.
- T1 is a four-level structure, with vertically separated arrival and departure passenger concourses, supporting 25 contact aircraft gates with aerobridges and a walk-up gate, together with other bussed and layover stands in numerous locations on the airfield.
- The current total floor area is approximately 288,000m², including approximately 20,000m² of ramp offices. Major functional elements include:
  - 216 departure check-in counters
  - 15 check-in kiosks
  - Integrated outbound baggage handling and security screening system
  - 18 conventional and 24 eGate departure passport control positions
  - Passenger and hand baggage screening facilities
  - 44 conventional and 22 smart gate passport control positions
  - Transfer passenger and baggage screening facilities
  - 12 baggage reclaim units
  - Inbound baggage screening facilities
  - Extensive retail and related facilities.

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Appendix C
History of Sydney Airport and existing facilities

Terminals 2 and 3

- The domestic terminal complex is located in the North East Sector of the airport and comprises two adjacent but currently unconnected buildings – T2 and T3.
- T2 is a three-level structure which supports two single-level arrival/departure pier type concourses. Currently, the piers serve up to a total 23 contact aircraft gates and a number of stand-off bussed aircraft positions.
- T3 is a three-level structure which is integrated with a single-level linear and satellite-type arrival/departure passenger concourse. Currently, the concourse provides a nominal 16 contact aircraft gates with aerobridges and several stand-off bussed aircraft positions.
- T2 and T3 are not physically linked at terminal level, although underground pedestrian access between the terminal baggage halls is available via the links to the airport rail link domestic terminal station.
- Together, T2 and T3 have a gross floor area in excess of 140,000m^2, including approximately 29,000m^2 of ramp offices. The existing terminal facilities provide good levels of service at current traffic levels. Major functional elements include:
  - T2 – 50 check-in counters, no bag drops, 48 kiosks/passenger and hand baggage screening facilities
  - T3 – 10 check-in counters, 24 bag drops, 48 kiosks/passenger and hand baggage screening facilities
  - Transfer passenger and baggage screening facilities
  - Integrated outbound baggage handling and security screening system
  - A combined 11 baggage reclaim units.

Table C-2 Runway details

Runaway direction	Length m	Width m	Take-off run available m	Take-off distance available m	Accelerate stop distance available m	Landing distance available m
16R	3,962	45	3,962	4,052	3,992	3,877
34L	3,962	45	3,962	4,052	3,962	3,962
16L	2,438	45	2,438	2,528	2,438	2,207
34R	2,438	45	2,438	2,498	2,438	2,400
07	2,530	45	2,530	2,620	2,560	2,530
25	2,530	45	2,530	2,590	2,530	2,429

Existing movement areas

Runways

- Sydney Airport has three runways. The dimensions and declared distances of these runways are given in Table C-2.
- Runways 16R/34L and 16L/34R are parallel on an approximate north-south alignment, separated by 1,037m.
- Runway 16R/34L is suitable for heavy, long-haul departures.
- Runway 07/25 crosses Runway 16R/34L and is on an approximate east-west alignment.
- Weather requires the exclusive use of Runway 07/25 for a limited number of hours per year when strong winds preclude the use of the north/south runways.
- Runways 16R/34L and 07/25 and their supporting taxiways currently accommodate Code F aircraft.

Sydney Airport has sophisticated equipment to assist with safe take-off and landing during low visibility conditions. This allows the airport to remain operational during a wide range of weather conditions:

- All runways are provided with precision approach path indicator systems (PAPIS) to provide visual approach slope guidance to aircraft.
- Transmissometer units are operational on all runways and provide accurate visibility assessments to aircraft crews when operating in low visibility conditions. This technology facilitates increased aircraft movements in those conditions.
- Stop bars have been commissioned at Sydney Airport to enhance runway safety and better facilitate low visibility operations.
- Runways 16L and 16R are currently equipped with High Intensity Approach Lighting (HIAL) systems.
- Runway 34L and 34 R have reduced length HIAL.
- All runways are equipped with Instrument Landing Systems (ILS) to permit aircraft to conduct precision approaches in poor weather. Instrument landing systems are classified according to their ability to facilitate landings in poor weather conditions. Runways 16R and 34L currently facilitate approaches in visibility conditions down to 300 metres RVR.
- All runways have 90m Runway End Safety Areas (RESAs).
- A satellite based landing system provides precision approaches to all runway ends.

Taxiways

Runways are supported by a comprehensive taxiway system, designed to facilitate the efficient movement of aircraft between the runways and terminal areas. Rapid exit taxiways are provided on the parallel runways to minimise runway occupancy time.

Aprons and stands

Apron areas are provided to facilitate aircraft parking. The parking position is known as an aircraft stand (or gate). Existing aprons at Sydney Airport accommodate operations by the full range of aircraft types. Currently there are approximately 115 aircraft stands dedicated to supporting international, domestic, regional and freight operations.

There are a number of additional parking positions on the aprons within the general aviation area for aircraft of various sizes and Qantas currently provides parking positions for its own use within the engineering facilities north of T3 in the North East Sector of the airfield.

Apron areas also support activities associated with the servicing of aircraft such as baggage, freight, refuelling and flight catering and utilise a variety of ground support equipment (GSE) operated by third parties. A network of airside roads provides for GSE and other vehicle movements.

Engineering facilities

The engineering facilities are located in the North East Sector of the airport north of Terminal 3. The area comprises a lease area of approximately 30 hectares. The engineering facilities are used by Qantas for aircraft maintenance, layover parking and also contain a variety of aviation support facilities.

General aviation

The general aviation parking area is located in the North East Sector, adjacent to the Runway 25 threshold. The area provides aircraft parking for a number of freight, corporate and private aircraft as well as a variety of aviation support facilities such as maintenance hangars, freight handling and administrative buildings.

Helicopters

A helicopter precinct is located in the South East Sector adjacent to the Runway 25 threshold. The area includes a touchdown and lift-off area, taxiways, parking pads, storage/maintenance hangars and administrative buildings.

Emergency facilities

Sydney Airport has two marshalling areas for the staging of emergency vehicles and associated communication and coordination facilities located adjacent to the Aviation Rescue and Fire Fighting (ARFF) services facilities. There are also two emergency evacuation facilities for marine rescue and recovery located adjacent to the parallel runways within Botany Bay.

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Appendix C
History of Sydney Airport and existing facilities

Existing support systems

Airservices Australia facilities

Airservices Australia is responsible for the provision of Air Traffic Control (ATC), ARFF and the provision and maintenance of radio navigation aids and systems.

The control tower is situated mid-way between runways 16R/34L and 16L/34R and south of Runway 07/25. The primary responsibility of ATC staff is the processing and separation of air traffic in both the initial and final stages of flight. ATC also provides surface movement control to aircraft and vehicles on the runways and taxiways.

Sydney Airport is equipped with an advanced surface movement guidance and control system (ASMGCS) to assist with identification and management of all aircraft and vehicles on the airport manoeuvring area. ASMGCS consists of an enhanced surface movement radar (SMR) combined with a multilateration system to track aircraft and vehicles on the airport surface.

Wide Area Multilateration (WAM) is a surveillance technology with a high update rate, which permits ATC to accurately undertake precision runway monitoring for aircraft on approach to the parallel runway system in poor weather conditions. It is critical to maintaining runway capacity in these conditions.

The terminal area radar provides a primary radar surveillance capability out to a radius of 50 nautical miles from Sydney Airport. It provides secondary radar coverage to about 175 nautical miles. This system is augmented by the WAAM and automatic dependent surveillance broadcast system.

Surveillance and navigation systems rely on the transmission of radio waves that must be protected from any structures or obstacles that could cause signal refraction or interference. Consequently, areas located either on-airport or off-airport surrounding these facilities may have development restrictions imposed through Sydney Airport's development approval assessment process.

The ARFF service has two on-airport fire stations and currently provides ICAO Category 10 standard service. The ARFF service is also equipped to undertake marine rescue within Botany Bay. A fire training area is located to the north of the ARFF facility near Runway 16L.

Bureau of Meteorology facilities

The Bureau of Meteorology (BOM) has a number of airport facilities to support aircraft operations. These include:

- A weather balloon-launching station
- Instrument enclosure
- A vertical wind profiler
- Visibility sensors
- Observation office.

Overview of existing freight facilities and service providers

The existing airside and landside cargo terminal facilities at Sydney Airport are occupied and operated by various service providers or Cargo Terminal Operators (CTOs).

Freight logistics at Sydney Airport are mainly carried out by four CTOs – Qantas, dnata, DHL and Menzies Freight. The area dedicated to freight operations/ international and domestic CTOs is approximately 13.7 hectares.

The airside terminal facilities are located on land leased from Sydney Airport. These are primarily located in the North West Sector for international air freight handling, and domestic air freight handling is located within the North East Sector (passenger terminal precinct of T2 and T3).

Livestock handling facilities are provided at Sydney Airport in accordance with Australian quarantine requirements in the current international precinct.

Off-site, there are well over 100 forwarders, logistics providers and integrators located within a 5 km radius of Sydney Airport. These operations range in scale, complexity and degree of service from major operations to small owner-operators offering very basic services.

Sydney Airport air freight volumes mainly comprise imported goods and associated handling requirements. As a hub airport, air freight to and from Sydney is transhipped via domestic routes, which produces different handling characteristics for airlines.

Appendix D
Requirements of an airport master plan and AES

The Sydney Airport Master Plan must be prepared in accordance with the requirements of the *Airports Act 1996* and associated Regulations. The legislation specifies elements that are to be addressed within an Airport Master Plan. The tables below should be used to reference how each element of the legislation is addressed within the Master Plan.

Airports Act 1996

Requirements under Part 5, Division 3, Section 70(2) Final Master Plans		Chapter / Section response
2.	The purposes of a final master plan for an airport are:	
a)	to establish the strategic direction for efficient and economic development at the airport over the planning period of the plan	Chapters 2 and 3
b)	to provide for the development of additional uses of the airport site	Chapters 7, 8, 9, 10 and 13
c)	to indicate to the public the intended uses of the airport site	Chapters 7, 8, 9, 10 and 13
d)	to reduce potential conflicts between uses of the airport site, and to ensure that uses of the airport site are compatible with the areas surrounding the airport	Chapters 13, 14, and 15
e)	to ensure that all operations at the airport are undertaken in accordance with relevant environmental legislation and standards	Chapters 4, 14, 15, 16, 17, 18 and 19
f)	to establish a framework for assessing compliance at the airport with relevant environmental legislation and standards	Chapters 16, 17, 18 and 19
g)	to promote the continual improvement of environmental management at the airport	Chapters 4, 16, 17, 18 and 19

Requirements under Part 5, Division 3, Section 71(2) Contents of Draft or Final Master Plan		Chapter / Section Response
2.	In the case of an airport other than a joint-user airport, a draft or final master plan must specify:	
a)	the airport-lessee company's development objectives for the airport	Chapter 2
b)	the airport-lessee company's assessment of the future needs of civil aviation users of the airport, and other users of the airport, for services and facilities relating to the airport	Chapters 6, 7, 8, 9, 10, 11, 12 and 13
c)	the airport-lessee company's intentions for land use and related development of the airport site, where the uses and developments embrace airside, landside, surface access and land planning/zoning aspects	Chapters 7, 8, 9, 10, 11, 12 and 13
d)	an Australian Noise Exposure Forecast (in accordance with regulations, if any, made for the purpose of this paragraph) for the areas surrounding the airport	Chapters 14 and 15
da)	flight paths (in accordance with regulations, if any, made for the purpose of this paragraph) at the airport	Chapter 14
e)	the airport-lessee company's plans, developed following consultations with the airlines that use the airport and local government bodies in the vicinity of the airport, for managing aircraft noise intrusion in areas forecast to be subject to exposure above the significant ANEF levels	Chapters 13, 14 and 15
f)	the airport-lessee company's assessment of environmental issues that might reasonably be expected to be associated with the implementation of the plan	Chapters 4, 13, 16, 17, 18 and 19
g)	the airport-lessee company's plans for dealing with the environmental issues mentioned in paragraph (f) (including plans for ameliorating or preventing environmental impacts)	Chapters 4, 13, 16, 17, 18 and 19

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Requirements under Part 5, Division 3, Section 71(2) Contents of Draft or Final Master Plan	Chapter / Section Response
ga) in relation to the first 5 years of the master plan – a plan for a ground transport system on the landside of the airport that details: i. a road network plan ii. the facilities for moving people (employees, passengers and other airport users) and freight at the airport iii. the linkages between those facilities, the road network and public transport system at the airport and the road network and public transport system outside the airport iv. the arrangements for working with the State or local authorities or other bodies responsible for the road network and the public transport system v. the capacity of the ground transport system at the airport to support operations and other activities at the airport vi. the likely effect of the proposed developments in the master plan on the ground transport system and traffic flows at, and surrounding, the airport	Chapters 7 and 11
gb) in relation to the first 5 years of the master plan – detailed information on the proposed developments in the master plan that are to be used for: i. commercial, community, office or retail purposes ii. for any other purpose that is not related to airport services	Chapters 7 and 10
gc) in relation to the first 5 years of the master plan – the likely effect of the proposed developments in the master plan on: i. employment levels at the airport ii. the local and regional economy and community, including an analysis of how the proposed developments fit within the planning schemes for commercial and retail development in the area that is adjacent to the airport	Chapters 3 and 10
h) in relation to the first 5 years of the master plan – an environment strategy that details: i. the airport-lessee company's objectives for the environmental management of the airport ii. the areas (if any) within the airport site which the airport-lessee company, in consultation with State and Federal conservation bodies, identifies as environmentally significant iii. the sources of environmental impact associated with airport operations iv. the studies, reviews and monitoring to be carried out by the airport-lessee company in connection with the environmental impact associated with airport operations v. the time frames for completion of those studies and reviews and for reporting on that monitoring vi. the specific measures to be carried out by the airport-lessee company for the purposes of preventing, controlling or reducing the environmental impact associated with airport operations vii. the time frames for completion of those specific measures viii. details of the consultations undertaken in preparing the strategy (including the outcome of the consultations) ix. any other matters that are prescribed in the regulations	i. Chapters 17–19 Objectives for Environmental Management Areas ii. Chapter 16 Introduction to the AES, Environmental Significance iii. Chapters 17–19 Risk processes for Environmental Management Areas iv. Chapters 17–19 Monitoring actions for Environmental Management Areas v. Chapters 17–19 Monitoring actions for Environmental Management Areas vi. Chapters 17–19 Risk processes for Environmental Management Areas vii. Chapters 17–19 All prevention or mitigation measures ongoing. Other timeframes included in monitoring actions for Environmental Management Areas viii. Chapter 5 Stakeholder and Community Engagement ix. See following
i) such other matters (if any) as are specified in the regulations.	See following

Requirements under Part 5, Division 3, Section 71(2) Contents of Draft or Final Master Plan	Chapter / Section Response
6. In specifying a particular objective or proposal covered by paragraph (2)(a), (c), (ga), (gb) or (gc) or (3)(a), (c), (ga), (gb) or (gc), a draft or final master plan must address:	
a) the extent (if any) of consistency with planning schemes in force under a law of the State in which the airport is located	Chapter 13 and Appendix E
b) if the draft or final master plan is not consistent with those planning schemes – the justification for the inconsistencies	Chapter 13 and Appendix E
8. In developing plans referred to in paragraph (2)(e) and (3)(e), an airport-lessee company must have regard to Australian Standard AS 2021-2000 ("Acoustics – Aircraft noise intrusion – Building siting and construction") as in force or existing at that time	Chapters 13, 14, 15 and Appendix E

Requirements under Part 5, Division 3, Section 71A Draft or final master plan must identify proposed sensitive developments	Chapter / Section Response
1. A draft or final master plan must identify any proposed sensitive development in the plan	Chapter 13
2. A sensitive development is the development of, or a redevelopment that increases the capacity of, any of the following: a. a residential dwelling b. a community care facility c. a pre-school d. a primary, secondary, tertiary or other educational institution e. a hospital	N/A
2a) A sensitive development does not include the following: a. an aviation educational facility b. accommodation for students studying at an aviation educational facility at the airport c. a facility with the primary purpose of providing emergency medical treatment and which does not have inpatient facilities d. a facility with the primary purpose of providing inhouse training to staff of an organisation conducting operations at the airport	Noted
3. In this section: Aviation educational facility means any of the following: a. a flying training school b. an aircraft maintenance training school c. a facility that provides training in relation to air traffic control d. a facility that provides training for cabin crew e. any other facility with the primary purpose of providing training in relation to aviation related activities	Noted
Community care facility includes the following:	
a. a facility that provides aged care within the meaning given by the *Aged Care Act 1997*	Noted
b. a retirement village within the meaning given by the *Social Security Act 1991*	Noted
c. a facility that provides respite care within the meaning given by the *Aged Care Act 1997*	Noted

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Appendix D
Requirements of an airport master plan and AES

Requirements under Part 5, Division 3, Section 79 Public comment or advice to State etc.	Chapter / Section Response
Advice to State etc	
1A. Before giving the Minister a draft master plan for an airport under section 75, 76 or 78, the airport-lessee company for the airport must advise, in writing, the following persons of its intention to give the Minister the draft master plan: a. the Minister, of the State in which the airport is situated, with responsibility for town planning or use of land; b. the authority of that State with responsibility for town planning or use of land; c. each local government body with responsibility for an area surrounding the airport	Upcoming action
1B) The draft plan submitted to the Minister must be accompanied by: a. a copy of the advice given under subsection (1A); and b. a written certificate signed on behalf of the company listing the names of those to whom the advice was given	Upcoming action
Public comment	
1. After giving the advice under subsection (1A), but before giving the Minister the draft master plan, the company must also: a. cause to be published in a newspaper circulating generally in the State in which the airport is situated, and on the airport's website, a notice: i) stating that the company has prepared a preliminary version of the draft plan; and ii) stating that copies of the preliminary version will be available for inspection and purchase by members of the public during normal office hours throughout the period of 60 business days after the publication of the notice; and iii) specifying the place or places where the copies will be available for inspection and purchase; and iiia) in the case of a notice published in a newspaper—stating that copies of the preliminary version will be available free of charge to members of the public on the airport's website throughout the period of 60 business days after the publication of the notice; and iiib) in the case of a notice published in a newspaper— specifying the address of the airport's website; and iv) in any case—inviting members of the public to give written comments about the preliminary version to the company within 60 business days after the publication of the notice; and b. make copies of the preliminary version available for inspection and purchase by members of the public in accordance with the notice; and a. make copies of the preliminary version available free of charge to members of the public on the airport's website: i) in a readily accessible format that is acceptable to the Minister; and ii) in accordance with the notice	Upcoming action
2. If members of the public (including persons covered by subsection (1A)) have given written comments about the preliminary version in accordance with the notice, the draft plan submitted to the Minister must be accompanied by: a. copies of those comments; and b. a written certificate signed on behalf of the company: i) listing the names of those members of the public; and ii) summarising those comments; and iii) demonstrating that the company has had due regard to those comments in preparing the draft plan; and iv) setting out such other information (if any) about those comments as is specified in the regulations	Upcoming action
3. Subsection (2) does not, by implication, limit the matters to which the company may have regard	Upcoming action

Requirements under Part 5, Division 3, Section 80 Consultations	Chapter / Section Response
1. This section applies if: a. an airport-lessee company gives the Minister a draft master plan under section 75, 76 or 78; and b. before the publication under section 79 of a notice about the plan, the company consulted (other than by giving an advice under subsection 79(1A)) a person covered by any of the following subparagraphs: i) a State government; ii) an authority of a State; iii) a local government body; iv) an airline or other user of the airport concerned; v) any other person	Upcoming action
2. The draft plan submitted to the Minister must be accompanied by a written statement signed on behalf of the company: a. listing the names of the persons consulted; and b. summarising the views expressed by the persons consulted	Upcoming action

Airports Regulations 2024

Requirements under Part 3 – Land Use Planning and Building Controls	Chapter / Section Response
Section 15. Contents of draft or final master plan – general	
1. For the purposes of paragraphs 71(2)(j) and (3)(j) of the Act, the following matters are specified as matters that must be set out in a draft or final master plan for an airport: a) any change to the OLS or PANS-OPS surfaces for the airport that is likely to result if development proceeds in accordance with the master plan; b) for an area of an airport where a change of use of a kind described in subregulation 6.07(2) of the Airports (Environment Protection) Regulations 1997 is proposed: i) the contents of the report of any examination of the area carried out under regulation 6.09 of that instrument; and ii) the airport-lessee company's plans for dealing with any soil pollution referred to in the report	a. Chapter 15 b. Chapters 16 and 17
2. If a matter set out in an airport master plan, in accordance with section 71 of the Act, describes intentions for land use and related development embracing landside aspects, the proposals must (as far as possible) be described in an amount of detail that: a) is equivalent to that required by; and b) uses terminology (including definitions) consistent with that applying in; land use planning, zoning and development legislation in force in the State or Territory in which the airport is located	Chapters 7, 10, 13, 15, and 16, and Appendices A, B, E and F.
3. In subsection 1): ***OLS*** and ***PANS-OPS*** surface have the same meanings as in the *Airports (Protection of Airspace) Regulations 1996*	Noted

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Appendix D
Requirements of an airport master plan and AES

Section 16. Contents of draft or final master plan—matters to be detailed in environment strategy	
1. For the purposes of subparagraphs 71(2)(h)(ix) and (3)(h)(ix) of the Act, subsection (2) of this section prescribes matters that an environment strategy specified in a draft or final master plan for an airport must detail	See below
2. The environment strategy must detail the following matters: a) any areas within the airport site to which the strategy applies that the airport-lessee company for the airport has identified as being a site of indigenous significance, following consultation with: i) any relevant indigenous communities and organisations; and ii) any relevant Commonwealth or State body; b) the airport-lessee company's strategy for environmental management of areas of the airport site that are, or could be, used for a purpose that is not connected with airport operations; c) the training necessary for appropriate environment management of the airport by persons, or classes of persons, employed on the airport site by the airport-lessee company or by other major employers; d) the training programs, of which the airport-lessee company is aware, that it considers would meet the training needs of a person mentioned in paragraph (c)	a) Chapter 18 Flora, Fauna and Heritage, Indigenous Heritage ai) Chapter 5 Stakeholder and Community Engagement, Chapter 18 Flora, fauna and heritage aii) Chapter 5 Stakeholder and Community Engagement b) Chapter 16 Introduction to the AES, Environmental Management at Sydney Airport, Environmental Management component of the EMS (Figure 16-1) c) Chapter 16 Introduction to the AES, Environmental Management at Sydney Airport, Training d) Chapter 16 Introduction to the AES, Environmental Management at Sydney Airport, Training
3. In specifying the airport-lessee company's strategy for environmental management under paragraph (2)(b), the airport-lessee company must address the matters mentioned in subsections 17(2) to (6), to the extent that the matters are relevant to that strategy	See below

Section 17. Contents of draft or final master plan—things to be addressed in environment strategy	
2. In specifying, under subparagraph 71(2)(h)(i) or (3)(h)(i) of the Act, the airport-lessee company's objectives for the environmental management of the airport, the draft or final master plan must address the company's policies and targets for: a) continuous improvement in the environmental consequences of activities at the airport; and b) progressive reduction in extant pollution at the airport; and c) development and adoption of a comprehensive environmental management system for the airport that maintains consistency with relevant Australian and international standards; and d) identification, and conservation, by the airport-lessee company and other operators of undertakings at the airport, of objects and matters at the airport that have natural, indigenous or heritage value; and e) involvement of the local community and airport users in development of any future strategy; and f) dissemination of the strategy to sublessees, licensees, other airport users and the local community	a) Chapters 17–19 Objectives and action plans for Environmental Management Areas b) Chapters 17–19 Objectives and action plans for Environmental Management Areas c) Chapter 16 Introduction to the AES, Environmental Management at Sydney Airport d) Chapter 16 Introduction to the AES, Environmental Management at Sydney Airport Chapter 16 Introduction to the AES, Environmental Significance Chapter 18 Flora, Fauna and Heritage e) Chapter 5 Stakeholder and Community Engagement f) Chapter 5 Stakeholder and Community Engagement

Requirements under Part 3 – Land Use Planning and Building Controls	Chapter / Section Response
Section 17. Contents of draft or final master plan—things to be addressed in environment strategy continued	
3. In specifying, under subparagraph 71(2)(h)(ii) or (3)(h)(ii) of the Act, the areas within the airport site which the airport-lessee company, in consultation with State and Federal conservation bodies, identifies as environmentally significant, the draft or final master plan must address: a) any relevant recommendation of the Australian Heritage Council; and b) any relevant recommendation of the Environment Department regarding biota, habitat, heritage or similar matters; and c) any relevant recommendation of a body established in the State in which the airport is located, having responsibilities in relation to conservation of biota, habitat, heritage or similar matters	a) Chapter 5 Stakeholder and Community Engagement b) Chapter 5 Stakeholder and Community Engagement c) Chapter 5 Stakeholder and Community Engagement
4. In specifying, under subparagraph 71(2)(h)(iii) or (3)(h)(iii) of the Act, the sources of environmental impact associated with airport operations or civil aviation operations at the airport (as appropriate), the draft or final master plan must address: a) the quality of air at the airport site, and in so much of the regional airshed as is reasonably likely to be affected by airport activities; and b) water quality, including potentially affected groundwater, estuarine waters and marine waters; and c) soil quality, including that of land known to be already contaminated; and d) release, into the air, of substances that deplete stratospheric ozone; and e) generation and handling of hazardous waste and any other kind of waste; and f) usage of natural resources (whether renewable or nonrenewable); and g) usage of energy the production of which generates emissions of greenhouse gases (within the meaning of the National Greenhouse and Energy Reporting Act 2007); and h) generation of noise	a) Chapter 17 Pollution Management, Air Quality b) Chapter 17 Pollution Management, Surface Water Quality c) Chapter 17 Pollution Management, Contamination d) Chapter 17 Pollution Management, Air Quality e) Chapter 19 Sustainability, Waste f) Chapter 19 Sustainability, Natural Resource Use g) Chapter 19 Sustainability, Greenhouse Gas Emissions h) Chapter 17 Pollution Management, Ground-based Noise
5. In specifying, under subparagraph 71(2)(h)(iv) or (3)(h)(iv) of the Act, the studies, reviews and monitoring to be carried out by the airport-lessee company in connection with the environmental impact associated with airport operations or civil aviation operations at the airport (as the case may be), the draft or final master plan must address: a) the matters mentioned in paragraph 16(2)(a) and in subsections (3) and (4) of this section; and b) the scope, identified by the airport-lessee company, for conservation of objects and matters at the airport that have natural, indigenous or heritage value; and c) the approaches and measures identified by the airport-lessee company as its preferred conservation approaches and measures; and d) the professional qualifications that must be held by a person carrying out the monitoring; and e) the proposed systems of testing, measuring and sampling to be carried out for possible, or suspected, pollution or excessive noise; and f) the proposed frequency of routine reporting of monitoring results to the airport environment officer (if any) for the airport, or to the Secretary	a) Outlined above b) Chapter 16 Introduction to the AES, Environmental Significance Chapter 18 Flora, Fauna and Heritage c) Chapter 16 Introduction to the AES, Environmental Significance Chapter 18 Flora, Fauna and Heritage d) Chapter 16 Introduction to the AES, Environmental Significance Chapter 18 Flora, Fauna and Heritage e) Chapter 17 Pollution Management, Ground-based Noise f) Chapter 16 ntroduction to the AES, Environmental Management at Sydney Airport, Annual Environment Reporting
6. In specifying, under subparagraph 71(2)(h)(vi) or (3)(h)(vi) of the Act, the specific measures to be carried out by the airport-lessee company for the purposes of preventing, controlling or reducing the environmental impact associated with airport operations or civil aviation operations at the airport (as the case may be), the draft or final master plan must address: a) the matters mentioned in subsections (2) to (4) of this section; and b) the means by which the airport-lessee company proposes to achieve the cooperation of other operators of undertakings at the airport in carrying out those measures	a) See above b) Chapters 17–19 Monitoring actions for Environmental Management Areas

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Appendix E
Planning laws and regulations

Planning laws and regulations

Sydney Airport is subject to a range of airport-specific, and general laws and regulations. The key planning laws and regulations that apply at Sydney Airport are set out in this Appendix.

E1 Airport master planning

Under section 70(1) of the *Airports Act 1996* (Act), each airport is required to produce a final Master Plan.

Section 71(2) specifies the matters that must be set out in a Master Plan.

A Master Plan must cover a period of 20 years and is to be reviewed every five years.

A Master Plan must be displayed for public comment for 60 business days and include:

- Development objectives and an assessment of future needs for services and facilities relating to the airport.
- Intentions for land use and related development at the airport site.
- An Australian Noise Exposure Forecast (ANEF) for the areas surrounding the airport.
- Plans for managing aircraft noise intrusions in areas forecast to be subject to exposure above the significant ANEF levels.
- Flight paths at the airport.
- An assessment of environmental issues and plans for dealing with them (addressed in the Airport Environment Strategy).
- A plan for the landside ground transport system (addressed in the Ground Transport Plan).
- Detailed information on proposed developments to be used for commercial and other purposes not related to airport services.
- Information on the likely effect of proposed developments in the Master Plan on employment levels at the airport, as well as on the local and regional economy and community.

Part 3 of the *Airports Regulations 2024* (Airports Regulations) addresses land use, planning and building controls for Commonwealth leased airports.

Section 15(2) of the Airports Regulations states that:

If a matter set out in an airport master plan, in accordance with section 71 of the Act, describes intentions for land use and related development embracing landside aspects, the proposals must (as far as possible) be described in an amount of detail that:

a) is equivalent to that required by; and

b) uses terminology (including definitions) consistent with that applying in;

land use planning, zoning and development legislation in force in the State or Territory in which the airport is located.

Land use terminology in NSW planning legislation generally has been used, where appropriate, to provide a level of detail and transparency. Appendix B (Glossary of terms) includes specific definitions for terms used in Appendix F (Permissible land Uses).

E2 Airport developments

Land use, planning and building controls is regulated by Part 5 of the Act.

Construction of new development at the airport is subject to a robust development assessment process that provides a system for approving building activities. *The Airports (Building Control) Regulations 1996* (Building Regulations) establishes a system for the approval of appropriate building activities at Sydney Airport.

Building Activities

Regulation 2.02 of the Building Regulations requires an application to be made for approval to carry out building activity at Sydney Airport.

Regulation 2.05 of the Building Regulations requires an application for approval of a building activity to include a statement describing how the proposed building activity is consistent with the Master Plan and the Airport Environment Strategy.

Building activities at the airport require a building activity approval from the Airport Building Controller (ABC) who is advised by the Airport Environment Officer (AEO). Both the ABC and the AEO are independent officers employed by the Commonwealth Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts.

In addition, a corresponding consent must also be granted by Sydney Airport. In this way, all proposed developments are assessed using the same process so as to determine whether the development is consistent with the Master Plan. This facilitates the independent assessment of development within the airport environment. Sydney Airport has an internal process for assessing development proposals which is described in more detail in section E3 below. A statutory assessment of the environmental impacts created by a new development is also undertaken by the AEO.

Major Development Plans

All 'major airport development' (as defined in section 89 of the Act) requires a Major Development Plan (MDP). The forms of major airport development are summarised in chapter 13 of the Master Plan.

An MDP is to include an assessment of the environmental impacts that might reasonably be expected to be associated with the development, and the plan for dealing with those environmental impacts.

Community consultation is also required to be undertaken in accordance with sections 92 and 93 of the Act, prior to seeking approval of the draft MDP from the Minister for Infrastructure, Transport, Regional Development and Local Government.

The approval process for major airport development is set out in section 94 of the Act. MDPs may only be approved if they are consistent with the Master Plan in force for the airport.

E3 Development assessment at Sydney Airport

Development at Sydney Airport is managed under a regulatory framework set by the Act and associated regulations as well as the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Regulatory processes

The planning and development process for lodging, assessing and approving works at Sydney Airport is summarised in the flow chart attached at Figure E-1.

The Building Regulations require that carrying out a building activity, as defined in section 98 of the Act (described as development in this Master Plan), must have written consent of the airport lessee company (Sydney Airport Corporation Limited). Prior to Sydney Airport's written consent, the planning and development process must be followed (refer to Figure E-1). Key aspects of this process are:

- Consultation with Sydney Airport planning and development as to the need for a MDP, Sydney Airport development application, application for Sydney Airport consent or an exemption.
- Application under the Building Regulations.
- Determination of whether the development is consistent with section 32 of the Act.
- Determination of the development's consistency with the Master Plan and Airport Environmental Strategy.
- Consultation with internal and external stakeholders, in particular, local government, regarding developments in proximity to boundaries as well as State government agencies.

Pursuant to the Act and Building Regulations, Sydney Airport's written consent must also be accompanied by the consent of the ABC before works commence. Works of a minor nature may be exempted only after consultation with the ABC. Applications to the ABC are made pursuant to the Act and Building Regulations and focus primarily on:

- Consistency of the development with the Master Plan.
- Compliance with the National Construction Code.
- An assessment of the environmental impacts created by new developments, which is assessed by the AEO through the ABC, in accordance with the Building Regulations.
- An assessment of the environmental impact, which is regulated by the EPBC Act, the *Airports (Environment Protection) Regulations 1997* and the Sydney Airport Environmental Strategy 2025-2030.

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Figure E-1 Sydney Airport planning and development process

Proposal Initiation

In consultation with Sydney Airport Planning, determine which of the following may be required:

1. **Major Development Plan (MDP) or**
2. **Application for Sydney Airport approvals**

Considerations

- Sydney Airport Master Plan
- Sydney AES
- *Airports Act 1996* (as amended)
- Existing Major Development Plans
- Local government consultation
- Internal and external stakeholder issues
- Property/lease issues
- Land use planning and infrastructure studies
- Aviation and operational impacts
- Land use studies
- Traffic impact and transport assessment
- Economic impact assessment
- Environmental assessment
- Local and regional community impacts

1. Major development plan application

Plan prepared in accordance with the ***Airports Act 1996*** and requiring a public consultation process:

- By project owner in consultation with **Sydney Airport Planning**
- Referral to the **Minister for Infrastructure, Transport, Regional Development and Local Government** of the **Draft MDP**

Approval

After deciding whether to approve the draft major development plan, the Minister must notify the company ASAP, in writing, of the decision

Refusal

If the Minister does not approve the draft major development plan, the Minister must notify the company in writing of their reasons for the refusal

2. Sydney airport planning application

Preliminary discussion with Applicant regarding Sydney Airport Procedures and Standards and Airport Building Controller (ABC) requirements.

Applicant to submit:

- Application for **Sydney Airport Planning Approvals**
- Relevant application to **ABC**

Sydney Airport Planning Assessment

Application referred as consultation to internal and external stakeholders

Approval

Approval issued to Applicant with considerations and copies to ABC, Sydney Airport project facilitator, Sydney Airport stakeholders

Refusal[1]

Refusal issued to Applicant with considerations and copies to ABC, Sydney Airport project facilitators Sydney Airport stakeholders

ABC NCC Assessment

ABC follows statutory National Construction Code (NCC) requirements

ABC refers relevant applications to Airport Environment Officer (AEO) for comment

Approval

The ABC issues approval to Applicant. Final inspection conducted at completion of project. ABC issues certificate of compliance

Refusal

The ABC is assumed to have refused (to approval), if the applicant has not been given notice within 28 days

1. In line with Airport (Building Control) Regulations 2.04 – Sydney Airport must not refuse consent to an application for building approval unless the proposed building activity is inconsistent with the airport's: final master plan; or an approved MDP; the airport's final environment strategy, or the airport-lessee company's planning objectives for the airport.

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Development standards

In addition to assessing proposals for regulatory compliance, proposals are also assessed on their performance in relation to a range of aviation, infrastructure, planning, and environmental studies.

Due to the nature of the airport environment, development standards relating to each development are assessed on aviation-related standards not normally found in local planning ordinances. However, common planning standards and practices are applied to airport development where it is prudent to do so.

Sydney Airport's development standards are typically based on the list of documents and issues shown in Table E-1. Each development is assessed on its performance against each of these issues and corresponding guidelines and benchmark documents, in addition to the Land Use Plan (refer to Chapter 13.0 of the Master Plan).

Table E-1 Development standards

Issue	Area	Sydney Airport guidelines and benchmark documents
Airside infrastructure	Aviation	MOS 139, ICAO Annex 14
Navigation surveillance systems	Aviation	Airservices Australia Navigational Aid Surface Drawings, MOS 172
Aircraft noise	Aviation	AS2021-2015 – Acoustics – Aircraft Noise Intrusion – Building, Siting and Construction
Obstacle limitation surface	Aviation	*Airports (Protection of Airspace) Regulations 1996*
Runway end safety	Aviation	MOS 139
Lighting	Aviation	MOS 139
Bird hazard	Aviation	Wildlife management plan
Dust hazard	Aviation	Airport works plans
Aviation security	Aviation	Transport security program
Radar reflectivity and navigational aids	Aviation	Assessed on a case by case basis by Airservices Australia
Master grading	Infrastructure	Services master plan
Utilities	Infrastructure	Services master plan
Advertising and signage	Planning	Sydney Airport Master Plan; principles contained in Chapter 3 of State Environmental Planning Policy (Industry and Employment) 2021
Land use	Planning	Sydney Airport Master Plan
Road traffic generation, traffic and transport management	Planning	Ground transport strategy, Transport for NSW Guide to Transport Impact Assessment
Utilities protection	Planning	New southern railway, underground fuel and gas pipelines, Southern and Western Suburbs Ocean Outfall Sewer (SWSOOS), services master plan
Contaminated sites	Environmental	Contaminated sites register
Heritage	Environmental	Environment strategy and heritage management plan
Fuel storage	Environmental	Above-ground fuel storage policy
Asbestos	Environmental	Work health and safety standards
Environmentally sustainable development	Environmental	Environment strategy

External consultation

Table E3-2 outlines a list of the agencies consulted on an ongoing basis. Note that agencies are consulted where there is a requirement for specific input on a particular issue. Other agencies not appearing below may also be consulted.

Table E-2 External consultation

Consulted Body	Reason
Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts	Airport planning and development
Airservices Australia and Civil Aviation Safety Authority	Radar/Navigational/OLS interference issues
Department of Planning, Housing and Infrastructure (NSW)	Consultation regarding major on-airport developments
Airlines and tenants	Consultation regarding major on-airport developments
Local government authorities	Stakeholder consultation with local government on development interface issues on the airport boundary, including major developments
	Potable water, trade waste, heritage (Alexandra Canal), air rights, SWSOOS
NSW Ports	Port Botany/airport interface issues
Transport for NSW	Public and active transport considerations, truck road access, advertising signage, traffic generating developments
Ausgrid	Electrical supply – network issues on-site/off-site
Airport Link Company	New southern railway tunnel protection
Jemena	Gas pipeline protection
Department of Climate Change, Energy, the Environment and Water	Heritage matters

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Planning laws and regulations

E4 Consistency with State Environmental Planning Policies

Table E-3 Consistency with State Environmental Planning Policies

State Environmental Planning Policy	Relevance to Sydney Airport
SEPP (Resilience and Hazards) 2021	**Hazards** The aims of Chapter 3 of the Resilience and Hazards include to: – amend the definitions of hazardous and offensive industries where used in environmental planning instruments; – render ineffective a provision of any environmental planning instrument that prohibits development for the purpose of a storage facility on the ground that the facility is hazardous or offensive if it is not a hazardous or offensive storage establishment as defined in this chapter; – ensure that in determining whether a development is a hazardous or offensive industry, any measures proposed to be employed to reduce the impact of the development are taken into account, and – ensure that in considering any application to carry out potentially hazardous or offensive development, the consent authority has sufficient information to assess whether the development is hazardous or offensive and to impose conditions to reduce or minimise any adverse impact. Any proposed development of a hazardous or offensive nature on Sydney Airport requires approval under the Act. Supporting information may include a hazard analysis prepared in accordance with relevant requirements. **Contaminated Land** Chapter 4 of the Resilience and Hazards SEPP aims to promote the remediation of contaminated land for the purpose of reducing the risk to human health or another aspect of the environment: – by specifying when consent is required, and when it is not required, for a remediation work, and – by specifying certain considerations that are relevant in rezoning land and in determining development applications in general and development applications for consent to carry out a remediation work in particular, and – by requiring that a remediation work meet certain standards and notification requirements. Sydney Airport has legislative requirements and internal processes to manage contaminated sites to achieve objectives similar to the aims and objectives of the Resilience and Hazards SEPP. These objectives are documented in the AES.

Table E-3 Consistency with State Environmental Planning Policies continued

State Environmental Planning Policy	Relevance to Sydney Airport
SEPP (Resilience and Hazards) 2021	**Coastal Management** Sydney Airport acknowledges the *Coastal Management Act 2016* (CM Act) and Chapter 2 of the Resilience and Hazards SEPP. Chapter 2 of the Resilience and Hazards SEPP refers to section 5 of the CM Act which provides that the 'coastal zone' of NSW means the area of land comprised of the following four coastal management areas: – the coastal wetlands and littoral rainforests area; – the coastal vulnerability area; – the coastal environment area; and – the coastal use area. Section 12 of the CM Act states the purpose of a coastal management program is to 'set the long-term strategy for the co-ordinated management of land within the coastal zone with a focus on achieving the objectives' of the CM Act. The objectives are outlined in section 3 of the CM Act and include: – protecting and enhancing natural coastal processes and coastal environmental values including natural character, scenic value, biological diversity and ecosystem integrity and resilience, and – recognising the coastal zone as a vital economic zone and to support sustainable coastal economies, and – facilitating ecologically sustainable development in the coastal zone and promote sustainable land use planning decision-making. The coastal area around Sydney Airport is identified as a 'coastal use area' by the State Environmental Planning Policy (Resilience and Hazards) 2021 Coastal Use Area Map. The management objectives for the 'coastal use area' (as set out in section 9 of the CM Act) envisage that there will be urban development (with bulk and scale) on adjacent land. Sydney Airport is surrounded by waterways (including the coastal area). To minimise the impact of airport operations on surface water quality in adjacent waterways, we work closely with airport tenants, operators and contractors to manage activities that have the potential to impact on water quality and continue to identify opportunities to improve water quality. We have prepared a Stormwater Quality Management Plan which aims to improve the quality of stormwater leaving the airport site. The flood study mentioned in Master Plan 2045 is directly aimed at addressing the impacts of rising sea levels. Flood studies will be undertaken under the Climate Risk Assessment and Adaptation Plan. Sydney Airport has committed to periodic reviews and updates of the Adaptation Plan to ensure it evolves in response to new science, new global, Australian or aviation policies and new information. These documents identify risks associated with potential future climate scenarios and actions required to fully prepare for a climate resilient future.
Chapter 3 of State Environmental Planning Policy (Industry and Employment) 2021	Chapter 3 of the Industry and Employment SEPP aims to ensure outdoor advertising is compatible with the desired amenity and visual character of an area, provides effective communication in suitable locations, and is of high quality, design and finish. Consistent with the aims of the Industry and Employment SEPP, Sydney Airport considers issues of road safety, amenity, character and finish when assessing proposals for advertisements and signage within the airport.

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Table E-3 Consistency with State Environmental Planning Policies continued

State Environmental Planning Policy	Relevance to Sydney Airport
SEPP (Biodiversity and Conservation) 2021	Chapter 2 of the Biodiversity and Conservation SEPP aims to: a) protect the biodiversity values of trees and other vegetation in non-rural areas of the State, and b) preserve the amenity of non-rural areas of the State through the preservation of trees and other vegetation. Management of vegetation at the airport is carried out in accordance with the Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts (DITRDCSA) Land Clearing – leased Federal airports Guidelines for Airport Lessee Companies 2015 and the airport's replanting offset program. As part of the five year biodiversity action plan in the Environment Strategy 2025-2030, Sydney Airport includes an airport wide vegetation strategy which incorporates biodiversity offsets.
SEPP (Transport and Infrastructure) 2021	Chapter 5 of the Transport and Infrastructure SEPP identifies Port Botany as a State significant area to provide for port related facilities and development that support the operations of Port Botany. It seeks to provide for development at Port Botany that does not, by its nature or scale, constitute an actual or potential obstruction or hazard to aircraft. Land to the south-east of Sydney Airport is zoned IN1 General Industrial and IN2 Light Industrial under the Transport and Infrastructure SEPP. The zoning of land on the eastern side of Sydney Airport recognises the proximity to Port Botany. Sydney Airport also recognises the height and scale of development envisaged within Port Botany and its potential impacts on airport operations.
SEPP (Precincts – Eastern Harbour City) 2021	Under Chapter 6 of the Precincts – Eastern Harbour City SEPP, the zoning for the Cooks Cove site: – Encourages trade and technology uses, and to attract global-reach businesses which strengthen Sydney's international competitiveness, and – Capitalises on the physical proximity of the Cooks Cove site to Sydney Airport and Port Botany to create trade-focussed development.

Consistency of Master Plan with relevant Local Environmental Plans

Introduction

The Sydney Airport site is located within the Bayside and Inner West LGAs.

The following LEPs apply:

- Bayside Local Environmental Plan 2021 (Bayside LEP)
- Inner West Local Environmental Plan 2022 (Inner West LEP)

The relevant provisions under each LEP are outlined in this appendix, together with an assessment of the consistency of the Master Plan's land use zones with these provisions.

Land use definitions on Sydney Airport

Land use definitions for LEPs are required to meet the definitions in the NSW Standard LEP template. Definitions of terms used for the Sydney Airport Master Plan are provided in Appendix B.

Bayside Council

The relevant zoning provisions of Bayside LEP, as they relate to the Airport Site and adjoining land are outlined below.

Zone SP2 Infrastructure (Airport)

The airport site is zoned SP2 Infrastructure (Airport) under the Bayside LEP, specifically for airport use. The objectives of the SP2 Infrastructure zone are:

- To provide for infrastructure and related uses.
- To prevent development that is not compatible with or that may detract from the provision of infrastructure.

Environmental protection works in this zone are permitted without consent.

Land uses permitted with consent include aquaculture, roads, the purpose shown on the Land Zoning Map, including any development that is ordinarily incidental or ancillary to development for that purpose.

The Master Plan has divided this portion of the land into the following separate zones to accurately reflect on-site activities. These zones include:

- AD1 – Aviation Activities and Aviation Support Facilities
- AD2 – Airport Terminal and Support Services
- AD3 – Airport Logistics and Support
- AD4 – Utilities Reservation
- AD5 – Aviation Reservation
- BD1 – Business Development
- BD2 – Enviro-Business Park
- EC1 – Environmental Conservation.

Each zone provides for specific land uses related to airport operations and other development considered ancillary or incidental to airport operations. This includes business, industrial, and commercial land uses. Aviation-related land uses are therefore consistent with the SP2 Infrastructure (Airport) zoning under Bayside LEP.

Zone SP2 Infrastructure (Railway) and (Classified Road)

Adjacent to the SP2 Infrastructure (Airport) zone along the northern and eastern perimeter of the airport are areas of land zoned either SP2 Infrastructure (Railway) or SP2 Infrastructure (Classified Road) under the Bayside LEP. These major transport network services provide a buffer between the airport and adjacent industrial and business development zones, and also provide access to Port Botany.

The zones specified under the Master Plan will not conflict with or prevent the efficient operations of SP2 Infrastructure (Railway) or (Classified Road) zones.

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E4 General Industrial

A large parcel of land located to the north of the airport site between Coward Street and Qantas Drive is zoned E4 General Industrial. Further, on the eastern side of Botany Road, south of Wentworth Avenue, land is zoned E4 General Industrial. This is near land proposed to be zoned BD1 Business Development and EC1 Environmental Conservation and is considered to be a compatible zoning.

The objectives of this zone include: to provide a wide range of industrial, and warehouse land uses encourage employment opportunities, to minimise any adverse effect of industry on other land uses, and to support and protect industrial land for industrial uses. A wide range of employment uses are permitted with consent in the E4 General Industrial zone.

E3 Productivity Support

Located to the north-east of the Airport site, between land zoned E4 General Industrial and General Holmes Drive, is land zoned E3 Productivity Support. A portion of the railway that is zoned SP2 Infrastructure (railway) also forms part of this E3 zoned land. There is another small portion of land zoned E3 east of the site, near the intersection of Botany Road and General Holmes Drive.

East of the Airport site, and on the southern side of Bay Street and the Mill Pond waterway, is an area of land zoned E3 Productivity Support.

The objectives of this zone include providing a range of services, light industries, warehouses and offices, and enabling other land uses to meet the day to day needs of workers.

Such uses are considered to be consistent with the operations of the airport and could provide for a range of support employment activity, which are considered to be uses complementary to the airport site.

This zone adjoins land proposed to be zoned AD1 (Aviation Activity and Aviation Support Facilities), AD2 (Airport Terminal and Support Services), AD3 (Airport Logistics and Support) on the Airport site. Uses that are permissible with consent under these zones comprise aviation-related activities, including aviation support facilities, passenger transport terminals and support services. These uses are considered to be complementary with the objectives, and permissible uses within the E3 zone.

MU1 Mixed Use

A parcel of land east of the Airport site, on the eastern side of Botany Road is zoned MU1 Mixed Use.

Objectives of this zone include: to encourage a diversity of business, retail, office and light industrial land uses that generate employment opportunities, and to minimise conflict between land uses within this zone and land uses within adjoining zones.

Land uses permitted with consent include a range of commercial and retail uses, as well as shop top housing and other residential occupations.

As this zoned land is east of both General Holmes Drive and Botany Road, and the E3 Productivity Support zone, it is considered to fall within a transition zone to residential zones further east.

R2 Low Density Residential

A small portion of land zoned R2 Low Density Residential is located between the E4 zoned land and Southern Cross Drive. Another small pocket of R2 zoned land is present between Botany Drive and Bay Street. Although this use is generally not consistent with the airport zones and industrial and business uses in the vicinity, this is likely a legacy area given the age of some of the housing stock, and established when conflicting land use zones was not as regulated as today.

SP1 Special Activity (Recreation Facility – Outdoor)

On the southern side of Southern Cross Drive, east of Botany Road, is part of the Botany Water Reserves including the Mill Stream. This is zoned SP1 Special Activities (Recreation Facility – Outdoor).

The objectives of this zone include: to provide for sites with special natural characteristics that are not provided for in other zones, and to facilitate development that is in keeping with the special characteristics of the site or its existing or intended special use, and that minimises any adverse impacts on surrounding land.

This is a State significant landscape heritage item and also of regional importance as a major recharge source for the Sydney basin aquifer.

RE1 Public Recreation

The southern-most parcel of land adjoining the eastern boundary of the airport site, south of General Holmes Drive, and adjoining the Mill Stream and Botany Bay foreshore, is a parcel of land zoned RE1 known as Sir Joseph Banks Park and approximately 26 hectares in area.

Objectives of the zone include to enable land to be used for public open space or recreational purposes, to provide a range of recreational settings and activities and compatible land uses, and to protect and enhance the natural environment for recreational purposes.

The EC1 zone in this portion of the site provides a buffer to airport operations in the west and minimises the potential for land use conflicts between land zoned under the Bayside LEP and the Master Plan. Given the environmental characteristics of this land, this zone is considered appropriate and not a conflicting use for the airport.

Land zoned RE1 Public Recreation under the Bayside LEP also includes:

- Kyeemagh Reserve, which is located on the western side the Cooks River between Muddy Creek and Botany Bay.
- Cahill Park, which is located along the foreshore of the Cooks River, west of the Airport site.

The western sector of the airport site adjacent on the opposite side of the Cooks River to Cahill Park is proposed to be zoned BD1 (Business Development) and AD1 (Aviation Activity and Aviation Support Facilities) under the Master Plan. The part of the airport site on the opposite side of the Cooks River of Kyeemagh Reserve is proposed to be zoned AD1 (Aviation Activity and Aviation Support Facilities). The separation achieved by the Cooks River ensures that the proposed zonings will not conflict with the public recreation areas. Amenity impacts on existing open space areas will remain unchanged from the existing zones.

There are a number of areas adjacent to the runways that are zoned W2 (Recreational Waterways) or W3 (Working Waterways). Part of the water east of Runway 16L/34R is unzoned. There is also a wedge of land within the Sydney Airport site south of General Holmes Drive which is unzoned under the Bayside LEP.

Zone W2 Recreational Waterways

The objectives of this zone include protecting the values of recreational waterways, and allowing for water-based recreation (including recreational fishing).

This zone permits environmental protection works without consent.

The uses that are permitted with consent include aquaculture, boat sheds, jetties, moorings and water recreation structures.

Zone W3 Working Waterways

The objectives of the zone include enabling the efficient movement and operation of commercial shipping and maritime industries, and minimising impacts on ecological values arising from the active use of waterways

This zone permits environmental protection works without consent.

The uses that are permitted with consent include aquaculture, port facilities, water recreation structures and wharf or boating facilities.

Clause 6.8 Development in areas subject to aircraft noise

The objectives of this clause include to:

- prevent certain noise sensitive developments from being located near the Sydney (Kingsford-Smith) Airport and its flight paths;
- assist in minimising the impact of aircraft noise from the airport and its flight paths by requiring appropriate noise attenuation measures in noise sensitive buildings; and
- ensure that development in the vicinity of that airport does not hinder or have any other adverse impact on the ongoing, safe, and efficient operation of the airport.

The provisions place specific controls on developing land within areas directly affected by aircraft noise. That is, land in proximity to the airport site and within an ANEF contour of 20 or greater. The provision directs council to ensure the guidelines provided in Australian Standard *AS 2021:2015 – Acoustics – Aircraft Noise Intrusion – Building Siting and Construction* are incorporated in the design and construction of buildings that are affected by noise and vibration associated with airport operations.

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Inner West Council

The relevant zoning provisions of Inner West LEP, as they relate to the airport site and adjoining land are detailed below.

SP2 Infrastructure (Air Transport Facilities)

A portion of the northern sector of the airport site, around Alexandra Canal, is located within the Inner West LGA. Sydney Airport is zoned SP2 Infrastructure (Air Transport Facilities) under the Inner West LEP.

The objectives of the SP2 Infrastructure zone include providing for infrastructure and related uses, and preventing development that is not compatible with or that may detract from the provision of infrastructure.

No uses are permitted without consent.

Under this zone, uses permitted with consent include roads; the purpose shown on the Land Zoning Map (being air transport facilities), and any development ordinarily incidental for that purpose.

The Master Plan has zoned this land for 3 separate purposes. These are:

- AD1 – Aviation Activity and Aviation Support Facilities
- AD2 – Airport Terminal and Support Services; and
- AD3 – Airport Logistics and Support.

Zone SP2 Infrastructure (Rail Infrastructure Facilities, Air Transport Facilities and Stormwater Management Systems)

There is additional land within the northern portion of the site that is also zoned SP2 Infrastructure and designated for various infrastructure related purposes (including rail infrastructure facilities, air transport facilities and stormwater management systems).

The objectives of the SP2 Infrastructure zone are described above.

Alexandra Canal to the north of the airport is zoned SP2 Infrastructure for the purpose of stormwater management systems. Port Botany freight line and Airport Drive are zoned SP2 Infrastructure (Rail Infrastructure Facilities and Air Transport Facilities respectively). This zoning supports airport operations and is therefore consistent with the AD2 zone under the Master Plan.

Zone E4 General Industrial

Sydney Airport owns a freehold parcel of land north of Airport Drive and Alexandra Canal, which is within the airport boundary. This freehold land does not fall within the Commonwealth's landholding of the airport. It is not zoned under the Master Plan, and is not subject to the requirements of the Act. This land is therefore governed under the provisions of the NSW EP&A Act and is zoned E4 General Industrial under Inner West LEP.

The objectives of the E4 General Industrial zone include: providing a range of industrial, warehouse, logistics and related land uses, minimising any adverse effect of industry on other land uses, and protecting industrial land in proximity to Sydney Airport, Port Botany and the Eastern Economic Corridor. No uses are permitted without consent.

Under the zone, uses permitted with consent include depots, freight transport facilities, general industries, light industries, and warehouse or distribution centres.

Aviation-related uses within the AD3 zone would not unreasonably intensify the use of this area beyond what currently exists. In addition, there are no sensitive land uses adjoining or in proximity to this portion of the airport site.

RE1 Public Recreation

Land zoned RE1 Public Recreation is located adjacent to the airport site, to the north of Alexandra Canal. A small portion of this land is located adjacent to land zoned AD1 (Aviation Activity and Aviation Support Facilities) and AD2 (Airport Terminal and Support Services) under the Master Plan.

The objectives of the RE1 zone include enabling land to be used for public open space or recreational purposes and conserving the natural environment.

The location of the RE1 zone on the opposite side of Alexandra Canal, coupled with the purpose of the zone, minimises the potential for land use conflicts between this land and the airport site. In addition, RE1 zoned land provides a buffer between residential development to the north and airport operations.

Clause 6.8 Development in areas subject to aircraft noise

The objectives of this clause are to:

- prevent certain noise sensitive developments from being located near the Sydney (Kingsford-Smith) Airport and its flight paths.
- assist in minimising the impact of aircraft noise from the airport and its flight paths by requiring appropriate noise attenuation measures in noise sensitive buildings.
- ensure that development in the vicinity of that airport does not hinder or have any other adverse impact on the ongoing safe, and efficient operation of the airport.

The provisions place specific controls on developing land within areas directly affected by aircraft noise. That is, land in proximity to the airport site and within an ANEF contour of 20 or greater. The provision directs council to ensure the guidelines provided in Australian Standard *AS 2021:2015 – Acoustics – Aircraft Noise Intrusion – Building Siting and Construction* are incorporated in the design and construction of buildings that are affected by noise and vibration associated with airport operations.

Commercial and retail development in areas adjacent to Sydney Airport

As required by the Act, Chapter 10.0 of the Master Plan (Commercial Development Plan) describes the type of commercial and retail development that may occur on the airport site over the planning period for the Master Plan, including the first five years.

Sydney Airport has a strong track record of delivering appropriate commercial activities/developments that enhance the passenger and other airport user needs. Sydney Airport's commercial planning activities comprise only 4.9% of allocated land. The majority of proposed future commercial development is expected to involve hotel accommodation for passengers, offices for aviation-related businesses and general retail for passengers, their 'meeters and greeters', staff and related aviation service providers.

Therefore, having regard to the commercial and retail developments that are permitted by the various LEPs operating in areas adjacent to the airport and given the type of commercial and retail development Sydney Airport anticipates will occur on the airport site over the planning period (including the next five years), the proposed on-airport developments fit within the planning schemes for areas adjacent to the airport.

Section Five Appendices

Appendix F
Permissible land uses

Table F-1 AD1 – Aviation Activity and Aviation Support Facilities

Objectives	Permissible uses with consent	
1. Protect the long term viability and operational efficiency of Sydney Airport for its primary aviation function. 2. Provide for aviation activities and aviation support facilities. 3. Facilitate compatible and ancillary functions within the zone, provided that development does not render the land permanently unfit for aviation activities. 4. Coordinate the orderly and economic use and development of land until such time as it is required for aviation activities or aviation support facilities. 5. Appropriately consider and manage heritage items.	Advertisement Advertising structure Aircraft maintenance facility Airside passenger holding facility Aviation activity Aviation support facility Car park Food and drink premises Freight handling and transport facility Liquid fuel depot and distribution facility Navigational aids Office premises Parking space Passenger transport facility	Public administration building Research station Road Service station Signage Takeaway food and drink premises Temporary structure Transfer corridor Transport depot Utility undertaking Warehouse and distribution centre Works depot

Table F-2 AD2 – Airport Terminal and Support Services

Objectives	Permissible uses with consent	
1. Protect the long term viability and operational efficiency of Sydney Airport for its primary aviation function. 2. Facilitate development of contemporary passenger terminals and related facilities for the handling, transfer and processing of passengers that are capable of meeting the standards expected by international, domestic and regional travellers, as well as supporting the needs of Sydney Airport's workforce. 3. Provide for aviation activities and support facilities. 4. Facilitate compatible and ancillary functions within the zone provided that development does not render the land permanently unfit for aviation activities. 5. Encourage employment opportunities. 6. Appropriately consider and manage heritage items.	Advertisement Advertising structure Aircraft maintenance facility Amusement centre Aviation activity Aviation support facility Business premises Car park Child care centre Convenience store Entertainment facility Food and drink premises Freight handling and transport facility Function centre Hotel or motel accommodation Kiosk Liquid fuel depot and distribution facility Medical centre Mixed use development Navigational aids Office premises	Parking space Passenger transport facility Public administration building Restaurant Recreational facility (indoor) Retail premises Road Service station Shop Signage Takeaway food and drink premises Temporary structure Terminal Tourist or visitor accommodation Transfer corridor Transport depot Utility undertaking Vehicle sales or hire premises Warehouse and distribution centre Works depot

Table F-3 AD3 – Airport Logistics and Support

Objectives	Permissible uses with consent	
1. Protect the long term viability and operational efficiency of Sydney Airport for its primary aviation function. 2. Facilitate the development of freight services and airport logistics (and ancillary office space). 3. Facilitate compatible and ancillary functions within the zone provided that development does not render the land permanently unfit for aviation activities. 4. Be sure development is compatible, where practicable, with surrounding land uses in this area. 5. Appropriately consider and manage heritage items.	Advertisement Advertising structure Aircraft maintenance facility Animal boarding or training establishment Aviation activity Aviation support facility Business premises Car park Freight handling and transport facility Hotel or motel accommodation, excluding any areas in the PSZ Industrial retail outlet Industry Light industry Liquid fuel depot and distribution facility Mixed use development Navigational aids Office premises, excluding any areas in the PSZ	Parking space Passenger transport facility Public administration building Research station Road Self-storage units Service station Signage Storage premises Takeaway food and drink premises Temporary structure Tourist or visitor accommodation, excluding any areas in the PSZ Transfer corridor Transport depot Utility undertaking Vehicle sales or hire premises Warehouse and distribution centre Wholesale supplies Works depot

Table F-4 AD4 – Utilities Reservation

Objectives	Permissible Uses with Consent
1. Accommodate special uses off the airport site that are consistent and compatible with surrounding development and land use zones. 2. Appropriately consider and manage heritage items.	Advertisement Advertising structure Recreation areas Road Utility undertaking Waterway or foreshore management activities

Section Five Appendices

Appendix F
Permissible land uses

Table F-5 AD5 – Aviation Reservation

Objectives	Permissible uses with consent	
1. Protect the long-term viability and operational efficiency of Sydney Airport for its primary function.	Advertisement	Parking space
2. Co-ordinate the orderly and economic use and development of land until such time as it is required for aviation activities or aviation support facilities.	Advertising structure	Passenger transport facility
3. Integrate compatible aviation, business and industrial activities in accessible locations.	Aircraft maintenance facility	Public administration building
4. Facilitate the development of freight services and airport logistics (and ancillary office space).	Animal boarding or training establishment Aviation activity	Research station
5. Encourage appropriate employment opportunities in accessible locations.	Aviation support facility	Restaurant
6. Be sure that development will not render the land permanently unfit for aviation activities or aviation support facilities when it is required for these purposes.	Business premises	Recreational facility (indoor)
7. Appropriately consider and manage heritage items.	Car park	Retail premises
	Convenience store	Road
	Educational establishment, excluding any areas in the PSZ	Self-storage units
	Food and drink premises	Service station
	Freight handling and transport facility	Shop
	Hotel or motel accommodation, excluding any areas in the PSZ	Signage
	Industrial retail outlet	Storage premises
	Industry	Takeaway food and drink premises
	Kiosk	Temporary structure
	Landscape and garden supplies	Tourist or visitor accommodation, excluding any areas in the PSZ
	Light industry	Transfer corridor
	Liquid fuel depot and distribution facility	Transport depot
	Medical centre	Utility undertaking
	Mixed use development	Vehicle sales and hire premises
	Navigational aids	Warehouse and distribution centre
	Office premises, excluding any areas in the PSZ	Wholesale supplies
		Works depot

Table F-6 BD1 – Business Development

Objectives	Permissible uses with consent	
1. Enable a mix of business, retail and industrial uses in locations that are close to and that support the functioning of the Airport.	Advertisement	Office premises
2. Integrate suitable and compatible land uses in accessible locations so as to maximise public transport patronage and encourage active transport.	Advertising structure	Parking space
3. Encourage employment opportunities and promote businesses along main roads.	Aviation activity	Passenger transport facility
4. Enable a limited range of other land uses that will provide facilities and services to meet the day-to-day needs of the local workforce.	Aviation support facility	Public administration building
5. Appropriately consider and manage heritage items.	Bulky goods premises	Research station
6. Maximise, where possible, the use of existing access and egress points to the on-airport road network.	Business premises	Restaurant
	Car park	Retail premises
	Child care centre	Road
	Convenience store	Self-storage units
	Educational establishment	Service station
	Entertainment facility	Shop
	Food and drink premises	Signage
	Freight handling and transport facility	Storage premises
	Function centre	Takeaway food and drink premises
	Hotel or motel accommodation	Temporary structure
	Industrial retail outlet	Tourist or visitor accommodation
	Industry	Transfer corridor
	Kiosk	Transport depot
	Landscape and garden supplies	Utility undertaking
	Light industry	Vehicle sales and hire premises
	Marina	Warehouse and distribution centre
	Medical centre	Wholesale supplies
	Mixed use development	

Section Five Appendices

Appendix F
Permissible land uses

Table F-7 BD2 – Enviro-Business Park

Objectives	Permissible uses with consent
1. Provide for a limited range of sustainable development, particularly for business purposes, that will not compromise the ecological, cultural or scientific value of this land or adjacent land including the Mill and Engine Ponds and the Mill Stream. 2. Enable delivery of buildings that achieve design excellence with particular regard to the surrounding natural and built environment and the associated sensitivities. 3. Encourage appropriate employment opportunities in accessible locations. 4. Enable a limited range of other land uses that will provide facilities and services to meet the day-to-day needs of the local workforce. 5. Incorporate appropriate environmental management principles and controls into development proposals. 6. Appropriately consider and manage heritage items.	Advertisement Advertising structure Animal boarding or training establishment Business premises Child care centre Earthworks or engineering works Environmental facility Environmental protection works Food and drink premises Office premises Parking space Recreation area Road Service station Sewage reticulation system Signage Takeaway food and drink premises Utility undertaking Vehicle sales and hire premises

Table F-8 EC1 – Environmental Conservation

Objectives	Permissible uses with consent
1. Protect the ecological and scenic values of the waterways in this area. 2. Maintain the health and natural flows of the waterways. 3. Enable maintenance dredging of the Mill Stream and related activities to maintain water depths and to manage and control sediment accumulation. 4. Appropriately consider and manage heritage items.	Advertisement Advertising structure Environmental protection works Kiosk Parking space Recreation area Road Signage Utility undertaking Waterway and foreshore management activities

Appendix G
Runway modes of operation

To facilitate noise sharing and implementation of the Long Term Operating Plan for Sydney Airport, Airservices Australia has adopted a preferred runway selection system. The system utilises the runway modes of operation on specified days and times, considering weather and traffic. The following arrangements, set out in Tables G-1 and G-2, and Figure G-1 have been in-effect since 1 July 2010.

Table G-1 Preferred runway selection – Monday to Friday

Time	Preferred options	Runway operation
2300 to 0600	1	Curfew – Departures 16R / Arrivals 34L (Mode 1)
0600 to 0700	1	SODPROPS – Departures 16L / Arrivals 34L
	2	Departures 16L&R / Arrivals 34L (shoulder curfew). If traffic permits.
	3	Departures 25 / Arrivals 34L&R (Mode 7), or
		Departures 16L&R / Arrivals 25 (Mode 5), or
		Departures 16L&R / Arrivals 07 (Mode 14A)
	4	34 (Mode 9) or 16 (Mode 10)
	5	07 (Mode 12) or 25 (Mode 13)
0700 to 2245	1	SODPROPS – Departures 16L / Arrivals 34L
	2	Departures 16L&R / Arrivals 07 (Mode 14A), or
		Departures 25 / Arrivals 34L&R (Mode 7), or
		Departures 16L&R / Arrivals 25 (Mode 5)
	3	34 (Mode 9) or 16 (Mode 10)
	4	07 (Mode 12) or 25 (Mode 13)
2245 to 2300	1	SODPROPS – Departures 16L (mandatory) / Arrivals 34L
	2	Departures 16L&R (mandatory) / Arrivals 34L (shoulder curfew) unless there would be significant delays to either departing or arriving aircraft, or traffic complexity requires a variation or weather conditions preclude the use of 34L
	3	Departures 16L&R / Arrivals 25 (Mode 5), or
		Departures 16L&R / Arrivals 07 (Mode 14A)
	4	16 (Mode 10)

Notes:

1. Runway 34 and Runway 16 parallel runway operations should only be considered for use if required for traffic management purposes during the following hours:
   a. 0700 to 1100 Monday to Saturday
   b. 0800 to 1100 Sunday
   c. 1500 to 2000 Sunday to Friday.
2. In order to take advantage of suitable traffic dispositions, variations to these times will occur.
3. 20 knot crosswind and 5 knot downwind criteria apply to all dry runway conditions.
4. This is not an operational document. It has been prepared for information purposes only and is subject to change without notice.

Source: Airservices, Sydney Airport Operational Statistics, January 2018.

Section Five Appendices

Appendix G
Runway modes of operation

Table G-2 Preferred runway selection – Saturday and Sunday

Time	Preferred options	Runway operation
2300 to 0600	1	Curfew – Departures 16R / Arrivals 34L (Mode 1)
0600 to 0700 Saturday	1	SODPROPS – Departures 16L / Arrivals 34L
0600 to 0800 Sunday	2	Departures 16L&R / Arrivals 34L (Shoulder Curfew). If traffic permits.
	3	Departures 16L&R / Arrivals 25 (Mode 5), or
		Departures 16L&R / Arrivals 07 (Mode 14A), or
		Departures 25 / Arrivals 34L&R (Mode 7)
	4	34 (Mode 9) or 16 (Mode 10)
	5	07 (Mode 12) or 25 (Mode 13)
0700 to 2200 Saturday	1	SODPROPS – Departures 16L / Arrivals 34L or
0800 to 2200 Sunday	2	Departures 16L&R / Arrivals 07 (Mode 14A), or
		Departures 25 / Arrivals 34L&R (Mode 7), or
		Departures 16L&R / Arrivals 25 (Mode 5)
	3	34 (Mode 9) or 16 (Mode 10)
	4	07 (Mode 12) or 25 (Mode 13)
2200 to 2245	1	SODPROPS – Departures 16L (Mandatory) / Arrivals 34L
	2	Departures 16L&R (Mandatory) / Arrivals 34L (Shoulder Curfew) unless there would be significant delays to either departing or arriving aircraft or traffic complexity requires a variation or weather conditions are not suitable.
	3	Departures 16L&R / Arrivals 25 (Mode 5)
	4	Departures 16L&R / Arrivals 07 (Mode 14A)
	5	Departures 25 / Arrivals 34L&R (Mode 7)
	6	34 (Mode 9) or 16 (Mode 10)
	7	07 (Mode 12) or 25 (Mode 13)
2245 to 2300	1	SODPROPS – Departures 16L&R (Mandatory) / Arrivals 34L
	2	Departures 16L&R (Mandatory) / Arrivals 34L (Shoulder Curfew) unless there would be significant delays to either departing or arriving aircraft or traffic complexity requires a variation or weather conditions preclude the use of 34L.
	3	Departures 16L&R / Arrivals 25 (Mode 5), or
		Departures 16L&R / Arrivals 07 (Mode 14A)
	4	16 (Mode 10)

Notes:

1. Runway 34 and Runway 16 parallel runway operations should only be considered for use if required for traffic management purposes during the following hours:
   a. 0700 to 1100 Monday to Saturday
   b. 0800 to 1100 Sunday
   c. 1500 to 2000 Sunday to Friday.
2. In order to take advantage of suitable traffic dispositions, variations to these times will occur.
3. 20 knot crosswind and 5 knot downwind criteria apply to all dry runway conditions.
4. This is not an operational document. It has been prepared for information purposes only and is subject to change without notice.

Source: Airservices, Sydney Airport Operational Statistics, January 2018.

Figure G-1 Runway modes of operation

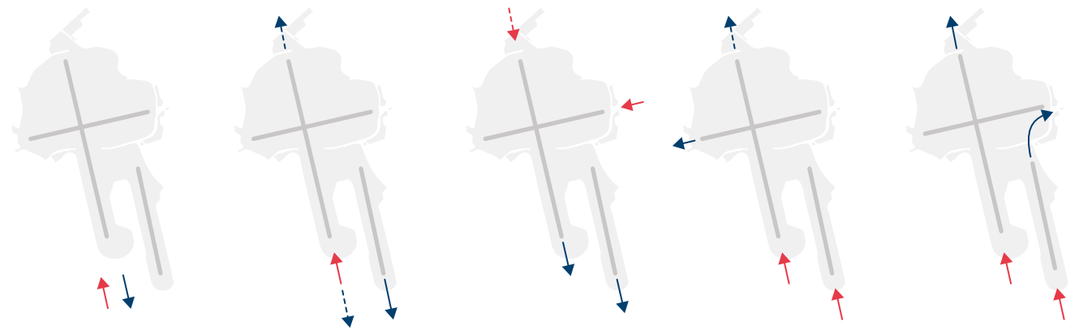
MODE 1 – CURFEW
D 16R
A 34L
- Departures to south
- Arrivals from south

SODPROPS
D 16L, 16R(h)
A 34L
- Departures to south
- Arrivals from south

MODE 5
D 16L, 16R
A 25, 16R(h)
- Departures to south
- Arrivals from east

MODE 7
D 25, 34L(h)
A 34L, 34R
- Departures to west
- Arrivals from south

MODE 9
D 34L, 34R
A 34L, 34R
- Departures to north and east
- Arrivals from south

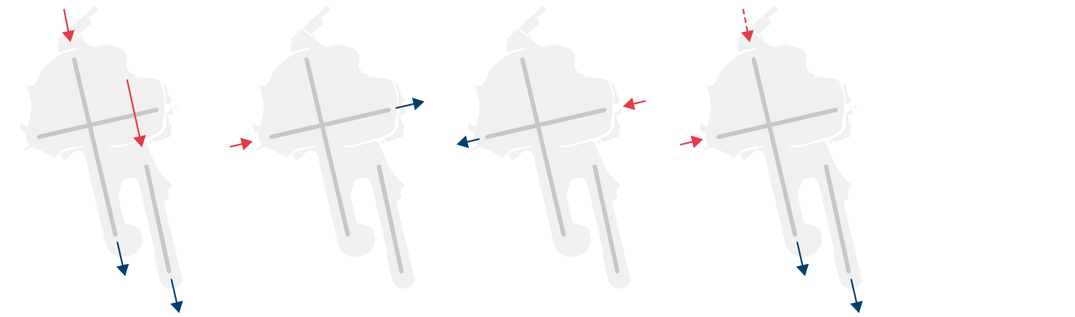


MODE 10
D 16L, 16R
A 16L, 16R
- Departures to south
- Arrivals from north

MODE 12
D 07
A 07
- Departures to east
- Arrivals from west

MODE 13
D 25
A 25
- Departures to west
- Arrivals from east

MODE 14A
D 16L, 16R
A 07, 16R(h)
- Departures to south
- Arrivals from west



Source: Airservices, Sydney Airport Operational Statistics January 2018 Departure --▶ Long Haul (h) Departure --▶ Arrival ——▶ Long Haul (h) Arrival --▶

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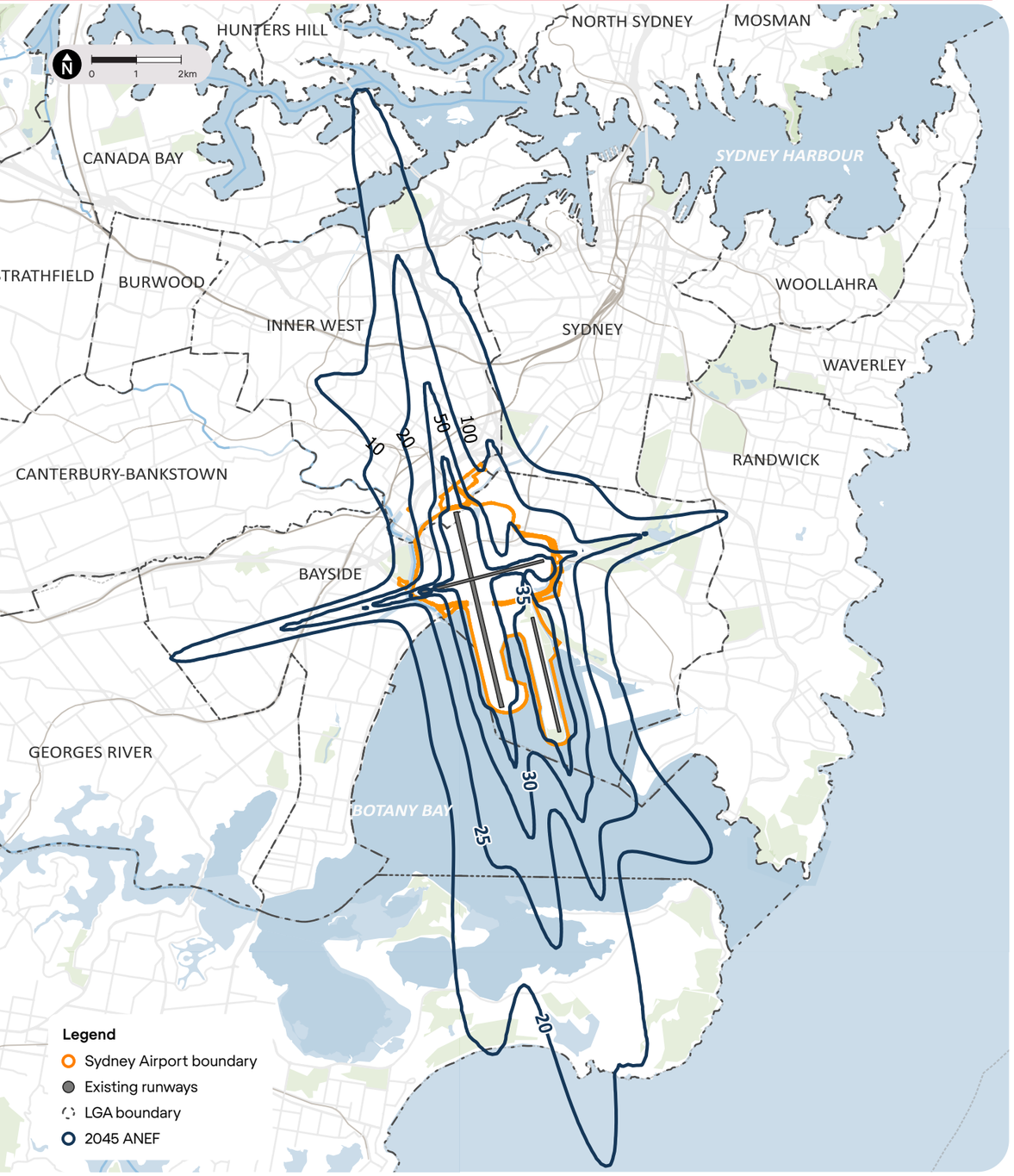
Appendix H
Draft ANEF 2045

Map H-1 Draft ANEF 2045



Aircraft movements counts for 16R

	Arrivals		Departures		Total		
	Day	Night	Day	Night	Day	Night	Total
Aircraft	Runway 16R						
7879	24.481	13.6942	28.9043	14.4313	53.3853	28.1255	81.5108
A350-941	12.3946	10.749	13.2957	11.7074	25.6904	22.4564	48.1467
A330-343	6.0511	1.5575	7.7048	1.346	13.7559	2.9035	16.6594
7773ER	5.2482	2.743	4.0063	4.9966	9.2545	7.7396	16.9941
7878R	1.463	2.3711	3.4475	1.8032	4.9105	4.1742	9.0847
747400	1.0618		0.5006	0.4857	1.5624	0.4857	2.0481
7673ER	0.4386		0.5139	0.6777	0.9525	0.6777	1.6302
A330-301	0.5176			0.4857	0.5176	0.4857	1.0033
A321-232	21.7922	0.7192	13.1209	5.8201	34.9131	6.5394	41.4525
7378MAX	17.2955	2.5633	9.5069	2.7051	26.8023	5.2684	32.0708
737800	3.1028	0.0213			3.1028	0.0213	3.1241
A320-271N	0.5067		1.088	0.6619	1.5948	0.6619	2.2567
737700				0.4857		0.4857	0.4857
DHC830-C	14.101	0.4699	11.5224	0.4857	25.6234	0.9556	26.5791
SF340-C	15.0313	0.5079	12.7863	3.3241	27.8176	3.8319	31.6495
DHC6	2.1519	0.4857	2.6102	0.4857	4.7621	0.9714	5.7335
Total	**125.6373**	**35.8822**	**109.0079**	**49.9019**	**234.6452**	**85.784**	**320.4292**

Aircraft movements counts for 34L

	Arrivals		Departures		Total		
	Day	Night	Day	Night	Day	Night	Total
Aircraft	Runway 34L						
7879	24.9671	14.1789	27.4006	8.0428	52.3677	22.2217	74.5894
A350-941	12.3004	9.798	13.4116	6.1888	25.712	15.9868	41.6988
A330-343	5.8222	1.4324	7.0891	0.6417	12.9113	2.0741	14.9854
7773ER	4.5658	3.2307	3.8611	2.9483	8.4268	6.179	14.6058
7878R	1.5053	3.5967	3.4555	1.1855	4.9609	4.7822	9.7431
747400	0.8914		0.4864	0.5049	1.3778	0.5049	1.8827
7673ER	0.5605		0.4762	0.3174	1.0367	0.3174	1.3541
A330-301	0.457			0.5049	0.457	0.5049	0.9619
A321-232	21.5642	7.4324	12.5064	5.133	34.0707	12.5654	46.636
7378MAX	17.2484	6.4396	9.2694	2.2682	26.5178	8.7078	35.2256
737800	2.7851	0.3174			2.7851	0.3174	3.1025
A320-271N	0.4709		0.8751	0.331	1.346	0.331	1.6769
737700				0.5049		0.5049	0.5049
DHC830-C	13.472	0.8817	11.1819	0.5049	24.6539	1.3866	26.0404
SF340-C	14.5684	0.8359	11.8185	3.6259	26.3869	4.4618	30.8487
DHC6	1.7698	0.5049	2.3104	0.5049	4.0802	1.0098	5.09
Total	**122.9485**	**48.6486**	**104.1421**	**33.2071**	**227.0906**	**81.8557**	**308.9463**

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Aircraft movements counts for 16L

	Arrivals		Departures		Total		
	Day	Night	Day	Night	Day	Night	Total
Aircraft	Runway 16L						
7879	4.3618	1.3813	3.5286	1.9011	7.8903	3.2824	11.1728
A350-941	0.5139	0.021	0.5463	0.4478	1.0602	0.4688	1.529
A330-343	1.4142	0.4857	1.052		2.4662	0.4857	2.9519
7878R		0.4478				0.4478	0.4478
7673ER		0.0222				0.0222	0.0222
A321-232	41.832	6.9344	52.3769	12.4176	94.2089	19.352	113.5609
7378MAX	21.3189	4.7964	32.1089	9.1183	53.4278	13.9148	67.3426
737800	4.9881	0.4691	8.0207	1.6333	13.0088	2.1024	15.1112
A320-271N	2.1642		1.0771		3.2414		3.2414
737700	1.5887		1.0727		2.6613		2.6613
A320-232	1.0469		0.5418	0.6619	1.5887	0.6619	2.2506
BD-700-1A10	1.0618		0.5309	0.6619	1.5926	0.6619	2.2546
DHC830-C	15.0463	0.5743	17.9752	2.5447	33.0214	3.119	36.1404
SF340-C	10.752	0.9714	10.0751	1.5954	20.8271	2.5668	23.3939
DHC6	1.053		0.5067		1.5597		1.5597
CNA441	1.0618	0.0222	1.0618	0.6619	2.1235	0.6841	2.8076
Total	**108.2034**	**16.1258**	**130.4745**	**31.6441**	**238.678**	**47.7698**	**286.4478**

Aircraft movements counts for 34R

	Arrivals		Departures		Total		
	Day	Night	Day	Night	Day	Night	Total
Aircraft	Runway 34R						
7879	4.5398	1.6063	3.3849	1.4621	7.9247	3.0684	10.9932
A350-941	0.4762	0.3108	0.4377	0.5507	0.9139	0.8615	1.7754
A330-343	1.5699	0.5049	0.9247		2.4946	0.5049	2.9995
7878R		0.5507				0.5507	0.5507
7673ER		0.331				0.331	0.331
A321-232	39.9991	12.1204	52.2438	12.468	92.2429	24.5884	116.8312
7378MAX	20.0976	7.1963	32.0817	7.7874	52.1792	14.9837	67.1629
737800	4.8936	0.8681	7.7647	1.3408	12.6583	2.2089	14.8672
A320-271N	1.7721		0.8834		2.6556		2.6556
737700	1.3615		0.8831		2.2446		2.2446
A320-232	0.9241		0.4374	0.331	1.3615	0.331	1.6925
BD-700-1A10	0.8914		0.4457	0.331	1.3371	0.331	1.6681
DHC830-C	14.5368	1.8288	17.5259	2.4286	32.0628	4.2574	36.3201
SF340-C	9.9736	1.0098	9.6371	1.3866	19.6108	2.3964	22.0071
DHC6	0.9086		0.4709		1.3794		1.3794
CNA441	0.8914	0.331	0.8914	0.331	1.7828	0.6619	2.4447
Total	**102.8357**	**26.6579**	**128.0124**	**28.417**	**230.8481**	**55.075**	**285.9231**

Aircraft movements counts for 07

	Arrivals		Departures		Total		
	Day	Night	Day	Night	Day	Night	Total
Aircraft	Runway 07						
7879	0.08	0.0215	0.0632	0.0209	0.1431	0.0423	0.1855
A350-941	0.0329	0.0176	0.0297	0.0121	0.0625	0.0297	0.0922
A330-343	0.0093	0.0028	0.0167	0.0014	0.0259	0.0041	0.03
7773ER	0.0199	0.0038	0.0151	0.0072	0.035	0.011	0.046
7878R	0.0017	0.0059	0.0131	0.0013	0.0148	0.0072	0.022
747400	0.0047		0.0025	0.0018	0.0072	0.0018	0.009
7673ER	0.0002	0.4415	0.0004	0.0005	0.0006	0.442	0.4426
A330-301	0.0045			0.0018	0.0045	0.0018	0.0064
A321-232	0.2378	9.1882	0.2395	0.0245	0.4773	9.2127	9.6899
7378MAX	0.1253	5.3265	0.1236	0.0169	0.2488	5.3434	5.5922
737800	0.0321	0.877	0.0258	0.0042	0.0578	0.8812	0.9391
A320-271N	0.0087		0.0064	0.0005	0.0151	0.0005	0.0156
737700	0.005		0.0034	0.0018	0.0084	0.0018	0.0103
A320-232	0.0039		0.0011	0.0005	0.005	0.0005	0.0056
BD-700-1A10	0.0047		0.0023	0.0005	0.007	0.0005	0.0076
DHC830-C	0.1046	2.2094	0.0962	0.0064	0.2008	2.2158	2.4166
SF340-C	0.0828	0.447	0.0858	0.0121	0.1686	0.4591	0.6278
DHC6	0.0149	0.0018	0.0098	0.0018	0.0247	0.0037	0.0284
CNA441	0.0047	0.4415	0.0047	0.0005	0.0094	0.442	0.4514
Total	**0.7776**	**18.9843**	**0.739**	**0.1171**	**1.5166**	**19.1013**	**20.6179**

Aircraft movements counts for 25

	Arrivals		Departures		Total		
	Day	Night	Day	Night	Day	Night	Total
Aircraft	Runway 25						
7879	0.5703	0.1178	0.7184	0.1419	1.2888	0.2597	1.5485
A350-941	0.282	0.1035	0.279	0.0933	0.5611	0.1968	0.7579
A330-343	0.1333	0.0168	0.2128	0.0109	0.3461	0.0277	0.3738
7773ER	0.1661	0.0224	0.1176	0.0479	0.2837	0.0704	0.354
7878R	0.03	0.0278	0.0838	0.0101	0.1138	0.0379	0.1517
747400	0.0422		0.0105	0.0076	0.0527	0.0076	0.0602
7673ER	0.0008	0.2054	0.0095	0.0044	0.0102	0.2098	0.22
A330-301	0.0209			0.0076	0.0209	0.0076	0.0284
A321-232	1.5747	4.6054	1.5124	0.1368	3.0872	4.7422	7.8293
7378MAX	0.9143	2.6779	0.9096	0.104	1.8239	2.7819	4.6059
737800	0.1983	0.4471	0.1889	0.0217	0.3871	0.4688	0.8559
A320-271N	0.0774		0.0699	0.0066	0.1473	0.0066	0.1539
737700	0.0448		0.0409	0.0076	0.0857	0.0076	0.0932
A320-232	0.0251		0.0198	0.0066	0.0448	0.0066	0.0514
BD-700-1A10	0.0422		0.0211	0.0066	0.0632	0.0066	0.0698
DHC830-C	0.7393	1.036	0.6984	0.0297	1.4377	1.0656	2.5033
SF340-C	0.5918	0.2281	0.5972	0.0559	1.189	0.2839	1.473
DHC6	0.1018	0.0076	0.0921	0.0076	0.1939	0.0151	0.209
CNA441	0.0422	0.2054	0.0422	0.0066	0.0843	0.212	0.2963
Total	**5.5974**	**9.7012**	**5.6241**	**0.7129**	**11.2215**	**10.4141**	**21.6356**

Section Five Appendices

Appendix H
Draft ANEF 2045

Aircraft movements counts for HELI

	Arrivals		Departures		Total		
	Day	Night	Day	Night	Day	Night	Total
Aircraft	HELI						
EC130	16.88	0.12	16.88	0.12	33.76	0.24	34
Total	**16.88**	**0.12**	**16.88**	**0.12**	**33.76**	**0.24**	**34**

Appendix I
Operational laws and regulations

Operational laws and regulations

Sydney Airport is subject to various airport specific and general laws and regulations. Set out below is an explanation of some of the key operational laws and regulations that apply at Sydney Airport.

I1 Overnight curfew on aircraft movements

The *Sydney Airport Curfew Act 1995* and associated instruments (curfew laws) restrict take-offs and landings during the curfew period from 11pm to 6am to:

- Small propeller and jet aircraft that comply with specified noise standards.
- Limited numbers of medium size freight jets meeting specified noise standards.

During the curfew period, all aircraft must operate over Botany Bay rather than residential areas. Arrivals are required to operate to the north on Runway 34L. Departures are required operate to the south on Runway 16R.

Under the *Sydney Airport Curfew Regulations 2023*, international passenger aircraft are permitted to arrive in the curfew shoulder period between 5am and 6am. However, no more than 24 international passenger aircraft arrivals are permitted per week (and no more than 5 per day). The curfew restrictions do not apply in the case of emergency. In exceptional circumstances, the Minister for Infrastructure, Transport, Regional Development and Local Government may grant dispensations for other aircraft to operate during the curfew period.

Sections 12 and 17 of the Curfew Act will prevent all flights (except those operating in an emergency or exceptional circumstances) from flying to or from Sydney Airport between 11pm and 6am after WSI is specified by the Minister as being able to be used for night aircraft movements.

I2 Aircraft movement limit and slot management scheme

The *Sydney Airport Demand Management Act 1997* and associated instruments (slot laws) establish:

- A maximum aircraft movement limit, or movement cap, of no more than 80 aircraft movements at Sydney Airport per operational hour.
- A framework for the allocation and management of slots within the movement cap.

All commercial and private aircraft require a slot to land or take-off from Sydney Airport. Military, emergency and helicopter movements are exempt. ACL Asia Pacific Coordination Pty Ltd (ACL) allocates slots and manages slot coordination at Sydney Airport.

ACL allocates slots to airlines on a seasonal basis in accordance with the following:

- ACL will first allocate slots to airline operators with historic precedence.
- ACL will then allocate slots to new entrant airlines.
- Remaining slots will then be allocated having regard to aims set out in the slot laws.

However, the slot laws contain a mechanism that preserves a certain number of slots for airlines operating regional NSW services in an effort to guarantee access to Sydney Airport for regional communities. Before allocating slots, ACL must consider any advice provided by Sydney Airport or Airservices Australia as to the likely effect of allocation on the operational efficiency or capacity of Sydney Airport.

The Act has been amended to allow up to 85 aircraft movements per hour in limited circumstances following significant flight disruptions caused by adverse weather or the like.

Section Five Appendices

Appendix I
Operational laws and regulations

I3 Noise sharing and the long term operating plan

The Sydney Airport Long Term Operating Plan (LTOP) was introduced following extensive consultation in 1996 and 1997 as a program of aircraft noise management. The LTOP seeks to ensure that aircraft movements are maximised over water and non-residential land. Where flights over residential areas cannot be avoided, the LTOP aims to safely share the noise between communities.

Ten runway modes of operation (RMO) are currently available for use at Sydney Airport to facilitate noise sharing consistent with LTOP. Appendix H sets out the RMO in use at Sydney Airport.

The implementation of noise sharing arrangements is monitored by the Sydney Airport Community Forum (SACF) and an LTOP Implementation Monitoring Committee (IMC). SACF is the main body for community consultation on Sydney Airport flight paths and their impacts. SACF includes representatives from all levels of government, industry, and community, including Sydney Airport.

I4 Aviation security

The *Aviation Transport Security Act 2004 and Aviation Transport Security Regulations 2005* (aviation security laws) require security controlled airports, including Sydney Airport to:

- Prepare and implement a Transport Security Program
- Conduct security screening of all passengers, staff and visitors, including random explosive trace detection and body scanning
- Conduct security screening of all carry-on baggage
- Screen all checked bags
- Control airside access and secure areas
- Implement enhanced inspection area controls

I5 Aviation safety

The *Civil Aviation Safety Regulations 1998* and associated instruments (aviation safety regulations) set out Sydney Airport's safety standard obligations and the requirement for Sydney Airport to comply with the Manual of Standards (MOS). The MOS comprises the specifications and standards that are necessary for the safety of air navigation at aerodromes. These include standards in relation to:

- Airport emergency planning
- Aerodrome lighting
- Operational requirements
- Inspections, audits and certification
- Wildlife management
- Safety management systems

MOS Part 139 sets out the standards and operating procedures for certified, registered aerodromes and other aerodromes used in air transport operations.

Consistent with its *Community and Stakeholder Engagement Strategy*, Sydney Airport will engage closely with the local community and other key stakeholders during the 60-business day public exhibition period for the preliminary draft version of Master Plan 2045 (pdMP2045).

The following activities will be carried out:

Timing	Actions
18 September 2025 (Day zero)	– In accordance with s.79(1) of the *Airports Act 1996* (the Act), a public notice was published in a newspaper circulating generally in NSW that pdMP2045 has been released for 60-business days public comment. – In accordance with s.79(1A) of the Act, Sydney Airport advised the following stakeholders of its intention to give the Minister a draft version of Master Plan 2045: • NSW Minister for Planning and Public Spaces • NSW Department of Planning, Housing and Infrastructure • Bayside, Inner West and City of Sydney Councils – Master Plan 2045 website goes live, where copies of the pdMP 2045, Fact Sheets and Frequently Asked Questions can be downloaded. Website to also include dates, times and locations of upcoming Community Information Sessions. – pdMP2045 community email and phone line activated.
19 September 2025 (Day 1)	– 60-buisness day public exhibition period for pdMP2045 formally commences. – Copy of pdMP2045 displayed at Sydney Airport's reception.
Days 1-5	– Letters sent to all key stakeholders advising them that the pdMP2045 has been released for public comment and a face-to-face briefing offered. – Digital engagement commences via Sydney Airport's social media platforms. – Public displays of pdMP2045 in key public locations such as public libraries in key local government areas.
Days 5-15	– Master Plan 2045 Community Newsletter delivered to more than 400,000 households in the vicinity of Sydney Airport. – Public advertisements placed in key local media, advising that the pdMP2045 has been released for public comment. This will include key community language newspapers such as Italian, Spanish, Greek, Vietnamese, Arabic, Chinese and Korean languages.
Days 15-40	– Community information sessions to be held in key locations in the Inner West, Bayside, Sutherland Shire, Randwick City, Canada Bay, City of Sydney, Waverley, Canterbury Bankstown, Burwood and Lane Cove local government areas.
12 December 2025 (Day 60)	Public exhibition period for pdMP2045 ends.

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