



Australian Government



**Sydney Metro –  
Western Sydney Airport**

# Chapter 1

## Introduction

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# 1 Introduction

**This chapter provides a brief overview of Sydney Metro – Western Sydney Airport (the project), including its key features, objectives and planning approvals pathway and identifies the structure of this Environmental Impact Statement.**

## 1.1 Project overview

The population of Greater Sydney is projected to grow to eight million people over the next 40 years, with the population of the Western Parkland City to grow to over 1.5 million people, accompanied by significant employment growth. The *Greater Sydney Region Plan* (Greater Sydney Commission, 2018a) sets the vision and strategy for Greater Sydney to become a global metropolis of three unique and connected cities; the Eastern Harbour City, the Central River City and the Western Parkland City.

The Western Parkland City includes eight local governments (Blue Mountains, Camden, Campbelltown, Fairfield, Hawkesbury, Liverpool, Penrith and Wollondilly). It incorporates the future Western Sydney International (Nancy-Bird Walton) Airport (hereafter referred to as Western Sydney International) and the Western Sydney Aerotropolis (hereafter referred to as the Aerotropolis). By integrating land use, transport and infrastructure across the three cities, most people in Sydney will have the opportunity of 30-minute access to jobs, schools, businesses and services. A well-connected city with efficient transport options and interchanges is critical to achieving this outcome.

Sydney Metro – Western Sydney Airport (the project) is identified in the *Greater Sydney Region Plan* as a key element to delivering an integrated transport system for the Western Parkland City. The new railway line would become the city's transport spine, connecting communities and travellers with the rest of Sydney's public transport system with a fast, safe and easy metro service. The project would enable the realisation of the vision for Western Sydney and the Aerotropolis, by connecting people to employment, education, shops, services and recreation facilities. The project would also provide important access to Western Sydney International for airport workers and aviation travellers.

The project would be located within the Penrith and Liverpool local government areas and would provide a new metro railway between St Marys in the north and the Aerotropolis Core precinct in the south, via Western Sydney International (see Figure 1-1). The project would provide a connection between the existing Sydney Trains suburban rail network at St Marys and six new metro stations, including two at Western Sydney International and one at the Aerotropolis. The stations would play a key role in the development of future precincts in the Western Parkland City. Relevant planning documents and information on the strategic need for the project are discussed in more detail in Chapter 2 (Strategic need and justification).

The project would form part of the Sydney Metro network which comprises Metro North West Line (operating since May 2019), Sydney Metro City & Southwest (under construction) and Sydney Metro West (planning in progress, with construction due to commence in 2020). The existing and planned Sydney Metro network is discussed further in Section 1.4. Potential future extensions to Schofields/Tallawong in Rouse Hill in the north and to Macarthur in the south are under consideration but do not form part of the project.

The project is being delivered under the Western Sydney City Deal, a partnership between the Australian Government, NSW Government and eight Western Sydney local governments that aims to deliver the vision for the Western Parkland City. The Australian and NSW Governments are partners in funding the project and have a shared objective to connect rail to Western Sydney International when the airport opens for passenger services.

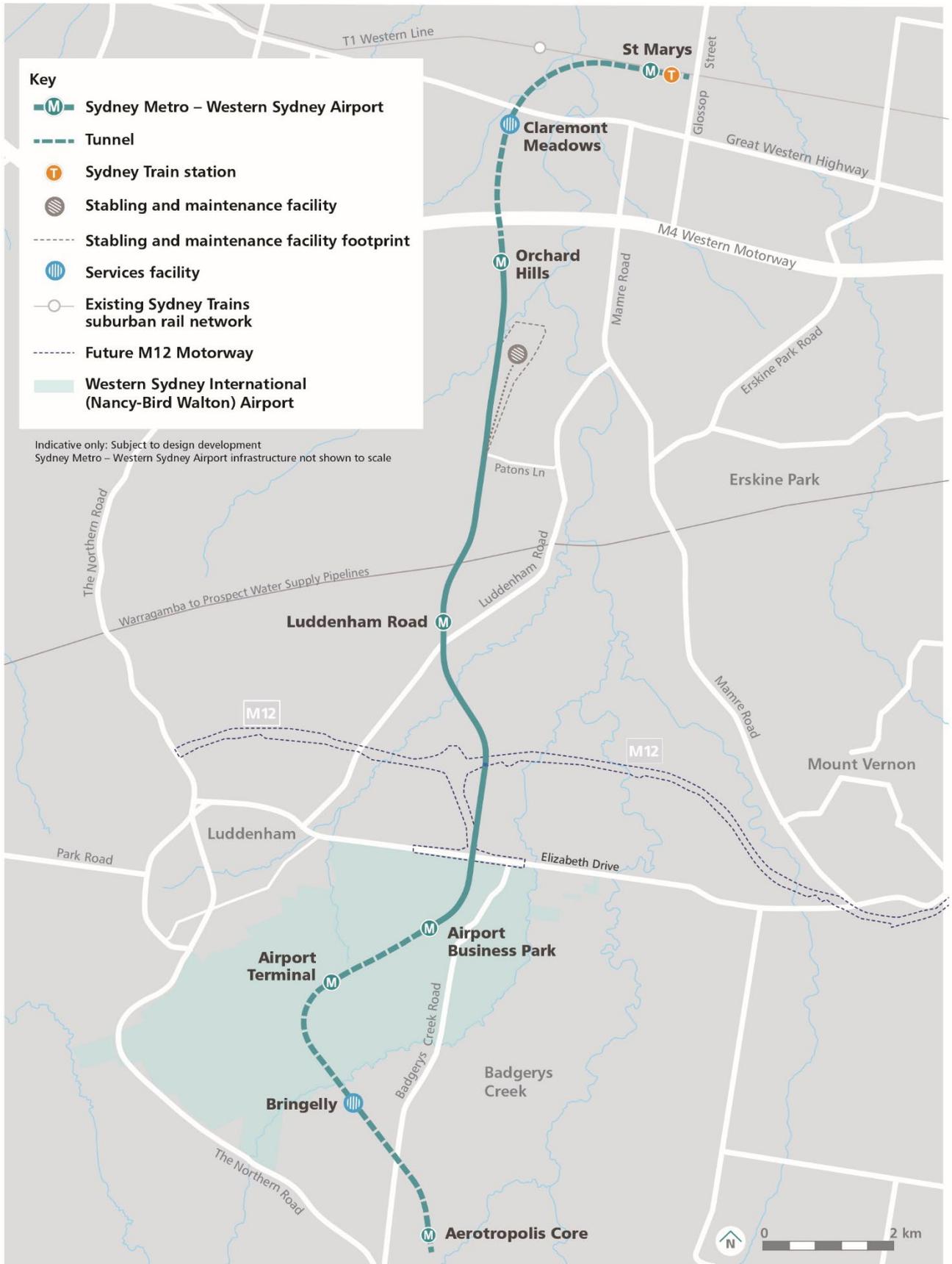


Figure 1-1 Overview of the project

## 1.2 Key features of the project

The project involves the construction and operation of a metro railway line around 23 kilometres in length between St Marys in the north and the Aerotropolis Core precinct in the south. Station locations for the project would comprise:

- a new metro station connecting to, and providing interchange with, the existing Sydney Trains suburban rail network at St Marys, north of Western Sydney International
- two new metro stations between the existing Sydney Trains suburban rail network at St Marys and Western Sydney International; one at Orchard Hills and one at Luddenham within the Northern Gateway precinct
- two new metro stations within the Western Sydney International site; one at the Airport Terminal and one at the Airport Business Park
- a new metro station within the Aerotropolis Core precinct, south of Western Sydney International.

The alignment of the new metro railway line would:

- include a combination of tunnel, surface and viaduct sections
- interface with key roads including the Great Western Highway, M4 Western Motorway, Luddenham Road, the future M12 Motorway, Elizabeth Drive and Badgerys Creek Road, as well as key utilities such as the Warragamba to Prospect Water Supply Pipelines (the pipelines)
- include waterway crossings of Blaxland Creek and Cosgroves Creek.

The project includes works required to support its construction and operation, including all operational systems and infrastructure.

A stabling and maintenance facility and operational control centre would be required to support operation of the project. The facility is proposed to be located in Orchard Hills, to the south of Blaxland Creek and east of the proposed metro line. Services facilities are proposed at Claremont Meadows and Bringelly for the St Marys to Orchard Hills tunnel and Western Sydney International to Bringelly tunnel, respectively. The need for the Claremont Meadows services facility is subject to further investigation.

The project is described in more detail in Chapter 7 (Project description – operation) and Chapter 8 (Project description – construction).

### 1.2.1 Key features of the project on-airport

The project comprises components that are located within Western Sydney International (on-airport).

Western Sydney International is currently under construction, with operations scheduled to start in 2026. The new airport will support growth of the international and domestic passenger and freight markets, and the district's economy, by attracting visitors to the Western Parkland City.

The development of Stage 1 of the airport has been authorised by an Airport Plan (Department of Infrastructure and Regional Development, 2016a) determined by the then Commonwealth Minister for Urban Infrastructure on 5 December 2016, under the *Airports Act 1996* (Cth). The Airport Plan sets out the vision for the development and operation of Western Sydney International (see Figure 1-3 for the airport site layout as set out in the Construction Plan). The construction of Stage 1 of the airport is scheduled to be completed in 2026 and will comprise a single runway, a terminal and other relevant facilities to accommodate around 10 million passengers annually as well as air freight traffic. A passenger rail corridor has been identified and protected on the airport site, as well as stations at the Airport Business Park and at the Airport Terminal, although these components are not authorised under the Airport Plan.

The Airport Plan contains conditions that govern the construction phase of Stage 1 of the airport including the requirement for a Construction Plan which describes construction activities and phases of construction, a series of Construction Environment Management Plans (CEMPs) and a Community and Stakeholder Engagement Plan. These plans incorporate relevant mitigation requirements and other matters from the Environmental Impact Statement (Department of Infrastructure and Regional

Development, 2016b) that was prepared for the airport prior to determination of the Airport Plan. The Airport Plan provides for CEMPs to be prepared on a phase by phase basis and to be updated for each new phase of work. These plans have been prepared and approved for the current phases of work and will be updated for new phases as they occur.

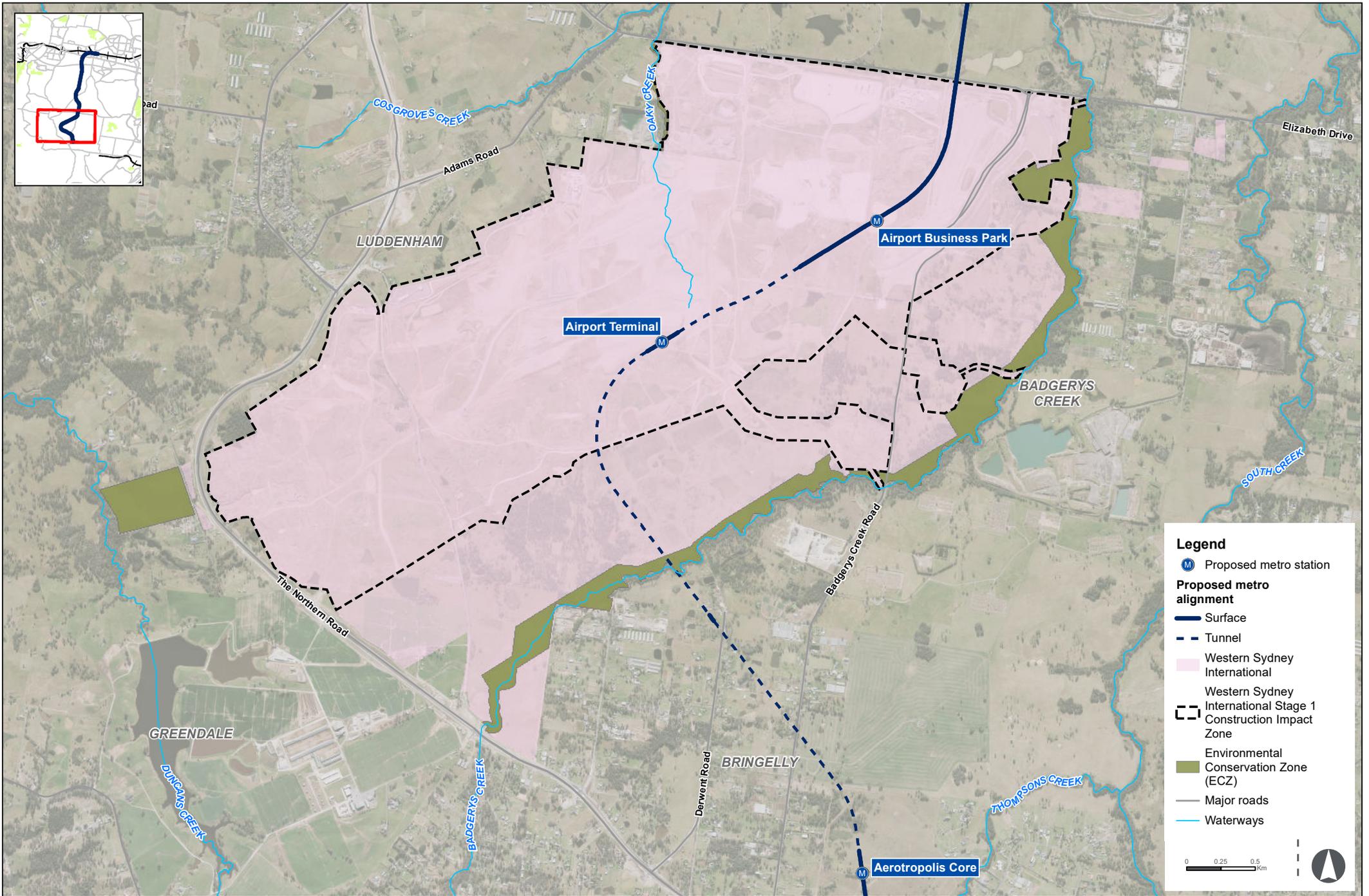
As demand grows over time and subject to future regulatory approvals, Western Sydney International is expected to include an expanded terminal, further supporting passenger and commercial facilities and ultimately a second runway. The project would not preclude the subsequent development of Western Sydney International, including a second runway and other expanded airport facilities.

Rail access to Western Sydney International would support the success of the airport and the Western Parkland City, as it would support passengers' and workers' journeys, reduce road congestion and support the economic viability of the airport.

The project is intended to enter the airport site as a surface rail alignment from the north (see Figure 1-2). The line would then progress through the Airport Business Park Station, before transitioning into a tunnel, through the Airport Terminal Station and exiting the airport site beneath Badgerys Creek to the south.

The Airport Business Park Station would support an agglomeration of different industries associated with airport operations. The station precinct would offer opportunities to integrate office, retail, industrial, hotel and conference facilities within around 1.5 kilometres of the Airport Terminal. The Airport Terminal Station would provide metro rail access to international and domestic passengers as well as staff and visitors.

As shown in Figure 1-2, the project would be located both within and outside the Western Sydney International Stage 1 Construction Impact Zone. There is also an Environmental Conservation Zone (ECZ) located along the south east boundary of the airport site (which generally corresponds to the riparian corridor for Badgerys Creek). No works are proposed within the ECZ and the project would be located in tunnel beneath Badgerys Creek.



**Legend**

- M Proposed metro station
- Proposed metro alignment**
- Surface
- Tunnel
- Western Sydney International
- Western Sydney International Stage 1 Construction Impact Zone
- Environmental Conservation Zone (ECZ)
- Major roads
- Waterways

0 0.25 0.5 km

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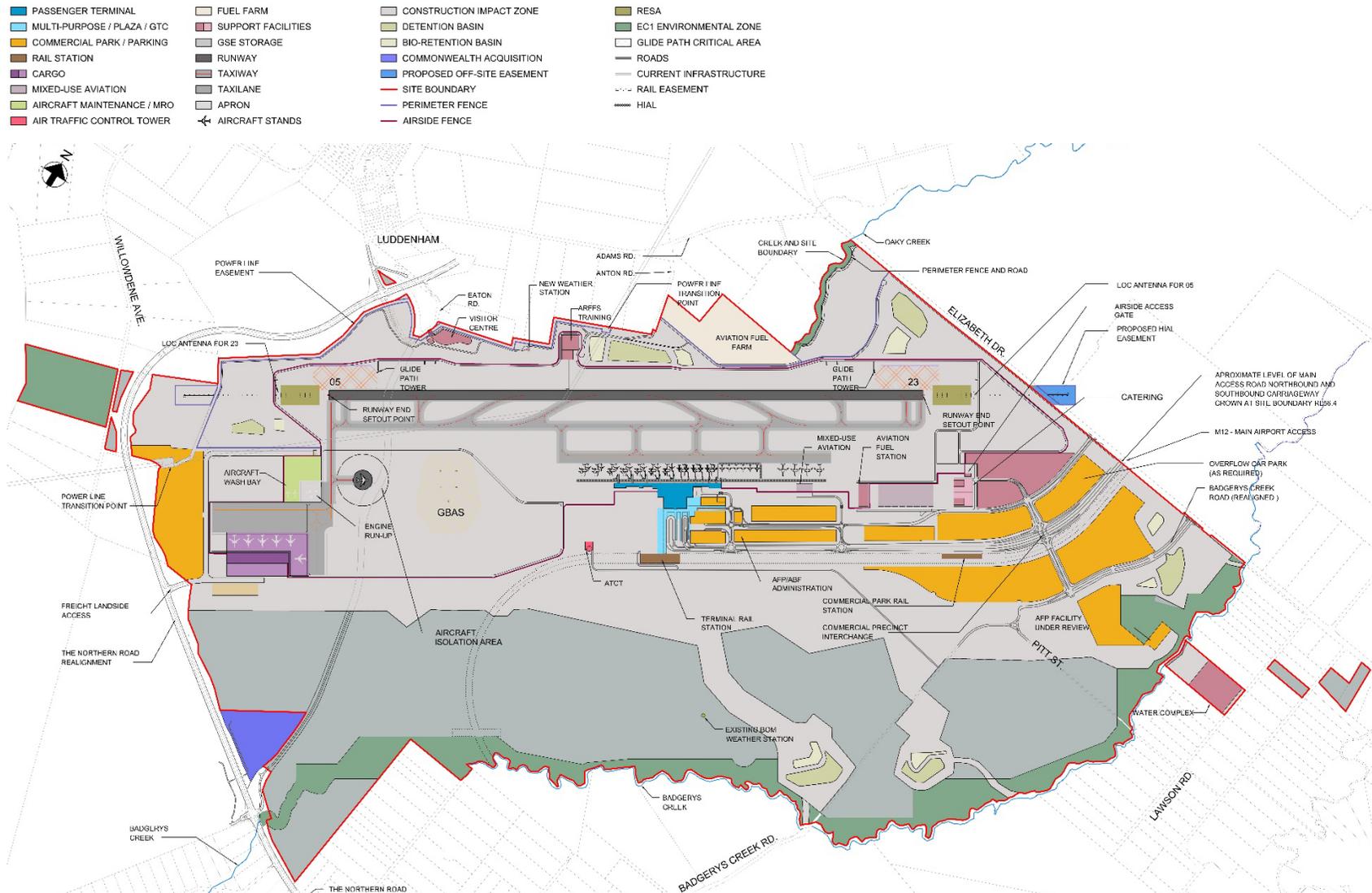


Figure 1-3 Western Sydney International Stage 1 airport layout (Western Sydney Airport, July 2019)

### 1.3 Project objectives

A robust set of objectives has been developed to represent the outcomes to be achieved by the project (see Figure 1-4). The objectives have underpinned the options evaluation process (refer to Chapter 6 (Project development and alternatives)) and guided decision-making during design development. The objectives will also be used to guide decision-making during future design development for the project.

	<b>1</b> Safe and customer focused transport service	Deliver easy, safe and accessible transport services that meet the needs of our customers
	<b>2</b> Successful airport and Western Parkland City	Support the long-term success of Western Sydney International and the Western Parkland City by optimising land use and development, transport and green infrastructure
	<b>3</b> Attracting knowledge and internationally competitive jobs	Support Western Sydney's International competitiveness and productivity by supporting employment precincts and attracting knowledge-intensive jobs
	<b>4</b> Realising the 30-minute city	Connect Western Sydney communities with an integrated transport network to maximise the 30-minute city catchment of the Western Parkland City and adjoining cities and regions
	<b>5</b> Great places with an increased housing supply	Facilitate the development of the Western Parkland City to create liveable, vibrant and environmentally sustainable precincts and places with a diverse mix of new dwellings
	<b>6</b> Delivering a value for money solution	Ensure a value for money, sustainable and deliverable solution to support long-term growth of the Western Parkland City

Figure 1-4 Project objectives

### 1.4 Sydney Metro

The proponent for the project is Sydney Metro, a NSW Government agency which has the responsibility for developing and delivering metro railways and managing their operation.

Sydney Metro is Australia's biggest public transport project and the largest urban railway infrastructure investment in the nation's history. Metro projects and the turn-up-and-go customer offering are at the heart of the NSW Government's *Future Transport 2056* strategy (Transport for NSW, 2018a) vision for growing the public transport network and creating vibrant, integrated and sustainable places.

The Metro North West Line started operations in May 2019, with services to 13 stations from Tallawong in Rouse Hill to Chatswood. Sydney Metro City & Southwest will extend metro rail into Sydney's central business district (CBD) and beyond in 2024, from Chatswood, under Sydney Harbour, through new underground stations in the CBD and beyond to Sydenham and Bankstown.

Planning is also underway for Sydney Metro West, to provide an underground metro railway linking Greater Parramatta to the Sydney CBD and communities along the way. Construction is due to commence in 2020.

The project would form part of this growing Sydney Metro network, illustrated in Figure 1-5.

When customers arrive at Sydney Metro stations, there is safe and efficient interchange whether they are walking, cycling, catching the bus, taxi or being dropped off. Clear signage and intuitive station design directs customers to platforms, other modes of transport and destinations around the stations.

Key features of Sydney Metro include:

- no timetable – customers can just turn up and go
- Opal ticketing – fares are the same as the rest of Sydney
- customer service assistants at every station and moving through the network during the day and night

- Australian-first platform screen doors improving customer safety and allowing trains to get in and out of stations much faster. These doors run the full length of all metro platforms and open at the same time as the train doors
- continuous mobile phone coverage throughout the metro network
- operational performance requirements that include 98 per cent on-time running and clean platforms and trains
- multi-purpose areas for prams, luggage and bicycles
- wheelchair spaces, separate priority seating and emergency intercoms inside trains
- safety benefits including security cameras on trains and the ability for customers to see inside the train from one end to the other
- video help points at platforms, connecting directly with train controllers – an Australian first
- level access between the platform and train for faster loading and unloading
- heating and air-conditioning in all metro trains
- on-board real time travel information and live electronic route maps.

As Australia’s first fully-automated railway, customer safety is a priority of Sydney Metro. At all times, a team of expert train controllers monitors the system, making sure everything runs smoothly.

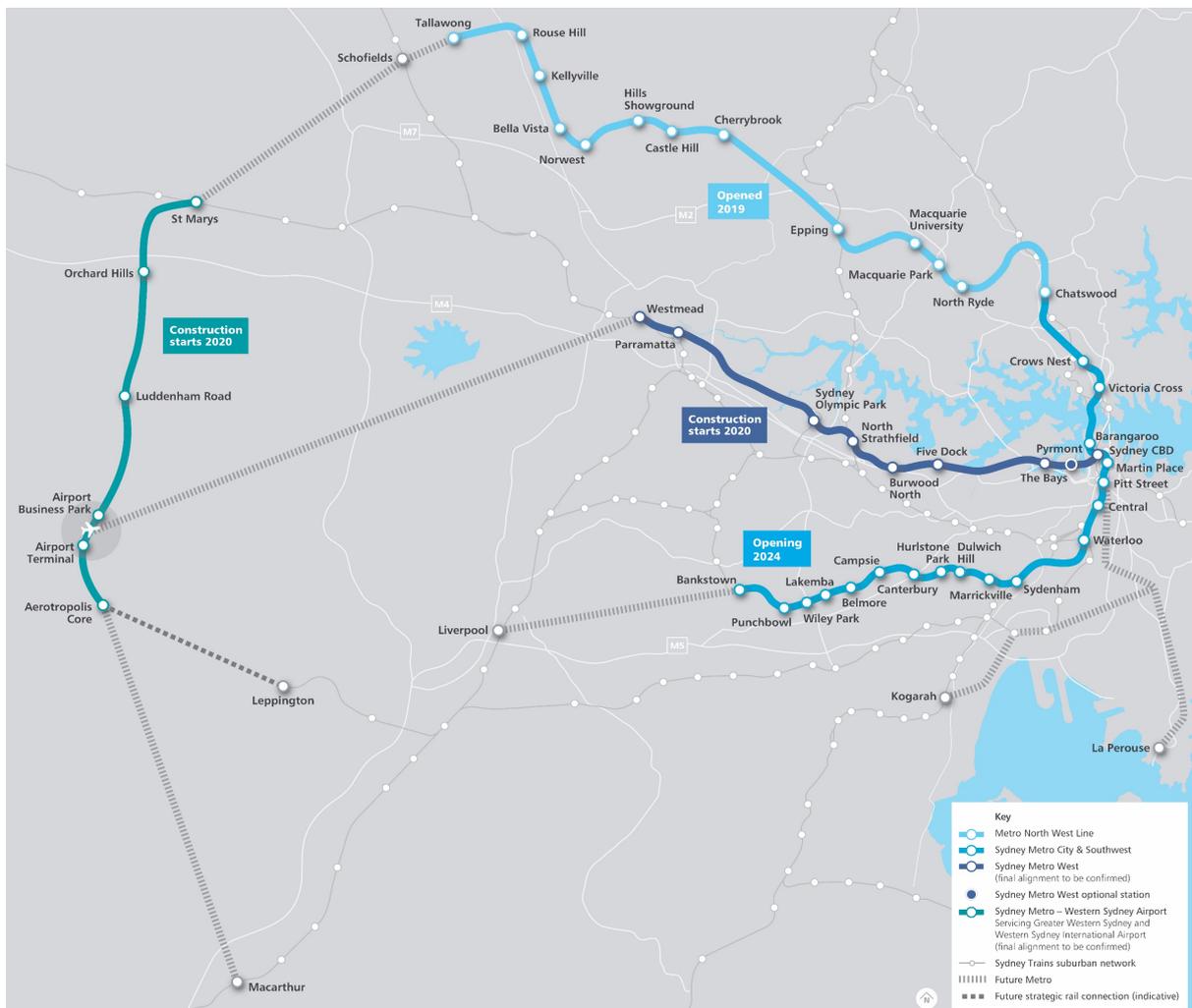


Figure 1-5 The Sydney Metro network

## 1.5 Planning approvals

There are three principal statutory schemes that govern the planning and assessment process for the project:

- NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) applies to works located outside the boundary of Western Sydney International (off-airport)
- Commonwealth *Airports Act 1996* (Airports Act) applies to works located within the boundary of Western Sydney International (on-airport)
- Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act):
  - for works located north of Western Sydney International (off-airport), assessment and approval is required under Part 8 and 9 of the EPBC Act to address impacts on listed threatened species and communities and Commonwealth land
  - for the lands located south of Western Sydney International (off-airport), impacts on matters of national environmental significance (MNES) and Commonwealth land have already been assessed and approved under a strategic assessment in accordance with Part 10 of the EPBC Act.

An overview of the separate statutory schemes is provided in the following sections, and discussed in more detail in Chapter 4 (Planning and assessment process) and Appendix B (Statutory Approvals Framework). Figure 4-1 shows the areas subject to the separate statutory schemes.

### 1.5.1 Planning approvals off-airport

The off-airport components of the project are subject to assessment and approval under the provisions of both State and Commonwealth environmental planning requirements, being the EP&A Act and the EPBC Act respectively.

The project is State significant infrastructure under section 5.12 of the EP&A Act and a declaration is being sought for the project to be declared critical State significant infrastructure under section 5.13 of the EP&A Act. Therefore, the project is subject to assessment and approval by the NSW Minister for Planning and Public Spaces under Division 5.2 of the EP&A Act.

Approval under Part 9 of the EPBC Act is required where there is potential for significant impacts on protected matters (MNES and Commonwealth land) for the off-airport components of the project on land to the north of Western Sydney International. A Commonwealth referral was submitted (reference number: 2020/8687) for these off-airport components of the project and the project has been deemed to be a controlled action by the Commonwealth Environment Minister because of its likely impacts on listed threatened species and ecological communities and Commonwealth land. This Environmental Impact Statement includes both an assessment in relation to listed threatened species and ecological communities for off-airport works to the north of Western Sydney International (provided in Technical Paper 3 (Biodiversity)), as well as an assessment of the environmental impacts on Commonwealth land (provided in Appendix K (EPBC Act Draft Environmental Impact Assessment of off-airport proposed action (EPBC 2020/8687))).

The off-airport components of the project on land to the south of Western Sydney International constitute an action that is part of the endorsed strategic assessment program for the Sydney Growth Centres under Part 10 of the EPBC Act. As such, no further assessment or approval is required for this component of the project under the EPBC Act.

### 1.5.2 Planning approvals on-airport

The project traverses, and provides stations within, Western Sydney International, on land owned by the Commonwealth and currently leased to Western Sydney Airport (the airport site).

Assessment and approval of the components of the project located within the airport site is governed by the Airports Act and is outside the scope of the State significant infrastructure process provided for under the EP&A Act. State planning law does not apply to land controlled by the Airports Act.

The on-airport components of the project require the current Airport Plan for Western Sydney International to be varied in accordance with the Airports Act. The Commonwealth Infrastructure

Minister is responsible for varying the Airport Plan, subject to seeking and considering advice from the Commonwealth Environment Minister. The Commonwealth Environment Minister has advised that the assessment approach to inform the proposed variation of the Airport Plan should be in the form of preliminary documentation. This process is discussed in detail in Section 4.1.2 of Chapter 4 (Planning and assessment process).

This Environmental Impact Statement includes the assessment required under Commonwealth legislation and in accordance with the requirements of the Commonwealth Environment Minister for the on-airport components of the project. Appendix J (EPBC Act Draft Environmental Impact Assessment of on-airport proposed action (EPBC 2019/8541)) consolidates the assessment for the on-airport proposed action in a single document which meets the preliminary documentation requirements of the Commonwealth Environment Minister for the on-airport components of the project.

Approval under Part 9 of the EPBC Act is not required for the on-airport components of the project.

## **1.6 Purpose and structure of this Environmental Impact Statement**

This Environmental Impact Statement is presented in three main parts, including the main Environmental Impact Statement, the Appendices and the Technical Papers. The structure and content of the Environmental Impact Statement is outlined in Figure 1-6.

This Environmental Impact Statement provides the assessment required under both NSW and Commonwealth legislation in a single document that addresses both the off-airport and on-airport components of the project.

To enable delineation of the two project components (off-airport and on-airport), this Environmental Impact Statement identifies the project components, statutory schemes, existing environments and potential impacts for both the off-airport and on-airport components of the project.

This Environmental Impact Statement also provides an environmental management framework (refer to Chapter 25 (Environmental management and mitigation), performance outcomes and mitigation measures for the project (refer to Chapter 27 (Synthesis)). The framework, performance outcomes and mitigation measures generally apply to both on and off-airport components, except where otherwise specified.

<b>Main Environmental Impact Statement</b>	
<b>Chapter 1</b>	<b>Introduction</b> Outlines the key elements of Sydney Metro – Western Sydney Airport (the project) and the purpose of this report.
<b>Chapter 2</b>	<b>Strategic need and justification</b> Provides an outline of the need and justification for the project within the State and regional planning and policy framework.
<b>Chapter 3</b>	<b>Project location and setting</b> Provides an overview of the location and setting for the project, including the bio-physical and socio-cultural attributes of the project footprint and surrounds.
<b>Chapter 4</b>	<b>Planning and assessment process</b> Provides an overview of the statutory schemes that govern the planning and assessment process for the project which relate to works that are located off-airport and on-airport.
<b>Chapter 5</b>	<b>Stakeholder and community engagement</b> Outlines stakeholder and community engagement carried out to date, including during the preparation of this Environmental Impact Statement, as well as future engagement planned for the project.
<b>Chapter 6</b>	<b>Project development and alternatives</b> Provides an overview of the development process and the strategic transport alternatives and options considered for the project.
<b>Chapter 7</b>	<b>Project description – operation</b> A description of project features during operation, including design features and infrastructure proposed, operations and maintenance requirements.
<b>Chapter 8</b>	<b>Project description – construction</b> An indicative description of the likely construction processes and activities.
<b>Chapters 9 to 24</b>	<b>Environmental assessment</b> The results of the assessment of the environmental issues identified by the Secretary’s environmental assessment requirements and Commonwealth Environment Minister’s assessment requirements. Assessment chapters generally distinguish impacts on off-airport and on-airport land.
<b>Chapter 25</b>	<b>Environmental management and mitigation</b> An overview of the approach and framework for the proposed environmental management framework for the project on off-airport and on-airport land.
<b>Chapter 26</b>	<b>Environmental risk analysis</b> An assessment of the environmental risks associated with the project prior to and following the implementation of performance outcomes and mitigation measures.
<b>Chapter 27</b>	<b>Synthesis</b> Provides a technical summary of the Environmental Impact Statement for the project, including how uncertainties that still exist around the design will be managed, and the consolidated list of performance outcomes and mitigation measures for the project on off-airport and on-airport land.
<b>Chapter 28</b>	<b>Conclusion</b> Provides a conclusion to the report, including justification for the project and whether the project achieves the objectives for the project.
<b>Chapter 29</b>	<b>References</b>

<b>Appendices</b>	
<b>Appendix A</b>	Environmental assessment requirements
<b>Appendix B</b>	Statutory approvals framework
<b>Appendix C</b>	Overarching Community Communications Strategy
<b>Appendix D</b>	Stakeholder and community engagement
<b>Appendix E</b>	Design Guidelines
<b>Appendix F</b>	Construction Environmental Management Framework
<b>Appendix G</b>	Construction Traffic Management Framework
<b>Appendix H</b>	Construction Noise and Vibration Standard
<b>Appendix I</b>	Environmental risk analysis results
<b>Appendix J</b>	EPBC Act Draft Environmental Impact Assessment of on-airport proposed action (EPBC 2019/8541)
<b>Appendix K</b>	EPBC Act Draft Environmental Impact Assessment of off-airport proposed action (EPBC 2020/8687)

<b>Technical Papers</b>	
<b>Technical Paper 1</b>	Transport
<b>Technical Paper 2</b>	Noise and vibration
<b>Technical Paper 3</b>	Biodiversity Development Assessment Report
<b>Technical Paper 4</b>	Non-Aboriginal heritage
<b>Technical Paper 5</b>	Aboriginal heritage
<b>Technical Paper 6</b>	Flooding, hydrology and water quality
<b>Technical Paper 7</b>	Groundwater
<b>Technical Paper 8</b>	Contamination
<b>Technical Paper 9</b>	Landscape and visual
<b>Technical Paper 10</b>	Social and economic

**Figure 1-6 Structure and content of this Environmental Impact Statement**