DRAFT
Ballarat Airport Strategy and Master Plan 2024

May 2024

Draft Ballarat Airport Strategy and Master Plan 2024

Prepared for:
City of Ballarat

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Executive Summary

Since its opening in 1940 as a Royal Australian Air Force (RAAF) Base, Ballarat Airport has proven to be an important asset for the City of Ballarat, as well as for the surrounding region.

The most recent Master Plan for the period 2013 - 2033 was drafted in 2014. In that document it was advised to review the Master Plan at five yearly intervals. Following up on such recommendations, the present Ballarat Airport Strategy and Master Plan (STAMP) has been prepared for the period 2024 – 2044.

Introduction

The STAMP provides a strategic framework and comprehensive master plan for the growth and development of Ballarat Airport over the next 20 years.

The following vision for the airport has been developed in the STAMP:

Ballarat Airport is a vital aviation hub servicing western Victoria, which will be enhanced to support improved connections for the community, and commercial diversification with tangible economic benefits for the region. These enhancements will respect the airport's historical and social setting, and ensure continual regulatory compliance.

The key objectives for the airport have been identified as:

- Pursue Revenue Opportunities *(e.g. airline service, commercial development of surplus land, aviation and non- aviation opportunities where appropriate)*
- Ensure Safety & Compliance *(e.g. effective corporate governance, airport user group, CASA regulations, environmental regulations etc.)*
- Plan for Infrastructure Upgrades *(e.g. runway pavement upgrade, additional taxiways, new terminal site etc.)*
- Identify Development Constraints *(e.g. planning controls, heritage restrictions, consider controls for appropriate development)*
- Consider Surrounding Community *(e.g. impacts on community including noise, introduce fly neighbourly agreement)*
- Safeguard Airport Operations *(e.g. review safeguarding policies and controls, consider NASF guidelines)*
- Consider Emerging Aviation Technologies *(e.g. Advanced Air Mobility, drones, new propulsion methods such as electric, hybrid-electric, and hydrogen fuel cell systems etc.)*

Situation Analysis

The airport is owned and managed by the City of Ballarat, and it features three runways, two with bitumen surface and a shorter one with grass surface. The main aviation facilities comprise of outside aprons and hangars, as well as a small terminal building which, however, in its current state is incompatible with the provision of airline services. Outside of the airport precinct, the main development consists of the Ballarat West Employment Zone (BWEZ), being built along the south-east boundary of the airport.

All the active regulatory and Planning Scheme requirements have been considered and thoroughly analysed in the Situation Analysis, including:

- CASA MOS 139 and relevant Advisory Circulars (ACs)
- National Airports Safeguarding Framework (NASF)
- Planning and Environment Act 1987 (Vic)
- Ballarat Planning Scheme
- Environment Protection and Biodiversity Conservation Act 1999 (Cth)
- Heritage Act 2018 (Vic)
- Local Government Act 2020 (Vic)
- Previous Airport Master Plans, Feasibility Studies, Reports, Projects

The airport of Ballarat lies within the following areas and overlays:

- Special Use Zone 6 (SUZ6), which has the purpose of providing land for the airport and complementary uses.
- Airport Environs Overlay (AEO), which has the purpose of safeguarding the airport from surrounding developments, as well as protecting neighbouring communities from the impact of the airport.
- Development and Design Overlays (DDO), which has the purpose of safeguarding the airport from the encroachment of inappropriate obstacles and buildings in the surrounding environment.
- Heritage Overlay (HO), which protects the historical nature of part of the airport's assets dating back to the Second World War.
- Groundwater Quality Restricted Use Zone (GQRUZ), which was put in place in 2022 for the protection of residual groundwater contamination following an agricultural chemical spill on part of the airport site which took place in 1989.

During the Situation Analysis phase, a number of formal and informal meetings with stakeholders were held, in order to:

- Explain the purpose, objectives and benefits of an Airport STAMP.
- Document opportunities and constraints of the Airport from the perspective of primary stakeholders.
- Understand and catalogue requirements for potential new users of the Airport.
- Identity potential investment opportunities with local businesses.

The consultation activities highlighted some key themes and outcomes from the various groups from the City of Ballarat. Industry and airport users showed strong support for the airport, while the community had a mixed response to the airport, with concerns related to noise and personal amenity with overflying aircraft. All stakeholders showed support for a scheduled passenger service.

Finally, the Strengths, Weaknesses, Opportunity and Threats (SWOT) analysis provided the following major results:

- **Strengths:** Ballarat Airport is well located and its existing airside infrastructure is well suited for its future developments. The land parcels surrounding the airport boundary provide opportunities for development of aviation and non-aviation activities.
- **Weaknesses:** heritage, flora and fauna constraints will need to be addressed, before major developments could be undertaken. The airport has not historically explored sufficient revenue opportunities, together with the current runway pavement strength and noise concerns are also considered weaknesses.
- **Opportunities:** the city's continued population and economic growth could prove beneficial for the airport. Further opportunities could arise from positioning the airport as an air transport hub for Western Victoria, developing an emergency services facility, along with further commercial development.
- **Threats:** concerns related to noise and developments in areas surrounding the airports are considered as threats, together with the competition generated by surrounding existing airports.

Strategy

The dynamic and diverse population of Ballarat, as revealed through demographic profiling and trends, underscores the need for strategic alignment of airport services with evolving community needs. As a vital infrastructure component, the airport must be attuned to the nuances of population growth, age distribution, income levels, and shifting household profiles. As economic development continues to attract residents, there is a foreseeable uptick in the demand for efficient travel connections.

Ballarat's strategic location is pivotal in shaping its economic landscape, positioning it as a key player in the state's economic development. The city's proactive approach to fostering growth, coupled with its emphasis on emerging sectors, sets the stage for future economic prosperity. The potential for passenger services at Ballarat Airport aligns with these growth trajectories, presenting a logical and strategic step in reinforcing the city's commitment to sustainable economic development. The airport, strategically positioned, is poised to provide essential services and facilities that cater to the evolving needs of the Ballarat community and businesses, thereby contributing to the overall connectivity and accessibility that define Ballarat's economic landscape.

In evaluating the tourism trends in Ballarat and exploring opportunities to enhance the airport's role as a tourism gateway, several key insights have emerged. The region has demonstrated resilience and growth in its tourism industry, particularly in domestic day trips. The appeal of Ballarat is underscored by its consistent growth in intrastate visitors, indicating popularity among local travellers. Strategies to further boost domestic and, in particular, interstate tourism could contribute to sustained growth in the tourism sector. The success of regions in transitioning day trips to more lucrative overnight stays relies heavily on crucial infrastructure enhancements. A noteworthy initiative is the potential introduction of a passenger service at Ballarat Airport. The evidence indicates that regional aviation impacts on the local economy and, in particular, the earnings of local residents.

Connectivity and accessibility play a crucial role in Ballarat Airport's strategic positioning. Leveraging existing transportation networks and engaging with future infrastructure developments can position the airport as a central element in the region's economic and commercial activities. Enhancing connectivity by way of

passenger and/or freight services would significantly contribute to overall growth and development in Ballarat and its surrounding areas.

Ballarat is a city marked by substantial population growth, with an opportunity to strategically position its underutilised airport asset. As one of few Australian localities without airline connections, Ballarat makes a compelling case for exploring airport development to facilitate passenger services, potentially emerging as a regional aviation hub. By leveraging its large catchment area, Ballarat can foster connectivity, drive economic development, and play a more prominent role within the broader regional aviation landscape. Opportunities may arise from technological advancements, highlighting the need for the airport to align with such progress and position itself strategically. Adapting to emerging trends, fostering innovation, and adopting sustainability goals will be pivotal for Ballarat Airport's success in a dynamic and evolving regional aviation environment. Examining specific trends, like the potential shift towards Advanced Air Mobility (AAM) services and the electrification of small fixed-wing aircraft, indicates a changing landscape that could impact the decision-making process for Ballarat Airport.

A Multi-Criteria Assessment (MCA) was undertaken to identify and prioritise initiatives that align with strategic objectives and offer the greatest potential for success and positive impact. The assessment reveals a diverse array of possibilities, each with unique strengths and considerations. Prioritisation and decision-making should align with the vision for the airport, operational requirements, and commitment to safety, security, and community engagement. Thriving regional aviation hubs, exemplified by the growth in larger regional airports, emphasise the potential for sustainable models that serve regional catchments and attract aviation-related industries. The introduction of new routes should see increased connectivity and competition, highlighting the evolving dynamics in the regional aviation sector.

The following development initiatives have received the highest scores in the MCA evaluation:

- Terminal Building
- Light Industrial Units/Land
- Hangar Space for Private and Commercial Aircraft
- Short-Term Accommodation Catering to Airport Users
- Emerging Aviation Technologies
- Aircraft Maintenance and Repair Facilities
- Taxi/Shuttle/Public Transport Services.

The following strategic holistic recommendations have been drawn for the STAMP:

- **Strategic Integration with Local Trends**. Support business, tourism and align with economic demand
- **Flexibility for Emerging Industries.** The airport should be positioned as a versatile hub that can adapt to the changing needs of industry
- **Promoting Sustainable Practices.** Consider energy-efficient infrastructure, transportation options and findings of environmental and heritage studies
- **Strategic Positioning as a Regional Hub.** Ensure Ballarat Airport is not just as a local facility but a vital regional hub
- **Continuous Monitoring and Adaptation.** Establish mechanisms to ensure the airport remains responsive to evolving economic, social, and industry dynamics.

Master Plan

The design aircraft which has been considered for the development of the Master Plan is the Bombardier Dash 8 Q 400 (ICAO Code 3C). However, occasional operations of larger aircraft, such as the Boeing 737 MAX8 or Airbus A320 could also be envisioned for the airport. The strength of the runways and taxiways, in their current state, is not sufficient to allow for the regular service of RPT flights.

The airport is currently not security controlled, and features a small terminal building which, however, is not suited to host RPT services in its current state.

Land Use Plan

The land use plan contained in the Master Plan assists in planning for the future use of the airport land and is based on the previous Master Plan, stakeholder consultation and further analysis. There are six (6) precincts identified for Ballarat Airport for future planning purposes:

- **Airfield (AF).** This is the most critical precinct of the airport and includes the runways and adjacent land.
- **Airport Core (AC).** This precinct encompasses all the core aviation business and support facilities.
- **Southern General Aviation Precinct Expansion (GAE).** This precinct encompasses land that is ideal for the expansion of GA activities and involves the development of hangers, aprons, taxilanes, a Code A taxiway and utilities.
- **Future Passenger Terminal and Apron Area (FPT).** This precinct is reserved for the development of the facilities required to accommodate RPT services. It involves a terminal building, carpark, Code C taxiways and an apron area that can accommodate two Code C aircraft.
- **North-West Development Precinct (NW).** In this precinct the grass Runway 13/31 will be decommissioned, to allow for light industrial and some aviation-related development on the site.
- **BWEZ Aviation Interface (AI).** For this precinct there is a possible opportunity for this site to be used as an emergency service hub or interim passenger service terminal.

Facilities Development Plan

Drawing on the above research and insights, the following 10 potential projects have been identified:

1. **Upgrading of existing 1250 metre section of Runway 18/36**
   The existing 1,250 metre section of the recently extended Runway 18/36 at Ballarat Airport is at the end of its operational life and requires upgrading and improvement in its strength rating.
2. **Refurbishment of existing aircraft apron and airport terminal building**
   In order to allow for the provisioning of Regular Passenger Transport (RPT) flights, the need may arise for the refurbishment of the existing airport terminal building, as well as the existing aircraft apron, in advance of construction of a new terminal and apron area.
3. **Development of north-west airport precinct**
   This project involves the decommissioning of the existing grass runway, together with the development of a general aviation apron, the provision of the potential apron for Code C aircraft, as well as the creation of lots to be sold for the future development of light industrial units.

4. **Remediation and development of southern general aviation precinct**
   Between the southern apron and the existing Airport Road there is an unused area of land which, given its position, has potential to be utilised as an expansion to the general aviation facilities. The development would involve aircraft hangars, aprons, roads and related facilities.
5. **Airport security upgrade**
   The planned work involves the improvement of the airport security, upgrading the airport to either Tier 2 or Tier 3 status, in preparation for the commencement of scheduled airlines services.
6. **Construction of airport terminal, car park and apron area**
   In order to facilitate RPT services to and from Ballarat Airport, a new terminal building, together with an aircraft apron, car parking and other support facilities would be required, in the designated area in the southern part of the airport, to the west of the threshold of Runway 36.
7. **Construction of replica Bellman Hangar**
   This site, located close to the existing Bellman hangars and with direct apron access, currently houses dilapidated WW2 era huts that are not habitable and beyond repair. The site is ideal for future development of a new hangar. The location of the existing huts would need to be addressed to allow the site to be developed.
8. **Construction of a Category C taxiway from Taxiway A to Runway 18 threshold**
   Currently, neither Runway 18/36, nor Runway 05/23 have a parallel taxiway. Hence, one of the planned infrastructure works would be the development of a new taxiway for aircraft up to Code C, which would run parallel to Runway 18/36, from taxiway Alpha to the threshold of Runway 18.
9. **Services infrastructure upgrades**
   With aging infrastructure and increasing demand at the airport, the existing utility services will require upgrading over time.
10. **Runway 18/36 starter extension**
    The runway cannot be extended further to the south, due to the slope of the terrain. Hence, a potential extension towards the north could be feasible. As a preliminary estimate, and extension of up to 150 m could be built on the north side of the airport.

<u>Airport safeguarding plan</u>

The ability of an airport to function effectively is closely tied to the land use surrounding it. Structures encroaching into flight paths can severely restrict airport operations and impact safety. However other developments also impact an airport's operation and safety. Balancing these competing interests is a complex task for airport planners and policymakers.

The National Airports Safeguarding Framework (NASF) highlights the principles and guidelines to protect airport operations in Australia. This is further supported by the Australian Airports Association's (AAA) Planning Around Airports – Safeguarding into the Future which aids airport operators and planning authorities on how to implement the NASF guidelines.

The following considerations have been drawn, following the NASF Guidelines:

- **Managing Aircraft Noise**
  The Ballarat Planning Scheme has the Airport Environs Overlay (AEO) which applies to the airport site and surrounding land determined by the Australian Noise Exposure Forecast (ANEF). ANEF contours are based on the average daily noise exposure levels over a one-year period and take into account a

range of factors, including noise intensity, duration and aircraft movements. It is important to update AEO 1 and AEO 2 to reflect any changes of the ANEF. The number above, or 'N'-contours for the airport are decibel measurements that indicate daily potential noise exposure for an area. These contours show a significantly larger impact compared to the ANEF contour that Council needs to consider when determining land uses around the airport, as per State policy.

- **Protection of Airspace**
  The OLS restrictions are incorporated into the Ballarat Planning Scheme through the Design and Development Overlay control. DDO17 and DD018 are based on a previous OLS chart and the existing runway lengths and therefore need to be updated to take account of the extension to Runway 18/36 (to 1800m). The planning scheme controls should be based on the extended runway.
- **Other NASF Matters**
  Whilst aircraft noise and airspace protection are the two most critical airport safeguarding matters, the assessment of land use and development proposals around Ballarat Airport must consider all of the NASF guideline matters, in accordance with Clause 18.02-7S: Airports and Airfields of the Ballarat Planning Scheme.
- **Planning Policies and Controls**
  Following the adoption of this Master Plan a Planning Scheme Amendment is recommended to:
  - Update the Special Use Zone to account for the additional land for the RPT precinct.
  - Update the extent of the Airport Environs Overlay having regard to the new ANEF.
  - Update Development and Design Overlay to reflect updated OLS chart.

<u>Implementation Plan</u>

This STAMP serves as a crucial strategic tool, offering the Council a clear direction and framework for future planning and development of Ballarat Airport. It aims to provide the Council with planning objectives over the next 20 years to protect and align the airport as an important infrastructure asset for the Council and the wider community.

The scheduling and execution of proposed upgrades at Ballarat Airport depends upon various factors including funding opportunities, demand indicators, market conditions, commercial discussions, and regulatory approvals. Collaboration with aviation stakeholders and other key stakeholders is crucial to determine priorities. Some projects will require further analysis through the development of a detailed business case to understand the projects' benefits.

Regular Master Plan reviews every five years, will enable the Council to evaluate project priorities, ensuring alignment with evolving forecasts and development needs.

The evaluation of commercial opportunities at Ballarat Airport has highlighted a diverse array of possibilities for revenue generation and economic development. By strategically aligning each opportunity with the airport's goals and operational requirements, the City can maximise the potential of the airport master plan while ensuring long-term sustainability.

To realise this vision, a multifaceted approach encompassing roles of facilitator, investor, and strategist/marketer is recommended. By actively cultivating partnerships, strategic investments, and long-term planning, the council can drive sustainable growth and maximise community benefits.

Strategically assessing pathways for sustainable growth and additional revenue generation leading to financial viability is crucial for the realisation of the Master Plan. By embracing a balanced approach that combines elements of public-private partnerships, joint ventures, and private developer collaborations, Ballarat Airport can position itself for resilient development in the years to come.

Furthermore, adopting a diversified revenue model that leverages aircraft movements, land sales, lease agreements, operator agreements, and concession agreements can enhance revenue generation and support sustainable growth. By capitalising on additional revenue-generating opportunities Ballarat Airport can strengthen its financial position and support its long-term growth objectives.

1. Introduction

Ballarat Airport is a Certified Aerodrome owned and operated by the City of Ballarat. The airport is an important community asset for the City which must be carefully managed to ensure that Ballarat and the region continue to benefit from its existence well into the future. The airport provides opportunities for improved connections for the community, commercial diversification and synergies with uses on adjacent land, which will have tangible economic benefits for the region. To this end, the City of Ballarat has prepared this Strategy and Master Plan (STAMP) for the airport.

1.1. Purpose and Objectives of the STAMP

The purpose of the STAMP is to provide the City of Ballarat with a strategic planning document that will set out the potential role and uses of the airport and explore future opportunities for growth.

In keeping with the vision the Council has for the airport, the STAMP is to:

- Consider the role of the airport in the context of a rapidly growing Ballarat population, the City's location as a gateway for Western Victoria and in contemplation of its future connections with other economic and transport hubs.
- Identify commercial opportunities and key development projects to be completed to enhance the airport's financial return which are also likely to increase the economic and social benefits the airport provides to the region and its population.
- Support the Council in ensuring the airport in the future is managed through an effective corporate governance model that maintains operational safety as a core principle while seeking to achieve a financial return on Council's investment.

The key objectives of the Strategy Plan component of the STAMP are to:

- Provide an overview of regional aviation in Australia and its recent developments and trends which may influence decision making around the role of the airport.
- Present a pathway to commercialisation that envisages the airport as a key transport infrastructure asset for the region and a training/operational facility for general aviation and emergency services.
- Advise on revenue models designed to increase the financial return of the airport covering areas such as property leases, hangarage, aircraft parking and user fees.
- Consider business and government agencies that may have an interest in contributing to the development of the airport for their own or joint aviation activities (e.g. Emergency Management Victoria).
- Identify the externalities from which the region will benefit through enhanced airport capability (including the commencement of scheduled passenger services) impacting the:
    - visitor economy
    - business and manufacturing sectors
    - health services
    - emergency services
    - educational and training institutions.

The key objectives of the Master Plan component of the STAMP are to:

- Review the current use of land at the airport and propose development alternatives to create defined precincts allowing for increased aviation activity and revenue.
- Propose appropriate new commercial aviation uses of the airport site along with estimated development costs required to accommodate such use.
- Recommend and provide indicative costings for airport infrastructure upgrades and development opportunities (including the potential construction of a passenger terminal) to increase the airport's capacity to produce economic growth.
- Estimate the cost of upgrading the airport to a security-controlled airport.
- Inform planning controls to accurately reflect the current approved Australian Noise Exposure Forecast
- Identify significant barriers to meeting the objectives in either the Strategic or Master Plan components.

1.2. Methodology

The overarching planning process and methodology used to prepare the STAMP generally adopted the framework and template set out in the Australian Airports Association's *Regional Airport Master Planning Guideline*, whilst also having regard to the requirements of the Council's project brief.

The process also considered and built on the previous Ballarat Airport Master Plan developed in 2013.

The high-level approach is summarised in Figure 1 below:

Figure 1: Strategy and Master Plan Overarching Process

Using this basic strategic planning process, the project was undertaken in seven stages, summarised in Table 1 below.

Table 1: Methodology Stages and Tasks

Stage 1: Project Inception
Project Inception Meeting
Site Inspection
Consultation Plan
Stage 2: Situation Analysis
Review Existing Conditions, Background and Context
Community and Stakeholder Consultation
SWOT Analysis
Situation Analysis Report
Stage 3: Future Direction
Commercial and Economic Development Opportunities
Potential for Scheduled Passenger and Freight Services
Activity Forecast
Vision and Objectives
Stage 4: Strategic Plan Preparation
Preparation of Strategic Plan
Commercialisation Pathway
PWG Review
Stage 5: Master Plan Preparation
Airport Land Use Plan
Facilities Development Plan
Airport Safeguarding Plan
Implementation Plan
Indicative Costings
Stage 6: Draft STAMP
Draft STAMP Preparation
Summary Statement
PWG Review
Councillor Briefing
Public Exhibition of Draft STAMP
Stage 7: Final STAMP
Finalise Draft STAMP
Council Adoption

1.3. Report Structure

The Ballarat STAMP includes three parts as set out below:

Part A: Situation Analysis

A Situation Analysis report was prepared during Stage 2 of the STAMP process to understand the current state of Ballarat Airport. The report informed the decisions made in the later stages of the STAMP process. The content of that report forms Part A and gives background and context surrounding the airport and its current state.

Part B: Strategic Plan

The Strategic Plan sets out the strategic direction for Ballarat Airport based on economic and commercial insights and opportunities. It includes a strategic vision and objectives for the airport.

Part C: Master Plan

The Master Plan sets out the future planning framework for Ballarat Airport and highlights key development activities to enhance and safeguard the airport for the future. It includes a Land Use Plan, a Facilities Development Plan, an Airport Safeguarding Plan and an Implementation Plan.

PART A: SITUATION ANALYSIS

2. Master Plan Context

2.1. Historical Context

Ballarat Airport was constructed in 1940 as a Royal Australian Air Force (RAAF) Base for training Wireless Air Gunners under the Empire Air Training Scheme (EATS). This Scheme was established by the British with Canada, Australia, and New Zealand to rapidly train air crews for the British Bomber Command, including navigators, wireless operators, air gunners and pilots. The Wireless Air Gunners School was officially dissolved in January 1946.The RAAF continued to operate the aerodrome until 1961 when it became the property of the City of Ballarat.

The airport initially had three runways, with two in use now and the third runway not in service since 1953. The main north-south runway (18/36) was originally 1800 metres in length which was later shortened by 570 metres at its southern end in the late 1980s to lower maintenance costs. This section of the main runway has recently been reinstated, jointly funded with $3.8 million from the Australian Government via its Regional Airports Program, and the City of Ballarat ($5 million).

The first Master Plan for the Ballarat Airport was completed in 2005. Since then, there have been several developments at the airport, including upgrades of the infrastructure, construction of additional hangars and a parallel taxiway providing access to the southern end of the main runway and establishment of a major commercial flying school. The commencement of the flying school saw a significant increase in aircraft movements at the airport compared to the level of activity prior to its commencement.

The most recent and current Master Plan 2013 - 2033, was completed in 2014. A key element of this Master Plan relates to the extension of Runway 18/36 to the south by 555m, which was a recommendation from the previous 2004-2014 Master Plan. This also spoke about the need to have a planning framework for the safe, secure, efficient, and sustainable use and development of the airport site, as well as how to accommodate the future growth and expansion in the General Aviation sector. The City of Ballarat undertook a review of the compliance and governance of the airport following recommendations from the 2013 Master Plan to ensure maximum performance of the airport.

Based on the recommendation provided in the 2013 Master Plan to review the plan at five yearly intervals and considering the recent works and updates in the current planning for the airport, it is timely to produce a new Strategy and Master Plan (STAMP) for the airport.

2.2. Regulatory Context

This section discusses the regulatory framework Ballarat must consider when planning for the future of the airport.

2.2.1 Civil Aviation Safety Authority (CASA)

CASA is the authority responsible for the implementation and enforcement of safety regulations for civil aviation operations in Australia. Their authority is derived under the Civil Aviation Act 1988 and promulgated through the Civil Aviation Regulations 1988 (CAR) and the Civil Aviation Safety Regulations 1998 (CASR).

CASA, through Part 139 of the Civil Aviation Safety Regulations, issues directives for aerodrome operators to ensure technical standards are met and aircraft operations are undertaken safely at certified aerodromes. Ballarat Airport is a certified aerodrome under the CASR.

Further, the Part 139 Manual of Standards (Aerodromes), published by CASA, is made under Part 139 of the CASR, and sets out detailed standards and operating procedures for certified aerodromes used in air transport. The manual provides rules, mandatory standards, and procedures relating to the planning, design, and operation of certified aerodromes (Part 139 MoS can be located here - MOS 139 Aerodromes). In addition, CASA develops and publishes advisory circulars that aid aerodrome operators to implement specific standards/good practices to ensure safety in their aerodromes.

Ballarat Airport Infrastructure – MoS Compliance

The current MOS 139 came into operation in 2020. As a result, some aspects of Ballarat Airport's infrastructure were grandfathered under previous CASA provisions when the required standards were changed in the new MOS 139. Such facilities are listed in the Aerodrome Manual as follows:

Facility (grandfathered)	Description of non-compliance
Runway strip	Not extended to 280m

Further Technical Standards

In addition to MOS 139, other parts of CASR apply, and CASA conducts periodic inspections (surveillances) to ensure airport and aircraft operators meet their regulatory responsibilities under:

- CASR Part 139 – Aerodromes
- CASR Part 175 – Aeronautical information management
- CASR Part 173 – Instrument flight procedure design

CASA also guides aerodrome operators to comply with regulations through several advisory circulars including:

- AC 139.A-03 Application of aerodrome standards
- AC 139.A-02 Aerodrome and aircraft compatibility
- AC 139.C-01 Aerodrome manual
- AC 139.C-03 Serviceability inspections
- AC 139.C-04 Aerodrome technical inspections and aerodrome manual validations
- AC 139.C-07 Strength rating of aerodrome pavements
- AC 139.C-09 Visual aids, markings, signals and signs
- AC 139.C-11 Commissioning of aerodrome lighting systems
- AC 139.C-13 Apron safety management
- AC 139.C-14 Airside vehicle control
- AC 139.C-16 Wildlife hazard management
- AC 139.C-18 Aerodrome emergency planning
- AC 139.C-22 Runway safety teams
- AC 139.C-26 Safety management system for aerodromes – under development
- AC 139.C-27 Risk management plans for aerodromes
- AC 139-19 All-weather operations at aerodromes

2.2.2 Airservices Australia (Airservices)

Airservices has responsibility for the management of airspace and air traffic, and to provide Australia's network of aviation users with facilities for aircraft navigation, communication, and surveillance.

Airservices provides Air Traffic Management (ATM) services for the safe and efficient management of Australia's skies, comprising 11 per cent of the world's airspace.

In addition, Airservices Australia also has responsibility for Aeronautical Information Management (AIM) as per Part 175 of the CASR. As an aeronautical information service provider, they work collaboratively with industry to provide quality data and information to be used in air navigation. Hence, aerodrome operators must constantly update Airservices with aerodrome related information for publication in the Aeronautical Information Package (AIP).

An AIP consists of a package of documents which provides all operational information necessary for the safe and efficient conduct of air navigation. As part of the AIP, Airservices also maintain and publish Enroute Supplement Australia (ERSA), which contains vital aerodrome information necessary for planning and executing a flight. Further, Airservices also publish various charts including aerodrome and procedure charts, enroute charts, terminal area charts and visual navigation charts.

Apart from the ATM and AIM services, Airservices Australia also provide Aviation Rescue and Fire Fighting services at 27 airports across Australia.

The current page within the AIP-ERSA for Ballarat Airport is shown in the figure below.

Local governments are encouraged to seek advice from Airservices on any development that has the potential to impact an aviation facility's sensitive areas such as landing and navigational areas.

AIP Australia 30 NOV 2023 FAC YBLT - 1

BALLARAT **ELEV 1433**

AVFAX CODE 3011

VIC UTC +10 YBLT
373042S 1434728E VAR 11 DEG E CERT
AD OPR City of Ballarat, Sturt Street, Ballarat, VIC, 3350. PH 03 5320 5881. Fax 03 5320 5822.

REMARKS

1. AD restricted to ACFT BLW 5,700KG.
2. ACFT ABV 5,700KG and/or 450kPa tyre pressure must contact AD OPR for approval - Phone 0409 869 368 or 0418 137 784.
3. Ballarat is a high density Training Aerodrome.

HANDLING SERVICES AND FACILITIES

BP: Ballarat Aviation Group: 2300-0730 UTC DLY. 2 HR PN. Phone 0438 508 576. Call-out fee $40. Credit cards and BP Carnet (H24) AVBL. AVGAS, O125.
Field Air: Phone 03 5330 9330, Fax 03 5330 9333. AH 0428 518 344. Credit card (MC and VISA only) AVBL (H24). JET A1 facility located W of TWY B.

APRONS AND TAXIWAYS

TWY D MAX wing span 15M (Code A).

AERODROME OBSTACLES

1. Towers 1,675FT AMSL, 3,450M SSW of ARP.
2. RWY 05 S side transitional SFC infringed by tower and aerial.

METEOROLOGICAL INFORMATION PROVIDED

1. TAF CAT C, METAR/SPECI.
2. AWIS Phone 03 8470 3202 - Report faults to BoM.
3. AWIS FREQ 134.05 (requires one-second pulse to activate) - Report faults to AD OPR.

PHYSICAL CHARACTERISTICS

05/23	051	42a	PCN 6 /F /B /450 (65PSI) /U	WID 30	RWS 90
13/31	124	19c	Unrated. Grass	WID 30	RWS 90
18/36	176	41a	PCN 6 /F /B /450 (65PSI) /U	WID 30	RWS 150

AERODROME AND APPROACH LIGHTING

RWY 05/23	PTBL			BY PRIOR ARRANGEMENT
RWY 18/36	LIRL(1)	AFRU+PAL 127.75		
RWY 18	PAPI(2)	AFRU+PAL 127.75	3.0 DEG29.5FT	
RWY 36	PAPI(3)	AFRU+PAL 127.75	3.0 DEG29.5FT	

(1) HN.
(2) Right side.
(3) Left side.
RWY edge light spacing: 18/36: 60M.

OTHER LIGHTING

TWY LGT: Blue edge.

ATS AND AERODROME COMMUNICATION FACILITIES

FIA MELBOURNE CENTRE 126.8 2000FT

LOCAL TRAFFIC REGULATIONS

1. Circuit training not permitted BTN 2300-0600 Local.
2. Glider OPS HJ WI RWS. 200M displaced THR will be placed when gliding OPS are RWE 18/36 or RWS 05/23.
3. RWY gradients may inhibit visibility from all thresholds and pilots must confirm that both RWYs are clear before landing or takeoff.
4. Visiting ACFT are not to conduct circuit training at any time.

Information may be continued on the next page: PTO

Figure 2: Ballarat Airport AIP-ERSA Page

2.2.3 Planning and Environment Act 1987 (Vic)

The Planning and Environment Act 1987 (PE Act) serves as the foundation for regulating land use, development, and land protection in Victoria. The objectives of the planning framework established by this Act are:

- to ensure sound, strategic planning and coordinated action at State, regional and municipal levels;
- to establish a system of planning schemes based on municipal districts to be the principal way of setting out objectives, policies and controls for the use, development and protection of land;
- to enable land use and development planning and policy to be easily integrated with environmental, social, economic, conservation and resource management policies at State, regional and municipal levels;
- to ensure that the effects on the environment are considered and provide for explicit consideration of social and economic effects when decisions are made about the use and development of land;
- to facilitate development which achieves the objectives of planning in Victoria and planning objectives set up in planning schemes;
- to provide for a single authority to issue permits for land use or development and related matters, and to co-ordinate the issue of permits with related approvals;
- to encourage the achievement of planning objectives through positive actions by responsible authorities and planning authorities;
- to establish a clear procedure for amending planning schemes, with appropriate public participation in decision making;
- to ensure that those affected by proposals for the use, development or protection of land or changes in planning policy or requirements receive appropriate notice;
- to provide an accessible process for just and timely review of decisions without unnecessary formality;
- to provide for effective enforcement procedures to achieve compliance with planning schemes, permits and agreements;
- to provide compensation when land is set aside for public purposes and in other circumstances.

The PE Act provides for a single instrument of planning control for each municipality, the planning scheme, which sets out the way land may be used or developed. The planning scheme is a legal document, prepared and approved under the PE Act. It contains state and local planning policies, zones and overlays and other provisions that affect how land can be used and developed.

Planning schemes contain the policies and provisions that control land use and development and apply to all private and public land in Victoria.

2.2.4 Ballarat Planning Scheme

The Ballarat Planning Scheme encompasses policies and provisions designed to regulate land use and development in the City of Ballarat. The scheme consists of an ordinance, which comprises written policies and clauses, and maps that illustrate the specific locations where zones and overlays are applicable within the designated planning scheme area.

2.2.4.1 Clause 18.02-7S: Airports and Airfields

The planning scheme includes clauses that provides guidance to different aspects land use planning within Ballarat in accordance with Victoria state's objectives for land use. Clause 18.02-7S provides general objectives and strategies for airports and airfields in Victoria, to guide their siting and expansion, and safeguard their ongoing, safe and efficient operations.

The broad strategies that the planning document provides for airports and airfields include:

- Protect airports and airfields from incompatible land use and development.
- Prevent land use or development that poses risks to the safety or efficiency of an airport or airfield, including any of the following risks:
    - Building-generated windshear and turbulence.
    - Increased risk of wildlife strike.
    - Pilot distraction from lighting.
    - Intrusion into protected airspace.
    - Interference with communication, navigation and surveillance facilities.
    - Increased risk to public safety at the end of runways
- Minimise the detrimental effects of aircraft noise when planning for areas around airports and airfields.
- Limit the intensification of noise-sensitive land uses.
- Avoid zoning, overlay changes or implement measures to reduce noise impact where land use is within the following 'number above' contours (N-contours):
    - 20 or more daily events greater than 70 dB(A).
    - 50 or more daily events of greater than 65 dB(A).
    - 100 or more daily events greater than 60 dB(A).
    - 6 events or more between the hours of 11pm to 6am greater than 60 dB(A).
- Ensure land use and development at airports complements the role of the airport.
- Plan for areas around airports and airfields so that land use or development does not prejudice future airport or airfield operations or expansions in accordance with an approved strategy or master plan for that airport or airfield.
- Ensure that in the planning of airports and airfields, land use decisions are integrated, appropriate land use buffers are in place and provision is made for associated businesses that service airports.
- Plan the visual amenity and impact of any land use or development on the approaches to an airport or airfield to be consistent with the status of the airport or airfield.

2.2.4.2 Special Use Zone 6

Ballarat Airport is zoned Special Use Zone 6 – Ballarat Airfield (SUZ6) under the Ballarat Planning Scheme. The purpose of the zone is to:

- To provide for the use of land for the purpose of an airport and complementary uses.

Under the provisions of the SUZ6, 'Airport' and 'Heliport' are section 1 permit not required uses. Section 2 permit required uses include 'Industry', 'Office' and 'Any other use not in Section 1 or 3'. There are five Section 3 prohibited uses: 'Accommodation', 'Childcare centre', 'Education centre (other than Employment Training Centre)', 'Place of assembly' and 'Retail premises'.

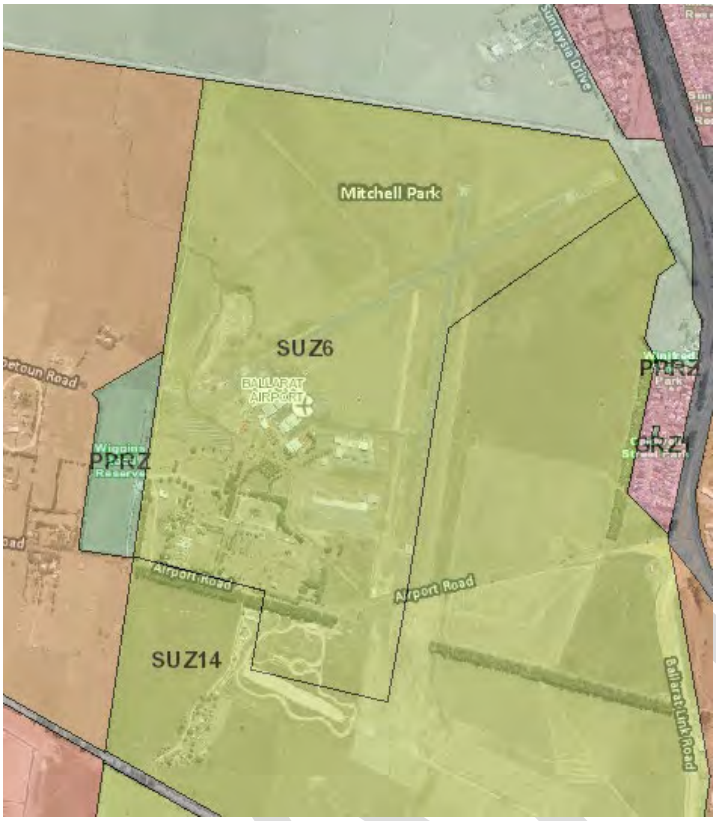


Figure 3: Special Use Zone: SUZ6 - Ballarat Airfield

2.2.4.3 Airport Environs Overlay

Ballarat Airport also has an Airport Environs Overlay (AEO) which has the following purpose:

- To implement the Municipal Planning Strategy and the Planning Policy Framework.
- To identify areas which are or will be subject to high levels of aircraft noise, including areas where the use of land for uses sensitive to aircraft noise will need to be restricted.
- To ensure that land use and development are compatible with the operation of airports in accordance with the appropriate airport strategy or master plan and with safe air navigation for aircraft approaching and departing the airfield.
- To assist in shielding people from the impact of aircraft noise by requiring appropriate noise attenuation measures in new dwellings and other noise sensitive buildings.
- To limit the number of people residing in the area or likely to be subject to significant levels of aircraft noise.

There are two schedules to the AEO with different land use controls.

Schedule 1 (AEO1) is the inner overlay and has more restrictive controls. Despite the provisions of the zone, land affected by the AEO1 must not be used for any of the following: 'Accommodation (other than Dwelling, Host farm, Residential hotel and Small second dwelling)', 'Drive-in theatre', 'Education centre' and 'Hospital'. A permit is required for a range of other noise sensitive land uses.

Schedule 2 (AEO2) is the outer overlay. The provisions of this schedule specify that an application to use land for certain noise sensitive 'must be referred to the airport owner under Section 55 of the Act unless, in the opinion of the responsible authority, the proposal satisfies requirements or conditions previously agreed in writing between the responsible authority and the airport owner'.

Figure 4: Airport Environs Overlays: AEO1 and AEO2

2.2.4.4 Design and Development Overlays

Ballarat Airport also has two Design and Development Overlays, DDO17 - Building height above 5 metres and DDO18 - Building height above 15 metres, which have the following design objectives:

- To ensure that flight paths associated with the Ballarat Airfield are protected from the encroachment of inappropriate obstacles to enable the safe and effective operation of the Airfield.
- To ensure that all buildings avoid creating a hazard to aircraft in the vicinity of the Ballarat Airfield in order to facilitate safe aircraft operations.

Under DDO17 and DDO18 a permit is required to construct a building and carry out works that are greater than the specified building height.

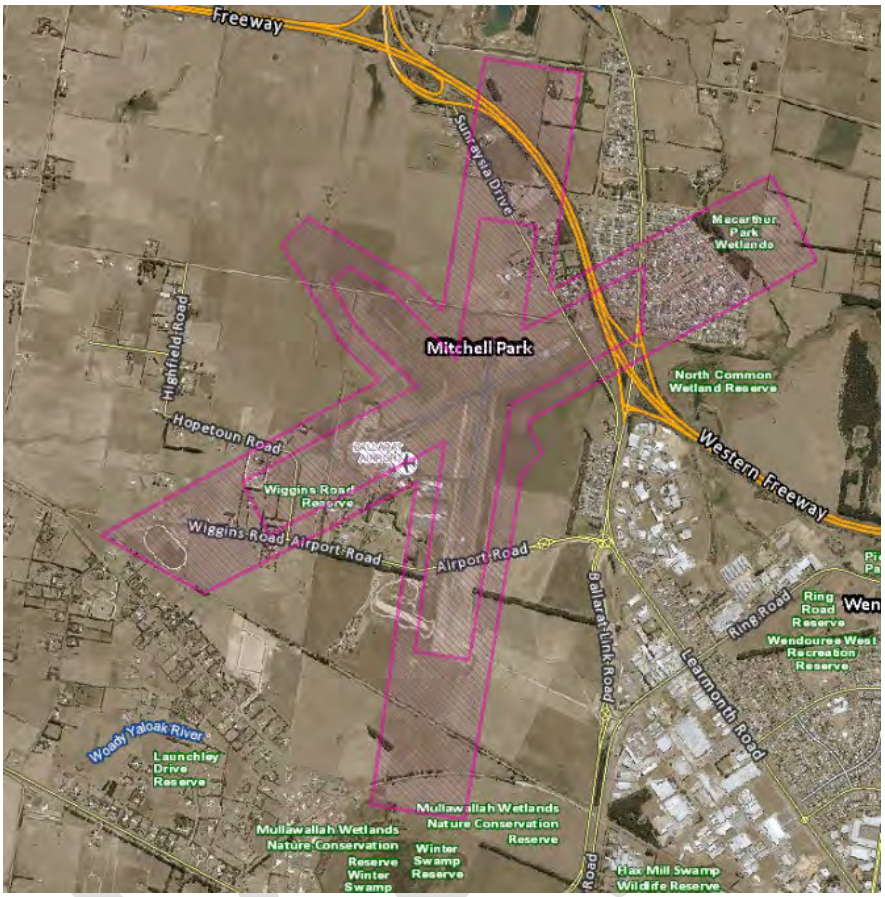


Figure 5: Design and Development Overlays: DDO17 and DDO18

2.2.4.5 Heritage Overlay

The Heritage Overlay, HO190 – Former Ballarat RAAF Base also applies to the airport site. The purpose of the Heritage Overlay is follows:

- To implement the Municipal Planning Strategy and the Planning Policy Framework.
- To conserve and enhance heritage places of natural or cultural significance.
- To conserve and enhance those elements which contribute to the significance of heritage places.
- To ensure that development does not adversely affect the significance of heritage places.
- To conserve specified heritage places by allowing a use that would otherwise be prohibited if this will demonstrably assist with the conservation of the significance of the heritage place.

Under the provisions of the Heritage Overlay, a permit is required for a wide range of works, including but not limited to:

- Subdivide land.
- Demolish or remove a building.
- Construct a building or construct or carry out works,
- Externally alter a building by structural work, rendering, sandblasting or in any other way.

- Construct or display a sign.
- Carry out works, repairs and routine maintenance which change the appearance of a heritage place or which are not undertaken to the same details, specifications and materials.

A heritage place which is included in the Victorian Heritage Register is subject to the requirements of the Heritage Act 2017. Ballarat Airport is included in the Victorian Heritage Register (discussed further in Section 7 of this report). Under Clause 43.01-3 no permit is required to "develop a heritage place which is included in the Victorian Heritage Register, other than an application to subdivide a heritage place of which all or part is included in the Victorian Heritage Register."

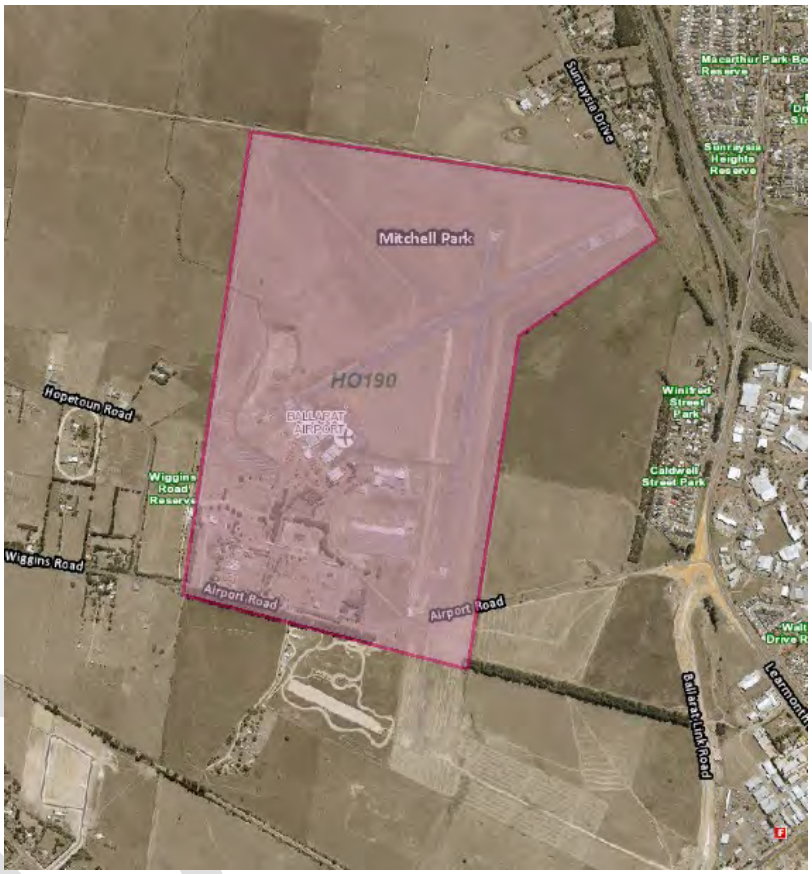


Figure 6: Heritage Overlay: HO190 - Former Ballarat RAAF Base

2.2.5 Environment Protection and Biodiversity Conservation Act 1999 (Cth)

The Environment Protection and Biodiversity Conservation Act 1999 (EBPC Act) provides a legal framework to protect and manage nationally and internationally significant flora, fauna ecological communities and heritage places. It is administered by the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW).

The EPBC Act aims to:

- protect the environment, especially protected matters
- conserve our biodiversity - the variety of all life forms in Australia
- protect and manage our important natural and cultural places

- assess the environmental impact of projects, and decide whether to approve them
- control how plants and animals, including specimens and products, move in and out of Australia
- promote ecologically sustainable development through careful use of our natural resources
- appreciate the role of Indigenous peoples in protecting and sustainably using the environment
- promote using Indigenous peoples' knowledge, with their permission and cooperation.

The EPBC Act refers to the living things (including plants and animals), habitats and places that need protecting as 'matters of national environmental significance'. There are nine of these:

- World Heritage areas
- Commonwealth Heritage places
- wetlands of international importance (listed under the Ramsar Convention)
- listed threatened species and listed ecological communities
- listed migratory species (protected under international agreements)
- Commonwealth marine areas
- Great Barrier Reef Marine Park
- nuclear actions (including uranium mines)
- water resources (relating to coal seam gas development and large coal mining development).

A project (also called 'an action') that has an impact on protected matters, is a controlled action under the EPBC Act. The Act governs the referral and assessment process for controlled actions. Flora and fauna on the airport site is discussed further in Section 7.1 of this report.

2.2.6 Heritage Act 2017 (Vic)

Since the Ballarat Airport site is on the Victorian Heritage Register, all new buildings and works on the airport site will generally require a Heritage Permit from Heritage Victoria under Part 5 of the Heritage Act 2017.

2.2.7 Local Government Act 2020 (Vic)

As a Council owned and operated asset, Ballarat Airport is subject to the requirements of the Local Government Act 2020. This applies to the sale, lease, transfer exchange and use of land. Council must operate in accordance with the Local Government Act.

2.3. Policies and Studies

This section details the relevant policies that influence the future use and development of Ballarat Airport. The STAMP should be consistent with the existing planning policies, strategic objectives, and guidelines relevant to the airport.

2.3.1 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 recognition of aviation safety requirements in land use planning decisions.

NASF was developed by the National Airports Safeguarding Advisory Group (NASAG), comprising Commonwealth, State and Territory Government planning and transport officials, the Australian Government

Department of Defence, the Civil Aviation Safety Authority, Airservices Australia, and the Australian Local Government Association.

NASF was agreed to by Commonwealth, State and Territory Ministers at the Standing Council on Transport and Infrastructure (SCOTI) meeting on 18 May 2012. The agreement represented a collective commitment from Governments to ensure that an appropriate balance is maintained between the social, economic, and environmental needs of the community and the effective use of airport sites. The Framework applies at all airports in Australia and affects planning and development around airports, including development activity that might penetrate operational airspace and/or affect navigational procedures for aircraft. Pursuant to the SCOTI agreement, it is the responsibility of each jurisdiction to implement the Framework into their respective planning systems.

In October 2015 the Victorian Government approved Amendment VC128 which introduced the consideration of NASF into the Planning Policy Framework in Clause 18.02-7S: Airports and Airfields.

NASF is comprised of a set of seven principles and nine guidelines. The NASF principles are:

- Principle 1 – The safety, efficiency and operational integrity of airports should be protected by all governments, recognising their economic, defence and social significance
- Principle 2 – Airports, governments and local communities should share responsibility to ensure that airport planning is integrated with local and regional planning
- Principle 3 – Governments at all levels should align land use planning and building requirements in the vicinity of airports
- Principle 4 – Land use planning processes should balance and protect both airport/aviation operations and community safety and amenity expectations
- Principle 5 – Governments will protect operational airspace around airports in the interests of both aviation and community safety
- Principle 6 – Strategic and statutory planning frameworks should address aircraft noise by applying a comprehensive suite of noise measures
- Principle 7 – Airports should work with governments to provide comprehensive and understandable information to local communities on their operations concerning noise impacts and airspace requirements.

The nine guidelines are:

- Guideline A – Measures for Managing Impacts of Aircraft Noise
- Guideline B – Managing the Risk of Building Generated Windshear and Turbulence at Airports
- Guideline C – Managing the Risk of Wildlife Strikes in the Vicinity of Airports
- Guideline D – Managing the Risk of Wind Turbine Farms as Physical Obstacles to Air Navigation
- Guideline E – Managing the Risk of Distractions to Pilots from Lighting in the Vicinity of Airports
- Guideline F – Managing the Risk of Intrusions into the Protected Airspace of Airports
- Guideline G – Protecting Aviation Facilities – Communication, Navigation and Surveillance
- Guideline H – Protecting Strategically Important Helicopter Landing Sites
- Guideline I – Managing the Risk in Public Safety Zones at the Ends of Runways

Copies of the full set of current guidelines can be found on the Department of Infrastructure, Transport, Regional Development, Communications and the Arts' website at the following address: https://www.infrastructure.gov.au/infrastructure-transport-vehicles/aviation/aviation-safety/aviation-environmental-issues/national-airports-safeguarding-framework

2.3.2 Ballarat Airport Master Plan 2013-2033 (May 2013)

The current Master Plan for Ballarat Airport was prepared by Kneebush Planning in 2013. The key findings from the current Master Plan are as follows:

- According to an economic evaluation done for this master plan, Ballarat Airport's existing operations directly produce $10 million in output annually and provide 308 indirect and 90 direct full-time equivalent employment.
- The airport is an important infrastructure, economic and social asset for the City.
- Ballarat Airport has the potential to develop into a regional Victoria emergency services hub. Currently, the location supports a diverse range of beneficial activities, such as emergency services operations, community groups, recreational aviation, and aviation businesses.
- Over the past two to three years, Ballarat Airport has seen a significant rise in utilisation, mainly because of the establishment of a major commercial pilot training school and also because of the natural expansion of other operations.
- Although the airport was built more than 70 years ago and has historically been used for pilot training, it is no longer the quiet rural airport that it was for the most of its existence, dating back to the RAAF era.
- The airport's aircraft movement rate has varied over time, however it is currently very high when compared to other regional airports of a similar size.

Following on from the key findings the Master Plan made the following recommendations:

- Council supports Ballarat Airport's development if it creates jobs. That is, it must support and occasionally actively seek out airport tenants who enhance Ballarat's economy and employment base while having minimal or no adverse impact on airspace availability and aircraft noise.
- To minimise the adverse impact at Ballarat airport, the safety, aircraft noise, flight movements and operators' cost must be managed by the council.
- Based on the findings from the Ballarat Airport Economic Analysis conducted as part of the Master Plan Project, it is recommended that the City of Ballarat should not progress with a second commercial flight training facility which relies on circuit training for pilots.
- Both Ballarat and larger regional Victoria depend on the emergency services that are available at Ballarat Airport. Expansion of these emergency services at the Ballarat airport is still a strong case that is subjected to further assessment.
- The current Master Plan supported the recommendation to maintain the North-South Runway (18/36) extension suggested in the previous Master Plan (2004-2014).

2.3.3 Aviation Emergency Services Hub Prefeasibility Study (February 2015)

An Aviation Emergency Services Hub (AESH) can be defined as a centre that can manage all services and stakeholders effectively to ensure efficient and safe responses during an emergency with the capacity to accommodate any changes within the policies, equipment's or/in procedures. The prefeasibility study for an AESH at Ballarat Airport concluded that the facility would:

- Help in protecting and saving the lives of Victorians.
- Deliver priority outcomes of State and Federal emergency services strategies.
- Provide training amenities to support ongoing emergency service workforce development and integration.
- Optimise the State's aviation assets.
- Cater for LAT's as the Victorian government preferred aircrafts for bushfire responses.
- Support interoperability as a key element of state emergency management reform
- Provide optimal emergency response time for identified Victorian fire risk landscapes.
- Promote collaboration and improved emergency response based on an all agency, all hazard approach.
- Mitigate economic impacts of emergencies in the wider region.
- Provide initial and ongoing jobs for the region.

2.3.4 Ballarat Airport Safeguarding Report (May 2018)

Council appointed Kneebush Planning to conduct an evaluation of whether the current airport safeguarding environment, which includes the current planning policies and controls applying to the airport and its surrounds, adequately protects the future development of Ballarat Airport. The aim of this assessment was to safeguard the airport over the long term, with a focus on the potential development of an Aviation Emergency Services Hub (AESH) at the airport. To do this, the study incorporated updated modelling of aircraft noise exposure and obstacle limitation surfaces that took the AESH concept into consideration.

The results of the research were presented in the report with the aim of guiding future procedures and strategic planning to effectively safeguard Ballarat Airport's development in the future. The report made a number of recommendations for enhancing the airport safeguarding framework.

2.3.5 Ballarat Airport Runway Upgrade Business Case (November 2019)

The purpose of this report was to assist Council in forming a high-level opinion in relation to the runway upgrade project and to justify project funding. Due to this, the project's main conclusions and suggestions were meant to be exploratory and high-level in nature. They were derived from a combination of desktop research, case study analysis, and stakeholder outreach.

The research confirmed that the runway upgrade project had the potential to promote better utilisation of the airport asset and generate significant financial and economic benefits, through:

- Expansion of aviation activities; and
- Commercial opportunities for Council, businesses, and airport operators.

Without major changes to the runway infrastructure, it is doubtful that the range of potential opportunities investigated in the research would materialise, as indicated by the case studies and discussions with key stakeholders. To increase the airport's sustainability and viability, the upgrading was therefore seen as an essential undertaking. However, enabling airport and business expansion involves more than just building the necessary runway infrastructure. The opportunities identified in this report would also be determined by several additional factors, including (but not limited to):

- Market demand and general aviation industry trends
- Additional infrastructure requirements, including enabling infrastructure (taxiways, aprons, etc.)

- Government management decisions (e.g. DELWP is responsible for coordinating emergency management on a needs basis)
- The role of competing airports and understanding Ballarat's regional context
- Ability to meet administrative/legislative burdens such as inspections, maintenance, etc.

The report advised that to confirm the project's viability and measure the effects of the opportunities found, more research was necessary. It recommended that Council conduct more research and analysis, including but not limited to demand analysis, primary market research, full business case development, cost-benefit analyses, and so on, to validate the project's benefits and any other requirements.

2.3.6 Ballarat Airport Runway Upgrade Project – Scoping Advice (August 2020)

This report was intended to provide high level advice to assist in defining the overall project scope for the Runway Upgrade Project, as well as to define a logical first stage. Three main objectives for the overall Runway Upgrade Project were established in Part 1:

- Extend Runway 18/36, to the south, to an overall length of 1800m to facilitate take-off and landing for design RPT aircraft (including SAAB-340, Dash 8-300) and nominated emergency services aircraft (such as Convair CV-580).
- Strengthen Runway 18/36 to accommodate aircraft with a Maximum Take Off Weight (MTOW) of up to 20,000kg.
- Facilitate the runway upgrade by undertaking activities such as realignment of the airport access road, re-grading of sections of the adjoining taxiway and runway system, extensions of the Airfield Ground Lighting (AGL) network and planning for a parallel taxiway to Runway 18/36.

To determine the sequence of the various components of the Runway Upgrade Project and confirm the first and subsequent stages, four criteria (in order of importance) where developed and agreed with CoB:

- Local community, local stakeholder and federal government tangible progress that the Ballarat Airport Runway Upgrade Project is commencing.
- Stage 1 working to a target cost of $10M.
- Staging is undertaken in a manner which achieves the objectives (Section 1.2) as efficiently as possible.
- The staging minimises overall costs, temporary works and airport operational disruptions.

Using these criteria, the following stages were confirmed:

- Stage 1: Runway 18/36 Extension (including the proposed Southern Airport Access Road).
- Stage 2: Runway 18/36 Strengthening.
- Stage 3a: Parallel Taxiway North with stage 3b – Parallel Taxiway South

2.3.7 Ballarat Airport Options Paper and Financial Analysis (August 2021)

The report investigated the possible ownership alternatives considering the airport's existing use and performance, the growth of the Ballarat West Employment Zone (BWEZ), and the aviation industry's future prospects from both a national and local standpoint. Aside from the financial performance of the operational activities that are directly related to the potential lease and/or sale value of the airport as an asset, recognition

of the current aviation activities at the airport and their value to the City were also taken into consideration by this review.

Future Development
Based on the outcomes of the aviation sector and market analysis reviews, this report concluded that there:

- Is limited or no opportunity to grow RPT operations at Ballarat Airport.
- Is limited opportunity to generate growth through increased freight activities from the current stages of development at BWEZ as these businesses are more likely to use road and/ or rail for distribution of manufactured goods.
- May be potential for some growth through options for alternative freight activities if the appropriate aviation related or businesses that export intra-state are attracted to the future stages of BWEZ development alongside the runway. However, it should be noted that this will take some time to develop and that the extent of the growth that may be possible could be limited. At this stage, it is unclear what the level of interest is from such businesses and therefore there is uncertainty of how the Airport may benefit.
- May be resistance to introduce landing and parking fees as current users are used to no fees for these services currently.
- Is opportunity to maintain and grow existing flight training and emergency services operations, however, these are unlikely to generate any significant revenue for the Airport but may provide a socio-economic benefit for the broader Region.
- Are emerging technologies that may provide some opportunities however these are likely to be well into the future.

Governance Arrangements
Four governance models for the ownership and operation of the airport were assessed as a part of this study. The models identified, along the scale of community focused to commercially driven, were:

- Council owned and operated (the current model)
- Council owned and operated by a professional board (modified management arrangements)
- Council owned and leased to a private operator
- Privately owned

The report concluded that it was premature for Council to make any decision on the sale or lease of the airport until more clarity was available on any prospect of increased revenue-raising activity. The preferred governance strategy was determined to be Council ownership with the establishment of a Professional Board to allow for more control over the development of the airport and a greater ability to initiate commercial opportunities. The report highlighted that an interim step of establishing an Advisory Board would assist the transition to a Board.

2.3.8 Ballarat Airport: Assessment of Alternative Governance Structures (November 2021)

The planned BWEZ development, and runway extension provided the Council with two development triggers to pursue a more commercially focused management approach to build a self-sustaining aviation business in and around the airport. Council was therefore seeking to more fully understand the issues, risks, and operational practicalities of alternative governance arrangements to achieve this outcome and to determine the most appropriate way forward.

The purpose of this report was to:

- Determine the principal challenges and hazards related to alternative governance structures for Council, as well as any prospective Board of Directors and officials of a new organization, in relation to the Corporations Act, the Aviation Regulation Framework, and the Local Government Act.
- Examine if the Airport's goals for commercial expansion would be effectively supported by the adoption of an alternative governance structure, up to and including the creation of an arms-length business with a professional Board.
- Evaluate whether the airport has a strong enough long-term financial sustainability and a clear enough strategic direction to draw in the necessary calibre of board or professional advisory members.
- Provide recommendations to Council regarding the viability and execution of creating any new structures, such as an arms-length business, a board of directors, or an advisory role, along with the necessary dates and steps.

The report made the following recommendations:

- Establishment of a Delegated Committee
- Recruitment and Appointment of Independent Committee Members
- Recruitment and Appointment of an Airport Commercial Manager
- Comprehensive and Integrated Financial Reporting
- Review and Update of Master Plan
- Development of an Airport Business and Strategic Plan
- Pricing Review
- Development of Operational Plan
- Development and Adoption of Trigger Mechanisms for a Beneficial Enterprise

2.3.9 Today Tomorrow Together - The Ballarat Strategy - Our Vision for 2040

The Ballarat Strategy outlines the vision and long term plan to manage change in Ballarat to 2040. The Strategy is part of delivering on what the community said it wants for Ballarat's future. This long term spatial strategy for Ballarat will guide future growth to the most efficient locations with the highest net community benefit as well as providing certainty for the community and the development industry on development areas and forms. This strategy makes several references to Ballarat Airport, in particular:

- Initiative 4.14 – Monitor demand for direct air capacity and investigate long-term opportunities for a Ballarat airport with passenger and freight services
- Initiative 4.15 – Improve the efficiency of supply chains by delivering Ballarat's developing regional transport gateway (Ballarat West freight hub and Ballarat Airport)

Ballarat Airport provides excellent service to Ballarat and its future as an airport is well-supported. Currently accommodating a number of hobby and special interest clubs, the strategy states that Ballarat Airport is widely used for training and small aircraft flights. The Ballarat West Employment Zone (BWEZ) Master Plan includes well-planned linkages to the airport, and a master plan for the airport itself exists to safeguard its future. However, the strategy emphasises that it will be necessary to take into account both potential negative

impacts on existing housing and future housing expansions in order to maintain flexibility for long-term expansion to a freight and passenger airport.

The present airport's limitations may worsen over the course of the next 25 years. East of the site are historic home developments that restrict its use for round-the-clock activities. The flight school has a curfew of 11pm already. Being a long-term piece of vital infrastructure, the regional airport's capacity to handle both passengers and freight is limited.

The Ballarat Strategy report discusses the initiatives and future developments at the Ballarat West Employment Zone (including Ballarat West Freight Hub and Ballarat Aerodrome). With plans to house industrial, advanced manufacturing, freight, logistics, aviation, and other employment-generating sectors, it is a critical strategic employment region that will likely support over 9,000 new jobs eventually.

Within the BWEZ is the 16-hectare Intermodal Freight Hub, a freight handling facility. According to the BWEZ Master Plan, the first stage will involve building a road-based freight facility. A weighbridge, truck wash, container storage, access roads, buildings, warehouses, and rest places are all part of the freight facility.

The council will need to keep an eye on the long-term prospects for a new, unrestricted airport in Ballarat, which would allow the city to adapt to demands that may change in the future. The strategy states that, if necessary, a thorough assessment of a potential new regional airport site may need to be carried out in collaboration with important regional stakeholders.

2.3.10 Aviation Green Paper – Towards 2050

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 Commonwealth Government is seeking 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
- international aviation

The Aviation White Paper is set to establish the long-term policies that will steer the future growth and innovation of the aviation sector. It will precisely articulate the Commonwealth Government's policies on desired aviation outcomes, encompassing safety, competitiveness, sustainability, and efficiency ensuring its capability to provide aviation services for the Australian public up to the year 2050.

Some topics directly relate to regional airports which will be vital to consider in the development of the STAMP. This includes the vitality of regional airports and their impact on the liveability and economies of regional communities, skill shortages, passenger, and cargo facilitation, embracing emerging technologies and

implementation of environmental net-zero policies. The eventual outcomes of the White Paper may pose both challenges and opportunities for Ballarat Airport.

3. Current State

The following section provides information regarding the existing airport site conditions as well as the land surrounding the airport. An Existing Condition Plan is attached at Appendix A.

3.1. Ownership and Management

The primary airport site comprises freehold land owned and managed by the City of Ballarat. The airport was handed over to the Council from the Australian Government in 1961. At the time of preparing this STAMP the airport has a full-time Airport Manager and Program Development Officer and a full-time Ballarat Airport Commercial Manager.

The council has implemented some of the outcomes from the *Ballarat Airport: Assessment of Alternative Governance Structures* report including hiring the Airport's Commercial Manager. The *Ballarat Airport Options Paper and Financial Analysis* highlighted that the sale or lease of the airport is too premature and the outcomes from the Strategic Plan in this STAMP will assist the Council in reviewing ownership and governance to enhance commercial and aviation-related performance.

3.2. Site Description

The airport site is situated approximately eight kilometres to the north-west of the Ballarat town centre, a short distance from the Western Freeway. Access to the airport is currently via Airport Road which runs off a roundabout at the intersection of Ballarat Link Road and Learmonth Road.

The site encompasses the current airport infrastructure and spans an area of approximately 185 hectares. The current airport facilities are shown in the figure below.

Figure 7: Ballarat Airport Existing Facilities

Legend

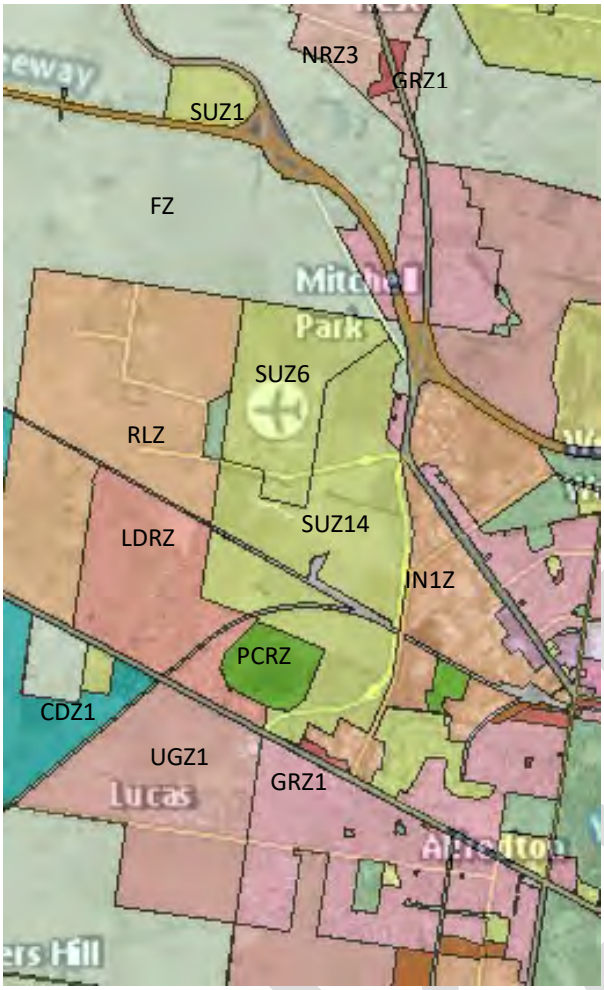
1.	1245m x 30m 18/36 Bitumen Runway	6.	Aviation Hangars
2.	555m Runway Extension for 18/36	7.	Windsock
3.	1265m x 30m 05/23 Bitumen Runway	8.	Fuelling Area
4.	568m x 30m 13/31 Grass Runway	9.	Large Aviation Hangars and Apron
5.	AAPA Apron and Building	10.	Carpark and Terminal Building

3.3. Surrounding Land

Surrounding the airport, to the east and south of the airport, is the Ballarat West Employment Zone (BWEZ) development which currently has stage 1 complete and provides a major employment precinct for the City of Ballarat. The strategic placement of these nearby road assets, coupled with the presence of the Ballarat-Ararat Railway traversing the southern part of the BWEZ, bestows the airport site with substantial transport advantages and opportunities.

The Ballarat Planning Scheme shows that the land to the west and north of the airport is zoned for farming and rural living purposes (see Figure 8). To the east, beyond BWEZ, and to the south-east there are established residential areas. However, to the south is an urban growth zone in Lucas which involves the development of the Alfredton West Precinct. This precinct is approximately 317 hectares and is mostly allocated for residential development. This could provide challenges for the airport relating to aircraft noise.

To the north is Miners Rest North which is zoned as neighbourhood residential with the objective of the zone to protect the rural township character of Miners Rest North. This area is also sensitive to aircraft noise due to its location and has the potential for more residential development to occur in the future.
With the development occurring in the surrounding land, the airport needs to position itself as an important community asset to be protected.



Legend

CDZ – Comprehensive Development Zone
FZ – Farming Zone
GRZ – General Residential Zone
IN1Z- Industrial 1 Zone
LDRZ – Low Density Residential Zone
NRZ – Neighbourhood Residential Zone
PCR – Public Conservation and Recreation Zone
RLZ – Rural Living Zone
SUZ – Special Use Zone
UGZ – Urban Ground Zone

Figure 8: Ballarat Planning Scheme Zoning

3.3.1 Ballarat West Employment Zone

The BWEZ site involves 438 hectares of Crown land development for industrial, freight and residential purposes to promote employment growth in Ballarat. It is a joint initiative between the Victorian Government and the City of Ballarat to support the region's economic growth. Figure 9 shows the development area along with the staging. BWEZ is zoned Special Use Zone 14 - Ballarat West Employment Zone (BWEZ) under the Ballarat Planning Scheme.

The BWEZ development has a separate Master Plan prepared by Council and it contains the provisions of establishing aviation related industries on the BWEZ site. Stage 1 and 1B are completed and works have begun on the Intermodal Fright Hub which will have the capacity to handle 24,000 twenty-foot equivalent units per annum. Another key element of the BWEZ site which impacts Ballarat Airport is stage 2 as it has 13 lots which directly front Ballarat Airport. Careful planning will be vital for these lots to ensure they comply with aviation regulations. The position of BWEZ provides a significant opportunity for Ballarat Airport to capitalise on the industries located at the site.

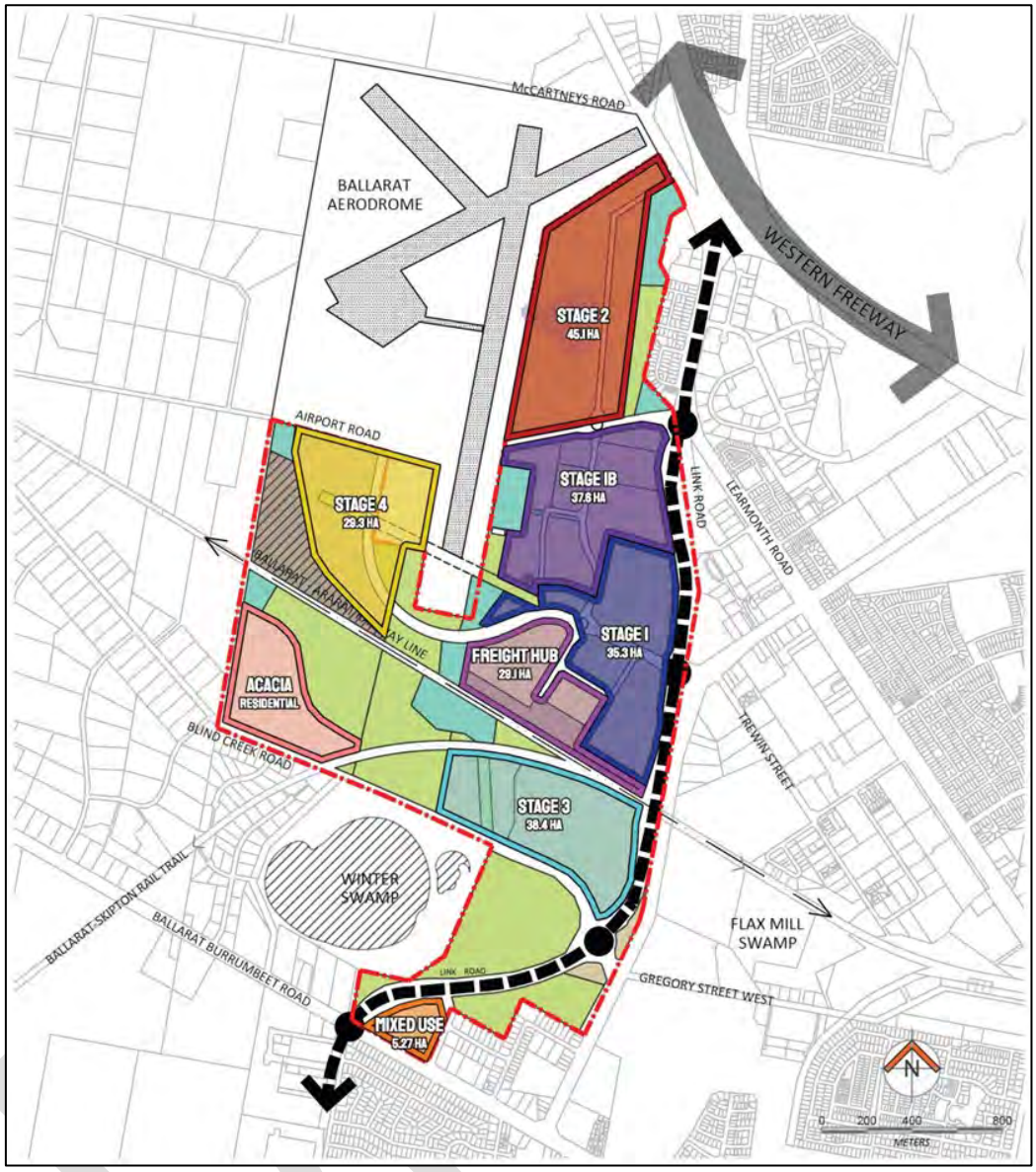


Figure 9: BWEZ Staging Map

3.4. Existing Airport Facilities

This section details the existing airport facilities located on the airport site.

3.4.1 Runway Specifications

The airport has three runways orientated in the 18/36, 05/23 and 03/31 directions and four taxiways. The 18/36 runway has undergone a 555m runway extension on the south end which is planned to be open to users in 2024. Runway 18/36 has a precision approach path indicator (PAPI) and is located on the right side of Runway 18 and the left side of Runway 36. Currently, the pavement strength of the original 1245m of Runway 18/36 is a limiting factor as the strength can only cater to aircraft with a maximum take-off weight (MTOW) of 5700kg. The condition of the runway surface is undulating.

Runway 18/36 is a non-precision approach runway, and the other two runways are non-instrument runways. Runway 05/23 is a shorter crosswind bitumen runway and has the same pavement strength as Runway 18/36

thus only caters to aircraft with a MTOW of 5700kg. Runway 03/31 is a grass strip that is used infrequently by light aircraft and gliders.

Table 2: RWY 18/36 Specifications

Specification	RWY 18/36
Runway Length (m)	1,245m (1800m with extension)
Displaced Threshold (m)	0m
Runway WID (m)	30m
Code	3
Pavement Type	Sealed
Pavement Surfacing	Bitumen
Take Off Distance Available (m)	1305m
Landing Distance Available (m)	1245m
Pavement Classification Number (PCN)	6

Table 3: RWY 05/23 Specifications

Specification	RWY 05/23
Runway Length (m)	1,265m
Displaced Threshold (m)	0m
Runway WID (m)	30m
Code	3
Pavement Type	Sealed
Pavement Surfacing	Bitumen
Take Off Distance Available (m)	1325m
Landing Distance Available (m)	1265m
Pavement Classification Number (PCN)	6

Table 4: RWY 03/31 Specifications

Specification	RWY 03/31
Runway Length (m)	568m
Displaced Threshold (m)	0m
Runway WID (m)	30m
Code	1
Pavement Type	Unsealed
Pavement Surfacing	Grass
Take Off Distance Available (m)	628m
Landing Distance Available (m)	568m
Pavement Classification Number (PCN)	Unrated

3.4.2 Aprons, Taxiways and Aircraft Parking

There are four taxiways, three are asphalt (Taxiway Alpha, Bravo and Delta) and one grass (Taxiway Charlie).

Taxiway Alpha is a 15m wide Code C taxiway that connects the southern end of Runway 18/36 to the general aviation apron and Taxiway Delta.

Taxiway Bravo is a 30m wide Code C taxiway connecting the southwest end of Runway 05/23 to the general aviation apron. The general aviation apron has the facilities and hangars of three of the main airport users in Ballarat Aero Club, Aerovision and Field Air making taxiways crucial for operations.

Taxiway Charlie is a 15m wide Code A grass taxiway that connects the southern end of Runway 13/31 to 05/23.

Taxiway Delta is a 15m wide Code A taxiway that connects the AAPA apron to the southern end of Runway 18/36 and Taxiway Alpha.

The taxiway connectivity to the runways is limited, thus anything landing to the north or taking off to the south must backtrack more than half the distance of the runway which leads to bottlenecks and congestion issues and ultimately limits the capacity of the airport.

Off Taxiway D there are Taxilane E and Taxilane F. Taxilane E provides access to an apron and hangar precinct and Taxilane F provides access to the AAPA apron and building.

The main apron has three areas allocated to parking on the asphalt. There is also grass parking available to the east of the south hangar area. AAPA has an asphalt apron to the south of their facility that can park up to twenty-three of their aircraft. There is also a small apron that connects the hangars to the south of Taxiway A.

3.4.3 Aerodrome Lighting

There is runway edge lighting on Runway 18/36 comprising 1200m longitudinally spaced 60m white low-intensity lighting. The runway edge lighting was installed before the MOS 139 lighting intensity requirements. There is pilot-activated lighting (PAL) available at Ballarat Airport. PAPI is installed at either end of Runway 18/36, however lighting intensity has not been specified.

All taxiways have blue edge lighting, however, there are no centreline, stop bars and holding position lights. Flood lighting is present on the apron adjacent to the refuelling facility and low-intensity edge lighting exists.

Two lit obstacles are infringing the OLS, the communications tower and aerial, which have a red LIOL lighting system installed.

3.4.4 Windsock

There is one windsock on Ballarat Airport located to the north of Taxiway A

3.4.5 Aircraft Fuelling

There are two 24/7 bowser fuelling services at Ballarat Airport. Field Air operates an above-ground 55,000-litre Jet A1 tank which can be located on the apron on the west side of the Field Air hangars beside Runway 05/23. There is a white radius line on the apron representing the area of the fuel hose length. Ballarat Aviation Group operates the BP Avgas bowser located on the edge of the main apron next to the aircraft parking location.

3.4.6 Buildings

There are 5 large hangars connected to the main apron, two are leased by Field Air and the remaining are for Ballarat Aero Club, Ballarat Aviation Museum and Aerovision. Also connected to the main apron is a terminal building of approximately 150 square metres which has basic amenities for itinerant and charter flights. The terminal building lacks the facilities to cater for RPT in its current state.

There are 3 medium hangars, and all have direct access off Taxiway A. These are part of a hangar precinct in which there are another 7 hangars all connected off Taxilane E. These hangars are used by County Helicopters, Ballarat Aviation Group, New Horizons Microlight School, and other private users.

AAPA has building two on the north side of the AAPA apron and there is a large hangar off to the west of the AAPA apron for CAC Australia. On the landside of the Airport, there are numerous other buildings, the majority being WW2 huts which are used as offices for the airport operators or by community clubs.

3.4.7 Airport Manager and ARO Office

The Airport Manager and ARO Office are in an old WW2 hut located in front of the Aerovision Hangar. The hut has other offices within it which are shared by other tenants. The building has adequate kitchen and bathroom facilities for the users.

3.4.8 Car Parking Area

There is an allocated car park area located between the terminal building and the hangar precinct. The car park is accessible through the access roads that are located off Airport Road. The car park has roughly 56 parking spaces available. There are roughly 41 parking spaces available on the landside of the main apron area in front of the WW2 huts which are used as offices. Off Airport Road AAPA has an additional car parking area to the west of their building. The parking area has an estimated 37 parking spaces available.

3.4.9 Utility Services

The airport underwent an Infrastructure Upgrade Project between 2009 and 2012 which included the upgrade of some of the utility services. In regard to the utility upgrades, it was focused on facilitating the development of the main Aviation Development Area (South of Taxilane E). The works included the following:

- Installation of water mains and fibre optic conduit along Airport Road
- Installation of fire services infrastructure
- Further stormwater and drainage works
- Installation and upgrade of electrical infrastructure
- Installation of sewerage lines and pumps.

The Ballarat West Employment Zone Master Plan also deals with the provision of utility services and proposes a number of utility service upgrades for this precinct. This is addressed in a detailed report prepared by AECOM titled “Civil Infrastructure Assessment – Ballarat West Employment Zone” (January 2013).

Appendix B shows the current utility services available on the airport site. There has been no indication from the consultation that the airport’s utility services are a significant issue or constraint at present.

3.4.10 Perimeter Fencing

The airside facilities and operational areas are enclosed by 1.2 m chain-link fencing with lockable gate access. The perimeter fencing currently does not meet the standards to cater for an RPT service.

3.4.11 Existing Airport Activities

The airport has various aviation businesses located on the site conducting a range of aviation activities. AAPA accounts for most of Ballarat Airport’s movements and is a flying school that is accredited to deliver the Diploma of Aviation (Commercial Pilot Licence – Aeroplane) and Diploma of Aviation (Instrument Rating). Currently, the school has approximately 80 overseas students with the capacity to increase this number.

Field Air provides a multitude of services including maintenance and engineering services, aircraft and parts sales, pilot training and endorsement for agriculture and firebombing flying, agriculture spraying and spreading and aerial firefighting. The Ballarat base is home to their Air Tractor aircraft and with the opening of the

runway extension and strengthening of the main runway would allow Field Air to service their Q400 and RJ85 aircraft at Ballarat Airport.

Ballarat Aero Club provides memberships and events for aviation enthusiasts as well as providing flight training and aircraft hire. The club is accredited to certify students with a RA-AUS recreational pilot certificate (RPC), Recreational Pilot Licence (RPL), Private Pilot Licence (PPL) and Commercial Pilot Licence (CPL).

County Helicopters provides a range of aerial agricultural services including aerial stock mustering, feral animal control, aerial fertiliser spraying operations, frost mitigation, forestry services, crop analysis services and mosquito control. They have another two bases located in South Australia and have a range of helicopters and a drone to deliver services.

CAC Australia is a recreational aviation company which services and operates vintage and ex-military aircraft and supports the Ballarat Aviation Museum by providing historic RAAF aircraft and equipment.

Aerovision operates reconnaissance, photography, charter flights and emergency services activities. Westvic Flight Training has three Jabiru aircraft and conducts RA-AUS flight training and certification. New Horizons Microlight School provides microlight training and storage. Ballarat Sports Aviators provides aircraft storage.

3.4.12 Aircraft Movements

To70 received Avdata aircraft operation numbers for Ballarat Airport for October 2023. The table below shows the total number of operations for the month and the total number of movements. To account for an associated take-off, all landings are doubled to calculate movement numbers. Likewise, touch and go, stop and go and practice approach operations comprise both a landing and a take-off and therefore have two movements. A movement is either a landing or a take-off.

Operation Type	Operation Numbers	Movement Numbers
Landings	884	1768
Touch and Go (TGO)*	1336	2672
Stop and Go (SGO)**	43	86
Practice Approach (PA)***	662	1324
Total	**2925**	**5850**

* TGO is where an aircraft comes into land and briefly touches the runway before taking off.
**SGO is where an aircraft comes to a complete stop when landing and then takes off.
***PA is where an aircraft comes into land and hovers over the runway before taking off.

From this data To70 and COB extrapolated a yearly movement number of 53,900 movements for 2023 based on previous years' monthly trends and knowledge of average daily movements of airport users. This provided the basis for the forecast for the 20-year ANEF noise model that Marshall Day Acoustics prepared in association with this Master Plan.

3.4.13 Contaminated Land

Ballarat Airport is on the Environment Protection Authority priority sites register following an agricultural chemical spill on part of the airport site in 1989. From the last audit in August 2022, the contamination potential is deemed low and is suitable for ongoing commercial and industrial use but must comply with certain recommendations. The recommendations include routine groundwater monitoring and a Groundwater

Quality Restricted Use Zone (GQRUZ) being placed on the affected area. A GQRUZ is an area that was found to have residual groundwater contamination and full clean-up of the site is not possible or impractical.

3.5. Environmental and Heritage Values

Environmental and heritage values highlight specific flora and fauna, European and Aboriginal and Torres Strait Islander sites which hold value and are protected through state and/or commonwealth legislation. Ballarat Aerodrome has a variety of environmental and heritage sites on the airport that must be taken into consideration when planning.

3.5.1 Flora and Fauna

Biosis Research conducted a Flora and Fauna Assessment for the Ballarat West Employment Zone including the Ballarat Aerodrome Precinct, in September 2010. Subsequent surveys were carried out by Biosis Research in May 2011.

According to the Biosis studies the airport site contains Heavier-soil Plains Grassland which is endangered within the Victorian Volcanic Plains Bioregion and is listed under the Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth) (EPBC Act) as Natural Temperate Grasslands of the Victorian Volcanic Plain and on the Flora and Fauna Guarantee Act 1988 (Vic) (FFG Act) as Western (Basalt) Plains Grassland Community. It is important to note that the heavier-soil plains Grassland provides the remaining 50% of habitat for the endangered Fragrant Leek-orchid, the vulnerable Striped Legless Lizard, and the critically endangered Golden Sun Moth, although none of these species were found in the study area. The initial report recommended that any area on the airport site that has the Heavier-soils Plains Grassland should be protected and managed as it is listed under the EPBC Act and FFG Act. The study also identified the presence of indigenous canopy trees which provide a habitat for bird species.

A later report in May of 2011 was conducted and described the outcomes of additional surveys. The survey found a colony of critically endangered Golden Sun Moth, listed under the EPBC Act, south of Airport Road. It is important to note that the additional surveys were restricted to areas south of Airport Road. Other areas (generally north of Airport Road) were noted as still requiring further assessment before development. Thus, further development of the airport site, for example, the north-west corner of the site, will require further flora and fauna study.

Given the above, before any development on the airport site, the outcomes and recommendations of the flora and fauna studies outlined above should be carefully reviewed and considered. Further flora and fauna investigations and possibly approvals may be required before development can proceed on some parts of the airport site.

3.5.2 European Heritage

Ballarat Airport is included in the Victorian Heritage Register (VHR H2113). The register highlights its historical significance *"for its ability to demonstrate the importance of military aviation to the defence of Australia and its Allies during the Second World War, the first conflict in which aircraft played a major role in combat for the Australian military."*

Figure 10 shows the land and buildings included in the registration. Per the Heritage Act 2017 all new buildings and works on the airport site as defined by the diagram in the Heritage Victoria citation, will generally require a Heritage Permit from Heritage Victoria, although there are some general and specific exemptions. General exemptions apply to all places and objects included in the Victorian Heritage Register. General exemptions

have been designed to allow everyday activities, maintenance and changes to a property, which don't harm its cultural heritage significance, to proceed without the need to obtain approvals under the Heritage Act 2017. Specific exemptions are tailored to the conservation and management needs of an individual registered place or object and set out works and activities that are exempt from the requirements of a permit.

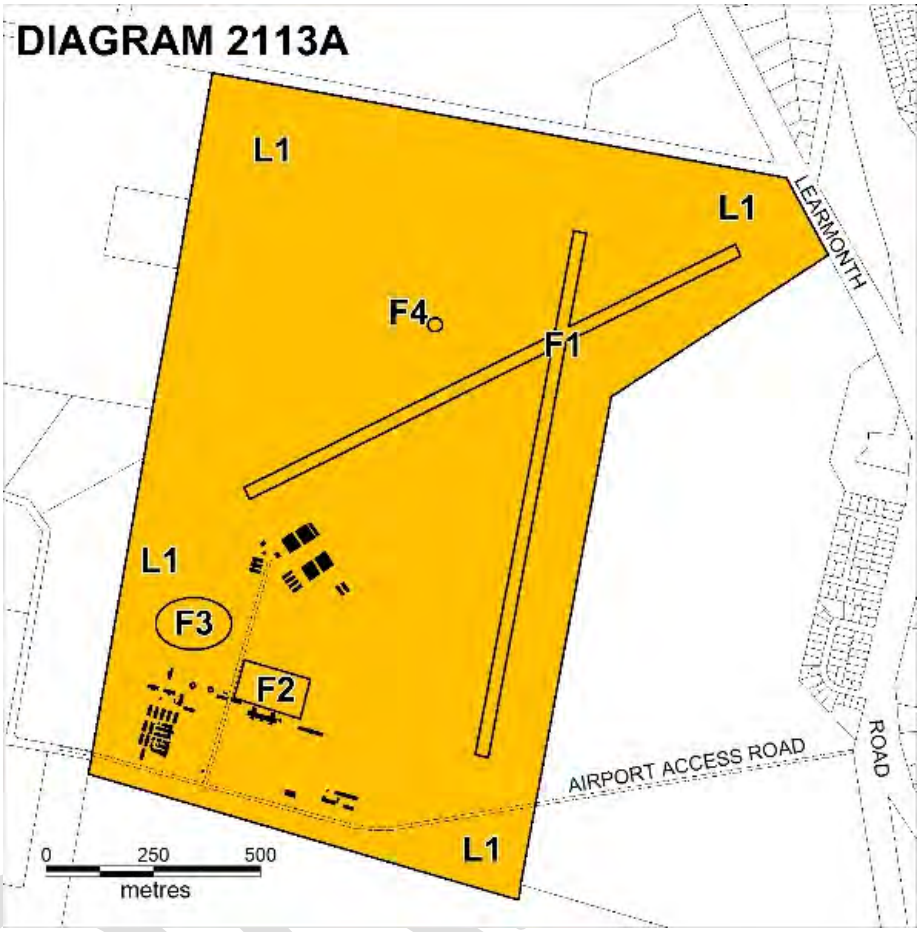


Figure 10: Victorian Heritage Register - Former Ballarat RAAF Base Diagram 2113A

The Ballarat Aerodrome Conservation Management Plan (CMP) was prepared by Ivar Nelsen in May 2008 to assist the City of Ballarat in the future planning and day-to-day management of Ballarat Airport. The CMP was amended in April 2012 to reflect the amended boundaries of the Heritage Victoria registration. The CMP confirms that Ballarat Airport is of cultural value to Ballarat and the State of Victoria.

Section 5 of the CMP identifies a series of Conservation Policies providing direction for conservation, management, features/buildings/structures, interpretation, and future research. Section 6 of the report provides various Conservation Guidelines for the maintenance and development of the site. These policies and guidelines should be considered as part of any future development planning on the airport site.

Behind the conservation policies and guidelines in the CMP are several crucial statements:

- *The existing Ballarat Aerodrome is only a shadow of its WWII extent. Roughly less than a quarter of the 200+ WWII buildings remain.*

- *The core features of the WWII Ballarat Aerodrome are still extant, although not necessarily intact. They include the Tarmac and Teaching Precincts and Cypress Pine Plantation as well as the uniformity, consistency, repetitiveness, and Spartan qualities of the built environment.*
- *The 'conservation' of the Ballarat Aerodrome's cultural values is not synonymous with its 'restoration' as in house-museums. Inherent to its conservation is the continued use of the Aerodrome and its buildings for aviation, community and business activities, including managing change.*

The extent of the heritage registration under the Heritage Act 2017 covers the entire airport site, including parts of the site that do not contain any heritage buildings (e.g. the northwest corner). It is considered that there may be an opportunity to reduce the extent of the registered area, to limit its coverage to those areas of the site that contain significant buildings.

3.5.3 Heritage Overlay

As outlined earlier in Section 2.2.6 of this report, the Heritage Overlay (HO190) also applies to the airport site under the Ballarat Planning Scheme. Under Clause 43.01-3, no permit is required "to develop a heritage place which is included in the Victorian Heritage Register, other than an application to subdivide a heritage place of which all or part is included in the Victorian Heritage Register."

3.5.4 Aboriginal Cultural Heritage

An Aboriginal Cultural Heritage Assessment was conducted for the Ballarat West Employment Zone (BWEZ) by Biosis Research in October 2010. Four Aboriginal places were identified during the survey conducted. Furthermore, it was determined that there might be additional Aboriginal places within the airport site. Hence, it is recommended that before any development on the airport, the outcomes and recommendations of the Aboriginal Cultural Heritage Assessment should be carefully reviewed and considered. Further investigations and possibly approvals may be required before development can proceed on some parts of the airport site.

4. Stakeholder Consultation

This section discussion the stakeholder consultation activities conducted during the situation analysis stage of the STAMP in preparation for the situation analysis report.

4.1. Overview of Consultation

In preparing this report, a range of formal and informal stakeholder consultations were conducted, via a range of methods. The stakeholder consultation process was initiated at the beginning of the Master Plan development. A Communication and Consultation Plan was prepared to guide the consultation process. Consultation was performed both in-person and via teleconference to maximise reach.

The stakeholder consultation activities aimed to contribute to the STAMP with the following objectives:

- Explain the purpose, objectives and benefits of an Airport STAMP.
- Document opportunities and constraints of the Airport from the perspective of primary stakeholders.
- Understand and catalogue requirements for potential new users of the Airport.
- Understand the regional developments and trends to develop a strategic position for Ballarat Airport.
- Identity potential investment opportunities with local businesses.

The issues discussed during these consultations included:

- Governance
- Economic impact
- Regional development
- Airport operations
- Potential airline service
- Investment opportunities
- Infrastructure
- Maintenance
- Airport safeguarding

The range of stakeholders involved in the consultation process is shown in Figure 10.

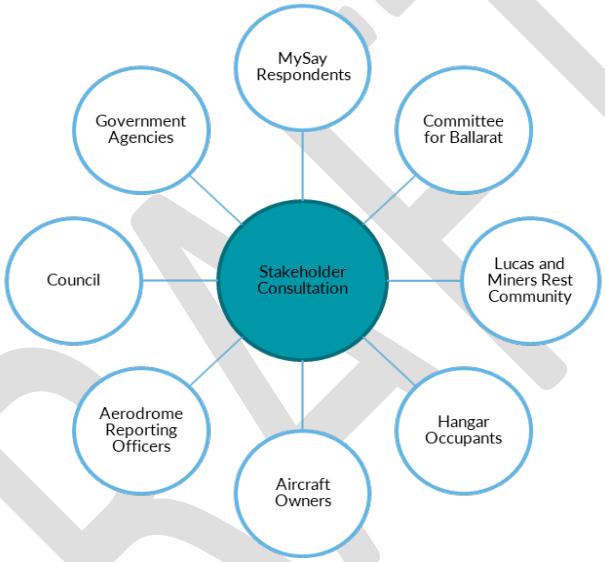


Figure 11: Stakeholders Involved in Consultation

4.2. Consultation Activities

The stakeholder consultation process began with an Airport User Group Workshop held at the airport on the 3rd of October 2023, which included Field Air, Aerovision, AAPA and other key stakeholders to explain the STAMP and update the previous Master Plan SWOT analysis.

This was followed by the Council publishing a 'MySay' online survey for industry feedback (included in Appendix C) and with the opportunity for interested parties to be contacted for further consultation. A total of 57 people responded to the industry survey and 22 people opted to be contacted for further consultation.

An Industry event for the Committee of Ballarat was held on the 2nd of November 2023 which was positioned to gather more information for the Strategic Plan. A series of one-on-one industry and government stakeholder meetings were also conducted in Ballarat on 2 and 3 November. These meetings included Tourism Midwest Victoria, Development Victoria and several Council officers.

Figure 12: Committee for Ballarat Industry Session - 2nd of November 2023

The first community consultation session was held on the 3rd of November at Lucas Community Hub to discuss the purpose of the STAMP and understand the impact of the Airport on the Community. The Council continued the community sessions throughout November at both Lucas and Miners Rest. A community 'MySay' online survey (included in Appendix C) was also released in November to understand the opportunities and impacts of the airport on the wider community. A total of 191 people participated in the survey, however not everyone participated in each question.

From the initial workshops, one-on-one interviews were conducted with those stakeholders who sought to be consulted further.

Following the Airport Users Workshop, a Questionnaire (see Appendix D) was sent out to the Airport Users to build a better understanding of the current situation of the Airport. Three of the Airport Users responded to the questionnaire and an airport user meeting held on the 14th of December provided an opportunity to arrange one-on-one meetings for those who did not complete the questionnaire and forward the questionnaire to people who did not receive it in the first email out.

A Ballarat Airport Stakeholder Reference Group meeting was held on Thursday 14 December which involved all community groups and businesses located on the airport site and the local counsellors. The meeting allowed the PWG and To70 to highlight the findings from the consultation and ask for any further feedback regarding the project.

4.3. Summary of Consultation Outcomes

The consultation activities highlighted some key themes and outcomes from the various groups from the City of Ballarat. Industry and Airport users showed strong support for the Airport, while the community had a mixed response to the airport.

All stakeholders showed support for a scheduled passenger service with 81.8% of Industry and 71.2% of Community respondents from the MySay survey responding that it would be very beneficial or would potentially offer some benefit. The survey also showed that Sydney was the number one destination for both Industry and Community, however, the subsequent destinations differed with Industry opting for capital cities and community after holiday destinations. Some of the results from the MySay survey are provided in Appendix E. From the Airport User group workshops, most users were supportive of the idea of an RPT service and generally do not believe it will impact their operations. With the idea of the introduction of RPT, it could provide industries with more freight opportunities.

There is still support for an emergency service hub following on from the 2013 Master Plan, however, the Council does not want to position the airport purely as an emergency service hub.

The meetings and workshops with the government and industry highlighted the demand for industrial land in Ballarat and both showed support for non-aviation development on the airport site. It was also highlighted that the BWEZ airside lots need further planning considerations regarding the impacts of aviation regulations on the site for the concept to succeed. Airport Users support more diversity of aviation development on the airport but would like to limit industrial development. However, looking at both the aviation and non-aviation development opportunities at the airport site will assist in enhancing the long-term viability of the airport.

Airport Users highlighted the constraints of the airport site due to a lack of planning that limits the airport's operational capacity as critical infrastructure cannot be built. Specifically, the amount of backtracking on runways is an issue and appropriate taxiway planning needs to be considered. The Heritage Control overlay over the entire airport site provides challenges for development and infrastructure projects. Reviewing the extent of the Heritage Control could assist in facilitating airport development.

Aircraft noise is a concern for the community and particularly those located close to the airport who are near the circuit pattern. Another concern is privacy due to aircraft flying over homes. Airport Users and the Council are working to find measures which could reduce the impact to the community including a fly neighbourly agreement. The Master Plan will also be included the published ANEF which will provide council with new environs overlay to guide future rezoning for residential areas.

Figure 13 provides a summary of the key themes and issues arising from the consultation activities. Further information regarding the consultation is contained in Appendix E.

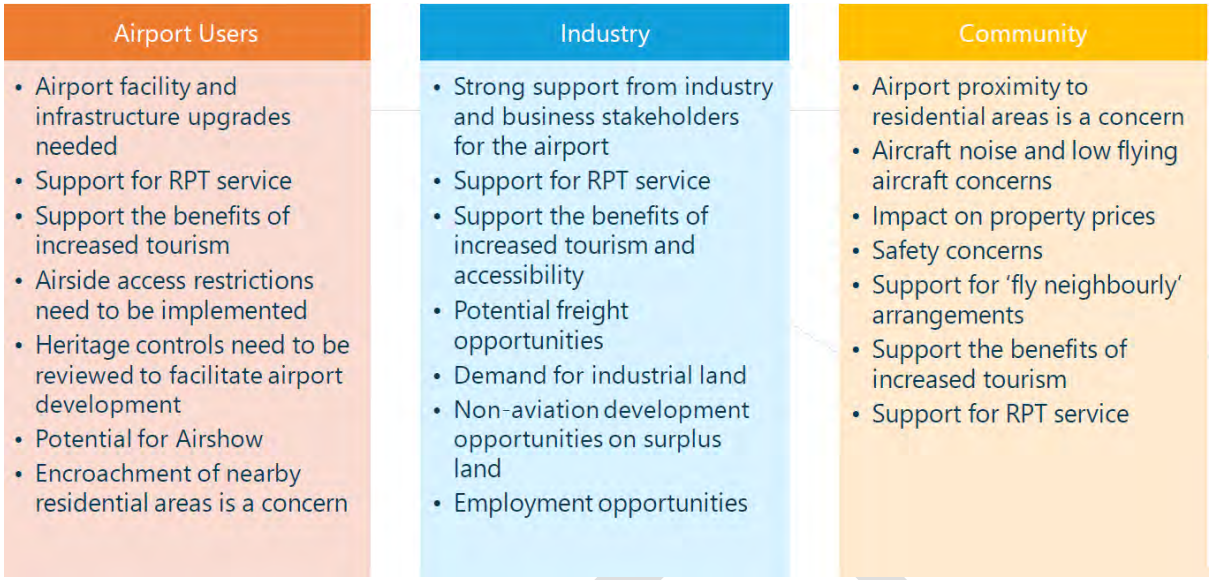


Figure 13: Summary of Consultation Feedback Themes

5. SWOT Analysis

To70 developed an Airport SWOT Analysis based on the outcomes of the stakeholder consultation and feedback process outlined in the previous section. The SWOT analysis helps to inform the development of a practical strategy for the airport that will form the basis of the STAMP. The results from the SWOT analysis activity are set out in the tables below, with a summary provided at the end of this section.

5.1. SWOT Analysis Tables

STRENGTHS	
Location & access	• Regional prosperity, liveability, and affordability. • Large population base in the region and skilled workforce. • Proximity to Melbourne and ability to cater for GA overflow from Melbourne. • Location and accessibility. • Large freehold site area and potential to expand. • Freeway access and Link Road access. • Access to Federation University. • Availability of a train line (closer to the airport) may be considered a positive.
Airport infrastructure	• Good airside infrastructure including extended RWY 18/36. • Lighting and PAPI on RWY 18/36. • Land available to expand aviation-related development. • Noise impact on the community could be dispersed with more usage of cross-runway 05/23.
Aero community & Aviation business potential	• Existing aviation businesses on the site. • Planning policy support for airport growth and development. • Low rents, low cost, low regulation environment. • Latent demand for hangar space. • Good maintenance facilities on site. • Ballarat has an established manufacturing base.

Regional development / economic outlook	• Ballarat West Employment Zone – industry, jobs, output, bet er protection of pilot school. • Strong labour force. • Big calendar of events – maybe considered a strength for the airport to grow and be ambitious to foresee a bet er future. • Potential for more wind industries to come into Ballarat.

WEAKNESSES/CONSTRAINTS

Airport facilities & management	• Location and condition of terminal building not suitable for RPT services. • Drainage / flooding issues on some parts of the site. • Poor signage. • Council's financial ability to invest in infrastructure upgrades, maintenance and airspace management controls. • Insufficient promotion of capacity. • The process of working between different government agencies (like state depts., councils, etc). Pret y extended process.
Operational limitations due infrastructure	• Airport configuration due legacy. • Runway and taxiway pavement strength is an issue in some locations which restricts larger/heavier aircraft. • Lack of TWYs leading aircraft to back track on RWY after the RWY extension is in place. • Taxiway D – Code A rating. • Limited facilities for helicopters. • Existence of erstwhile hangars is a weakness due to hardships in removing them and the constraints they impose.
Heritage buildings & Flora and Fauna	• Availability of multiple structures/hangars within the airport precincts restrict airside infrastructure upgrades. • Lack of strategic plans to handle heritage structures. • Flora and fauna restrictions on some parts of the site including airfield.
Aerodrome surrounding & environment	• Surrounding urban / residential development and noise sensitive land uses. • Land parcel near extended portion of the RWY is soon to be privatised, which would complicate building & operating modalities on new TWYs.
Operational restrictions due surrounding environment	• Noise complaints from local community regarding low-flying flying training aircraft. • Fly Neighbourly agreement – although expected to be a game changer for smooth coexistence of aviation activities and local community, still not implemented.
Airport business environment	• Proximity to Melbourne (for RPT) • Decline in domestic General Aviation (GA) overall.

OPPORTUNITIES	
Location & region's affluence	• GA spillover growth out of Melbourne (due to constraints and pressures at Essendon and Moorabbin airports). • Population growth (about 2%) and prosperity in the region. • Linkages with the Ballarat West Employment Zone (e.g. freight, upstream supply relationships). • Access to Federation University for training, R&D, renowned schools, etc. • Availability (potential) of all modes of transport (air, roads and rail) in the region, unlike many other regional airports like Bendigo.
Ballarat's economic outlook	• Positive industry outlook. • Soaring new businesses entities in the region. • Associated economic upticks in the region including business visitors seeking air transport possibilities in the region, etc. • Low vacancy rates for industrial/office spaces, and good demands for large sheds. • Increasing tourists/sightseers supplementing local at ractions, sporting activities like race days at the racecourse, etc.
Aviation outlook	• Global aviation growth (particularly in aircraft and parts manufacturing, pilot and technician training, airport management to facilitate the movement of aircraft, aircraft maintenance and storage facilities). • Overall decline in domestic GA as a whole, but rapid growth of recreational and sporting aviation in Australia. • Scope for higher rents and revenues.
Prospective scope for aviation activities	• Opportunity to become a dedicated emergency services hub to service wider Victoria. Provision to potentially cater for multi-engine tankers. • Potential for medical transportation due advanced medical facilities at Ballarat hospitals. Provision to cater patient transfer through dedicated facility can be considered. • Opportunity to fill supply chain gaps. • Clustering opportunities. • Reduce extent of heritage controls.
Aero community	• Some existing tenants have indicated a desire for more hangar space. • Latent demand for hangar space (there have been enquiries from several prospective tenants interested in new hangar space). • Flying school has plans to increase current fleet size and increase enrolments. • The need for an aircraft maintenance facility has been mentioned by some airport tenants. • Fly neighbourly agreement with airport users to manager noise bet er.

THREATS	
Community concerns	• Aircraft noise complaints. • Decline in property values due noise levels.
Local community's awareness	• Community awareness about economic and social value of Ballarat Airport.

Developments bordering / adjacent airport area	• Encroachment of further urban/residential development around the airport. • Constructions intruding into Obstacle Limitation Surfaces (OLS).
Aviation business scenario	• Competition from other airports. • Continued decline in domestic GA. • High upgrade and manufacturing costs. • Infrastructure available at Avalon airport that could support emergency services aircraft operations from today, whereas Ballarat still developing infrastructure although they are bet er positioned.
Aviation occurrences	• Potential for an aircraft accident. • Potential for an airport security incident. • Wildlife activity within and immediately vicinity of the airport.

5.2. Summary of Airport SWOT Analysis

5.2.1 Strengths

Ballarat's population, economic and liveability indices highlight the prospects for future aviation growth in the region. Ballarat Airport is well situated to serve the region, in this regard being in a highly accessible location adjacent to the Western Freeway. Ballarat Airport's existing airside infrastructure and ongoing projects to extend and strengthen the main Runway 18/36 enable potential RPT operations from and to the region in the future. Additionally, the existing visual aids at the airport like the ground lights and PAPI enhance the capability for aircraft operations in different weather scenarios.

The large parcels of land available within the airport site and the ability to utilise it for aviation purposes promise opportunities for future aviation businesses. This coincides with the widespread interests expressed by the local aviation community. There are also potential opportunities for some non-aviation development on the airport site, on surplus land not required for aviation development, which will provide revenue for ongoing development of the airport.

5.2.2 Weaknesses

While the land parcels available in the airport precincts were seen as positives for future airport development, they also present constraints due to existing structures and the flora and fauna present. These heritage structures surround active airside areas and offer little opportunity for expansion without extensive processes to be followed to remove them. Additionally, the airport's financial strength to upgrade existing airside facilities was considered a weakness that could impact the positioning of Ballarat Airport in Australia's RPT network.

The pavement strength for both runways is considered a weakness when considering larger aircraft operations from/to Ballarat in the future. Also, the residential developments around the airport and the prospect of increasing noise complaints due to aircraft movements is a potential weakness for future development initiatives, without careful management such as a "Fly Neighbourly agreement".

5.2.3 Opportunities

The city's growth prospects present excellent opportunities for future airport development/operations. As reflected in the Aviation Green Paper, regional airports play a vital role in enhancing skill development initiatives. This presents a good opportunity for Ballarat Airport to further solidify its position to attract more

training organisations, including training for aircraft maintenance engineers. The previously discussed “Fly Neighbourly” agreement could add value to manage noise concerns.

The airport may also leverage its strategic location to become a strategic emergency services hub, by enabling emergency aircraft operations like LATs, etc from Ballarat. There may also be an opportunity to attract medical transfers through a dedicated patient transfer facility, given the well-established medical infrastructure within the region.

These are considered significant development opportunities in the north-west corner of the airport, both for aviation and non-aviation purposes.

5.2.4 Threats

The community’s growing concerns about aircraft noise could elevate with the increase in pilot training aircraft movements and the possible introduction of RPT operations. Further residential developments surrounding the airport may only add to these concerns from the community in future.

Additionally, the competitive environment presented from surrounding airports are considered a threat for the Ballarat Airport, through losing business opportunities to other airports due to a lack of facilities/infrastructure.

PART B: STRATEGY PLAN

6. Market Analysis and Trend Evaluation

6.1. Demographic Profiling and Trends

6.1.1 Population Growth

In recent years, Ballarat has witnessed significant population growth, consistently surpassing the growth rates observed in regional Victoria. As of June 30, 2022, the estimated population for the City of Ballarat stands at 115,951, reflecting a growth rate of 2.2% compared to 2021.

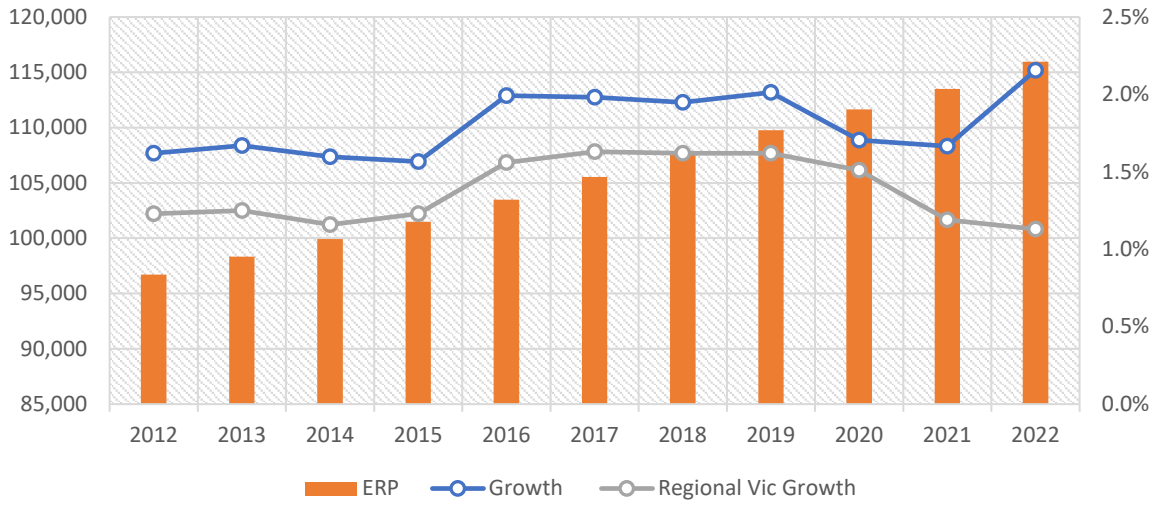


Figure 14: Ballarat Estimated Resident Population (2012-2022)

Source: Australian Bureau of Statistics, Regional Population Growth

6.1.1.1 Drivers of Population Growth

From 2016 to 2021, the resident population of Ballarat (ERP) increased by 12,451 individuals. This growth primarily stems from net migration, with approximately 70% attributed to the balance between in-migration and out-migration. The predominant contributors to this net migration are individuals moving within Victoria (69%), followed by overseas migration (30%), and migration from other states (1%).

Ballarat, functioning as a regional centre, provides services to surrounding areas, including major retail, health, and education facilities. Traditionally, it has attracted individuals from rural regions for employment and education. The city also draws people from the Melbourne metropolitan area, especially families seeking affordable housing and employment opportunities. Recent trends indicate a rise in the retiree population, and there's a notable decrease in the rate of youth out-migration, resulting in a net gain of young adults for Ballarat.

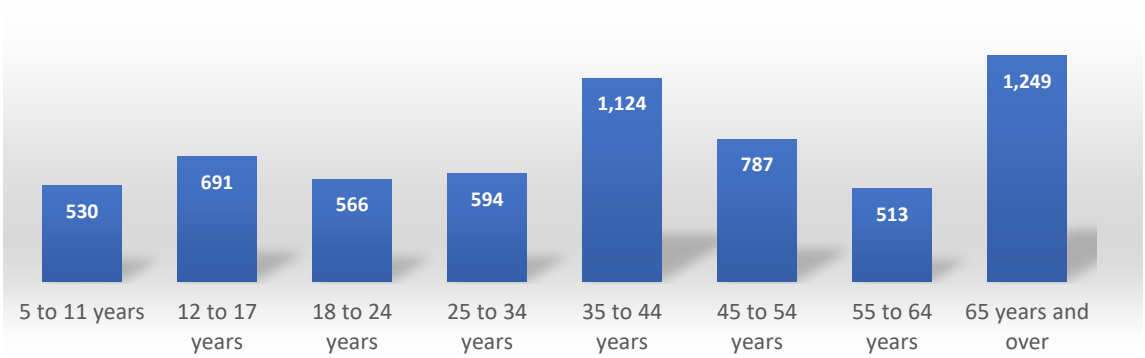


Figure 15: Ballarat - Net Migration by Age Group (2016-2021)

Source: Australian Bureau of Statistics, Census of Population and Housing, 2021

6.1.2 Population Forecast

According to the official projection 'Victoria in Future 2023' (VIF2023) by the Victorian state government, it is anticipated that the population of Ballarat will reach 144,732 by the year 2036.

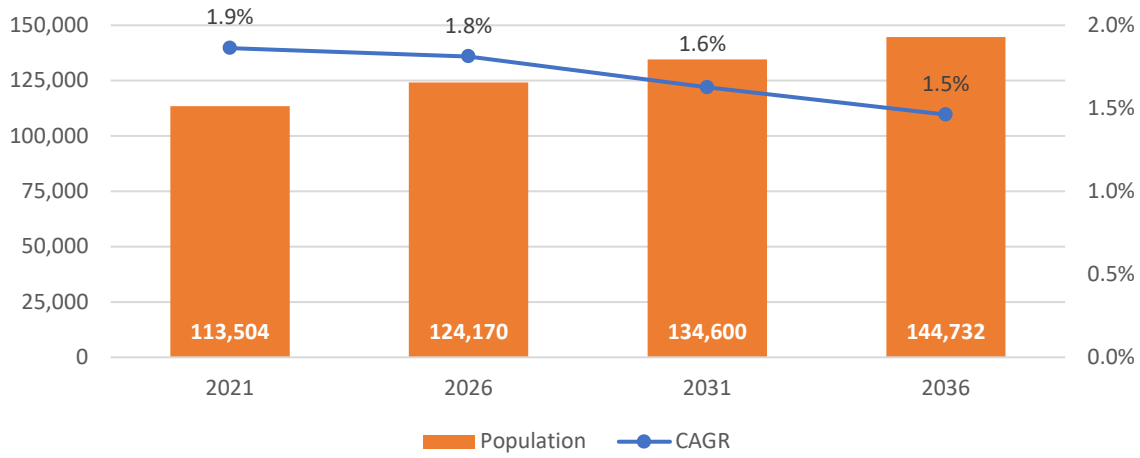


Figure 16: Ballarat – Forecast Population (2021-2036)

Source: Victoria in Future (VIF) population and household projections, Second Release (December 2023)

6.1.3 Age Structure

Analysis of service age groups in the City of Ballarat for 2021, in contrast to Regional VIC, highlights significant distinctions. Ballarat exhibited a greater share of the population in the younger age brackets (0 to 17 years) and a diminished proportion in the older age categories (60+ years) compared to the regional average. Key variations in age structures between the City of Ballarat and Regional VIC include a higher percentage of individuals classified under 'Young workforce' and 'Tertiary education & independence,' along with a lower percentage of 'Empty nesters and retirees' and 'Seniors' in Ballarat.

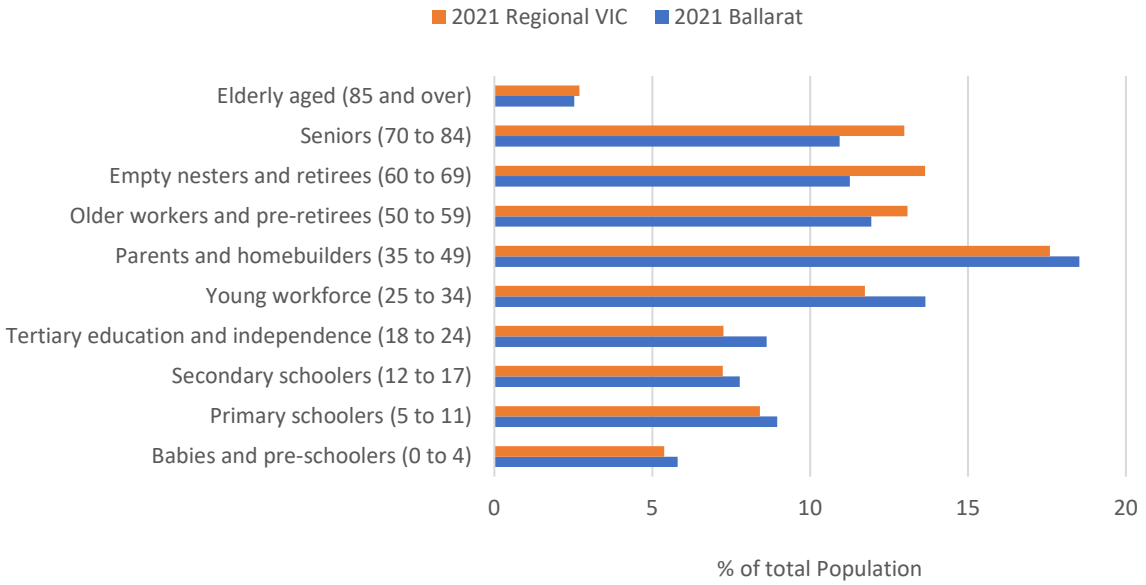


Figure 17: Ballarat – Service Age Groups (2021)

Source: Australian Bureau of Statistics, Census of Population and Housing 2021

The service age groups analysis could have implications for the demand for passenger services at Ballarat Airport. Young professionals and students require convenient and accessible transportation options, including flights.

Additionally, if the City continues to attract new residents and experiences economic development, there could be a growing need for efficient travel connections, potentially driving demand for expanded air travel services.

6.1.3.1 Age Structure Forecast

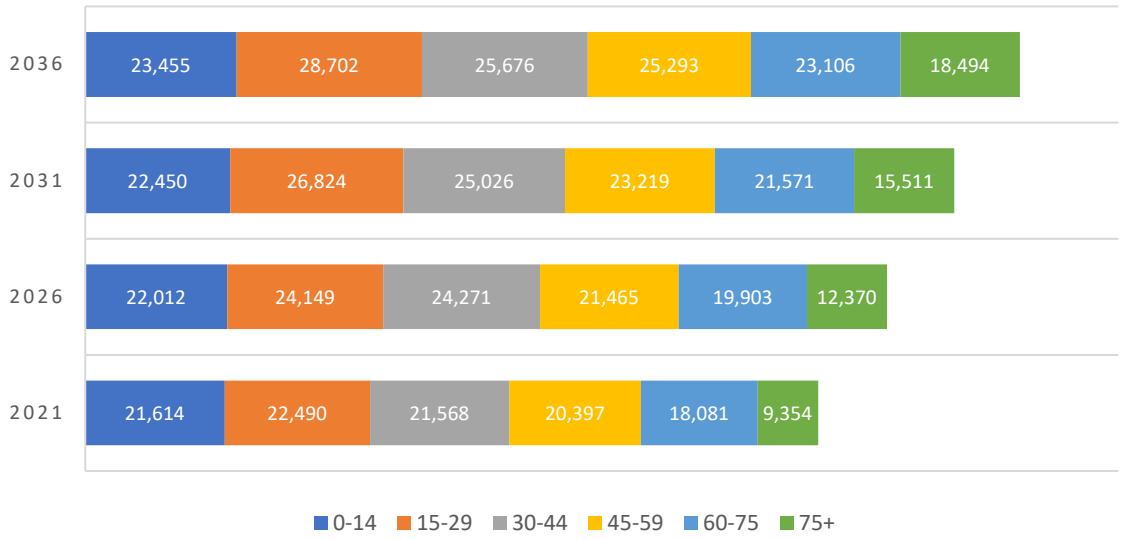


Figure 18: Ballarat - Age Structure Forecast (2021-2036)

Source: Victoria in Future (VIF) population and household projections, Second Release (December 2023)

The City of Ballarat's population is projected to experience steady growth across various age groups from 2021 to 2036. Key highlights include:

- Moderate growth in the 0-14 age group
- Steady growth in the 15-75 age group
- Significant growth in the 75+ age group

This demographic expansion suggests opportunities and challenges for various sectors, including education, healthcare, and housing, with a sustainable and manageable growth rate over the forecast period.

6.1.3.2 Age Distribution Forecast

Analysing the age distribution in relation to the total population, as forecasted from 2021 to 2036, unveils a discernible trend toward an aging population. Notably, there is a decrease in the relative share of the 0-14 and 30-44 age groups, while the 75+ age group experiences a substantial increase. The 15-29 age group remains relatively stable, and minor fluctuations are observed in the 45-59 and 60-75 age groups, indicating modest shifts in the middle-aged and pre-retirement demographics.

Overall, these changes suggest potential impacts on family structures and workforce composition. Moreover, an aging population may have different spending patterns and travel motivations. Understanding these changes can help the airport tailor its services to maximize economic benefits both the aging population and other demographic segments.

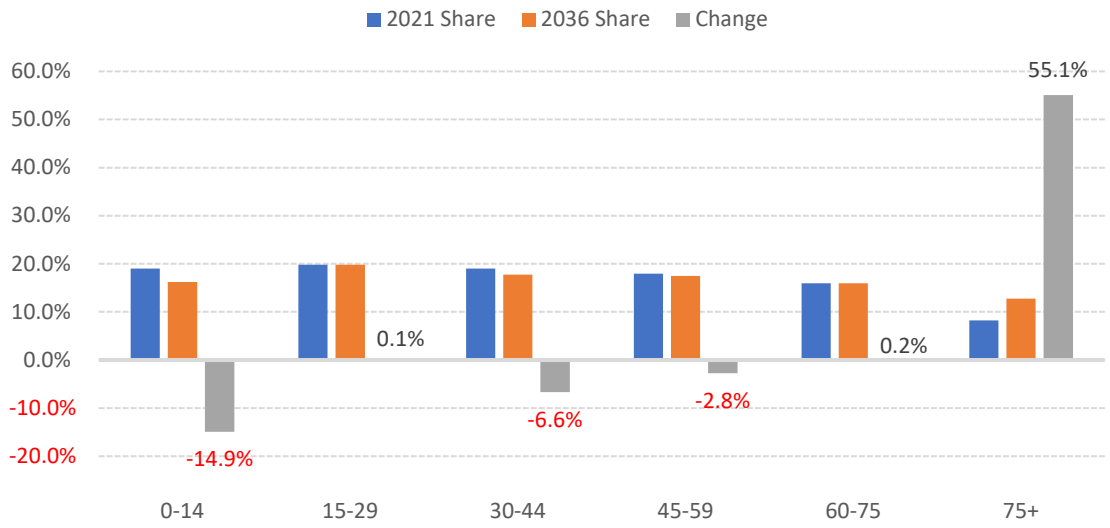


Figure 19: Ballarat - Age Distribution (2021-2036)

Source: Victoria in Future (VIF) population and household projections, Second Release (December 2023)

The forecasted changes in Ballarat's age structure from 2021 to 2036 reveal a distinct trend towards an aging population, with a notable decrease in the relative share of 0-14 and 30-44 age groups. The 75+ age group shows a substantial increase whereas the 15-29 age group remains relatively stable. Minor fluctuations are observed in the 45-59 and 60-75 age groups, indicating modest shifts in the middle-aged and pre-retirement demographics.

Overall, these changes suggest potential impacts on family structures and workforce composition. Moreover, an aging population may have different spending patterns and travel motivations. Understanding these changes can help the airport tailor its services to maximize economic benefits to both the aging population and other demographic segments.

6.1.4 Income Levels

6.1.4.1 Individual Income

The 2021 census reported the median weekly individual income in Ballarat to be $743. Analysis of the individual income quartiles, reveals that the 'medium lowest' income quartile was the largest group in 2021, comprising 30% of people aged 15 and over. Compared to Regional VIC, Ballarat had a greater proportion of persons in the highest income quartile and a lesser proportion in the lowest income quartile.

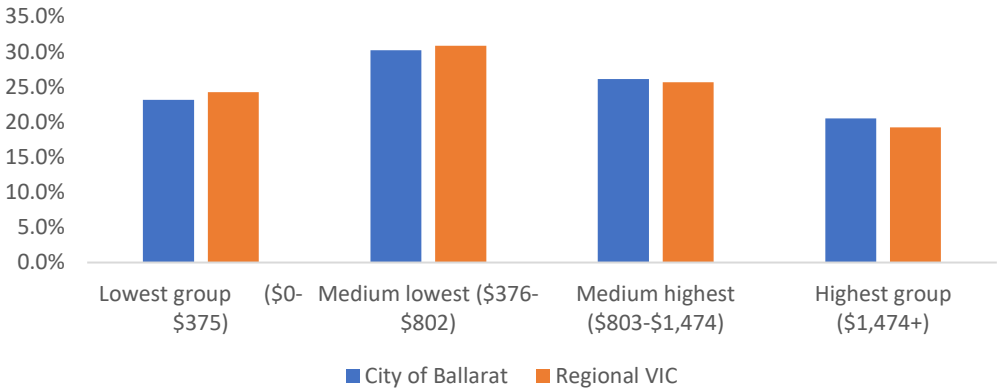


Figure 20: Individual Weekly Income Quartiles (2021)

Source: Australian Bureau of Statistics, Census of Population and Housing 2021

A more detailed review of individual income distribution reveals that there was a higher proportion of people earning a high income (those earning $2,000 per week or more) and a lower proportion of low-income people (those earning less than $500 per week).

Overall, 9.1% of the population earned a high income, and 32.7% earned a low income, compared with 8.1% and 33.8% respectively for Regional VIC.

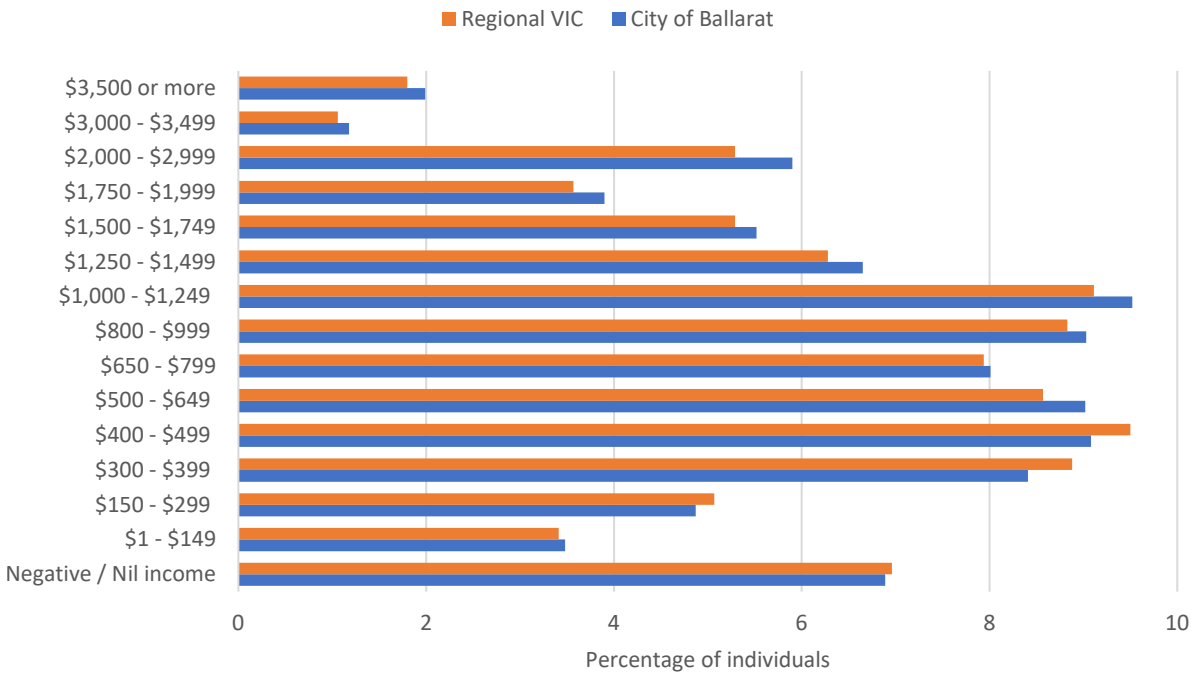


Figure 21: Ballarat - Weekly individual income (2021)

Source: Australian Bureau of Statistics, Census of Population and Housing 2021

6.1.4.2 Household Income

Household income levels in Ballarat exhibit a spectrum, with a mix of higher-income households, especially in emerging sectors like Health Care and Education, and middle to lower-income households. In 2021, the

median household income in Ballarat stood at $1,429 per week. However, 15.7% of households earned an income of $3,000 or more per week, indicating a concentration of wealth in a smaller segment of the community.

Compared to Regional VIC there was a larger proportion of high-income households (those earning $3,000 per week or more) and a lower proportion of low-income households (those earning less than $800 per week).

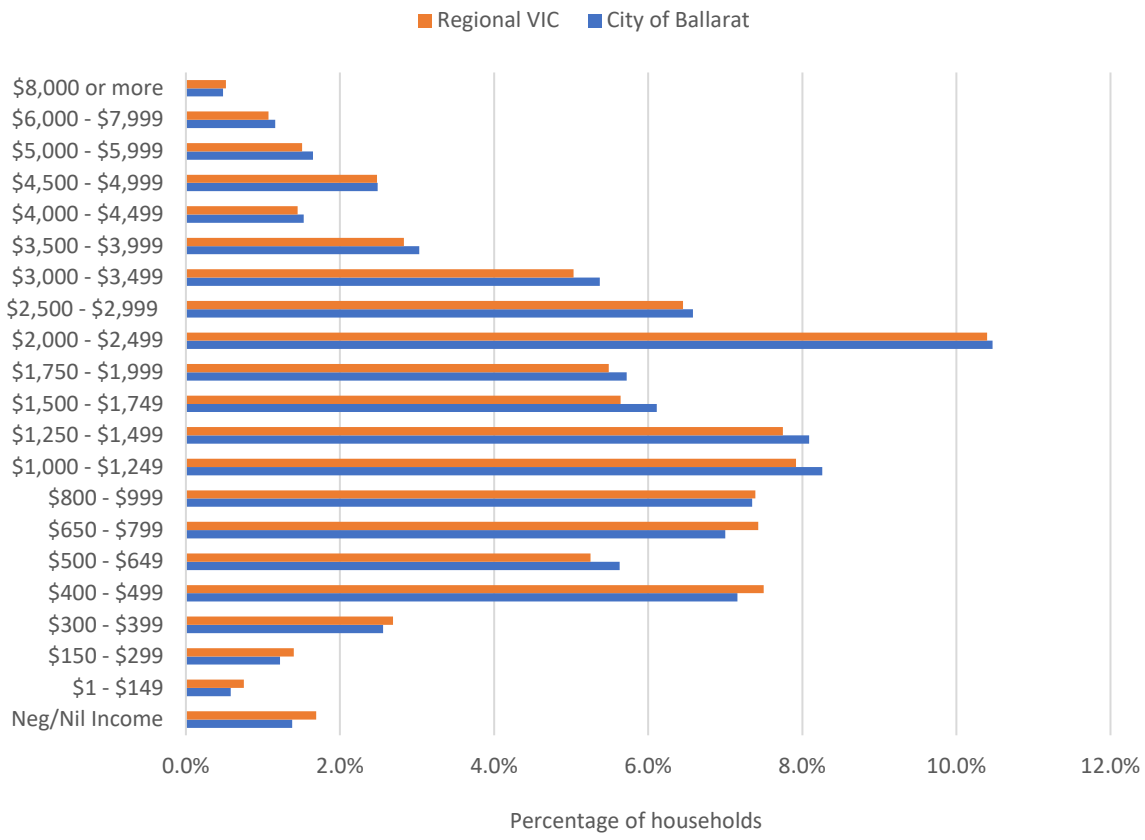


Figure 22: Ballarat - Weekly Household income (2021)

Source: Australian Bureau of Statistics, Census of Population and Housing 2021

6.1.5 Household Profiles

Ballarat's households vary in composition, comprising families, professionals, students, and retirees. This diversity in household profiles influences consumption patterns and preferences, impacting the types of services and amenities that are in demand.

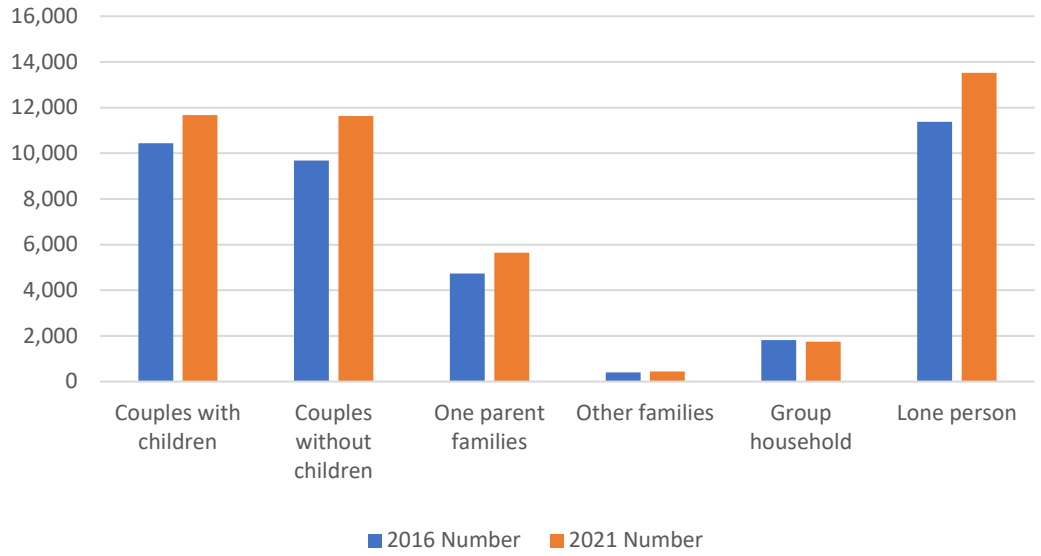


Figure 23: Ballarat – Households by Type (2016-2021)

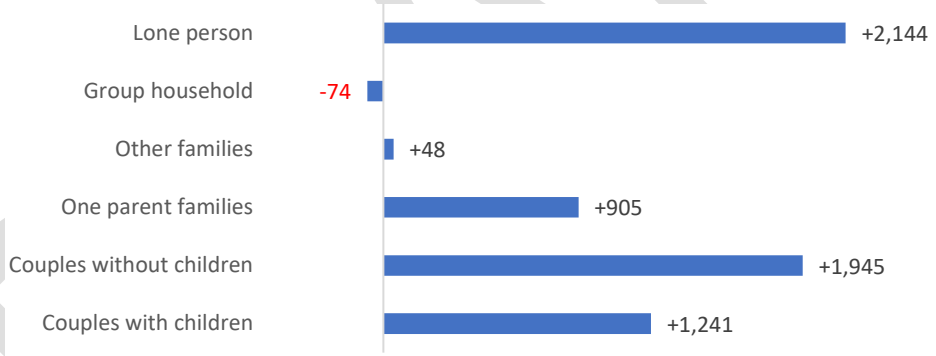


Figure 24: Ballarat – Change in Household Type (2016-2021)

Source: Australian Bureau of Statistics, Census of Population and Housing 2021

The household makeup in the City of Ballarat reflects dynamism, evident in the distribution of different household types from 2016 to 2021. Particularly noteworthy is the prevalence and significant rise in lone-person households, indicating a shift towards independent living.

Couples, both with and without children, demonstrate consistent growth, pointing to a balanced demographic transition and the city's attractiveness to families at various life stages. The modest increase in one-parent families likely mirrors the broader trend of evolving family structures observed more widely.

6.1.6 Conclusion

The dynamic and diverse population of Ballarat, as revealed through demographic profiling and trends, underscores the need for strategic alignment of airport services with evolving community needs.

As a vital infrastructure component, the airport must be attuned to the nuances of population growth, age distribution, income levels, and shifting household profiles.

The observed demographic shifts and urbanization patterns in Ballarat signal profound implications for the demand for airport-related services and commercial ventures. With sustained population growth, particularly outpacing regional Victoria, the airport finds itself at the nexus of a thriving and expanding community.
The rise in lone-person households reflects a broader trend towards independent living, potentially influencing travel preferences. The balanced demographic transition, exemplified by the steady growth in couples with and without children, reaffirms the city's appeal across diverse life stages.

As economic development continues to attract residents, there is a foreseeable uptick in the demand for efficient travel connections.

Anticipating the projected aging population underscores the need for the airport to offer services to accommodate diverse demographic segments with varying travel motivations and spending patterns. In navigating these demographic dynamics, the airport can not only meet current demands but also proactively contribute to the city's future growth and connectivity.

6.2. Economic Overview

6.2.1 Economic Performance

Over the past five years, Ballarat has undergone significant economic growth, playing a substantial role in the prosperity of the Central Highlands region. The Gross Regional Product (GRP) is estimated to have reached $8.3 billion in 2022. This is a 10.3 per cent growth in 2021, signalling a positive trajectory in the city's economic performance.

The Health Care and Social Assistance sector emerged as the most productive industry, contributing $1,017 million (16.2%) to the 'Value-Added' in 2021/22. Additional significant contributors include Manufacturing, Construction, and Education and Training, accounting for 11.1%, 11.0%, and 8.3%, respectively.

Exploring the intricacies of economic sectors, Manufacturing, especially in the realm of Food Product Manufacturing, emerges as the primary contributor to output, exports, and imports. This predominant position in the manufacturing domain highlights Ballarat's strength in industrial endeavours, positioning it as a vital participant in both regional and national trade dynamics.

6.2.2 Employment

Ballarat’s economic expansion has led to noticeable shifts in the employment landscape, marked by a transition from traditional sectors. Sectors like Manufacturing and Agriculture, historically significant, have adapted, giving rise to new growth areas.

Based on 2021 census data the Ballarat economy is estimated to support 61,441 jobs, representing a 3.3% annual growth rate over the period 2016-2021. Key economic drivers and growth sectors further illustrate Ballarat's evolving economic landscape. Health Care & Social Assistance is Ballarat's largest employment sector, supporting an estimated 12,289 jobs. Simultaneously, the Construction sector, with 5,916 workers, highlights the ongoing urban development shaping the city. The Retail Trade sector, supporting 7,191 jobs, plays a vital role in sustaining local commerce.

In addition to registering the highest per annum growth rate in employment over the period 2016-2021, the construction industry also had the largest number of total registered businesses in City of Ballarat, comprising 21.2% of all total registered businesses, compared to 17.5% in Victoria.

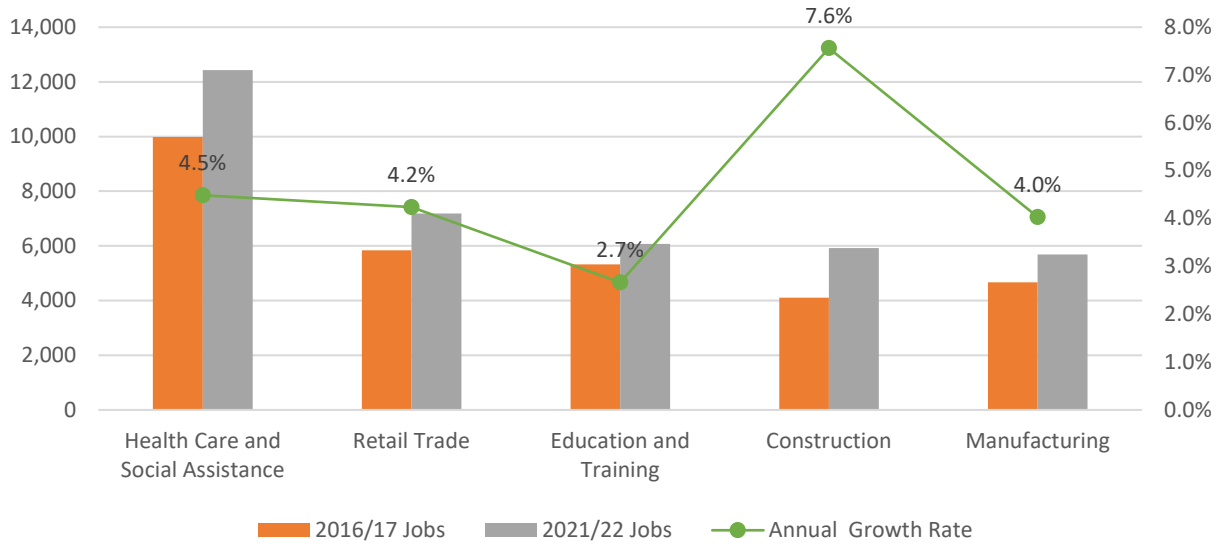


Figure 25: Ballarat – Top 5 Employment Industries (2021)

Source: National Institute of Economic and Industry Research (NIEIR) ©2023

6.2.3 Business Landscape and Entrepreneurial Culture in Ballarat

In 2022, the number of registered businesses in Ballarat reached 9,729, reflecting nearly a 10% increase compared to the figures recorded in 2021. Key industries with the most business registrations are construction, rental, hiring and real estate services and professional, scientific, and technical services. Combined they represent 43.3% of all businesses.

The business climate in Ballarat is characterized by a vibrant entrepreneurial culture, fostering the growth of small and medium-sized enterprises (SMEs). This robust entrepreneurial spirit is evident in the city's diverse business distribution, with a significant proportion falling into the non-employing and 1-19 employee categories. The prevalence of non-employing businesses and SMEs underscores the dynamic nature of the city's economic landscape.

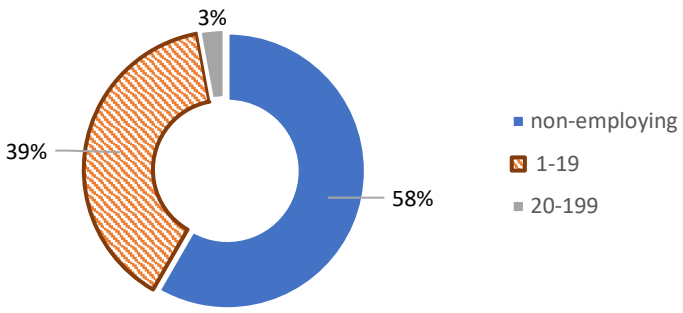


Figure 26: Ballarat – Distribution of Registered Business by Size (2022)

Source: Australian Bureau of Statistics, Counts of Australian Businesses

6.2.3.1 Strategic Sectors

Noteworthy strategic sectors contribute to the city's economic vitality. Advanced Manufacturing, an innovation-driven industry, plays a key role in economic stability. The Food and Beverage sector, emphasizing local produce and culinary diversity, attracts both residents and tourists. Information Technology, leveraging the city's digital infrastructure, represents a growing industry aligning with global technological trends.

6.2.3.2 Entrepreneurial Trends

Ballarat actively embraces emerging trends in technology, sustainable practices, and innovation. These trends, coupled with the city's commitment to fostering an environment conducive to entrepreneurship, contribute to multifaceted economic growth and development. The city's focus on knowledge-based industries, as seen in the prevalence of professional and scientific services, aligns with its forward-looking approach.

6.2.3.3 Business Distribution Across Categories

Rank	Category	Industry	Share
1	Non-Employing	Construction	19.8%
2	Non-Employing	Rental, Hiring and Real Estate Services	17.9%
3	Non-Employing	Professional, Scientific and Technical Services	9.7%
1	1-19 Employees	Transport, Postal and Warehousing	24.0%
2	1-19 Employees	Wholesale Trade	11.0%
3	1-19 Employees	Retail Trade	9.0%
1	20-199 employees	Other Services	16.2%
2	20-199 employees	Professional, Scientific and Technical Services	13.0%
3	20-199 employees	Retail Trade	12.3%

Source: Australian Bureau of Statistics, Counts of Australian Businesses

Across non-employing, 1-19 employee, and 20-199 employee categories, the business landscape in Ballarat is marked by diversity. While non-employing businesses significantly contribute to economic activity, the prevalence of SMEs, particularly in transportation, retail, and other services, highlights the city's varied economic ecosystem.

In conclusion, Ballarat's business climate is a dynamic blend of entrepreneurial energy, strategic sectors, and collaborative initiatives. The city's commitment to fostering innovation and sustainability, coupled with a diverse mix of industries, positions it as a thriving economic centre in Western Victoria. The prevalence of businesses across different employment categories underscores the city's economic resilience and potential for sustained growth.

6.2.4 Industry Sectors Driving Economic Activity

6.2.4.1 Traditional Sectors

Ballarat has a historical association with traditional sectors such as Manufacturing, which, although evolving, continues to contribute to the local economy. Agriculture, with a focus on sheep and beef grazing, remains a key component of the economic landscape.

6.2.4.2 Evolving Sectors

The ascendance of Construction, Health Care and Social Assistance, and Education and Training sectors signifies a shift in the economic landscape. These sectors have become major drivers of economic activity, reflecting changing demographic and societal needs.

6.2.4.3 Emerging Sectors with Growth Potential

1. Health Care and Social Assistance

The Health Care and Social Assistance sector stands out as a high-potential growth area. With an aging population and increasing focus on healthcare services, this sector is likely to experience sustained growth. The demand for related services, such as medical logistics and transportation, presents indirect linkages to airport facilities.

2. Education and Training

As an emerging hub for education and training services, Ballarat is witnessing growth in this sector. The demand for international student services and related infrastructure creates opportunities for the airport to support educational tourism and related services.

3. Construction and Infrastructure Development

The emphasis on Construction, particularly in infrastructure development, aligns with the city's growth. The airport plays a crucial role in supporting construction-related logistics and services, directly impacting its operations.

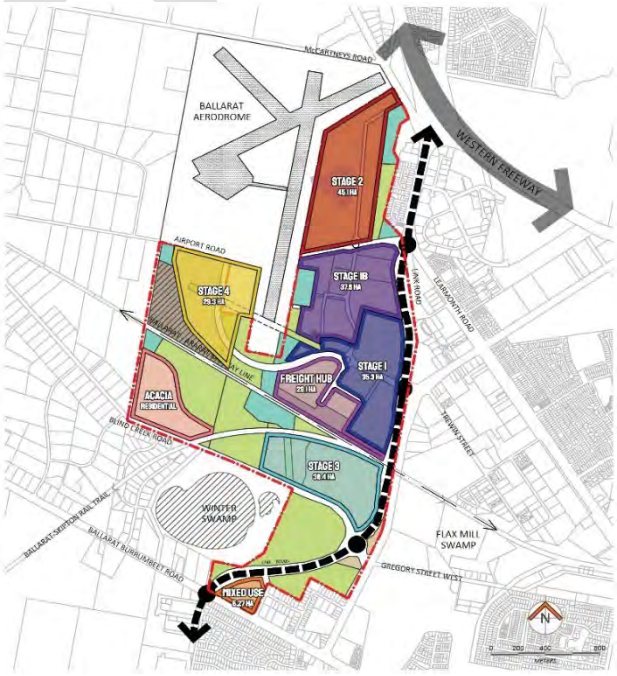
4. Tourism and Hospitality

Ballarat's rich historical and cultural heritage makes it a potential tourism hub. The tourism and hospitality sector, including accommodation, entertainment, and related services, presents opportunities for the airport to enhance its role as a gateway for tourists.

6.2.5 Ballarat West Employment Zone (BWEZ)

6.2.5.1 Overview

Located 7km west of Ballarat CBD, the Ballarat West Employment Zone (BWEZ) enjoys convenient access to the Ballarat-Ararat railway and seamless connectivity to the major arterial and freeway network.



Covering 438 hectares, BWEZ is strategically positioned adjacent to Ballarat Airport, forming a staged development tailored to accommodate diverse industries, including manufacturing, agribusiness, construction, freight, logistics, and research and development activities.

The Zone is poised to make a significant economic impact, with projections foreseeing the creation of up to 9,000 jobs and an annual investment of $5 billion into the Ballarat economy.

6.2.5.2 Project Progress

- **Acacia:** A residential land development of 92 lots delivered successfully in 2022.
- **Stages 1 & 1B:** Completed with 22 lots housing various industrial businesses, funded by the State Government and the City of Ballarat. Most Stage 1 lots sold, with Stage 1B completed in June 2019. A number of high-profile businesses have purchased land in these first stages, including CHS Broadbent, Luv-a-Duck, Agrimac, Kane Transport, Findlay Engineering, Sovereign Civil, Cervus, and Pipecon.
- **Stage 2:** Comprising 23 serviced lots on 55 hectares, with select lots reserved for aviation-related industries. Based on the latest information published by Development Victoria 40% of the lots in Stage 2 have been sold to date.
- **Stages 3A & 3B**: Investigations underway, with Stage 3B exploring potential as a Circular Economy Precinct.
- **Stage 4:** Future lots located adjacent to the main entrance of Ballarat Airport.
- **Intermodal Freight Hub:** Comprising 4 serviced lots on approximately 18 hectares, strategically positioned for freight and logistics enterprises. Two lots sold, with an Expression of Interest for the remaining 2 in early 2024. Approximately 6 hectares were earmarked for the Ballarat Intermodal Freight Hub Terminal.
- **Gateway Precinct:** A 14.8-hectare super lot with a completed Expression of Interest process.

6.2.5.3 Conditions

Investors interested in purchasing and developing a site in BWEZ are required to submit an expression of interest which will be reviewed against the following criteria:

Weighted Criteria

- **Capability & Capacity 20%**
  - Experience of the respondent to deliver the proposed investment and employment outcomes.
- **Policy Outcomes 70%**
  - The number of full-time job equivalents at the completion of development with preference given to the creation of new jobs.
  - The development period with preference given to earlier timeframes period of outcomes.
  - Level of investment to be delivered with preference given to greater economic benefits.
- **Proposed Use 10%**
  - Evaluation of how the proposed use meets with government objectives for jobs and growth in Ballarat and the surrounding area.

Unweighted Criteria

- **Price -** The financial offer will be assessed on a value for money basis, taking into account the weighted criteria, the financial offer (subject to VGV approval), and any risks identified through the evaluation and due diligence process.
- **Experience –** Experience of the respondent to deliver the proposed investment and employment outcomes.

6.2.5.4 Terms

Potential investors at BWEZ must commit to agreed employment and development outcomes, together with a subdivision moratorium that will remain in place until the employment and development obligations are satisfied.

Moreover, they must agree to grant DV a call option to repurchase the site in the event that the employment, development, and subdivision moratorium commitments are not honoured.

6.2.5.5 Future Development and Aviation Implications

As BWEZ continues to evolve, its adjacency to Ballarat Airport could have implications for the development of aviation-related activities. The strategic location, alongside rail and road networks, positions BWEZ as an ideal site for logistics, including the potential expansion of aviation services. The inclusion of lots reserved for aviation-related industries in Stage 2 and the proximity to Stage 4 lots adjacent to the main entrance of Ballarat Airport may influence the development of passenger services and other aviation activities in the future.

6.2.6 Conclusion

As Ballarat strategically positions itself as a key player in regional and state economic development, its advantageous geographical location emerges as a driving force behind its economic potential and growth trajectory. Acting as a central transportation hub, the city's strategic positioning serves as a key factor in influencing both regional and state dynamics.

The city's role as a transportation hub is underscored by its central point in four major highways connecting Ballarat to Melbourne, Adelaide, Geelong, and Portland. This not only emphasises its significance in cargo and freight but also lays the groundwork for potential air travel services that could link Ballarat to broader regional and national networks. The existing connectivity attracting businesses in logistics and transportation could extend to passenger services, meeting the growing travel needs of the community and businesses alike.

Being the largest city in Western Victoria, Ballarat's size and prominence provide a solid foundation for establishing convenient air travel services. The airport's strategic proximity to metropolitan Melbourne further enhances its appeal, potentially positioning Ballarat Airport as a convenient alternative to larger airports. Moreover, the tourism potential highlighted by Ballarat's historical significance, cultural attractions, and natural beauty could be further unlocked through convenient air travel. Introducing passenger services at the airport aligns with the city's commitment to sustainable growth and economic vibrancy, offering a valuable asset for the community and businesses by facilitating efficient travel.

In conclusion, Ballarat's strategic location is pivotal in shaping its economic landscape, positioning it as a key player in the state's economic development. The city's proactive approach to fostering growth, coupled with its emphasis on emerging sectors, sets the stage for future economic prosperity. The potential for passenger services at Ballarat Airport aligns with these growth trajectories, presenting a logical and strategic step in reinforcing the city's commitment to sustainable economic development. The airport, strategically positioned, is poised to provide essential services and facilities that cater to the evolving needs of the Ballarat community and businesses, thereby contributing to the overall connectivity and accessibility that define Ballarat's economic landscape.

6.3. Visitor Economy

Tourism statistics in the State of Victoria are reported by region and sub-region. Figure 27 details the sub-regions that make up Victoria's tourism regions. These regions form the basis of data reported from the National Visitor Survey (NVS) and the International Visitor Survey (IVS), published by Tourism Research Australia. Highlighted in yellow is the tourism sub region as defined for Ballarat.

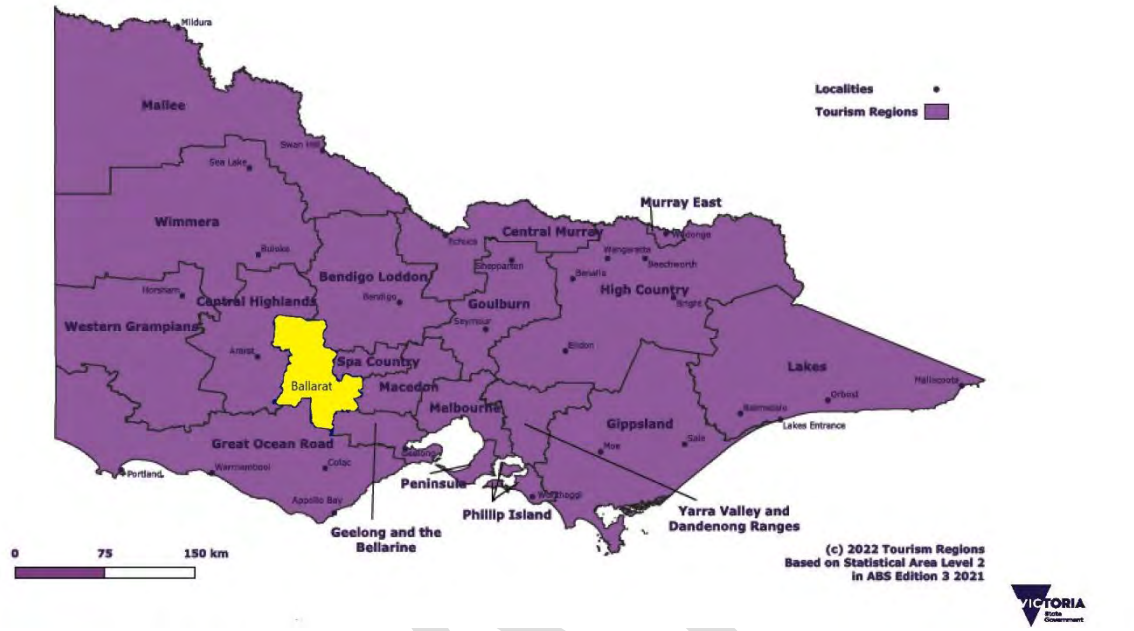


Figure 27: Tourism Regions Victoria (2022)

6.3.1 Visitor Numbers

Ballarat attracts a significant number of visitors each year. According to the latest data from Tourism Research Australia for the year ending September 2023, there was a year-on-year increase of 5% in the total number of domestic overnight visitors to the Ballarat sub-region, reaching 856,000. This figure represents 28% of the total domestic visitors for the broader region.

Over the longer term, spanning from the year ending September 2018 to 2023, domestic overnight visitors exhibited an average annual increase of 2%.

Table 5: Ballarat – Visitors (2018-2023)

Visitors ('000s)	Year ending September						Ave Ann Change	Yearly Change	Share of region %
	2018	2019	2020	2021	2022	2023	2018-23	2022-23	2023
Domestic daytrip	2,122	2,417	1,278	1,488	1,691	2,232	1% p.a.	32%	72.3%
Domestic overnight	776	990	522	552	812	856	2% p.a.	5%	27.7%
Interstate	120	169	79	-	119	142	4% p.a.	19%	4.6%
Intrastate	657	821	442	474	693	714	2% p.a.	3%	23.1%
Total Domestic	2,898	3,406	1,800	2,039	2,503	3,088	1% p.a.	23%	100.0%
International overnight	21	28	-	-	-	-	-	-	-
Total Overnight	797	1,018	-	-	-	-	-	-	-
Total Visitors	2,919	3,434	-	-	-	-	-	-	-

Sources: International Visitor Survey; National Visitor Survey; Regional Expenditure Model (REX) year ending September 2023. Produced by the Tourism and Events Research Unit, DJSIR, December 2023.

Please note that regional-level international data for the estimates spanning 2021-23 is presently unavailable due to survey limitations arising from pandemic-related international border closures. Consequently, 'Total Overnight' and 'Total Visitor' figures become unpublishable when data for one or more of their components ('domestic daytrip', 'domestic overnight', or 'international overnight') is unavailable or unpublishable. In instances where international overnight data is inaccessible or unpublishable, please consult 'Total Domestic' figures for the overall count of visitors to a region.

Key Observations:

- The region's tourism industry has shown resilience and growth, particularly in domestic day trips and interstate visitors.
- Domestic daytrip visitors witnessed consistent growth, surging by 32% in 2022-23, and constitute a substantial portion, accounting for 72.3% of total visitors, underscoring the significance of day trips in the region.
- Domestic overnight visitors experienced a modest rise, registering a 5% growth in 2022-23, and play a significant role, contributing to 27.7% of total visitors.
- Interstate visitors experienced a notable 19% growth in 2022-23, rebounding from the previous year's decline, and they contribute to 16.7% of overnight visitors and 4.6% of the total visitor count.
- Intrastate visitors demonstrated consistent growth, recording a 3% increase in 2022-23; they play a substantial role, contributing significantly to overnight visitors (83.4%) and the overall visitor count, holding a substantial share of 23.1%
- Continuous growth in intrastate visitors indicates the region's popularity among local travellers.
- Strategies to further boost domestic and interstate tourism could contribute to sustained growth in the tourism sector.
- The introduction of a passenger service at Ballarat airport, could significantly contribute to sustained growth in the tourism sector by improving accessibility, convenience, and attracting a broader audience.

6.3.1.1 Visitor Nights

In the year ending September 2023, domestic visitor nights to Ballarat (sub) region increased 10% year-on-year to 1.8 million nights and average length of stay was 2.1 nights per visit. Over the longer term (year ending September 2018 to 2023) visitor nights increased at an average rate of 4% per annum.

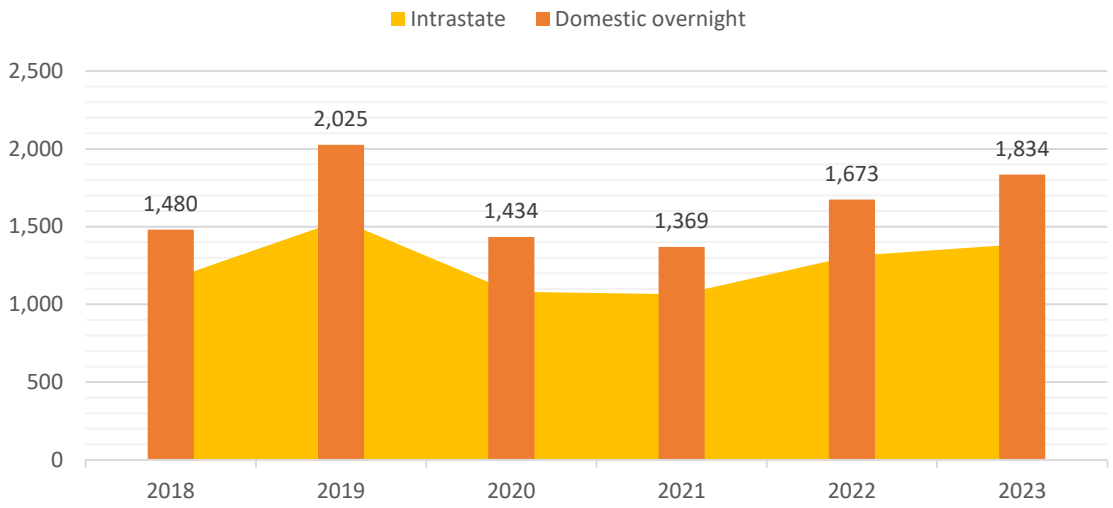


Figure 28: Ballarat – Domestic Visitor Nights (2018-2023)

Sources: International Visitor Survey; National Visitor Survey; Regional Expenditure Model (REX) year ending September 2023. Produced by the Tourism and Events Research Unit, DJSIR, December

6.3.2 Visitor Profile

6.3.2.1 Purpose of Visit

While the 'year ending September 2023' dataset did not include purpose-specific data, statistics covering the period from April 2022 to March 2023 reveal that the primary reason for overnight visits to the City of Ballarat was 'Visiting friends and relatives (VFR),' with 'Holiday' being the second-largest purpose, followed by 'business.'

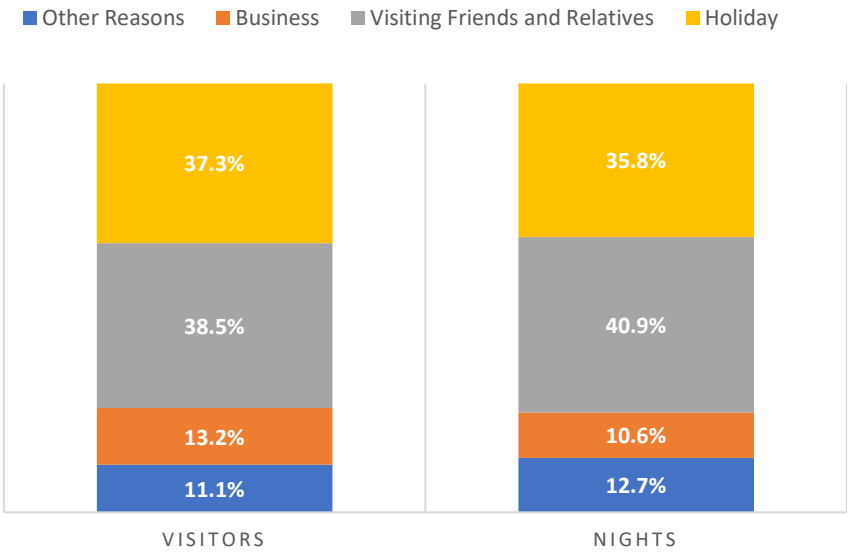


Figure 29: Ballarat – Purpose of Visit (April 2022 to March 2023)

Source: National Visitor Survey, YE Mar 23, Tourism Research Australia.

6.3.2.2 Visitor Origin

In the period from April 2022 to March 2023, the City of Ballarat experienced substantial growth in overnight visitors, as reported by Tourism Research Australia.

- Notably, visitors from the Melbourne tourism region surged impressively by 32.8%, accompanied by a modest 2.3% increase in nights spent.
- Regional Victoria played a pivotal role, contributing significantly with an 8.9% rise in visitors and maintaining a stable 32.6% share of nights.
- Furthermore, interstate visitors exhibited remarkable growth, contributing 57.8% more visitors and 27.4% more nights to the city.
- These positive growth trends underscore a growing interest in Ballarat as a destination, particularly among interstate travellers.

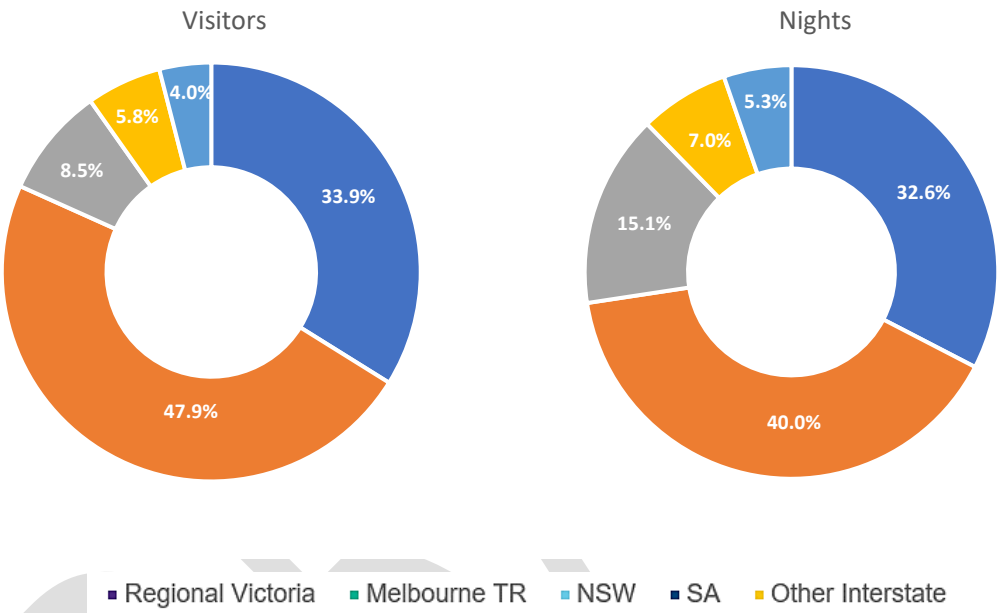


Figure 30: Ballarat – Origin (April 2022 to March 2023)

Source: National Visitor Survey, YE Mar 23, Tourism Research Australia.

Key Observations:

- The Melbourne tourism region emerges as a dominant contributor, with a significant share in both visitor numbers and nights spent in the city. The reported substantial increase in visitors from Melbourne, coupled with a moderate growth in nights, indicates a strong appeal for overnight stays among this market.
- Regional Victoria also plays a crucial role, contributing significantly to both visitors and nights. The positive growth in visitors from this region further emphasizes the broader regional attraction of Ballarat, showcasing its popularity among local travellers.
- The significant increase in interstate visitors, evident in both their share of visitors and nights spent, not only indicates a growing interest in Ballarat as a destination beyond state borders but also reflects the city's successful recovery post-COVID. This noteworthy trend suggests effective efforts to draw attention and promote the city as an appealing destination for travellers from other parts of Australia. Introducing a

passenger service at Ballarat Airport could leverage these trends by improving accessibility and catering to the growing interest from interstate travellers, thereby enhancing Ballarat's appeal as a destination.

6.3.2.3 Visitor Characteristics

Based on an analysis of the various statistics reported by Tourism Research Australia the following insights into the visitor profile of those traveling to Ballarat can be derived:

- **Accommodation Preferences:** The majority of overnight visitors prefer staying at 'Friends or relatives' properties, indicating a strong connection to local residents. This suggests a significant portion of visitors might have personal ties or connections in the area.
- **Length of Stay:** Despite a slight decrease from the previous year, the average length of stay remains relatively short at two nights. This could imply that Ballarat is attracting a mix of both short-term and potentially repeat visitors.
- **Activities:** Culinary experiences, such as dining at restaurants or cafes, are highly popular among overnight visitors. This suggests a vibrant food scene in Ballarat and highlights the importance of gastronomic attractions in drawing visitors.
- **Transportation:** A preference for private vehicles indicates that visitors value the flexibility and convenience of personal transportation. It further underscores the current necessity for travel by car. This inclination reflects the absence of passenger services at Ballarat airport and the limited accessibility of destinations of interest via public transport.
- **Travel Party Composition:** The significant number of visitors traveling 'Alone' suggests that Ballarat attracts solo travellers. Understanding the needs and interests of solo visitors can help tailor tourism offerings to this demographic.
- **Age Distribution:** The dominance of the '45 to 54 years' age group suggests that Ballarat appeals particularly to middle-aged individuals.
- **Gender Balance**: The nearly equal distribution of male and female visitors indicates that Ballarat is inclusive and appealing to a diverse audience.
- **Lifecycle and Marital Status**: The prevalence of 'Parent with youngest child aged under 15' as the largest lifecycle group aligns with the family-friendly activities available in Ballarat. The majority of visitors being married, or part of a couple further emphasizes the city's attractiveness to families.
- **Employment Status and Income:** The high percentage of visitors working full time, coupled with a substantial average annual household income, suggests a financially stable and employed visitor base. Understanding the economic profile of visitors can help shape pricing and service strategies.

6.3.3 Tourism Spend

In the year ending September 2023, the Ballarat tourism (sub) region experienced a year-on-year increase in domestic overnight spend (+11% to $403 million), equalling $470 spent per domestic overnight visitor and $220 per visitor night.

Table 6: Ballarat - Nominal Visitor Expenditure (2018-2023)

Spend (AUD '000s)							Ave Ann Change	Yearly Change	Spend/ visitor	Spend/ night
	2018	2019	2020	2021	2022	2023	2018-23	2022-23	2023	2023
Domestic daytrip	191	272	179	221	302	350	13% p.a.	16%	$157	
Domestic overnight	243	319	141	255	361	403	11% p.a.	11%	$470	$220
Interstate	42	70	32	-	77	-	-	-	-	-
Intrastate	201	249	109	209	284	315	9% p.a.	11%	$442	$227
Total Domestic	433	591	320	476	664	752	12% p.a.	13%	-	-
International overnight	21	28	-	-	-	-	-	-	-	-
Total Overnight	797	1,018	-	-	-	-	-	-	-	-
Total Visitors	2,919	3,434	-	-	-	-	-	-	-	-

Sources: International Visitor Survey; National Visitor Survey; Regional Expenditure Model (REX) year ending September 2023. Produced by the Tourism and Events Research Unit, DJSIR, December

Comments:

- Nominal expenditure across all visitor categories demonstrates a consistent upward trajectory, indicating the sustained growth of tourism-related spending in Ballarat.
- Domestic daytrip expenditure has experienced remarkable growth and contributes significantly to the local economy, constituting 46.5% of the total expenditure in 2023.
- Expenditure by domestic overnight visitors has steadily increased and represents the majority of spending, contributing 53.5% to the total in 2023.
- Interstate expenditure shows fluctuations, with a notable increase in 2022. However, the absence of 2023 data hinders a comprehensive analysis of the overall trend.
- Intrastate visitors consistently contribute significantly. Their share of 41.9% in 2023 underscores their economic importance to the region.
- Varied spend per visitor and night figures indicate different spending patterns. Domestic overnight visitors exhibit the highest spend per visitor, suggesting potential for premium offerings.
- Overall, the data highlights the resilience and attractiveness of Ballarat as a tourist destination, with particular strengths in daytrip and domestic overnight segments.

6.3.4 New Visitor Economy Partnership

The Visitor Economy Partnership (VEP) marks a groundbreaking collaboration in Midwest Victoria, spearheaded by Tourism Midwest Victoria (TMV) as the region's newly established peak tourism body. TMV's primary objective is to drive visitation across an extensive area, covering the City of Ballarat and the shires of Pyrenees, Moorabool, Golden Plains (south of Ballarat to Rokewood), and Hepburn (Creswick and Clunes). The overarching goal is to position this expansive region as one of Victoria's premier tourism destinations, showcasing its diverse attractions, rich history, and vibrant community.

The establishment of VEPs is a direct response to the government's 'Regional Tourism Review' and 'Visitor Economy Recovery and Reform Plan', strategically designed to address challenges and seize opportunities

within regional tourism markets. VEPs, mirroring TMV's mission, seek to fortify boards, providing them with the necessary structure, resources, strategy, and scale to effectively fulfil their roles in propelling regional tourism.

A pivotal development in this collaborative effort is the merger of Ballarat Regional Tourism (BRT) with TMV. A key facet of TMV's initiatives involves crafting a comprehensive seven-year Destination Management Plan (DMP), serving as a critical strategic roadmap for the region.
TMV's financial support is derived from a blend of state government funding, contributions from local government budget cycles of partner councils, and industry partner contributions. This multi-faceted funding approach underscores the collaborative and inclusive nature of regional tourism development.

6.3.4.1 Leveraging the Visitor Economy Partnership

Ballarat, strategically located at the crossroads of major tourist routes, holds the potential to deliver a distinctive regional experience. The amalgamation of historical, cultural, and natural attractions establishes a unique appeal. Collaboration with neighbouring regions can broaden the scope of the visitor experience. Offering packages that include attractions beyond Ballarat's boundaries encourages tourists to explore the broader region, benefiting multiple local governments.

The newly established Visitor Economy Partnership presents opportunities for such collaborative initiatives. Joint marketing campaigns, event sponsorships, and even infrastructure developments can be explored to collectively boost the region's visitor economy.

Enhancing the airport's role as a gateway for tourism holds substantial potential. The airport can actively contribute to the goals of the Visitor Economy Partnership, ensuring a unified approach to tourism development. By offering visitor-centric services such as tourism information desks and travel assistance, the airport can significantly enhance the overall visitor experience. Additionally, exploring opportunities for passenger services at Ballarat Airport can further facilitate travel and experiences in the region.

6.3.5 Conclusion

In evaluating the tourism trends in Ballarat and exploring opportunities to enhance the airport's role as a tourism gateway, several key insights have emerged. The region has demonstrated resilience and growth in its tourism industry, particularly in domestic day trips. The appeal of Ballarat is underscored by its consistent growth in intrastate visitors, indicating popularity among local travellers.

Strategies to further boost domestic and, in particular, interstate tourism could contribute to sustained growth in the tourism sector. The success of regions in transitioning day trips to more lucrative overnight stays relies heavily on crucial infrastructure enhancements. A noteworthy initiative in this regard is the potential introduction of a passenger service at Ballarat airport, serving as a catalyst for growth by enhancing accessibility and convenience.

The expenditure data indicates a positive trajectory, with nominal expenditure across all visitor categories showing consistent growth. The establishment of the Visitor Economy Partnership (VEP) is a significant development, aligning with the government's strategic plans for regional tourism recovery and reform. The merger of Ballarat Regional Tourism with Tourism Midwest Victoria (TMV) and the crafting of a comprehensive Destination Management Plan (DMP) underscore the collaborative and inclusive nature of regional tourism development.

Looking forward, leveraging the newly established VEP presents opportunities for collaborative initiatives, with a focus on joint marketing campaigns, event sponsorships, and infrastructure developments. Enhancing the airport's role as a gateway for tourism holds substantial potential, and the integration of visitor-centric services can significantly enhance the overall visitor experience.

In summary, the tourism trends in Ballarat reflect positive growth, and the collaborative efforts through VEP provide a strategic framework for further development. The integration of the airport into these strategies presents a unique opportunity to facilitate travel and enhance the overall tourism experience in the region.

6.4. Connectivity & Accessibility

Ballarat Airport, located approximately eight kilometres northwest of the Ballarat town centre near the Western Freeway, is easily accessible through Airport Drive, linked to the roundabout at the intersection of Ballarat Link Road and Learmonth Road. The proximity of road infrastructure and the presence of the Ballarat-Ararat Railway in the southern part of the Ballarat West Employment Zone (BWEZ) contribute to its transportation connectivity.

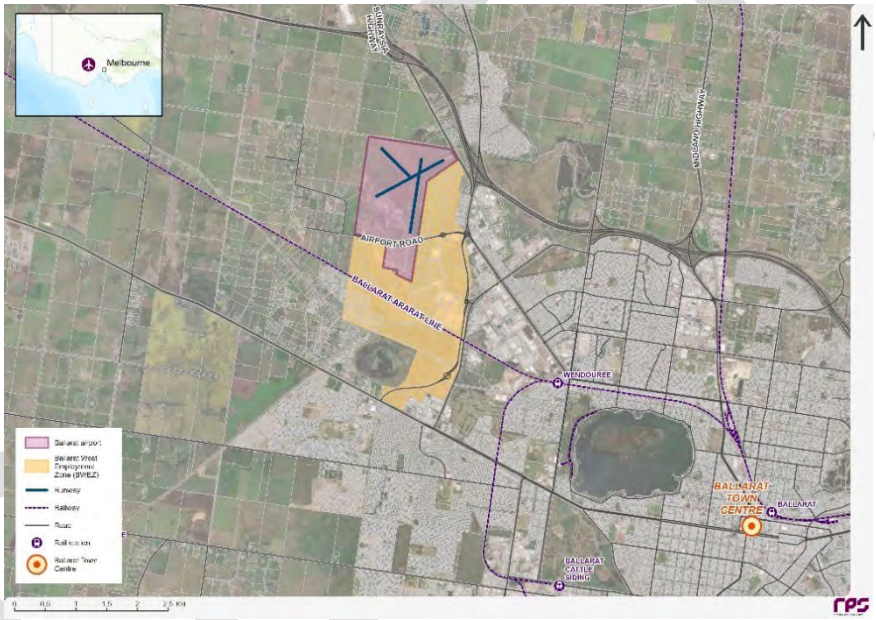


Figure 31: Ballarat Airport – Local Context

6.4.1 Transportation Routes

Ballarat Airport serves as a transportation hub, intricately connected to Melbourne, Adelaide, Geelong, and Portland through four key highways, reinforcing its role as a critical transportation centre.

- Western Highway (418 kms): Links Ballarat to Melbourne, servicing western Victoria and connecting to South Australia.
- Midland Highway (452 kms): Connects Ballarat to Geelong and Bendigo, providing services to central Victoria.
- Glenelg Highway (301 kms): Establishes a link between Ballarat and Portland, servicing western Victoria.
- Sunraysia Highway (345 kms): Connects Ballarat to Mildura, offering services to western Victoria and linking to South Australia.

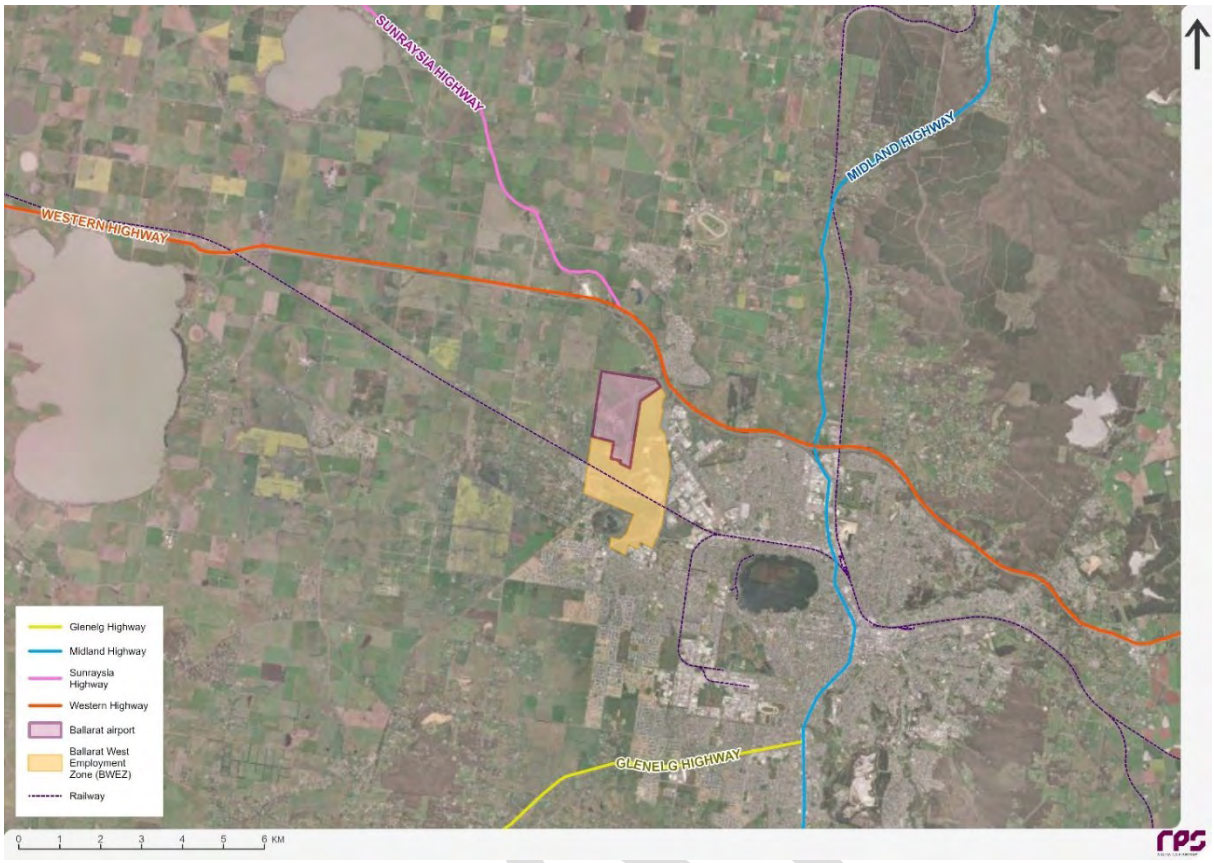


Figure 32: Ballarat Airport – Transportation Routes

6.4.2 Transportation Links

Ballarat Airport maintains strong transport links with Melbourne, Avalon Airport, and regional ports. The strategic location allows for a short flight time to Melbourne, Avalon, and Essendon Fields Airports, presenting potential advantages. The introduction of direct air services from Ballarat could reduce travel times, benefiting businesses and residents in Western Victoria.

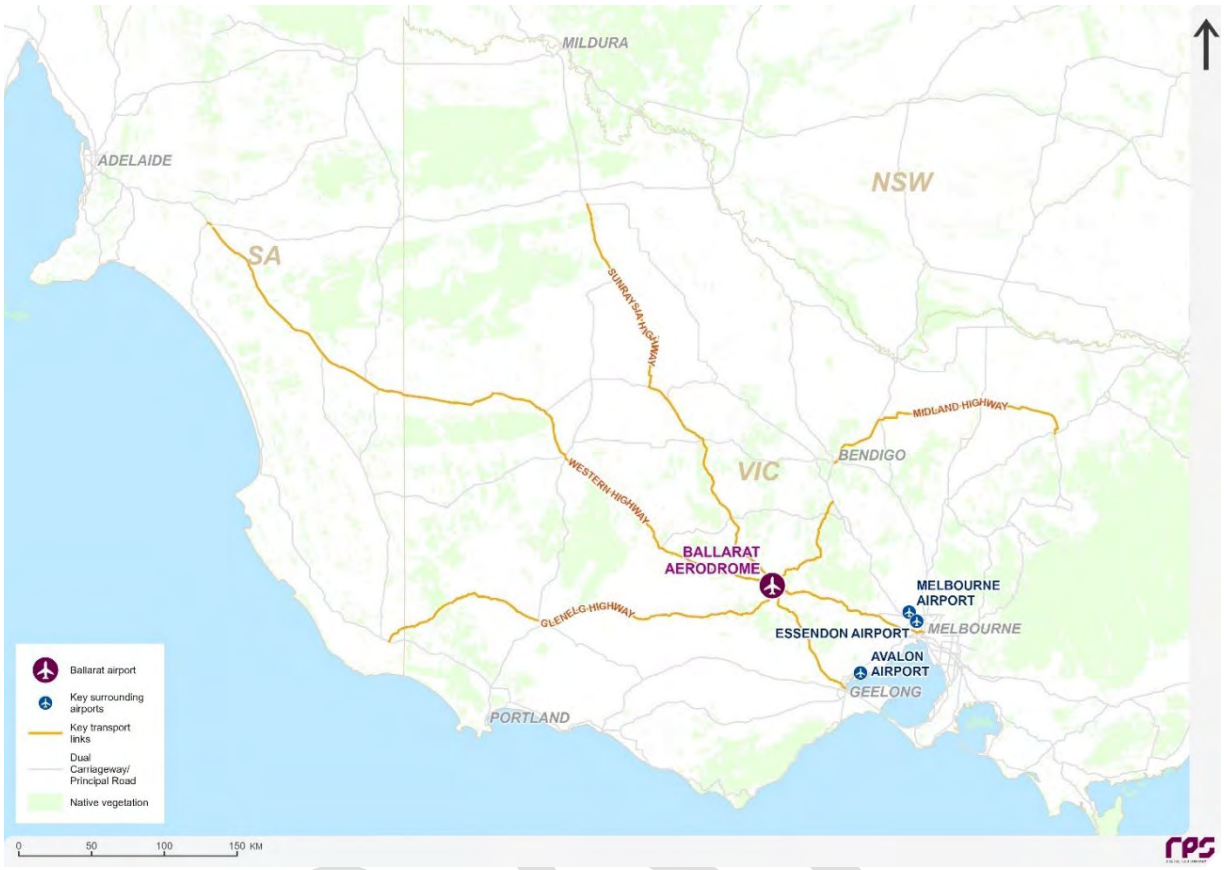


Figure 33: Ballarat Airport - Regional Links

6.4.3 Rail Systems

The Ballarat V/Line rail service, operated by V/Line in Victoria, Australia, connects passengers between the state capital, Melbourne, and the regional city of Ballarat. Upon reaching Wendouree, the service branches into the Ararat line and the Maryborough line.

The completion of the Ballarat Line Upgrade in early 2021 marked a significant milestone, resulting in the addition of 135 extra weekly services across the project area, benefiting Ballarat and the growing communities along the line. Presently, trains operate every 20 minutes during peak hours and every 40 minutes between peaks, totalling 100 services from Ballarat each week.

The Ballarat service ranks as the second busiest in Victoria, trailing the Geelong service, with a total of 2.61 million passengers transported in the 2021-22 financial year. However, the expansion of Ballarat and the western suburbs of Melbourne is exerting strain on regional rail services, leading to heightened levels of overcrowding and potential impacts on the reliability of all services operating within this corridor.

6.4.4 Conclusion

Connectivity and accessibility play a crucial role in Ballarat Airport's strategic positioning. Leveraging existing transportation networks and engaging with future infrastructure developments can position the airport as a central element in the region's economic and commercial activities. Enhancing connectivity by way of passenger and/or freight services would significantly contribute to overall growth and development in Ballarat and its surrounding areas.

6.5. Aviation Industry Insights

The aviation industry plays a significant role in contributing to both the Australian economy and society by enhancing connectivity for people, goods, knowledge, and ideas. Despite economic uncertainties, such as fluctuating jet fuel prices, low consumer confidence, and supply chain pressures, the aviation sector experienced unprecedented growth globally and within Australia in FY2023.

Throughout 2023, the operating environment for the Australian aviation sector remained challenging. However, recent promising signs indicate the stabilization of key economic indicators, including jet fuel prices and inflation. The influence of trade and tourism, especially in the Asia Pacific region, continues to be a driving force behind aviation growth.

Nevertheless, persistent challenges, such as workforce availability and supply chain constraints, pose ongoing hurdles for the Australian aviation sector. Additionally, changing societal expectations, marked by a shift away from traditional shift work in favour of increased flexible work arrangements, present workforce, and service challenges across the aviation ecosystem.

In addition to these challenges, there is a growing emphasis on social responsibility, environmental sustainability, and trust within the Australian economy. This underscores the need for a careful balance between fostering aviation growth, making strategic investments in airport infrastructure, and addressing broader social development needs.

6.5.1 General Aviation Trends

Globally, the busiest day in commercial aviation history was recorded on 6 July 2023. This is a significant milestone considering few industries were impacted as hard and were disrupted as significantly as aviation was during the COVID-19 pandemic. The industry is now experiencing a rapid recovery while still facing significant volatility and the ongoing disruptive effects of the pandemic.

While adjusting to these challenges, the overall Australian network performance in 2022-2023 (Financial Year 2023) has improved but is still below long-term average performance.

Traffic patterns and the rate of recovery has not been uniform across the Australian network. Regional airports which service domestic leisure demand, interstate migration and mining regions are experiencing strong growth. In contrast, despite a high rate of recovery, international operations at the busiest capital-city airports are still below pre-COVID levels.

The relationship between passenger growth and aircraft gauge selection will increasingly play a role in the future development and funding of aviation infrastructure and supporting services. Based on strong domestic recovery, Airservices expects domestic passenger growth to exceed pre-COVID levels in 2023-2024 (Financial Year 2024). International passenger growth is expected to be at a slower rate, given ongoing uncertainty in economic outlook globally.

With unprecedented net migrations, we are nevertheless seeing a return to growth in international services. Asia Pacific markets, especially Indian Subcontinent and Southeast Asia, are leading the recovery.
In parallel to the return of growth in the traditional aviation market, the drone industry is experiencing rapid growth, necessitating ongoing development efforts to ensure the safety of the traveling public and our communities.

6.5.1.1 Domestic Performance

The figure below provides a snapshot of Australia's top 40 airports by domestic and international passenger movements for the fiscal year 2022–23. Sydney, Melbourne, and Brisbane are the airports which experienced the most activity, with some regional airports outside of the top 30 entering and exiting the list.

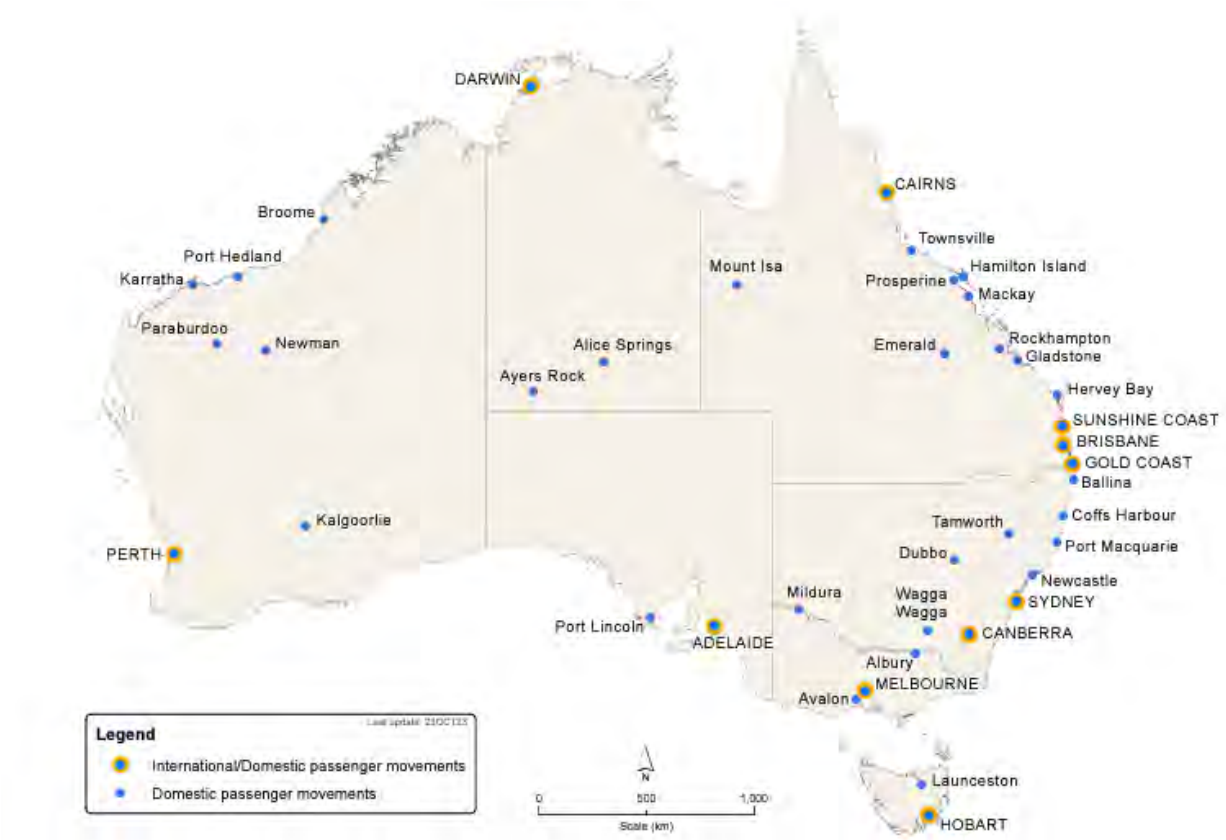


Figure 34: Australia's Top 40 Airports in 2022–23, Passengers

Source: BITRE, 2023, Aviation Statistics- Airport Traffic data

The 'Bureau of Infrastructure and Transport Research Economics' (BITRE) publishes monthly statistics to provide an overview of domestic (including charter) commercial aviation activity in Australia.

The data covers revenue passengers carried by Australian-registered operators of scheduled regular public transport services over Australian flight stages and fixed-wing charter operators. These estimates include passengers carried between domestic airports on international flights operated by these carriers.

Since 1983–84, the number of fare-paying passengers uplifted and discharged in Australia was steadily increasing both domestically and internationally, before a sharp drop beginning in 2019–20. 2022–23 shows a strong recovery post the COVID-19 pandemic travel restrictions.

Based on the most recent edition there were 5.55 million passengers carried on Australian domestic commercial aviation (including charter operations) in October 2023, an increase of 7.7 per cent on October 2022. Specifically focusing on Regular Public Transport (RPT) flights, 5.19 million passengers were carried in October 2023, reflecting a 7.0% rise compared to the same month in the previous year.

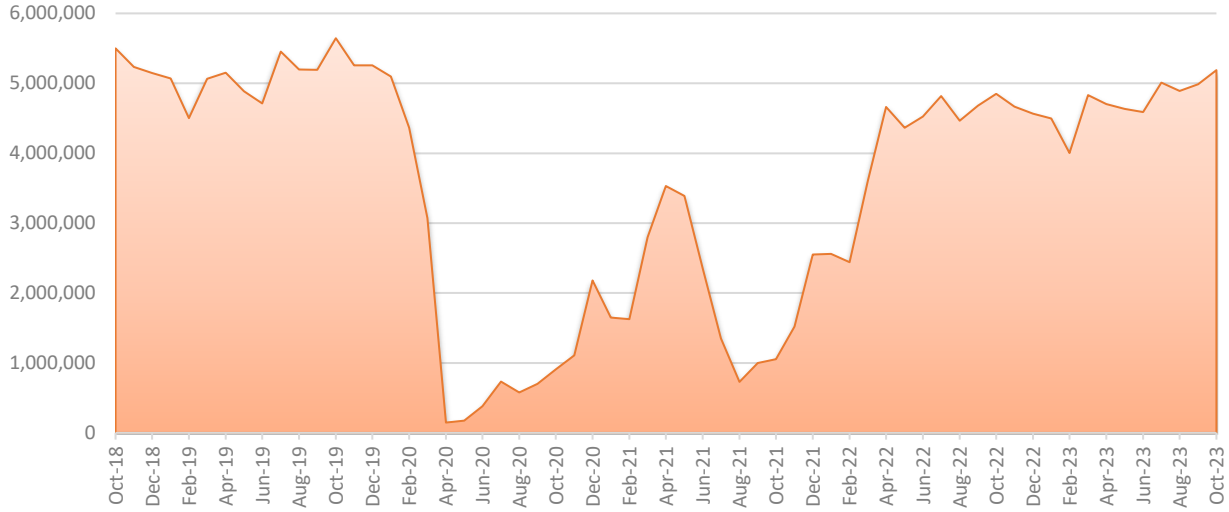


Figure 35: Australia – Passengers on RPT Flight (Oct 2018-Oct 2023)

Source: BITRE, Domestic aviation activity, Statistical Report, October 2023

Table 6, provides a comprehensive overview of Australia's Regular Public Transport (RPT) aviation activity, highlighting key metrics and their percentage changes from Year-End (YE) October 2022 to YE October 2023.

Table 7: Summary of annual RPT activity (YE Oct 2022-YE Oct 2023)

	YE Oct 2022	YE Oct 2023	% Change
Total passengers carried (millions)	45.04	56.56	25.6
Revenue passenger kilometres (billions)	52.54	67.6	28.7
Available seats (millions)	61.16	72.56	18.7
Available seat kilometres (billions)	69.32	84.34	21.7
Load factor %	75.8	80.1	4.4*
Aircraft trips (000s)	526	609.5	15.9

** percentage point difference*

Source: BITRE, Domestic aviation activity, Statistical Report, October 2023

Overall, the year ending October 2023 showed substantial year-on-year growth in Australia's Regular Public Transport (RPT) aviation activity. Notable increases in total passengers carried, revenue passenger kilometres, available seats, and aircraft trips underscore a robust expansion in the aviation sector. The 4.4% rise in load factor further points to enhanced operational efficiency and utilisation of available capacity during this period.

6.5.2 Regional Aviation Trends

The regional aviation landscape in Australia faces several challenges and opportunities that may influence the decision-making process for Ballarat Airport and similar regional airports. While larger regional airports have become sustainable hubs, serving multiple airlines, and attracting aviation-related industries, smaller towns struggle due to limited demand and market-driven solutions for regular passenger transport (RPT) and freight services. Australia's vast distances, coupled with high operating costs, airport charges, and fuel prices, contribute to the challenges, impacting underrepresented and disadvantaged communities.

Over the past three decades, the number of airports with RPT services has declined, affecting regional connectivity. Trends suggest a potential shift towards Advanced Air Mobility (AAM) services for short routes, fostering regional hub models. Electrification of small fixed-wing aircraft may reduce operating costs on shorter routes, enhancing regional connectivity. However, challenges arise from an ageing aircraft fleet, potential 'up gauging,' and the need for decarbonization.

Decarbonizing regional aviation is crucial, with initiatives like Regional Express partnering for electric engine retrofitting. Privatization of Local Government Areas (LFAs) has driven private sector investment, but many airports, particularly in regional and remote areas, struggle with maintenance costs. Emerging technologies like Satellite-Based Augmentation System (SBAS), drones, and AAM offer potential cost reductions and improved services but may require substantial infrastructure investment.

Government support, such as the Regional Airports Program, is critical for essential upgrades. The Regional Investment Framework emphasizes place-based decision-making, aligning with the government's net-zero ambitions. The transition to a net-zero economy, including developments in bioenergy and green hydrogen, presents opportunities for regional communities, job creation, and economic growth.

The Australian Government is investing in Sustainable Aviation Fuel (SAF) production, recognizing its potential for liquid fuel security, local decarbonization, job creation, and support for renewable energy goals. However, challenges in adopting new technologies, uncertain costs, and workforce training issues must be addressed.

Emerging aviation technologies like AAM and electric aircraft may transform regional connectivity, improving freight supply chains and reducing community isolation. Climate change resilience at airports is crucial, and the Disaster Ready Fund aims to invest in disaster resilience and risk reduction projects.

6.5.3 Victorian Domestic Routes & Airports

Qantas, Virgin Australia, Jetstar, and Rex are major domestic carriers running services between Australia's major cities. Jetstar also flies from Avalon Airport, near Geelong.

Regional airlines Qantas Link and Rex fly between Melbourne and larger Victorian regional centres such as Mildura and Albury.

Table 8: Victorian Domestic Routes

Origin Airport	Destination	Qantas	Virgin	Jet Star	Rex
Bendigo	Sydney	√			
Melbourne	Adelaide	√	√	√	√
	Albury	√			
	Alice Springs	√	√		
	Ballina/Byron Bay		√	√	
	Brisbane			√	√
	Broken Hill				√
	Broome	√	√		
	Bundaberg				
	Burnie	√			√
	Busselton			√	
	Cairns	√		√	
	Canberra	√	√	√	√
	Coffs Harbour	√			
	Darwin	√	√	√	
	Devonport	√			√
	Gladstone		√		
	Gold Coast	√	√	√	√
	Hamilton Island	√	√	√	
	Hervey Bay			√	
	Hobart	√	√	√	√
	Kargooli		√		
	Karratha		√		
	King Island				√
	Kununurra		√		
	Launceston	√	√	√	
	Mackay		√		
	Merimbula	√			√
	Mildura	√			√
	Mount Gambier				√
	Mount Isa		√		
	Newcastle	√	√	√	
	Perth	√	√	√	
	Port Hedland		√		
	Port Macquarie				
	Proserpine		√	√	
	Rockhampton		√	√	
	Sunshine Coast	√	√	√	
	Sydney	√	√	√	
	Tamworth		√		
	Toowoomba				
	Wellcamp				

	Wagga Wagga					√
	Yulara				√	
	Townsville	√	√		√	
Mildura	Gold Coast					
	Melbourne	√				√
	Sunshine Coast					
	Sydney	√				
Avalon	Gold Coast				√	
	Sunshine Coast					
	Sydney				√	
Albury	Brisbane	√				
	Gold Coast					
	Melbourne	√				
	Sunshine Coast					
	Sydney	√				√

Source: Airline and Airport websites as accessed in January 2024

6.5.3.1 Competitive Airports

6.5.3.1.1 Avalon Airport

Established in 1997, Avalon Airport comprises approximately 1,750 ha of land, including land on long-term lease from the Commonwealth Government. Avalon Airport is linked to Geelong and Melbourne by the adjacent Princes Freeway.

Existing operations of the airport are currently concentrated towards the northern end of the site and all flights are accommodated on the existing north-south runway, which is anticipated to meet demand for the next 20 years.

Operations:

Since 2004, Jetstar flights have been operating at the airport.

Key Facilities:

- 1,500 car spaces, a taxi rank, and a ride-share pick-up/drop-off bay
- 2 Terminals with Cafes, retail, and other facilities
- Australian Border Force and quarantine services
- Logistics precinct with direct access to major road, rail, and Geelong Port
- New Airport Commercial Precinct (Currently leasing practical completion scheduled for 2025)

Avalon Airport is recognised in 'Plan Melbourne 2017-2050' as a state significant Transport Gateway and is seeking Victorian and Commonwealth Government support for a new station at Avalon on the Geelong-Melbourne line.

Future aspirations include expansion of freight, engineering and maintenance services, a retail and commercial precinct and spin-off events associated with the Australian International Airshow.

6.5.3.1.2 Mildura Airport

Mildura Airport, situated in Victoria, Australia, functions as a pivotal regional gateway connecting passengers to major cities like Melbourne, Adelaide, and Sydney.

Operations:

It caters to scheduled air services provided by QantasLink and Rex Airlines. Although Virgin Australia initiated the first scheduled jet service in 2008, it was later withdrawn in 2020. Additionally, Mildura Airport hosts Cobden Air and the Mildura Aero Club.

Key Facilities:

The airport has two terminals, one for domestic flights and the other for international flights. The domestic terminal is the main terminal while the international terminal is used for seasonal flights. Other facilities include:

- Short term, long term and premium parking, taxi rank/ride-share pick-up/drop-off bay
- Café, bar, and gift shop within the main terminal
- Free Wi-Fi and charging stations
- Several car rental companies
- General Aviation Lounge located in the Domestic Terminal

6.5.3.1.3 Bendigo Airport

Bendigo Airport (BXG) is located in Bendigo East. The Airport is managed and operated by the City of Greater Bendigo with the assistance of an Advisory Group. It has two runways, 17/35 (paved) at 1,600 metres in length and 05/23 (partially paved) at 767 metres in length.

The City of Greater Bendigo, using extensive government funding, are currently undertaking the multi-stage Bendigo Airport Redevelopment Project. Stage 1 was completed in 2014, including 25 new aviation hangar sites, three new taxiways, improved road access and the installation of critical drainage infrastructure.

In Stage 2, Council is delivering a new 1,600m 'Code 3C' runway and associated taxiway, lighting, signage and fencing infrastructure. Aircraft carrying up to 70 passengers will be able to land on the new runway.
Stage 3 will focus on the construction of a contemporary business park to allow for existing businesses to expand and new businesses to be established.

In 2022, the airport secured $4.5 million in federal funding to support the expansion of the existing airport terminal, including the addition of new departure, and waiting lounges, expanded car parking facilities, a security screening area, a baggage claim, an expanded café, and restroom facilities.

Operations:
RPT services to Sydney were introduced in 2019. Bendigo Airport currently offers eight Qantas services between Bendigo and Sydney. This includes two services on a Monday and Friday.

Other operators:
Users of Bendigo Airport include Air Ambulance for fixed wing and helicopter operations, CFA and Victorian Government fire prevention and emergency operations, several flight training schools (approximately 250 students in total), maintenance, flying club, various small businesses, several private hangars, and operators that fly regularly to facilitate their own business ventures (including specialist medical services).

Key Facilities:

- Metered parking, taxi rank/ride-share pick-up/drop-off bay
- There is no public transport operating to or from Bendigo Airport
- Terminal Café
- Free Wi-Fi and charging stations
- 2 car rental companies

6.5.3.1.4 Albury Airport

Albury Airport (ABX) is located approximately 5 kilometres north-east of the city centre of Albury in New South Wales, near the state border with Victoria. It covers an area of 112ha and is owned and operated by Albury City. The airport also serves Wodonga, the neighbouring city, located on the Victoria side of the border (aligned with the Murray River). Together, the two cities function as one economic centre.

ABX is serviced by a single runway (07/25) with a paved length of 1,900m and 30m wide, fulfilling the requirements for Code 3C aircraft. The runway has turning nodes (widened on both sides to provide a total width of 45m) at both ends and at 370m from the Runway 25 threshold.

Operations:
The airport provides services for RPT and GA users, Air Ambulance, RFDS, seasonal aerial firefighting operations and aircraft maintenance. There are minimal non-aviation related activities at ABX with a Local Emergency Operations Centre and Australian Air Force Cadets Squadron (96 cadets) located on-site.
The following airlines operate from ABX:

- Qantas - 3 destinations
- Regional Express - 1 destination

Key Facilities:

- Short and long-term parking, taxi rank/ride-share pick-up/drop-off bay
- As of January 2023, a regional bus service operates from the airport
- Terminal Café & Bar
- Free Wi-Fi and charging stations
- 4 car rental companies

6.5.4 Conclusion

Thriving regional aviation hubs, exemplified by the growth in larger regional airports, emphasize the potential for sustainable models that serve regional catchments and attract aviation-related industries. The entrance of new players could see increased connectivity and competition, highlighting the evolving dynamics in the regional aviation sector.

Within the context of Ballarat, a city marked by substantial population growth, there is an opportunity to strategically position its underutilised airport asset. Ballarat makes a compelling case for exploring airport development to facilitate passenger services, potentially emerging as a regional aviation hub. By leveraging its large catchment area, Ballarat can foster connectivity, drive economic development, and play a more prominent role within the broader regional aviation landscape.

Examining specific trends, like the potential shift towards Advanced Air Mobility (AAM) services and the electrification of small fixed-wing aircraft, indicates a changing landscape that could impact the decision-making process for Ballarat Airport. Opportunities may arise from technological advancements, highlighting the need for the airport to align with such progress and position itself strategically.

The focus on sustainability, government support, and the evolving economic landscape underscores the importance of strategic decision-making for regional airports. Amidst the complexities faced by the Australian aviation sector, Ballarat Airport has an opportunity to leverage its unique strengths, such as location and facilities, to carve a niche in the regional aviation landscape. Adapting to emerging trends, fostering innovation, and aligning with sustainability goals will be pivotal for Ballarat Airport's success in a dynamic and evolving regional aviation environment.

7. Commercial Opportunities

7.1. Land Development

The potential for commercial opportunities at Ballarat Airport is grounded in substantial population growth, fuelled by net migration within Victoria and notable demographic shifts and evolving societal expectations. The city's burgeoning economic vitality, marked by a rise in business registrations and a thriving entrepreneurial

culture, is driving an increasing need for diverse commercial spaces such as offices, light industrial facilities, and warehousing spaces or land.

As businesses establish themselves in this dynamic city, the strategic positioning and connectivity of the airport emerge as pivotal factors, serving as a central hub for major transportation routes. In contrast to the limitations experienced by the Ballarat West Employment Zone (BWEZ), the airport's exceptional flexibility in land use creates a diverse array of opportunities for businesses, particularly tailored to meet the requirements of numerous small and medium enterprises in the region. This includes the potential for smaller lots with various tenure options unburdened by employment targets or development constraints.

Beyond opportunities arising from macro-economic and demographic trends, Ballarat Airport's strategic location, complemented by its existing high-volume flight school operations and potential demand from various airport occupants, those within the Ballarat West Employment Zone (BWEZ), and the envisioned establishment of a future emergency services hub, presents a distinct prospect for the development of purpose-built short-stay accommodation facilities. Tailored for visiting aviation specialists, flight training students, transiting or emergency service pilots, and individuals affiliated with the airport and BWEZ, these accommodations would not only enhance the airport's services but also contribute to overall efficiency and convenience for those engaged in aviation-related activities. Designed to meet the unique needs of these groups, the lodging would offer proximity to airport facilities, ensuring a comfortable and functional stay during their time in Ballarat.

Key Industries

Several industries are likely to drive demand for commercial land development opportunities at Ballarat Airport. These include:

- **E-commerce and Retail**: The growth of online shopping and e-commerce is driving demand for warehousing and distribution centres nationwide. Essential criteria for these facilities encompass proximity to major transportation hubs, efficient access to crucial routes, and strategic geographic positioning, all of which are met by Ballarat Airport. The airport not only excels in meeting scalability needs for growth but also offers robust security measures. Additionally, Ballarat's significant population base ensures proximity to a skilled labour force.
- **Logistics and Transportation:** Transportation, shipping, and logistics companies can leverage the airport's connectivity for warehousing facilities, supporting temporary storage during transit.
- **Manufacturing and Technology**: The logistical advantages of Ballarat Airport offer manufacturing industries a compelling proposition for their production, assembly, and storage needs. With unconstrained land availability and the region's economic growth, the airport becomes an attractive hub for manufacturing and technology companies. The evolving requirements of these industries align seamlessly with the airport's offerings, contributing to increased efficiency and supporting the region's economic development.
- **Construction and Building Materials**: The construction sector can capitalize on the airport's highly accessible location for storing building materials, equipment, and machinery, streamlining supply chain operations without having to meet stringent employment quotas.
- **Wholesale and Distribution**: Wholesale businesses and distributors gain logistical advantages by having warehouses near the airport, facilitating efficient distribution of bulk quantities.

- **Food and Beverage, Pharmaceuticals, and Healthcare**: Industries such as food and beverage, pharmaceuticals, and healthcare can capitalize on specialized warehousing near the airport. This is crucial for storing perishable and sensitive goods.
- **Third-Party Logistics (3PL) Providers**: Outsourced logistics providers could enhance their services by utilising the airport's logistical infrastructure, managing warehousing and distribution efficiently.

7.2. Regular Public Transport (RPT) Service

RPS Group's comprehensive market analysis and trend evaluation underscores the potential for Regional Passenger Transport (RPT) services at Ballarat Airport, driven by a confluence of factors.

- The dynamic and diverse population of Ballarat, marked by significant growth and demographic shifts, necessitates aligning airport services with evolving community needs. Statistical insights into population growth, age distribution, income levels, and household profiles underscore anticipated growth in demand for efficient travel connections, particularly from a growing and diverse demographic, positioning Ballarat Airport strategically for passenger services.
- As a regional hub and the primary service centre for the Central Highlands Region, the city's strategic geographical positioning is underscored by central connections to major highways linking Melbourne, Adelaide, Geelong, and Portland. This highlights its crucial role in facilitating both cargo and potential passenger services. With the advantage of existing connectivity and serving as the primary hub for employment and commercial activities in the region, the airport is well-positioned to expand its services, addressing the growing travel requirements of the local community and businesses.
- The robust and expanding tourism sector in Ballarat, particularly in the realm of domestic day trips, underscores the significance of elevating the airport's status as a tourism gateway. Collaborative endeavours facilitated by the Visitor Economy Partnership (VEP) and strategic initiatives, such as the potential introduction of passenger services, play a pivotal role in fostering continual growth in tourism. These efforts not only provide convenient travel alternatives but also enrich the overall visitor experience, emphasizing the potential to attract increased interstate visitation and contribute to the broader success of the regional visitor economy.
- Observing the thriving regional aviation landscape, marked by the growth of larger regional airports and the potential entry of new routes, indicates evolving dynamics that position Ballarat's airport as a valuable opportunity for development into a regional aviation hub.

7.2.1 Ailevon Pacific Aviation Consulting Study

In addition to analysis by RPS, Ailevon Pacific Aviation Consulting conducted a study in 2023 to understand the catchment size for Ballarat Airport and investigate the potential for RPT service at Ballarat airport.

The outcomes of the study for Ballarat indicated that up to 1,600 residents within the catchment area were daily travellers to Melbourne Airport for air travel, with an estimated 300 of them heading to Sydney Airport from Melbourne daily.

Similar market demand assessments were conducted for two other clients in Australia, leading to the conclusion that, considering the city size and catchment areas, Ballarat Airport (YBLT) boasts a market size suitable for actively pursuing an air service. The study proposed that establishing a service to Sydney could subsequently pave the way for targeting the next largest city in the following years.

7.3. Air Freight

The airport's capability to provide airfreight services, coupled with its pivotal role in well-connected transportation networks, could present opportunities for industries in search of swift and dependable cargo transportation solutions. However, it's essential to consider general constraints that may impact the viability and scope of the air freight opportunity at Ballarat Airport.

- **Limited Capacity for General Cargo**: Unlike major international airports, regional airports like Ballarat often handle limited general cargo due to the absence of dedicated cargo planes. Air freight is frequently transported in the belly of commercial passenger flights, which may restrict the types and quantities of goods that can be transported economically. This limitation, particularly in handling non-perishable and bulky items, poses a challenge for industries relying on large-scale air freight. Despite these constraints, innovative models, as seen at Toowoomba Wellcamp Airport, showcase opportunities for air freight in Australia. The airport's good road connections and proposed links to the Inland Rail project have created air freight opportunities for agricultural and other products.
- **Cost Constraints:** Air freight is generally more expensive compared to other modes of transportation such as sea or rail. The higher costs associated with air transportation may make it economically viable only for specific types of cargo, such as perishables or high-value goods. This cost factor can limit the range of industries that find air freight services financially feasible.
- **Dependence on Commercial Airlines:** Regional airports often depend on commercial airlines for cargo transport, lacking dedicated freighter aircraft. This reliance introduces challenges tied to airline schedules, routes, and availability, potentially causing delays.
- **Competing Transportation Modes:** Ballarat boasts excellent road and rail transportation options, providing efficient alternatives for cargo movement. The availability of robust ground transportation infrastructure may divert some industries toward more cost-effective and versatile modes, reducing the exclusive reliance on air freight services.
- **Geographic Limitations:** The regional nature of the airport may result in geographic limitations, especially for international air freight. Industries requiring extensive global connectivity may face challenges in relying solely on a regional airport for their cargo transportation needs.

7.4. Aviation Related Activities

Identified opportunities for aviation-related activities include:

A. **Terminal-Related Opportunities:** Especially relevant if Regional Passenger Transport (RPT) services are introduced, focusing on high-value uses such as car parking, car rentals, food and beverage, retail, and tourist-related services.
B. **Higher Value Commercial Opportunities:** Involving larger land parcels suitable for substantial commercial operations like Maintenance, Repair, and Overhaul (MRO. Key components include road access, frontage, and a flexible land use approach to maximize commercial returns and attract complementary businesses.
C. **Small Commercial Ventures:** Tailored for small operators requiring modest land parcels with a preference for road frontage and essential airfield access. Flexibility is desirable to accommodate potential expansion.
D. **Private Hangars:** Targeting lower-value land predominantly occupied by private aircraft owners, necessitating basic infrastructure beyond airfield access. While road frontage is not mandatory, a long-term commitment from occupants, embedded in both the airport and wider community, is anticipated.

7.5. Conclusion

Ballarat Airport is positioned as a hub for a commercial opportunities and strategic developments, benefiting from the city's substantial population growth, economic vitality, and flexible land-use options. The airport is well-suited to meet diverse business needs, support its current operations, and potentially become a central hub for aviation-related activities.

In the realm of passenger services, comprehensive market analyses conducted by RPS Group and Ailevon Pacific Aviation Consulting highlight Ballarat's potential for Regional Passenger Transport (RPT) services. This potential is driven by a dynamic population, strategic geographic positioning, and tourism appeal, positioning Ballarat Airport as a key player in advancing regional connectivity.

However, challenges exist in the air freight sector, including limited cargo capacity, cost considerations, and dependence on commercial airlines. Despite these challenges, the airport demonstrates promise in airfreight services, with opportunities to explore innovative models observed in other regional airports.

With a proactive approach and strategic decision-making, Ballarat Airport has the potential to evolve into a regional aviation hub, contributing significantly to the growth, connectivity, and economic prosperity of the city and its surrounding areas.

8. Multi-Criteria Assessment (MCA)

To assess the potential of identified commercialization opportunities at Ballarat Airport, we employ a thorough and systematic approach that considers various success-contributing criteria. This approach is crucial for refining and prioritizing these opportunities.

Our comprehensive Multi-Criteria Assessment (MCA) strategically evaluates each prospect based on predefined criteria, ensuring a systematic and unbiased approach to decision-making. The goal is to identify and prioritize initiatives that align with strategic objectives and offer the greatest potential for success and positive impact.

Through this diligent process, we aim to guide the airport towards sustainable and effective commercial development, fostering growth and enhancing its role in the regional landscape.

8.1. Opportunities Long List

A diverse array of possibilities has emerged from the ‘Market Analysis and Trend Evaluation’. The following list outlines various prospects identified.

Aviation Services

- Aircraft maintenance and repair facilities
- Hangar space for private and commercial aircraft

Logistics and Cargo Operations

- Cargo handling and storage facilities
- Distribution centres
- Freight forwarding services

Aircraft Manufacturing and Assembly

- Facilities for manufacturing or assembling small aircraft

Passenger Facilities

- Terminal buildings for passenger check-in and boarding

Retail and Hospitality

- Retail / Shops
- Cafes and restaurants

Commercial Land Use and Development

- Business and office spaces
- Light industrial units/land
- Innovation hubs encouraging collaboration in the aviation sector

Tourism and Hospitality Services

- Short term accommodation catering to airport users

Education and Training Centres

- Emergency services facilities
- Training facilities for air traffic controllers

Cultural, Arts & Community Spaces

- Art galleries or installations
- Cultural centres / Community Spaces

Government and Administrative Offices

- Customs and immigration offices
- Aviation offices

Ground Transport

- Taxi / Shuttle / Public Transport services
- Bike and Car Rental facilities
- Parking Facilities
- Electric vehicle charging stations

Emerging Aviation Technologies

- Advanced Air Mobility, drones, new propulsion methods and hydrogen fuel cell systems etc.

8.2. Evaluation Criteria

The following criteria have been established for the assessment:

1. **Economic Viability:**
    - *Definition:* Evaluates revenue potential, job creation, economic impact on the local community and compatibility with regional economic development goals.
    - *Rationale:* Essential for assessing the project's overall success.
2. **Strategic Alignment:**
    - *Definition:* Assesses alignment with broader strategic goals and objectives.
    - *Rationale:* Ensures the project contributes to overarching strategic plans.
3. **Infrastructure and Transport Compatibility:**
    - *Definition:* Examines the compatibility with existing airport infrastructure, including the alignment with current facilities, feasibility of required modifications or expansions, and the capacity to handle increased traffic or demand.
    - *Rationale:* Vital for ensuring seamless integration and promoting efficient operations.
4. **Community Impact:**
    - *Definition:* Measures the local community acceptance and support, considering factors such as the potential for noise pollution, disturbances, and overall community impact, while also considering the social and cultural benefits to the community.
    - *Rationale:* Crucial for ensuring sustained positive impact.
5. **Safety/Security/Compliance:**
    - *Definition:* Level of compliance with aviation safety standards, security measures, and emergency response capabilities.
    - *Rationale:* Paramount for successful aviation facility operation.
6. **Tourism & Regional Development:**
    - *Definition:* Evaluation of how the opportunity contributes to tourism development and enhances the regional visitor experience, considering factors such as potential visitor attraction and overall improvement in the tourism landscape.
    - *Rationale:* Key factor in regional impact and economic growth.
7. **Financial Feasibility:**
    - *Definition:* Evaluates the levels of supportable market demand and assesses the long-term financial sustainability of the opportunity. It aims to determine whether the opportunity is economically viable in the long run.
    - *Rationale:* Essential for assessing economic viability, understanding the revenue-generating potential, and ensuring sustainable long-term success.
8. **Collaboration & Partnerships:**
    - *Definition:* Evaluates opportunities for collaboration with local businesses, government bodies, and industry stakeholders, assessing the potential for joint ventures and shared resources.
    - *Rationale:* Enhances overall success and sustainability by fostering collaborative efforts and leveraging shared resources.

9. **Development Risk:**

    - *Definition:* Encompasses uncertainties associated with market dynamics, construction challenges, design complexities, and the successful execution of marketability and exit strategies. It involves the potential hurdles and unknowns that may impact the planning, design, and implementation phases of the project.
    - *Rationale:* Identifying and addressing risks is crucial for successful project implementation.

8.2.1 Rating System

The rating and weighting system is instrumental in ensuring a systematic and unbiased approach to decision-making. It allows for a quantitative assessment, emphasizing the importance of each criterion in the overall success and impact of a commercialization opportunity. This structured evaluation process aims to identify initiatives that align with strategic objectives and offer the greatest potential for success and positive impact, ultimately guiding the airport towards sustainable and effective commercial development.

The rating system involves four key components:

1. Importance Levels:

Assigns a level of importance to each criterion, ranging from 1 (low importance) to 3 (high importance). This reflects the perceived significance of each criterion in the overall assessment.

2. Weight:

Determines the weight of each criterion by calculating the importance score (importance level) divided by the total importance score. This weight signifies the proportional significance of each criterion in the overall evaluation.

3. Scale (1-5):

Provides a rating to each criterion on a scale from 1 (low) to 5 (high), indicating the perceived significance or performance level.

4. Score:

Derives a final score for a specific opportunity by multiplying the rating given to each criterion by its assigned weight, summing up these weighted scores. This final score reflects the overall assessment of an opportunity based on the predefined criteria.

Table 9: Multi-Criteria Assessment

Opportunity	Economic Viability	Strategic Allignment	Infra/Transport Compatibility	Community Impact	Safety/Security/ Compliance	Tourism & Regional Development	Financial Feasibility	Collaboration & Partnerships	Development Risk	Overall Score
Relative Importance	*Medium*	*High*	*Medium*	*High*	*High*	*Medium*	*High*	*Low*	*Medium*	*-*
Assigned Weighting	*10%*	*14%*	*10%*	*14%*	*14%*	*10%*	*14%*	*5%*	*10%*	*100%*
Terminal building	4	5	5	4	5	5	3	4	2	**4.1**
Light industrial units/land	3	5	4	4	4	2	4	4	4	**3.9**
Hangar space	3	5	5	4	4	1	4	3	4	**3.8**
Short-term accommodation	3	4	4	4	4	4	4	4	3	**3.8**
Emerging aviation technologies*	3	5	4	4	4	1	4	4	4	**3.8**
Aircraft maintenance and repair facilities	4	5	5	4	4	1	3	4	3	**3.7**
Aviation Offices	4	4	4	3	5	3	3	4	3	**3.7**
Taxi/Shuttle/Public Transport services	3	4	3	4	4	5	3	3	3	**3.6**
Aviation Innovation Hub	3	4	3	4	5	3	3	4	3	**3.6**
Cafes and restaurants	3	3	4	4	5	4	3	3	3	**3.6**
Business and office spaces	4	3	4	4	5	3	2	3	4	**3.6**
Bike and Car Rental facilities	3	3	3	4	4	5	3	3	4	**3.6**
Parking Facilities	3	3	3	4	4	5	3	3	4	**3.6**
Electric vehicle charging stations	3	3	3	4	4	5	3	3	4	**3.6**
Retail/Shops	3	3	3	4	5	4	3	3	3	**3.5**
Art galleries or installations	2	3	2	4	5	4	3	3	4	**3.4**
Training facilities	3	3	3	4	4	4	3	4	3	**3.4**
Emergency services facilities	2	4	3	3	4	4	4	4	2	**3.4**
Distribution centres	3	5	3	3	4	2	3	4	3	**3.4**
Customs and immigration offices	2	3	4	4	5	3	3	4	2	**3.4**
Cultural centres/Community Spaces	3	2	2	4	4	4	3	4	4	**3.3**
Cargo handling and storage facilities	4	4	4	3	4	1	3	4	2	**3.2**
Freight forwarding services	3	4	4	3	4	1	3	4	2	**3.1**
Manufacturing/assembly small aircraft	3	5	3	3	4	1	2	4	2	**3.0**

**e.g. Advanced Air Mobility, drones, new propulsion methods such as electric, hybrid-electric, and hydrogen fuel cell systems etc.*

8.3. Conclusion and Recommendations

The evaluation of commercial opportunities at Ballarat Airport, grounded in the city's significant population growth and economic vitality, extends beyond numerical scores. Each opportunity, intricately linked to the airport's strategic positioning, serves as a catalyst for regional development. The Multi-Criteria Assessment (MCA) considers not just the immediate numeric values but the intrinsic potential of each facet in fostering sustained growth and connectivity.

8.3.1 Key Findings & Recommendations

The assessment reveals a diverse array of possibilities, each with unique strengths and considerations. Prioritisation and decision-making should align with the airport's specific goals, operational requirements, and commitment to safety, security, and community engagement. Detailed below is an overview of the main opportunities identified for the airport to be considered for the Master Plan:

1. **Terminal Building (Overall Score: 4.1):**
    - *Insight:* The high overall score underscores the robust potential of terminal development. Beyond the numbers, this opportunity signifies the gateway to passenger services, fostering economic growth and aligning strategically with the airport's and city's overarching goals.
    - *Considerations:* Recommendations should underscore the terminal's role not just in facilitating air travel but in enhancing regional connectivity and contributing to the city and region's broader economic and tourism goals. Facilitating collaborative initiatives with the Visitor Economy Partnership and Tourism Midwest Victoria (TMV) could further amplify its impact.
2. **Light Industrial Units/Land (Overall Score: 3.9):**
    - *Insight:* This opportunity aligns with the economic growth of the region and the diverse requirements of businesses. Economic viability is complemented by a nuanced understanding of the local business context, acknowledging the airport's unique advantage in land use flexibility.
    - *Considerations:* Recommendations should spotlight the airport's distinction from the Ballarat West Employment Zone (BWEZ), emphasizing its exceptional flexibility. The Master Plan should allow for flexibility and adaptability to changing market demands, ensuring the airport remains a dynamic hub.
3. **Hangar Space for Private and Commercial Aircraft (Overall Score: 3.8):**
    - *Insight:* Strong scores in safety/security/compliance and economic viability underline the importance of aviation-related services. Beyond the numbers, this opportunity signifies the critical role the airport can play in supporting local and regional aviation needs.
    - *Considerations:* The Master Plan should allocate space for hangars strategically, ensuring compliance with safety standards and accommodating the flexibility needed for different types of aircraft. Community engagement efforts should focus on demystifying aviation activities, addressing potential noise concerns, and highlighting economic benefits.
4. **Short-Term Accommodation Catering to Airport Users (Overall Score: 3.8):**
    - *Insight:* Solid performance underscores the potential for Ballarat Airport to be more than a transit point, contributing to the city's aviation-related activities.
    - *Considerations:* Recommendations should clarify the accommodation's focus on aviation specialists, flight training students, and emergency service pilots, tailored to their unique needs. Proximity to airport facilities is key, enhancing overall efficiency for individuals engaged in aviation-related activities.

5. **Emerging Aviation Technologies (Overall Score: 3.8):**
    - *Insight:* Recognising the strategic importance of emerging aviation technologies underscores the need for adaptability to dynamic advancements in this field.
    - *Considerations:* The Master Plan should focus on incorporating flexibility throughout the airport infrastructure. This approach enables seamless adaptation to changing market demands and evolving technologies, positioning Ballarat Airport as a responsive and innovative hub.
6. **Aircraft Maintenance and Repair Facilities (Overall Score: 3.7):**
    - *Insight:* In addition to achieving high scores on economic viability the inclusion of aircraft maintenance and repair facilities underscores the strategic alignment with the airport's identity as a regional aviation hub. This ensures that the airport is not only a transit point but a comprehensive service centre, meeting the diverse needs of the aviation community.
    - *Considerations*. The Master Plan should foster consider future scalability and promote synergies with other aviation-related activities, facilitating streamlined coordination and collaboration between maintenance and repair functions and other airport services.
7. **Taxi/Shuttle/Public Transport Services (Overall Score: 3.6):**
    - *Insight:* Balanced scores highlight the integral role of transportation services, aligning with the airport's position as a central transportation hub.
    - *Considerations:* The Master Plan should consider the optimisation of transportation services, emphasising safety, accessibility, and fostering collaboration with local transport providers.

8.3.2 Holistic Master Plan Recommendations

Detailed below are a number of holistic recommendations for the future operation and development of the airport to be considered for the Master Plan:

- **Strategic Integration with Local Trends:** The Master Plan should strategically integrate identified opportunities with local economic trends, emphasizing the airport's role in supporting businesses, fostering entrepreneurship, and aligning with evolving societal expectations.
- **Tailored Community Engagement:** Acknowledge the diverse impacts of each opportunity on the community. Community engagement efforts should be tailored to address specific concerns and highlight the positive contributions these opportunities bring to local businesses, employment, and overall well-being.
- **Flexibility for Emerging Industries:** Design the Master Plan with flexibility to accommodate emerging industries, considering the city's thriving sectors such as e-commerce, technology, and manufacturing as well as the dynamic advancements in emerging aviation technologies. The airport should be positioned as a versatile hub that can adapt to the changing needs of these industries.
- **Promoting Sustainable Practices:** Emphasise sustainable practices in the Master Plan, aligning with global trends and the city's commitment to environmental responsibility. This includes considerations for energy-efficient infrastructure, waste management, and transportation options.
- **Strategic Positioning as a Regional Hub:** Ensure the Master Plan positions Ballarat Airport not just as a local facility but as a vital regional hub. Collaboration with regional stakeholders, consideration of regional connectivity, and alignment with broader economic development goals are essential elements.
- **Continuous Monitoring and Adaptation:** Establish mechanisms for continuous monitoring and adaptation of the Master Plan. This proactive approach ensures that the airport remains responsive to evolving economic, social, and industry dynamics.

The Ballarat Airport Master Plan, far more than a static blueprint, should embody a dynamic strategy integrated with local trends, prioritising community well-being, and solidifying the airport's role as a pivotal player in regional development. Beyond addressing immediate needs, the Master Plan holds the potential to serve as a catalyst for sustained growth, enhanced connectivity, and overall economic prosperity in the region.

To solidify these aspirations, the Master Plan must actively foster collaboration and partnerships, leveraging expertise and resources. Striking a delicate balance between economic viability, strategic alignment, and community impact is paramount. Incorporating regular reviews and adaptations based on changing circumstances and industry trends will ensure the sustained success of the airport. Ultimately, embracing a holistic approach that considers the interplay of various opportunities positions the airport for enduring long-term growth and meaningful community benefit.

9. Strategic Vision, Objectives and Projects

Based on the findings of the situation analysis, stakeholder consultation, market analysis and trend evaluation, commercial opportunities analysis and multi-criteria assessment, the following vision and objectives have been developed for the airport.

9.1.1 Vision

Ballarat Airport is a vital aviation hub servicing western Victoria, which will be enhanced to support improved connections for the community, and commercial diversification with tangible economic benefits for the region. These enhancements will respect the airport's historical and social setting, and ensure continual regulatory compliance.

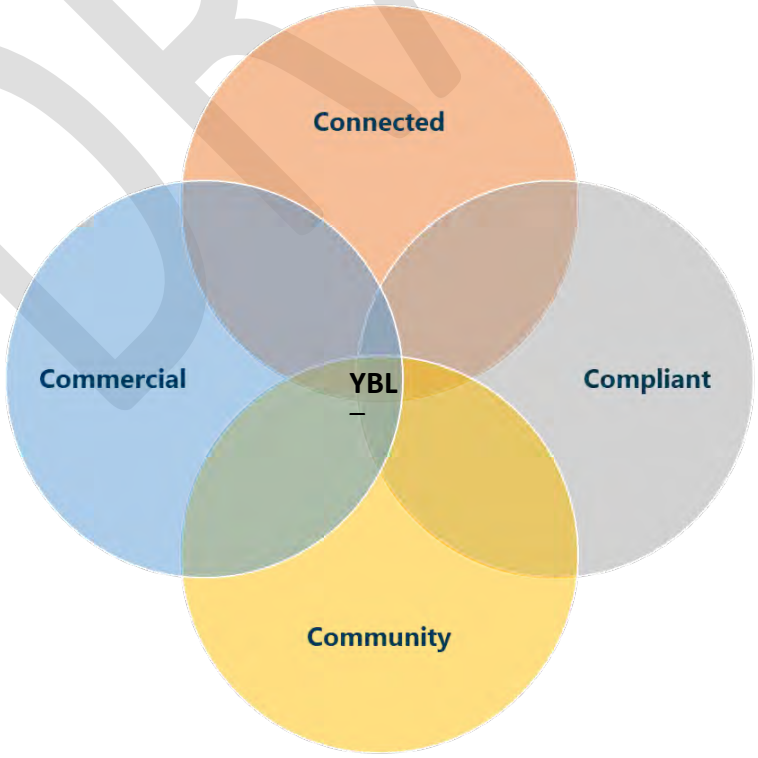


Figure 36: Strategic Vision Diagram

9.1.2 Objectives

The implementation of the following objectives will assist in achieving the vision:

Pursue Revenue Opportunities (e.g. RPT service, commercial development of surplus land, aviation and non-aviation opportunities where appropriate)

Ensure Safety & Compliance (e.g. effective corporate governance, airport user group, CASA regulations, environmental regulations etc.)

Plan for Infrastructure Upgrades (e.g. new taxiways, runway pavement upgrade, new terminal site etc.)

Identify Development Constraints (e.g. review planning controls, reduce heritage restrictions, exemptions for appropriate development)

Consider Surrounding Community (e.g. impacts on community including noise, introduce fly neighbourly agreement)

Safeguard Airport Operations (e.g. review safeguarding policies and controls, consider NASF guidelines)

Consider Emerging Aviation Technologies (e.g. Advanced Air Mobility, drones, new propulsion methods such as electric, hybrid-electric, and hydrogen fuel cell systems etc.)

9.1.3 Key Projects

Based on the Strategy Plan, a number of specific airport infrastructure upgrade projects have been identified as beneficial to facilitate future growth and development of the airport over the 20-year Master Plan period, in accordance with the vision and objectives outlined above. The projects are:

1. Development of north-west airport precinct
2. Refurbishment of existing aircraft apron and airport terminal building
3. Remediation and development of southern general aviation precinct
4. Airport security upgrade
5. Construction of airport terminal, car park and apron area
6. Construction of a Category C taxiway from Taxiway A to Runway 18 threshold
7. Upgrading of existing 1250 metre section of Runway 18/36
8. Construction of replica Bellman Hangar
9. Services infrastructure upgrades
10. Runway 18/36 starter extension

These projects form an essential part of this Master Plan and are discussed in detail in Section 12 of this report.

The actual implementation and timing of proposed developments and upgrades will depend on demand triggers, an assessment of forecast market conditions, commercial discussions, and approval processes. Council should liaise closely with aviation operators and other key stakeholders to discuss the timing and priority of investments. Commercial developments will be aligned with market demand and opportunities which may arise and would generally be the subject of a detailed business case.

However, the replacement of the existing 1250 metre section of Runway 18/36 (Project #7) is the most critical of all the development projects (approx. $12 million investment). This was contemplated in the 2013 Master Plan and the runway is now beyond its operational life. Failure to replace this section of the runway could result in the loss of existing operators, including emergency services providers e.g. RFDS, and will constrain future opportunities. However, the dominant purpose for upgrading the runway is to maintain essential services. The introduction of airline passenger services is an opportunity which may flow from the increased capability but is not the basis for completing stage 2 of the runway upgrade program.

The City of Ballarat is not proposing to construct an emergency services hub (or similar) but will support the plans of an airport tenant who has indicated a desire to do so. The opportunity for Ballarat Airport to become a Large Aerial Tanker (LAT) base may also be possible following completion of the runway upgrade and Ballarat's location in relation to the fire risk areas makes that a compelling proposition.

PART C: MASTER PLAN

10. Critical Airport Planning Criteria

This section provides an analysis of the airport against relevant airport planning criteria to help guide the Master Plan and achieve the strategic vision and objectives. Key issues and recommendations are highlighted in **bold text** and are discussed further in the subsequent sections. The key recommendations will also form part of the implementation plan set out in Section 14.

10.1. Forecast of Future Operations

Section 3.4.12 highlighted that in 2023 it is estimated that there were 53,900 aircraft movements which created the basis of the forecast of future operations. According to the Bureau of Infrastructure and Transport Research Economics (BITRE) regional aviation grows between 1-2% annually which created the basis of the forecast. It was deemed appropriate to apply a 1.5% growth rate to overall movement numbers to determine the forecast for 2043 to have a total of 72,595 annual aircraft movements.

10.2. Aerodrome Reference Code

The current Aerodrome Reference Code is 3C, with outer main gear wheel span (OMGWS) between 6 m and 9 m. The following Table 10 summarizes the ARC values, as well OMGWS limits for the three runways of the airport.

Even after the completion of Runway 18/36 extension the airport will remain of category 3C, due to the fact that the runways are 30 m wide (the requirement for Code 4 runways is a 45 m minimum runway width).

Table 10: ARC reference codes for each runway

Runway	ARC number	ARC let er	OMGWS	PCN
RWY 18/36	3	B	OMGWS 6 m up to but not including 9 m	6/F/B/450/U (65 psi) (MTOW 5,700 kg)
RWY 05/23	1	A	OMGWS 6 m up to but not including 9 m	6/F/B/450/U (65 psi) (MTOW 5,700 kg)
RWY 13/31	3	C	OMGWS up to but not including 4.5 m	N/A

10.3. Design Aircraft

The main design aircraft which has been considered for the development of the Master Plan is the Bombardier Dash 8 Q400, which is a Code 3C aircraft. Table 11 shows the main characteristics of other regional aircraft up to Code 3C which could operate at the airport.

Table 11: Examples of design aircraft

Aircraft	ICAO Code Number	ICAO Code Lete r	OMGWS [m]	Length [m]	Wingspan [m]	Pax capacity	ACN values (Min. Weight – MTOW)
Saab 340	3	B	6 – 9	19.7	21.5	34	4 – 7
ATR-72	3	C	4.5 – 6	27.2	27.1	68	6 – 12
Dash 8 Q400	3	C	9 – 15	32.8	28.4	74	8 – 16
Embraer E170 STD	3	C	6 – 9	29.9	26.0	78	10 – 23
Fokker 100	3	C	6 – 9	35.5	28.1	109	13 – 27
Boeing 717	3	C	4.5 – 6	37.8	28.4	134	17 – 34

The Bombardier Dash 8 Q400 has an OMGWS in the range between 9 m and 15 m. Hence, theoretically, it could not operate from the airport (the minimum runway width for such types of aircraft would need to be 45 m). However, airlines can apply for specific exemptions which allows them to operate this aircraft type from airports with narrower taxiways and runway. For instance, regular Dash 8 Q400 flights operate to and from Horn Island (QLD), Karara (WA), Prominent Hill (SA), Gruyere (WA), Armidale (NSW), Roma (QLD), Moranbah (QLD); all of those airports have runways which are only 30 m wide.

The current runways are not able to accommodate regular movements of the aircraft specified in Table 11, due to the limited strength (PCN) values. Planned pavement upgrade works on the original section of Runway 18/36 will improve the PCN value and allow for the regular operations of category 3C aircraft such as the Dash 8 Q400.

However, occasional operations of larger aircraft, such as the Boeing 737 MAX8 or Airbus A320 could also be envisioned for the airport. A 1,800 m long, 30 m wide runway is sufficient for operating such aircraft, although with limitations on the MTOW. For instance, for the Boeing 737 MAX8 the maximum allowable take-off weight would be 68 tons, compared to an absolute MTOW of 82.6 (18 % decrease), where for the Airbus A320 it would be 75 against a MTOW of 78 (4 % decrease). For example, Jetstar, Qantas and Virgin operates regular B737-800 flights to and from Hamilton Island (QLD), which features a 1,764 m x 45 m runway.

10.4. Navigation Systems

There are no ground-based navigation aids for the airport, as the existing Ballarat NDB has been decommissioned. The two instrument approach procedures for Runways 18 and 36 are GPS based.

10.5. Aircraft Movement Area

The airport presents one main apron area, located to the south of the threshold of Runway 05. Two rows of hangars have access to the main apron. A loop taxiway allows for aircraft circulation on the tarmac, creating a small general aviation parking space between the taxilanes. Further aircraft parking space is available on the north end of the paved area of the apron. A refuelling facility is also present on the north side of the apron.

Two other smaller aprons are located to the east of Runway 18/36. For the northern apron, there are 7 hangars with direct access to the apron. The southern apron, also referred to as the Rex apron, is used for parking the training aircraft for the Rex flight academy. Figure 37 shows the aprons of the airport.

The Main Apron will need to accommodate one or two design aircraft (Bombardier Dash 8 Q400), during the initial operations of RPT out of the existing terminal building. This is discussed further in Section 12.2.

Recommendation: Prepare the planning and design process to create one/two new parking bays for aircraft up to the Bombardier Dash 8 Q400 on the main apron.

Figure 37: Aprons of Ballarat Airport

10.6. Pavement Strength

Table 12 summarises the current pavement strength values for the two runways of the airport. Runway 13/31 consists of natural surface (grass), without formed pavement.

Table 12: Runways PCN values

CAN/PCN strength rating	RWY 18/36	RWY 05/23
PCN value	PCN 6	PCN 6
Pavement type	F	F
Pavement subgrade	B	B
MTOW allowable	5700kg	5700kg
Maximum tyre pressure value	450kPa / 65psi	450kPa / 65psi
Tyre pressure category	Z	Z
PCN evaluation method	U	U

For Runway 18/36, the PCN value will increase once the necessary upgrade work on the original section of the runway are completed, the aim being to provide for the regular operations of category 3C aircraft such as the Dash 8 Q400.

No pavement strength data is available for the taxiways, nor for the apron.

Recommendation: Complete a taxiway and apron pavement strength evaluation on the existing infrastructure.
Recommendation: Complete the runway strength evaluation after the runway upgrade project.

10.7. Aviation Support & Landside Facilities

Refuelling facilities are provided by Field Air (JET A1) and Ballarat Aviation Group (AVGAS). The other landside facilities include the Ballarat Aviation Museum and the Ballarat Aeroclub.

10.8. Passenger Terminal

No RPT services are present at the moment for Ballarat airport. However, an existing terminal building is present, with direct access to the main terminal building. Figure 37 and Figure 38 show a picture of the building, as well as the floor plan.

Figure 38: Existing Terminal Building

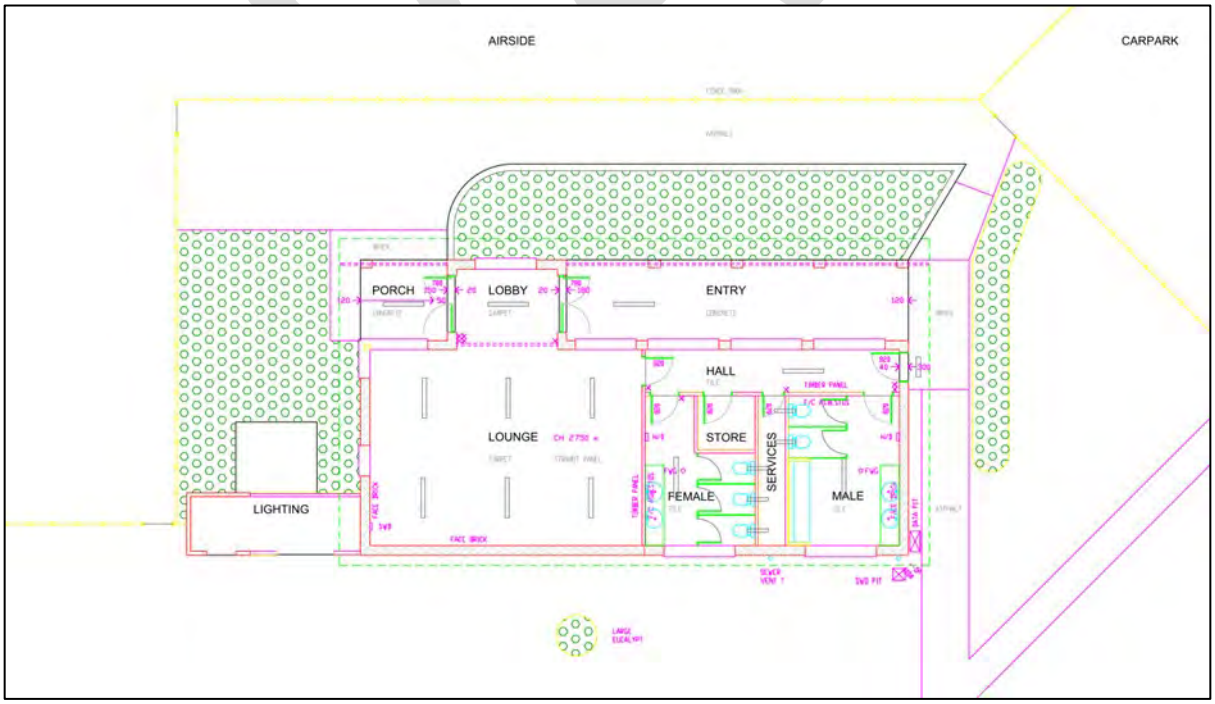


Figure 39: Existing Terminal Building - Internal Plan

The terminal building is in good condition, and it features a main lounge space, toilets, outside space, connection with apron and dedicated car parking. However, it is deemed too small to allow the operations of a fully loaded Bombardier Dash 8 Q400. Hence, a renovation / expansion work would be required, in order to allow for the operation of RPT services. As an alternative, or in the medium to long-term, a new purpose-built terminal site may be required to accommodate a future RPT service.

Recommendation: Prepare the planning and design process for the refurbishment and renovation of the existing terminal or the establishment of a new terminal site to accommodate a future RPT service.

10.9. Security Requirements

Currently, part of the airfield is secured by a 1.2 m chain-link fencing with lockable gate access.

However, in order to allow for the start of RPT services, there is need to improve the airport's security requirement, increasing the level to Tier 2 or Tier 3 airport. This will imply the construction of a completely secured and enclosed airport border fence, together with security gates. The passenger terminal will need to have security screening machines, for the security checks on departing passengers and luggage.

Recommendation: Prepare the planning and design process for the security upgrade works needed for the commencements of RPT services.

10.10. Airspace Protection Surfaces

As a certified aerodrome, Ballarat Airport has to monitor and control intrusions into the Obstacle Limitation Surface (OLS) as defined by the airport's OLS chart. An annual survey provides obstacle data that is used as part of the vegetation management plan to trim trees.

An example of the survey results is shown in the following Figure 40.

Photograph 11 – from 18 Take-Off End

2.1.6 31 Take-Off End

The Runway 31 TODA gradient has increase from 1.2% to 1.36% due to vegetation growth. A hawthorn bush infringes the transitional surface.

	OBSERVED NON-COMPLIANCE	SUGGESTED CORRECTIVE ACTION
9	Obstacle 2 at the 31 take-off end obstructs the OLS and is therefore not compliant with MOS Section 7.01 (1)(a).	Obstacle should be lopped or removed. If lopping or removal is not possible, the obstacle must be reported to CASA and a NOTAM published, identifying the obstacles to pilots.

Figure 40: Example of Annual Obstacle Survey

Recommendation: Confirm a suitable clearance buffer is in place to reduce the frequency of annual trimming the same trees.
Recommendation: Future development of the airport must be assessed against the OLS chart to ensure it does not intrude into the airspace protection surfaces.

10.11. Environmental & Heritage Sites

As outlined in Section 3.5, Ballarat Airport has been found to contain the following environmental and heritage sites, values or overlays:

- Protected flora and fauna
- Victorian Heritage Register (VHR H2113)
- Heritage Overlay HO190 – Former Ballarat RAAF Base
- Aboriginal Places (four Aboriginal places were identified during the Aboriginal Cultural Heritage Assessment conducted for the Ballarat West Employment Zone by Biosis Research in October 2010).

Recommendations: Before any development on the airport, the outcomes and recommendations of the previous flora and fauna studies and Aboriginal Cultural Heritage Assessment, as well as the provisions associated with the Victorian Heritage Register and Heritage Overlay H0190 should be carefully reviewed and considered. Further investigations and possibly approvals may be required before development can proceed on some parts of the airport site.

11. Airport Land Use Plan

This section discusses the land use plan for the airport including the precincts and guidelines to be considered.

11.1. Land Use Overview

The land use plan forms the basis of the Master Plan for future uses and outlines the precincts and development objectives within those precincts. The land use plan assists in planning for the future use of the airport and is based on the previous Master Plan, stakeholder consultation and further analysis. There are six (6) precincts identified for Ballarat Airport for future planning purposes:

- Airfield (AF)
- Airport Core (AC)
- Southern General Aviation Precinct Expansion (GAE)
- Future Passenger Terminal and Apron Area (FPT
- North-Eest Development Precinct (NW)
- BWEZ Aviation Interface (AI)

It is noted that the number of precincts has been condensed from the previous Master Plan. A number of the previous precincts have been combined where they have the same planning objectives and create a more succinct land use plan. They also account for new information and the new direction Ballarat Airport aims to achieve as set out in this document.

The following sections highlight the different characteristics and planning objectives of the precincts.

11.2. Land Use Precincts

The proposed Land Use Precincts Plan is attached in Appendix F. This forms the basis of future use and development on the site. Future land use on the airport should align with the Land Use Precincts Plan, General Land Use Guidelines and the Planning and Heritage Controls outlined in this section.

11.2.1 Precinct AF: Airfield

The precinct contains the two bitumen runways (18/36 and 05/23) and associated taxiways, making it the most critical precinct for the airport. Runway 18/36 is a Code 3 instrument non-precision approach runway and must be protected to at least 280m (runway strip width (RSW)). Runway 05/23 is a Code 3 non-instrument runway and must be protected at least 90m (RSW). Both runways are correctly marked with gable markers located 90m wide. Runway 03/31 is not a feature of this precinct as it is planned to be decommissioned as part of development of the north-west precinct.

The precinct width is significantly larger than the runway width to include the current main taxiways as well as reserve space for other connecting Code B and Code C taxiways which is discussed further in Section 12.6.

11.2.2 Precinct AC: Airport Core

The Airport Core Precinct comprises Precincts A3, A4, A5, A6, B2 and the northern half of A7 from the previous Master Plan combined into one precinct. This precinct encompasses all the core aviation business and support facilities.

The area has 15 hangers, two apron areas, taxi lanes, taxiways, an air museum, parking and office buildings for the airport operators. The site is used by long-term tenants and local aviation businesses. The site is planned to remain relatively unchanged unless the need to establish a temporary RPT location is determined. This would result in an upgrade to the terminal building and potential extension to the main apron which is discussed further in Section 12.2.

The addition of Precinct B2 from the previous Master Plan is for the provision of a potential short-term accommodation site which was highlighted in Section 8.3.1 as a recommendation based off the MCA for commercial opportunities.

11.2.3 Precinct GAE: Southern General Aviation Precinct Expansion

The Southern General Aviation Precinct Expansion Precinct is the southern half of A7 from the previous Master Plan. This location is ideal for the expansion of GA activities and involves the development of hangers, aprons, taxilanes, a taxiway and utilities. The area will only facilitate Code A and B aircraft activities. A new access road is a feature of this precinct connecting Gladys Way to Airport Road via the most eastern road perpendicular to Fairbairn Street, which was planned in the previous Master Plan. The facility development plan for this precinct is discussed in Section 12.3.

As per the previous Master Plan, the area currently has a maintenance depot utilising former WW2 buildings located in the south-west corner of the precinct. Previous heritage advice indicated that retention of the building is encouraged but not required (subject to heritage approval). When the demand results in the need for this land to be developed the huts may need to be used or relocated into the community side of the airport.

11.2.4 Precinct FPT: Future Passenger Terminal and Apron Area

The Future Passenger Terminal and Apron Area Precinct is planned for the same area as the previous Master Plan (A8). The land is ideal for development to accommodate RPT services for Ballarat and other larger aircraft activities. It involves a terminal building, carpark, Code C taxiways and an apron area that can accommodate two Code C aircraft. There is land available for an apron extension to accommodate a third Code C aircraft if required in the future.

The facility development plan for this precinct is discussed in Section 12.5.

11.2.5 Precinct NW: North-West Development Precinct

The North-West Development Precinct was Precincts A9, A10 and part of A1 in the previous Master Plan. The significant change is the decommissioning of the grass Runway 13/31 to allow for light industrial and some aviation-related development on the site.

Aviation development including Code B and Code C hangers and aprons, and a Code B taxiway are planned to front onto Runway 18/36 and Runway 05/23. This allows approximately 43 hectares for non-aviation related development. However, this land must take into account the OLS which buildings and structures must not intrude into.

Further flora and fauna study would have to be conducted before development of this precinct as the previous Biosis study identified this area had the habitat of endangered species which was discussed in Section 3.5.1.

Recommendation: Complete further flora and fauna study before decommissioning Runway 13/31 to determine if endangered species are located on the site and the impacts to development if any.

11.2.6 Precinct AI: BWEZ Aviation Interface Sites

The BWEZ Aviation Interface Sites Precinct is Precinct A12 from the previous Master Plan with some additional land south of Airport Road. The additional land south of Airport Road is a site that an airport tenant is developing as a mixed-use facility. It will require a Code C apron and taxiway to connect it to Runway 18/36. There is a possible opportunity for this site to be used as an emergency service hub or interim passenger service terminal.

The area north of Airport Road follows the previous Master Plan in that the site is on BWEZ land and part of its Master Plan. The lots are reserved for aviation-related businesses and have airside access. Most of the lots are still available and careful planning and control will need to be established between the owner of the land and the Council to ensure they comply with aviation regulations and OLS requirements considering the closeness to Runway 18/36.

Recommendation: Ensure that the planning and design of development in Precinct AI: BWEZ Aviation Interface Sites is undertaken in accordance with MOS 139.

11.3. General Land Use Guidelines

The use and development of the precincts should comply with the general land use guidelines which are below:

- Future use and development must comply with the Master Plan and be compatible with ongoing airport operations.
- Land should be reserved for its designated use in accordance with the Land Use Precincts Plan and associated guidelines.
- A detailed precinct development plan should be prepared prior to development in any individual precinct.
- Environmental and heritage constraints need to be confirmed and managed.
- Ensure that appropriate utility services are provided for new development.
- Ensure that industrial activities do not produce air emissions that are likely to impact on aviation activities.

- Ensure that building lighting does not impact on aviation operations.
- Ensure that landscaping is not bird-attracting.
- Ensure that buildings do not exceed the heights specified in the Obstacle Limitation Surfaces (OLS) chart that will impact on flight paths or airport operations.
- Ensure that land uses are not sensitive to aircraft noise having regard to the ANEF contours.
- Ensure that convenient, safe and efficient vehicle access is provided within and to the site.

11.4. Heritage Controls

As highlighted in Section 3.5, the entire Ballarat Airport site has heritage controls over it (both Victorian Heritage Register and Planning Scheme Heritage Overlay). Stakeholders have advised that these controls delay and restrict development on the airport site.

There are only specific areas of the airport site where there are existing WW2 buildings, and significant areas where there are no such buildings, including the North-West Development Precinct. It would be beneficial for the Council to seek a review of heritage controls to limit their coverage to areas where there are existing heritage buildings, to reduce heritage restrictions or allow for exemptions for appropriate development in accordance with this Master Plan. This will assist in facilitating development of the airport in accordance with the vision and objectives of this Master Plan.

Recommendation: Seek a review of the existing heritage controls to reduce inappropriate development restrictions on the airport site.

12. Facilities Development Plan

This section describes the new facilities, both landside and airside, which are planned for Ballarat Airport over the 20-year Master Plan period. It describes the required upgrades to the existing infrastructure which are needed to facilitate the future growth and development of the airport.

The main developments and upgrades, which are shown in Figure 41 (and Appendix G), are presented in the following list.

1. Upgrading of Runway 18/38
2. Refurbishment of Existing Aircraft Apron and Airport Terminal Building
3. North-West Development Precinct
4. Southern General Aviation Precinct Expansion
5. Airport Security Upgrade
6. Future Passenger Terminal and Apron Area
7. Construction of Replica Bellman Hangar
8. Runway 18/36 Parallel Taxiway
9. Services Infrastructure Upgrades
10. Runway 18/36 Starter extension

As previously stated, the actual implementation and timing of proposed developments and upgrades will depend on demand triggers, an assessment of forecast market conditions, commercial discussions, and approval processes. Council should liaise closely with aviation operators and other key stakeholders to discuss the timing and priority of investments. Commercial developments will be aligned with market demand and opportunities which may arise and would generally be the subject of a detailed business case.

The review of the Master Plan every five years will enable Council to periodically reassess project priorities and timeframes, thereby validating forecasts and development requirements.

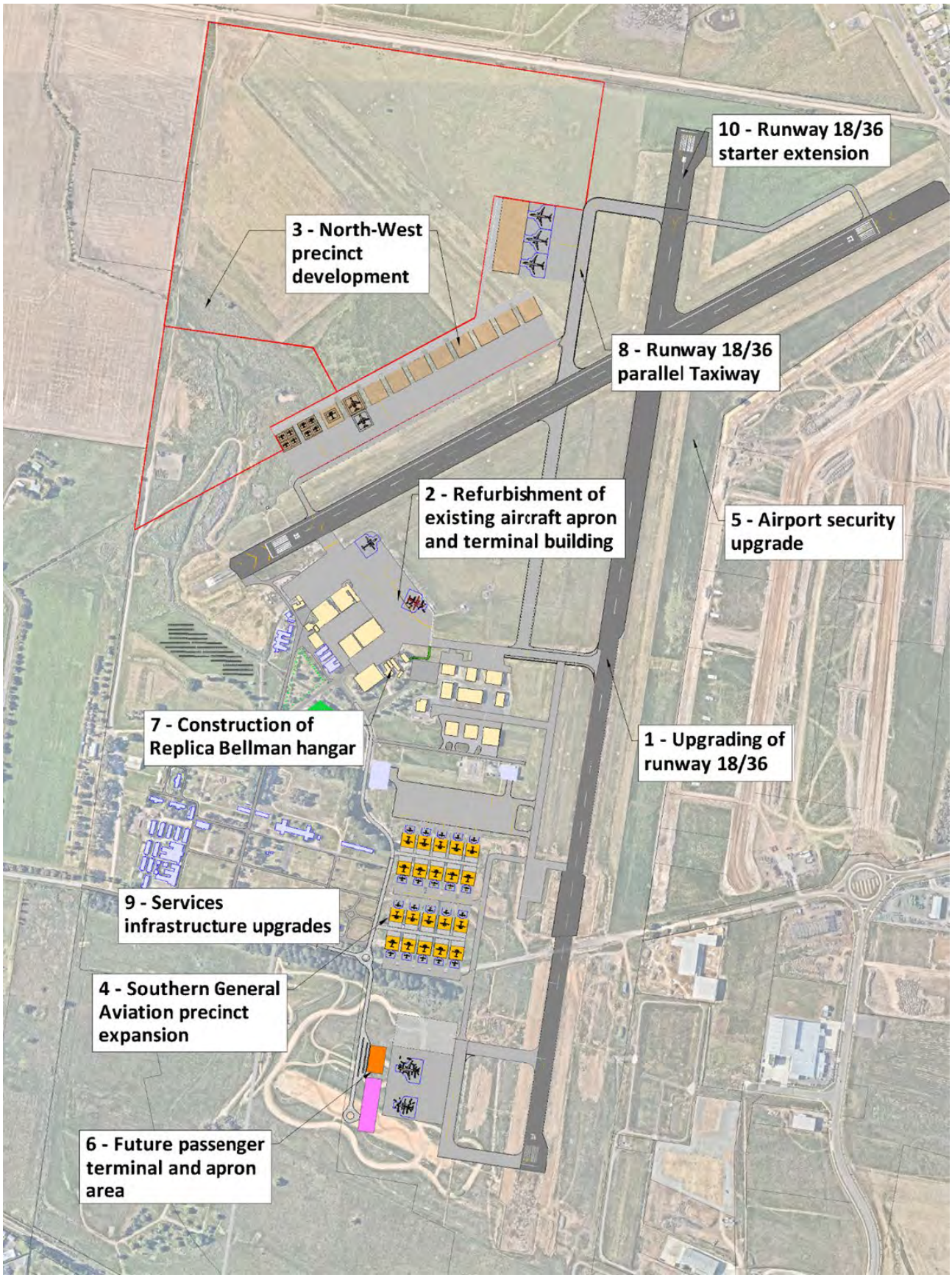


Figure 41: Overall Facilities Development Plan

12.1. Upgrading of Runway 18/36

The existing 1,250 metre section of the recently extended Runway 18/36 at Ballarat Airport is at the end of its operational life and requires upgrading. Figure 42 show the runway section which needs to undergo the upgrading work.

Rationale

The current runway strength is insufficient to accommodate aircraft heavier than 5700kg. Without these works being completed, the extended section of the runway is largely unusable, and the benefits of the $9 million Stage 1 project cannot be fully realised. A fully upgraded 1900 metre runway will accommodate aircraft up to Dash-8 Q400 category aircraft unrestricted and the operation of medium jet category (Boeing 737 and Airbus A320) aircraft on a concession basis. This would permit the commencement of scheduled airline services into Ballarat at some point in the future.

Additionally, Large Aerial Tankers (LATs) used for firefighting would be able to be deployed from Ballarat and undergo maintenance while based at the airport.

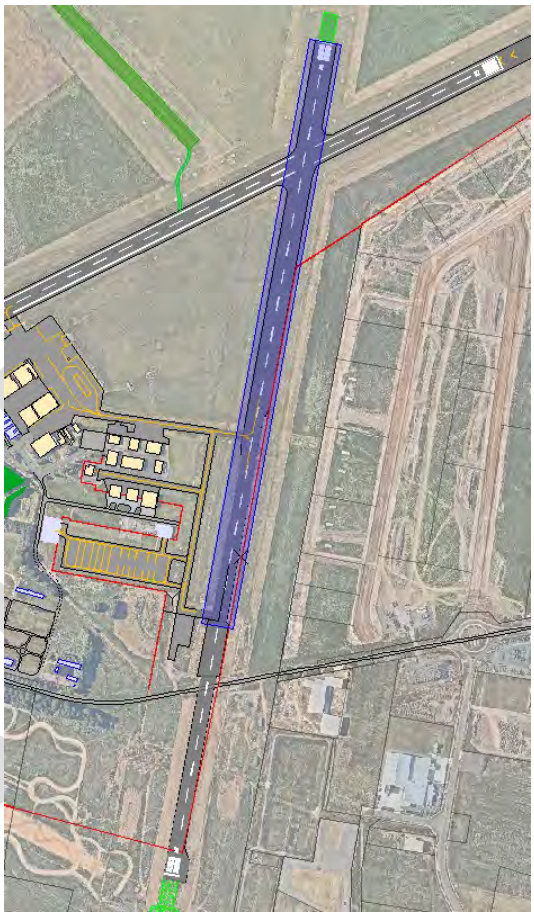


Figure 42: Strength Upgrade Work Runway 18/36

Planned infrastructure developments/upgrades

The 1,250 m long section of the existing runway needs to undergo civil engineering work to renovate its surface and increase its load bearing strength, in order to achieve a PCN value compatible with regular operations of aircraft up to the Dash 8 Q400 and concessions-based operations of aircraft up to Boeing 737 MAX8 or Airbus A320.

As stated in Section 9.1.3, the replacement of the existing 1250 metre section of Runway 18/36 is the most critical of all the development projects.

12.2. Refurbishment of Existing Aircraft Apron and Airport Terminal Building

In order to allow for the provisioning of Regular Passenger Transport (RPT) flights, the need may arise for the refurbishment of the existing airport terminal building, as well as the existing aircraft apron, in advance of construction of a new terminal and apron area (discussed in Section 12.5).

Rationale

The operations of RPT utilising the existing airport infrastructure are expected to be of temporary nature, and last until the new commercial passenger terminal, apron and accompanying works will be finished in the southern part of the airport. Once the new terminal will be in operation, the existing terminal building and apron will not be used anymore for the servicing of RPT.

Planned infrastructure developments/upgrades

1. Aircraft Apron

The existing aircraft apron does not currently allow for safe RPT parking, with the required clearances from CASA, nor the servicing of Code C aircraft. For the design of the first RPT operations at the airport, the Bombardier Dash 8 Q400 has been used as the reference design aircraft.

With regards to the aircraft apron, two possible design options have been identified, in order to create parking and servicing space for the aircraft. Figure 43 shows the two identified design solutions.

Option A – Single aircraft bay

In this option, a single aircraft parking bay, with power-in/out manoeuvring, would be created on the existing apron. Such bay would be capable of hosting aircraft up to the Bombardier Dash 8 Q400 (wingspan: 28.4 m, length: 32.8 m). For the creation of the parking spot, a section of a taxilane and some existing, smaller parking space will need to be removed. However, in such option there is no need for the extension of the paved area of the apron. A dedicated walk-in/walk-out path would be marked on the ground, to allow safe and confined passenger access to and from the terminal building.

Option B – Dual aircraft bay

In this options, two aircraft bays are created, with power-in/out manoeuvring. Both bays would be able to accommodate aircraft up to the Bombardier Dash 8 Q400. The bays would be independent, i.e. the operation on one bay will be compliant with a simultaneous operation on the adjacent bay. For the creation of the parking spot, a section of a taxilane and some existing, smaller parking space will need to be removed. For such development, an extension of the parking apron will need to be constructed, for a total of approximately 4,300 sqm. A dedicated walk-in/walk-out path would be marked on the ground, to allow safe and confined passenger access to and from the terminal building.

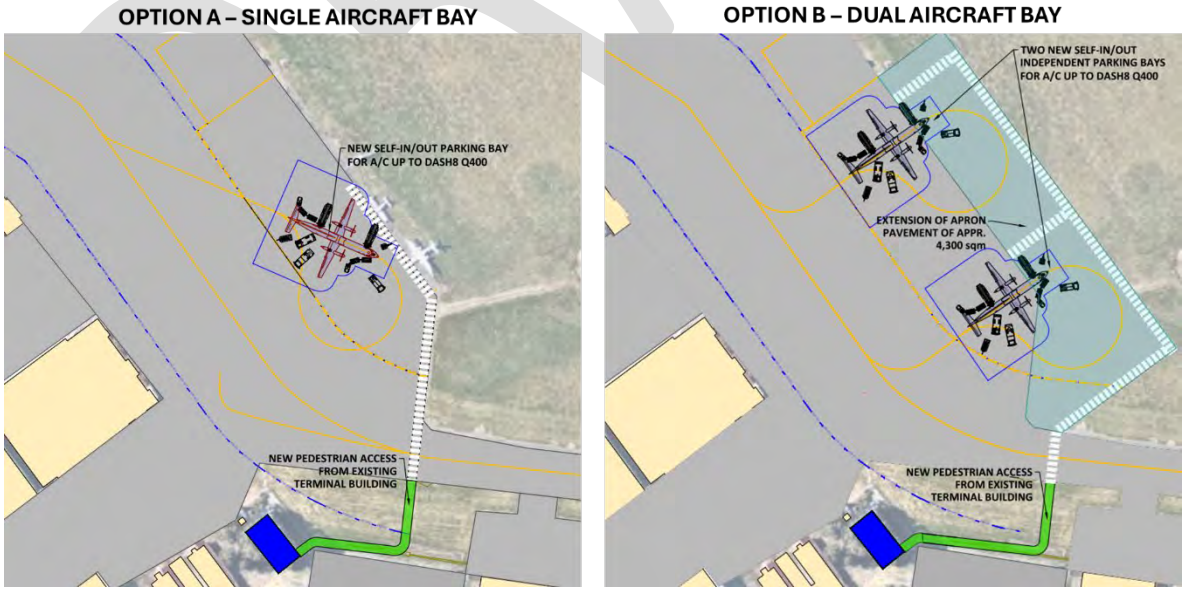


Figure 43: Existing Apron Area Redesign Concept Plan, Option A (left) and Option B (right)

2. Terminal Building

The existing terminal building (discussed in Section 10.8) is structurally sound, but needs updating and repurposing to serve as a temporary passenger handling facility.

The main internal lounge consists of a room approximately 8.1 m x 5.8 m, for a total of approximately 47.0 sqm. In order to estimate the amount of waiting space needed for a departing flight, IATA, in the ADRM (Airport Development Reference Manual) Version 12, suggests a minimum value for the waiting space equal to 1.8 sqm/pax for seated passengers, and 1.2 sqm/pax for standing passengers. Considering that the Dash 8 Q400 has a maximum capacity of 78 passengers, this leads to a minimum waiting space of between 94 sqm and 140 sqm.

Moreover, the provision of at least a security screening machine, as well as basing services to passengers and baggage handling capabilities, imply that an expansion of the terminal building might be needed.

When the new dedicated passenger terminal building will be in operation, the existing and refurbished terminal building could serve as the Council offices at the Airport or be leased to an aviation tenant.

12.3. North-West Development Precinct

The first project focusses on the north-western part of the airport site, where the current grass Runway 13/31 and taxiway Charlie are located. The large 40 ha area available is currently not utilised (apart from the presence of the grass runway), and hence it has potential for the development of both aviation, as well as non-aviation activities.

The general plan, represented in Figure 44, will involve the decommissioning of the existing grass runway, together with the development of a general aviation apron, the provision of the potential apron for Code C aircraft, as well as the creation of lots to be sold for the future development of light industrial units, as recommended in Section 8.3.1 (MCA Overall Score: 3.9):

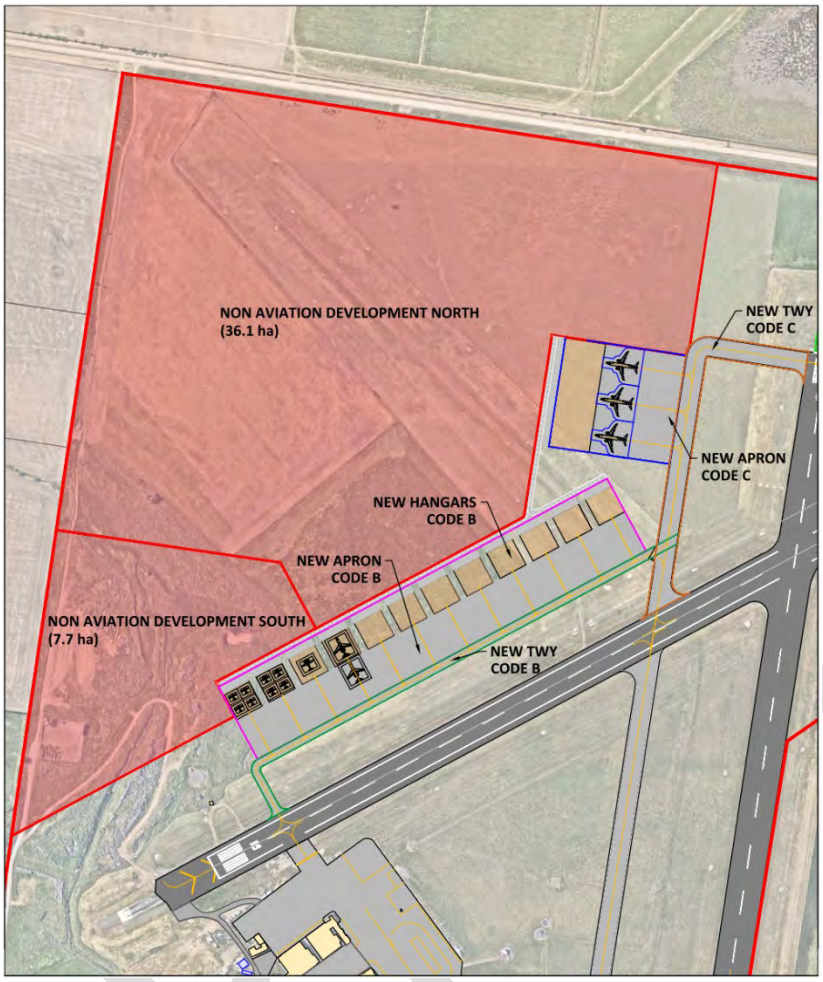


Figure 44: North-West Precinct Concept Plan

Rationale

The City of Ballarat and its surroundings have a limited supply of land available for industrial development. There has been a significant demand for smaller land plots, with prices reaching as high as $600 per sqm in suburbs close by to the airport. Although the BWEZ development is providing larger industrial opportunities, there is demand for land for smaller scale industrial developments.

The large area in the north-west of the airport is approximately 40 ha. The only development present in the plot of land consists of the 568 m long grass runway, and the short connection taxiway to Runway 05/23. The runway is used infrequently and requires constant maintenance.

Hence, the decommissioning of Runway 13/31 and the development and selling (or long-term leasing) of freehold lots on such site could greatly assist in funding the other planned airport infrastructure works.

Planned infrastructure developments/upgrades

In order to proceed with the development of the north-west area, the existing grass Runway 13/31 needs to be decommissioned. Given the nature of the runway and taxiway, it is expected that the decommissioning works will be minor.

The development of the area will then consist of an aviation development adjacent to the airside, as well as a non-aviation development area.

For the aviation development, a new general aviation apron would be developed, in order to allow the expansion of the aviation activities on the airport. In order to allow access to and from the apron, a new taxiway for aircraft up to Code B would be built. The start of the taxiway would be approximately in front of the existing taxiway Bravo; the taxiway would run parallel to the new apron, and merge with the new parallel taxiway to Runway 18/36.

The preliminary concept is that the general aviation apron would consist of up to 12 hangars, each featuring the following elements:

- Outside apron space, approximately 36 m x 55 m (1,980 sqm), used to either park aircraft outside or to allow the entry and exit manoeuvres in and out of the hangar.
- Hangar structure, approximately 36 m x 36 m (1,296 sqm), where airplanes can be safely stored indoors.
- Landside parking space in front of the hangar, approximately 36 m x 10 m (360 sqm), to allow for cars and service vehicles to park in front of each hangar.

Such hangars would be able to host a variety of general aviation aircraft, such as single business jets (up to approximately Gulfstream GST IV-SP, wingspan 23.7 m, length 26.9 m), or multiple smaller general aviation aircraft, such as up to four Cessna 172 (wingspan 10.9 m, length 8.2 m) or Beechcraft Baron 58 (wingspan 11.5 m, length 9.1 m).

All the hangars would be accessible by a dual lane, two-way road. All of this land area would remain under City of Ballarat ownership and be subject to lease arrangements with tenants.

The concept plan also includes the possibility for the development of a smaller apron, which could host aircraft up to Code C. Such apron would feature similar elements to the Code B hangar development:

- Single outside apron space, approximately 135 m x 63.5 m (8,573 sqm), used to either park aircraft outside or to allow the entry and exit manoeuvres in and out of the hangar.
- Single hangar structure, approximately 135 m x 50 m (6,750 sqm), where airplanes can be safely stored indoors.
- Landside parking space in front of the hangar, approximately 135 m x 10 m (1,350 sqm), to allow for cars and service vehicles to park in front of each hangar.

Such hangar space could be used either to store larger business jets, or to allow the presence of a aircraft maintenance facility based at the airport.

The remaining land has been divided into two portions:

- Non-aviation development north (main portion).
- Non-aviation development south (secondary portion).

The City of Ballarat would need to amend the zoning of the area (as required), prepare a development plan and complete the necessary civil works for the sale of construction-ready, freehold land to commercial

property developers. The main non-aviation development area consists of the north part of the site, and accounts for approximately 36 ha. The southern corner is expected to be more problematic to be prepared, given its water catchment characteristics, as well as the potential presence of some past contamination. The smaller, southern plot of land accounts for approximately 8 ha of land.

12.4. Southern General Aviation Precinct Expansion

Between the southern part of the Rex apron and the existing Airport Road there is an unused area of land which, given its position, has potential to be utilised as an expansion to the general aviation facilities in the area. Figure 45 shows the concept plan for the development of a Southern General Aviation Precinct within such designated area, comprised of aircraft hangars and aprons.

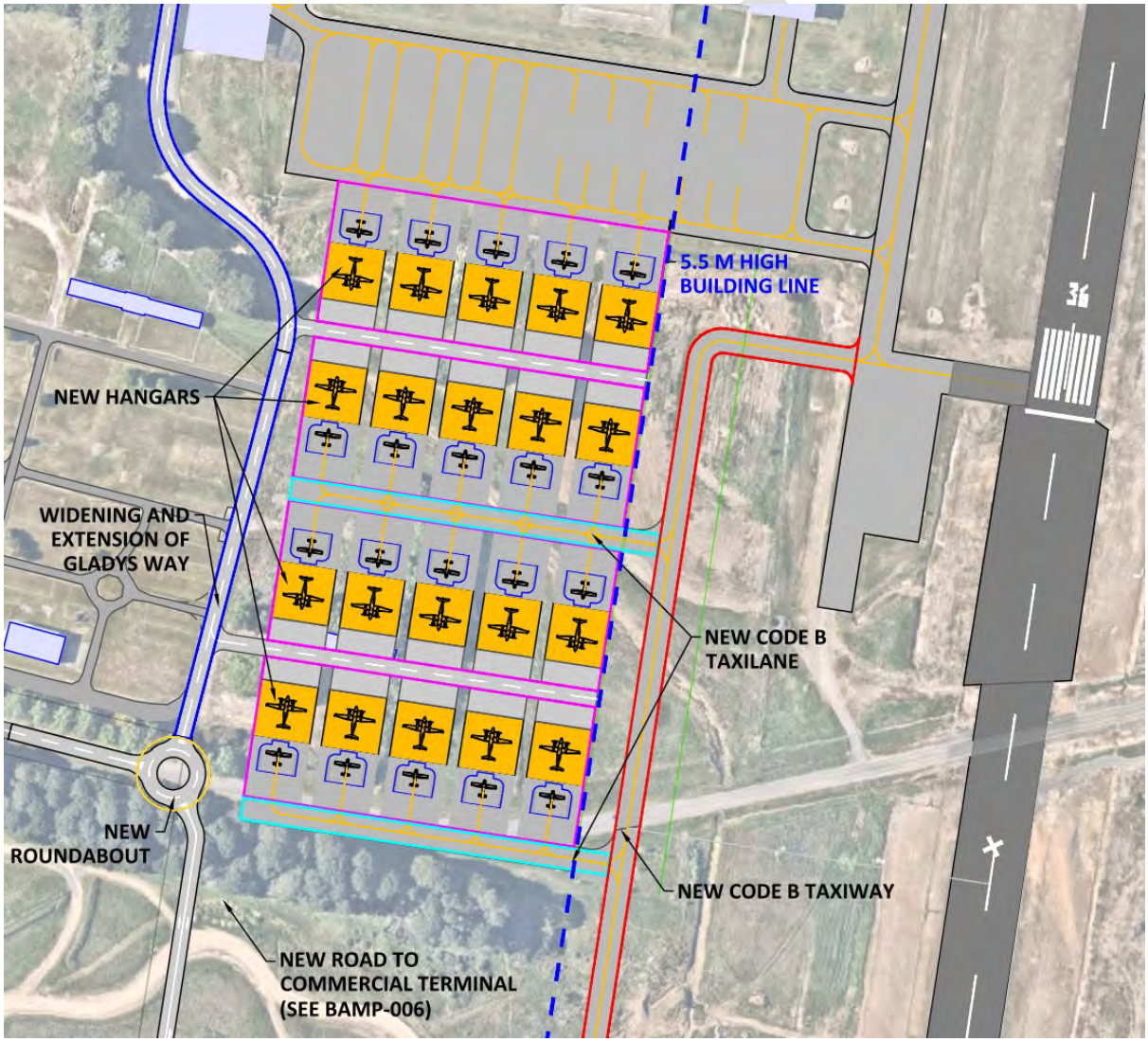


Figure 45: Southern General Aviation Precinct Expansion Concept Plan

Rationale

This large parcel of land, with a size of approximately 5 ha and located very close to the extension of Runway 18/36 and to existing taxiway Delta, is currently undeveloped. It's location, together with its proximity to the existing private hangars and Rex apron, make this plot the ideal candidate for the expansion of the General Aviation area of the airport. The airport has experienced a significant demand for aircraft storage. Capturing such demand will allow Ballarat Airport to increase its commercial and revenue opportunities. In fact, it is

estimated that each leased hangar site could generate between $10 and $20 dollars per square metre in ground lease returns. Moreover, the Rex Group have expressed interest in constructing a hangar on such site; the airline group could serve as an anchor tenant, able to attract new costumers and investors.

Finally, the road work planned with the new General Aviation area would create a new access point to the airport, connecting with a roundabout at the intersection of Airport Road and an upgraded Gladys Way, as well as with the new access road to the new passenger terminal area to the south. The new road would also serve as a quick and direct connection between the northern (existing) and southern (new) precincts.

Planned infrastructure developments/upgrades

The site would be developed starting from the north, and moving towards the south. The development has been planned in a sequential and rational manner. In this way, new hangar sites can be easily planned for and built according to the market's needs and requests.

The southern general aviation apron would consist of up to 20 hangars, with a grid layout consisting of up to 5 hangars per row, and 4 rows in total. According to the proposed concept plan, each hangar block features the following elements:

- Outside apron space, approximately 25 m x 15 m (375 sqm), used to either park aircraft outside or to allow the entry and exit manoeuvres in and out of the hangar.
- Hangar structure, approximately 25 m x 25 m (625 sqm), where airplanes can be safely stored indoors.
- Landside parking space in front of the hangar, approximately 25 m x 10 m (250 sqm), to allow for cars and service vehicles to park in front of each hangar.

Such hangars would be able to host a variety of general aviation aircraft, such as up the Cessna 172 (wingspan 10.9 m, length 8.2 m), Piper PSA28 (wingspan 10,8 m, length 7,3 m), Beechcraft King Air 350 (wingspan 17.7 m, length 14.2 m). Due to the transitional surface of Runway 18/36, the maximum height of the hangars located closer to such runway (the hangars towards the east of the development site) will be limited to 5.5 m.

All the hangars will be accessible by a dual lane, two-way road. The two roads will connect to the new north-south road between Gladys Way and the existing Airport Road.

On the airside, all the apron areas of the hangars would face onto common Code B taxilanes, which in turn will connect to a new Code B taxiway, which runs parallel to Runway 18/36. Towards the landside, focus will be put on the creation of a secured and aesthetic border with the existing airport community area.

In order to allow for the hangar development, the plot of land firstly needs to be remediated, stabilised and levelled in preparation for the civil construction phase. Moreover, the presence of an existing open drainage channel would require the need for the installation of underground drainage pipes. Furthermore, the southern part of the plot of land naturally acts as a water catchment area during rain events. Its suitability for construction will need to be further assessed, before proceeding with the development of southern-most facing rows of hangars.

Regarding the road network, the 2013 Airport Master Plan identified a new entrance at the eastern end of the Community Section to meet up with an extended Gladys Way. Hence, with the proposed alignment of Liberator Drive not intersecting Airport Road at the Airport entrance, a new gateway into the Airport should be

designed. This new, easterly preferred airport access road will serve as a border with the Community Section and provide for safer vehicle movements in and out of the airport.

The first planned work is an upgrade and extension of the existing Gladys Way. Secondly, a new portion of road, approximately 250 m long, will be built as an expansion of Gladys Way. Such road will pass to the west of the new hangars in the southern general aviation development areas, and will connect, via a new roundabout, to the existing Airport Road. The section of Airport Road to the east of the roundabout will be discontinued, upon the opening of the runway extension project. Hence, the roundabout will connect the following roads:

- existing western part of Airport Road;
- new extended Gladys Way;
- new access road to the passenger terminal area.

12.5. Airport Security Upgrade

The introduction of RPT services would require a fully secured airport perimeter.

Rationale

The airport perimeter is currently not secured, and therefore it would not permit the operation of scheduled airline services. The ongoing development of the BWEZ area, which borders with the eastern side of the airport, provides an opportunity to require new tenants to construct airport security-grade fencing which will reduce the extent of fencing to be installed by City of Ballarat.

Planned infrastructure developments/upgrades

The planned work involves the improvement of the airport security, upgrading the airport to either Tier 2 or Tier 3 status, in preparation for the commencement of scheduled airlines services.

The upgrade work will require:

- full airport perimeter bordered with security fencing;
- security controlled access points to the airside;
- passenger and baggage screening services activated prior to the expected introduction of Aircraft exceeding the 20-tonne regulatory limit.

12.6. Future Passenger Terminal and Apron Area

In order to facilitate RPT services to and from Ballarat Airport, a new terminal building, together with an aircraft apron, car parking and other support facilities would be required. This Master Plan (as did the previous Master Plan) designates plans the construction of a new passenger terminal facility in the southern part of the airport, to the west of the threshold of Runway 36. Figure 46 shows the preliminary concept plan for the passenger terminal site.

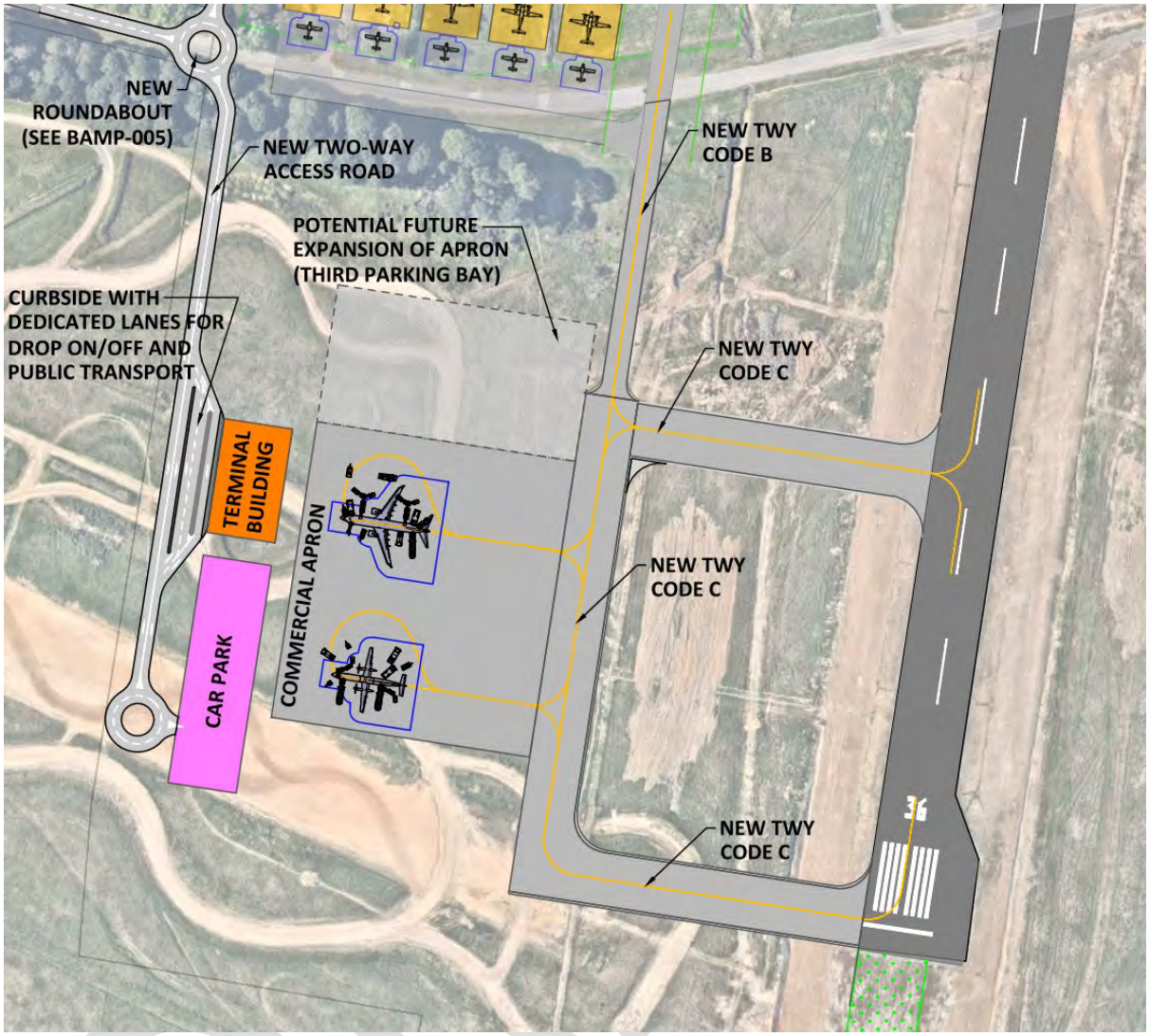


Figure 46: Passenger Terminal Site Concept Plan

Rationale

The existing terminal building, as well as adjacent apron, are not adequate for the provision of long-term RPT services. Moreover, the existing airport sites are not fit for purpose, have poor road access and are affected by heritage overlay restrictions. Finally, the pavement strength in the existing apron area would not be sufficient for the regular movement of large turboprop / smaller passenger jet aircraft. Hence, it is considered necessary to plan for the development of a new dedicated area, both for the landside terminal building, as well as for the airside apron.

An adequate plot of land has been identified in the southern part of the airport, south of the existing Airport Road and west of the extension of Runway 18/36. The area is well connected both on the landside, via the proposed new roundabout tying Airport Road, Gladys Way and the new road going to the terminal building, as well as airside, given its proximity to the threshold of Runway 36, the main and longest runway of the airport. Moreover, the size of the site leaves plenty of space for the future potential expansion of both the landside and airside facilities.

Planned infrastructure developments/upgrades

The following main infrastructure would be built, in order to allow the safe and efficient handling of the RPT flights arriving and departing from the airport:

- Terminal building
- Aircraft apron and connecting taxiways
- Car park and access roads.

1. Terminal building

The new terminal building is expected to be up to 1,500 sqm, with preliminary dimensions of 50 m x 30 m. The size of the terminal has been estimated evaluating similar passenger terminals for airports comparable to Ballarat.

The terminal building would feature a single level, with the following basic, high level services:

- Curbside, for streamlined access to the terminal both via public, as well as private transport
- Entrance hall
- Check-in area
- Security controls
- 2 gates
- Arrival halls
- Baggage handling facilities.

An indicative layout for a terminal building of a regional airport is presented in the following Figure 47.

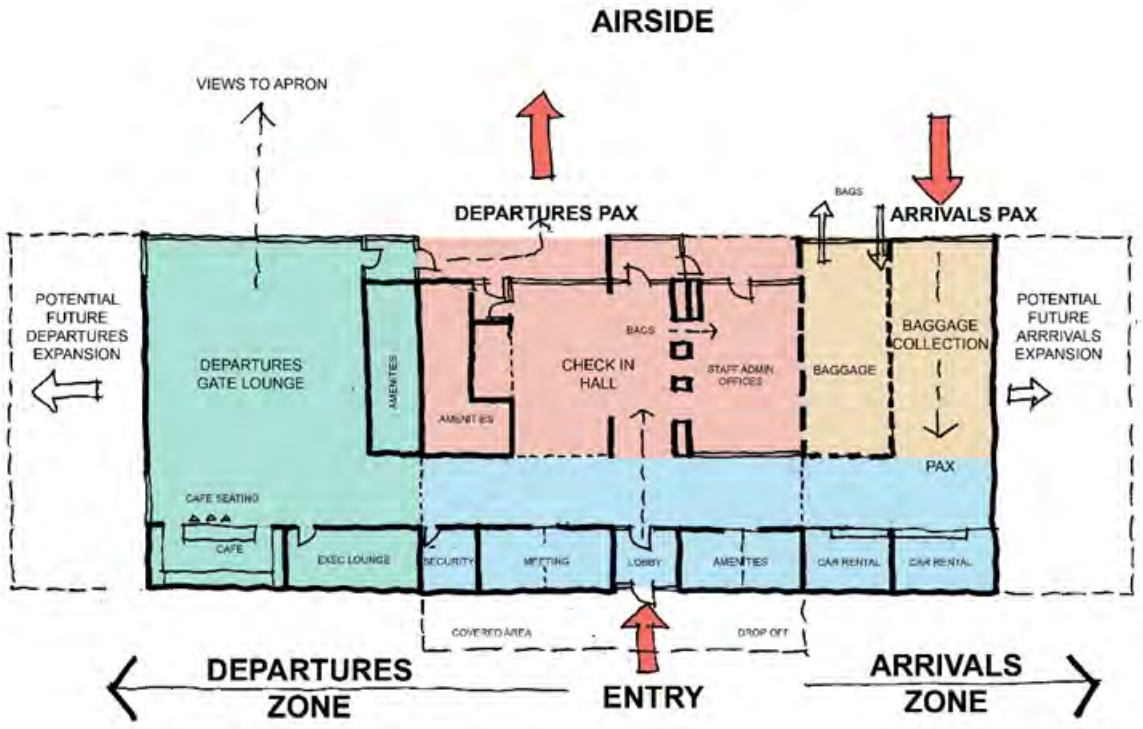


Figure 47: Indicative Terminal Building Layout for Regional Airports (Source: Noxon Giffen Architects)

The linear layout of the terminal will allow for a seamless and easy expansion on the north side, should the passenger demand in the future years exceed the original and planned capacity.

2. Aircraft apron and connecting taxiways

The aircraft apron has been designed to accommodate two parking bays, one for aircraft up to the Dash 8 Q400 (Code C), and one for aircraft up to Boeing 737 MAX8 (Code C). Both parking bays are designed for aircraft power-in/out manoeuvring, with the possibility of having simultaneous, independent movements on the two bays. The apron has been designed in compliance with the MOS (CASA Part 139), in terms of clearances, aircraft manoeuvrability and jet blast considerations. Furthermore, the commercial aircraft apron has plenty of room for potential expansion, both towards the north and the south.

Walk-in/walk out paths would allow passengers to directly board and deboard aircraft to and from the terminal passenger building.

The apron would be connected to the runway via two taxiways. One taxiway connects the southern side of the apron to the threshold of Runway 36; in this manner, aircraft can take advantage of the full length of the runway, without the need to backtrack. The second taxiway connect to Runway 18/36 approximately 200 m north, and will be used by arriving aircraft vacating the runway. A taxiway parallel to the runway will allow the aircraft to reach the two parking bays. All those taxiways are designed to handle full Code C aircraft. The only exception is for the new taxiway, limited to Code B aircraft, which connects the northern end of the apron to the southern end of the new general aviation development area (see Section 12.3).

3. Car park and access roads

A new car park, with an initial capacity for up to 100 cars, is proposed to the south of the main terminal building. As an initial estimate, the car park would be approximately 100 m x 30 m, for a total of 3,000 sqm. The terminal building and carpark would be connected to the new roundabout, linking them to Gladys Way (and hence the northern precincts of the airport), as well as to Airport Road, which connects the airport to the city of Ballarat, passing to the south of the new Runway 36 extension.

The preliminary design of the terminal curbside features the following lanes:

- dedicated lane for public transport buses
- dedicated short stay parking, for quick drop on & drop off of passengers / “kiss&fly”
- dedicated bypass lane of the short stay parking
- dedicated, separate lane for passengers driving directly to the long-term car park.

12.7. Construction of Replica Bellman Hangar

This site, located close to the existing Bellman hangars and with direct apron access, currently houses dilapidated WW2 era huts that are not habitable and beyond repair. The site is ideal for future development of a new hangar. The location of the existing huts would need to be addressed to allow the site to be developed.

To be consistent in design with the neighbouring hangars, and compliant with the heritage overlay, a 30 x 40 metre replica Bellman hangar could be constructed for lease to a commercial tenant or for aircraft storage and managed by Council.

12.8. Runway 18/36 Parallel Taxiway

Currently, neither Runway 18/36, nor Runway 05/23 have a parallel taxiway. Hence, one of the planned infrastructure works would be the development of a new taxiway for aircraft up to Code C, which would run parallel to Runway 18/36, from taxiway Alpha to the threshold of Runway 18. Moreover, there could also be the provision of a taxiway from the threshold of Runway 18 to the threshold of Runway 23 in the future. This extension would be limited for aircraft up to Code B, since full Code C aircraft will not be abe to use the secondary Runway 05/23. Figure 48 show the new planned taxiway segment.

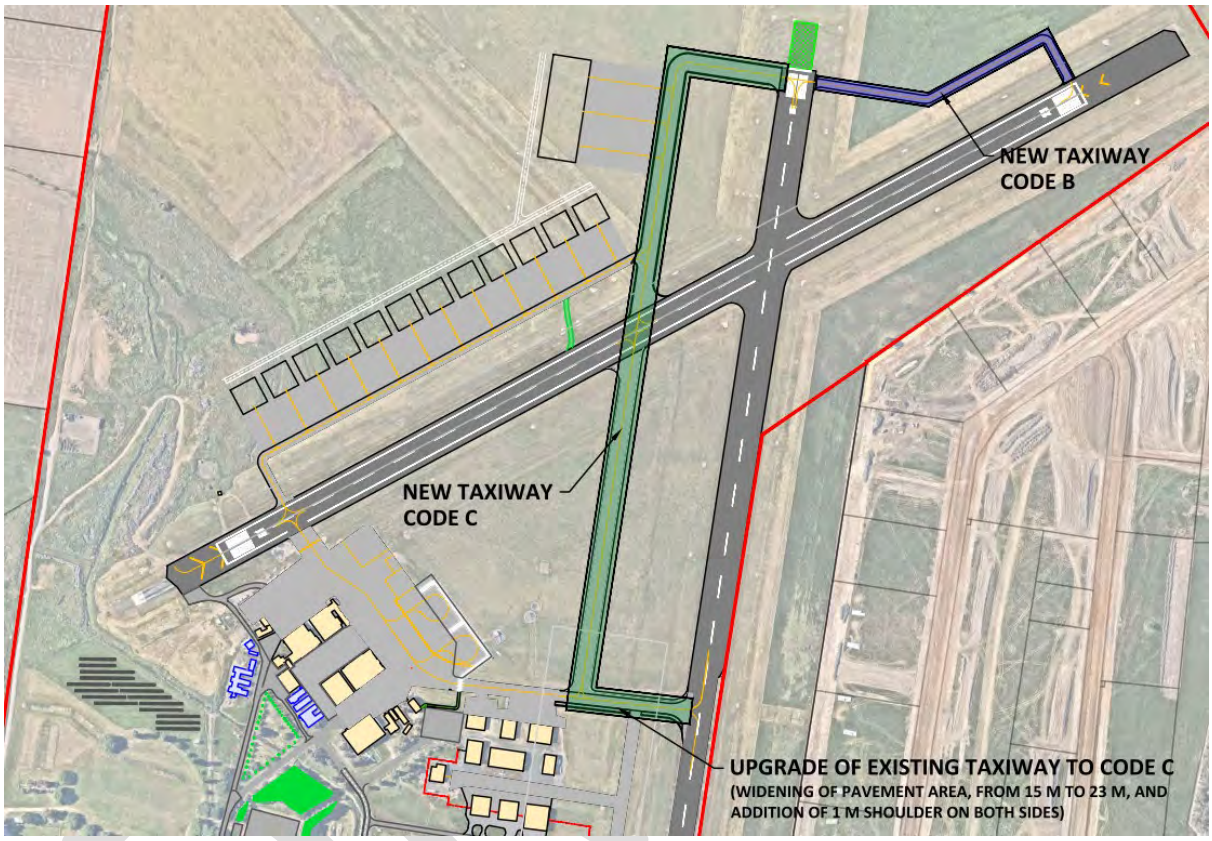


Figure 48: Runway 18/36 Parallel Taxiway Concept Plan

Rationale

The current runway and taxiway layout is does not adequately cater for the high frequency circuit training movements presently carried out at the airport. Due to the lack of parallel and bypass taxiways, aircraft are not able to clear the active runways leading to airspace congestion and increased likelihood of conflict. Accordingly, the aircraft circuit pattern increases in size, meaning more residents can be affected. This is particularly true to the south of the airport. Additionally, when Runway 05/23 is in use, extended taxiing is required from the usual aircraft parking areas, with taxiing on Runway 18/36 and backtracking on Runway 05/23.

Planned infrastructure developments/upgrades

A new taxiway, designed for full Code C aircaft is planned to be built in the section between taxiway Alpha and the threshold of Runway 18. The new taxiway would hence cross Runway 05/23, and would be approximately 1,000 m long. Moreover, strengthening and widening of the first section of taxiway Alpha (from Runway 18/36 to the first general aviation hangars) will allow Code C aircraft to access the new parallel taxiway. Bitumen fill has been placed near the site which could be utilised for base material.

Due to the minimum runway strip requirements and the existing apron and hangars, it is not possible to extend the new parallel taxiways further south. Hence, the flow of Code C aircraft between Runway 18/36 and the new passenger terminal will be as follows:

Runway 36

- Departures: directly on threshold RWY 36 from the RPT apron.
- Arrivals: taxi via the new parallel taxiway, crossing Runway 05/23 and arriving at TWY Alpha; taxi onto RWY 18/36 until exit on the RPT apron.

Runway 18

- Departures taxi from the RPT apron to RWY 18/36; exit at TWY Alpha on the new the new parallel taxiway, crossing Runway 05/23 and entering at the THR of RWY 18.
- Arrivals: exit directly on the RPT apron.

Furthermore, the taxiway could be further extended by approximately 400 m in the section between the threshold of Runway 18 and the threshold of Runway 23, avoiding the need to taxi on the runway and backtrack for aircraft departing from Runway 23 or landing on Runway 05. However, at least in the current Master Plan, this second section of the taxiway is limited to Code B aircraft, since the secondary Runway 05/23 will be mainly used by smaller aircraft.

12.9. Services Infrastructure Upgrades

With ageing infrastructure and increasing demand at the airport, the existing utility services will require upgrading over time.

Certain airport facilities such as lighting are no longer compliant with CASA regulations and will need to be replaced or upgraded. Sewerage is one service that requires upgrading and possible connection to the BWEZ system. Additionally, the repositioning of a retardant basin currently occupying land adjacent to the main runway will be required for development of Precinct GAE.

Recommendation: Further work be undertaken to align and cost future utility requirements to ensure sufficient capital funding is available over the short, medium and long term. This work should consider not only this Master Plan but also the works planned for the Ballarat West Employment Zone.

12.10. Runway 18/36 Starter extension

With the new runway extension project, the total runway length has been increased from 1,250 m to 1,800 m. However, for some of the jet engine aircraft used for regional flights, a 1,800 m long runway imposes limitations on the maximum take-off weight allowable for the aircraft, especially during hot summer days.

The runway cannot be extended further to the south, due to the slope of the terrain. Hence, a potential extension towards the north could be feasible. As a preliminary estimate, and extension of up to 150 m could be built on the north side of the airport. The limiting factor for such work would be the presence of McCartneys Road. The starter extension would also feature a turn-pad, in order for aircraft to take full advantage of the runway length during take-offs from Runway 18.

In Table 13, the approximate values of the maximum take-off weights for the two runway lengths (1,800 m and 1,950 m) are presented, as well as the % increase. Those values are taken from the approximate graphs in the aircraft's Airport Planning Manuals (APMs), considering standard ISA atmospheric conditions and an airport's pressure altitude of 1,000 ft (300 m).

Table 13: MTOW increase with increased runway length

Aircraft	MTOW [tons]	MTOW – 1,800 m RWY [tons]	MTOW – 1,950 m RWY [tons]	% Increase in MTOW
Boeing 737 MAX8	82.6	68	76	12%
Airbus A320-200	78	75	78	4%
Airbus A220-300	67.6	59	60.8	3%

As it can be seen, the greatest benefit of the runway extension project would come from the Boeing 737 MAX8, for which a 12% increase (8 tons) in MTOW could be achieved.

13. Airport Safeguarding Plan

The challenge of finding suitable sites for airports is exacerbated by the scarcity of appropriate land and the difficulty of replacing or expanding existing facilities. Many airports were established long before surrounding urban or township development, and as cities expand and become denser, conflicts between residential and industrial zones and airport operations intensify.

The ability of an airport to function effectively is closely tied to the land use surrounding it. Structures encroaching into flight paths can severely restrict airport operations and impact safety. However other developments also impact an airport's operation and safety. For instance, residential areas near airports often result in noise complaints, potentially leading to curfews or even closures. Similarly, industrial activities producing smoke or other hazards can impede airport use, as can agricultural or wetland developments that attract wildlife, posing a threat to aviation safety. Balancing these competing interests is a complex task for airport planners and policymakers.

As previously outlined in Section 2.3.1 The National Airports Safeguarding Framework (NASF) highlights the principles and guidelines to protect airport operations in Australia. This is further supported by the Australian Airports Association's (AAA) *Planning Around Airports – Safeguarding into the Future* which aids airport operators and planning authorities on how to implement the NASF guidelines.

For Ballarat Airport the key requirement for airport protection is to ensure any development or land use surrounding the airport does not adversely impact the operation of the airport. This is critical concerning the following issues:

- Changes of land use near the airport and under flight paths are not for land uses that may be sensitive to aircraft noise in areas defined by the applicable aircraft noise contours (NASF Guideline A)
- Development proposals near the airport and under flight paths do not conflict with the airport's airspace protection surfaces (NASF Guideline F)

The following sections will discuss these issues in further detail.

13.1. Managing Aircraft Noise

The assessment of aircraft noise impacts is a critical aspect of airport safeguarding, as highlighted in NASF Guideline A: Measures for Managing Impacts of Aircraft Noise. This component of the safeguarding framework is designed to ensure that:

- Sensitive land uses are not located in areas of unacceptable aircraft noise
- The amenity of surrounding developments is not adversely affected by aircraft noise
- Airport operations are protected long term from conflicts due to the encroachment of inappropriate development into noise affected areas.

13.1.1 Australian Noise Exposure Forecast

An integral part of managing aircraft noise is the preparation of an Australian Noise Exposure Forecast (ANEF). An ANEF is a contour map showing the forecast of aircraft noise levels that are expected to exist around an airport in the future. An ANEF chart, once endorsed by Airservices, is the official forecast of future noise exposure around an airport. It constitutes the contours on which planning authorities base their land use controls and is the approved metric across all Australian jurisdictions for statutory land use planning in noise-affected areas around airports.

Recommendations relating to land use within the ANEF contours are contained in Australian Standard AS2021-2015: Acoustics – Aircraft Noise Intrusion – Building Siting and Construction. These recommendations are summarised in Table 14 below. This is a summary only - the Australian Standard should be read for full details of the land use recommendations, and associated notes and conditions.

Table 14: Building Site Acceptability Based on ANEF Zone

(Based on Australian Standard AS 2021-2015 Table 2.1)

Building Type	ANEF Zone of Site		
	Acceptable	Conditional	Unacceptable
House, home unit, flat, caravan park	Less than 20 ANEF	20 to 25 ANEF	Greater than 25 ANEF
Hotel, motel, hostel	Less than 25 ANEF	25 to 30 ANEF	Greater than 30 ANEF
School, university	Less than 20 ANEF	20 to 25 ANEF	Greater than 25 ANEF
Hospital, nursing home	Less than 20 ANEF	20 to 25 ANEF	Greater than 25 ANEF
Public building	Less than 20 ANEF	20 to 30 ANEF	Greater than 30 ANEF
Commercial building	Less than 25 ANEF	25 to 35 ANEF	Greater than 35 ANEF
Light industrial	Less than 30 ANEF	30 to 40 ANEF	Greater than 40 ANEF
Other industrial	Acceptable in all ANEF zones		

'Acceptable' means that special measures are usually not required to reduce aircraft noise.
'Conditional' means that special measures (noise attenuation) are required to reduce aircraft noise.
'Unacceptable' means that the development should not normally be considered.

The Ballarat Planning Scheme includes the Airport Environs Overlay (AEO) as discussed in Section 2.2.4.3 which applies to the airport site and adjacent land determined by the ANEF. It is important to update AEO 1 and AEO2 to reflect any changes of the ANEF.

Recommendation: Update the AEO with the new ANEF contours to reflect the growth of the contour.

13.1.2 Number Above (N-contours)

NASF Guideline A contains further information and recommendations regarding aircraft noise contours which should be considered by airport operators. This includes the use of the 'Number Above' noise metric (commonly referred to as 'N contours') to supplement the ANEF.

One of the principles of NASF is:
"Strategic and statutory planning frameworks should address aircraft noise by applying a comprehensive suite of noise measures."

The N-contour system is a complementary aircraft noise metric that shows the potential number of aircraft noise events above 60dB(A), 65dB(A) or 70dB(A) per day. It has some advantages over the ANEF system because it shows noise in a way that a person perceives it – as a number of single events per day above a certain decibel level.

NASF Guideline A recommends the use of N-contours for strategic planning purposes. This is particularly important for the consideration of any proposals for zoning changes for residential purposes near the airport and its flight corridors.

In relation to N contours, Clause 18.02-7S: Airports and Airfields states:
"Avoid zoning or overlay changes that allow noise-sensitive land uses outside the Urban Growth Boundary, and encourage measures to reduce the impact of aircraft noise in planning for areas within the Urban Growth Boundary, where ultimate capacity or long-range noise modelling indicates an area is within 'number above' contours (N Contours) representing:

- *20 or more daily events greater than 70 dB(A).*
- *50 or more daily events of greater than 65 dB(A).*
- *100 or more daily events greater than 60 dB(A).*
- *6 events or more between the hours of 11pm to 6am greater than 60 dB(A)."*

Recommendation: In accordance with Clause 18.02-7S, N contours should be used for strategic planning purposes when considering rezonings around Ballarat Airport.

13.1.3 Noise Modelling Study

An Australian Noise Exposure Forecast (ANEF) study and Number Above Contours (N Contours) were completed for the Airport in 2023 by Marshall Day Pty Ltd. The study was a 20-year forecast (2043) of aircraft movements which included the runway extension and the removal of the grass 13/31 runway. The model forecast is based on 72,595 annual aircraft movements and includes future RPT aircraft that could service Ballarat as discussed in Section 10.1. The results from the ANEF and N Contour study are attached in Appendix H.

13.1.4 Fly Neighbourly Agreement

With developments to the north and south of the airport encroaching the fight paths, the Council has begun the process of implementing a Fly Neighbourly Agreement with the aim of reducing aircraft noise impacts on the community. Fly Neighbourly Agreements are voluntary agreements established between aircraft operators and communities or authorities (normally airports or local councils) to assist in reducing the impact of aircraft noise on local communities.

While it is impossible to stop aircraft noise emanating from an airport, Fly Neighbourly Agreements recognise that there are opportunities to reduce the effect of aircraft noise on surrounding communities. They do this by encouraging aircraft operators to adopt, where possible, certain noise abatement procedures or flight paths, or avoid overflying certain areas.

Recommendation: Develop and establish the Fly Neighbourly Agreement to reduce the noise impacts to the surrounding community. Once adopted, communicate the agreement to the local community.

13.2. Protection of Airspace

Airspace Protection Surfaces are critical for safeguarding airports and involves the Obstacle Limitation Surfaces (OLS) and the Procedures for Air Navigation Services – Aircraft Operations (PANS-OPS) surfaces. This is another critical safeguarding matter which is outlined in NASF Guideline F: Managing the Risk of Intrusions into the Protected Airspace of Airports.

13.2.1 Obstacle Limitation Surfaces

The CASA Manual of Standards Part 139 - Aerodromes defines Obstacle Limitation Surfaces (OLS) as:
"A series of planes associated with each runway at an aerodrome that defines the desirable limits to which objects may project into the airspace around the aerodrome so that aircraft operations at the aerodrome may be conducted safely."

An updated OLS chart in Appendix I has been conducted by JJ Ryan Consulting Pty Ltd in 2022 and accounts for the Runway 18/36 extension to have a runway length of 1800m. This chart is based on Runways 18/36 (non-precision instrument approach equipped) and 05/23 being Code 3 runways and 13/31 as a non-instrument Code 1 runway.

The OLS restrictions are incorporated into the Ballarat Planning Scheme through the Design and Development Overlay control as discussed in Section 2.2.4.4. DDO17 and DD018 are based on a previous OLS chart and the existing runway lengths and therefore need to be updated to take account of the extension to Runway 18/36 (to 1800m). The OLS chart and associated planning scheme controls should be based on the extended runway.

For the current configuration of the aerodrome, Airport Surveys Pty Ltd conducted an Annual Manual Validation Survey in June 2023. All runway take-off ends except for Runway 13 have infringements in the take-off and approach surfaces and require the Aerodrome Manual to be updated to reflect TODA gradient changes stated in the survey. The OLS survey is conducted annually, and it would be recommended to complete a new survey before the Runway 18/36 extension opens.

Since the previous Master Plan there have been changes to the MOS139 regarding runway strip width being increased from 150m to 280m for Code 3 runways. This displaces transitional surfaces resulting in buildings

closest to the runway having height restrictions of 5.5m as shown in Appendix G. Other buildings on the airport site will need to consider the transitional surfaces to determine height restriction requirements.

Recommendation: Update the DDO to account for the runway extension to ensure OLS is protected.
Recommendation: Update Aerodrome Manual to reflect TODA gradient changes.
Recommendation: In accordance with MOS139 transitional surfaces must be considered to determine height restrictions of new development on or around the airport site.

13.2.2 Procedures for Air Navigation Services – Aircraft Operations

PANS-OPS surfaces are critical for defining the operational airspace necessary for pilots flying under instrument flight rules. Any development must prioritize the avoidance of permanent encroachments into both current and anticipated PANS-OPS airspace. Ballarat has the following two listed instrument flight procedures:

- YBLT RNAV-Z (GNSS) RWY 18
- YBLT RNAV-Z (GNSS) RWY 36

To protect these procedures The Airport Group produced Combined PANS-OPS Protection Surfaces RWY 18/36 RNAV GNSS, Circling, VSS Chart in 2016 and is attached in Appendix I.

13.3. Other NASF Matters

Whilst aircraft noise and airspace protection are the two most critical airport safeguarding matters, as outlined above, the assessment of land use and development proposals around Ballarat Airport must consider all of the NASF guideline matters, in accordance with Clause 18.02-7S: Airports and Airfields of the Ballarat Planning Scheme.

The following guidelines (in addition to Guidelines A and F discussed above) are considered particularly relevant:

- Guideline B: Managing the Risk of Building Generated Windshear and Turbulence at Airports
- Guideline C: Managing the Risk of Wildlife Strikes in the Vicinity of Airports
- Guideline E: Managing the Risk of Distractions to Pilots from Lighting in the Vicinity of Airports
- Guideline I: Managing the Risk in Public Safety Areas at the Ends of Runways.

To assist consideration of these guidelines in future planning, diagrams showing the different assessment areas to which these guidelines apply are provided in Appendix J. Details of the parameters and restrictions for development within these areas are contained within the relevant NASF guidelines.

13.4. Planning Policies and Controls

13.4.1 Current Policies and Controls

As outlined in Section 2.2.4 there are existing planning policies and controls in the Ballarat Planning Scheme relevant to Ballarat Airport. These are all measures that safeguard the future of the airport and include:

- Clause 18.02-7S: Airports and Airfields
- Special Use Zone – Schedule 6 (SUZ6)
- Airport Environs Overlay – Schedules 1 and 2 (AEO1 and AEO2)

- Design and Development Overlay – Schedules 16 and 17 (DDO17 and DDO18)

These policies and controls provide an appropriate level of protection for the airport having regard to NASF, subject to updating as outlined below.

13.4.2 Planning Scheme Amendment

Following the adoption of this Master Plan a Planning Scheme Amendment is recommended to:

- Update the Special Use Zone to account for the additional land for the RPT precinct.
- Update the extent of the Airport Environs Overlay having regard to the new ANEF.
- Update Design and Development Overlay to reflect the runway extension and updated OLS chart.

14. Implementation Plan

This STAMP for Ballarat Airport serves as a crucial strategic tool, offering the Council a clear direction and framework for future development. This document aims to provide the Council with planning objectives over the next 20 years to protect and align the airport as an important infrastructure for the Council and the wider community. This section provides the Council with the implementation plan which informs the actions required to meet strategic and growth objectives.

14.1. Master Plan Recommendations

The table below provides a list of the recommendations within the report.

Table 15: Master Plan Recommendations

Ref.	Recommendation
10.5	Prepare the planning and design process to create one/two new parking bays for aircraft up to the Bombardier Dash 8 Q400 on the main apron.
10.6	Complete a taxiway and apron pavement strength evaluation on the existing infrastructure.
10.6	Complete the runway strength evaluation after the runway upgrade project.
10.8	Prepare the planning and design process for the refurbishment and renovation of the existing terminal or the establishment of a new terminal site to accommodate a future RPT service.
10.9	Prepare the planning and design process for the security upgrade works needed for the commencements of RPT services.
10.10	Confirm a suitable clearance buffer is in place to reduce the frequency of annual trimming the same trees.
10.10	Future development of the airport must be assessed against the OLS chart to ensure it does not intrude into the airspace protection surfaces.
10.11	Before any development on the airport, the outcomes and recommendations of the previous flora and fauna studies and Aboriginal Cultural Heritage Assessment, as well as the provisions associated with the Victorian Heritage Register and Heritage Overlay H0190 should be carefully reviewed and considered. Further investigations and possibly approvals may be required before development can proceed on some parts of the airport site.
11.2.5	Complete further flora and fauna study before decommissioning Runway 13/31 to determine if endangered species are located on the site and the impacts to development if any.
11.2.6	Ensure that the planning and design of development in Precinct AI: BWEZ Aviation Interface Sites is undertaken in accordance with MOS 139.

11.4	Seek a review of the existing heritage controls to reduce development restrictions on the airport site.
12.9	Further work be undertaken to align and cost future utility requirements to ensure sufficient capital funding is available over the short, medium and long term. This work should consider not only this Master Plan but also the works planned for the Ballarat West Employment Zone.
13.1.1	Update the AEO with the new ANEF contours to reflect the growth of the contour.
13.1.2	In accordance with Clause 18.02-7S, N contours should be used for strategic planning purposes when considering rezonings around Ballarat Airport.
13.1.4	Develop and establish the Fly Neighbourly Agreement to reduce the noise impacts to the surrounding community. Once adopted, communicate the agreement to the local community.
13.2.1	Update the DDO to account for the runway extension to ensure OLS is protected.
13.2.1	Update Aerodrome Manual to reflect TODA gradient changes.
13.2.1	In accordance with MOS139 transitional surfaces must be considered to determine height restrictions of new development on or around the airport site.
13.4.2	Increase SUZ6 to include the additional land for the future RPT terminal

14.2. Actions and Projects

The table below lists the actions and projects that are likely required to implement this STAMP over time. It includes the triggers for the actions and the projected timings for those projects to occur. The timing definitions are listed below:

- Immediate term: 0-12 months
- Short term: 1-5 years
- Medium term: 5-10 years
- Long term: 10+ years

The scheduling and execution of proposed upgrades at Ballarat Airport depends upon various factors including demand indicators, market conditions, commercial discussions, and regulatory approvals. Collaboration with aviation stakeholders and other key stakeholders is crucial to determine priorities. Some projects would require further analysis through the development of a detailed business case to understand the projects' benefits.

Regular Master Plan reviews every five years, will enable the Council to evaluate project priorities, ensuring alignment with evolving forecasts and development needs.

Table 16: Actions and Projects

Action	Trigger	Timing
Planning Scheme Amendment	Adoption of Master Plan and endorsement of ANEF	Short term
Decommission grass runway	Development of north-west precinct	Short term
Complete a Flora and Fauna study for the north-west corner of the airport site	Redevelopment of the north-west precinct / Decommissioning grass runway	Short term
Consider Conservation Management Plan and Cultural Heritage Assessment	Further development of airport site	Short term
Upgrading of existing 1250 metre section of Runway 18/36	Current need	Short term
Development of north-west airport precinct	Development opportunity	Short term
Refurbishment of existing aircraft apron and airport terminal building	Introduction of RPT service	Short term
Airport security upgrade	Introduction of RPT service	Short term
Construction of replica Bellman Hangar	Development opportunity / Demand for GA hangars	Short term / medium term
Services infrastructure upgrades	Increasing airport development	Short term / medium term
Remediation and development of southern general aviation precinct	Demand for GA hangars	Short term / medium term
Construction of airport terminal, car park and apron area	Introduction of RPT service	Medium term
Construction of a Category C taxiway from Taxiway A to Runway 18 threshold	Increase in aircraft operations / Introduction of RPT service	Medium term
Runway 18/36 starter extension	Introduction of RPT service or larger aircraft	Long term
Prepare a detailed precinct development plan before development of each precinct	As required	As required
Review Master Plan and ANEF at 5 yearly intervals	5 years from adoption of Master Plan	5 years

14.3. Commercialisation Pathways

The evaluation of commercial opportunities at Ballarat Airport, as outlined in the Multi-Criteria Assessment (MCA), presents a diverse array of possibilities for revenue generation and economic development. By strategically aligning each opportunity with the airport's goals and operational requirements, stakeholders can maximise the potential of the airport master plan while ensuring long-term sustainability.

By combining strategic development strategies with innovative financing approaches and revenue models, Ballarat Airport can mobilise the necessary resources to realise its growth objectives and unlock its full potential as a regional economic driver.

With careful planning, Ballarat Airport can navigate the complexities of development and financing to achieve sustainable growth, operational excellence, and long-term value creation for the community.

14.3.1 Council Role

Acknowledging the Ballarat City Council's position as a local government council with various competing demands for public funds, it is crucial to carefully assess the most suitable role for the council in the realisation of the master plan. While the roles in airport developments are multifaceted, they typically include:

- **Investor**: Providing capital for infrastructure development.
- **Developer**: Overseeing planning, design, and construction.
- **Operator**: Managing day-to-day operations and services.
- **Regulator**: Setting and enforcing safety standards and regulations.
- **Facilitator**: Promoting partnerships and collaborations.
- **Strategist**: Developing long-term plans for sustainable growth.
- **Marketer**: Promoting the airport to attract investors, tenants, operators, and passengers.

Given the multifaceted responsibilities of Ballarat City Council and the imperative to catalyse development while managing limited public funds, a strategic approach encompassing the roles of facilitator, investor, and strategist/marketer is recommended for the realisation of the airport master plan. This approach leverages the council's resources, influence, and long-term vision to drive sustainable growth and maximise community benefits.

Facilitator Role:

- **Partnership Cultivation:** Actively cultivate partnerships with private investors, developers, and other stakeholders interested in contributing to the airport's development. Facilitate discussions, negotiate agreements, and coordinate joint initiatives to maximise resources and expertise while ensuring alignment with community priorities.
- **Stakeholder Engagement:** Prioritise meaningful engagement with the local community, businesses, government agencies, and other stakeholders to gather diverse perspectives, address concerns, and foster support for airport development initiatives. By fostering open dialogue and collaboration, the council can build trust, secure buy-in, and enhance project outcomes.
- **Opportunity Identification:** Continuously assess emerging opportunities and market trends to identify strategic investment areas and potential areas for growth at the airport. Stay attuned to local, regional, and national economic dynamics to capitalise on opportunities that align with the council's objectives and priorities.

Investor Role:

- **Strategic Investment:** Consider strategic investments in key projects and revenue-generating initiatives to catalyse development and attract private investment. Allocate public funds judiciously to kick-start priority projects with high potential for economic return and community impact.

- **Risk Management:** Conduct rigorous financial analysis and risk assessments to evaluate investment opportunities and mitigate potential risks. Prioritise investments that offer favourable risk-return profiles and align with the council's long-term financial sustainability objectives.
- **Public-Private Partnerships:** Explore opportunities for public-private partnerships (PPPs) and joint ventures to leverage private sector expertise and capital for airport development projects. Structure partnerships to optimise risk sharing, cost efficiency, and project delivery timelines while maximising public benefits.

Strategist Role:

- **Long-Term Planning:** Develop and oversee the implementation of the strategic master plan for the airport that integrates economic development, infrastructure investment, and community engagement. Set clear objectives, define actionable strategies, and establish performance metrics to guide decision-making and measure progress over time.
- **Sustainable Growth:** Ensure that airport development initiatives align with principles of sustainability and resilience. Integrate environmental considerations, economic cost-benefit objectives into planning and decision-making processes to create long-term value for residents, businesses, and visitors.
- **Adaptive Management:** Adopt an adaptive management approach that allows for flexibility, agility, and continuous learning in response to changing market conditions, regulatory requirements, and community needs. Regularly monitor progress, solicit feedback, and adjust strategies as necessary to optimise outcomes and achieve desired results.

By embracing the roles of facilitator, investor, and strategist, Ballarat City Council can proactively drive airport development efforts and stimulate economic growth. This multifaceted approach empowers the council to leverage its resources and influence effectively while maximising the impact of airport development initiatives on the community and the region.

14.3.2 Strategies and Models for Development and Revenue Generation

In formulating the strategic airport master plan for Ballarat, it's crucial for the City Council to not only delineate its role but also strategically assess pathways for sustainable growth and financial viability. This entails an examination of various dimensions, encompassing strategic development, financing strategies, revenue models, and supplementary income streams. To facilitate this exploration, Table delineates an array of options considered and reviewed in this chapter.

Table 17: Strategies and Models Considered

Development Strategy	Financing Strategy	Revenue Models	Additional Revenue Sources
Public-Private Partnership	Debt Financing	Land Sales	Aircraft Parking / Landing Fees
Built-Operate-Transfer	Equity Financing	Land Lease	Ground Handling Charges
Joint Venture	Asset Monetisation	Operator Agreement	Advertising Space Rental
Master / Sub-Developers	Project Finance	Revenue Sharing Model	Passenger Facility Charges
Private Developer	Grants and Subsidies	Sell-Lease Back	Cargo Handling Fees
		Owner - Operator	Terminal Service Fees
		Concession Agreement	Event Space Rentals
			Corporate Sponsorships
			Parking Fees

Development Options / Strategies

As Ballarat Airport embarks on its journey of expansion and enhancement, the selection of appropriate development options and strategies becomes paramount. Each approach brings its unique set of advantages and challenges, shaping the trajectory of the airport's growth and transformation. In this section, we delve into an analysis of several development strategies available to Ballarat Airport, evaluating their pros and cons to inform strategic decision-making and maximise the airport's potential for success.

1. **Public-Private Partnership (PPP):** Collaborate with private investors and developers to finance and develop key projects at the airport. This approach can leverage private sector expertise and capital while sharing risks and rewards between public and private entities.
    - ***Pros**: Access to private sector expertise and capital, risk-sharing mechanism.*
    - ***Cons**: Complex negotiation process, potential for conflicting interests*
2. **Built-Operate-Transfer (BOT):** Implement BOT arrangements for major projects, allowing private developers to design, build, operate, and maintain facilities for a specified period before transferring ownership back to the council. This model can facilitate project delivery and transfer operational risks to private developers.
    - ***Pros**: Expedited project delivery, transfer of operational risks.*
    - ***Cons**: Limited control over operational activities, dependency on private developers.*
3. **Joint Venture:** Form joint ventures with local businesses, industry partners, or government agencies to co-invest in projects and commercial developments at the airport. Pooling financial resources, expertise, and market networks can accelerate project implementation and mitigate investment risks.
    - ***Pros**: Pooling of resources and expertise, shared risk, and reward.*
    - ***Cons**: Potential for divergent priorities, coordination challenges.*
4. **Master / Sub-Developers:** Engage master developers or sub-developers to oversee the planning, design, and construction of specific components (Non-Aviation Development Zone) of the airport master plan. This approach can streamline project management and optimise resource allocation for complex development initiatives.
    - ***Pros:** Streamlined project management, specialised expertise.*
    - ***Cons**: Dependency on external entities, potential for cost overruns.*
5. **Private Developer:** Partner with private developers to undertake specific projects, such as commercial real estate development. This option can leverage private sector innovation and efficiency while aligning with the airport's strategic objectives.
    - ***Pros**: Innovation and efficiency, potential for accelerated project timelines.*

- ***Cons:*** *Limited control over project direction, dependency on external funding.*

Based on our analysis, we recommend a balanced approach that combines elements of public-private partnerships, joint ventures, and private developer collaborations. This hybrid strategy leverages the strengths of each model while mitigating associated risks, thereby positioning Ballarat Airport for resilient development in the years to come.

Table 18: Development Strategy Recommendations

Opportunity	Recommendation
Terminal Building	• Pursue a Public-Private Partnership (PPP) model or BOT arrangement to finance and develop the terminal building, leveraging private sector expertise and capital. • Investigate opportunities for State funding and/or available grants.
Light Industrial Units/Land	• Offer land to private developers and/or owner/operators (freehold or leasehold) • Potential to engage in joint ventures with local businesses or industrial partners to co-invest in the development of light industrial units.
Hangar Space for Private and Commercial Aircraft	• Offer the land to developers and owner/operators on a long-term lease agreement to provide a steady stream of revenue through lease payments while retaining ownership of the land. • Alternatively, consider a Built-Operate-Transfer (BOT) model to facilitate hangar construction and operation by private developers.
Short-Term Accommodation Catering to Airport Users	• Offer the land to developers and operators on a freehold or long-term lease agreement. • Alternatively, establish a joint venture with a short-term accommodation provider to benefit from their specialised knowledge and experience, share risks, pool resources, and align interests.
Aircraft Maintenance and Repair Facilities	• Offer the land to developers and owner/operators on a long-term lease agreement to provide a steady stream of revenue through lease payments while retaining ownership of the land. • Alternatively, consider a Built-Operate-Transfer (BOT) model to facilitate hangar construction and operation by private developers.
Taxi/Shuttle/Public Transport Services	• Collaborate with local transportation providers to enhance taxi, shuttle, and public transport services to and from the airport.

Financing Options

Numerous financing avenues exist for the Ballarat Strategic Airport Master Plan. Below is a high-level evaluation of the predominant forms considered for funding the Master Plan's development.

1. **Debt Financing:** Debt financing involves raising capital by borrowing funds from lenders, such as banks, financial institutions, or bond markets, with the promise of repayment over time with interest.
    - ***Pros****: Access to upfront capital without diluting ownership, predictable repayment schedules, potential tax benefits.*
    - ***Cons****: Interest payments increase overall project costs, reliance on borrowed funds may strain financial resources.*
2. **Equity Financing:** Equity financing entails raising capital by selling ownership stakes in the airport to investors, such as institutional investors, private equity firms, or individual shareholders, in exchange for funds.
    - ***Pros:*** *No obligation to repay funds, shared financial risk with investors, potential for long-term partnerships.*
    - ***Cons:*** *Dilution of ownership and control, limited availability for smaller projects, higher cost of equity compared to debt.*

3. **Asset Monetisation:** Asset monetisation involves generating revenue by leveraging the value of existing assets, such as land, buildings, or infrastructure, through sale-leaseback transactions, concessions, or leases.
    - ***Pros:*** *Unlocking value from existing assets, generating immediate cash flow, optimising asset utilisation.*
    - ***Cons:*** *Loss of control over monetised assets, potential for short-term gains at the expense of long-term revenue streams.*
4. **Project Finance:** Project finance is a structured financing approach that involves raising capital for specific projects based on their anticipated cash flows and assets, rather than the creditworthiness of the airport authority.
    - ***Pros:*** *Non-recourse or limited-recourse financing, ring-fencing project risks, clear visibility of revenue streams.*
    - ***Cons:*** *Complex structuring and documentation requirements, higher interest rates compared to traditional financing.*
5. **Grants and Subsidies:** Grants and subsidies are non-repayable funds provided by government agencies, international organisations, or private foundations to support specific projects, initiatives, or sectors.
    - ***Pros:*** *Non-repayable funding, support for strategic initiatives, potential to leverage funds for additional financing.*
    - ***Cons:*** *Competitive application process, limited availability, compliance requirements may restrict project flexibility*.

Table 19: Financing Strategy Recommendations

Opportunity	Recommendation
Terminal Building	• Utilise debt financing for the initial construction phase, ensuring manageable repayment terms. • Explore equity financing options for future expansions, providing flexibility in funding sources. • Explore state funding and grant opportunities
Light Industrial Units/Land	• Explore asset monetisation options for underutilised land (freehold) • Consider a combination of Debt-Equity financing and 'in-kind' contributions in the case of a joint-venture
Hangar Space for Private and Commercial Aircraft	• Explore asset monetisation options for underutilised land (ideally on a long-term lease basis) • Consider a combination of Debt-Equity financing and 'in-kind' contributions in the case of a joint-venture.
Short-Term Accommodation Catering to Airport Users	• Explore asset monetisation options for underutilised land (freehold) • Consider a combination of Debt-Equity financing and 'in-kind' contributions in the case of a joint-venture
Aircraft Maintenance and Repair Facilities	• Explore asset monetisation options for underutilised land (ideally on a long-term lease basis) • Consider a combination of Debt-Equity financing and 'in-kind' contributions in the case of a joint-venture.
Taxi/Shuttle/Public Transport Services	• Financing for transport services at the airport can be optimised by pursuing a mix of funding sources, including subsidies, user fees, public funding, and revenue-sharing agreements with private operators.

Revenue/Operating Models

In this section, we explore a range of revenue generation strategies tailored for Ballarat Airport's growth and financial sustainability. By analysing these strategies, we aim to provide valuable insights for Ballarat Airport's journey towards resilient revenue generation and sustainable growth.

1. **Land Sales**: Selling airport-owned land for commercial development can generate significant revenue.
    - ***Pros:*** *Generates significant upfront revenue, diversifies income sources.*
    - ***Cons****: Loss of control, limited availability of land for sale.*
2. **Land Lease**: Leasing airport land to businesses or developers can provide a steady stream of income through lease payments.
    - *Pros: Provides steady income through lease payments, offers flexibility in land use.*
    - *Cons: Requires careful negotiation of lease terms, long-term planning for land use.*
3. **Operator Agreements**: Partnering with operators to provide services such as concessions, retail, or parking can generate revenue through revenue-sharing agreements or fixed fees.
    - *Pros: Leverages third-party expertise, generates revenue through revenue-sharing or fixed fees.*
    - *Cons: Requires stringent oversight to ensure service quality, potential for conflicts with operators.*
4. **Revenue Sharing Models**: Collaborating with partners to share revenue generated from airport operations, such as parking fees, concessions, or advertising revenue.
    - *Pros: Incentivises performance through shared revenue, fosters partnerships.*
    - *Cons: Requires clear contractual agreements, complexity in revenue distribution.*
5. **Sell-Lease-Back**: Selling existing assets or assets upon completion and then leasing them back from the buyer can provide immediate cash flow.
    - *Pros: Generates immediate cash flow, retains access to essential infrastructure.*
    - *Cons: Requires careful financial planning, risk of higher lease costs in the long term.*
6. **Owner-Operator**: Operating key revenue-generating services such as parking facilities, or ground handling services internally.
    - *Pros: Maximises control and profitability, aligns with strategic objectives.*
    - *Cons: Requires investment in infrastructure and operations, higher operational risks.*
7. **Concession Agreement**: Entering into concession agreements with vendors or service providers to operate facilities such as food and beverage outlets, retail shops, or car rental services.
    - *Pros: Generates revenue through concession fees or revenue-sharing, enhances passenger experience.*
    - *Cons: Requires effective vendor management, risk of non-compliance or quality issues.*

Based on our analysis, we recommend adopting a diversified revenue model that combines elements of land lease agreements, operator agreements, and concession agreements. This hybrid approach leverages the strengths of each model while mitigating associated risks, thereby positioning Ballarat Airport for resilient revenue generation and sustainable growth in the years to come.

Table 20: Revenue / Operating Model Recommendations

Opportunity	Recommendation
Terminal Building	• Explore revenue-sharing agreements with facility operators, airlines and concessionaires to maximise income potential.
Light Industrial Units/Land	• Explore a mix of leasehold and freehold options. • In the case of joint-venture development of units - offer flexible leasing options to attract tenants and stimulate economic activity.
Hangar Space for Private and Commercial Aircraft	• Offer long-term lease agreements to aircraft owners for revenue stability.
Short-Term Accommodation Catering to Airport Users	• Develop a revenue-sharing model with accommodation providers to ensure sustainable profitability.
Aircraft Maintenance and Repair Facilities	• Offer long-term lease agreements to operators for revenue stability. • Consider establishing dedicated MRO facilities through joint ventures or partnerships with established maintenance providers.
Taxi/Shuttle/Public Transport Services	• Implement a revenue-sharing model with transport operators to incentivise service quality and reliability. • Explore opportunities for advertising partnerships on transport vehicles to generate additional revenue.

Additional Revenue Generating Opportunities

In addition to core revenue streams, Ballarat Airport has various opportunities to diversify its income sources and maximise revenue potential. Detailed in the following section is an overview of the key opportunities identified for Ballarat Airport based on the Master Plan components.

1. **Aircraft Parking / Landing Fees**: Charging fees for aircraft parking and landings can generate significant revenue, especially for commercial flights and private aircraft. By implementing competitive pricing strategies and offering quality services, the airport can attract more aircraft traffic and increase fee revenue.
2. **Ground Handling Charges**: Providing ground handling services such as baggage handling, aircraft marshalling, and refuelling presents an opportunity to generate revenue. By offering efficient and reliable ground handling services to airlines and aircraft operators, the airport can earn service charges and enhance its reputation as a preferred aviation hub.
3. **Advertising Space Rental**: Utilising available space within the airport premises for advertising can generate revenue through advertising rentals. From digital screens to banners and posters, advertising opportunities can be offered to businesses seeking exposure to airport passengers and visitors.
4. **Passenger Facility Charges**: Implementing passenger facility charges, also known as airport improvement fees, can generate revenue to fund infrastructure upgrades and enhancements. These charges are typically included in the cost of airline tickets and collected by airlines on behalf of the airport.
5. **Cargo Handling Fees**: Offering cargo handling services to airlines and freight forwarders presents an opportunity to generate revenue from cargo handling fees. By investing in cargo handling infrastructure and equipment, the airport can attract cargo operators and capitalise on the growing demand for air freight services.
6. **Terminal Service Fees**: Charging fees for terminal services such as passenger facilities, Wi-Fi access, and lounge access can contribute to revenue generation. By providing services and amenities, the airport can create value for passengers and generate additional revenue streams.
7. **Event Space Rentals**: Renting out airport facilities for events such as conferences, exhibitions, and corporate functions presents an opportunity to generate additional revenue. By promoting the airport as a venue for events and providing event management services, the airport can diversify its revenue streams and utilise its infrastructure efficiently.

8. **Corporate Sponsorships**: Partnering with corporate sponsors and advertisers can generate revenue through sponsorship deals and brand collaborations. By offering sponsorship opportunities for airport facilities, events, and advertising spaces, the airport can create mutually beneficial partnerships and enhance its revenue potential.
9. **Parking Lot Fees**: Charging fees for parking services in airport parking lots can generate steady revenue. By offering convenient parking facilities, shuttle services, and loyalty programs, the airport can attract more passengers and visitors, increasing parking revenue.

By capitalising on these additional revenue generation opportunities, Ballarat Airport can diversify its income sources, strengthen its financial position, and support its long-term growth and development objectives.

14.3.3 Conclusion

The evaluation of commercial opportunities at Ballarat Airport has highlighted a diverse array of possibilities for revenue generation and economic development. By strategically aligning each opportunity with the airport's goals and operational requirements, the City can maximise the potential of the airport master plan while ensuring long-term sustainability.

To realise this vision, a multifaceted approach encompassing roles of facilitator, investor, and strategist/marketer is recommended. By actively cultivating partnerships, strategic investments, and long-term planning, the council can drive sustainable growth and maximise community benefits.

Strategically assessing pathways for sustainable growth and additional revenue generation leading to financial viability is crucial for the realisation of the master plan. By embracing a balanced approach that combines elements of public-private partnerships, joint ventures, and private developer collaborations, Ballarat Airport can position itself for resilient development in the years to come.

Furthermore, adopting a diversified revenue model that leverages land sales, lease agreements, operator agreements, and concession agreements can enhance revenue generation and support sustainable growth. By capitalising on additional revenue-generating opportunities Ballarat Airport can strengthen its financial position and support its long-term growth objectives.