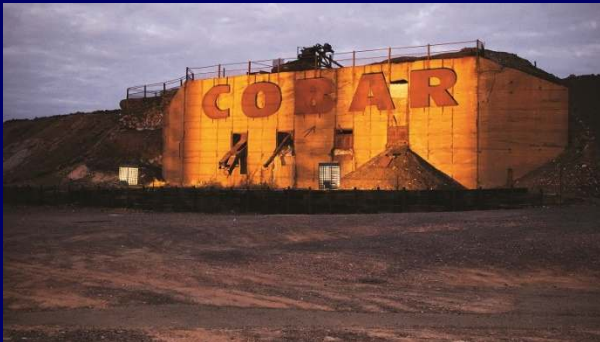


Cobar Regional Airport Master Plan



August 2024

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Version History

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0.1	H. Anstee	19/01/2018	J. Ryan	05/03/2018	Draft Master Plan for Council review
1.0	H. Anstee	21/12/2018	J. Ryan	24/12/2018	Final Master Plan
2.0	T.Baxter	30/07/2024	J. Ryan	02/08/2024	Revised Draft Master Plan for Council review

Executive Summary

Background

This is the second master plan for Cobar Regional Airport. The first master plan was prepared by JJR for Council in 2018. This second master plan provides a comprehensive review and update of the first Cobar Regional Airport Master Plan.

In 2018, JJ Ryan Consulting Pty Ltd (JJR) worked with Cobar Shire Council (Council) to provide the Master Plan for Cobar Regional Airport which considered the following:

- Sizing and costing of a new airport terminal, whilst also having regard to the need for an upgrade of relevant airside and land side infrastructure associated with a new terminal;
- Local, tourism and mining development needs within the Cobar region; and
- Climate change impacts on airport infrastructure and operations, and the development of adaptation options and pathways.

The objectives of the Master Plan process were to address the contents specified in 'Regional Airport Master Planning guideline', published by Australian Airports Association (AAA) as the minimum.

The purpose of this report is to review and update the airport master plan for the remaining 15 years, considering changes in planning context, facility assessments, forecasts, and development concepts. It emphasises collaboration with stakeholders and the delivery of a comprehensive and up-to-date master plan document.

Historical Information

In 2015, Council completed the reconstruction of the main runway pavement and taxiways, the installation of sealed pavement to cross the runway and an LED lighting system for the main runway, taxiways and apron. Self-service aviation fuel bowsers for AVGAS and JetA1 have also been recently installed.

There are currently minimal aircraft operations undertaken by private operators at the Airport. The key stakeholder and community engagement sessions identified a desire for increased private operations at the Airport through provision for private aircraft.

FlyPelican currently runs Regular Public Transport (RPT) services five times a week direct to Sydney Airport. Cobar Regional Airport is well positioned to take advantage of aircraft flying east to west – typically from Sydney to Broken Hill and into South Australia (SA) – or aircraft flying from Brisbane to SA, due to its distance between Sydney and Broken Hill. Bourke and Griffith airports are direct competitors to Cobar, as they are on the same longitude, except they do not share the benefit of proximity to Sydney and Broken Hill.

Environmental Factors

The Council has identified a need to ensure climate change and the impact of airport operations are accounted for and considered during the development and construction of new airport infrastructure. To manage current and future climate requirements, Cobar Regional Airport may need to adapt its assets, resources, and operations. For the airport, adaptation planning is important in tackling climate change and can help to:

- Embed adaptive measures into airport operations and processes;
- Comprehensively address climate risks to reduce maintenance costs and extent of remedial action;
- Build capacity of Council staff and engage management in long-term risk management and identification;
- Maintain the airport as a critical piece of infrastructure, ensuring it can be operational even during extreme weather conditions; and

- Identify community expectations about the provision of aviation services.

A Review of Environmental Factors (REF) was prepared for vegetation management of Cobar Airport by Access Environmental Planning in 2023, with the aim of clearing woody vegetation. According to the REF, all Council’s operations must be conducted in accordance with the principles under the *NSW Local Government Act 1993*. Under Section 8 of this Act, part of Council’s charter is to properly manage, protect, restore, enhance, conserve the environment of the area for which is responsible, in a manner that is consistent with and promotes the principles of ecologically sustainable development.

The findings of the REF have been elaborated in Section 1.1.1 Strategies for Cobar Airport 2.1.52.1.5 under 2.1.5.3 Review of the Environmental Factors for Cobar Airport (2023).

Forecasting

Annual aircraft movement forecasts have been developed by considering airport user groups individually including:

- Regular Public Transport (RPT);
- Charter operations;
- General Aviation (GA);
- Helicopters; and
- Aeromedical.

The following airport user groups do not currently undertake permanent operations at Cobar Regional Airport, although have been identified and considered relevant to Cobar aviation movements:

- Business; and
- Maintenance.

An overview of the forecast aircraft movements is provided in Figure E1.

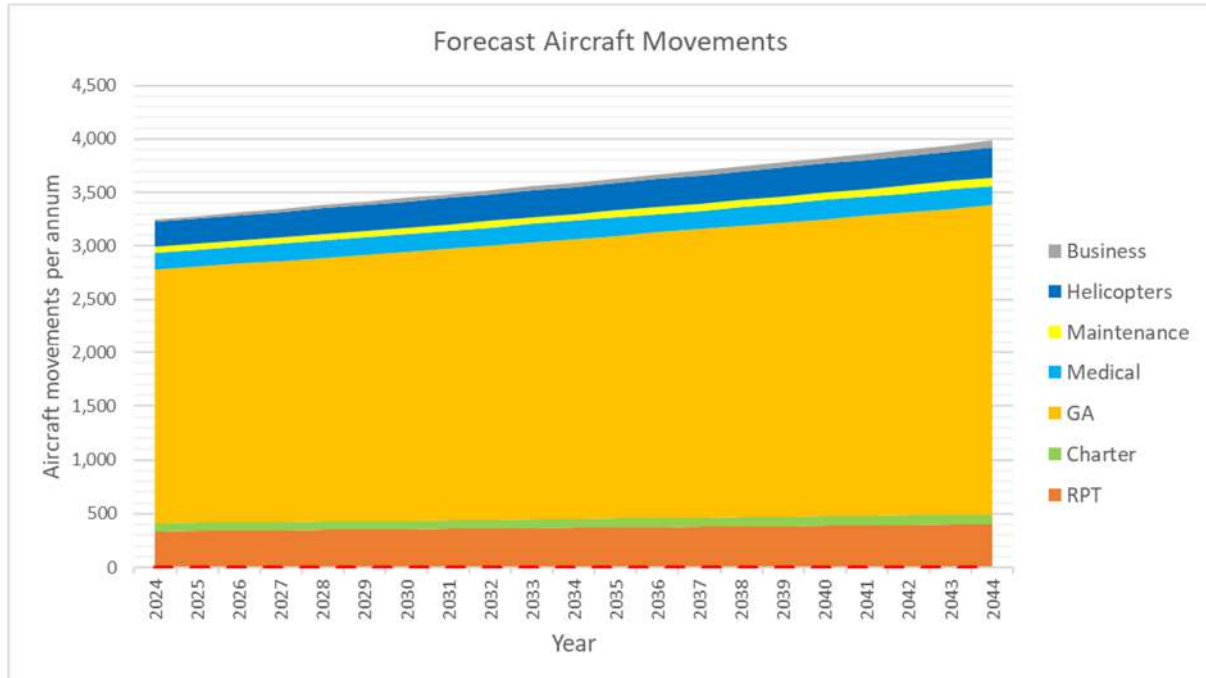


Figure E1 Forecast aircraft movements from 2024 to 2044

Airport infrastructure needs to be designed to ensure capacity to support future anticipated growth and passenger volumes. Passenger movements have been analysed and forecast to provide an indication of future facility requirements to meet these needs.

Forecast passenger movements and growth rates are dependent on numerous factors including travel demand, aircraft seating capacity, slot availability at destination airports, airline route economics and aircraft traffic growth at existing and potential destinations. Passenger movements are highly dynamic and dependent on mining operations, with a significant portion of RPT operations conducted for Fly-in Fly-out (FIFO) workers.

Three growth scenarios have been generated to help determine future infrastructure requirements and identify pessimistic, likely and optimistic long-term RPT passenger throughput as shown in Figure E2.

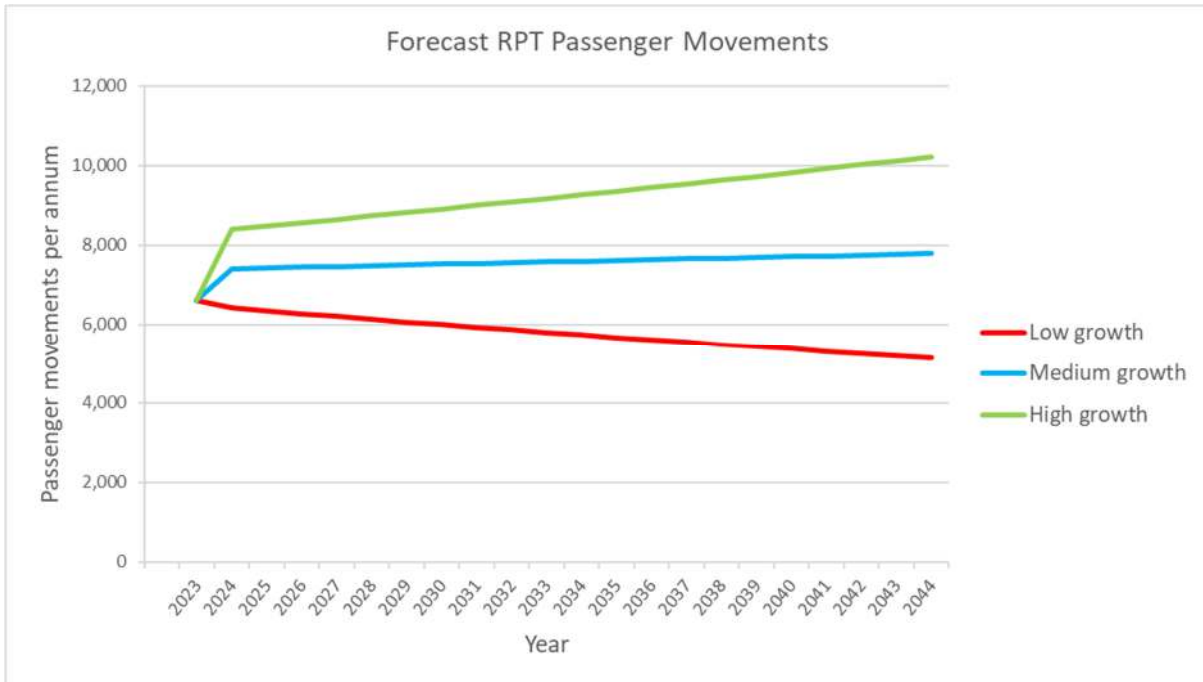


Figure E2 Forecast passenger movements from 2023 to 2044

Proposed Infrastructure Development

The proposed development of the RPT apron would allow the existing RPT aircraft parking positions to be shifted further north. An additional parking position is provided with the proposed apron extension to allow parking of three aircraft simultaneously.

The existing sealed apron is recommended to be increased to provide additional storage for one more RPT aircraft, and additional GA aircraft. The GA apron extension should also tie in to the proposed hangar development and new taxiway to the north east.

There are currently three hangars available for the storage of GA aircraft. A provisional 8 new hangars have been identified to be constructed, with a new taxiway, to provide future space for an increase in general aviation at the Airport. The hangars have been located so as not to inhibit future growth and expansion of the existing GA apron.

The existing terminal building is proposed to be updated and refurbished in the short to medium term and plan for a new larger terminal parallel to the apron in the longer term. The proposed passenger terminal size is 150m² to accommodate up to 19 passengers and staff at any one time. To protect against the impact of climate change, environmental and clean energy solutions are to be incorporated into the new terminal design.

A covered area for the Royal Flying Doctor Service (RFDS) is proposed to allow easy access for ambulance staff and RFDS from the landside and airside respectively.

Potential car park upgrades comprise of line marking spaces to increase delineation and specify spacing, as well as providing covered parking areas. The car park is recommended to be upgraded with

shade cover for approximately one third of the total area, comprising of new structures with solar panel roofing.

New water storage tanks are proposed to collect additional stormwater runoff for use as grey water.

The airport entrance, comprising of Airport Road, signage and aesthetics of the terminal should be upgraded.

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1 Introduction

1.1 Purpose of the Cobar Regional Airport Master Plan

This is the second master plan for Cobar Regional Airport. The first master plan was prepared by JJR for Council in 2018. This second master plan provides a comprehensive review and update of the first master plan.

This Cobar Regional Airport Master Plan will be utilised by Council to guide the future development decisions of an airport to achieve sustainable growth and development of their aviation operations and facilities. This will allow Council to capitalise on future business, operations and commercial development opportunities for the continued future success of Cobar Regional Airport.

The Cobar Regional Airport Master Plan establishes the strategic direction for the efficient and economic development of the airport over the planning period by:

- Providing for the development of additional uses of the Cobar Regional Airport site;
- Indicating to the public the intended uses of the Cobar Regional Airport site;
- Reducing 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.

1.2 Overview of Cobar Shire

1.2.1 Location and Access

Cobar Shire is situated in the Orana region in the centre of New South Wales at the crossroads of the Barrier Highway and the Kidman Way and has excellent road, rail and Airlinks to most of Australia's capital cities. Cobar is located 712 km northwest of Sydney as shown in Figure 1.1.

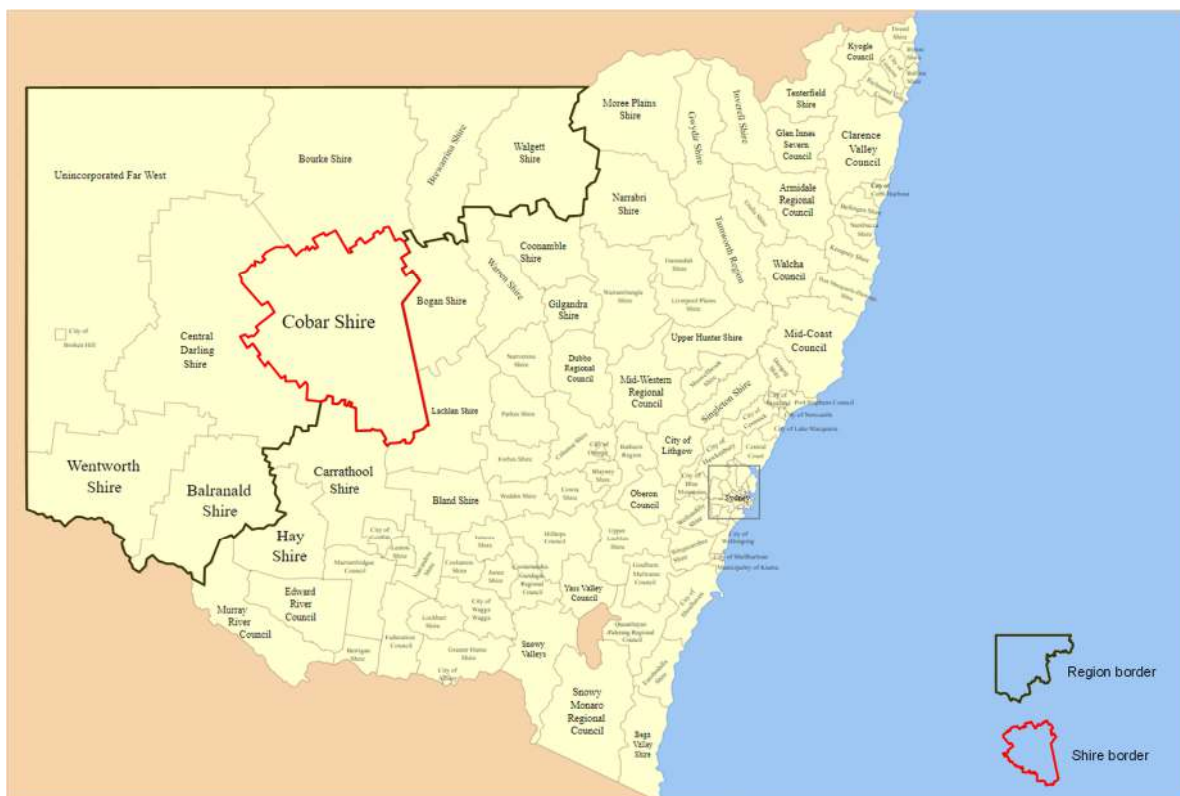


Figure 1.1 Location of Cobar Shire in Far West Region

The Shire has an area of 45,609 square kilometres and a population of approximately 5,120 people. The Shire's prosperity is built around the thriving mining industry (including copper, lead, silver, zinc, gold) as well as the pastoral industries, which are strongly supported by a wide range of attractions and activities, that make it a major tourist destination.

Cobar provides services to surrounding local government areas including business, office, retail, health, education, arts, culture, recreation and entertainment, to support smaller settlements throughout the Region.

Cobar Shire Council (“Council”) is the Owner and Operator of Cobar Regional Airport. The Airport is located 5 km south-west of Cobar at latitude 31°32'33” South and longitude 145°47'41” East. The topography of the area is rolling open country, with no hills closer than 6 km to the airport.

The Airport is a “Certified” aerodrome and provides a vital Regular Passenger Transport (RPT) service, particularly Fly-In Fly-Out (FIFO) for mining workers and essential medical assistance to the local community through the Royal Flying Doctor Service (RFDS).

An overview of the Cobar Regional Airport in relation to surrounding districts is shown in Figure 1.2.



Figure 1.2 Location of Cobar Regional Airport and its distance from other surrounding airports
 Source: Aerial photo retrieved from google earth accessed May 2024

1.2.2 Economic Drivers

The economy of the Cobar region is predominately affected by mining and agriculture. A detailed overview of Cobar Shire’s employment industries is outlined in Figure 1.3.

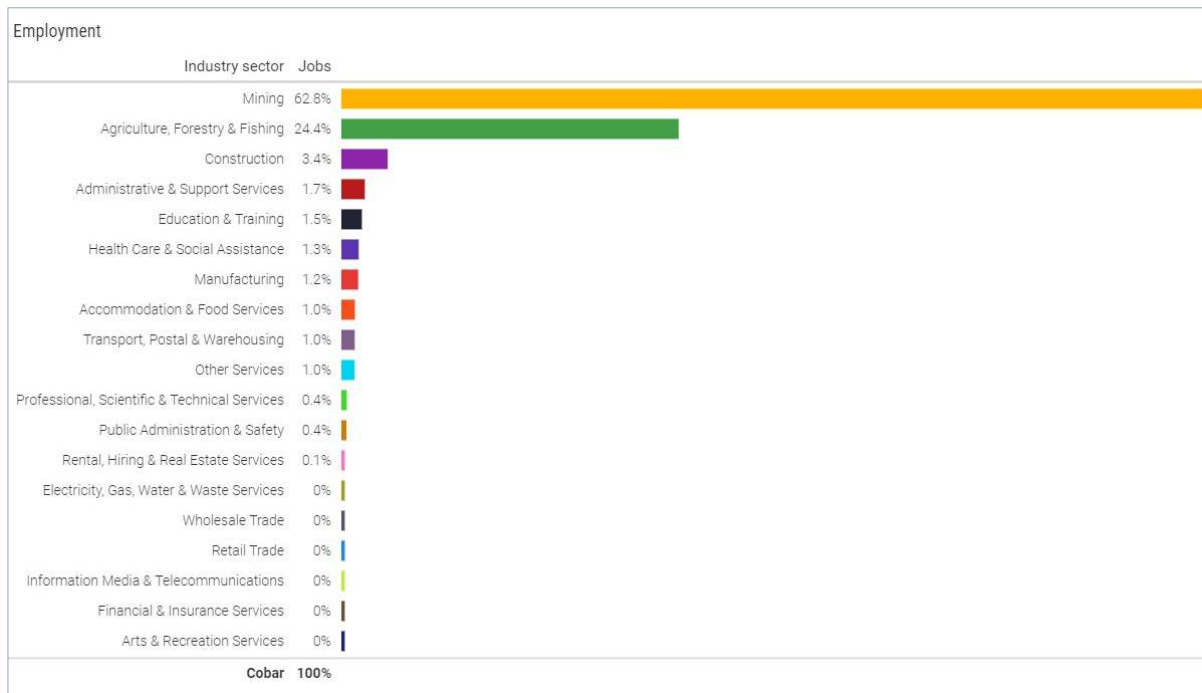


Figure 1.3 Cobar employment industries

Source: REMPLAN accessed May 2024

1.2.2.1 Mining

Mining is ingrained in the history of Cobar and the broader region with historical, economic and cultural significance. Cobar Shire has been an important copper, gold, lead, zinc and silver mining district for nearly 140 years. Peak, CSA, Endeavour, Manuka and Hera mines operate in the Shire and there is potential for further development in the area, such as the Nymagee Copper mine, Mallee Bull prospect near Gilgunnia and Mount Boppy near Canbelego. The potential exists for further discoveries of gold, copper, silver, lead and zinc in two belts of north-west to south-east trending prospective rocks, referred to as the Cobar–Nymagee and Mount Drouin potential resource areas.

Mining operations rely heavily on the airport for servicing FIFO workers, who comprise of the majority of passengers using the FlyPelican service. The closest regional airports to Cobar are Bourke Airport (168km north) and Warren Airport (191km distance east), which makes Cobar the preferred choice of airport for access to many of the mines.

Cobar has the strategic advantage of being the largest local centre in the district, with access to Dubbo in the east establishing Cobar as a ‘hub’ for FIFO workers, travellers and service providers to the surrounding local government areas.

1.2.2.2 Agriculture

Agriculture contributed 24.4% of the regions Gross Regional Product (GRP) in 2023, along with 15% of the full-time employment (FTE). A diverse range of agricultural activities are undertaken across the Orana region including:

- Dry land winter crops such as wheat, canola and grain legumes throughout the plains in the central and northern parts of the region;
- Irrigated viticulture and horticulture in the southern and central parts of the region;
- Cotton in the central and northern parts of the region; and
- Beef cattle and sheep for meat and wool across the region.

The impact of severe drought during the 2000s resulted in an agricultural downturn, although good rainfall between after 2009 drove increased production across the region.

1.2.2.3 Value Added

According to statistics, mining is the largest sector and contributes about \$328.0M annually to Cobar's economy, as shown in Figure 1.4.

After mining, agriculture and balance add \$39.2M and \$32.2M value to the economy of Cobar each year, respectively, and at the lowest rate, tourism brings \$1.3M to Cobar's economy annually.

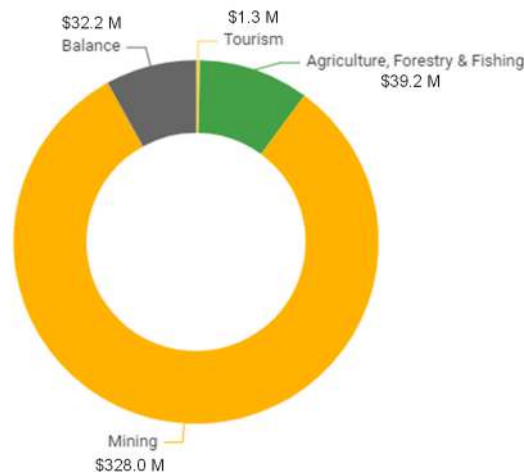


Figure 1.4 Value added annually by each sector to Cobar's economy

Source: REMPLAN accessed May 2024

Cobar has a variety of tourist attractions, including:

- Cobar Heritage Walk;
- Cobar Miner's Heritage Park;
- Centenary of Federation Walking Track;
- Fort Bourke Hill Lookout & New Cobar Cut Gold Mine;
- Great Cobar Copper Mine;
- Mt Grenfell Historic Site;
- Peak Gold Mine;
- Stele Monument;
- The Great Cobar Heritage Centre;
- The Old Reservoir and Devil's Rock; and
- The Slag Dump.

It is noted that most tourists visiting Cobar will travel via the roads (often towing caravans).

1.3 Overview of Cobar Regional Airport

1.3.1 Background

Cobar Regional Airport has been in operation since the mid 1960's. Since its inception the Airport has been owned and operated by Council. Over its history the Airport has been primarily utilised by FIFO mining workers, while also providing essential medical assistance to the local community through the RFDS in addition to transport for the population and visitors.

RPT services to the airport were conducted by Brindabella Airlines until they went into receivership in 2013. Following a period without any RPT, Airlink (operated by Regional Express Group) began

servicing the Dubbo-Cobar route from August 2015, shortly after it was deregulated by the NSW government.

This aligns with the National Aviation Policy White Paper’s ‘hub and spoke’ geographical strategy for regional and local airports. Additionally, the airport provides important access to healthcare and emergency services through the RFDS and other emergency services.

1.3.2 Land Uses

Cobar Regional Airport lies approximately 5-6 kilometres to the southwest of the Cobar township at latitude 31° 32’ 20” south, longitude E 145° 47’ 38” east and an elevation of 216.11 metres. The Airport is zoned under SP2 – Infrastructure: Air Transport Facility land. No heritage areas or structures have been identified pertaining to airport land or infrastructure.

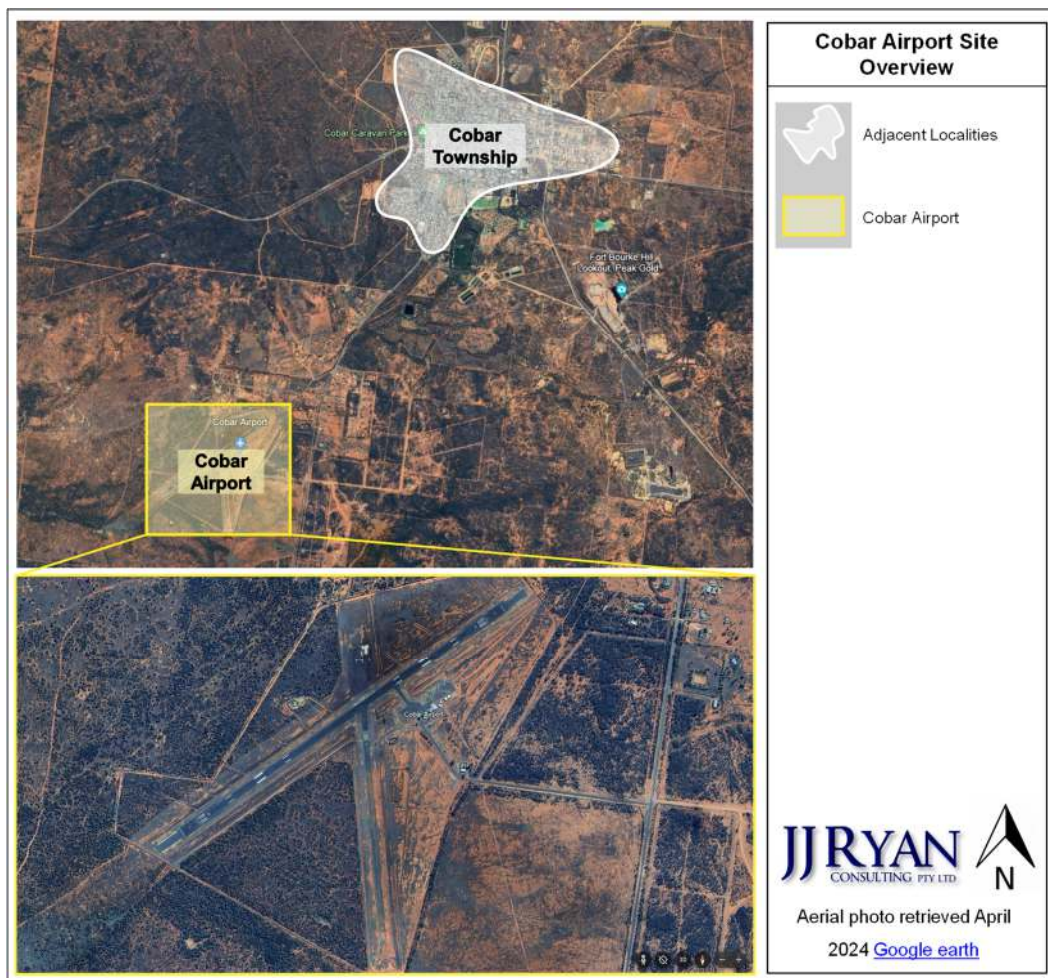


Figure 1.5 Cobar Airport Site Overview

One access point is provided via Airport Rd to the east, which connects to the two-lane, bitumen sealed Lerida Rd running from Cobar township to Bedooba State Conservation Area.

A two-metre-high electric fence surrounds the airport to prevent wildlife from damaging airside infrastructure and to prevent unauthorised access.

The area of the airport consists of 178.03 hectares of Council owned land including Lots 1, 2 and 3, DP 839466, Portion 313, Parish of Cobar and is zoned as ‘non-urban.’

The land can be described as rural, flat and dry with red dirt/gravel. Small shrubs and grassy areas exist adjacent to taxiways, aprons and runway strips. Larger vegetation exists landside, behind interior

fencing and around the terminal building and car parking areas. Figure 1.6 shows the land zoning in the area adjacent to the airport.

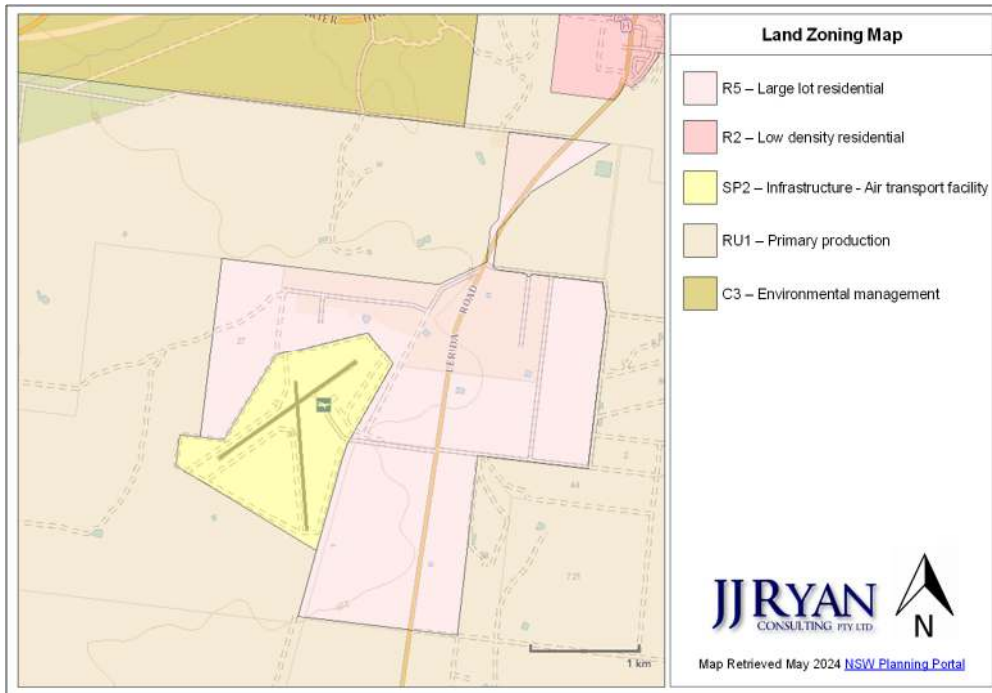


Figure 1.6 Land Zoning Map

The land immediately surrounding the airport is either privately owned or leased or Crown land owned or administered by Cobar Shire Council (Figure 1.7). It is rural and similar in description to the airport’s natural land, consisting of vacant lots with small to medium vegetation visible further away from the fencing. No developments exist close to the airport boundaries. The terrain is described as rolling open country, with hills no closer than 6 kilometres.

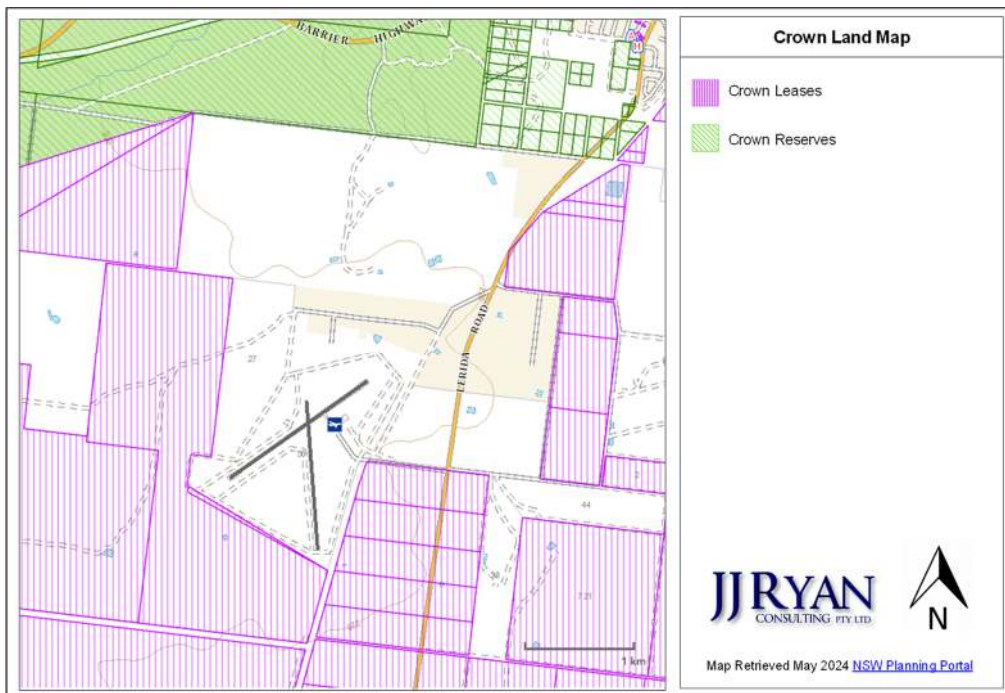


Figure 1.7 Crown Lands Map

1.3.3 Ownership and Management

Cobar Regional Airport is owned and operated by the Council on behalf of the citizens of Cobar. Council's Engineering Support Manager acts as the Airport Manager, who is responsible for the day to day operational management of the Airport, with the help of Duty Airport Reporting Officers (DARO's). The Airport's organisational structure is provided in Figure 1.8.

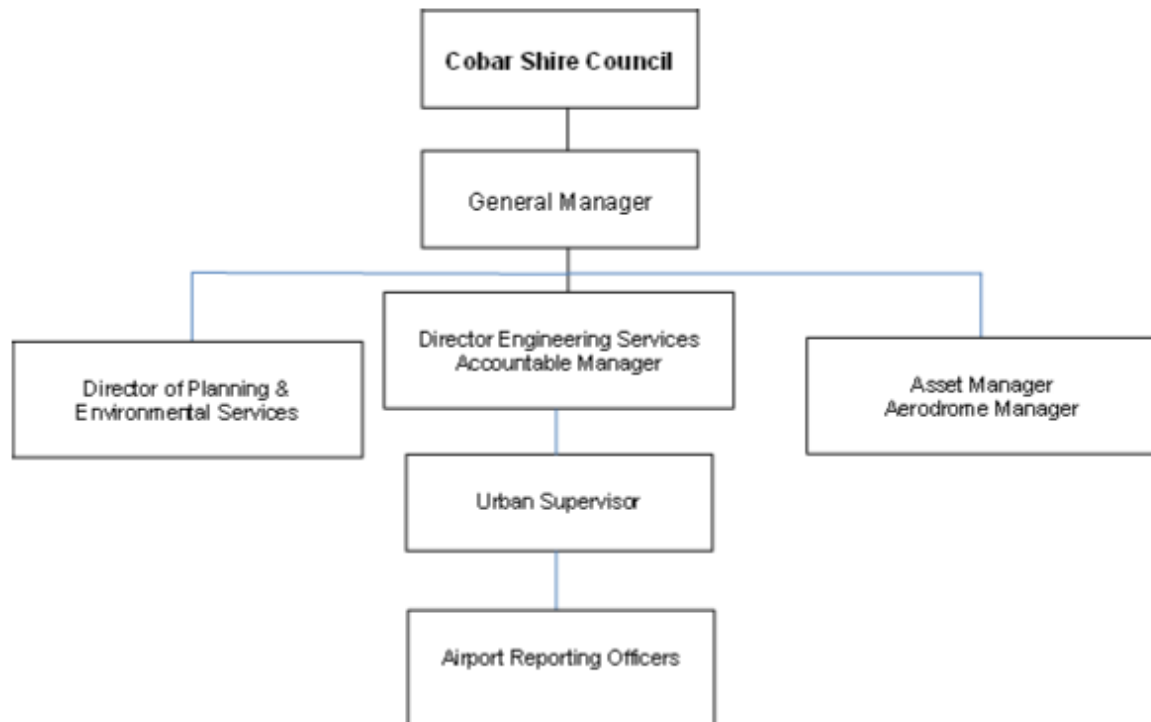


Figure 1.8 Cobar Regional Airport organisational structure

1.3.4 Airport Regulations

The Cobar Regional Airport is certified by the Civil Aviation Safety Authority (CASA) permitting Regular Passenger Transport (RPT) and General Aviation (GA) operations at the airport.

The Airports Act 1996 (Cth) does not maintain a statutory application to Cobar Regional Airport, however it has been utilised as an industry benchmark for airport master planning.

It is understood that Cobar Regional Airport became a Certified aerodrome accordance with the requirements of Civil Aviation Act 1988 (Cth) and Civil Aviation Safety Regulations (CASR) 1998 (Cth) which allows the aerodrome to undertake RPT operations on 7 August 2015.

It is understood that Cobar Regional Airport is not classified security controlled airport in accordance with the Aviation Transport Security (ATS) Act 2004 (Cth) and Aviation Transport Security Regulations 2005 (Cth) and therefore does not currently meet the threshold requiring passenger and baggage screening.

1.4 Cobar Regional Airport Master Plan Development Methodology

The objectives of the Cobar Regional Airport Master Plan are as follows:

- Address the contents specified in 'Regional Airport Master Planning Guideline', published by Australian Airports Association (AAA);

- Consult with key stakeholders and the community to determine future needs for the Airport and incorporate these into the Airport Master Plan;
- Undertake a climate change risk assessment of the current and proposed facilities and operations, and develop risk treatments and adaptation pathways; and
- Provide sufficient information to enable Council to apply for funding from Government programs for a new terminal and associated infrastructure.

The Cobar Regional Airport Master Plan outlines the plans for investment in the physical capacity of the Airport, including enhancements and additions to the terminal building, additional aircraft parking stands and taxiways and land acquisition for possible extension of the runways to cater for future demand and maximise the airports potential. It also examines and considers all non-aviation development options within the airport boundaries.

The Cobar Regional Airport Master Plan will ensure Cobar Regional Airport is well placed for future growth and drive the Shire's economic success. Wide consultation has been undertaken to capture future growth requirements and ensure that development occurs in a manner that meets the needs and expectations of the Cobar Shire community, Council and State and Commonwealth government agencies.

The purpose of the Cobar Regional Airport Master Plan is to facilitate the appropriate development of Cobar Regional Airport and surrounds over the next 20 years, which will in turn, increase levels of employment, output and investment at Cobar Regional Airport.

The methodology to deliver all components of the Cobar Airport Master Plan is broadly defined as the following, with a flowchart provided in Figure 1.9, which includes:

- Reviewing existing information on the airport, (note: no previous Airport Master Plans have been developed);
- Consult with key stakeholders and the community to determine future needs for the airport, and incorporate these into the Airport Master Plan;
- Develop a range of feasible and practicable options for Council to consider regarding the future development of the Airport;
- Undertake a climate change risk assessment of the current and proposed facilities and operations, in collaboration with Council staff and key stakeholders;
- Develop risk treatments and adaptation pathways based on proposed development, in collaboration with Council staff and key stakeholders;
- Provide sufficient information to enable Council to apply for funding from Australian Government programs for a new terminal and associated infrastructure; and
- Produce a final deliverable that outlines all of the above, and includes a succinct breakdown of proposed development options, assessment of these options, and recommended future actions for the development of the airport.

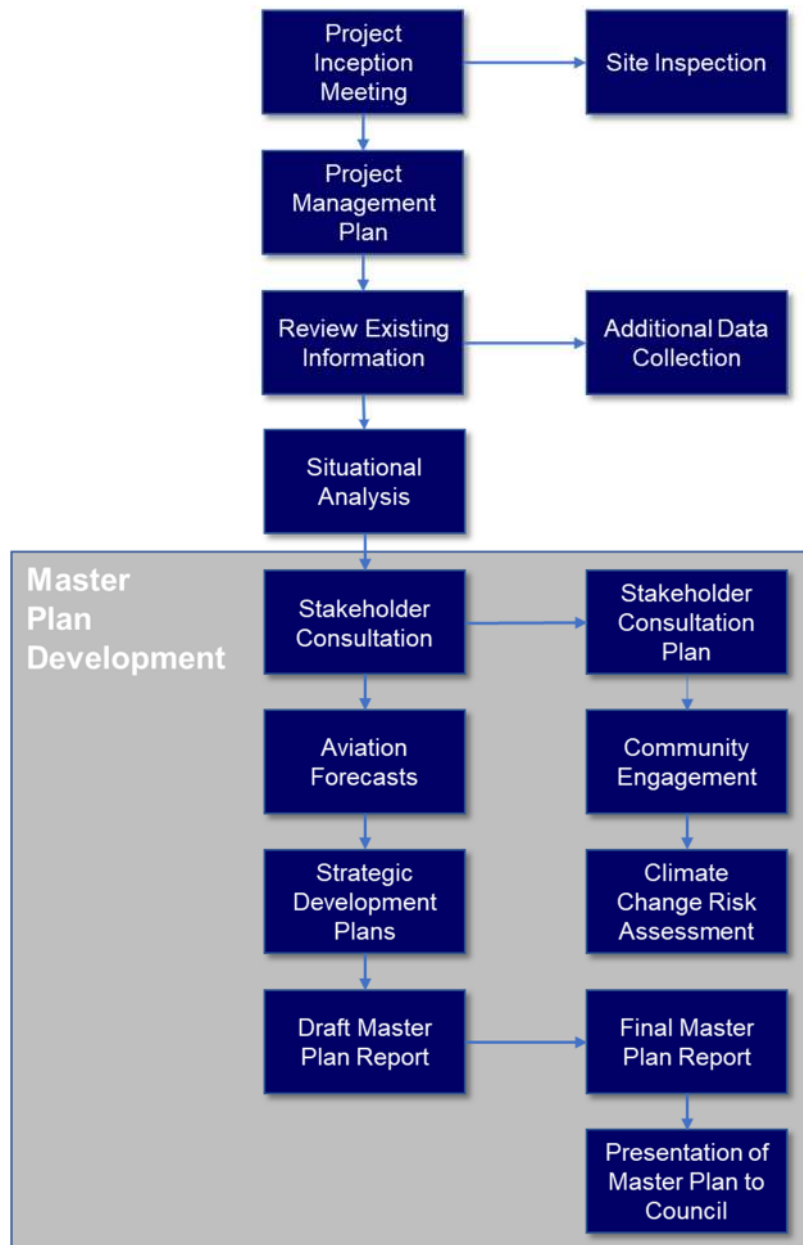


Figure 1.9 Master Plan development flowchart

1.5 Report Structure

The Cobar Regional Airport Master Plan is structured over six sections.

Section 1 has provided an overview of the Airport Master Plan purpose, as well as an overview of the Cobar region, the Airport and the methodology to develop the Master Plan.

Section 2 provided as overview of the master planning context, including policy and legislative requirements, a Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis and an overview of key stakeholder consultation.

Section 3 provides an overview of the climate change risks assessment, including the current climate in Cobar, the NARClIM modelling for Cobar and a detailed risk assessment.

Section 4 provides an overview of the aerodrome objectives, the existing Airport facilities (including airside, terminal and landside infrastructure) as well as an overview of historical aviation activity.

Section 5 provides an overview of future airport development plans. This has been based on forecast aviation movements, the proposed design aircraft and other demand for facilities. Climate change resilience, aircraft noise and airport lighting within the vicinity of aerodromes is also considered.

Section 6 provides an implementation plan which considers the planning, development, implementation, handover/completion and asset management phases. A financial plan is also included which provides high level cost estimates for infrastructure upgrades.

2 Master Planning Context

2.1 Policy Context

A summary of the relevant plans and strategies that support the Orana region, and specifically Cobar Regional Airport, are provided in Figure 2.1.



Figure 2.1 Context of the Cobar Regional Airport Master Plan

This Airport Master Plan provides direction for the future development of Cobar Regional Airport. By necessity, the Airport Master Plan is flexible to cater for a range of development activities that may occur over the next 20 years.

The Airport Master Plan sets out the development objectives for the airport, together with concepts for individual precincts. The timing and form of development will be influenced by a multitude of factors and Council may review the Airport Master Plan in accordance with the requirements of all stakeholders to reflect changes in community expectations, airport user requirements, political landscape and so forth.

The Airport Master Plan has been prepared by reviewing existing conditions and operations at Cobar Regional Airport and considers projected aviation activity for the planning period. The proposed layout of the Airport recognises current and projected airport activities and operations, the likely need for new buildings, the expansion and upgrade of the existing Terminal, and the most suitable location for aviation and non-aviation activities to achieve the development objectives.

While the Airport Master Plan provides a framework for the future of the airport, the ability to achieve this will be influenced by external factors such as the aviation industry, the community and commercial markets. Therefore, the timing of developments at the airport will remain fluid and should be continually monitored and reassessed by Council.

2.1.1 National Strategies

2.1.1.1 National Aviation Policy

The National Aviation Policy White Paper outlines goals to support long-term planning and investment by the industry, preserve and enhance Australia’s excellent safety record, consider the needs of

travellers and airport users, and better manage the environmental and community effects of aviation activity.

Figure 2.2 provides an overview of the air traffic surveillance coverage in Australia that Airservices Australia planned to implement by December 31, 2009. This coverage is based on a shift towards Performance Based Navigation (PBN) in order to improve overall safety and flight efficiency.

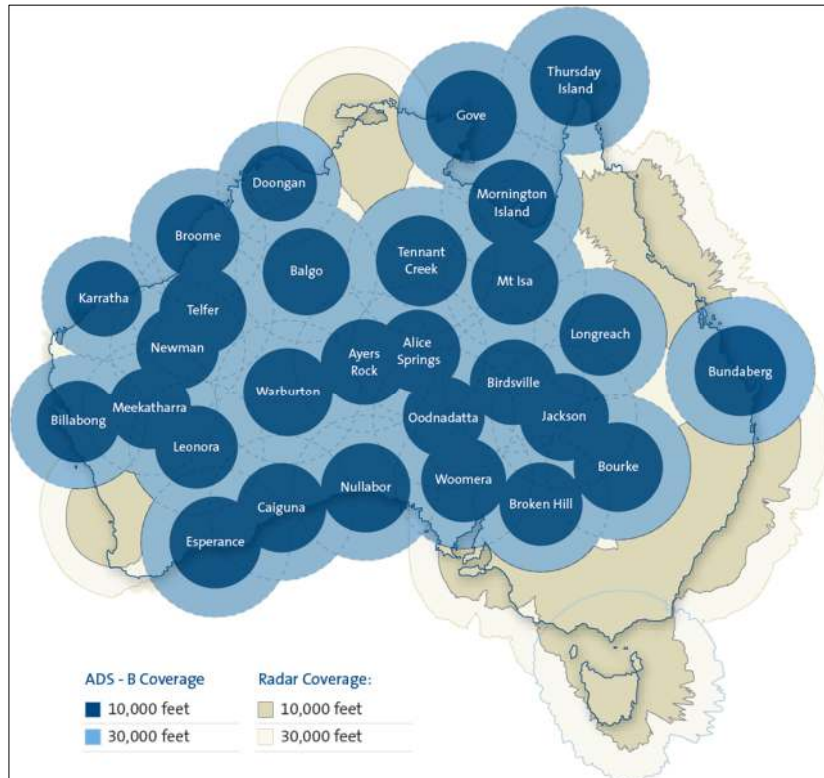


Figure 2.2 Extension of air traffic surveillance coverage in Australia

Source: National Aviation Policy White Paper, 2009

The National Aviation Policy White Paper includes policy goals regarding the access to and maintenance of regional airports through local government councils. The government wants to implement a 'hub and spoke' geographical strategy by avoiding the provision of subsidies to airports within driving distance of each other. Cobar is considered a 'hub' of local activity and can work on the assumption that grants for maintenance of the airport will be provided where they could significantly benefit the regional economy, which will also be assumed for Airport Master Plan development.

A new Aviation Policy White Paper is expected to be released in mid-2024. The White Paper will examine issues across the aviation sector. This includes four specific areas identified by the Government when announcing the White Paper:

- how to maximise the aviation sector's contribution to achieving net zero carbon emissions, including through sustainable aviation fuel and emerging technologies
- the economic reforms needed to improve productivity across the sector, including addressing skills shortages, competition between airports and airlines, and charting a course out of the pandemic
- how to support and regenerate Australia's general aviation sector
- better mechanisms for consultation on and management of issues like aircraft noise, airport development planning and changing security requirements.

2.1.1.2 Aviation Green Paper

The Aviation Green Paper, released on 7 September 2023, marks an important stage in developing the Aviation White Paper which will set the policy direction for the aviation sector out to 2050.

Through the Green Paper, the Government sought feedback on aviation matters, including:

- airlines, airports and passengers – competition, consumer protections and disability access settings;
- regional and remote aviation services;
- maximising aviation's contribution to net zero;
- airport development planning process and consultation mechanisms;
- general aviation;
- fit-for-purpose agencies and regulations;
- emerging aviation technologies;
- future industry workforce; and
- international aviation.

Submissions on the Green Paper will help to inform the development of the Aviation White Paper, to be released in mid-2024.

2.1.1.3 Australian Infrastructure Plan

The 2021 Australian Infrastructure Plan is a practical and actionable roadmap for infrastructure reform. The Plan is focused on reforms and policy recommendations that will deliver better infrastructure outcomes for Australian communities.

The Airport Master Plan aims to comply with the Australian Infrastructure Plan's recommendations, which include reducing carbon dioxide emissions and switching to renewable energy sources for energy supply.

The Australian Infrastructure Plan highlights the dependence of regional industries on freight supply chains, as well as the current fragmented oversight of Australia's freight network, in which infrastructure planning, delivery, and operation occur largely in isolation and lack a broader network perspective.

The Airport Master Plan aims to align with recommendations set out in the Infrastructure Plan, such as the shift to energy supply through renewable resources. Council has identified the need to form an Airport Master Plan which considers climate change as a crucial factor for long-term development of the airport, as well as the local community.

2.1.2 State Strategies

2.1.2.1 NSW State Infrastructure Strategy 2022-2042

The Master Plan has considered related objectives and recommendation set in the State Infrastructure Strategy in the fields of planning and environment, transport, and infrastructure including achieving an orderly and efficient transition to Net Zero, protecting the natural endowments, expediting development of an NSW Biodiversity Strategy and Biodiversity Holding Fund to strategically manage NSW biodiversity assets and improve the offset system.

Protecting the natural environment requires attention to all assets across the infrastructure lifecycle, from construction right through to operation. Affordable policies to mitigate the impact of infrastructure delivery and operations on biodiversity and natural heritage is essential. Therefore, the State Infrastructure Strategy triggers the need for a REF, where an activity can impose on the natural environment. In 2023 an REF was prepared for vegetation management of Cobar Airport by Access

Environmental Planning, whose results are elaborated in the section Review of the Environmental Factors for Cobar Airport (2023).

2.1.2.2 TfNSW Infrastructure and Place Corporate Plan (2022)

The TfNSW IP plan depicts a long-term mission for the future transport of NSW with the aim of reaching the vision in 2056. The bullet points of the mission are as follows:

- Make NSW a better place to live, work and visit;
- Deliver the biggest transport infrastructure programs;
- Adopt sustainable measures and practices across business, and embrace innovative and technology to deliver smarter outcomes;
- Support communities with tens of thousands of jobs over the coming years through the projects;
- Build local skills and capabilities, creating employment pathways for a wide range of new entrants;
- Minimise the impact on the environment, be financially efficient, and deliver projects that stand the test of time.

The main focus of the plan is on creating jobs by investing on environmentally sustainable infrastructure and transport.

2.1.2.3 State Environmental Planning Policy (Transport and Infrastructure) (2021)

The Transport and Infrastructure SEPP sets out the planning rules and controls for infrastructure, including:

- Chapter 2 – Infrastructure (essential services such as hospitals, roads, water supply, telecommunications, and electricity networks);
- Chapter 3 – Educational establishments and childcare facilities (schools and childcare centres);
- Chapter 4 – Major infrastructure corridors;
- Chapter 5 – Three ports—Port Botany, Port Kembla, and Port of Newcastle; and
- Chapter 6 – Moorebank Freight Intermodal Precinct.

Council understands that any airport planning and development requires reference to the SEPP and that all rules and controls must be considered in the Master Plan.

2.1.2.4 NSW Climate Change Policy Framework

The NSW Climate Change Policy Framework sets out the NSW Government's long-term goal to achieve net zero emissions by 2050 and to make NSW more resilient and adapted to a changing climate. The aim of this framework is to maximise the economic, social and environmental wellbeing of NSW in the context of a changing climate and current and emerging international and national policy settings and actions to address climate change.

The framework recommends implementing emission savings policies that are consistent with achieving the Commonwealth Government's interim and long-term emissions savings objectives; e.g. energy efficiency, advanced energy, transport, carbon farming, etc.

2.1.3 Regional Strategies

2.1.3.1 Far West Regional Plan 2036 (2017)

The Far West Regional Plan sets in place line-of-sight land use planning for the region and local government areas to identify and resolve issues. The Plan sets regional planning priorities and provides a framework for regional and local planning decisions. The NSW Government will use it to advise

infrastructure agencies about the timing of new developments, and to inform the ongoing planning and delivery of infrastructure, asset management and services.

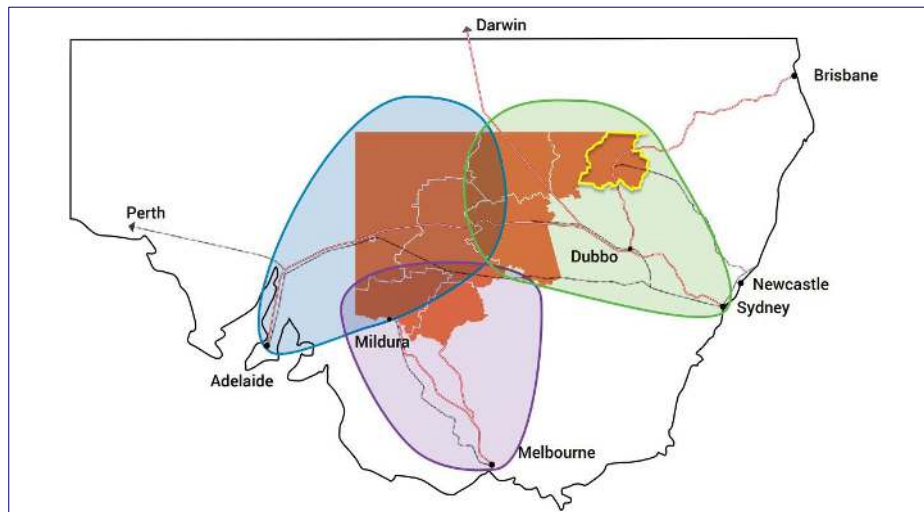


Figure 2.3 Far West Region

Source: Local Strategic Planning Statement (LSPS), 2020

Line-of-sight planning will allow issues to be identified and resolved early, rather than at the development application stage. This Plan is accompanied by an Implementation Plan for 2017-2019 and is the first time the NSW government has undertaken strategic land use planning for the Far West. Unifying stakeholders through this Plan was an early step to improve regional coordination and facilitate local leadership. To deliver the Far West Regional Plan 2036, all levels of government, the private sector and the community will have to work+ together. The Plan needs to be incorporated into each stakeholder's future activities.

More detailed regional district planning may be undertaken in partnership with all stakeholders. The Plan highlights potential priorities for regional district planning where matters cross jurisdictional boundaries. The Local Government Narratives provide guidance for each council as they prepare local land use strategies. The Committee will support this work to ensure local plans translate the vision and guiding principles of this Plan into local priorities for growth and change.

The Far West Regional Plan 2036 promises to improve regional air connections. Due to the distance from capital cities, air travel is crucial for quick connections. The ongoing operation and expansion of affordable air travel and related facilities will be essential to influencing future economic growth. Maintaining 20 percent of flight slots at Sydney Airport for regional NSW services is critical to business and provides convenient access for regional communities to crucial healthcare services in other centres such as Cobar and supporting FIFO workers.

Regular commercial passenger air services operate to and from Broken Hill and Cobar with some residents accessing RPT services from Dubbo, Mildura, Moree and Griffith in adjacent regional areas. These inter-regional connections provide opportunities for direct air connections to all major metropolitan cities except Perth and Darwin, enhancing access to high-level social and medical services.

Local airport and aerodrome facilities also support RFDS medivac and NSW Rural Fire Service operations based in Broken Hill and Dubbo, along with private aircraft services business, industry and tourism.

Airport facility operations should not be impeded by the encroachment of incompatible development. Airport expansions will be identified and planned through local land use strategies.

2.1.3.2 Central West and Orana Regional Plan 2041 (2022)

The Central West and Orana Regional Plan (Plan) seeks to leverage the region's natural endowments to develop its engine industries and diversify its economy, as a way to support enhanced resilience across the community.

The plan sets the strategic framework for the region, to ensure the region's ongoing prosperity. It is a 20-year land use plan prepared under section 3.3 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and applies to the local government areas (LGAs) of Bathurst, Blayney, Bogan, Cabonne, Coonamble, Cowra, Dubbo, Forbes, Gilgandra, Lachlan, Lithgow, Mid-Western, Narromine, Oberon, Orange, Parkes, Warren, Warrumbungle and Weddin.

The plan sets out a vision for the year 2041 with the following parts:

- Region-shaping investment;
- A sustainable and resilient place;
- People, centres, housing and communities; and
- Prosperity, productivity and innovation.

The most important objectives to make the vision come true in the following years are as follows:

- Support the State's transition to Net Zero by 2050 and deliver the Central–West Orana Renewable Energy Zone;
- Sustainably manage extractive resource land and grow the critical minerals sector;
- Identify, protect and connect important environmental assets;
- Ensure site selection and design embraces and respects the region's landscapes, character and cultural heritage;
- Provide well-located housing options to meet demand;
- Plan for diverse, affordable, resilient and inclusive housing;
- Coordinate smart and resilient utility infrastructure;
- Leverage existing industries and employment areas and support new and innovative economic enterprises; and
- Protect agricultural production values and promote agricultural innovation, sustainability and value-add opportunities.

The Master Plan considers the need for sustainable development in the region and understands that to achieve a better future, it is inevitable to consider the region's vision.

2.1.4 Local Strategies

2.1.4.1 Cobar Local Environmental Plan 2012

Cobar Local Environmental Plan 2012 (Cobar LEP 2012) is the statutory planning instrument that establishes what forms of development and land use are permissible and/or prohibited on all land within the Cobar Shire Council local government area. The Cobar LEP 2012 consists of both a written instrument and a series of maps and includes:

- General land use zoning (e.g. zones for residential, business, open space, etc.);
- Permissibility of development within a zone;
- Land use definitions;
- Heritage items and their conservation; and
- General information to be included with certain types of development applications.

The Cobar LEP 2012 also outlines development restrictions within and/or surrounding Cobar airspace to provide effective and ongoing operation of the Airport. This includes restricting development where a penetration of the OLS would occur, as well as on land within an Australia Noise Exposure Forecast (ANEF) contour of 20 or greater.

The Cobar LEP 2012 is a legal document that is approved by the Minister for Planning and subsequently published on the NSW legislation website. The Cobar LEP 2012 was published on 3 August 2012 and may be subject to future amendments. The latest amendment of the LEP is for 10-Nov-23.

2.1.4.2 Cobar Shire Council Annual Operational Plan 2024-2025

The Annual Operational Plan is the ‘implementing’ part of Council’s key strategic documents, and outlines all of Council’s services and infrastructure activities and tasks for the year. Both ongoing activities and specific tasks contribute to the implementation of Council’s Delivery Program. The Annual Operational Plan also comprises of the annual Fees and Charges document, Revenue Policy and Annual Budget.

There Annual Operations Plan also covers airport operations, maintenance and revenue. Most of these items are a regulatory requirement or recommendations from MOS Part 139 or other Civil Aviation Acts or Regulations summarised below:

- **Section 4.3.2.2:**
 - Cobar Regional Airport to be maintained and made available for RPT and general aviation to meet the needs of the Cobar community;
 - Conduct regular and statutory maintenance programs in accordance with the Airport Operational Manual;
 - Ensure that Cobar Regional Airport passes the CASA Safety Audit;
 - Ensure that Cobar Regional Airport conforms to CASA requirements, outlined in the Cobar Regional Airport Transport Security Program;
 - Maintain provision of services to key stakeholders such as Airlines and Charters; and
 - Develop and implement the Cobar Regional Airport Master Plan.
- **Section 4.3.2.3:**
 - Maintain runways in a state that is acceptable for dry weather operation and surface is free of obstacles and holes;
 - Obstacle Limitation Surface (OLS) gradient meets required standards; and
 - Review the maintenance of the village airports and ensure that the airstrips comply with the minimum standards for operation.

The existing OLS based on the current runway configuration is provided in Appendix A.

2.1.4.3 Local Strategic Planning Statement 2020

Council in conjunction with the Department of Planning has prepared a Local Strategic Planning Statement (LSPS) which was adopted on 28 May 2020. This document has set out the 20-year vision for land-use in the local area, the special character and values that are to be preserved and how change will be managed into the future.



Figure 2.4 The relation of the Plans with the LSPS
 Source: Local Strategic Planning Statement (LSPS), 2020

The LSPS has been prepared in accordance with clause 3.9 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The LSPS brings together and builds on the planning work found in Council's other plans, studies and strategies, such as the Local Environmental Plan (LEP) and Community Strategic Plan (CSP). The LSPS also gives effect to the Far West Regional Plan 2036, implementing the directions and actions at a local level. The LSPS planning priorities and actions provide the rationale for decisions about how the land will be used to achieve the community's broader land use vision:

*"The vision is for Cobar Shire to be an **attractive, healthy and caring environment to live, work and play**, achieved in partnership with the community through initiative, foresight and leadership."*

The LSPS has three main axes in order to achieve this vision:

- **Industry Sustainability:** Provide employment in the key economic sectors i.e. mining.
- **Healthy and Cohesive Community:** Housing, skills development, protect the natural environment, increase resilience to climate change and natural hazard risks, protect and manage environmental assets.
- **Celebrate Heritage Assets:** Ensuring identified aboriginal and non-aboriginal sites across the Shire are included in schedule 5 of the Cobar LEP 2012 is essential to certify the protection of these sites.

2.1.4.4 Community Strategic Plan 2020

As a result of legislation enacted in October 2009, local councils in NSW are required to develop a Community Strategic Plan (CSP). The issues of the CSP are addressed under five headings:

- Community Strategies;
 - Providing a good quality of life for the youth;
 - Providing adequate health care options; and
 - Quality childcare and educational opportunities.
- Economic Strategies;
 - Enhancing and growing the two key industries of mining and agriculture.
- Governance Strategies;
- Infrastructure Strategies; and
- Environmental Strategies:
 - Risks, threats and possible opportunities associated with carbon policy;
 - Value public land and optimising its use; and
 - Expanding mining industry.

The focus of the plan is mostly on the development of mining sector and emphasising the natural environment of the locality.

2.1.5 Strategies for Cobar Airport

2.1.5.1 Cobar Regional Airport – Management Plan 1998-2001

This Airport Master Plan is the first to be developed for the Cobar Regional Airport, however the Cobar Regional Airport Management Plan defined the location, tenants and activity at Cobar Regional Airport during 1998 - 2001. Although not a master plan, it does set out short and long-term goals. Some of the objectives in this document are still current today.

2.1.5.2 Cobar Regional Airport Master Plan 2018

JJR has provided Council with the first Master Plan for Cobar airport in the year 2018. As the first master plan, it included all stakeholders and utilised current guidelines and regulations to ensure all issues are covered at the initial consultation meetings.

The Master Plan was developed to consider the following:

- Stakeholder engagement;
- Development precincts;
- Development plans and layouts;
- Obstacle Limitation Surface (OLS) plans;
- Australian Noise Exposure Forecast (ANEF) contours;
- Climate change risk assessment;
- Sizing and costing of a new airport terminal, whilst also having regard to the need for an upgrade of relevant airside and land side infrastructure associated with a new terminal;
- Local, tourism and mining development needs within the Cobar region; and
- Climate change impacts on airport infrastructure and operations, and the development of adaptation options and pathways.

This Airport Master Plan established a baseline to ensure the Airport's future viability and allowed the Airport to reach its maximum potential regarding on-airport and off-airport development occurring in response to current and future demand. This included not only development within the airport airside and landside precinct but also beyond the airport boundaries with the ability to protect the runway approaches and building and structure heights that lie within the airport's OLS area.

2.1.5.3 Review of the Environmental Factors for Cobar Airport (2023)

In 2023, Council engaged Access Environmental Planning to prepare an REF that considered potential environmental impacts of the proposed activity under Part 5 (previously Section 111) of the EP&A Act.

The proposal involved eradicating all woody vegetation in areas depicted in Figure 2.5. Vegetation management is necessary to decrease the likelihood of wildlife incursion onto active runways. Further tree removal is required in the runway clear zone on adjacent Western Lands Lease lands to comply with CASA regulations. The proposed extent of vegetation removal is approximately 70 ha.



Figure 2.5 Proposed area of vegetation clearance

Source: Review of Environmental Factors prepared for Vegetation Management – Cobar Airport, 2023

In preparing the REF the potential environmental impacts of the proposed activities have been investigated and a range of mitigation measures, to minimise adverse effects, have been developed.

The primary possible effects, according to the environmental impact assessment's findings, are habitat loss and the dust, noise, and vibration caused by clearance operations. The planned activity is unlikely to have a substantial environmental impact in the context of the larger landscape if the mitigating measures are implemented, hence creating an environmental impact statement is not necessary.

Council acknowledges that its operations must follow the principles outlined in the *NSW Local Government Act 1993*. Under Section 8 of this Act, part of Council's charter is to properly manage, protect, restore, enhance, conserve the environment of the area for which is responsible, in a manner that is consistent with and promotes the principles of ecologically sustainable development.

Following evaluation of the previously indicated environmental factors, it is determined that the proposal is justified with limited environmental impact and significant benefit for the continuous safe operation of Cobar Airport.

2.1.5.4 Landside Infrastructure Development Plan

Current plans require upgrading of the landside infrastructure, including the construction of a new terminal building. The current Airport constraints stem from the capacity of landside structures not matching that of the new airside developments.

Sizing and costing of the new terminal and subsequent prospects for the airports long-term strategic plans are a major consideration of the Airport Master Plan.

2.1.5.5 Airside Infrastructure Development Plan

Council received a NSW Government grant of \$2.5 million as part of the Resources for Regions Fund Project to upgrade the Airport infrastructure, which was concluded in 2015.

This work included strengthening of the runway pavement, sealing of the taxiways and apron, installation of new lighting structures and upgrades to the electric fence. The upgrades were implemented to allow for increased airside capabilities to accommodate substantially larger aircraft, creating space for future growth and support continued airport operations, compliant with required standards. These works have also enabled opportunities to capitalise on Cobar’s central location for regional emergency service responses.

The NSW Government has pledged additional infrastructure funding to 17 Regional NSW airports and has de-regulated several air services to facilitate better access and the delivery of vital services to regional communities. This has been implemented to ensure regional airports long term viability.

2.1.6 Strategic Approach to Future Growth

A summary of all strategic frameworks is provided in Table 2.1:

Table 2.1 Summary of the strategic frameworks for Cobar Regional Airport

	Strategic Framework	Summary of the Proposed Actions
National	National Aviation Policy	<ul style="list-style-type: none"> • Extension of air traffic surveillance coverage in Australia.
	Aviation Green Paper	<ul style="list-style-type: none"> • Maximising aviation’s contribution to net zero; • Emerging aviation technologies; • Future industry workforce; and • International aviation.
	Australian Infrastructure Plan	<ul style="list-style-type: none"> • Reducing carbon dioxide; • Switching to renewable energy sources; and • Broader network perspective for Australia’s infrastructure
State	NSW State Infrastructure Strategy	<ul style="list-style-type: none"> • Achieving an orderly and efficient transition to net zero; • Protecting the natural endowments; • Development of an NSW Biodiversity Strategy and Biodiversity Holding Fund; • Affordable policies to mitigate the impact of infrastructure delivery; and • The need for a REF, where an activity can impose on the natural environment.
	TfNSW Infrastructure and Place Corporate Plan	<ul style="list-style-type: none"> • Creating jobs by investing on environmentally sustainable infrastructure and transport.
	State Environmental Planning Policy (Transport and Infrastructure) (SEPP)	<ul style="list-style-type: none"> • Infrastructure (hospitals, roads, water supply, telecommunications, and electricity networks); • Educational establishments and childcare facilities (schools and childcare centres); • Major infrastructure corridors; • Three ports—Port Botany, Port Kembla, and Port of Newcastle; and • Moorebank Freight Intermodal Precinct.
	NSW Climate Change Policy Framework	<ul style="list-style-type: none"> • Achieve net zero emissions by 2050; • Make NSW more resilient and adapted to a changing climate; • Maximise the economic, social and environmental wellbeing of NSW in the context of a changing climate;

	Strategic Framework	Summary of the Proposed Actions
Regional	Far West Regional Plan 2036	<ul style="list-style-type: none"> • Improve regional air connections; • Airport facility operations should not be impeded by the encroachment of incompatible development; and • Airport expansions will be identified and planned through local land use strategies.
	Central West and Orana Regional Plan 2041	<ul style="list-style-type: none"> • Support the State’s transition to Net Zero by 2050; • Grow the critical minerals sector; • Identify, protect and connect important environmental assets; • Plan for diverse, affordable, resilient and inclusive housing; and • Coordinate smart and resilient utility infrastructure.
Local	Cobar Local Environmental Plan 2012	<ul style="list-style-type: none"> • Defines what forms of development and land use are permissible and/or prohibited; • Sets out development restrictions within and/or surrounding Cobar airspace to provide effective and ongoing operation of the Airport: <ul style="list-style-type: none"> ○ Restricting development where a penetration of the OLS would occur; and ○ Restricting development on land within an Australia Noise Exposure Forecast (ANEF) contour of 20 or greater.
	Cobar Shire Council Annual Operational Plans	<ul style="list-style-type: none"> • Cobar Regional Airport to be maintained and made available for RPT and general aviation; • Conduct regular and statutory maintenance programs; • Ensure Cobar Regional Airport passes the CASA Safety Audit; • Ensure Cobar Regional Airport conforms to CASA requirements; • Maintain provision of services to key stakeholders; • Ensure OLS gradient meets required standards; and • Maintain the village airports.
	Local Strategic Planning Statement	<ul style="list-style-type: none"> • Provide employment in key economic sectors, i.e. mining sector; • Provide housing and skills development to empower the population; • Protect the natural environment; and • Celebrate Heritage Assets.
	Cobar Shire Council Community Strategic Plan	<ul style="list-style-type: none"> • Adequate healthcare options; • Quality childcare and educational opportunities; • Enhancing and growing the two key industries of mining and agriculture; • Risks, threats and possible opportunities associated with carbon policy;
Cobar Airport	Cobar Regional Airport Management Plan	<ul style="list-style-type: none"> • defined the location, tenants and activity at Cobar Regional Airport during 1998 - 2001. • short and long-term goals
	Cobar Regional Airport Master Plan	<ul style="list-style-type: none"> • Included all stakeholders; • Utilised current guidelines and regulations; • Established a baseline to ensure the Airport’s future viability; • Airport to reach its maximum potential regarding on-airport and off-airport development; • Sizing and costing of a new airport terminal; • Local, tourism and mining development needs within the Cobar region; and • Climate change impacts on airport infrastructure and operations, and the development of adaptation options and pathways.

	Strategic Framework	Summary of the Proposed Actions
	Review of the Environmental Factors for Cobar Airport	<ul style="list-style-type: none"> • For the purpose of vegetation removal, vegetation management is necessary to decrease the likelihood of wildlife incursion onto active runways; and • Council’s operations must follow the principles outlined in the NSW Local Government Act 1993.
	Landside Infrastructure Development Plan	<ul style="list-style-type: none"> • Construction of a new terminal building; and • Sizing and costing of the new terminal and subsequent prospects.
	Airside Infrastructure Development Plan	<ul style="list-style-type: none"> • Upgrade of the Airport infrastructure in 2015: <ul style="list-style-type: none"> ○ Strengthening of the runway pavement; ○ Sealing of the taxiways and aprons; and ○ Installation of new lighting structures and upgrades to the electric fence.

In summary, the main issues mentioned in the plans and strategies can be classified into 3 categories:

- Economy;
- Environment and heritage; and
- Community concerns.

These three categories and their subcategories are shown in Figure 2.6.

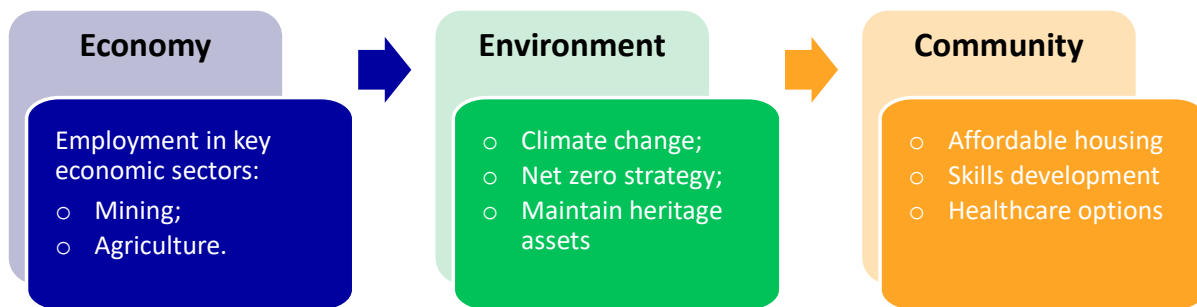


Figure 2.6 The most repeated issues of the strategies

2.2 Legislative Context

2.2.1 General

This section describes regulations that may directly Cobar Regional Airport aerodrome operations, management and development.

The legislative context has been divided into the following categories for discussion:

- Aerodrome operations;
- Manual of Standards (MOS) Part 139;
- Aerodrome reference code system;
- Airspace, safety and noise management;
- Financial and economic;
- Aerodrome safeguarding;
- Planning and development; and
- Asset management.

2.2.2 Aerodrome Operations

CASA is a Commonwealth regulator that has primary (although not exclusive) responsibility for aviation safety, including the operation of aerodromes.

CASA ensures the continued safe operation of aerodromes by administering various legislation, including but not limited to the following:

- *Civil Aviation Act* 1988;
- *Civil Aviation Safety Regulations* (CASR) 1998 which is accompanied by Advisory Circulars (AC), Acceptable Means of Compliance (AMC) / Guidance Material (GM) and the Manuals of Standards (MOS); and
- *Civil Aviation Regulations* (CAR) 1988 which is accompanied by Civil Aviation Orders (CAOs) and Civil Aviation Advisory Publications (CAAPs).

CASA's primary function is to conduct the safety regulation of civil air operations and Aerodromes in Australia and the operation of Australian aircraft overseas. It is also required to provide comprehensive safety education and training programs, cooperate with the Australian Transport Safety Bureau, and administer certain features of Part IV A of the Civil Aviation (Carriers' Liability) Act 1959.

CASA is authorised to determine and audit against the MOS Part 139, which provides a detailed set of standards for aerodrome compliance. CASA classifies aerodromes by a scalable certification framework. This framework is a single authorisation using risk-based standards. The standards enforce regulatory requirements on aerodromes based on the complexity of their operations and resultant risk.

Requirements for a safety management system, wildlife hazard management system and an aerodrome emergency plan would be based on proposed risk-related criteria that reflect aircraft and passenger movement activity. A summary of the CASA requirements that came into effect in August 2020 for aerodrome management is provided in Table 2.2.

Table 2-2 Passenger movement thresholds for proposed aerodrome management requirements (Source: CASA 2020)

Regulatory Requirement	International RPT Operations	More than 350,000 pax	50,000 + pax or 100,000 + movements	Less than 50,000 pax or less than 100,000 movements	10,000-50,000 pax or 20,000-100,000 aircraft movements	25,000 + pax or, 20,000 + aircraft movements	Less than 10,000 pax or less than 20,000 aircraft movements
Full Emergency Planning & Response	Yes	Yes	Yes	No, see 24.03, 4.04 & 24.06	N/A	N/A	N/A
Full Safety Management System	Yes + 25.04	N/A	Yes	N/A	N/A	No, see 26.01 (risk management plan)	N/A
Full Aerodrome Technical Inspection	N/A	N/A	Yes	N/A	No, see 12.07 & 12.09	N/A	No, see 12.11
Full Wildlife Hazard Management Plan	Yes	N/A	Yes	No – 17.03(4)	No – 17.03(4)	No – 17.03(4)	No – 17.03(4)

2.2.3 Manual of Standards (MOS) Part 139

The Part 139 MOS comprises specifications prescribed by CASA, of uniform application, determined to be necessary for the safety of air navigation. In those parts of the Part 139 MOS where it is necessary

to establish the context of standards to assist in their comprehension, the sense of parent regulations has been reiterated.

In addition to the Part 139 MOS, specifications and procedures, which do not reach the regulatory level and information of an educational or advisory nature, may be issued in the form of Advisory Circulars (AC's).

Aerodrome standards will change from time to time to meet identified safety needs, technological changes and changes in international standards and practices. It is recognised that there are difficulties and limitations in applying new standards to existing aerodrome facilities and installations. Appendices and tables form part of the main document and have the same status as the primary text. Part 139 MOS may also require standards from other documents to be followed. In this case, the referred standards become part of the Part 139 MOS.

CASA released safety requirements for aerodromes of all sizes across Australia. The updates reflect changes in technology and best practice, and ensures Australia enhances its level of compliance with International Civil Aviation Organization (ICAO) standards. The measures came into to effect on the 13th August 2020 and are detailed in CASA's updated Manual of Standards (MOS) Part 139 - 2019.

The Manual of Standards (MOS) Part 139 – 2019 was utilised as the basis of this review.

2.2.4 Aerodrome Reference Code System

The aerodrome reference code system specifies the standards for aerodrome facilities based on the performance and size of typically used aircraft. The code is comprised of three elements:

- Element 1 is a number related to the aeroplane reference field length;
- Element 2 is a letter related to the aeroplane wingspan and outer main gear wheel span; and
- Element 3 is the greatest OMGWS of the aeroplanes that the aerodrome or facility is nominated by the operator to serve.

The code letter or number within an element selected for design purposes is related to the characteristics of the critical aircraft for which the facility is provided.

The Aerodrome Reference Code is based on the characteristics of an aircraft and not the airport. The aerodrome facilities are then determined to meet the characteristics of the critical aircraft. A summary of the aerodrome reference codes in MOS Part 139 – 2019 are provided in Table 2.2.

The choice of OMGWS lies with the aerodrome operator. A failure to choose that which is the most demanding of applicable options may result in operational limitations for a particular aircraft type.

Table 2-3 Aerodrome reference code (MOS Part 139 - 2019)

Code Element 1		Code Element 2		Code Element 3
Code number	Aeroplane reference field length	Code letter	Wingspan	Outer main gear wheel span (OMGWS)
1	Less than 800m	A	Up to but not including 15m	Up to but not including 4.5m
2	Not less than 800m	B	15m up to but not including 24m	4.5m up to but not including 6m
3	Not less than 1200m	C	24m up to but not including 36m	6m up to but not including 9m
4	Not less than 1800m	D	36m up to but not including 52m	9m up to but not including 15m

Code Element 1		Code Element 2		Code Element 3
Code number	Aeroplane reference field length	Code letter	Wingspan	Outer main gear wheel span (OMGWS)
		E	52m up to but not including 65m	
		F	65m up to but not including 80m	

Unless otherwise agreed by CASA, aerodrome operators are required to maintain the aerodrome’s runways and taxiways in accordance with the standards set out in the Part 139 MOS applicable to the Aerodrome Reference Code for the runway or taxiway.

Table 2-4 CASA MOS Part 139-2019 Minimum graded runway strip width

Runway Code Number (ARC)	Graded Runway Strip Width
1 Note See also MOS 139 subsection 6.17 (3).	60m
2	80m
3 (if the runway is 30m)	90m
3 (if the runway is used for scheduled international air transport operations); or 3 (if the runway is 45m or more); or 4	150m

Note For Code 3 runways with a width of 30m, a 150m wide graded runway strip is recommended.

For a non-precision approach runway — the width of the runway strip, including the fly-over area, must not be less than that shown in Table 2.4.

Table 2-5 Runway strip width, including the fly-over area — non-precision approach runways

Runway Code Number (ARC)	Runway strip width, including the fly-over area
1 or 2	140m
3 or 4	280m

2.2.5 Airspace, Safety and Noise Management

CASA and Airservices Australia (AsA) share responsibility for the provision of airspace management. CASA’s Office of Airspace Regulation (OAR) is a distinct operational unit within CASA and is responsible for regulating Australian airspace whereas AsA administers the use of airspace classified by OAR.

The OAR conducts aeronautical studies to determine the appropriateness of the surrounding airspace classification and whether there is a need for reassessment of the risk at a particular airport. AsA has responsibility for airspace management, aeronautical information, aviation communications, radio navigation aids and aviation rescue and firefighting services.

Relevant legislative instruments include, but are not limited to the following:

- *Airspace Act 2007*;
- *Airspace Regulations 2007*;
- *Air Navigation Act 1920*;
- *Air Navigation Regulations 1947*;
- *Air Navigation (Aircraft Noise) Regulations 1984*;
- *Air Services Act 1995*; and
- *Air Services Regulations 1995*.

Depending on the level of service required to manage traffic safely and efficiently, Australian airspace is classified as either controlled (Class A, Class C, Class D or Class E) or non-controlled (Class G). This is in line with the International Civil Aviation Organisation (ICAO) Annex 11 and is further described in the Australian Airspace Policy Statement (AAPS).

The classification determines the category of flights permitted and the level of air traffic services (ATS) that must be provided. Cobar Regional Airport is considered a non-controlled aerodrome and therefore subject to Common Traffic Advisory Frequency (CTAF) procedures.

Another agency is the Australian Transport Safety Bureau (ATSB). The ATSB is Australia's national transport safety investigator which was established by the *Transport Safety Investigation Act 2003* (TSI Act). The ATSB conducts its safety investigations in accordance with the provisions of the TSI Act and with a focus on improving safety. Under the TSI Act, it is not a function of the ATSB to apportion blame or provide a means for determining liability in safety matters and the ATSB does not investigate for the purpose of taking administrative, regulatory or criminal action.

2.2.6 Financial and Economic

Transport for NSW (TfNSW) regulate (and deregulate) the all-important intrastate air routes provided across NSW by regional operators in accordance with the Air Transport Act 1964. The Act also requires TfNSW to license air services from one place in NSW to another place in NSW.

Licensing functions are vested by the Director-General and appeals are reviewable by the Administrative Decisions Tribunal. Air transport licences are allocated.

Under the Act, operators are required to submit quarterly passenger statistics to TfNSW, for each route linked to Sydney Kingsford Smith Airport, whether regulated or deregulated. This is to ensure continued collection and publication of data on intrastate airline activity.

Regulation includes limiting competition on low volume routes that are not always robust and may need protection to provide stability and encourage market development. TfNSW license these routes on a one-route/one-licence basis for five years at a time. The threshold for a route being allocated to one licensed operator only is that the route operates at or below 50,000 passengers per annum.

The following services are exempt from licensing requirements:

- Services operating on fewer than 5 occasions within any period of 28 days over the route;
- The provision of a charter service, being any air transport service that is operated or provided otherwise than as a regular service over a particular route; and
- The provision of a regular air transport service over a deregulated route.

It is also not necessary for these operations/services to hold a NSW licence:

- Interstate or international flights (i.e. services operated from a port in NSW direct to one outside NSW);
- Charter flights (noting that under the Act charters are not permitted to fly the same route more than four times over any 28 day period unless specifically authorised);
- Flights not carrying passengers for cash or kind;
- Freight operations;
- Air work, including that requiring the carriage of operatives (e.g. cameramen);
- Joy flights (i.e. those landing at the airport of origin);
- Airship or hot-air balloon operations;
- Commercial regional aviation services in Australia;
- Transport links to major populated islands.; and
- Deregulated routes.

The Minister for Transport has declared all intrastate routes not linked to Sydney Kingsford Smith Airport and the routes between Sydney Kingsford Smith Airport as deregulated.

The Commonwealth government administers the AsA Enroute Charges Payment Scheme to assist with ensuring the continuation of air services to regional Australia. The aim of the scheme is to provide regional and remote communities with access to essential air services that can in turn connect these smaller communities with the rest of Australia.

The Commonwealth's Policy for Aviation encourages the growth of regional aviation services across Australia and the expansion of the current network by giving impetus for operators to test whether a new route can be commercially viable in time. Airlines can claim reimbursement of 60% of the enroute charges levied by Airservices Australia on eligible scheduled commercial flights operated on an RPT basis to/from regional and remote locations. Airlines providing aeromedical services to regional and remote areas are eligible to receive a reimbursement of 100% of enroute charges levied for aeromedical flights.

2.2.7 Aerodrome Safeguarding

The National Airports Safeguarding Advisory Group (NASAG), comprising of Commonwealth, State and Territory government planning and transport officials, the Department of Defence, CASA, AsA and the Australian Local Government Association (ALGA), has developed the National Airports Safeguarding Framework (NASF). The NASF is a national land use planning framework that aims to:

- Improve community amenity by minimising aircraft noise-sensitive developments near airports; and
- Improve safety outcomes by ensuring aviation safety requirements are recognised in land use planning decisions through guidelines being adopted by jurisdictions on various safety-related issues.

The NASF has the following parts that are relevant to Cobar Regional Airport:

- Principles for National Airports Safeguarding Framework
- Guideline A: Managing Aircraft Noise
- Guideline B: Managing Building-Generated Windshear
- Guideline C: Managing Wildlife Strike Risk
- Guideline E: Managing Pilot Lighting Distraction
- Guideline F: Managing Protected Airspace Intrusion
- Guideline G: Communications, Navigation and Surveillance

2.3 SWOT Analysis

A Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis has been undertaken for Cobar Shire Council.

2.3.1 Strengths and Advantages

Cobar Regional Airport has the following benefits:

- Lots of open area for future development;
- Advantageous placement with no regional airports close by with the same good access to as many major mines;
- Strong FIFO airport identity (cultural);
- Recently upgraded airside facilities including runways, taxiway, apron and lighting infrastructure all in excellent condition;
- New refuelling facilities (with a competitive price);
- Reasonably convenient layover airport for GA aircraft; and
- Deregulated RPT route.

2.3.2 Weaknesses and Constraints

The following weaknesses and constraints have been identified:

- Landside facilities determine critical capacity and do not match airside facilities in quality (i.e. small terminal);
- Heavily reliant on strong mining activity/industry; and
- Reliant on strong business performance from a single air travel corporation (i.e. RPT service would immediately cease for a period if that company went bankrupt).

2.3.3 Opportunities and Prospects

The following opportunities and prospects have been identified relevant to the Airport:

- New mining deposits have been found recently (potential increase in FIFO);
- Significant change to obtain government grants for further airport development (i.e. terminal);
- New ULP refuelling facilities generating additional recreation aviation traffic;
- Opportunity to introduce a flying school; and
- Non-aviation development including residential construction.

2.3.4 Threats and Risks

The following threats and risks have been identified:

- Mining industry downturns or lack of new deposits due to cyclical nature of the industry;
- Declining Cobar population; and
- Temporary suspension of RPT operations.

2.4 Stakeholder Consultation

It is important to identify relevant stakeholders, their interactions with the various aerodrome assets and their relevant serviceability and performance expectations to gain an understanding of stakeholder's perceptions and requirements of the different assets and the overall network.

A Community Engagement Plan was developed for the Airport Master Plan to provide a strategic direction for the public consultation process during the planning and preparation phase of the Master Plan. The purpose of this plan was to assist Council and ensure the preparation of the Airport Master Plan considered and involved all relevant stakeholders and parties of interest.

The objectives of the Plan were as follows:

- Share information and create alignment between Council, stakeholders and residents;
- Identify and develop a plan to inform key stakeholders;
- Assign responsibilities for project tasks and information, particularly those related to the dissemination of information to stakeholders;
- Manage sponsor and stakeholder information and expectations; and
- Maintain the focus of the Cobar Regional Airport Master Plan and all related development.

The two main components of the consultation period involved the following:

- Key stakeholder consultation;
- NARClIM workshop; and
- Community open day.

Typical stakeholder groups relevant to the Cobar Regional Airport Master Plan and their typical expectations regarding Level of Service (LOS) requirements are summarised in Table 2.6.

Table 2.6 Cobar Regional Airport stakeholders and their qualitative LOS expectations

Group	Stakeholder Description	Qualitative LOS Expectations
RPT Passengers	Relevant inbound and outbound passengers within each aerodrome’s catchment area	Access to services, service quality, condition of facilities and terminal capacity (if applicable), car parking, rental car, concessions, fare price
Local Industry	Business, commerce, tourism, arts, health, sports, and education organisations	Access to major centres, condition of facilities, maximisation of passengers
Community	Wider community	Economic benefits and access to services / emergency care, frequency of RPT services
RPT Airlines	QantasLink, Rex and other relevant RPT operators	Condition of facilities, operational efficiency / on-time performance, passenger demand and safety
Emergency Services	Royal Flying Doctors Service (RFDS), NSW Air Ambulance, Police and Fire & Rescue Services, State Emergency Service (SES), Department of Defence (DoD)	Accessibility, capacity, availability and safety of facilities
Other Airport Users	Charter aircraft operators, General Aviation (GA) users, Drag racing clubs	Condition of facilities, accessibility and safety
Service Providers	Aviation fuel and oil suppliers, ground handler (baggage handling and sorting, loading and unloading of aircraft, interior cleaning of aircraft, toilet and water service, contractors	Condition of facilities, operational efficiency / on-time performance, passenger demand and safety
Aerodrome Operator	Cobar Shire Council	Safety, airport growth and economic benefits to community, customer satisfaction
Funding Organisations	Council rate payers as well as third party contributors such as the Commonwealth and NSW Governments	Economic benefits to community, value for money investments
Concessionaires	Food & beverage / retail operators (not likely to be sustainable within the	Airport growth and increasing passenger spend rates

Group	Stakeholder Description	Qualitative LOS Expectations
	Region, however stakeholder included as reference)	
Employees	Council employees of the airport organisation and airport tenants	Provide secure jobs, wages, and benefits
Commonwealth Regulators	OTS, AsA, CASA etc	Regulatory compliance / airport standards, safety, performance, capacity, noise, economic benefits
State Regulators	NSW Department of Regional Development, RMS etc.	Regulatory compliance and economic development
Non-Government Organisations	Aircraft Owners & Pilots Association, Australian Airports Association, Recreational Aviation Australia	Facilities, safety, sustainability of the airport to continue operating
Ground Transportation	Rental car companies either on-airport or off-airport, taxi services	Car parking facilities, access to airport, inbound passenger volume

2.4.1 Key Stakeholder Consultation Feedback

The stakeholder consultation included Council identifying and seeking to consult with all appropriate individual stakeholders across a variety of businesses and user groups including:

- Airport operator (Cobar Shire Council);
- Airlines & airport users;
- Local Government;
- NSW Government;
- Commonwealth Government;
- Concessionaires / refuelling; and
- Community & business.

A summary of Airport stakeholders that were identified and invited to engage with Council and JJR for development of the Cobar Regional Airport Master Plan are outlined in Table 2.7, with a list of feedback (both written and verbal) summarised in Appendix B.

Further stakeholder consultation was undertaken as part of this review. The consultation included regular users, emergency services and concessionaires.

Table 2.7 Relevant stakeholders

Category	Stakeholder Description
Airport Operator	Cobar Shire Council
Airlines & Airport Users	Regional Express (Rex) Airlines Virgin Australia Regional Airlines (VARA) QantasLink JETGO Australia Aircraft & Charter Operators Recreational Aviation Australia Sport Aircraft Association of Australia Australian Sports Rotorcraft Association Inc. (ASRA) Royal Flying Doctor Service CareFlight / Air Ambulance Aero Club Airport Tenants
Local Government	Bourke Shire Council Brewarrina Shire Council Bogan Shire Council Lachlan Shire Council Carrathool Shire Council Central Darling Shire Council Local Government NSW
NSW Government	Transport for NSW NSW Roads & Maritime Services Tourism NSW Department of Planning & Environment NSW Office of Environment and Heritage NSW Office of Local Government Infrastructure NSW NSW Department of Industry NSW Public Works – Regional Service NSW Office of Emergency Management NSW Rural Fire Service NSW Police Force Ambulance Services of NSW NSW State Emergency Service
Commonwealth Government	Department of Infrastructure & Regional Development Civil Aviation Safety Authority Airservices Australia Office of Transport Security Department of Defence Bureau of Meteorology
Concessionaires / Refuelling	Hertz Hire Car Company Skyfuel
Community & Business	Airline Passengers Surrounding Neighbours Hotel and Motel Operators Enterprise Park Developers/Facilitators Chamber of Commerce Local Hospital Local Mining Organisations Australian Airports Association Other Community Groups

2.4.2 Consultation Outcomes

A community open day was held on 28 October 2017 during the town's Festival of the Miner's Ghost to seek general community feedback on the current state of the Airport and potential future development.

Key outcomes of discussions held during the key stakeholder and community engagement sessions include, but are not limited to the following:

- Extension or construction of new passenger terminal building;
- Creation of regional aero club;
- Operation of helicopter joy flights;
- Extension and revamp of existing car park;
- Attractive airport entrance signage and display;
- Additional hangars and club buildings;
- Telstra communications tower;
- Flight training school;
- Garage for RFDS road ambulance; and
- Provision of water storage tanks for firefighting.

The minutes of meetings and other key feedback from interested stakeholders through the consultation and community engagement sessions is provided in Appendix C.

3 Climate Change Risk Assessment

3.1 NSW Climate Change Policy

Climate change will increasingly affect the environment and society in every part of NSW. Changes in natural hazards are already being observed. For example, heat waves, heavy precipitation and severe bushfire conditions have become more frequent and more intense.

Australia's climate has warmed by 0.9 °C since 1910, and this has been accompanied by a large increase in extreme temperatures. Average temperatures have been steadily rising since the 1960s. The decade from 2001 to 2010 was the hottest on record, while 2014 was the hottest year in New South Wales.

The impact of climate change on the Orana region has formed a significant discussion during the development of this Airport Master Plan.

The NSW Climate Change Policy Framework outlines the long-term objectives to achieve net-zero emissions by 2050 and to make New South Wales more resilient to a changing climate.

This policy framework builds on a strong track record of expanding clean energy, helping households and businesses reduce their bills by saving energy and preparing for the impacts of climate change.

The NSW Government will be using public feedback to develop three action plans for investing up to \$500 million over five years across three priority investment areas:

- Accelerating advanced energy;
- National leadership in energy efficiency; and
- Preparing for a changing climate.

3.2 Current Climate in Cobar

Cobar has a semi-arid climate with hot summers and cool to mild winters, however winter nights can be relatively cold.

On average, rainfall tends to be uniformly distributed throughout the year, with a median annual rainfall for Cobar MO of 346.5mm. The rainfall is extremely variable, particularly late summer and early spring.

Average monthly maximum temperatures tend to range from 17°C to 19°C in winter to between 34°C to 36°C in summer. Average monthly minimum temperatures range from 5°C to 6°C in winter to 20°C to 22°C in summer.

The humidity in Cobar is low, where during summer the average relative humidity is approximately 32% and in winter it is approximately 60%.

Annual weather average temperature and rainfall in Cobar is outlined in Figure 3.1.

Annual Weather Averages in Cobar

Based on weather reports collected during 2012–2021.

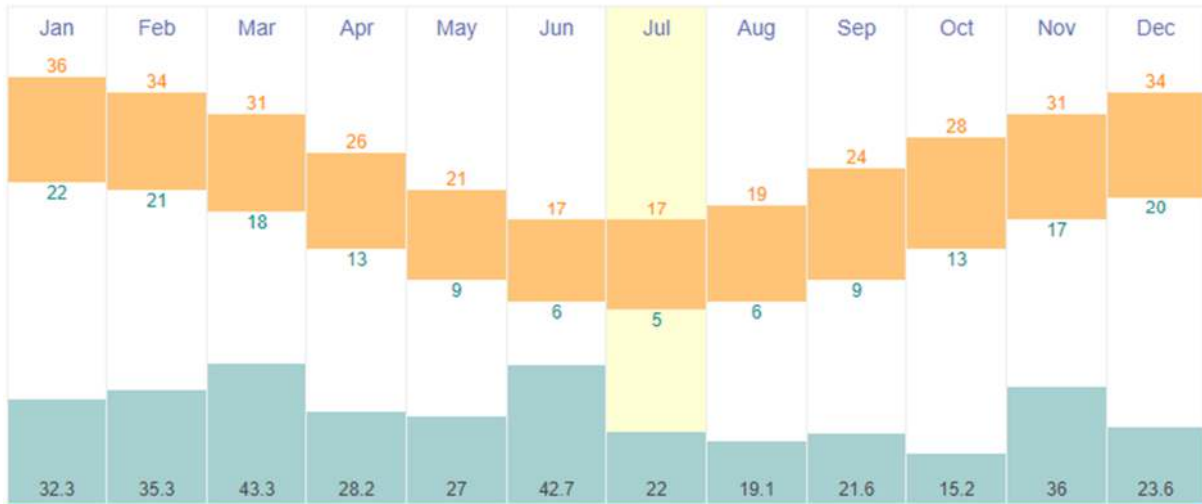


Figure 3.1 Annual weather averages in Cobar (temperature and rainfall)

An overview of the current climate in NSW generally is shown in Figure 3.2 to Figure 3.4, including:

- Map of average annual temperatures across NSW, 1991–2020;
- Map of average summer daily maximum temperature for 1991–2020;
- Map of average winter daily minimum temperature for 1991–2020; and
- Major seasonal rainfall zones of Australia.

Average annual max. temperature 30-year climatology (1991 to 2020)
 Australian Bureau of Meteorology

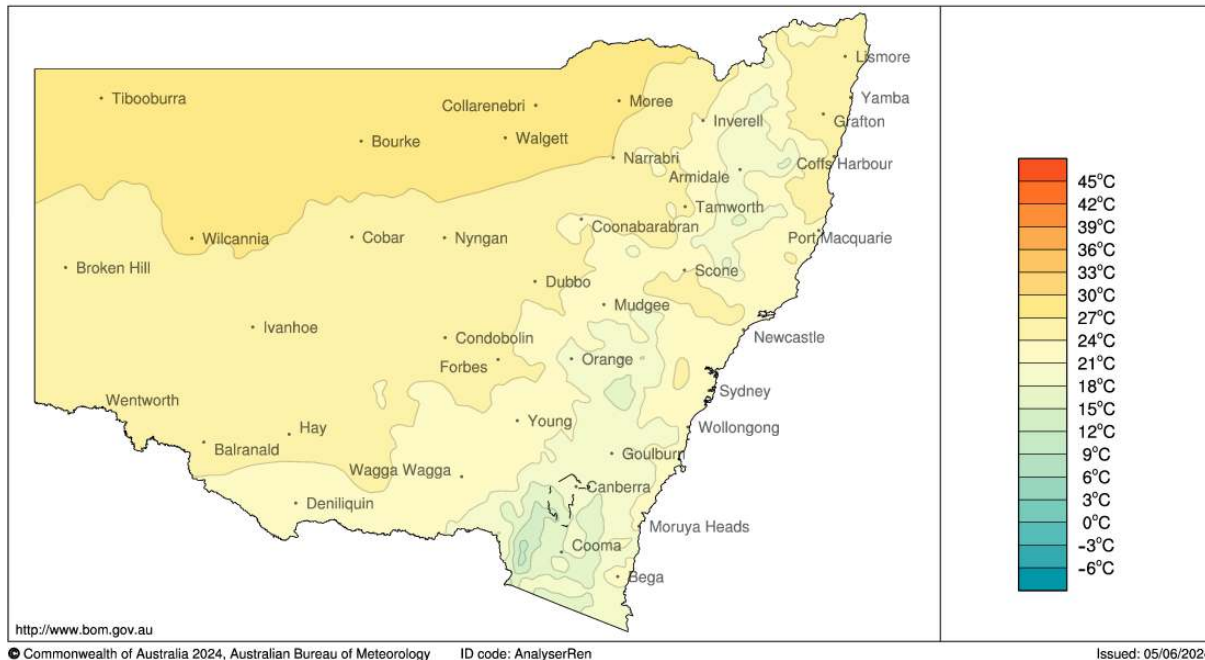


Figure 3.2 Map of average annual temperatures across NSW, 1991–2020 (Source: Bureau of Meteorology).

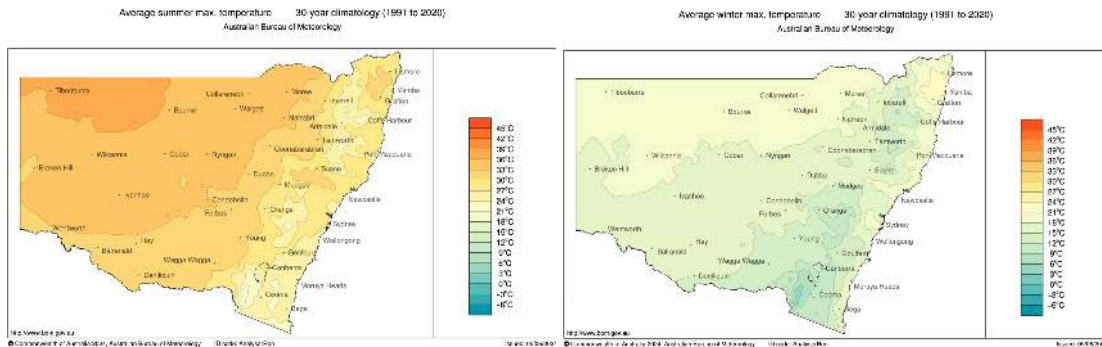


Figure 3.3 Map of average summer and winter daily maximum temperatures for 1991–2020

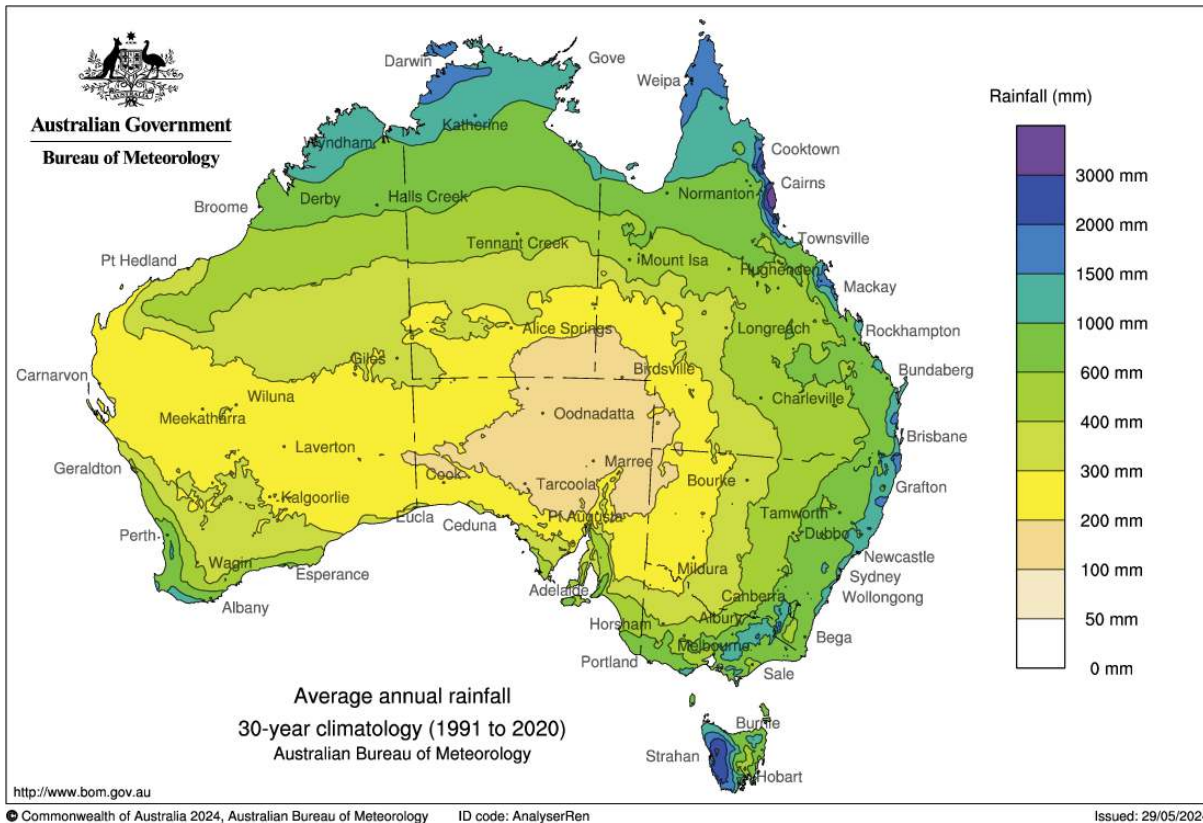


Figure 3.4 Annual rainfall zones of Australia

3.3 NARClIM

3.3.1 Overview

The NSW and ACT Regional Climate Modelling (NARClIM) project is a research partnership between the NSW and ACT governments and the Climate Change Research Centre at the University of NSW. The NSW partners include Sydney Water, Sydney Catchment Authority, Hunter Water, NSW Department of Transport, NSW Department of Primary Industry and NSW Office of Water.

NARClIM began in 2011 in response to the need by regional decision makers and impact assessment researchers for high resolution climate change projections. Previously climate change information had been at a scale that could not be used for localised decisions. NARClIM has produced an ensemble of robust regional climate projections for south-eastern Australia that can be used by the NSW and ACT community to plan for the range of likely future changes in climate.

The NARClIM framework assess the current climate of the region and further assesses:

- Likely changes in climate (temperature and rainfall) by 2030 and 2070;
- Likely changes to Severe Fire Weather by 2030 and 2070;
- Likely changes to Hot days (maximum temperatures >35°C); and
- Likely changes to Cold nights (minimum temperatures <2°C).

The impacts of climate change are described in the NARcliM model over the following timeframes:

- Near future, with climate projections for 2020–2039 (where 2030 represents the average for the 20-year period); and
- Far future, with climate projections for 2060–2079 (where 2070 represents the average for the 20-year period).

The NARcliM framework considers Cobar to be part of the “Far West” region of NSW. A snapshot of the NSW and the Far West current climate and predicted climate changes are provided in Appendix D for reference.

3.3.2 Climate Forecasts

The projected changes to the NSW climate in the Far West region are shown in Figure 3.5. A snapshot of the NSW and the Far West current climate and predicted climate changes are provided in Appendix D for reference.

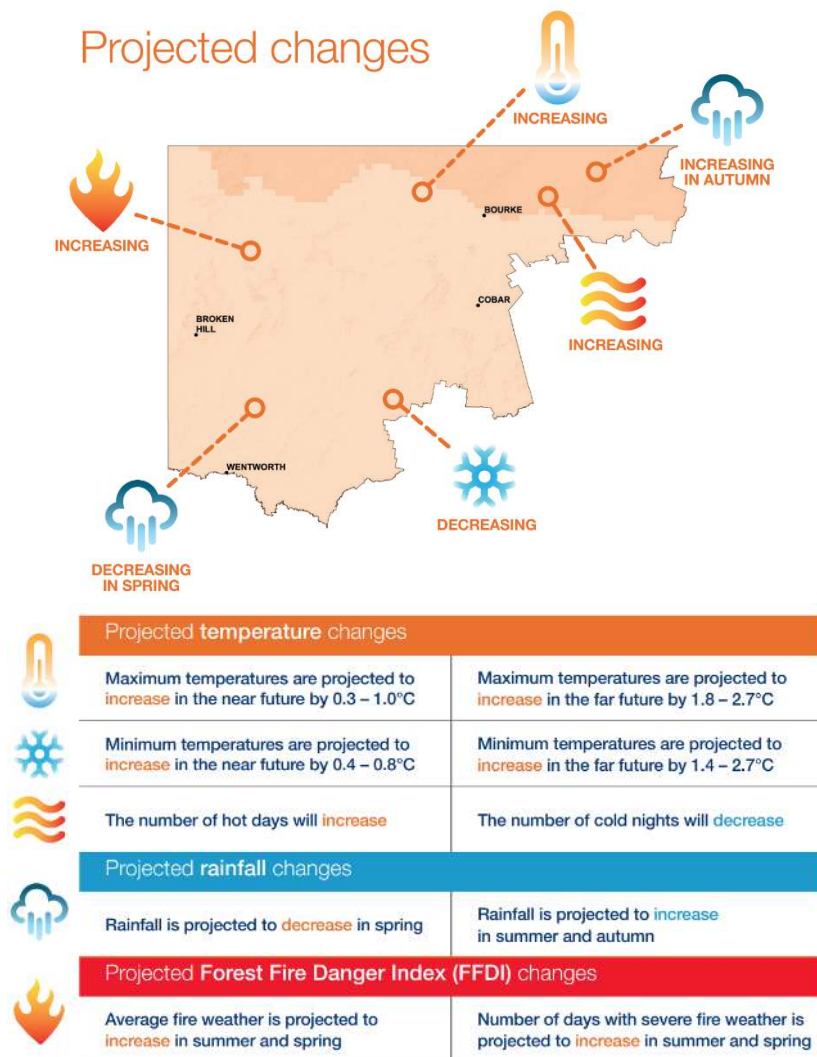


Figure 3.5 Predicated climate changes in the NSW Far West region

Cobar is expected to experience the following:

- An increase in all temperature variables (average, maximum and minimum) for the near future and an even greater increase in the far future;
- Increases in hot days are which will mainly occur in spring and summer although in the far future hot days are also extending into autumn;
- Minor decreases in cold nights are expected during winter and spring;
- A decrease of spring rainfall in the near future and far future and an increase in autumn rainfall in the near future and the far future; and
- An increase increases in average and severe fire weather mainly in summer and spring.

The expected climate change risk impacts relevant to Cobar are provided in Table 3.1.

Table 3.1 Expected climate change risk impacts for Cobar

NARClIM Risk Category	Near Future Expected Impact	Far Future Expected Impact
Temperature (Maximum)	Maximum temperatures are projected to increase in the near future by 0.7°C	Maximum temperatures are projected to increase in the far future by 2.1°C
Temperature (Minimum)	Minimum temperatures are projected to increase by near future by 0.7°C	Minimum temperatures are projected to increase by far future by 2.1°C
Hot Days	An additional 10 to 20 hot days are expected per annum (i.e. the annual average number of days with temperatures greater than 35°C)	An additional 30 to 40 hot days are expected per annum (i.e. the annual average number of days with temperatures greater than 35°C)
Cold Nights	An additional 1 to 5 days cold nights are expected per annum (i.e. the annual average number of days with temperatures below 2°C)	An additional 5 to 10 days cold nights are expected per annum (i.e. the annual average number of days with temperatures below 2°C)
Rainfall	Summer, change of +5% to +10% Autumn, change of +10% to +20% Winter, change of -5% to -10% Spring, change of -5% to -10%	Summer change of +5% to +10% Autumn, change of +10% to +20% Winter, change of +10% to +20% Spring, change of -5% to 0%
Fire Weather	Projected changes in average daily FFDI, compared to the baseline period (1990–2009) forecast for far future only	Summer, change of +1.0 to +1.5 Autumn, change of +0.0 to +0.5 Winter, change of +0.5 to +1.0 Spring, change of +2.5 to +3.0
Fire Weather	Projected changes in average annual number of days with a FFDI greater than 50, forecast for far future only	Summer, change of +0.5 to +1.0 Autumn, change of 0.0 to -0.5 Winter, change of 0.0 to +0.5 Spring, change of +1.0 to +1.5

3.4 Risk Assessment

3.4.1 Risk Criteria

The framework adopted for the risk assessment has been based on AS/NZS ISO 31000:2009 to ensure that information about risk derived from risk management processes are adequately reported and used as a basis for decision making and accountability.

Risks that have been identified have been assessed utilising the following climate change impact categories:

- Temperature;
- Hot Days;
- Cold Nights;
- Rainfall;
- Fire Weather;
- Geological;
- Atmospheric; and
- Other.

The risks were then assessed for the following, as outlined in Table 3.2 to Table 3.8:

- Risk likelihood ratings;
- Risk consequence ratings;
- Inherent risk rating;
- Risk level descriptions and tolerance;
- Effectiveness of Controls;
- Residual Likelihood based on control effectiveness; and
- Residual Consequence based on control effectiveness.

Table 3.2 Risk likelihood ratings

Likelihood of Risk Materialising	Probability	Definition
Almost Certain	10 times or more every year	Expected to occur frequently during time of activity or project
Very Likely	1-10 times every year	Expected to occur occasionally during time of activity or project
Likely	Once each year	More likely to occur than not occur during time of activity or project
Unlikely	Once every 1 to 10 years	More likely not to occur than occur during time of activity or project
Very Unlikely	Once every 10 to 100 years	Not expected to occur during the time of activity or project
Almost Unprecedented	Less than once every 100 years	Not expected to ever occur during time of activity or project

Table 3.3 Risk consequence ratings

Consequence	Impact (\$)	Definition
Catastrophic	> \$100M	Irreversible large-scale environmental impact with loss of valued ecosystems
Severe	\$50M - \$100M	Long-term environmental impairment in neighbouring or valued ecosystems. Extensive remediation required
Major	\$10M - \$50M	Impacts external ecosystem and considerable remediation is required
Moderate	\$1M - \$10M	Short-term and/or well-contained environmental effects. Minor remedial actions probably required

Minor	\$100k - \$1M	Change from normal conditions within environmental regulatory limits and environmental effects are within site boundaries
Insignificant	< \$100k	No appreciable changes to environment and/or highly localised event

Table 3.4 Inherent risk rating

Likelihood	Consequence					
	Insignificant	Minor	Moderate	Major	Severe	Catastrophic
Almost Certain	Medium	High	High	Extreme	Extreme	Extreme
Very Likely	Medium	Medium	High	High	Extreme	Extreme
Likely	Low	Medium	Medium	High	High	Extreme
Unlikely	Low	Low	Medium	Medium	High	High
Very Unlikely	Low	Low	Low	Medium	Medium	High
Almost Unprecedented	Low	Low	Low	Low	Medium	Medium

Table 3.5 Risk level descriptions and tolerance

Risk Level	Description
Extreme	Very high risks are generally intolerable and should be avoided except in extraordinary circumstances. Where the risk has health, safety or environmental consequences the activity must not be undertaken without the explicit approval of Council. An alternative solution must be found, and all necessary steps must be taken to reduce the risk below this level without delay.
High	High risks are undesirable. They can only be tolerated if it is not reasonably practicable to reduce the risk further. Where the risk has health, safety or environmental consequences the activity must not be undertaken without the explicit approval of the relevant Direct Report to the Council who is to verify that all reasonably practicable treatment has been implemented. High risks are considered to be on the verge of being unacceptable and must be given immediate priority.
Medium	Medium risks are tolerable if it is not reasonably practicable to reduce the risk further. Where a risk has health, safety or environmental consequences the activity should be reviewed to determine if the risk can be reduced further and whether all reasonable and practicable controls have been considered and/or applied. Additional treatment measures should be sought if significant benefit can be demonstrated and/or there is an additional treatment measure which is recognised as good practice in other like environments
Low	Low risks are considered to be broadly acceptable. Where the risk has health, safety or environmental consequences control measures should be effective, reliable and subject to appropriate monitoring. If options for further risk reduction exist and costs are proportionate to the benefits, then implementation of such measures should be considered. The risk and its treatments should be subject to appropriate degrees and forms of monitoring to ensure that it remains at this level

Table 3.6 Effectiveness of Controls

Control Effectiveness	Description	Reduction Value
Damaging	Control(s) in place actually increase the risk	-10%
None	No controls in place	0%
Deficient	Controls applied are not adequate for the job	10%
Marginal	Controls applied go part of the way to reduce the risk or impact	30%
Qualified	Controls applied go a reasonable way to reduce the risk or impact	50%
Effective	Controls applied reduce the risk of impact sufficiently or significantly	70%
Excessive	Controls applied are more than necessary to reduce the risk or impact. Potentially over controlled	90%

Table 3.7 Residual Likelihood based on control effectiveness

Effectiveness of Preventive Controls	Inherent Likelihood Rating					
	Almost Certain	Very Likely	Likely	Unlikely	Very Unlikely	Almost Unprecedented
Damaging	Almost Certain	Almost Certain	Very Likely	Likely	Unlikely	Very Unlikely
None	Almost Certain	Very Likely	Likely	Unlikely	Very Unlikely	Almost Unprecedented
Deficient	Almost Certain	Very Likely	Likely	Unlikely	Very Unlikely	Almost Unprecedented
Marginal	Very Likely	Likely	Unlikely	Very Unlikely	Very Unlikely	Almost Unprecedented
Qualified	Likely	Unlikely	Unlikely	Very Unlikely	Almost Unprecedented	Almost Unprecedented
Effective	Unlikely	Very Unlikely	Very Unlikely	Almost Unprecedented	Almost Unprecedented	Almost Unprecedented
Excessive	Very Unlikely	Rare	Rare	Almost Unprecedented	Almost Unprecedented	Almost Unprecedented

Table 3.8 Residual Consequence based on control effectiveness

Effectiveness of Corrective Controls	Inherent Consequence Rating					
	Insignificant	Minor	Moderate	Major	Severe	Catastrophic
Damaging	Minor	Moderate	Major	Severe	Catastrophic	Catastrophic
None	Insignificant	Minor	Moderate	Major	Catastrophic	Catastrophic
Deficient	Insignificant	Minor	Moderate	Major	Catastrophic	Catastrophic
Marginal	Insignificant	Minor	Moderate	Major	Catastrophic	Catastrophic
Qualified	Insignificant	Insignificant	Minor	Moderate	Major	Major
Effective	Insignificant	Insignificant	Minor	Moderate	Major	Major
Excessive	Insignificant	Insignificant	Insignificant	Moderate	Major	Major

3.4.2 NARClIM Risk Assessment

An internal NARClIM risk workshop was held and facilitated by JJR to review and assess climate change risks and requirements for future infrastructure development, and the general state of the Airport.

A total of 24 risks were identified and assessed, with the inherent and residual risk ratings outlined in Table 3.9.

Table 3.9 Inherent and residual risk rating summary

Risk Rating	Inherent Risks	Residual Risks
Extreme	0	0
High	2	0
Medium	21	0
Low	1	24

There were only two risks rated as “high”, which were both related to severe fire weather, specifically:

- Risk ID 12: Increase in frequency and intensity of heatwaves; and
- Risk ID 13: Increased daily mean temperature and dryer climate conditions.

It was determined that for Risk ID 12, there are existing emergency management procedures, fire-fighting service, however the risk could be further mitigated by the installation of water storage tanks, fire-fighting equipment available at airport and providing fire-bombing facilities.

It was determined that for Risk ID 13, Council are currently maintaining vegetation surrounding terminal, that there are minimal trees and foliage within and surrounding airport boundary as well as the availability of fire service. It was identified that the risks could be further mitigated through the same measures as Risk ID 12.

All risks have been mitigated and assessed as having a “Low” residual risk rating. The NARClIM risk register outlining all climate related risks and mitigation measures is provided in Appendix E.

4 Existing Facilities

4.1 Airport Objectives

The Cobar Aerodrome Manual was prepared to ensure that the Airport is operated and maintained as a critical transportation asset to facilitate Council’s commitment to a healthy and caring environment, and to ensure that a safe and secure facility is provided to ensure the success of the local region.

4.2 Aerodrome Inspections

The Aerodrome Manual requires serviceability inspections to be carried out by Duty Airport Reporting Officers before the first scheduled RPT service of the day, any time there are RPT operations at dusk/night, after severe weather events or when requested by the Airport Manager, CASA, the ATS or RFDS. Inspections address a comprehensive range of criteria including:

- Surface condition of runways, strips, taxiways and aprons;
- All airside lighting;
- The operation of the Pilot Activated Lighting System (PALS) and Common traffic advisory frequency (CTAF) radio;
- Obstacle Limitation Surfaces (OLS) for obstructions in particular on approach and take-off surfaces;
- All ground markings including painted, visual and gable markers;
- The condition of the perimeter fence and gates;
- Any bird or animal hazards including the reporting of dead wildlife found;
- Notice to Airmen (NOTAM) are to be issued or updated as required; and
- Airside perimeter roads and tracks.

Technical Inspections are carried out annually as per the Aerodrome Manual. Inspections of specific issues are completed before the annual inspection when a problem is identified from a serviceability inspection. The Airport Manager is required to ensure that technical inspections are carried out by qualified persons and that the appropriate corrective actions are undertaken in good time.

4.3 Facilities and Levels of Service

The high-level components and facilities available at the Airport are summarised in Figure 4.1.

Airside	Terminal	Landside
<ul style="list-style-type: none"> • Two sealed runways • Two sealed taxiways • RPT and GA sealed apron • Three hangars • Airfield lighting • Refuelling facilities • Abandoned aero club building • Non-directional beacon • Illuminated wind indicator 	<ul style="list-style-type: none"> • Terminal facilities • Security equipment • Standby / backup power 	<ul style="list-style-type: none"> • Fencing • Entry road (Airport Road) • General car parking area • Rental car parking area • Airport manager housing • Utility services

Figure 4.1 Basic categorisation of aerodrome infrastructure types

An overview of the existing airport boundary and facilities is shown in Figure 4.2.



Figure 4.2 Existing site and facilities plan

4.4 Airside Facilities

4.4.1 Runways

The Airport has two runways as shown in Figure 4.3 comprising of:

- Runway 05/23 (primary); and
- Runway 17/35 (secondary cross runway).

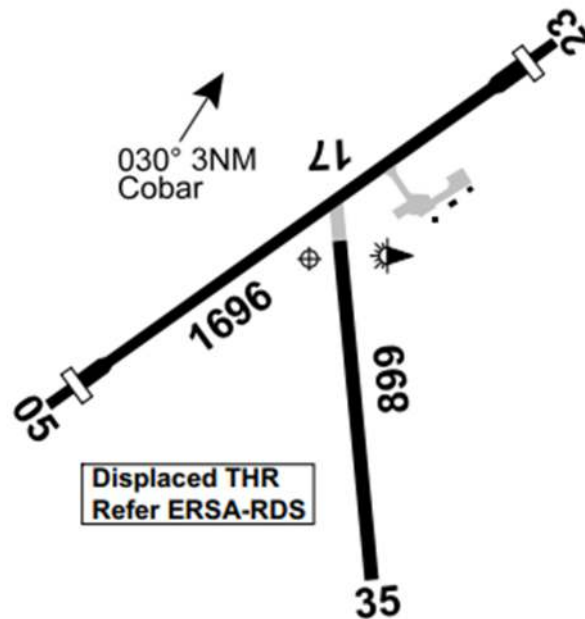


Figure 4.3 ERSA extract showing airfield layout

Runway 05/23 is 1,696m long and 30m wide. The runway strip associated with Runway 05/23 is 1,816m long and 150m wide with a 90m graded portion. This runway is suitable for non-precision instrument approach operations by aircraft up to Code 3C.

Runway 17/35 is 899m long and 23m wide. The runway strip associated with this runway is 1,019m long and 90m wide.

Both runway pavements have a sealed surface and a published Pavement Classification Number (PCN) of 20/F/D/700(102PSI)/T.

Previous Aerodrome Technical Inspections (ATI) noted signs of water flowing across the runway during extremely heavy rainfall periods. It was highlighted that the flooding had not appeared to have caused any damage to the runway or the runway strip.

The sealed pavements were reconstructed in the summer of 2014/15 using lime stabilisation in two layers, to a depth of 1.0m which was sealed with a new two coat bitumen spray seal (10/7mm aggregate).

This runway pavement is in good condition and general maintenance treatments are recommended to be undertaken in the next 10 years to maintain the condition of the pavement.

4.4.2 Taxiways

There are two taxiways at the Airport, specifically:

- Taxiway Alpha (active); and

- Taxiway Bravo (inactive).

Taxiway Alpha provides the main access from the apron to Runway 05/23. It has a sealed surface and is 15m wide. This taxiway is suitable to accommodate aircraft with a OMGWS of 6 m up to but not including 9 m in accordance with Part 139 MOS, Section 6.37 and is lit with blue taxiway edge lights.

Taxiway Bravo has been decommissioned following advice that the taxiway does not comply with the requirements of Part 139 MOS. Taxiway B previously connected the apron in a south-westerly direction to Runway 17/35. It has a sealed surface and is 10.5m wide.

4.4.3 Aprons

The Airport has one large sealed apron area comprising of an RPT area on the western side, and GA aircraft operations on the eastern side.

The RPT apron is approximately 100m wide and 50m long. It accommodates two aircraft parking positions for suitable commercial aircraft. The RPT apron has yellow painted aircraft nosewheel and pilot guidelines to assist aircraft to taxi and park safely without the need for a marshaller. Parking and engine run-ups are currently self-managed by pilots, with no marshalling, docking, follow-me or push-back control services as is appropriate to the scope of operations.

The GA apron is approximately 90m wide and 60m long, with no linemarking provided. The apron is equipped with tie down anchor points for GA aircraft.

4.4.4 Visual and Navigation Aids

The Airport maintains the following navigational aids to assist pilots and airport users:

- Non-Directional Radio Beacon (NDB) located near the Airport entrance; and
- Illuminated Wind Indicator (IWI) located to the south-west of the terminal.

CASA published CAO 20.18 mandated the use of Global Navigation Satellite System (GNSS) for all Instrument Flight Rule (IFR) aircraft operating in Australian airspace by 4 February 2016. As part of the transition to satellite-based navigation, the Airservices Navigation Rationalisation Project (NRP) decommissioned approximately half of Australia's network of conventional navigation facilities. The remaining network of navigation aids subsequently formed the Backup Navigation Network (BNN) which will be maintained and monitored by Airservices to support GNSS contingency.

Part 139 MOS Section 19.08 has recommended protection zones for NDBs (which still apply to Cobar Airport's NDB as part of the BNN). There should be no obstacles except for essential infrastructure within 60 m of the centre of the NDB antenna. The immediate surrounding area between 60 m and 300 m from the centre of the NDB antenna should be kept free of any obstacles that exceeds an angle of elevation of 5° from ground level at the centre of the NDB antenna.

These protection requirements were considered during the development of the Master Plan. An overview of the NDB protection area is provided in Figure 4.4.

It should be noted that the existing residential structure located north-east of the NDB does not comply with the recommendations outlined in MOS Part 139.

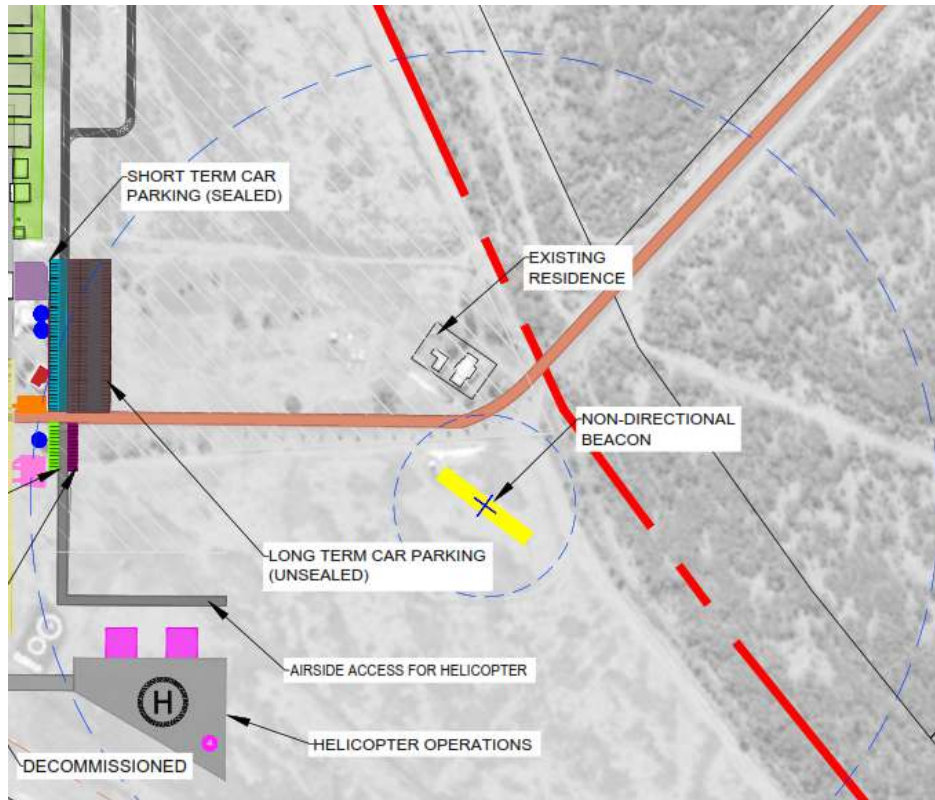


Figure 4.4 NDB protection area

The NDB was also assessed against the requirements of NASF Guideline G to ensure all proposed infrastructure is compliant with this framework. Building Restricted Area (BRA) protection requirements apply to all communication, navigation and satellite facilities. A two-dimensional representation of the three-dimensional zones in BRAs is shown in Figure 4.5, with the BRA for an NDB shown in Figure 4.6.

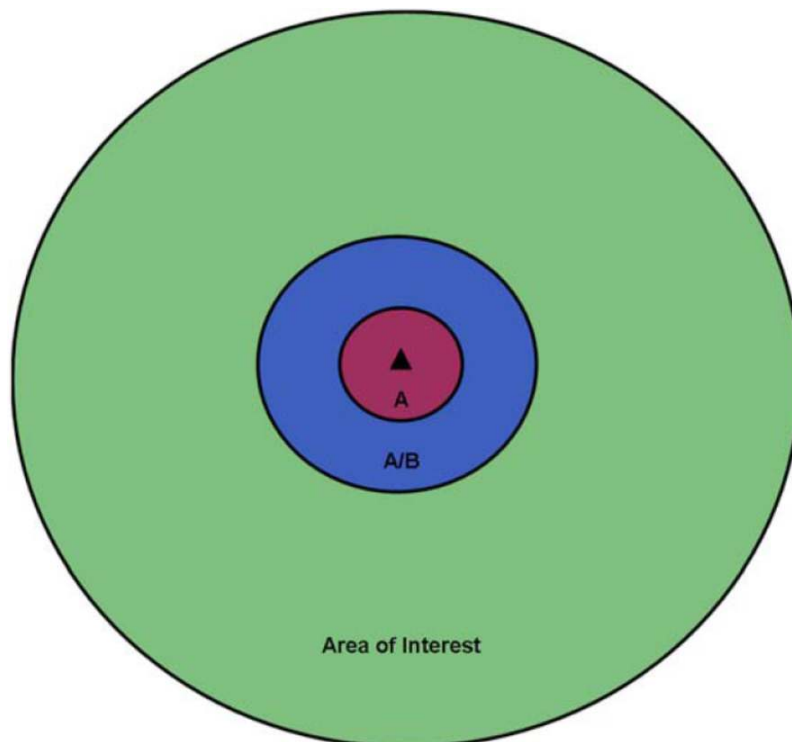


Figure 4.5 Building restricted areas (plan)

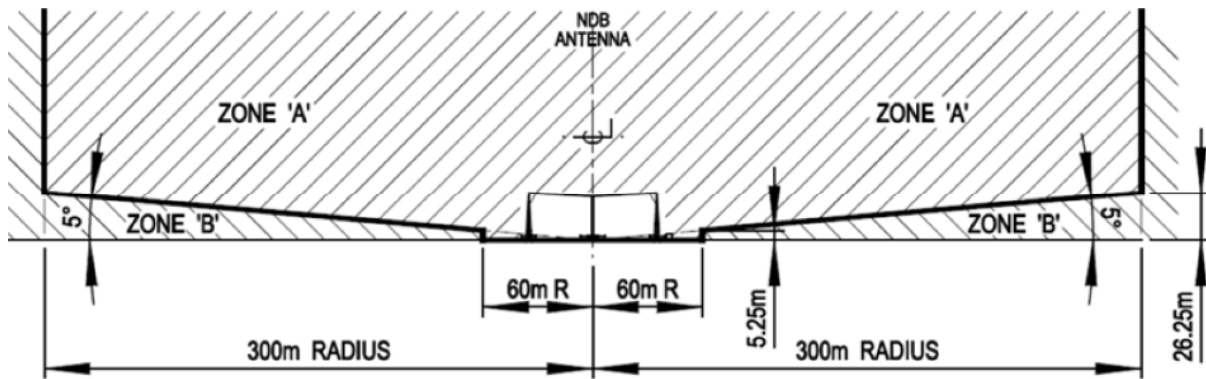


Figure 4.6 Building restricted areas for an NDB (cross-section)

Cobar Regional Airport is an approved non-precision GPS assisted Airport with RNAV-Z (GNSS) procedures for Runway 05 and Runway 23.

Runway 05/23 has white runway edge lights, low intensity lights (1) (LIRL), installed at 60m spacing compliant with CASA requirements. Pilot Activated Lighting (PAL) and Airport Frequency Response Unit (AFRU) frequency 126.7MHz (for operations in the vicinity of non-controlled aerodromes). Runway and taxiway lights can be switched on remotely by pilots either on the ground or in the circuit area by selecting the frequency above. Airport Reporting Officers (AROs) can also switch on the runway and taxiway lights remotely as required.

It is noted that Runway 17/35 does not currently have airfield ground lighting.

4.4.5 Air Traffic Management

Cobar Regional Airport is an uncontrolled airport which operates without an air traffic control tower.

4.4.6 Refuelling Facilities

Refuelling facilities have been provided on the Airport apron to draw in increased aviation traffic. These facilities are currently operated by Skyfuel Australia, with Avgas and Jet A1 fuel available on site as shown in Figure 4.7, although no ULP is provided for GA recreational aircraft.



Figure 4.7 Refuelling facilities

4.4.7 General Aviation Precinct

There are three (3) GA Hangars (one small and two medium sized buildings).

Other buildings include:

- Airport Terminal building;
- Aero Club office;
- Car port for the fuel truck;
- Large above ground (roofed) fuel tank;
- Two small Sky Fuel buildings; and
- Remote ground maintenance equipment shed.

Emergency standby power is also available.

4.5 Terminal Building

The existing passenger terminal is both inadequate for current aircraft operations based on the size of the terminal (currently only 70 square metres) and the existing level of service provided by the available facilities.

The original terminal building has remained in use since its construction in 1965, despite improvements to many of the other facilities. Significant upgrades to pavements and lighting systems in 2014/15 improved the airports functionality and reduced capacity constraints.

Council prepared a 2016 Project Workbook for potential improvements to the existing airport terminal building to address the following issues:

- Inadequate seating for passengers and staff;
- Baggage collection facilities are outside of the main terminal due to lack of space and the lack of an internal collection desk;
- No separate staff amenities area or proper washing facilities after working airside (showers, change room etc);
- No separate rooms for meetings, functions or training; and
- Terminal car park improvements required.

The key objective (as stated in the workbook) is to provide a new terminal building with appropriate passenger and baggage handling service capacity and capability in line with characteristics of a regional airport and ample car parking located in the terminal forecourt. The final design and location will be determined by the architect in consultation with Council.

The existing terminal building is located to the south of the airside access gate and north of the carpark. Structural upgrades to airside facilities in 2015 has resulted in the terminal building becoming the critical capacity facility for the airport. It has floor space/seating for 12 people which is less than the capacity of the current RPT aircraft.

4.6 Landside Infrastructure

4.6.1 Landside Access

Airport access is from Lerida Road which connects the airport to the Cobar township. The main access to the airport terminal is along a single two-lane road from the airport boundary. The airport is signposted along Lerida Road and at the airport entrance.

4.6.2 Car Parking

Car parking and rental car pick-up/drop-off is available south of the airside access gate. The car park comprises a bitumen spray seal and is not currently line marked. The car park provides ample parking based on the current operations at the airport. AVIS, Hertz and Thrifty rental vehicles are available in Cobar and can be pre-booked for pick-up or drop-off at the airport.

There are no public bus services from the airport into town, and the taxi journey takes approximately 10 minutes and costs approximately \$30.

4.6.3 Utility Services

4.6.3.1 Electricity

The passenger terminal and associated facilities as well as the hangars and other associated GA facility buildings are connected to the town electricity supply.

4.6.3.2 Water

The airport is supplied by the town water supply.

4.6.3.3 Sewer

The airport has an on-site septic system with the tank located adjacent to the eastern side of the terminal.

4.6.3.4 Communications

Telephone connections are provided to the Airport from the town network.

4.6.4 Other Infrastructure

There is an existing residence which is occupied by the airport manager.

4.7 Historical Aviation Activity

4.7.1 Population Trends

Prior to undertaking passenger and aircraft movement analysis and forecasting, the Cobar population data was assessed.

Cobar has experienced an increase in population growth rate in 2006, however the combination of trends indicates that the population of Cobar has decreased drastically by 2021, with a growth rate of -11.24% between 2016-2021, the population has shrunk the greatest. The statistics indicate that in general, Cobar's population has been decreasing over the past years as outlined in Figure 4.8.

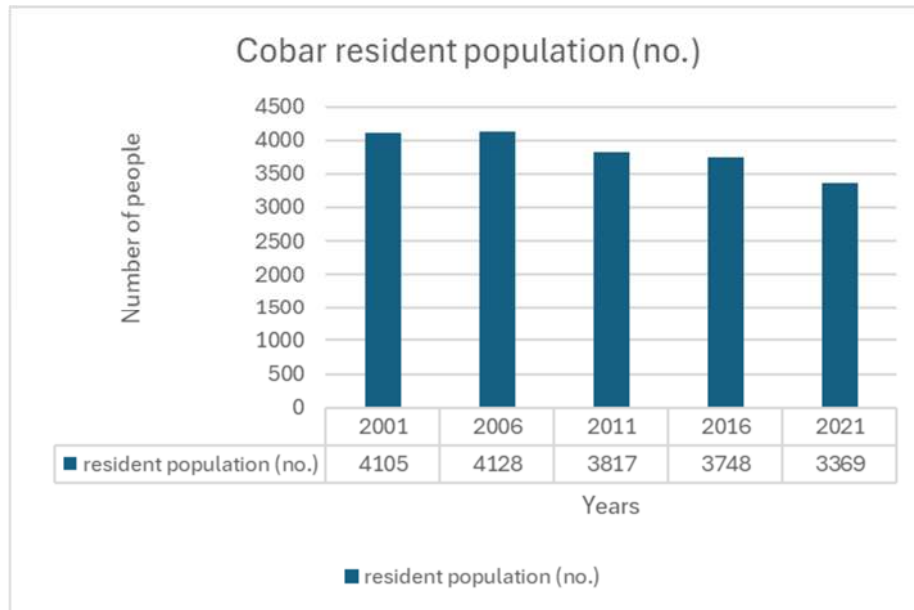


Figure 4.8 Population analysis for Cobar

4.7.2 Aircraft Movements

4.7.2.1 RPT and Charter Operations

Cobar Regional Airport is serviced by RPT services provided by FlyPelican. FlyPelican conducts RPT services to Cobar throughout the year and it was recently reported that approximately 550-650 passengers use the airport each month.

The aircraft used are commonly Jetstream 32 (19 passengers). Flight timetables currently vary between morning and afternoon flights with up to five arrivals and departures per week with direct flight to/from Sydney Airport.

The typical FlyPelican aircraft are shown in Figure 4.9 comprising of the Jetstream 32. In addition, further commercial aircraft utilise Cobar Regional Airport to service industries and the town in general. Landing charges currently apply to these aircraft.

The current timetable for FlyPelican is currently operated on Monday to Friday with no services operating on weekends.



Figure 4.9 FlyPelican aircraft (Jetstream 32)

4.7.2.2 Large Itinerant Aircraft (Greater than 5,700kg)

At various times Council receives requests from Aircraft operators for permission to land, take off, taxi or park an aircraft at Cobar Regional Airport where weights or wheel loadings are more than the pavement and subgrade PCN's.

The Aerodrome Manager is responsible for determining in each case whether a pavement concession is to be granted and any special conditions that may be applicable. There is no mandatory requirement for Council to grant a pavement concession. Examples of these itinerant aircraft that utilise Cobar Regional Airport are the Fokker F28 and Hawker 800.

Currently there is a charge for the granting of pavement concessions plus the cost of any pavement damage repairs required as well as landing fees applied at the commercial rate.

4.7.2.3 Royal Flying Doctor Service

The RFDS provides 24-hour aeromedical emergency services to regional and remote areas of Australia. The RFDS commonly utilise the Beechcraft Super King Air 350 aircraft to undertake operations.

4.7.2.4 NSW Air Ambulance

Air Ambulance is a flying nursing and midwifery service operating on fixed wing aircraft out of the NSW Ambulance Mascot Airbase in Sydney. The NSW Ambulance Flight Nurses, supported by the Aeromedical Control Centre, ensure difficult to reach patients in regional and remote areas across the state receive the medical care they require and transport to a hospital if necessary. NSW Ambulance is the only provider of fixed wing aeromedical transport across the state and can reach patients from the coast to Cobar and beyond faster than ever before.

A breakdown of the major airport users is provided in Figure 4.10. RPT operations contributed approximately 16% of all aircraft movements, although the contribution by passenger movements is significantly higher reflecting the reliance on RPT movements.

FlyPelican undertake RPT operations in and out of Cobar on average five times per week, although frequency varies depending on the season and the strength of mining operations.

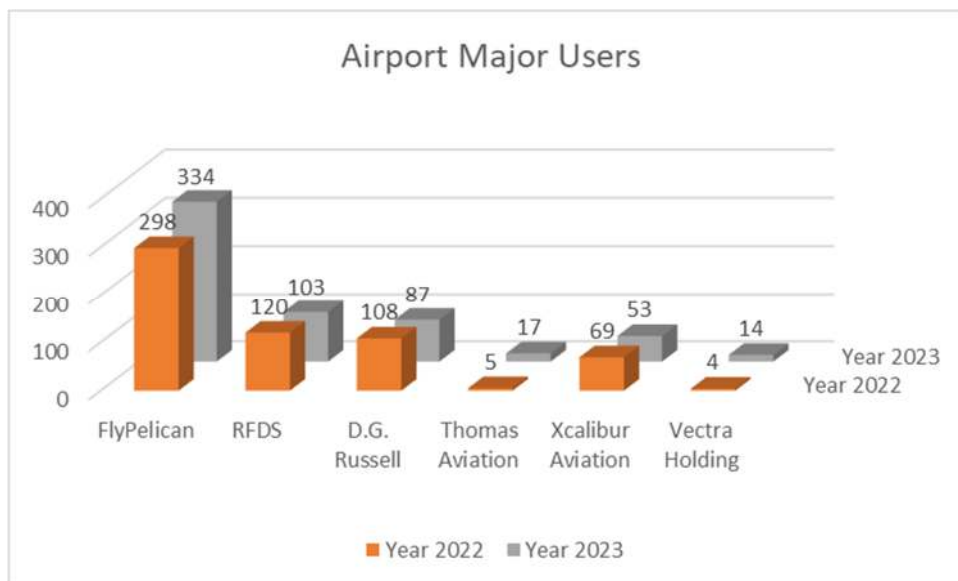


Figure 4.10 Cobar major airport users

Cobar has historically had various types of flight operations to the following airports:

- Condobolin (CBX);

- Coonamble (CNB);
- Cootamundra (CMD);
- Dubbo (DBO);
- Hay (HXX);
- Lightning Ridge (LRD);
- Melbourne (MEL);
- Nyngan (NYN);
- Orange (OAG);
- Parkes (PKE);
- Sydney (SYD);
- Walgett (WGE);
- Warren (WRN); and
- Wilcannia (WCA).

4.7.3 Passenger Traffic

Passenger movements for regional Australian airlines data recorded by the Australian Government Department of Infrastructure, Transport, Regional Development, Communications and the Arts from 1985 to 2021 have been utilised to understand the high-level growth of regional movements. Regional airline passenger movements experienced consistent growth from 1985 to 2019. There is a significant drop off following 2019 due to the impact of COVID-19 on aviation activity as shown in Figure 4.11.

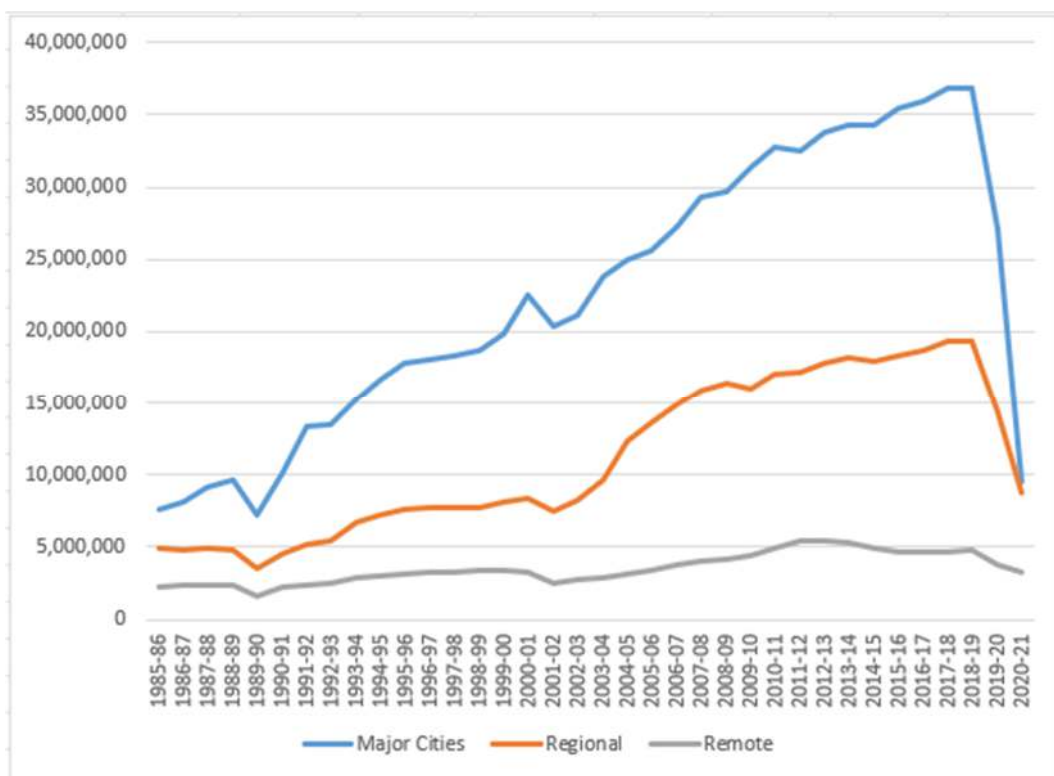


Figure 4.11 Total Australian passenger movements (1985 to 2021)

The data indicates a gradual yet consistent growth in regional airline passenger movements, although lower than compared to domestic airline movements.

Additional data collated by Council has been undertaken for the 2016 and 2024 financial years, as outlined in Figure 4.12.

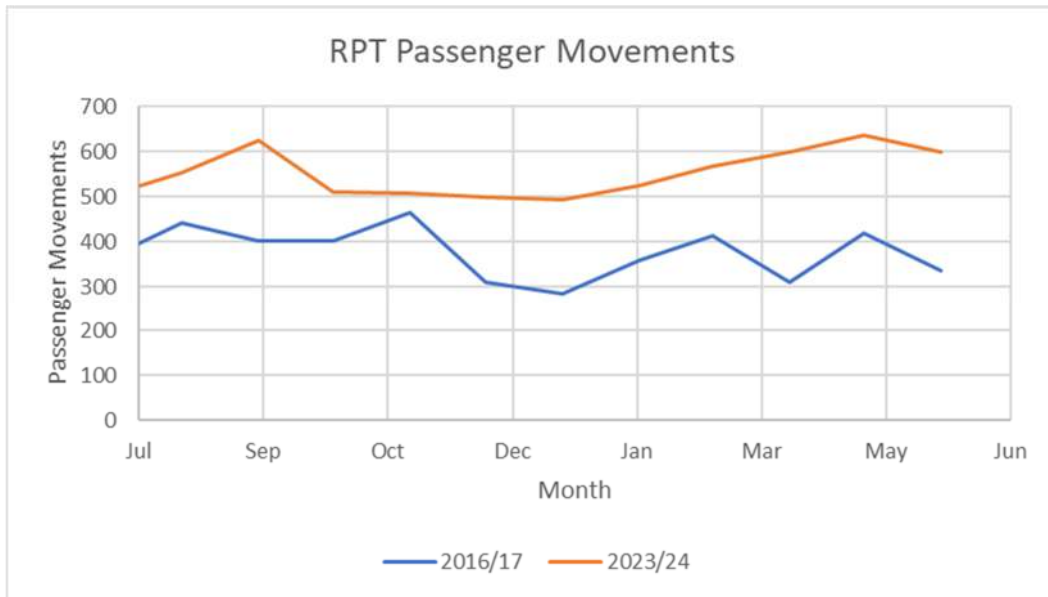


Figure 4.12 RPT passenger movements at Cobar Airport

Total passenger movements in 2016/17 were 4,502 which increased to 6,608 in 2023/24, exclusively from RPT aircraft. The growth from 2016/17 to 2023/24 shows a CAGR of 5.6% over the past 7 years.

5 Airport Development

Aircraft and passenger movement forecasts have been developed to identify appropriate development options for the next 5 to 20 years at Cobar Regional Airport.

5.1 Forecast Aircraft Movements

Annual aircraft movement forecasts have been developed by considering airport user groups individually including:

- Regular Public Transport (RPT);
- Charter operations;
- General Aviation (GA);
- Helicopters; and
- Aeromedical.

The following airport user groups do not currently undertake permanent operations at Cobar Regional Airport, although have been identified and considered relevant to Cobar aviation movements:

- Business; and
- Maintenance.

An overview of the forecast aircraft movements is provided in Figure 5.1, with a breakdown of the forecast methods in the following subsections.

It should be noted that freight and cargo operations have not been considered due to the Regions' adoption of road and rail for freight.

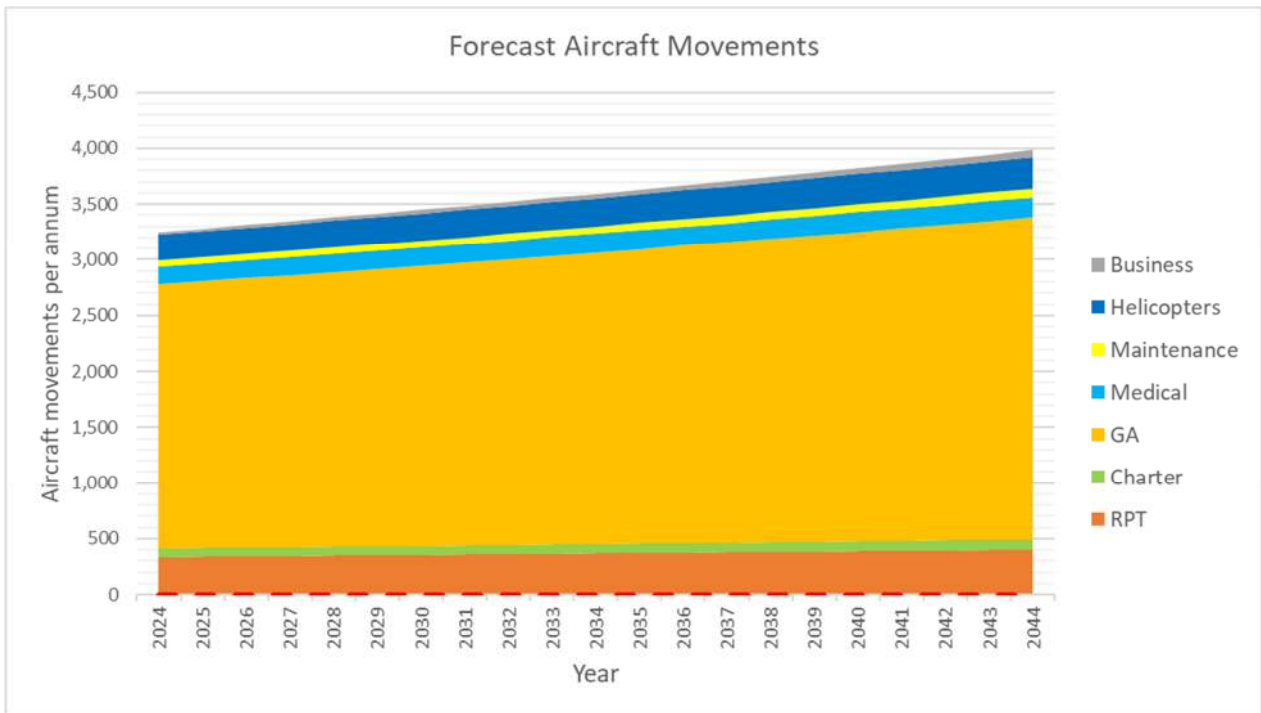


Figure 5.1 Forecast aircraft movements from 2024 to 2044

5.1.1.1 RPT Operations

It is assumed that RPT services would be provided by FlyPelican or a similar regional airline in the future.

The projected growth in charter operations has been assessed based on a 3.3% CAGR growth in the NSW regional tourism sector, with consideration to the 0.24% annual decline in the Cobar population.

5.1.1.2 Charter Operations

Existing charter operations at Cobar Regional Airport are primarily undertaken by D.G. Russell, Thomas Aviation, Xcalibur Aviation and Vectron Holding.

The projected growth in charter operations has been assessed based on a 3.3% CAGR growth in the NSW regional tourism sector, with consideration to the 0.24% annual decline in the Cobar population.

5.1.1.3 General Aviation

There are currently minimal aircraft operations undertaken by private operators at the Airport. The key stakeholder and community engagement sessions identified a desire for increased private operations at the Airport through provision for private aircraft.

5.1.1.4 Aeromedical

Aeromedical movements are currently operated by the RFDS and are generally governed by the population and population growth rates in the surrounding region. Thus, the growth rates used are in line with the Orana region population CAGR of 0.7% for the next 20 years.

5.1.1.5 Business

There are currently no known business aviation movements undertaken at the Airport. Two business flights to Cobar are proposed per month, with a CAGR of 5%.

5.1.1.6 Helicopters

It is understood that there is no permanent helicopter based at the Airport. As part of the community engagement sessions, the potential for recreational and chartered helicopter operations was discussed.

5.1.1.7 Maintenance

The key stakeholder and community engagement sessions highlighted a potential opportunity to develop a maintenance facility and provide facilities for aircraft maintenance at the Airport. The number of maintenance movements has been crudely estimated at 1 per week, with a CAGR of 2%.

5.2 Forecast RPT Passenger Traffic

Airport infrastructure, particularly the passenger terminal and associated landside access facilities, need to be designed to ensure capacity to support future anticipated growth and passenger volumes. Passenger movements have been analysed and forecast to provide an indication of future facility requirements to meet these needs.

Forecast passenger movements and growth rates are dependent on numerous factors including travel demand, aircraft seating capacity, slot availability at destination airports, airline route economics and aircraft traffic growth at existing and potential destinations. Passenger movements are highly dynamic and dependent on mining operations, with a significant portion of RPT operations conducted for FIFO workers.

The key drivers identified to affect future passenger numbers in the next 20 years are:

- Growth and development of the mining industry; and

- Funding and strategy for regional development provided by the Commonwealth and NSW governments.

To undertake accurate forecasting of aviation and passenger data, the following items were investigated and reviewed:

- Economic conditions affecting Cobar and Cobar Regional Airport;
- Economic development in the Shire, as well as the wider Orana region;
- Historical and forecast data on passenger movements, aircraft movements, seat capacity and inbound / outbound travel between Cobar and existing and future destinations;
- Historical and forecast data on passenger movements, aircraft movements, seat capacity and inbound / outbound travel at other Australian regional airports; and
- Additional information provided by Council.

Three growth scenarios have been generated to help determine future infrastructure requirements and identify pessimistic, likely and optimistic long-term RPT passenger throughput.

An outline of the growth scenarios is provided in Figure 5.2.

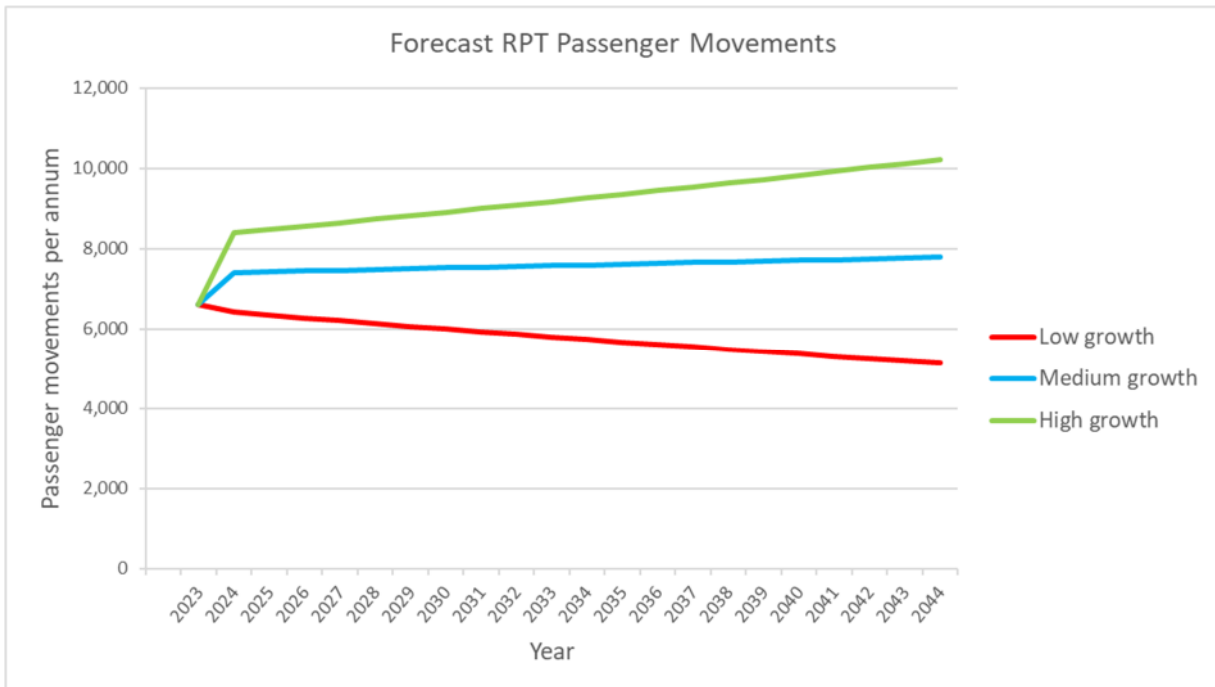


Figure 5.2 Forecast passenger movements 2023 to 2044

5.2.1.1 Low-Growth Scenario

The low-growth forecast is based on limited, if any, economic development within Cobar and the Orana region. The scenario considers the declining population in Cobar projected over the next 20 years, and a decline in airport operations (assuming that the route remains unsubsidised and there are no significant mineral deposit discoveries).

The passenger movements were determined in the 20-year outlook assuming that five incoming RPT movements per week from the Jetstream 32 at a load factor of 65%. This results in an estimated 5,127 passenger movements in 2044 and a CAGR decline of 1.1%.

5.2.1.2 Medium-Growth Scenario

The medium-growth scenario assumes a growth in passenger movements based on reasonable RPT aircraft movements of five incoming RPT movements per week with the Jetstream 32 aircraft. The 2044 movement estimate is determined at a load factor of 75% resulting in 7,786 total passenger movements.

This is achieved with a CAGR of 0.25%, considered realistic based on continued regional airline growth.

5.2.1.3 High-Growth Scenario

Based on the high growth scenarios, RPT passengers would reach 8,908 in 2030 and 10,220 by 2044. These passengers are predicted to be served by an estimated 260 RPT aircraft movements.

The high-growth scenario assumes higher growth compared to the medium-growth scenario, a result of strong growth in the regional airline sector as well as increased mining operations and FIFO movements. The high-growth assumes the five incoming RPT movements per week are sustainable for the Jetstream 32 aircraft utilising a capacity of 85%, resulting in 10,220 passenger movements by 2044.

It is likely that this would need to be underwritten by a mining company with FIFO workers and it should be noted that there is no guarantee that the high-growth passenger numbers will be achieved.

5.3 Design Aircraft

The current critical aircraft is the Jetstream 32 operated by FlyPelican, which is a Code 3C aircraft with an ACN of 6.5. The current pavement on Runway 05/23 has a PCN of 20 which adequately caters for the Jetstream 32. The main runway (05/23) is suitable for aircraft up to Fokker F28-4000 (3B) and British Aerospace 146-300 (with weight restrictions) size and dimensions. The pavement will accept aircraft with tyre pressures up to 700 kPa.

A summary of the relevant planning parameters to each of the key aircraft that might conceivably use Cobar Regional Airport in the future, or that are operating along other routes that could be combined with Cobar Regional Airport are provided in Table 5.1.

The largest aircraft the existing runway pavement, considering the current width and length, could facilitate ignoring the tyre pressure requirements is the Fokker F100 aircraft.

The dimensions, shape and layout of basic airport facilities such as runways, taxiways and aprons are essentially determined by the performance capability and size of the aircraft that are intended to use them.

Different facilities on the airport, such as those intended for airline services and those intended solely for light GA aircraft, are normally planned for their specific critical aircraft. For the purposes of planning specific non-passenger elements of the future airfield development, the various aircraft types that might potentially use Cobar Regional Airport were aggregated into four broad groupings, each characterised by an ICAO aerodrome reference code and Aircraft Classification Number (ACN) related to pavement strength as indicated in Table 5.2.

Table 5.1 Typical examples of critical aircraft for airport user groups

	Typical Maximum Aircraft Sizes >>>	GA / RFDS	RFDS	Charter or RPT 9 – 30 Passengers	Charter or RPT ≥ 30 Passengers	RPT ≥ 50 Passengers	RPT ≥ 50 Passengers	RPT ≥ 70 Passengers
	Aerodrome parameter	Beech King Air 200 Series	Beech King Air B350CHW Series	Jetstream 32	Saab 340B	Bombardier Dash 8 300	Fokker 50	Bombardier Dash 8 Q400
Design Aircraft Parameters	Typical Airline Operators # *							
	Aircraft Code	1B	1B	2B	3C	2C	3C	3D ^
	Engine Type	Twin Engine Turbo-Prop	Twin Engine Turbo-Prop	Twin Engine Turbo-Prop	Twin Engine Turbo-Prop	Twin Engine Turbo-Prop	Twin Engine Turbo-Prop	Twin Engine Turbo-Prop
	Aircraft Classification Number, F/ A/ B/ C/ D/	2/ 3/ 3/ 4/	3/ 3/ 4/ 4/	3/4/5/6	6/ 7/ 8/ 9/	8/ 9/ 11/ 13/	9/ 11/ 13/ 14/	14/ 16/ 18/ 20/
	Tyre Pressure (kPa)	730	730	448	820	670	590	670
	Aeroplane Reference Field Length (m)	592	1,236 **	1440	1,220	1,122	1,760	1,354
	Wing-span (m)	16.6	17.7	15.85	21.4	27.4	29.0	28.4
	Outer Main Gear Wheel Span (m)	5.6	5.0	6.2	7.5	8.5	8.0	9.6
	Length (m)	13.3	14.2	14.37	19.7	25.7	25.2	32.8
	Maximum Take-off Weight (kg)	5,670	7,484	7,350	12,371	18,642	20,820	29,000
	Typical Seating Capacity	2 patients + crew or 8 seats	2 patients + crew or 11 seats	19 Pax 2 Crew	34	50	52	72
	Security screening required *	No	No	No	No	No	Yes	Yes
	Runway Requirements	Runway physical requirements						
Maximum field length for code of runway (m) **		800 <i>1,000 (RFDS)</i>	800 <i>1,260 (RFDS)</i>	1,200	1,800	1,200	1,800	1,800
Minimum runway width for code (m) **		18	18 <i>23 (RFDS)</i>	23	30	30	30	45
Minimum PCN F/ A/ B/ C/ D/		2/ 3/ 3/ 4/	3/ 3/ 4/ 4	3/ 4/ 4/ 5/	6/ 7/ 8/ 9/	8/ 9/ 11/ 13/	9/ 11/ 13/ 14/	14/ 16/ 18/ 20/
Runway strip length (m)		30	30	60	60	60	60	60
Runway strip width (m)		140	140	140	140	140	280	280
Runway strip graded area width (m)		60	60	80	90	80	90	150
RESA area		60m minimum/120m preferred	60m minimum/120m preferred	60m minimum/120m preferred	90m minimum/240m preferred	60m minimum/120m preferred	90m minimum/240m preferred	90m minimum/240m preferred
Taxiway physical requirements					<i>Wheel base < 18.0m</i>	<i>Wheel base < 18.0m</i>	<i>Wheel base < 18.0m</i>	
Minimum taxiway width (m)		10.5	10.5	15	25 <i>(including shoulders)</i>	25 <i>(including shoulders)</i>	25 <i>(including shoulders)</i>	25 <i>(including shoulders)</i>
Minimum taxiway strip width (m)		40	40	40	52	52	52	52
Minimum taxiway strip graded area width (m)		22	22	25	25	25	25	37
Apron requirements								
Separation from centre parking to object	16.5	16.5	16.5	24.5	24.5	24.5	36.0	
Separation from wing tip to object	3.0	3.0	3.0	4.5	4.5	4.5	7.5	
Terminal Requirements	Terminal area requirements							
	Wait / circulate area (1.9m ² / pax)	0.0	0.0	36.1	64.6	95.0	98.8	136.8
	Bag claim area (1.6m ² / pax)	0.0	0.0	30.4	54.4	80.0	83.2	115.2
	Check-in queue area (1.4m ² / pax)	0.0	0.0	26.6	47.6	70.0	72.8	100.8
	Hold-room inspection area (1.0m ² / pax)	0.0	0.0	19.0	34.0	50.0	52.0	72.0
	Terminal requirements (other)							
	Wet areas (0.5m ² / pax)	0.0	0.0	11.4	20.4	30.0	31.2	43.2
	Back of house area (0.6m ² / pax)	0.0	0.0	15.2	27.2	40.0	41.6	57.6
	Airport manager office area (0.6m ² / pax)	0.0	0.0	15.2	27.2	40.0	41.6	57.6
	Services (ICT / elec / Mech) area (0.3 m ² / pax)	0.0	0.0	5.7	10.2	15.0	15.6	21.6
Other / miscellaneous	0.0	0.0	9.5	17.0	25.0	26.0	36.0	
Calculated gross terminal area required	0.0	0.0	169.1	302.6	445.0	462.8	640.8	

* Jets have been excluded from analysis, only turboprops have been investigated (maximum sized RPT aircraft anticipated is the Fokker F100), however larger aircraft may operate subject to the concession system

** Relevant reference field length and runway widths have been obtained from RFDS, all other ARFL's have been obtained from MOS Part 139, however the reference field length may change depending on a range of factors (for example temperature, altitude and operating weight)

Table 5.2 Aircraft groupings and characteristics for facility planning

Description	Characteristic Aerodrome Reference Code	Characteristic ACN
Light aircraft (private)	1A	NR *
Light aircraft (commercial)	2B	NR *
Turbo-prop and regional jet	3C	20
Medium-jet	4C	44

* NR = Not Rated due to aircraft being < 5.7 tonne MTOW

5.4 Airport Precincts

Several future precincts have been identified, specifically:

- Airside:
 - RPT Apron.
 - GA Aviation Apron.
 - Aviation Facilities.
 - GA Aviation Hangars.
 - Aircraft Movement Areas.
- Passenger Terminal; and
- Landside:
 - Car Parking.

Detailed development precincts and development plans are provided in Figure 5.3 to Figure 5.6, with higher quality resolution provided in Appendix F. Proposed hangar layouts for various types of aircraft configurations are also provided in Appendix F.

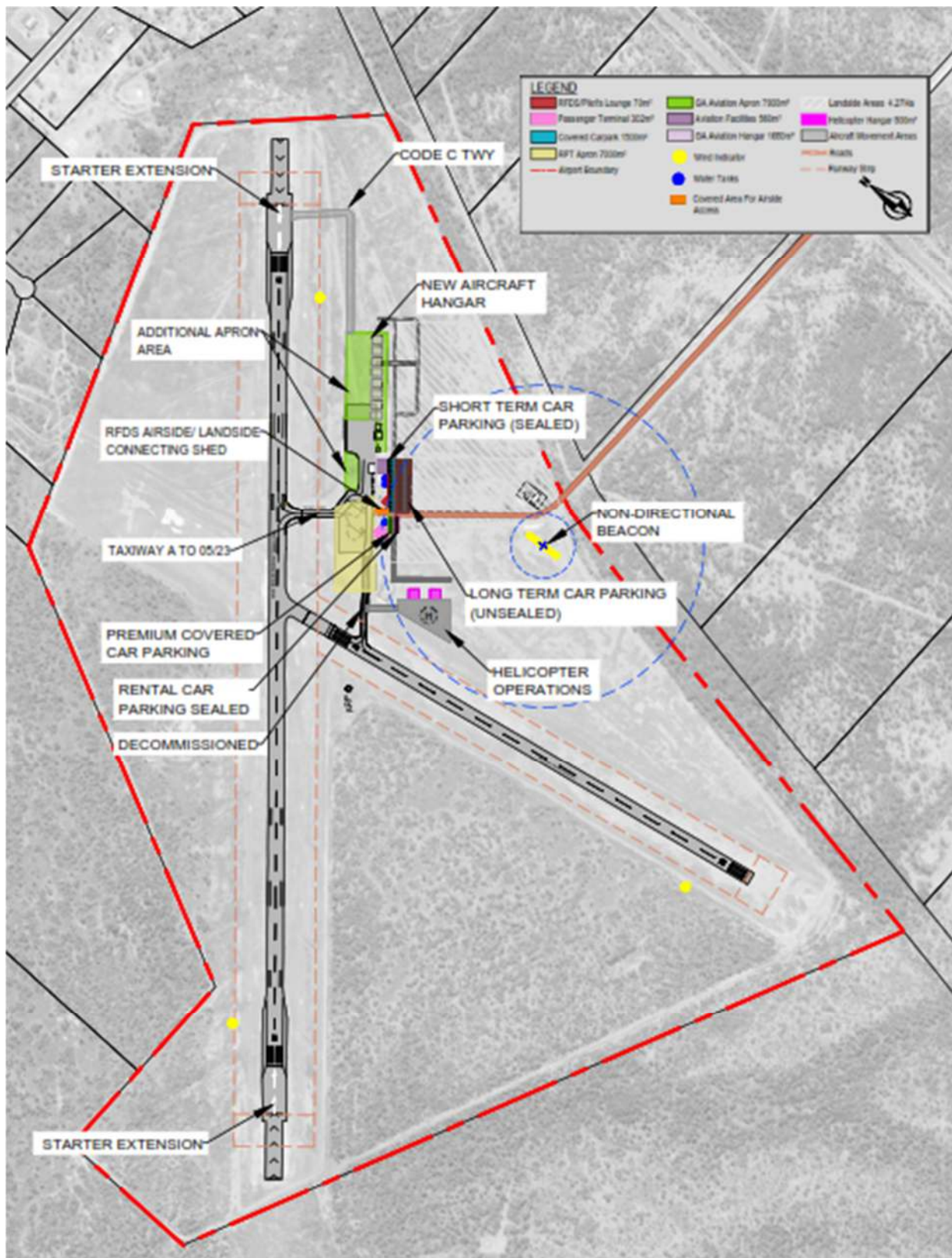


Figure 5.3 Future Airport precinct layout plan

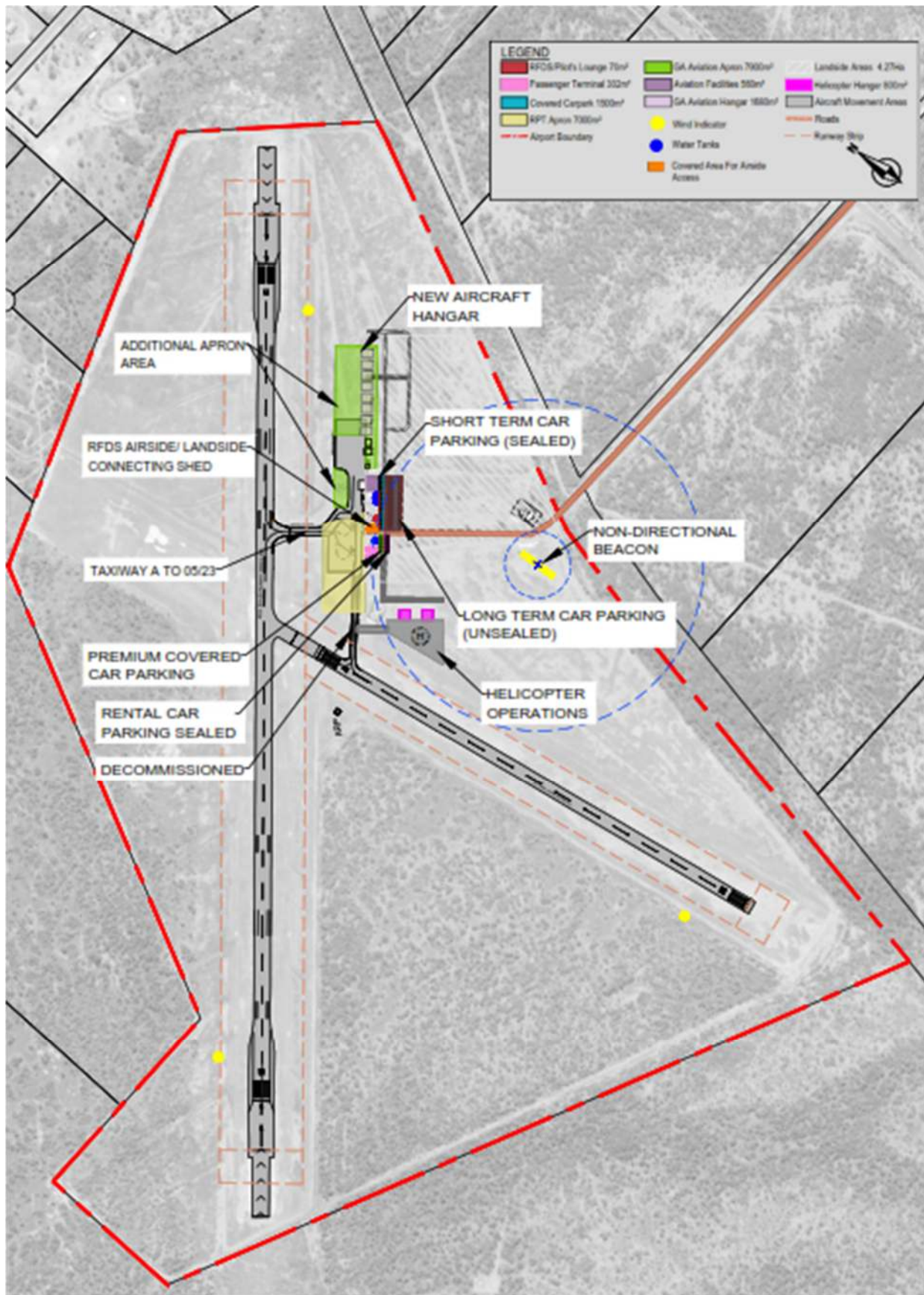


Figure 5.4 Development precinct plan

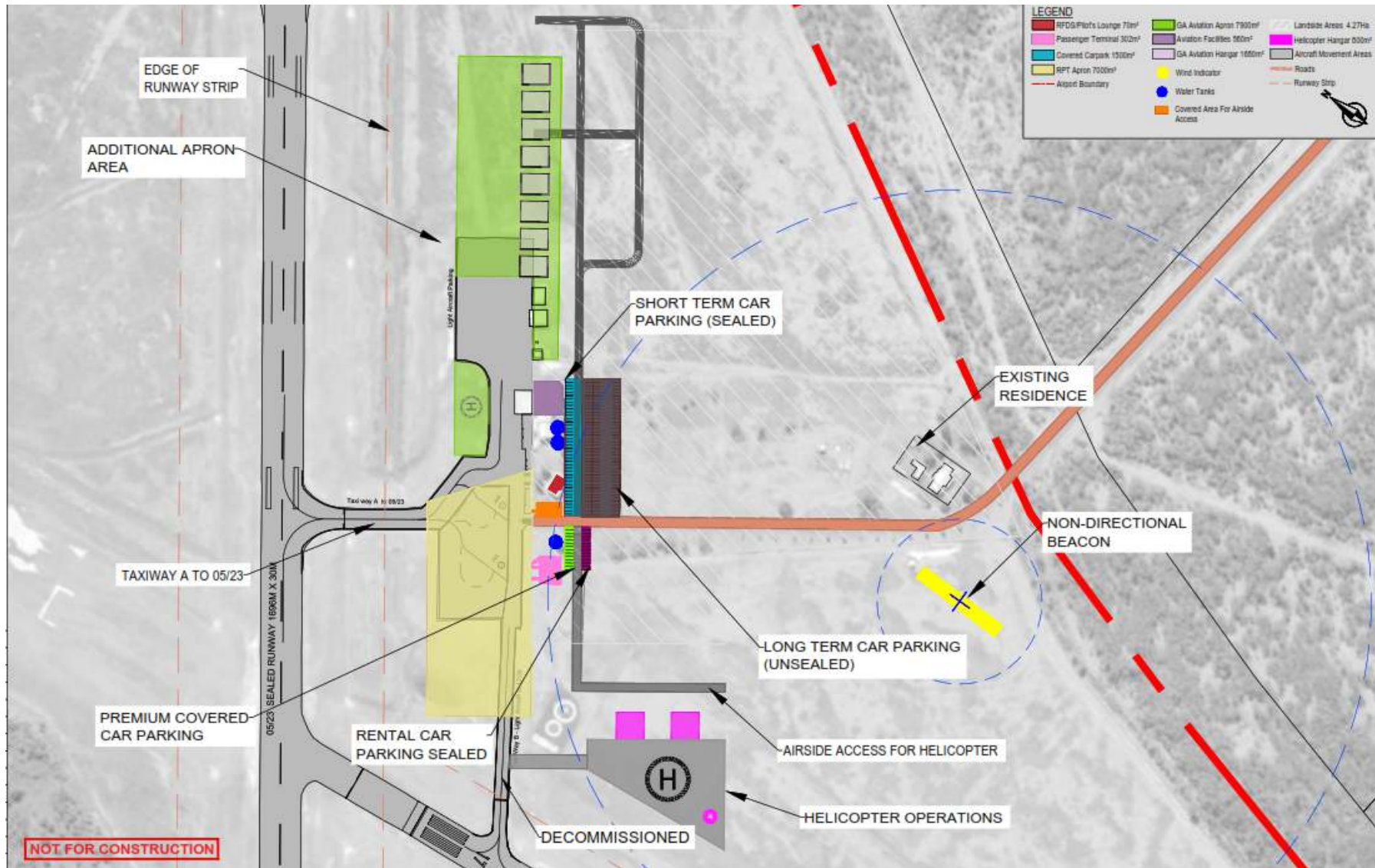


Figure 5.5 Development precinct plan (zoomed)

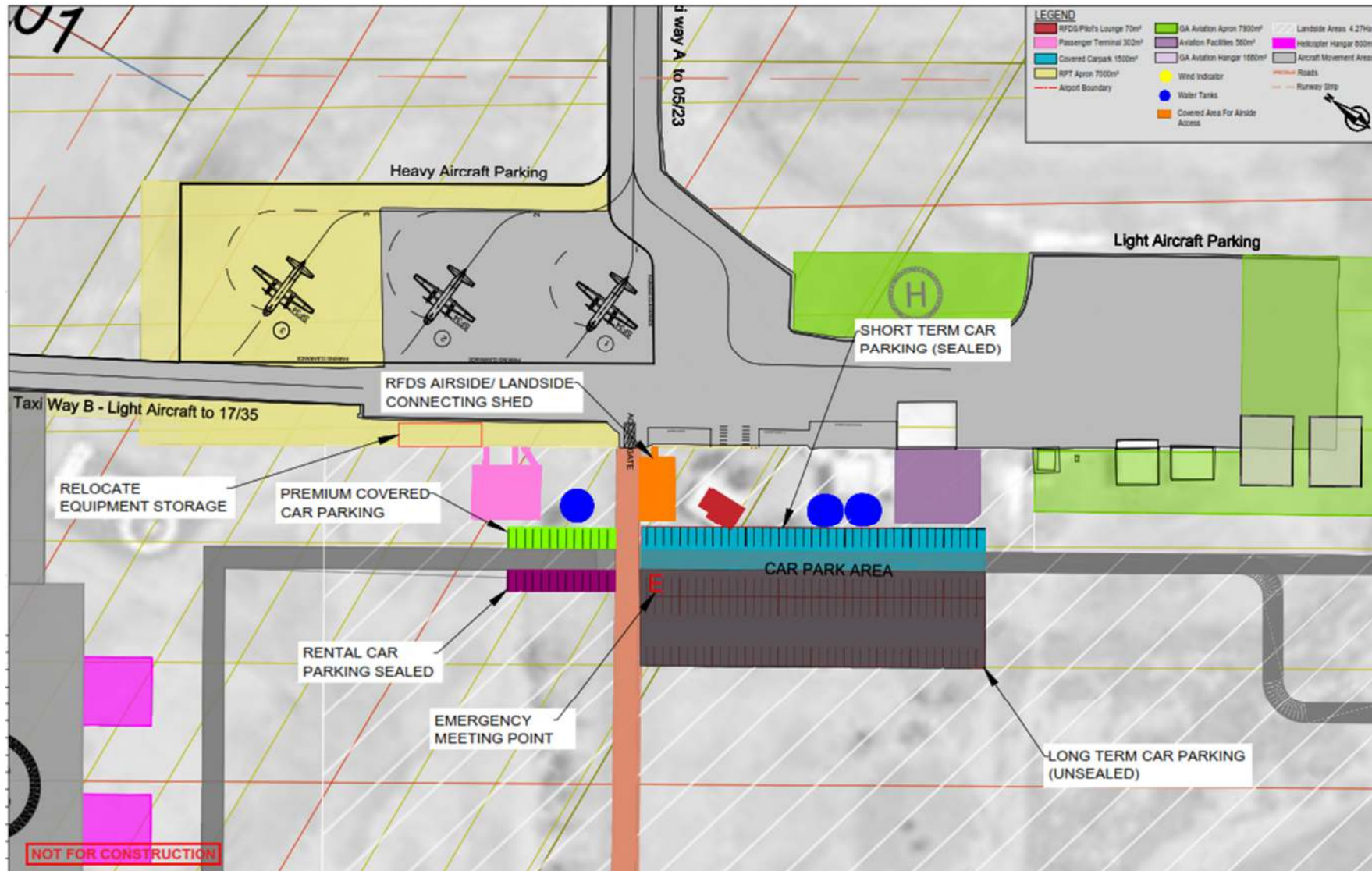


Figure 5.6 Development infrastructure plan (zoomed)

5.4.1 Airside

5.4.1.1 Runway

The sealed runway pavement was recently reconstructed during the 2014/15 summer season with further treatment applied in 2023.

The high growth scenario forecast of aircraft movements for 2037/38 is approximately 2,500 which is based on experience with similar sized airports and context, the existing configuration of the runways provides adequate capacity for the next 20 years and further into the future.

The development of a longer runway at Cobar Regional Airport has been reviewed and determined to be unrealistic based on forecast passenger and aircraft movements. The current runway has capacity for up to Code 3C aircraft, which is beyond the current aviation demand in Cobar. The most likely mechanism to trigger requirement for a runway upgrade is if there was a route which was licensed to an airline that utilised a jet such as the Fokker F100.

Should an extension be required then Council should consider a starter extension utilising the current infrastructure. A pavement analysis would be required to ascertain if the pavement beyond the existing thresholds is suitable for aircraft movement. The provision of a starter extension would

If runway works proceed the runway strip width (including flyover area) of 90m indicated in ERSA will be required to be updated to be 140m for a Code 2 runway and 280m for a Code 3 runway in accordance with the Part 139 MOS.

The RESA will also be required to be extended to meet the preferred length of 120m for a Code 2 runway and 240m for a Code 3 runway in accordance with Part 139 MOS, Table 6.26. The extension of the RESA will exceed the existing airside boundary.

As part of the 20 year development plan, both runways would be resealed as part of typical pavement lifecycle maintenance and rehabilitation works.

A GNSS is already installed at Cobar Regional Airport which improves the Airport's usability. This flexibility allows continued operations with a displaced threshold.

The provision of a Precision Approach Path Indicator (PAPI) at each end of Runway 05/23 would allow for the runway to be upgraded from a non-instrument to an instrument non-precision approach. This would have impacts on the current OLS, involving recalculating the approach surface.

The existing runway lighting is understood to be located longitudinally at 60m spacings in accordance with Part 139 MOS. It is proposed to replace all lighting systems with LED technology in the longer term to increase perception and reduce energy costs at the Airport. The existing runway lighting would need to be modified to accommodate the provision of a starter extension.

5.4.1.2 Taxiways

When Taxiway B was open for aircraft movements there were issues with aircraft travelling towards the apron from Taxiway B. Aircraft travelling along the south side of the RPT apron along the unmarked taxilane often come within the clearance offset for parked aircraft, due to the poor geometry of the area.

Council should investigate what is required to achieve compliance to reopen Taxiway B in accordance with Part 139 MOS, Division 2.

The provision of an additional Code C Taxiway has been identified to be provided to reduce backtracking and direct access to the threshold of Runway 23. The construction of a new taxiway will increase the capacity of the Aerodrome to allow future development.

5.4.1.3 RPT and GA Apron

The maximum number and mix of RPT aircraft anticipated on the RPT apron at any one time will govern the size of the sealed apron. The current layout of the apron is provided in Figure 5.7.

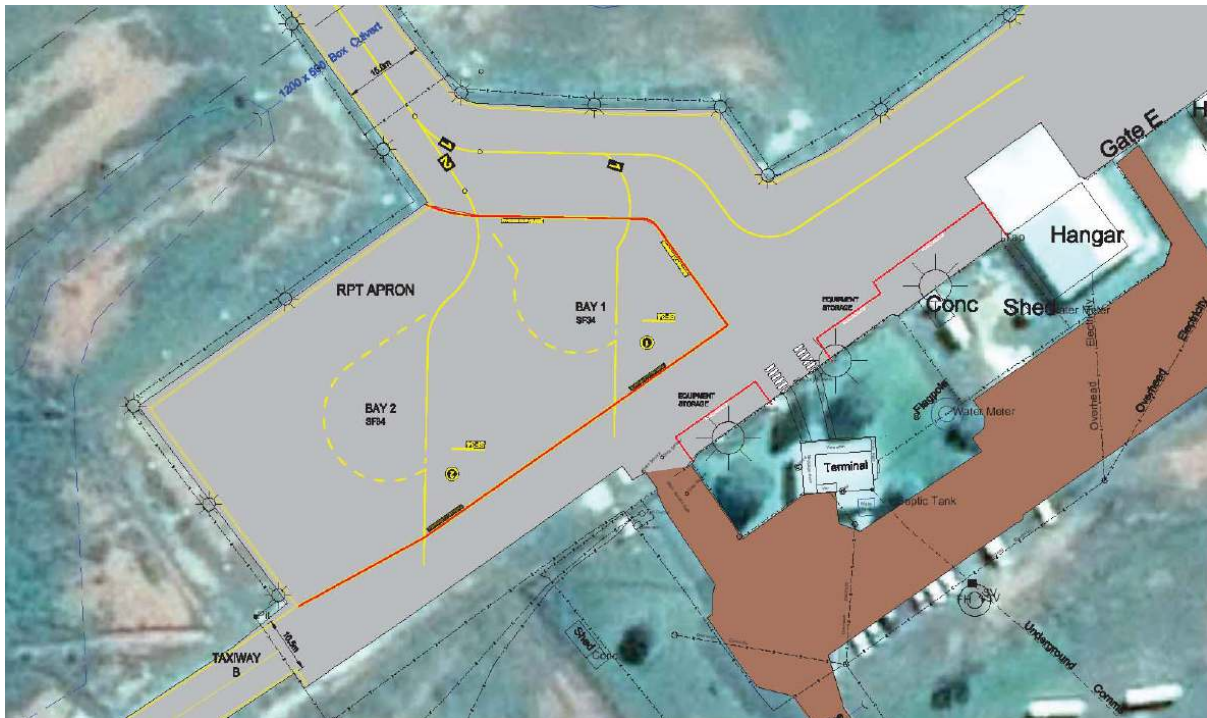


Figure 5.7 Existing RPT apron constraint

The proposed development of the RPT apron would allow the existing RPT aircraft parking positions to be shifted further north. An additional parking position is provided with the proposed apron extension to allow parking of three aircraft simultaneously.

The existing sealed apron is recommended to be increased to provide additional storage for one more RPT aircraft, and additional GA aircraft.

The GA apron extension should also tie into the proposed hangar development and new taxiway to the north east.

5.4.1.4 Aircraft Hangars

There are currently three hangars available for the storage of GA aircraft. As part of the potential development and discussions held during the stakeholder consultation period, additional hangars were identified to provide further aircraft storage areas, as well as generate income.

A provisional 8 new fixed wing aircraft hangars have been identified to be constructed, with a new taxiway, to provide future space for an increase in general aviation at the Airport. The hangars have been located so as not to inhibit future growth and expansion of the existing GA apron.

5.4.1.5 Aero Club

The existing aero club building is not currently utilised and has been abandoned. As part of the future airside development and attraction of recreational users, the aero club is recommended to be reconditioned and upgraded with basic new facilities.

5.4.1.6 Helicopter & Firebombing Facilities

The NARClIM risk assessment identified the potential to upgrade parts of the airport for firebombing operations. Two helicopter landing areas have been identified with associated infrastructure. The heli-stand areas would be upgraded with access to firebombing water. Two helicopter hangars have also been proposed to store associated rotary aircraft.

5.4.2 Terminal

The existing terminal building is 70m² and has been identified by Council to be upgraded. The existing terminal building was built on an angle to the apron and building line.

It is proposed to update and refurbish the existing terminal building in the short to medium term and plan for a new larger terminal parallel to the apron in the longer term.

The existing terminal building is located on the eastern side of Airport Road and is proposed to be repurposed as part of the 5-year development plan to be utilised as a general-purpose facility for use as an RFDS / pilot’s lounge or other similar airport related use. The refurbishment should be consistent with the requirements for its intended use.

A new passenger terminal has been proposed to be located on the western side of the Airport Road to replace the existing facility. This proposed location will provide reduced passenger walking distance to the RPT Apron, better access for baggage handling and is relatively clear of existing infrastructure. The terminal could be located further west and consideration should be given to the final location of the water tank to allow for flexibility to expand the terminal either east or west, in case the requirement for future terminal expansion eventuates.

The passenger terminal should be able to accommodate up to 19 passengers and staff at any one time, assuming the critical Jetstream 32 aircraft at full capacity.

The Federal Aviation Administration (FAA) sets out the parameters surrounding adequate terminal area planning design, with the area per peak hour pilot/passenger provided in Table 5.3. The peak number of passengers has been based on a full capacity Jetstream 32 aircraft with 19 passengers and 2 crew, with a x1.5 peak loading applied.

Table 5.3 General aviation terminal building area requirements

Terminal functional areas	Area per peak hour pilot / passenger
Waiting lounge	1.4 m ²
Management/operations	0.3 m ²
Public conveniences	0.2 m ²
Concession area	0.5 m ²
Circulation, storage, HVAC	2.3 m ²
Total	4.7 m²

The total terminal area required to provide an adequate and functional passenger terminal is therefore 148 m², which is not a statutory requirement, however for best planning and future provision a terminal area of 150 m² has been adopted.

A potential internal layout for the new passenger terminal has been developed which provides an increased check-in and queueing area and departure lounge, along with a new baggage collection area, hold room inspection area and management and operations offices. An overview of the proposed terminal is provided in Figure 5.8 with further detail on the circulation and integration with surrounding Airport facilities provided in Appendix F.

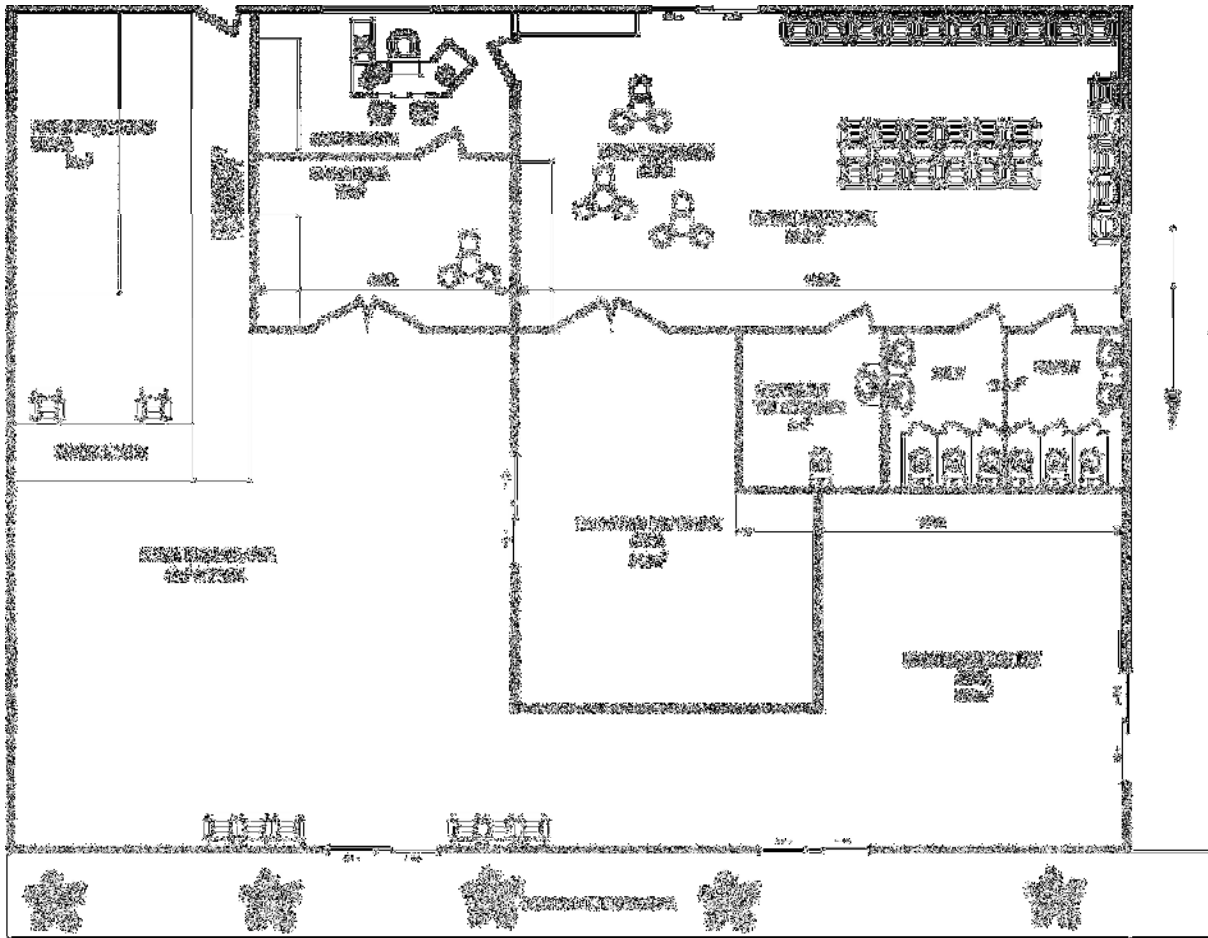


Figure 5.8 Proposed new passenger terminal facility

To protect against the impact of climate change, environmental and clean energy solutions are to be incorporated into the new terminal design.

The building could incorporate an Energy Star rating (potentially 7) by incorporating solar panels used for power delivery with storage battery back-up. Main grid power should only be used for emergencies or if solar panels are not producing adequate supply.

Solar power is proposed as the primary power source within the terminal building, including perimeter, and external lighting for pedestrian walkways and car parks. LED lighting should be used for all airside, landside and building lighting with an approximate 85% saving in energy use.

The terminal building should be fully insulated (roof, walls and floor), double glazed windows and doors and window tinting. Extended eaves, roof overhang or verandas to be provided for additional shade and cooling. External building materials, including the roof, should not be highly reflective. This will minimise sun reflection glare to pilots, passengers and staff.

The new terminal building will require new services connections including electrical and water supply, as well as a new septic system. The following initiatives could be considered to save water and/or minimise use:

- Rain water catchment tanks;
- Minimum flush toilets;
- Dry chemical urinals;
- Minimum water hand basins with spring loaded press taps;
- Timed showers; and
- Recycling of grey water for plants and grass.

5.4.2.1 RFDS Airside to Landside Interface Shelter

The key stakeholder consultation session highlighted the requirement for a covered area or garage for the RFDS vehicle. It has been identified that this should be placed south-west of the existing passenger terminal to allow easy access for ambulance staff and RFDS from the landside and airside respectively.

5.4.3 Landside

5.4.3.1 Parking Requirements

The car parking requirements have been determined based on the worst-case passenger scenario, where the critical aircraft Jetstream 32 is at full capacity with 19 passengers, along with staff and associated terminal and airport personnel.

There is adequate space for vehicles currently. The existing car park is currently sealed with an area of approximately 1,000 square metres as shown in Figure 5.9.



Figure 5.9 Cobarr Regional Airport car park

Potential upgrades to comprise of line marking spaces to increase delineation and set out specific spaces, as well as providing covered parking areas.

The car park is recommended to be upgraded with shade cover for approximately one third of the total area, comprising of new structures with solar panel roofing. An example of the shade structures developed by PowerPark are shown in Figure 5.10.



Figure 5.10 PowerPark shade structures to provide car parking cover and solar power

A new 1.8m high chain link fence for secure compound parking is also to be constructed.

5.4.3.2 Water Storage Tanks

As part of the environmental focus of the Master Plan, new water storage tanks are included to collect additional stormwater runoff for use as grey water.

5.4.3.3 Airport Entrance

The airport entrance, comprising of Airport Road, signage and aesthetics of the terminal should be upgraded.

5.4.3.4 Other Infrastructure

There is an existing residence which is occupied by the airport manager. The residence building should be upgraded or replaced, including the installation of new services connections and solar panels.

5.5 Climate Change Resilience

Assessing projections and planning for climate change has a major role in the master plan, which aims to align with the NSW Government and Council's goals for reducing and adapting to the impacts of climate change in NSW.

Consideration of several energy and water saving, and environmental options have been explored to ensure that the airport and its future infrastructure will achieve and exceed Council and Government targets regarding renewable energy and climate change impacts now and in the future.

5.5.1.1 Solar Farm and Solar Power Supply

The potential for a solar farm and associated solar power supply has been investigated, as other regional airports across Australia and internationally move towards total renewable energy programs to ensure the long-term viability of their airports and reduce their carbon footprint.

Cobar has on average in excess of 340 cloudless days per year and 10 hours of sunshine most days, making it a likely candidate for a medium scale photovoltaic solar farm.

Solar panels could be installed on a new covered car port to dually provide shade and cover for vehicles and generate solar power. Panels could also be retrofitted to the existing passenger terminal, as well as on the proposed new passenger terminal roof.

The power generated could provide power for all terminal and airport facilities including lighting, air conditioning and telecommunications and security.

5.5.1.2 LED Airside Lighting

LED lighting is proposed for all airside lighting. The existing runway and taxiway lights should be replaced with LED fittings during the next serviceability inspection, and future lighting fixtures should adopt standard LED lighting.

5.5.1.3 Water Use and Conservation

To mitigate climate change concerns and the propensity for long periods of drought in the region, the following water saving, and conservation options are proposed for the terminal building, hangars and other airport facilities including but not limited to:

- Rainwater catchment tanks;
- Minimum flush toilets;
- Dry chemical urinals;

- Minimum water hand basins (spring loaded press taps);
- Showers with solar hot water;
- Grey water recycling for plants and grass;
- Adopt low maintenance and dry / arid vegetation;
- Astro turf for play areas and new grassed areas; and
- Collect airport stormwater runoff into retention tanks for general airport use.

5.5.1.4 Environmental Protection Measures

The following measures have been identified regarding environmental protection:

- Large above ground water tanks for firefighting use;
- Extended maintenance equipment facility for bushfire and firefighting equipment; and
- Adoption of biodegradable and grass and plant friendly poisons.

5.6 Aircraft Noise

The impact of aircraft noise is an important consideration in any proposed development related to individual Airport Master Plans. An understanding of noise generation and its impacts on adjoining land provides information to local government authorities for planning of adjacent land.

Australian Noise Exposure Forecasting (ANEF) has not been undertaken as part of the scope of this Airport Master Plan. During initial site inspections, it was observed that there is an existing hard copy ANEF that was developed in the late 1990s, however it should be noted that this ANEF would now be obsolete, and it is recommended to develop a new ANEF to ensure that any future developments around the airport are appropriately planned.

5.7 Airport Lighting

As part of the NASF, it is important to consider sources of significant lighting in the vicinity of airports to minimise and/or avoid confusion to pilots. A lighting zone plan for Cobar Regional Airport has been provided on the following page.

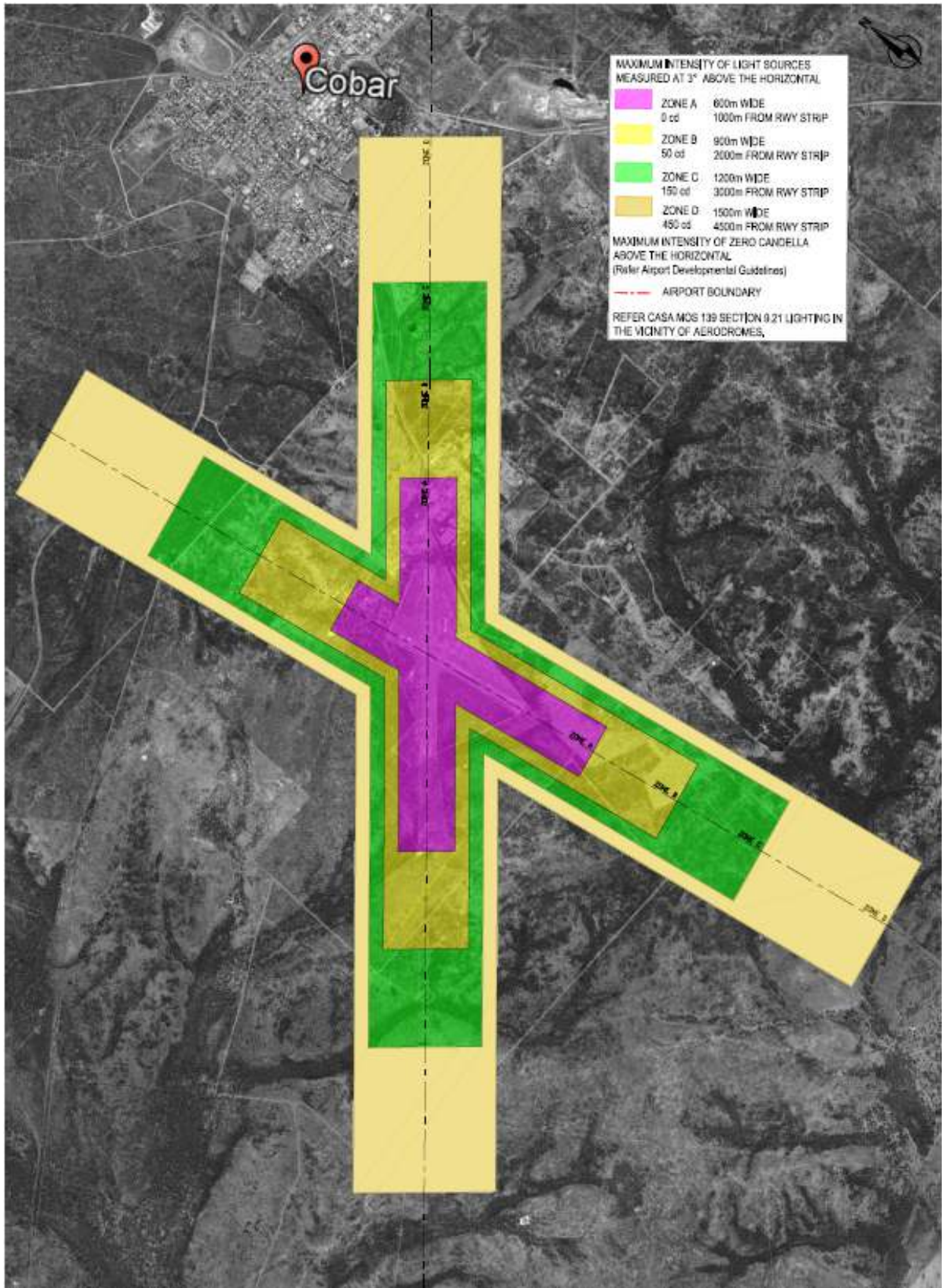


Figure 5.11 Airport lighting protection zones

6 Implementation Plan

This section of the Master Plan outlines the typical processes involved in undertaking the proposed development identified in the master plan, from the planning phase to construction completion.

The implementation plan has been set out in Figure 6.1 covers the typical development process for airport infrastructure.



Figure 6.1 Airport infrastructure development flowchart

6.1 Master Planning

This Airport Master Plan has outlined proposed infrastructure development required over the next 5 to 20 years based on current information and anticipated forecast data.

The commercial and context of airport operations is continuously evolving and thus this Master Plan is recommended to be reviewed at regular intervals to ensure its appropriate for the airport growth.

As a result of the dynamic FIFO sector, this Master Plan should be reviewed ideally at 5-year but at a maximum of 10-year interval (or when any major changes in key airport growth drivers to ensure forecasting and development is appropriate and feasible). The next review should be scheduled for 2029.

6.2 Planning

The feasibility and practicality of all airport development items outlined in this Master Plan has been considered to set realistic development targets. The infrastructure developments considered to be the most critical to the success of the Airport and should be developed further are highlighted in Table 6.1, including the potential development trigger.

Table 6.1 Cobar Regional Airport priority developments

Infrastructure Development	Development Trigger	Planning Elements
RFDS garage	Funding arrangement with RFDS / NSW Ambulance	Small budget impact and potential to generate additional RFDS flights make the new garage an attractive priority for airport development.
Passenger terminal	Funding arrangement with NSW government	Council have previously undertaken a project workbook that sets out the existing scenario and proposed development of the existing passenger terminal. A detailed investigation into cost and funding requirements should be undertaken to understand the budget of proposed works.
Apron extension	Funding arrangement with NSW government	Feasibility study on the extension of the apron, particularly the GA apron, as this is required to facilitate the proposed hangar developments.
Hangar construction	As required when funded by private developers	Construction of 8 additional hangars has been proposed in two stages to distribute funding requirements over the 20-year period. Detailed analysis into hangar demand should be undertaken, and the legalities of private hangar ownership should be investigated.
Car parking upgrades	Funding arrangement with NSW government	Develop an airport car parking strategy including detailed estimations on number of car spaces required and available space. A feasibility study on the construction of covered parking structures with solar panel roofs should be undertaken.
Code C Taxiway	Funding arrangement with NSW government	A detailed investigation into cost and funding requirements should be undertaken to understand the budget for the proposed works.
Starter Extension	Funding arrangement with NSW government	A detailed investigation into cost and funding requirements should be undertaken to understand the budget for the proposed works. Pavement investigations to review existing pavement condition.

The initial planning phase for proposed infrastructure development has been undertaken in this Master Plan, which should be supplemented by additional Council requirements. The next step in the planning phase is to undertake feasibility studies and concept designs based on the above table. The planning phase concludes upon development of a project proposal for the proposed infrastructure development item.

6.3 Development

At the completion of the planning phase, the most critical or most desirable infrastructure developments sought by Council can be highlighted and progress to the design and development phase. This will involve potentially assessing concurrent developments to determine how to allocate available funding where budget implications will restrict development of all items detailed above. Any statutory approvals required, and other legal implications need to be considered at this stage to eliminate the potential for the project to be subsequently abandoned in this nature.

The design development can commence upon confirmation of available budget, with preliminary designs based on the concepts developed in the Planning phase. This is followed by a detailed design of the project and the development of tender documentation at the completion of this phase. The tender documentation will include cost and schedules, contract, specifications, a final Project Management Plan and a Business Case dependent on project scope. This will allow the project to go to market to being procurement. It is anticipated that any current infrastructure developments proposed in this Master Plan would reach the tender stage no earlier than 2025.

6.4 Implementation

The implementation phase involves tender procurement, and subsequent manufacturing, delivery, construction, installation and testing of infrastructure. The implementation phase will vary dependent on the scale of the project, and it is anticipated that no construction occurs prior to the start of the 2025 financial year.

6.5 Handover & Completion

The handover and completion phase of any development covers final project close out items required prior to the contractor releasing the infrastructure to Council to allow its use. The final testing and defects liability period will typically last between 6 to 12 months from completion of construction. It is anticipated that any proposed development realistically undertaken by the start of the 2025 financial year, would be ready for handover by the end of 2026.

6.6 Asset Management

Council currently has a high-level asset management plan for all Council owned assets.

The Asset Management Plans have not been reviewed for quality, completeness, and accessibility of asset data and knowledge, organisational function with respect to the establishment of a steering committee and roles, responsibilities, processes and procedures for asset management that span the asset creation phase, as well as operations, maintenance, performance reporting, and strategic planning.

A number of short (5 year) term and long (10-20 year) term objectives asset management objectives should be defined to achieve general industry practice for airport asset management in the short and long terms respectively. This would require development of a reliable asset inventory and definition of performance and serviceability requirements as well as asset indicators. A cross-asset approach should be adopted to enable optimal allocation of resources to the different asset components to address the short and longer-term requirements of the different stakeholders and deliver value for money.

In the long term, Council should work towards developing a whole of asset life cycle integrated asset management database that may include various systems (CAD, GIS and simulation software, project management, contract management, and capital planning and programming) based on an engineering data hub that delivers business critical information to divisions.

The development of asset management plans will allow for the auditing of the plans to ensure that the asset management processes and procedures are being followed to ensure that the intended outcomes are achieved.

6.7 Financial Plan

A financial assessment and cost estimates of the capital works outlined in this Master Plan have been provided in this section.

6.7.1 Estimated Development Costs

The costs outlined for all capital works have been developed based on JJR's experience from similar projects and specifically regional airports across Australia. The cost estimates have not been adjusted for inflation, however a regional and remote location multiplier applied.

The indicative costs for all proposed capital works in this Master Plan are outlined in Table 6.2.

Table 6.2 Indicative capital works cost estimates

Item	Cost (\$'000)
5 Year Development	
Passenger Terminal Refurbishment (consistent with intended future uses)	\$255
Construction of new Passenger Terminal	\$2,878
Fixed Wing Aircraft Hangar	\$1,439
Rotary Aircraft Hangar	\$720
New Airside Roads	\$893
RPT Apron Extension (Type 2 granular base 350mm + seal)	\$1,261
GA Apron Extension (Type 2 granular base 350mm + seal)	\$1,202
Short Term Sealed Car Park	\$797
Long Term Unsealed Car Park	\$532
Premium Covered Sealed Car Park	\$317
Rental Sealed Car Park	\$86
Carpark secure fencing	\$182
Carpark lighting and CCTV	\$400
RFDS garage	\$159
Supply & install of water tanks	\$68
Revamp of airport entrance	\$24
Residential Building	\$139
Sub-Total	\$11,352
20 Year Development	
Runway reseal	\$5,145
Hangar construction	\$2,878
Helipad	\$310
Firebombing infrastructure	\$799
Code C Taxiway	\$1,928
Starter Extension	\$1,325
Sub-Total	\$12,385
Total	\$23,737

6.7.2 Assumptions & Exclusions

The following assumptions and exclusions apply to this cost estimate:

- Cost estimates include a blanket contingency of 30%;
- No detailed survey information is available;
- Land acquisition has not been considered;
- The accuracy of the above cost estimates is not guaranteed and should not form part of Council budget; and
- No allowance for design and management costs or construction contingency has been included.

The following key assumptions are related to the aerodrome upgrade costs:

- All costs are excluding GST;
- All costs are in 2024 Australian dollars;
- No escalation has been applied to cost estimates.
- Standard unit rates have been utilised; and
- No preliminary design has been undertaken for the costs.

6.7.3 Reliability and Confidence in Forecasts

JJR has used its reasonable endeavours to ensure that the data contained in the Master Plan reflects the most accurate and timely information available to it and is based on information that was current as of the date of the cost estimate development.

The cost estimates are based on various assumptions and other information developed by JJR from its independent research effort, general knowledge of the industry and consultations with the Council. No warranty or representation is made by JJR that any of the projected values or results contained in the cost estimates will actually be achieved. In addition, the cost estimate is based upon information that was obtained on or before the date in which the cost estimate was prepared. Circumstances and events may occur following the date on which such information was obtained that are beyond our control and which may affect the findings or projections contained in the cost estimate. JJR may not be held responsible for such circumstances or events and therefore specifically disclaim any responsibility.

JJR has relied on information provided by the Council and by third parties (Information Providers) to produce the cost estimate and arrive at its conclusions. JJR has not verified information provided by Information Providers (unless specifically noted otherwise) and JJR assumes no responsibility and makes no representations with respect to the adequacy, accuracy or completeness of such information. No responsibility is assumed for inaccuracies in reporting by Information Providers including, without limitation, by Council representatives or for inaccuracies in any other data source whether provided in writing or orally used in preparing or presenting the cost estimate.

In no event, regardless of whether JJR's consent has been provided, shall JJR assume any liability or responsibility to any third party to whom the Report is disclosed or otherwise made available.

The conclusions in the cost estimate must be viewed in the context of the entire Master Plan including, without limitation, any assumptions made, and disclaimers provided. The conclusions in this cost estimate must not be excised from the body of the cost estimate under any circumstances. The cost estimates applied are indicative only and Council should independently review any estimate prior to finalising Council budgets.

Appendices

Appendix A – Current OLS

Appendix B – Stakeholder Consultation List

Appendix C – Stakeholder Consultation Minutes

Appendix D – NARCIIM NSW And Far-West Region Snapshots

Appendix E – NARCIIM Workshop Risk Register

6.8 Appendix F – Infrastructure Plans

Appendix G – Review of Environmental Factors