



TEMORA
The Friendly Shire

TEMORA AIRPORT MASTER PLAN

TEMORA SHIRE COUNCIL

APRIL 2019



TABLE OF CONTENTS

1. Executive Summary	4
2. Purpose and Objectives of Master Plan	6
3. Strategic Vision	9
4. Introduction to Temora Shire and Temora Airport.....	10
5. Background and Context of the Temora Airport Master Plan.....	14
5.1 General Information	14
6. Existing Airport Facilities.....	15
6.1 Airport Location	15
6.2 Aircraft Movement Areas.....	16
6.3 Airpark Estate.....	19
7. Temora Airport Budget	23
8. Strategic Planning.....	23
8.1 Stakeholder Consultation	23
8.2 SWOT Analysis	24
8.3 Demand Analysis.....	27
8.4 Constraints.....	27
8.5 Regional Economic Goals.....	32
9. Forecast of Future Operations and Facilities Development Plan.....	35
9.1 Temora Airport Development Plan	36
9.2 Engineering Projects and Maintenance Requirements	37
9.3 Security Requirements	41
9.4 Facility Improvement Projects.....	41
9.5 Operational Management.....	47
10. Future Development Plans.....	49

10.1 Future Development Opportunities	49
11. Airport Precinct Concept Plan	58
11.1 Concept Plan & Staging	58
12. Financial Sustainability.....	62
13. Implementation	64
14. Conclusion.....	69
Appendices	70
1. <i>Airport Precinct Concept Plans</i>	70
2. <i>Scope of Master Plan</i>	72
3. <i>Temora Population Forecast</i>	75
4. <i>Market of General and Recreational Aviation</i>	76
5. <i>Recent Aircraft Statistics</i>	77
6. <i>Small Rural Airports</i>	79
7. <i>Heritage Significance</i>	80
8. <i>Current Planning Controls</i>	82
9. <i>Airport Facilities</i>	86
10. <i>Current Operation Levels</i>	91
11. <i>Airpark Estate and Airport Tourism</i>	94
12. <i>Detailed Budget</i>	97

1. EXECUTIVE SUMMARY

Temora Airport has a growing reputation as a major national focus for recreational aviation, both for visitors and residents. The role of the airport in supporting small-medium aviation related businesses is also encouraged. In strategic planning terms, its further growth and development will bring cumulative benefits and diversity to the local economy and enhance Temora's role within the aviation community. Temora Airport therefore forms a valuable part of a broad economic and social base for Temora Shire.

Equally important, Temora Airport has a crucial role in supporting the provision of emergency services to Temora and surrounding areas. Firefighting aircraft, air ambulance and rescue helicopters all use Temora Airport in times of emergency. The ongoing support of this role is critical for the safety of the community.

Temora Shire Council's development of the airport seeks to promote aviation and aviation-based industry in the region, as an integral objective of the Temora Shire Community Strategic Plan 2030, through support for the airport and its users. Recent announcement of Federal Government funding for Temora Airport indicates the identified value of the airport into the future.

Recreational aviation is the major activity occurring at the airport. This occurs alongside the tourism and educational attractions of the onsite Temora Aviation Museum, which allows recreational tourists and aviation enthusiasts to experience flying historic wartime aircraft. Temora Airport also supports agricultural spraying and spreading of fertilisers, which provides timely, weather dependent, inputs for local farmers. The Temora Airpark estate is also an important land use, with an expanding house and hangar estate that has been developing over the past 20 years. There is also an increasing number of small aviation-related commercial business located at Temora Airport, and Council is seeking to attract additional small-medium enterprises to take advantage of the ideal flying opportunities.

The Temora Airport Master Plan seeks to establish objectives, understand existing facilities, consider future demands and develop plans for future enhancement, consistent with the vision of Temora Shire Council for the Temora Airport, which is:

The ideal location for aviation lifestyle, tourism, business and training, supported by a friendly and thriving community, in a picturesque regional setting.

The development of the Temora Airport Master Plan has included relevant stakeholders as part of the process.

The plan responds to regulatory and policy controls, site features and constraints in order to protect ongoing operations. An assessment of the emerging role of the Temora Airport has developed goals for future opportunities and enhancing the economic and social benefits that the Temora Airport brings to the community.

Key objectives that the Temora Airport Master Plan has identified are:

- Securing the future asset management of Temora Airport through the identification and justification of infrastructure upgrades and investment
- Supporting future commercial usage of Temora Airport for pilot training and aircraft engineering businesses
- Developing the next stage of the Temora Airpark Estate
- Improving financial sustainability through diverse income sources
- Airport Precinct Concept Plans to guide future development are included at **Appendix 1.**

2. PURPOSE AND OBJECTIVES OF MASTER PLAN

Temora Airport is an important public infrastructure asset, connecting Temora to wider commercial services and the recreational aviation community, as well as servicing local farming needs and supporting the community in emergencies. Council has also been developing an Airpark Estate to encourage aviation enthusiasts to settle in Temora and further enhance their enjoyment of flying. Temora Airport is home to the Temora Aviation Museum, a major regional attraction offering visitors the experience of seeing historic war time aircraft both on ground and in flight, accompanied by a detailed range of static displays and visitor facilities.

Temora Airport, Temora Aviation Museum and Temora Airpark estate, generate significant social and economic benefits to the Temora community. Like all major infrastructure, Temora Airport needs to continue to respond to change, and this requires appropriate planning to protect this asset over the long term, generate future benefits and ensure its safe and efficient operation into the future.

The Temora Airport Master Plan seeks to establish objectives, understand existing facilities, consider future demands and develop plans for future enhancement, consistent with the vision of Temora Shire Council for the Temora Airport, which is:

The ideal location for aviation lifestyle, tourism, business and training, supported by a friendly and thriving community, in a picturesque regional setting.

This specific vision supports the overall vision for Temora Shire, as adopted in the Community Strategic Plan 2030, which is:

“Our community strives to reflect the qualities of its greatest asset – its people – friendly, supportive, practical, hardworking and successful people. Whilst holding on to the strengths of our past, we embrace change and grasp every opportunity to enhance our environment, economy and lifestyle.”

This vision is organised into six main themes:

- Social issues related to ***“retaining our quality of life”***
- Community leadership focussing on ***“engaging and supporting the community”***
- Economic issues related to ***“building our Shire’s economy”***
- Environmental issues related to ***“preserving our beautiful surrounds”***
- Economic issues related to ***“embracing and developing aviation”***
- Economic issues related to ***“enhancing our agricultural wealth”***

Strategic Objectives relevant to the Temora Airport are:

- 1.9 Provide services required for excellent liveability in a rural community
- 3.5 Strengthen the Temora Shire economy
- 3.6 Support Tourism, acknowledging the value it brings to the Temora Shire economy
- 5.1 Optimise telecommunications at the Temora Airport
- 5.2 Retain and develop facilities at Temora Airport
- 5.3 Ensure land use plans are developed to protect the future use of the airport
- 5.4 Provide a clear direction for the current use and future direction of the Temora Airport
- 6.1 Maintenance of infrastructure to support agriculture

A purpose of the Temora Airport Master Plan is to present emerging opportunities for Temora Airport to differentiate itself with better and more innovative services, and reinforce a market position.

The objectives of the Temora Airport Master Plan are:

- Maintain the ability for aircraft to operate safely and unrestricted through the maintenance of existing infrastructure, to agreed service levels
- Ensure the airport is operating in accordance with National regulations, standards, legislation and policies, including the National Airports Safeguarding Framework
- Understand current conditions, performance, utilisation and costs

- Plan for and support the ability for airport facilities to be maintained, enhanced and expanded
- To improve future levels of service in response to population growth, demographic changes and community expectations, as well as options for commercial opportunities
- Efficiently use Council's resources
- Develop options for attracting and developing more general and recreational aviation activity at the airport
- Promoting the role of the airport and its significance as a community asset, including identity, employment, residential development, safety, heritage, education and tourism
- Providing for the airport to increase revenue
- Safeguarding the airport's long term plans and objectives
- Managing environmental and heritage constraints
- Managing risks associated with asset liability
- Managing risks outside of the airport, including land use conflicts, wildlife and public safety.
- Provide direction for Councillors, Council officers, user groups and the community

The Temora Airport Master Plan is a Council document, to be referred to by Council staff when making decisions about the Temora Airport. Consideration of activities and priorities relating to the operations of the Temora Airport are considered by the Aerodrome Users Committee, which supports discussion between Council, Councillors, Airpark residents Temora Aviation Museum and commercial business operators. It is recognised that this group has diverse skills that benefit and assist with operations at the airport.

Further details about the scope of the Temora Airport Master Plan are contained in **Appendix 2.**

3. STRATEGIC VISION

The overarching strategic vision to be implemented by the Master Plan is:

The ideal location for aviation lifestyle, tourism, business and training, supported by a friendly and thriving community, in a picturesque regional setting.

For Temora, this vision encompasses the enjoyment of recreational aviation from a broad perspective:

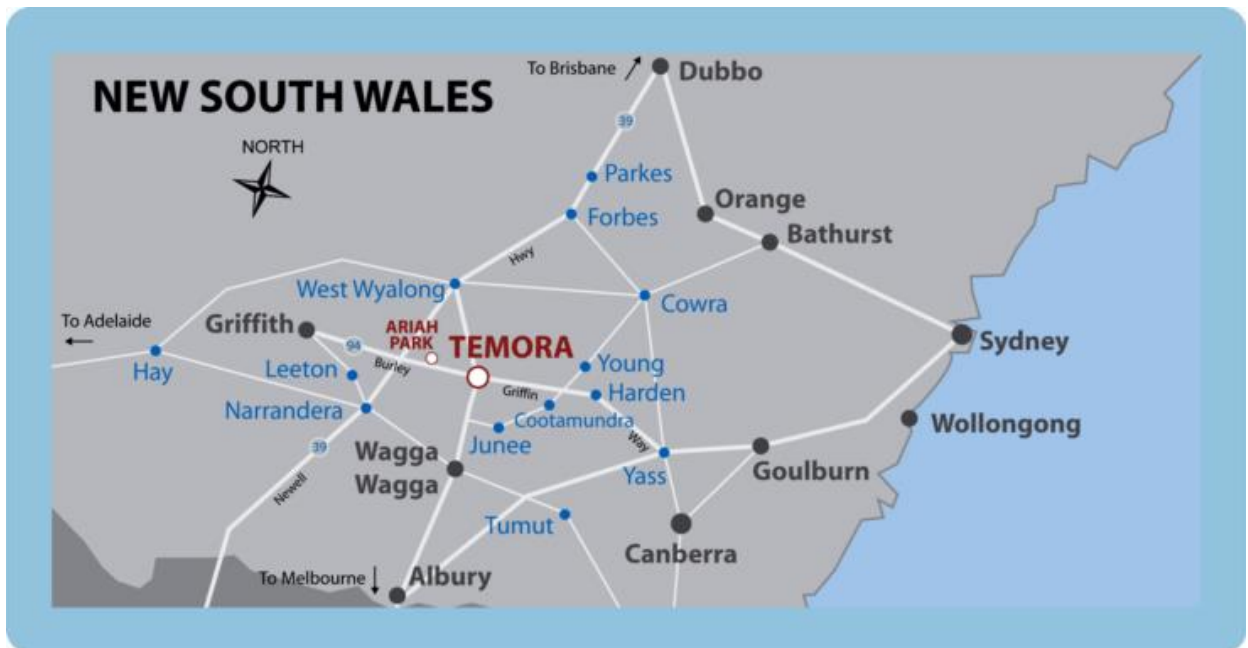
- Recreational flying
- Sport aviation, including gliding
- Airpark estate lifestyle
- Commercial aviation development and businesses, including pilot training
- Spectator enjoyment of a wide variety of aircraft and events
- Tourism and educational focal point of museum and accommodation
- A well maintained airport that provides critical emergency services infrastructure, commercial and agricultural uses

4. INTRODUCTION TO TEMORA SHIRE AND TEMORA AIRPORT

Temora Shire is a local government area covering 2,802km², with a population of 6258 residents (ABS, 2017), increasing from 6,110 recorded at the 2016 Census.

The population increased by 334 people from the 2011 recording of 5776 residents, representing an increase of 5.8% over five years. To encourage further population growth and promote the long term viability of its Shire, Temora Shire Council is taking active steps to retain its current population, encourage the return of former residents, and to promote Temora as a place for new residents to belong. The long term management and development of the Temora Airport is an important component of this active promotion.

Temora is located in the Riverina Region of NSW, 418km south west of Sydney, as shown in Map 1 below:



Map 1: Location Map of Temora

Temora has an elevation of 302 metres above sea level. The terrain is flat to gently undulating. Temora has a warm, temperate four-season climate, with cool to mild winters and warm to hot summers. Compared to the rest of Australia, Temora experiences far below average wind speed and is relatively fog-free, making it suitable for year round aircraft operations. The Shire land is mostly used for cropping and grazing. It is central to all Eastern Australian States linked by air, road and rail. The community and Council is aviation friendly.

Temora Shire has an economic base of agriculture, specifically grain, sheep and wool, supported by a strong local economy that includes retail, education, health care, professional services and tourism. Temora has 2,641 of its residents in the workforce, and an unemployment rate of 4.9%, which is lower than both the national and state average. Further details about Temora Shire's population forecast are contained in **Appendix 3**.

The Temora Airport is a crucial part of the broad economic base, supporting skilled employment, tourism, recreation, farm services and flying training.

The airport is located approximately 2 kilometres to the north-west of the main street of Temora. Map 2 shows the location of the Temora Airport in relation to the town of Temora.



Map 2: Location of Temora Airport in relation to Temora town centre

The Temora Airport encompasses the following assets:

- Sealed main runway 05/23
- Sealed north- south runway 18/36
- Unsealed east-west runway 09/27
- Sealed taxiways A to H and two unsealed taxiways
- General aviation apron
- Concrete apron at front of Aviation Museum
- Pilot Activated Lighting runway lights on 05/23

- Taxiway lights on 18/36 and taxiway D
- Three lit windsocks and one unlit windsock
- Global Navigation Satellite System (GNSS), Global Positioning System (GPS)/Precision Approach Path Indicator (PAPI) approaches.

The **Temora Aviation Museum** is a key focal point of the Temora Airport. This world class attraction has arguably the finest collection in the southern hemisphere of flying historic aircraft. Established in 1999, it has developed an impressive reputation for its display of military aircraft with historical significance to Australia. Temora Aviation Museum hosts a series of one or two day Aircraft Showcase Days throughout the year. A selection of the museum's aircraft are featured on these days, and due to the close proximity of the aircraft, visitors are able to experience unique sights and sounds associated with this aeronautical experience. A Major Airshow, known as Warbirds Downunder, which demonstrates all aircraft and attracts around 20,000 visitors, is held every second year.

Temora Airport performs a vital role in emergency medical transport to metropolitan centres, with the ability to receive both fixed and rotary winger aircraft, such as the Air Ambulance and Snowy Hydro rescue helicopter, including for refuelling purposes.

The Temora Airport supports the broader community through providing local attractions and interests, volunteering opportunities and community fundraising. Four local aviation groups are present in Temora, **Temora Aero Club**, **Temora Gliding Club**, **Temora Flyers Inc.** and **Temora Historic Flight Club Inc.**

5. BACKGROUND AND CONTEXT OF THE TEMORA AIRPORT MASTER PLAN

Temora Airport has a defence history, which has since transitioned to its recreational, heritage, agricultural, residential and emergency roles of today.

5.1 GENERAL INFORMATION

Temora Airport is a Tier 6 Regional Airport without Regular Passenger Transport services and is owned and operated by Temora Shire Council.

The Temora airport is a “Registered Airport”, operating under the national standards and advisory notes published by the Australian Civil Aviation Safety Authority (CASA). CASA administers the *Civil Aviation Act* (1988) through the accompanying Civil Aviation Regulations, Civil Aviation Orders, Civil Aviation Advisory Publication and the Manual of Standards (MOS). The MOS is where physical characteristics are defined including surfaces, dimensions, markings and lighting, which specifies the suitability of an airport to be used by aeroplanes within a range of performances and sizes.

Further information about the market of General and Recreational Aviation are included at **Appendix 4**, recent airport statistics are included at **Appendix 5** and information about small rural airports is included at **Appendix 6**.

Details of Temora’s three main runways are as follows:

Runway 05/23 is a 2,040 metre x 30 metre bitumen surface with pilot activated lighting including a PAPI. Runway 05/23 is capable of regional airline aircraft operations by arrangement with the aerodrome operator.

Runway 18/36 is a 1,468 metre x 30 metre bitumen surface with a widened grass surface within the runway strip on the western side for vintage aircraft and glider operations

Runway 09/27 is 815 metres in length and configured with a gravel surface within a 60 metre runway strip and abutting on the northern side a separately marked grass surface for vintage aircraft and glider operations

The apron areas around the Temora Aero Club and refuelling areas are unrated.

Information relating to the heritage significance of Temora Airport is included at **Appendix 7**.

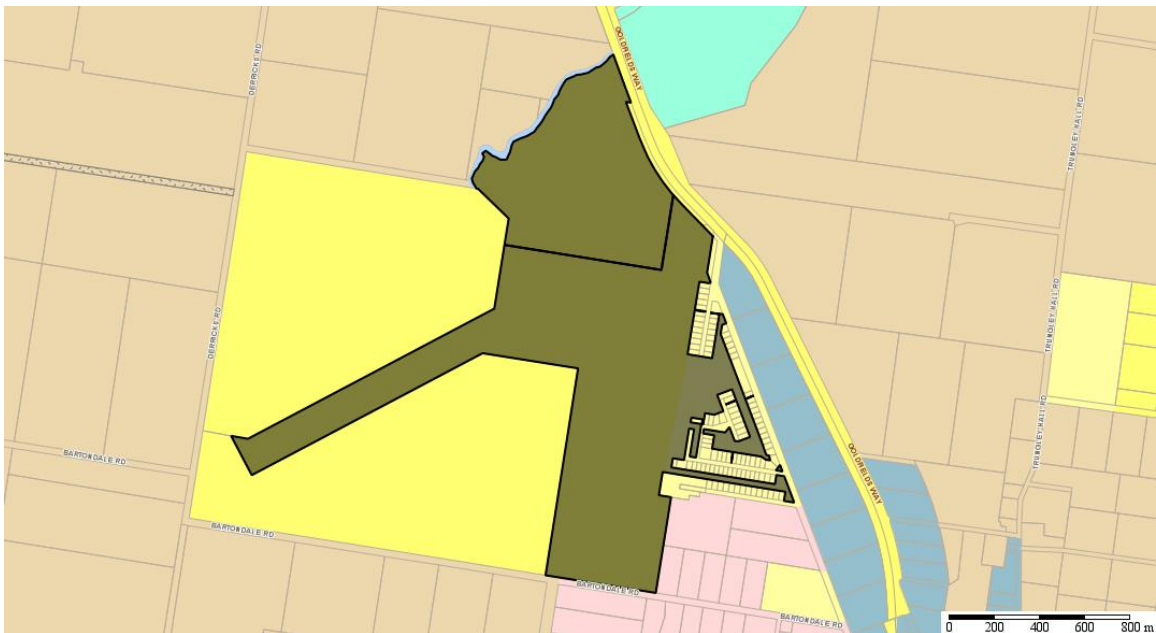
6. EXISTING AIRPORT FACILITIES

Temora Airport's location, zoning and planning controls, environmental constraints, existing infrastructure, facilities, air park estate and operational levels are described within this section.

6.1 AIRPORT LOCATION

Temora Airport is located on Airport Street Temora, on the northern fringe of Temora and adjoining Goldfields Way, the major North-South State road travelling through Temora.

Map 3 below indicates the airport land, shown shaded grey, which is owned by Temora Shire Council.



Map 3: Airport land owned by Temora Shire Council (shown shaded)

Map 4 provides an aerial image of the airport locality.



Map 4: Temora Airport Aerial Image

The land owned by Council consists of the runways and hangars, located on Lot 8 DP 1195195, with an area of 123.3 hectares and an adjoining parcel to the north, known as Lot 1 DP 786998, with an area of 48.58 hectares. The combined total of these two parcels is 171.88 hectares.

Details of the Planning Controls that apply to Temora Airport are included at **Appendix 8**.

6.2 AIRCRAFT MOVEMENT AREAS

There are three aircraft movement areas of the runways, taxiways and aprons.

6.1.1 Runways

Temora Airport currently operates three runways:

Table 1 Existing Runway Characteristics

RUNWAY	LENGTH	WIDTH	STRIP	SURFACE	PCN	CATEGORY
Runway 05/23	2000m	30m	150m	Sealed	30	3C

Runway 18/36	1468m	30m	90m	Sealed	8	2C
Runway 09/27	815m	30m	60m	Unsealed	10	1B

Under CASA MOS 139 Clause 6.2.18, the following runway strip width criteria apply:

Table 2 Runway Width Requirements

OPERATION TYPE	CODE	RUNWAY STRIP WIDTH	CONCESSION
Non-Instrument	3 and 4	150m*	90m
Instrument Non-Precision	3 and 4	150m**	90m
Instrument Precision	3 and 4	300m***	150m

* May be reduced to 90m subject to the classification of the aircraft

** May be reduced to 90m for aircraft up to and including Code 3C

*** May be reduced subject to landing minima adjustments

Runway 05/23

Runway 05/23 was completed in November 2004.

The \$3.8 million runway project undertaken by Council was financed through a \$500,000 grant from the Department of Transport and Regional Services; a \$1.65 million contribution from Private Business; and \$1.65 million from Council.

Runway 05/23 has been commissioned to cater for operations by Temora Aviation Museum aircraft, however the new runway significantly increases the operational capability of Temora Airport. Runway 05/23 has the capability to operate aircraft up to and including Code 4C. However, the associated taxiway and aprons do not have the capability for larger at this time.

Runway 05/23 is equipped with a medium intensity airfield lighting system, including PAPI, and pilot activated lighting. Runway lighting to Runway 18/36 has been downgraded to taxiway status only for night operations.

Runway 18/36

Runway 18/36 is retained for daytime operations only, and will be lit as a taxiway for access to the general aviation apron and aviation museum at night. Runway 18/36 is rated PCN 8. Any aircraft above this rating will require a pavement concession.. This runway will be reconstructed and strengthened as part of the Federal Government funding of Temora Airport. There is also runway 18/36 grass strip on the western side.

Runway 09/27

Runway 09/27 is now 815 metres in length and before runway 05/23 was developed, it complemented the main north-south runway by offering an east-west runway of approximately 900 metres length. In order to accommodate the development of the Airpark Estate the runway was shortened at the eastern end to its current length. Whilst marginal for many aircraft the runway is used by gliders and other aircraft with short field capability when the wind is too strong across the other runways. The inclusion of a cross runway as part of the airport infrastructure makes Temora Airport ideal for student pilot training and for hosting fly-ins for antique and light sport aircraft.

The runway is a gravel surface within a 60 metre wide runway strip and abutting on the northern side is a separately marked (orange) runway of approximately 48 metres width for use by vintage aircraft and gliders.

Runway 09/27 does impose some height limitations on the airpark estate. Current height limitations at the western end of these allotments are approximately 8.5m.

There is a grass runway abutting on the northern side and full length of runway 09/27.

6.1.2 Taxiways and Aprons

The configuration of the three runways has determined that Runway 09/27 can be used as an unsealed link taxiway between the two sealed runways. Aircraft not capable of operating on unsealed pavements must taxi via the Runway 18 threshold to access Runway 05/23. Taxi distances to Runway 05/23 from the general aviation and aviation museum aprons are significant.

A general aviation apron is located east of Runway 18/36 and south of the existing Runway 09/27. The apron has two marked RPT aircraft positions and parking for many small-medium aircraft.

Pavement strength does not correspond to runway strength and its use requires careful monitoring. Reconstruction and strengthening of the main aerodrome parking apron (10,200m²), enabling taxi operation and parking of PCN 20, Code C aircraft from runway 05/23 and the Temora Aviation Museum is part of the airport upgrade project.

The Temora Aviation Museum has developed its own aircraft aprons on Council owned land and under normal circumstances has no requirement to operate from the general aviation apron.

Additional features at Temora Airport are detailed at **Appendix 9**.

6.3 AIRPARK ESTATE

Temora Shire Council is capitalising on its reputation as being **an aviation friendly town** through the development of an airpark estate incorporating both a **residential airpark estate** and **commercial aviation businesses**. The Airpark Estate has been constructed by

Council to attract recreational pilots, commercial and aircraft related industries to live, work and enjoy the uncomplicated airspace at Temora.

Council's vision for the Airpark Estate is an estate of **high amenity and functionality**. Council intends that the design and construction of developments that it approves will support this vision. This requires controls that achieve the desired objectives without being unnecessarily restrictive or demanding upon construction costs.

Council's Airpark is intended to support the **recreational aviation lifestyle** and the benefits that this brings to aviation enthusiasts. Council therefore encourages good neighbourly relations between residents, which can be achieved through controls on development for safety and amenity reasons. Council's policy for the Airpark Estate is to encourage a mixture of compatible land uses and activities.

The Temora Airpark Estate offers the highest level of convenience for aviation enthusiasts, by having access from their home or industry to their hanger, to a taxiway, and to three runways, all within a modern estate, with all services and facilities connected.

The Airpark Estate comprises 84 lots, of which over half have been developed.

The current stage, now complete and lots offered for sale, includes a further 20 lots.

The Temora Aerodrome Users Committee has been in place for many years, enabling communication and discussion of issues relating to Temora Airport and recommendations are made to Council for consideration. The Aerodrome Users Committee is a Section 355 Committee of Council and the meetings, held every second month, formed the consultation forum for the development of the estate.

The airpark estate has brought many new residents to Temora that now contribute to the local Temora economy and support Temora Shire Council in the provision of improved services and facilities.

The lots are available to accommodate a variety of uses including:

- Hangar and Residence
- Aircraft Maintenance
- Aircraft Repainting and Refurbishment
- Kit Aircraft Manufacture
- Aircraft Component Manufacture and Overhaul
- Historical Aircraft Restoration
- Aircraft Storage
- Aircraft Operational Base for Commercial Operators
- Sport and Historical Aircraft Organisations
- Flying Training Organisations

Residential lots, ranging in size from 800 to 1250 square metres and **Commercial lots** are available. Direct access via taxiways is provided to the three runways.

There are several **existing aviation related companies** in the estate –

- Advanced management and design personnel are already resident on the Airpark as well as small aircraft builders and the world renowned capabilities of the Temora Aviation Museum in aircraft engineering and restoration of historic and jet aircraft.
- Other operations include Composite repairing, flight training school, aircraft manufacture, aircraft maintenance personnel. Specialties are in glider construction, glider repairs and maintenance, and sales.
- Volunteering opportunities are available at Temora Aviation Museum
- Immersion in the large and growing aviation community

Temora Shire Council is **open to considering requests for assistance to construct and commence aviation-related businesses** at Temora Airport.

The presence of the Temora Aviation Museum is a major attraction for all potential investors. The Temora Aero Club, Temora Gliding Club and the Temora Flyers Inc

complement the activities of the Aviation Museum by conducting fly-ins, exhibitions and championships, all of which assist in maintaining a level of interest and involvement, which achieves a “critical mass” of aviation activity throughout the year.

The combined efforts of the Temora Aviation Museum, Temora Airpark, Temora Aero Club, Temora Gliding Club and Temora Flyers Inc have been integral to the success of Temora Airport over recent years.

a. Airpark Estate Development - Airfield Planning Criteria

The airpark estate development has been designed on the following basis:

Facility	Code	Width	Max Wingspan
Main Access Taxiway	C	53m	36m
Secondary Taxiways	B	40m	20m
Parallel Taxiway	B	43m	24m

Allotments generally have a 25m frontage and are either 40m or 50m in depth. General lot sizes are 1000m² or 1200m².

20m road reserves have been allowed for in all areas of the development to facilitate the construction of services, landscaping and traffic / parking facilities.

Details of current operational levels at Temora Airport are included at **Appendix 10**. Information about Temora Airport tourism is included at **Appendix 11**.

7. TEMORA AIRPORT BUDGET

Council's Asset Management Plan, prepared in 2016 provides details of asset costs, both replacement and annual costs.

The **replacement cost value** of the infrastructure assets at Temora Airport is **\$5.39 million**. The **average annual cost** of the airport is estimated at **\$300,000**. Over the **10 years from 2016 to 2026**, the **total maintenance and renewal expenditure** for the airport is estimated to be **\$3 million**.

Council has received notification of Federal Government funding for the upgrade of significant infrastructure at Temora Airport, including runway 18/36, apron and taxiway upgrades and drainage works, to be completed during 2019/20. These construction works are valued at \$5.35 million.

Further details of the operational budget of Temora Airport are included at **Appendix 12**.

8. STRATEGIC PLANNING

Considering the Temora Airport from a strategic perspective allows the information gathered in the preceding sections to be used to recognise opportunities, identify and manage threats, develop goals and prioritise actions to achieve Council's vision. Consultation with key stakeholders has formed a valuable part of strategic planning for Temora Airport and development of the Master Plan.

8.1 STAKEHOLDER CONSULTATION

Preliminary stakeholder consultation has occurred by talking with key Council staff, Aerodrome Users Committee members and representatives of Temora Aero Club, Temora Gliding Club, Temora Flyers Inc and Temora Aviation Museum. Further consultation will occur as the plan moves beyond its status as preliminary draft.

Stakeholder Consultation has developed:

- Accurate Background Information
- Plans and Aspirations

- Areas for Improvement
- Priority Actions

8.2 SWOT ANALYSIS

Building on the data and information collected, an analysis of the strengths, weaknesses, opportunities and threats (SWOT) relating to the Temora Airport provides an initial concept for developing future policies and projects.

Table 1 provides the SWOT analysis.

Table 1: SWOT Analysis of Temora Airport

Strengths	Weaknesses
<ul style="list-style-type: none"> • 2000m runway, including PAPI combined with 1468m runway, as well as a cross runway • Wide and multiple runway direction strips suitable for gliding and antique aircraft • GPS approaches for all weather capability • Recent Federal Government investment into Temora Airport announced, comprising upgrades of runway 18/36, apron, taxiways and drainage, to be completed during 2019/2020. • Climate suitable for year-round use, with predominantly clear skies and low wind, and fewer number of days with fog, cloud, high wind or rain that prevent flying • Aero Club, Temora Gliding Club and Temora Flyers Inc • Supportive Shire Council seeking 	<ul style="list-style-type: none"> • Distance from Sydney / Melbourne and relative remoteness • Size of population may limit growth opportunities • Relatively long taxi distances at airport • Extreme summer temperatures • High budget costs to maintain infrastructure • High long term costs to replace infrastructure with low levels of reserves to do so • Current low level of airport income • 05/23 rated for heavy aircraft, but taxiways and aprons are not rated

<p>investment</p> <ul style="list-style-type: none"> • Friendly town atmosphere • Temora Aviation Museum • Land available surrounding airport • Existing hangar and airpark developments • Low cost structure for establishment of new aviation related industry and development • Low operating costs • Enthusiastic aviation community • No landing and aircraft parking fees • No airspace restrictions • No restrictive security complications associated with RPT • Large rural catchment area • Proximity to township • Proximity to Canberra & Wagga • Summer weather suitable for gliding • Relatively well serviced town 	
<p>Opportunities</p> <ul style="list-style-type: none"> • Potential for medium / heavy commercial aircraft maintenance • Potential for general aviation maintenance, sales and manufacture • Potential for commercial development, including flight training school 	<p>Threats</p> <ul style="list-style-type: none"> • Competition with other regional airports for commercial aircraft maintenance • Competition with other small airports offering airpark estates • Long term infrastructure replacement and maintenance costs

<ul style="list-style-type: none"> • Aviation airpark development • Potential purchase of land on eastern side of airport for future development • Rising costs of maintaining private aircraft at major capital city airports • Offering aviation based lifestyle away from hectic conditions at small metropolitan airports, intensified with the closure of some airports due to need for residential development • Attractive base for aircraft maintenance, manufacturing and associated • Attractive to aviation enthusiasts for hangar / residence development • Potential for historical, experimental and glider manufacture and maintenance • Sustainability, solar power • Potential for separate wider gliding strips alongside runway 18/36 to cater for additional gliding • Attracting competition in fuel supply to keep costs competitive 	<ul style="list-style-type: none"> • Cost and availability of aviation fuel • Developing land around the airport • Overdevelopment that could limit the potential to host events • Noise complaints • Restriction of airport activities
--	--

Data collected by Council is used to guide relevant engineering projects, maintenance requirements and their priorities. Data interpretation and identification of relevant constraints provide guidance to develop specific projects. The projects identified are prioritised to meet required capacity and physical capability of the airport into the future.

8.3 DEMAND ANALYSIS

- Numbers and Types of aircraft

Numbers and types of aircraft are remaining steady, with a mixture of recreational and seasonal agricultural aircraft, alongside daily low levels of small scale commercial aircraft and private jets.

- General Aviation, Temora Aviation Museum, Aero Club, Temora Flyers and Gliding Club forecasts

Numbers and types of aircraft are predicted to be similar to current levels in the future, with peak usage associated with TAM events, gliding events, community events organised by Temora Flyers, and seasonal commercial uses associated with agriculture. Increased potential is expected if commercial investment in pilot training and associated aircraft maintenance is achieved.

- Use of airport by emergency services

Recent investment in rural fire service infrastructure at Temora Airport consolidates the role of the site for district fire-fighting responsibilities, which necessitates the maintenance of airport infrastructure to required standards. The site maintains a role in medical transport, including refuelling of emergency aircraft.

8.4 CONSTRAINTS

Factors that are already in existence at the Temora Airport and must be considered in relation to new projects and developments are identified as constraints.

- Obstacle Limitation Surface (OLS)

The airport is a planning consideration when Council officers are presented with development proposals in the vicinity of Temora airport. The OLS restricts the location and height of new development in proximity to the airport. Red beacons are placed on towers erected in Temora for pilot identification purposes.

As the airport is located on the fringe of Temora, there are no immediate development pressures on the area. Surrounding development is generally low density or rural land uses. The airpark estate is being developed within the constraints of the OLS. Controls on other nearby land remain in place to limit additional residential development that may introduce land use conflicts.

- Runway Strips

The runways all remain in active use and the range of lengths, types and directions available to aircraft is an asset for Temora Shire, offering choice and safety. The ability for different types of aircraft, from small private aircraft, gliders and larger warbirds involved in air shows, to coexist and complement each other is a strength to be promoted. The retention of all runway strips, including the parallel gliding strips is intended to occur as part of the ongoing management of Temora Airport.

- Taxiways and aprons

The taxiways and aprons also remain in active use and their retention and maintenance is essential to support the ongoing use of the runway strips.

- Flood and Inundation

Flood studies of the airport took place during the investigation of the construction of Runway 05/23. A natural waterway is managed on the airport. Additional flood studies of land in the urban areas of Temora are currently underway.

- Removal of TAF Services

Currently there is an automatic weather station (AWS) installed at Temora. It provides pilots with weather data for wind, temperature, dewpoint (humidity), and pressure. The provision of Terminal Area Forecast (TAF) Services, ceased at Temora Airport on 5 March 2015 as an outcome of the TAF review. Temora Shire Council was very disappointed in this decision and has been lobbying ever since for its reinstatement.

Removal of the TAF has downgraded safety information for pilots both locally and those flying to Temora, and is a constraint to future investment at Temora Airport.

Council is currently lobbying for additional equipment to be installed will measure cloud, present weather and visibility, and for the reinstatement of the services to provide these weather conditions to pilots.

- Environmental and Heritage Constraints

Environmental constraints and heritage matters that are applicable to the Temora Airport are considered in Table 2.

Table 2: Environmental constraints identified at Temora Airport

Issue	Comment
Air quality	Use of aircraft does impact upon air quality. However, levels of use are considered low and minimal in relation to other sources of air pollution

	in the area, such as vehicles and dust. Burning off paddocks prior to crop sowing creates smoke issues, however risks are managed through notices from adjoining landowners
Biodiversity and threatened species	<p>The site and surrounding land is already cleared, developed and used for airport, residential or agricultural purposes. There are very limited habitat and native vegetation issues at Temora Airport.</p> <p>Managing issues relating to birds is ongoing. The DCP includes controls limiting planting types to species that are not bird attracting. Management practices at the airport discourage bird habitats on airport land.</p> <p>Active techniques are required to reduce the risk of bird strikes.</p>
Noise pollution	Increasing levels of aircraft usage will increase levels of noise from the airport. New developments within the vicinity of the airport are appropriately designed to manage noise impacts. Levels of usage are expected to continue to be low to moderate, with limited impact on existing residents.
Soil conservation	Impacts on soil as a result of new development will require management to avoid erosion from stormwater runoff and flooding.
Heritage conservation	Heritage buildings are preserved through the Temora LEP, with detailed information about historical usage recorded by Temora Shire Council and Temora Aviation Museum. Heritage issues would be considered as part of future development that may impact upon heritage items.
Obstacle Limitation Surface	Height limitations apply to all areas adjacent to the runways. A copy of the OLS is included in the Appendix to the Master Plan.

- Property Boundaries

Consultation with adjoining property owners forms part of the development of the Master Plan. Council must consider their input to the process and the supporting role that adjoining land delivers in providing buffers, visitor accommodation and future airpark and commercial development uses.

The precinct plans provide further details about possible future uses of adjoining property.

- Noise Contours

A noise contour map for Temora Airport is in place.

- Temora Aviation Museum

The Temora Aviation Museum has an immensely valuable role to the Temora Airport, attracting visitors to Temora Shire. The museum also has a complementary role by providing an additional attraction for airpark estate residents. Both private aircraft usage and the commercial role of the museum with display flights and testing work well together, given that overall usage is low.

- Aerobatics Box

The aerobatics box is an invisible box of airspace that is set aside for use by aerobatics pilots for training and competition. The availability of this airspace is an attraction for Temora when there is competition for airspace use in metropolitan and regional airports. Development is restricted in the vicinity of the aerobatics box and airspace usage is restricted when aerobatics is taking place. The ongoing use of the aerobatics box is a factor to be managed along with other competing uses of the Temora Airport.

- Development Zones

The existing airport zones are shown at **Appendix 8** of the Master Plan.

The LEP zones of particular interest as part of the Master Plan and relevant comments are shown in Table 3.

Table 3: Relevant LEP zones and future development

Zone	Comment
B6 Enterprise Corridor	Business zone that provides for a variety of land uses that complement the location of this land adjoining a State Road. This includes freight transport facility and light industry. Dwelling houses are not permissible in the zone,

	except where associated with a business, so land does not allow for residential airpark estate development. Land would require a land use study to demonstrate suitability and preference for land in B6 zone, and rezoning by NSW Planning and Environment for an air park estate purpose, if necessary.
R5 Large Lot Residential	Large Lot Residential land located to the south east of the airport covers an area of approximately 159 hectares. A minimum lot size of 2 hectares applies to the area. The area is already extensively developed, however there are some opportunities for future development by way of vacant large or subdivision potential. Reducing the potential for land use conflicts would form part of any development applications received by Council.
RU1 Primary Production	Rural zone. Functions as a buffer for the airport from other land uses. Controls in place to limit new dwelling houses that may introduce land use conflicts and noise issues.
SP1 Special Activities	Zone restricts land uses to Business Premises, Residential, Tourist and Visitor Accommodation, Incidental with Aviation. This zone recognises the special characteristics of this land with proximity to the airport. Construction of the final stage of the airport estate has commenced. This should meet demands for airpark estate lots for the next 5 - 10 years. Next stage must be confirmed as part of the Master Plan.
SP2 Infrastructure	Main airport zone, including runways, aprons (Council owned) and immediately surrounding rural land (mix of Council and private ownership). Privately owned land to West and South of runway – controls manage agricultural usage to minimise risk to airport operations. Council owned land located to the North – investigate potential for commercial development with managed flood risk
W2 Recreational Waterways	Lake Centenary. Complementary resident and tourist attraction nearby to airport. Offers swimming, fishing, water skiing, jet boats, cycling and walking destination, children's playground, and amenities.

- Regional Airline Operations

Temora Airport does not currently have operations by a regional airline, however it's relative proximity to Wagga Wagga and Canberra mean that frequent connections to Sydney and Melbourne are available, albeit with road travel of 1 or 2 hours respectively.

Temora Shire Council is not actively pursuing regional operators to commence regular public transport (RPT) services given the reality that any viable air services would be limited in frequency and operated with smaller aircraft than those services currently operating out of Wagga Wagga and Canberra.

Aviation security measures introduced by the Federal Government are a challenge for the commencement of RPT operations, due to the costs associated with new security fencing, passenger screening and aviation security identification cards. The introduction of RPT operations could in fact introduce some difficulties with respect to the securing of the aviation museum, airport residential and hangar developments.

However, there is potential for additional charter flights to use Temora Airport and increase access for passengers to and from major centres.

8.5 REGIONAL ECONOMIC GOALS

Temora Shire Council is actively developing strategies that are aimed at stimulating economic activity, growth and investment in the region across a broad range of opportunities, through its Economic Development Plan. Temora Airport is seen as an important driver of economic growth in the region, including attracting investment from outside of the area, and is a very important community facility.

Temora Shire Council has invested heavily in infrastructure on the airport, including the Airpark Estate, Runway 05/23 construction and support of the Temora Aviation Museum. Additional investment in airport infrastructure will occur in 2019/20 with the upgrades of runway 18/38, main apron, taxiways and drainage infrastructure under the Federal Government's Building Better Regions Fund. This investment will respond to requirements for aviation related tourism as well as commercial opportunities at Temora Airport into the longer term.

Temora Shire Council has adopted an Airport Usage Fees Policy and Fee Schedule. This will enable the collection of fees from users of Temora Airport, including:

- maintenance levy from Airpark Estate residents
- landing fees from commercial users
- agricultural usage fee
- non-aviation usage fee

This policy seeks to secure contributions from frequent and commercial users of Temora Airport, at modest levels that will assist with ongoing maintenance of Temora Airport, but not discourage usage or future investment.

Future goals for the airport are to:

- Encourage the provision of additional flexible training facilities. Temora Airport has the advantage of flying training that does not conflict with Regular Passenger Transport operations and the flight paths of capital city airports. Noise impacts are minimised due to low population density. In addition, the relatively safe flying weather throughout the year, along with flat to gently undulating terrain, offers attractive conditions for new pilots. There is available, underutilised land adjoining the airport that would support this development.
- Encourage complementary commercial businesses, including pilot training, engineering and other aviation related businesses
- Continue to support the Temora Aviation Museum aims to educate local students, and students living further afield about the operations of an airport as well as aviation history during wartime. Opportunities exist through in-class presentations and follow up behind-the-scenes tours.
- Improve facilities through additional hospitality and accommodation services, local employment opportunities and support for community functions on airport grounds
- Future Airpark estate expansion

- Flood study of Council owned land located north of the airport. Determine future purpose of this land.
- Increasing the number of visitors, improving the experience for visitors and increasing the range of events available in order to attract different markets of visitors.
- Improve the long term financial sustainability of Temora Airport through investigating and pursuing a diverse range of additional income sources.

The major financial issues associated with Temora Airport are that:

- It is a high value asset that requires significant maintenance expenditure in order to keep it in a usable condition, due to ageing and weathering of the infrastructure. Replacement costs for infrastructure are high.
- **Current lease, usage fees, tourism income and land rates revenue** provides only a **relatively small contribution to the annual expenditure** on the airport for maintenance and infrastructure development. Council has taken active steps to improve the financial sustainability of Temora Airport with the achievement of major grant funding, as well as a policy that secures contributions from regular users of Temora Airport. Contributions must be kept at levels that provide some support to ongoing maintenance costs, but does not discourage future usage or investment due to fees that are too high.
- Like many Council assets, the Airport is operated as a community service obligation with general revenue, alongside grant allocations, contributing to the bulk of finances allocated to the Airport.
- Council has determined that the development of the Airpark Estate will add significantly to the rate base and level of investment in the town. Income generated from the sale of lots is used to fund the future expansion of the Airpark Estate.
- Council has been generating additional income through supporting usage of the main runway for motorsport testing, which can occur without closing the airport
- Temora Shire Council has interest in encouraging pilot training schools and aircraft maintenance organisations to invest in Temora, to complement the existing industry in the region. Aviation related businesses are seen as an important driver for regional employment, business activity and training opportunities.

- Council is investigating any other opportunities in order to assist with improving the long term financial sustainability of Temora Airport.

9. FORECAST OF FUTURE OPERATIONS AND FACILITIES DEVELOPMENT PLAN

The future of the Temora Airport depends on the ongoing improvement of services and facilities, and generating additional sources of income, in order to:

- strengthen its role as a valuable infrastructure asset,
- be suitably maintained into the future, and
- continue to support a diverse local economy.

The overall factors to consider for future development are:

- Considering the wider area around the airport, and taking the airport into consideration in relation to proposed developments
- Managing competing interests as part of future planning
- Serving a wide range of aviation uses including recreation, business, tourism, emergency, lifestyle and agricultural uses
- Focus on repairs and maintenance of infrastructure, and quality of work. Regular maintenance of existing infrastructure such as condition of taxiways and weed management will reduce overall maintenance costs
- Works designed for purposes of use, such as taxiways and aprons constructed with sufficient strength for the intended usage.
- Mapping of existing infrastructure, such as underground drainage for purposes of risk management
- Improving economic viability through additional income sources
- Maintaining the provision of emergency services role at the airport
- Ensuring a high standard of development in the airpark estate

- Focus on long term sustainable growth in uses, events, attractions, facilities, well maintained and financially sustainable infrastructure, and air park estate development
- Ensuring that future development does not impact upon aircraft displays and events

Based upon the analysis of the existing facilities and considering the vision and objectives identified, the facilities development plan covers the development of the airport's infrastructure into the future. This development plan responds to:

- global, national and regional aviation trends - economic, social, tourism and population information
- benchmarking against similar airports and larger airports for possible future growth options
- security requirements
- required capacity/physical capability, including:
 - o weather forecasting services
 - o pavement strength
 - o GPS approaches
 - o terminal development
 - o car parking needs
- Council's identified vision and objectives

These factors are considered in further detail below:

9.1 TEMORA AIRPORT DEVELOPMENT PLAN

Temora Shire Council appreciates the value of the Temora Airport as a commercial, recreation, emergency services, agricultural, lifestyle and tourism asset. The Temora Airport has already diversified in its operations through the strategic decision of Council, through attracting the development of the Temora Aviation Museum, developing an Airpark Estate over the past 20 years and supporting the continuing use of the airport for commercial, recreational, agricultural, tourism and emergency services purposes. This diversification is assisting with retaining existing residents, attracting new residents, the

creation of new jobs and small businesses and supporting the Shire's largest employer, the agricultural industry.

However, there is a strong awareness that in order to work towards increased economic sustainability and the maintenance of airport infrastructure into the future, there is a need to do more to attract business investment to Temora Airport.

The strengths and opportunities identified give weight to the case for attracting a pilot training facility and related commercial aviation businesses. Temora can offer existing suitable infrastructure, available land, ideal climate for trainee pilots, and the unrestricted airspace needed to contribute to meeting the demand for training the large number of pilots required in the Asia Pacific region.

The attraction of a suitable aviation business will be a complementary development to the existing airport land uses, and support the continuation of these existing uses into the future.

9.2 ENGINEERING PROJECTS AND MAINTENANCE REQUIREMENTS

Assets, Engineering Project Identification and Tasks

This section considers and develops the Temora Airport's:

- Financial Strategic Development Plans – 5, 10, 20, 50, 100 years
- Capital Expenditure Plans and Operational Expenditure Plans
- Asset Management Plans

Building on the data and identified constraints, specific engineering projects are identified and prioritised as applicable to airport assets, as shown in Table 4.

Table 4: Airport Assets, Projects, Costs and Timeframes

Asset	Project	Task cost and timeframe
Overall sealed areas	Resealing and line marking	\$600,000 – over the next 10 years. Ongoing to asset renewal schedule
Runway 05 / 23	Runway 05/23 has been	Linemarking \$50,000

(main runway)	recently repaired due to flood damage in 2016. It is in good condition, however will require long term asset replacement funds to be allocated.	2018/19.
Runway 18 /36 Strengthening 44,400m ² (sealed North-South runway)	Runway 18/36 is the runway most often used by airpark residents and general aviation users. This runway also doubles as a taxiway for larger aircraft accessing the Temora Aviation Museum and main apron area from the main runway 05/23. Runway 18/36 is considered to be in relatively poor condition, but fair condition for its age and intended use. However, due to this runway being required to accommodate taxi operation from the main runway 05/23, it is significantly under strength and requires strengthening to accommodate taxi operations of large aircraft.	\$3,286,175 by June 2020
Runway 09/27 (unsealed East-West runway)	Renewal	\$3 million – over next 40 years
Main Apron Reconstruction 19,000m ²	The main apron is used for aircraft parking, hangar access, along with taxi, emergency and refuelling operations. The apron area is integral to the continuing operation of the Temora Airport. The current apron area is considered poor with particular sections of the	\$912,997 by June 2020

	apron being at the point of unserviceability.	
Taxiway construction	Reconstruction and strengthening of taxiways C and D (3000m ²), enabling taxi operation of PCN 20, Code C aircraft from runway 05/23 and the Temora Aviation Museum.	\$274,000 by June 2020
Taxiway sealing	Preparation and initial bitumen sealing of taxiways F and G (2500m ²), enabling aircraft operation and Aviation Museum aircraft display.	\$118,192 by June 2020
Airport Arterial Drainage	<p>Following significant development at the Temora Airport over the last 20 years, the current original underground drainage is operating significantly above capacity causing frequent flooding of flat areas of the airport, including runways, aprons and taxiways north of the Aviation Museum.</p> <p>The additional flooding caused by this overcapacity infrastructure is accelerating the deterioration of airport infrastructure that is already in a poor condition.</p>	\$761,787 by June 2020
Hangars	Renewal and maintenance as required	\$500,000 over 20 years
Helicopter facilities	Dedicated helicopter facility – concrete landing pad	Complete
Emergency services facilities	Rural Fire Service facilities in place. Council may be required to maintain this in	State Government allocation

	the future	
Roads	<p>Stormwater drainage improvements needed in Tigermoth Avenue, along the edge of the taxiway</p> <p>Rehabilitation over 20 years. Reseals and linemarking as per asset management plan</p>	\$100,000 over 20 years
GPS/GNSS approaches	Potential for licensing fee in the future	Unknown
Terminal development	Potential commercial development/leasing	Negligible cost to Council. Subject to need.
Car parking	<p>Existing parking levels at both the Temora Airport and Temora Aviation Museum are considered suitable for current usage levels. Special event parking arrangements occur for Warbirds Downunder, which uses offsite parking and bus transport.</p> <p>Reseal and linemarking</p>	Renewals costed under roads
Lighting	<p>Runway lighting subject to ongoing maintenance.</p> <p>Street lighting</p>	<p>\$15,000 annually</p> <p>\$25,000 each street light</p>
Environmental management	Vegetation, wildlife, flooding and drainage. Including managing risk of bird strikes, flood study, fencing, chemical spill risks, fuel facilities, hazardous substances	Subject to individual investigations

9.3 SECURITY REQUIREMENTS

Temora Airport is currently secured with fencing and lockable gate access to the airside. Signage is posted to ensure vehicles are not parked in the direct flight paths.

Access issues are monitored regarding:

- access to the airport by support vehicles (including fuel, fertiliser and water trucks), inspection vehicles. Flashing beacons or hazard lights are used to identify airside vehicles.
- access to the airport is controlled through Temora Shire Council, Temora Aviation Museum, Temora Aero Club, Temora Gliding Club and Temora Flyers Inc

Airport inspections monitor condition of infrastructure and ensuring airpark estate access gates are not left open. Additional safety signage, fencing and managing airside interactions are required as actions.

9.4 FACILITY IMPROVEMENT PROJECTS

In addition to engineering projects and maintenance requirements, specific facilities improvement projects are identified.

These include:

- Refuelling facilities
- Aerial agricultural uses of the airport
- Future cabin development
- Temporary additional accommodation
- Caravan storage facility
- Partnering with Temora Aviation Museum

Refuelling Facilities

Council has undertaken works at the existing Skyfuel-operated fuel bowser, specifically pouring of a concrete slab and installation of a motion-activated light. Skyfuel intend to install a credit card facility for automated purchase of Jet A1 fuel.

Upgrade of taxiways is required to ensure long term suitable access.

Aerial agricultural use of Airport

Medium sized planes (in excess of 5,700kg) trucks and other equipment use the airport for aerial spraying and fertiliser spreading. Council has recently improved access for agricultural usage by designating a suitable area for truck parking and manoeuvring away from the aircraft apron.

Future Cabin Development

There is potential to enhance and expand upon the cabins currently offered by Council at the Airport.

The cost of construction of stage 1 of the cabin development was approximately \$150,000 in 2009.

Cabins 1 and 4 are less frequently occupied due to the lack of self-contained facilities and are usually only occupied when use as an interconnecting room to the adjoining self-contained rooms. Cabin 1 has the potential for an additional bathroom and kitchen to be constructed in order to make this cabin self-contained and increase its usage. Cabin 4 is constructed to the building line of Tenefts Street so would not be suitable for this modification.

Cabins 2 and 3 are occupied most weekends throughout the year. Longer stays occur for visiting groups, such as for waterskiing, and contractors working in Temora.

The cost of constructing Stage 2 is estimated to be \$180,000. It is proposed that at the time of construction Cabin 1 is modified to become a self-contained unit, whilst still remaining interconnected to Cabin 2. This is estimated to cost \$20,000 for this modification.

It is recommended that Stage 2 of the development include ensuite bathrooms to all rooms, with the flexibility of interconnecting doors to cater for families and large groups.

Current accommodation costs of \$110 for two people for Cabin 2 or 3 and \$60 for 2 people for cabins 1 or 4 per night, with \$10 per extra person. This should be increased once Stage 2 has been completed.

It is desirable to consider the ability of visitors to access views of the airport from their cabin or from designated areas.

Council will continue to monitor demand, as additional accommodation options are available nearby to Temora Airport, including Sky Lodge at Temora Aviation and holiday cabins located on Airport Street.

Temporary additional accommodation

At certain times throughout the year, additional visitor accommodation needs to be provided, in excess of normal demands. This is most keenly felt during the Warbirds Downunder event at the Temora Aviation Museum, held every two years, where up to 20,000 visitors have attended the museum.

Previous Warbirds Downunder events have expanded the existing Temora Airfield Tourist Park to overflow capacity, with unpowered caravan and tent sites, as well as land used on Bartondale Road to accommodate visitors in a 'tent city', set up and managed by outside operators. In addition, there is the capacity to accommodate further visitors at Lake Centenary, if necessary. Maps 5 and 6 below indicate the locations of large event visitor accommodation at Temora Airport.



- - - Main caravan park - - - Overflow caravan park - - - Additional warbirds camping

Map 5: Site of Temora Airfield Tourist Park

These sites include Council owned land and privately owned land, located east of Airport Road. It is the current position of Council that this land, shown by Map 6, be retained in Council ownership for overflow camping purposes, as well as glider trailer tiedown area during major gliding events, by prior arrangement with Council.



Map 6: Council owned land used for overflow camping purposes and trailer tiedown during gliding events

Map 7 shows the location of the tent city site, where private land was used to accommodate visitors to Warbirds Downunder. Tents were erected and included with camping beds for visitors to use, alongside temporary amenities and camp kitchen facilities. This type of accommodation is only expected to be needed for Warbirds Downunder. However, as the airpark expands into the future, alternative sites may be needed.



Map 7: 'Tent City' site, on Bartondale Road. Located on private land

It is the position of Council that the potential for camping at Lake Centenary for special event purposes be explored prior to the next Warbirds Downunder event beyond 2018.

Caravan Storage Facility

When the modern caravan park was created by Temora Shire Council at Temora Airport, several long term caravans were in place at the site. Council provided a storage area for these caravans so that previous users of the old caravan park were not disadvantaged. The modern caravan park has been in operation for many years now, so a reasonable period of free caravan storage has been enjoyed by the owners of these caravans. It is now appropriate that these caravans now be moved offsite so that other land uses can occur on this site. The caravan storage site, located behind the campground amenities block, is shown in Map 8.



Map 8: Existing caravan storage facility

It is the position of Council that any caravans, glider trailers or similar that require long term storage at Temora Airport be stored within this facility, and not elsewhere at the airport. Further, those using the storage facility will be charged a weekly fee by Council for this service.

9.5 OPERATIONAL MANAGEMENT

Air safety is the highest priority when considering operational management.

Temora Airport has a very good safety record and pilots are using the airport with regard to their own safety and that of others. Council's role is to assist with this ongoing cooperative use of the Temora Airport by the many stakeholders who have an interest in the airport.

Council has a role in balancing these competing interests and needs, considering existing and future airpark residents, ability to access the runways with few restrictions, maintenance and upgrade of infrastructure to allow airport use, and risk management of aircraft in relation to nearby development.

Current operational management occurs through Council, with the Engineering Department overseeing major operational procedures. Daily management of the airport is tasked to Council officers involved in scheduling commercial usage, maintenance and security. The Aerodrome User Committee has a role in assisting Council with both short and long term decisions relating to the airport. In addition, an airport operational group meets 2-3 times a year to discuss airfield and aerial operations from a mixed safety user perspective. This group comprises those involved in flying training and the Temora Aviation Museum and is primarily focussed on risk management associated with mixed operations. It is largely an information sharing forum.

The current arrangement allows Council to maintain an active involvement in the condition and usage of the airport. This is desirable given that the airport is one of Council's most valuable assets, its maintenance is a specialised role and the airport has high levels of Council investment relating to both asset maintenance and infrastructure provision, particularly relating to the Airpark Estate. The role is managed efficiently through the allocation of resources for only the specific hours necessary, rather than a full time role.

10. FUTURE DEVELOPMENT PLANS

The future development opportunities, including additional land purchases and arrangements to support future growth and investment at the Temora Airport are described in the following sections.

10.1 FUTURE DEVELOPMENT OPPORTUNITIES

In addition to maintaining and renewing existing assets and improving existing facilities at Temora Airport, the Master Plan identifies future development opportunities to be examined and determined to be implemented over the medium to long term. These projects include:

- Airport landholding and potential land acquisitions
- Commercial aviation development
- Airport Tourism
- Multipurpose airport building
- Private aircraft storage
- Adjoining development and aircraft noise contours

Airport Landholding and Potential Land Acquisitions

Council must consider the future expansion of the airpark estate, to accommodate future residential and commercial uses, including businesses and commercial hangar space. There are two identified sites available. Both sites may be utilised for future development purposes, as demand requires.

Site 1 - North of the airport

Council owns land to the north of the airport, known as Lot 1 DP 786998 and is zoned SP2 Infrastructure (Airport). This site, shown shaded at Map 9, whilst convenient in proximity, has significant constraints due to significant flooding and drainage issues, as well as the potentially adverse impacts with Runway 05/23, such as turbulent winds. In addition, issues could arise in relation to requirements for aircraft displays to be limited to airspace above vacant land or unoccupied buildings.



Map 9: Council owned land north of Temora Airport

Site 2 – Former Temora Saleyards land

This land is the site of the former Temora Saleyards. This land, shown by Map 10, has the advantage of already being in Council ownership. However the site is disadvantaged by its disconnection from the existing Airpark Estate and lack of ready access to the runway. The site is not level, and it is contaminated due to its previous use.



Map 10: Location of Temora Saleyards land in relation to Temora Airport

Further to the Temora Saleyards land, the airpark could potentially be expanded with the inclusion of additional privately owned land. Council has taken steps to secure the long term development of land adjoining Temora Airport. It is of strategic importance to engage with these landowners so that arrangements could be negotiated for suitable purchase, if necessary.

In addition, land with frontage to the airport, used as large lot residential land with taxiway access to the runway, could be redeveloped for aviation related industry, for example a pilot training facility with onsite accommodation. The project is intended to support the long term viability of the investment in the runways at Temora Airport, as well as strengthening the Temora Aviation Museum.

Boeing estimates the world will need about 640,000 more pilots in the next 20 years, with 40 per cent in the Asia Pacific region. That level of demand makes the academy important Australian aviation more broadly, so that all parts of the industry have access to qualified pilots in a country that relies so heavily on air transport (QANTAS, 2018).

Excluded sites

Three other sites are excluded from consideration. Due to the need to restrict residential development under the direct flight path, two of the excluded are sites along Bartondale Road and surrounding Runway 05/23.

Map 11 shows Council owned land. This site is used as a trailer tiedown area during major gliding competitions and includes tiedown cables.



Map 11: Council owned land Bartondale Road

Land adjoining Runway 05/23, known as Lots 2 and 3 DP 1104736 is in private ownership, used for cropping purposes is also zoned SP2 Infrastructure (Airport), with a covenant to ensure that it is not developed or used for other non-compatible uses. This land is therefore excluded from consideration for development as part of the airpark estate. This is shown shaded by Map 12.



Map 12: Land in private ownership zoned SP2 Infrastructure (Airport)

Land located east of Temora Airport is in private ownership and is located on the eastern side of Airport Street. There are issues in relation to accessing the airport via taxiway across Airport Street. This could involve the closure of Airport Street or the relocation of the rail crossing between Goldfields Way and Airport Street. An option of a taxiway bridge over Airport Street would likely to be prohibitively expensive.

Therefore, land on the eastern side is excluded for now from further consideration.

Commercial aviation development

Whilst providing current and future land for development of the airpark estate is a major focus of the Master Plan, providing a suitable site for future commercial development, on a range of scales is also a priority.

Council owned land located north of the airport, shown at Map 13, has some identified constraints, including flooding, access and servicing. Therefore its future use remains unknown.

Other land, in private ownership, located between the airport and Airport Street, is being investigated for future commercial development purposes, as discussed further in Section 13.



Map 13: Council owned land located north of the airport is recommended to be retained for future purposes, guided by Temora Flood Study

Airport Tourism

Attracting tourists to Temora based around the Airport involves:

- Promoting awareness of attractions at Temora Airport to locals, who will bring visiting friends and relatives to experience the attractions
- Include social media, Narraburra News and local newspaper media releases
- Including a visit to the airport as part of other attractions in Temora:
 - Heritage enthusiasts visiting Temora Aviation Museum, Rural Museum and Railway Temora
 - Action enthusiasts also visiting Temora Jet Boats at Lake Centenary
 - Aviation enthusiasts encouraged to visit Temora Aviation Museum, as an independent traveller for a single trip, as part of a tour group, or as part of a longer road trip journey.
 - Sports related visitors – participants and spectators encouraged to combine their attendance at a Temora sports event with a visit to Temora Aviation Museum, which may involve overnight accommodation

- School students studying Australian history, engineering and science
- Airport events
 - Pilots encouraged to visit to attend aviation related events organised by Aero Club, Temora Flyers Inc, Temora Gliding Club or Temora Aviation Museum
 - Increasing numbers of participants and spectators involved
 - Managing competing airport uses

Multipurpose Airport Building

The Community Strategic Plan identifies the potential for the development of a multipurpose airport building at Temora Airport. The purposes of this building is intended to include: meeting rooms, office space, event and function room suitable for the hosting of flying events and as well as other events, including commercial kitchen and bar area, a briefing room used in preparation of flying and gliding events, and sufficient car parking.

There is support from the aviation community for the development of such a building in order to enhance the attractiveness of Temora as a host for large scale aviation events such as antique aircraft gatherings, gliding championships, aerobatics contests and other recreational aviation events. The building could also be utilised by local flying training organisations, local flying clubs, airpark residents, visitors and locals of Temora Shire.

The concept was investigated as part of the conferencing and events study, conducted by Council officers, with consultant support, with regard to the demand, sustainability and potential return on investment of such a facility.

The outcomes of the Council conducted conferencing and events study revealed that the Temora Aviation Museum is considered to be the venue with the greatest potential to support future conferences and events in Temora, especially those related to aviation, at least in the short term. The TAM meets the criteria of unique experience, existence and capacity of current management staff, and ability to source grants/partnerships for future growth, supporting this study outcome.

There is potential for efficient improvements to the Temora Aviation Museum to be explored to support opportunities that are more diverse to attract visitors to Temora.

The Temora Aviation Museum, being Temora's most prominent tourist attraction, and the use of warbirds in all of Temora Shire's branding and identity, reinforces the need to strengthen this venue into the future. The museum was created through the vision and investment of a benefactor, however there is a need to diversify income sources to ensure long term viability of Temora's strongest tourist attraction.

The retention of the TAM is also an attractive feature of the Airpark Estate, offering residents volunteering opportunities with associated community connectivity. This diversification approach is consistent with the direction of management of the TAM, who have included the touring exhibition of Da Vinci Machines and opened up its accommodation to the visiting public through the refurbished Sky Lodges.

There remains untapped potential to enhance and diversify the visitor experiences at the TAM. This includes underutilised infrastructure that could accommodate seminars and learning in a unique setting and, with some additional investment, providing enhanced experiences to accommodate conferences offering catering, presentation and meeting spaces.

Tasks to progress this project are:

- investigation of existing buildings at the airport, potential refurbishment and repurposing, opportunities for extension, in partnership with the Temora Aviation Museum,
- applying for heritage grants to increase public accessibility to aviation heritage
- future development with regard to existing function facilities located in Temora

The success of the project will rely on achieving multipurpose options for the site, with efficient and effective investment and promoting the venue as part of a package experience. This is needed to entice visitors away from a larger centre or metropolitan venue, in order to enjoy a unique experience that offers value of attendees time to travel to and from the venue, as well as high quality experiences during their stay. This leads to support of the TAM by complementary venues in Temora offering quality accommodation, meals, attractions and experiences (Rural Museum, Railway Temora, Lake Centenary, Town Hall Theatre, Restaurants/Cafes, Golf Club). It is also appropriate to be actively involved in encouraging new high quality venues that will appeal to both locals and visitors, similar to the experiences of Junee and Coolamon, which are logical choices given Council's existing partnerships with these Councils through the Canola Trail tourism initiative.

Events must be able to cater for a range of budgets, with cost of living expenses reducing the level of disposable income for many tourists. Many retirees that visit Temora would be expected to have modest incomes. In addition, the local region, being the closest source of visitors, as a whole, has lower overall incomes than metropolitan residents living further from Temora.

The Temora Memorial Town Hall, currently being upgraded, can also fulfil a role as a large scale stand-alone conference and event space, albeit not located at Temora Airport.

The demand for an additional multipurpose airport building will require further investigation into its function, design and feasibility before any future commitments to developing this building are made.

Private aircraft storage

Provision for private aircraft storage, outside of the requirements for house and hangar development within the airpark estate, is an opportunity that could occur. The site would require taxiway access and may be a future opportunity within the next stage of the air park estate.

Adjoining Development and Aircraft Noise Contours

It is important to manage adjoining land uses in order to protect long term airport operations from the encroachment of inappropriate development into noise affected areas, to ensure that sensitive land uses are not located in areas of unacceptable aircraft noise and the amenity of surrounding development is not adversely affected by aircraft noise.

An Australian Noise Exposure Forecast (ANEF) provides a scientific measure of aircraft noise exposure taking into account frequency, intensity, time and duration of aircraft operations. It is used to map expected aircraft noise level around an airport. ANEF standards shall be referred to where development is proposed that is located within land affected by ANEF contours.

The Obstacle Limitation Surface (OLS) are a series of reference surfaces that control available airspace around the airport and may define the desirable limits to which objects may project into the airspace to ensure the safety of aircraft operations. An OLS map is included in the Appendix.

Two criteria will govern the distance from the centerline of the runway to any buildings to be constructed on the site. These are:

- Runway, taxiway and apron clearances
- Obstacle Limitation Surfaces

11. AIRPORT PRECINCT CONCEPT PLAN

A draft airport precinct concept plan has been developed to indicate future land uses within the Temora Airport.

11.1 CONCEPT PLAN & STAGING

The draft Airport Precinct Concept Plan is shown in **Appendix 1**.

The concept plan identifies particular precincts for future development. Table 5 provides details of projects within various airport precincts.

Table 5: Temora Airport Precinct Projects

<i>Airpark estate precinct</i>		
Project	Stage	Status
Completion of Airpark Stage 4 Spitfire Drive. Lots offered for sale.	One 2018 start	Currently occurring
Surveying and design of Stage 5, former saleyards land, including securing taxiway access to runway	One 2018 start	Currently occurring Will require rezoning to SP1 zone (Aviation) from Saleyards
Negotiations for acquiring additional land for first part future airpark estate expansion	One 2018 start	Currently occurring Economic Development Manager to discuss with landowner as directed by Council. Will require rezoning from R5 to SP1 zone
Investigate potential development of vacant land for future airpark estate expansion	Two 2019 start	Currently occurring Economic Development Manager to discuss with landowners as directed by Council

		<p>Will require consultation with TAM as part of land used for tent accommodation during Warbirds Downunder</p> <p>Will require rezoning from R5 to SP1 zone</p>
Negotiations for purchase/arrangements for second part future airpark estate expansion	<p>Two</p> <p>2019 start, depending on outcome of saleyards land surveying and design</p>	<p>Currently occurring</p> <p>Economic Development Manager to discuss with landowner as directed by Council</p> <p>Will require rezoning from R5 to SP1 zone</p>

<i>Agricultural usage precinct</i>		
Project	Stage	Status
Completion of design for agricultural usage, located north of Spitfire Drive, including truck unloading and turning area off Airport Street (non-airside), aircraft taxiway and loading apron (airside), safety fencing and water tank storage area	<p>One</p> <p>Continuing in 2019</p>	Currently occurring
Complete works associated with new agricultural usage site	Commenced late 2018	Continuing 2019

<i>Commercial aviation business precinct</i>		
Project	Stage	Status

Complete preliminary design of commercial precinct using Council surveyors and input from Temora Flood Study, including access design and identifying land potentially suitable for future development. Opportunities include aviation training facility, engineering maintenance training facility, aviation support businesses and private hangar storage facilities. Design to consider potential for alternate residential airpark usage.	One Flood study commenced early 2018 Site surveying following flood study	Currently occurring
Consultation with Temora Aviation Museum and input to OLS separation design from aviation consultant	Two Commence 2019 if survey supports further investigation	Future Project
Promotion of commercial development opportunities at Temora Airport	Three Commence 2019, as required based on design outcomes	Future Project Economic Development Manager to promote as directed by Council

<i>Existing Operations and Emergency Services precinct</i>		
Project	Stage	Status
Rural Fire Service water tanks installation	One	Complete
Upgrade of main airport apron, including refuelling areas, helicopter landing and aircraft parking areas	One Complete highest priority tasks as budget allows	Commencing Draft plan prepared. Budget and staging being considered

Upgrade to provide Code A, Code B and Code C taxiways	Two Upgrade taxiways to provide aircraft with access to runways and apron	Commencing Draft plan prepared. Budget options and staging being considered
Improvements to airport security through additional and upgraded fencing and access gates, improved separation of airside and non-airside areas to manage public access	One Complete investigation early 2018 Priorities tasks and complete works as budget allows	Commencing Draft plan prepared. Budget options and staging being considered

<i>Aviation tourism precinct</i>		
Project	Stage	Status
Investigation of potential for visitors to access Aeroclub Hangar for airport viewing and access to refreshments	Two Considered as part of security review and future consultation with Aeroclub. Requires managing access to be non-airside, schedule of volunteer opening hours, managing access to Temora Aviation Museum. Potentially funded through grant application.	Project commencing 2019
Provision of additional cabin accommodation at Airpark Caravan Park	Three Consider further in conjunction with TAM, as 12 rooms now	Future Project

	available at Sky Lodge, operated by TAM.	
--	--	--

<i>Museum precinct</i>		
Project	Stage	Status
Diversification of experiences, events, services and attractions at Temora Aviation Museum to appeal to visitors and encourage return visits. Consider future travelling exhibitions, similar to Da Vinci machines, more interactive experiences, guided tours, films, and history-focused events.	One Continue supporting role to Temora Aviation Museum to strengthen Temora's major tourist attraction	Ongoing

12. FINANCIAL SUSTAINABILITY

Building on the knowledge of the identified infrastructure demands, in terms of maintenance and future replacement, there is a need manage the long term financial sustainability of Temora Airport, to enable the continued delivery of economic and social benefits of Temora Airport to the region. Council has adopted a number of actions to improve revenue from Temora Airport to assist with maintaining this asset.

Ongoing Airport Income

The largest source of income to the overall Temora Airport budget is the annual maintenance allocation from Council, which is currently approximately \$278,000 and is projected to increase to \$309,000 by 2024/25. Other incomes sources include:

- Airport maintenance fee (commencing July 2019)
- Landing fees for commercial users (commencing July 2019)
- Non-aviation user fees (Commenced. Periodic income source)
- Agricultural usage fee (Commenced. Seasonal income source)

- Lease income
- Airpark estate lot sales (used to fund future stages of the Temora Airpark Estate)

Airport Usage Fees Policy

Council adopted at Airport Usage Fees Policy in March 2019. This system aligns with a user pays system, whereby those who gain the most benefit from an asset contribute to its operational costs. The key concepts of the policy are:

Airport Maintenance Fee

All landowners of the Temora Airpark estate are required to contribute towards ongoing maintenance of airport infrastructure through an annual **Airport Maintenance Fee**. The fee is collected separately to rates. The fees collected will be used to contribute only to the ongoing maintenance and operations of Temora Airport and not used for general revenue purposes. Any increase in fees will be limited to increase only by Consumer Price Index (CPI). Any unspent fees will be kept in a reserve that may only be used for airside airport maintenance purposes, in consultation with the Aerodrome Users Committee and by resolution of Council through an allocation within Council's budget.

Landing Fees

Council does not change landing fees to recreational pilots using Temora Airport. This includes residents of the airpark estate who are using the airport for recreational flying, and recreational visitors to Temora Airport.

However, landing fees apply to commercial users of Temora Airport, based on the weight of the aircraft, in response to Council's adopted fee schedule. The fees are negotiable, with the fee schedule used as a starting point for discussion, with frequency of usage and economic contribution considered as part of agreement on the relevant fee. The exemptions from landing fees for commercial aircraft apply to:

- Small business operators who are residents of Temora Shire are exempt from landing fees. Small business operators involve the employment of no more than 2 persons other than those residents as well as the submission to Council of relevant information advising of the scale of the business, including (where relevant) number of students, number of expected clients and level of usage of Temora Airport to conduct the business
- Temora Aviation Museum aircraft, including guest aircraft, are exempt from all landing fees. This exemption applies as a result of their financial contribution in constructing Runway 05/23.

- Emergency services aircraft that are using Temora Airport for emergency purposes are also exempt from landing fees

Larger commercial aircraft place greater demands on airport infrastructure and it is therefore reasonable that heavier aircraft contribute more towards airport maintenance. Council will contact regular commercial users of Temora Airport to obtain data of landing frequency, weight of aircraft and fee amount, before preparing six-monthly invoices for payment by the commercial operator (in advance). Landing fee amounts will be set annually by Council. Commercial aircraft using Temora Airport will be required to make their landing fee payment prior to any pavement concession that may be required for their aircraft to land at Temora Airport.

General economic benefit

In addition, a thorough review of the calendar of events at the airport and the exploration of new ideas of airport events is needed. This is required in order to ensure that the wider community is benefiting from a sustainable level of visitors who are boosting the local Temora economy through attending airport related events, whilst still providing for the continued enjoyment of the airport by Airpark residents. This issue will be a regular item considered at the Aerodrome Users Committee Meeting.

13. IMPLEMENTATION

The implementation section of the document involves the coordination of the background information and analysis of identified issues to formulate a range of recommendations to be considered, adopted, funded and implemented.

The Master Plan makes the following recommendations for future actions and their timing for implementation in Table 6. Concept Plans for precincts within Temora Airport are included at **Appendix 1**.

Table 6: Recommendations for future action and timeframes

Issue	Comment	Timeframe
<i>Data</i>		
Data recording	Collect data of regular commercial flights for use in collecting landing fees, if required	Short Term Within 12 months
Aerodrome Weather Forecasting (TAF)	Council and stakeholder must lobby for the reinstatement of TAF from Temora Airport	Short Term Within 12 months
<i>Strategic Planning</i>		
Risk Assessment	<p>Responding to CASA requirements, managing risk of wildlife strikes, managing noise, security. System for recording wildlife strikes and near misses. Council insurance review regarding issue of risks to aircraft using unrated taxiways and aprons</p> <p>Response to independent airport safety advice and recommendations</p>	Short term Within 12 months
Commercial development	<p>Need to identify land suitable for future commercial development opportunities, such as aviation related services, lease hangars. May have the option for airpark estate use as well.</p> <p>Include Aviation Industries within the Temora Economic Development Strategy, which considers current and future industry infrastructure and business support needs.</p> <p>The Transport and Logistics Industry Skills Council Ltd reports that there is expected continued demand for aircraft pilots, flight instructors and maintenance engineers.</p>	Short term Within 12 months

Asset renewal plan	Develop an asset renewal plan covering projects, costs, timeframes, process and funding	Short term Within 12 months
Flood Study	Completion of flood study and mitigation works, including land north of the airport, owned by Council, which may not be suitable for future development due to several factors.	Medium term Develop plan within 5 years
<i>Infrastructure</i>		
Airport Aprons	Develop a prioritised plan for the staged upgrading of existing aprons to standards suitable for their usage. Future aprons to be designed to a suitable minimum standard	Short term Within 12 months
Jointly funded infrastructure	Consider the concept of improving airport infrastructure through contribution on a non-cash basis, such as raw materials, or through fund raising events	Medium term Develop plan within 3 years
Fuel supply	Providing opportunity for accessible and competitively priced aviation fuel to be supplied onsite	Short Term Within 12 months
Caravan park	Caravan park is working well and is popular with visitors. Review use of Council owned land within the air park estate for overflow camping requires review. Investigate demand for next stage of airpark cabin development to complement caravan park.	Short term Within 12 months
Caravan storage area	Contact caravan owners to advise that Council will no longer be providing caravan storage and owners should	Short term

	collect their caravan from Temora Airport.	Within 12 months
Former Terminal building use	Currently leased to Temora Flyers Inc, as a meeting place for local and visiting pilots. Council to maintain connection with group through EDM, and support their commitment to organising and providing local aviation related events	Short term Within 12 months
Airport fencing	As fencing requires replacing, consider the type of fencing to ensure suitability and attractive presentation of airport	Short term Develop policy within 12 months
Telecommunications	Receive advise about the current level of telecommunications services at Temora Airport, optimal levels of service and make submission to relevant carriers and Government Ministers to achieve improvements	Short term Collect relevant status and optimisation data within 12 months. Contact telecommunications providers and relevant Ministers
<i>Income</i>		
Airport Maintenance Fee	Commencement of Airport Usage Fees Policy	Short term Commences July 2019
Rental fees	Review rental fees charged by Council for usage of airport buildings	Short term Within 12 months
Landing fees for commercial airport users	Commencement of Airport Usage Fees Policy	Short term Commences July 2019
<i>Tourism and Events</i>		
Multipurpose building	Consider option for improving aero club to be more accessible for multipurpose uses. Consider opportunities through partnerships with Aviation Museum and heritage grants and possible purpose built	Short term Within 12 months

	facility.	
Large event accommodation	<p>Continue with current arrangements of leasing land for use in large events.</p> <p>Potential for additional overflow camping at Lake Centenary (special event). Consider issue of Lake Centenary viewing area, costs of additional cleaning and waste management.</p>	<p>Short term</p> <p>Within 12 months</p>
Current airport events	<p>Managing the current calendar of events at the airport. Review what events occur at the airport and if they involve closing the runway or airspace. Managing events in conjunction with private usage, considering landowners have invested in the airpark estate in order to enjoy regular flying. Review economic benefits of these events, such as number of participants, spectators, flow on economic benefits to the Shire. Examine non-recreational aviation uses including motorsport events. Increasing requirements for event organisers to promote visitation to Temora, rather than Temora being just a venue for an event with a small number of participants.</p>	<p>Short term</p> <p>Within 12 months</p> <p>Include EDO and CCS/E</p>
New events	<p>On review of calendar, consider scope to increase events that attract participants and spectators, bringing wider economic benefits and promotion of Temora Shire. Particular focus on events that allow for continued use of airport for private recreational aviation to continue during the event.</p> <p>Continue to create events or exhibits that excite our community and attract tourists, by tapping in to our strengths,</p>	<p>Short term</p> <p>Within 12 months</p> <p>Include EDO and CCS/E</p>

	including flying festivals. This includes attracting and maintaining high standard events, both large and small. It is imperative that the airport is generating wider economic return to the community if no landing fees are to be introduced, in order to respond to Council's ongoing investment into the resource.	
Tourism	An information bay at the airport parking area. Investigate new opportunities to increase usage of Temora Airpark Caravan Park	Short term Within 12 months Include EDMO and CCS/E

14. CONCLUSION

The Temora Airport Master Plan provides an approach to achieve the vision of Temora Airport:

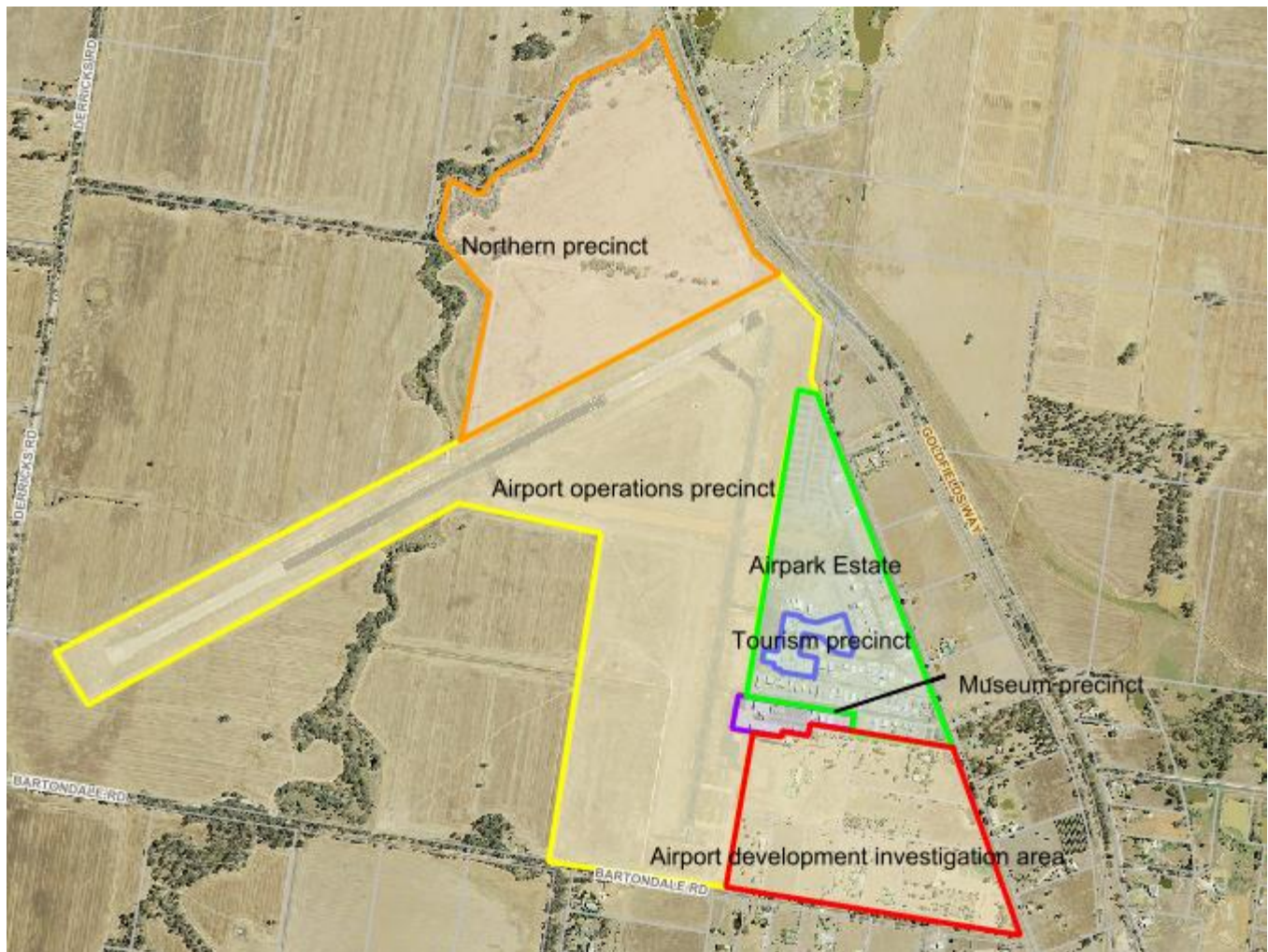
The ideal location for aviation lifestyle, tourism, business and training, supported by a friendly and thriving community, in a picturesque regional setting.

The development of the Master Plan has involved a determination of planning objectives, an assessment of the current situation of the airport and developing future directions. The Master Plan includes relevant stakeholders in this process.

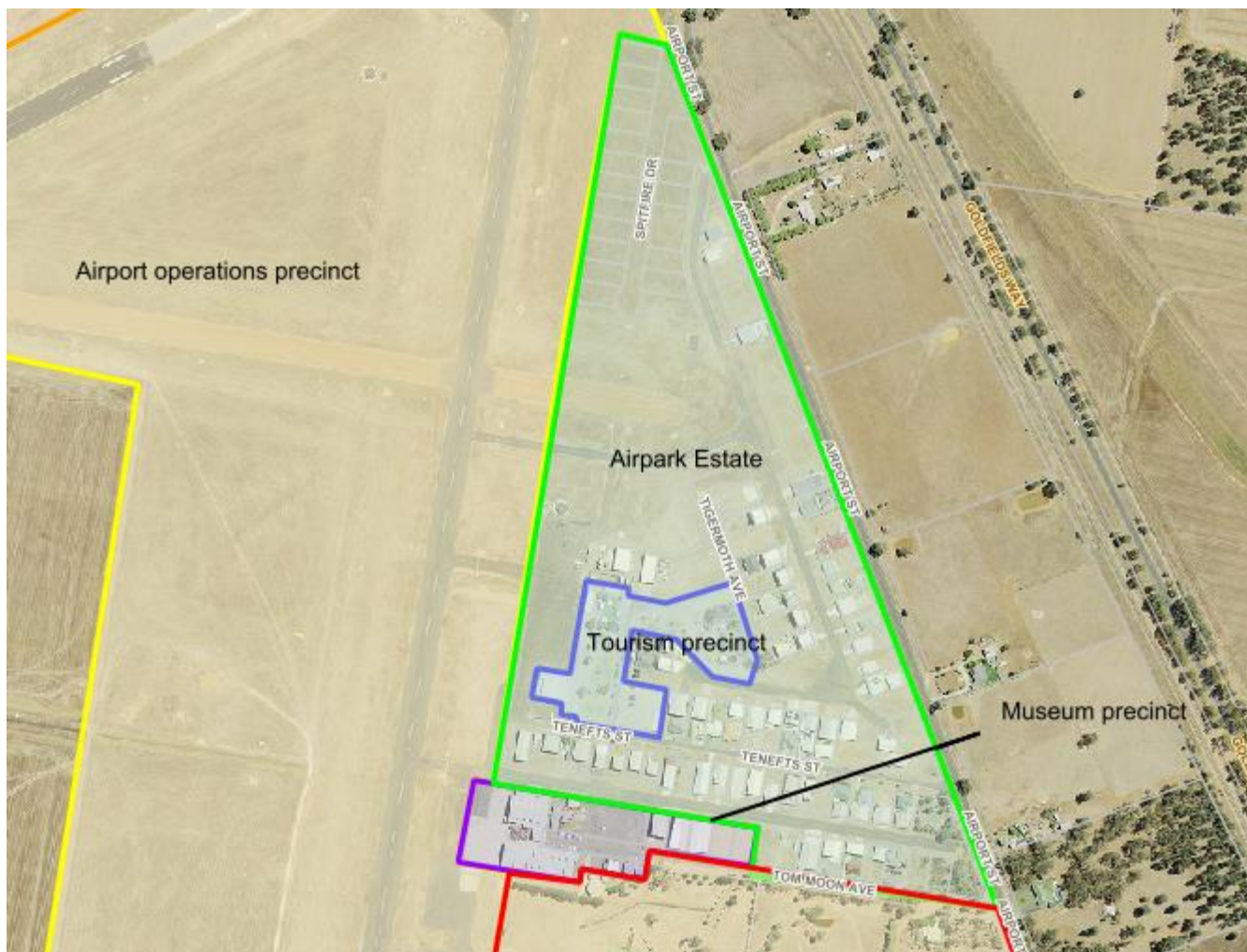
The plan responds to regulatory and policy controls, site features and constraints in order to protect ongoing operations. An assessment of the emerging role of the Temora Airport has developed goals for future opportunities and achieving the economic and social benefits that the Temora Airport brings to the community.

APPENDICES

1. AIRPORT PRECINCT CONCEPT PLANS



Appendix Map 1. Temora Airport Precincts Map



Appendix Map 2: Airpark Estate and Aviation Tourism Precincts

2. SCOPE OF MASTER PLAN

The Scope of the Airport Master Plan was used to provide a framework for content as the plan was developed. The scope is outlined as follows:

The Temora Airport Master Plan provides for long-term planning at the Temora Airport site. Temora Airport Master Plan will be attentive of community and Council prosperity, their vision, goals, aspirations and priorities in terms of development and identification of future challenges. This broad focus reflects the view of the airport as a community asset and not limited to those involved with aircraft and their operations.

The document includes:

- **Data collection** to evaluate **current conditions** and **predict future situations**, including environmental issues, transport demands, utility needs, economic conditions, services demands, population projections, social conditions, and emergency services needs.
- The **economic contribution** of 'core' operations, measured in terms of:
 - The economic contribution of the range of activities undertaken at airport precincts, measured in terms of the **level of employment** and value added created.
 - Contributions that encompass the wider role of airports in raising productivity, **attracting inward investment** and **facilitating tourism** and trade activity.
- **Social contributions** which highlight the role of airports in promoting regional inclusion and partnering with community groups to enhance social outcomes
- **Emergency services** role in providing infrastructure for fire fighting, air ambulance, police air wing and rescue helicopter
- A **Land Use Study** including identification of land areas requiring specific treatment for development and identifying precincts within the site
 - To include **identification of land in future development phases**.
 - To include **potential commercial development** (taking advantage of Runway 18/36, Temora Aviation Museum and other businesses local to the area) but principally focused toward Residential Airpark Estate development.
- **Asset and infrastructure renewals and/or upgrades** with indicative costs and asset life.
- **Forecast on regulatory requirement burden** in approaching years and best practice response to this.
 - To include consideration for safety and security regulations that may or may not arise, impacting the Airpark Estate model.
- Consideration of **short-term** (10 year), **mid-term** (30 year) and **long term** (100 year) strategy for all aspects of the Master Plan.
- Problem/Solution analysis on **future opportunities and challenges**, including SWOT analysis where appropriate.

A range of studies relating to the Temora Airport have already been completed, including:

- Airpark lots – existing and future
- Survey plans
- Obstacle Limitation Surfaces
- Flood Study
- Environmental- fish
- Wind data
- Aboriginal heritage
- Terrestrial ecology
- Noise assessment

The key stakeholders involved with the Temora Airport are:

- Temora Shire Council, specifically, engineering, town planning and economic development staff
- Temora Shire Councillors
- Aerodrome Users Committee – a Section 355 Committee of Council
- Temora Aviation Museum
- Temora Aero Club
- Temora Flyers Inc.
- Temora Gliding Club
- Temora Airpark residents
- Temora Historic Flight Club

- Aviation business operators
- Rural Fire Service
- Government Stakeholders including Civil Aviation Safety Authority (CASA)

Input from these stakeholders has been obtained as part of the development of the Temora Airport Master Plan, through a series of focus groups, written comments and review of the draft document.

3. TEMORA POPULATION FORECAST

The Australian Bureau of Statistics Census data of 2016 reports the population of Temora Shire to be 6,110 people. This is an increase of 334 people from the 2011 population of 5776, representing an increase of 5.8% over five years. It also shows that Temora Shire has turned around the population decline between 2006 and 2011.

Of this population, 3,796, or 62%, were aged under 55 years whilst 2,320, or 38%, were aged over 55 years.

In general over the past 10 years, there has been a decline in population numbers in Temora aged 44 years and under, whilst there has been an increase in the number of residents aged 45 years and older. Notably, from 2006 to 2016, the number of residents aged 55-64 years has increased by 99 people, and those aged 65-74 years has increased by 208 people.

Over the next 20 years, some decline in age categories is predicted, namely in the late teens/early 20s and in the 40s – mid 50s age groups. Growth is expected in many age categories, including young children, peak child bearing years (25-39 years) group and over 60 years age group. Between 2011 and 2026, the age structure forecasts for Temora Council area indicate a 31.7% increase in resident population of retirement age. As frequently, it is the retiree age group that is most likely to be involved in recreational aviation, due to availability of time and finances, this predicted growth in the number of senior residents in Temora Shire corresponds to supporting facilities most likely to be utilised by seniors.

4. MARKET OF GENERAL AND RECREATIONAL AVIATION

Temora Airport caters for both General Aviation (GA) and Recreational Aviation (RA). GA is governed by Civil Aviation Safety Authority and RA is governed by Recreational Aviation Australia (RAA). RAA is charged by the Civil Aviation Safety Authority (CASA) to register aircraft, accredit flying schools and certify pilots who operate on a not-for-profit basis, flying outside major cities and away from military bases and 20 kilometres from a commercial airport.

RA approved aircraft are limited to two seats maximum and have a Maximum Take-Off Weight (MTOW) of no more than 600kg. The types of aircraft include civil light aircraft, microlights and ultralights. A recreational aircraft can travel at up to 250 kilometres per hour. Cost of purchase of such civil light aircraft ranges from \$30,000 to \$40,000 and up to \$140,000. There are five main manufacturers in Australia, with the most common aircraft flown by recreational aviators being built by Bundaberg-based company, Jabiru.

Almost 10,000 people in Australia hold a recreational pilot's certificate, with approximately 3,500 registered microlight and ultralight aircraft. Recreation Aviation Australia (RAA) covers almost half of all aircraft operating in the country.

In contrast, a GA licence allows the pilot to fly larger aircraft and fly aircraft with more than two seats, as well as the opportunity to:

- Fly in controlled airspace (upon completion of CTA training during the navigation exercises)
- Fly at night (upon completion of a NVFR Rating)
- Fly on instruments / in cloud (upon completion of an Instrument Rating)
- Fly aerobatics (upon completion of an Aerobatic Endorsement)

In more recent years, recreational pilots represented the fastest growing group of aviators in Australia, although numbers have levelled currently. Several factors have contributed to the growth in recreational aviation, including affordability of aircraft, interest and increased leisure time of retirees.

Under requirements set down by CASA, a recreational pilot certificate is secured after completing a prescribed number of hours' flying, aeronautics exams and a satisfactory medical report.

Like Recreational Aviation Australia (RAA), gliding in Australia is a self-administered (Gliding Federation of Australia) sport aviation organisation responsible to CASA through regulations. Gliders are sophisticated aircraft designed to be aerodynamically efficient and capable of covering over 1,000 kilometres in a single flight and at speeds around 150 kph and sometimes more. At Temora, gliders are either towed into the air behind a powered aircraft or they self-launch using an onboard engine that retracts into the fuselage after use. Gliders are typically made from composite materials with a modern single seat glider of 15 metre wingspan weighing 270kg empty and 600kg at its maximum takeoff weight when loaded with pilot and water ballast. This is to improve glide performance in strong summer conditions. Open class and high performance two seat gliders have wingspans exceeding 20 metres and can be up to 850kg at takeoff. Older gliders are quite affordable in the \$15,000 - \$35,000 range with new state-of-the-art gliders requiring an investment of \$200,000 and more.

In addition, Qantas has recently reported that Boeing estimates the world will need about 640,000 more pilots in the next 20 years, with 40 per cent in the Asia Pacific region. That level of demand is important for Australian aviation, so that all parts of the industry have access to qualified pilots in a country that relies so heavily on air transport.

There is a strong potential for Temora Airport to contribute to the supply of these trained pilots, through the development of a pilot training facility, using the competitive advantages in the region.

5. RECENT AIRCRAFT STATISTICS

The Federal Department of Infrastructure and Transport's General Aviation Survey **2012** found the number of **general aviation flying hours in Australia** was **1.7 million hours**. The greatest number of hours was dedicated to charter flights at over 500,000

hours, followed by aerial work, training and private use. Less frequent were business, agriculture and testing and ferrying purposes.

The number of **fixed wing, single engine aircraft** decreased by 1.7 per cent to **8,443**, or 67.9 per cent of all registered aircraft in the General Aviation and Regional Airline sectors. **Fixed wing, multi-engine aircraft** decreased by 6.0 per cent to **1,815** (14.6 per cent of the total).

In 2012, **1,302 amateur-built aircraft** accounted for 10.5 per cent of all aircraft in the General Aviation and Regional Airline fleet. This represents a 0.9 per cent increase over the number of amateur-built aircraft in 2011 (1,290 aircraft).

In 2012, **ultralight aircraft flew** a total of **195,200 hours**, representing an increase of 29.5 per cent over 2011.

At the end of December 2012, a total of **3,509 aircraft had current registrations** issued by **Recreational Aviation Australia**, a decrease of 5.7 per cent over 2011.

The number of **registered gliders** increased by 0.1 per cent to **1,206** by December 2012 compared with December 2011. The total number of **reported flying hours** increased by 51.2 per cent to **192.0 thousand hours** in the calendar year 2012.

The Australian General Aviation and Regional Airline fleet contains **many older aircraft**, with the **average age being 27.7 years**, which is an increase compared to 2011 (27.0 years).

Average flying hours per aircraft decreased by 1.7 per cent, from 156.2 hours in 2011 to **153.6 hours in 2012**. For **active aircraft only**, excluding aircraft that were not flown during the year, the average **number of hours flown** was **200.0 per aircraft**.

Of the active aircraft, **40.2 per cent flew 50 hours or less during 2012**, while 57.8 per cent flew 100 hours or less. One in every five (2 886 aircraft) registered General Aviation and Regional Airline aircraft were reported or estimated as performing no

flying during the year ended 31 December 2012, compared with 2,659 aircraft during 2011.

These statistics provide an insight into the specialised nature of aviation as both a recreational interest and as a commercial business.

The ability for Temora to promote it's community, highlight it's suitable climate, improve its facilities, as well as manage access costs for users will enhance Temora's role as a preferred choice for this dedicated group of aviation enthusiasts.

6. SMALL RURAL AIRPORTS

There are 2,000 airstrips near towns and rural properties around Australia.

Most of the registered airport and aerodromes in Australia are very small; and, in addition, there are numerous much smaller facilities across the country, which are used for (more irregular) aircraft operations. These facilities, many of which are owned and operated by local councils, have little broader industry profile yet provide vital services to their communities. The majority of these smaller and dispersed facilities face considerable operational and financial pressures. While the maintenance and operational cost requirements for remote airports are often modest, they typically lack the scale to ensure they can be financially self- sustaining. As a result, a large share, if not most, have recurrent requirements for financial support by governments, either in a general sense or for specific works (eg to pave runways or install navigational lighting). In addition, some airports or airstrips are maintained and operated under non-commercial terms (mostly through local council ownership) to retain their strategic value to regional communities. The drive for greater efficiencies by RPT operators has also led to consolidation on many regional routes. Greater load factors have certainly benefitted some regional airports (and passengers) but it has meant that other facilities handle fewer and more irregular air services. In some cases, RPT services have ceased altogether which can have a more fundamental effect on sustainability.

Results from the State of the Industry Survey emphasise that there is a clear pattern between declining profitability and airport size. Key profit and loss statistics indicate:

- Around 95% of major and major regional airports reported profits.
- Only 55% of regional airports reported a profit.

- About 45% of remote airports recorded a profit.

This profitability pattern has been reflected in government policy settings. For instance, to support regional airports that are not commercially viable but provide essential social and economic value to their communities, successive Australian Governments have provided co-contribution grants under the Remote Aerodrome Safety Program (RASP).

7. HERITAGE SIGNIFICANCE

History of the Temora Airfield

10 EFTS was formed on 1st May 1941 and was one of 12 elementary flying schools established in Australia. In the years prior, the site was home to the Temora Aerodrome, which was constructed as relief work in the wake of the 1930s depression. Commencing in 1939 the relief work employed an average of 40 men every day for 65 weeks. Workers came from Temora and surrounding areas.

Due to the Temora area's favourable climate and geography, following the outbreak of World War II the airport was controlled by the Royal Australian Air Force and in 1941 No. 10 Elementary Flying Training School (TENEFTS) was established to provide initial flight training for pilot graduates. This became the largest and longest lived of the schools established under the Empire Air Training Scheme, with more than 2500 pilots graduating between 1941 and 1946, and a peak of 97 Tiger Moth aircraft used for flying training.

From the 1st January 1941, construction began on the air school. The total project involved the construction of approximately 90 buildings, 6 Bellman Hangars, sports fields, car parks and petrol stations costing \$164,548. The project provided significant employment for the local area.

The school opened on the 1st May and the local community eagerly awaited the arrival of the first aircraft. Five brand new Tiger Moth aircraft arrived on May 11th. New aircraft continued to arrive after their construction in Richmond and by the end of 1941 there were 94 aircraft.

Following the war, in 1946 local veterans and pilots founded the Temora Aero Club, utilising a Bellman Hangar as a club house. Club members and other private citizens

have been instrumental in the improvement and development of the airport facilities. In particular, David Lowy, 1998 Australian Aerobatics Champion, who later founded the Temora Aviation Museum. Parts of Temora Airport, being the original hanger and a WWII ammunition bunker, are listed as heritage items in the Temora Local Environmental Plan 2010.

Australian Warbirds Association Ltd

The Australian Warbirds Association Limited (AWAL) was incorporated in 1989 as a non profit company to bring together aircraft owners, operators, restorers, maintainers, historians and enthusiasts to share their passion for ex-military aviation and to promote and preserve Australia's proud military aviation heritage.

Subsequently, with the advent of Limited Category, AWAL became the industry body to undertake self-administration of the category on behalf of CASA. The result is that Australians have more freedom to fly a greater variety of ex-military aircraft than practically anywhere else in the world.

Structure: AWAL is managed by a board of volunteer directors. The CEO and Director of Self Administration report to the Board.

Services provided by Australian Warbirds Association Ltd:

- Administers Limited Category aircraft on behalf of CASA.
- Provides systems of maintenance for various warbird types.
- Bi-monthly newsletters to keep members informed.
- Conducts seminars and training days for engineers, owners, and pilots of limited category aircraft
- Assists Warbird enthusiasts to get close to real Warbirds and their operators.

8. CURRENT PLANNING CONTROLS

Appendix Map 3 shows the zones applying to the airport precinct.

Appendix Map 3: Temora Airport Precinct Land Zones

Zoning Key

Zone

- | | |
|------------|------------------------------------|
| B2 | Local Centre |
| B4 | Mixed Use |
| B6 | Enterprise Corridor |
| E1 | National Parks and Nature Reserves |
| IN1 | General Industrial |
| R1 | General Residential |
| R5 | Large Lot Residential |
| RE1 | Public Recreation |
| RE2 | Private Recreation |
| RU1 | Primary Production |
| RU3 | Forestry |
| RU5 | Village |
| SP1 | Special Activities |
| SP2 | Infrastructure |
| W2 | Recreational Waterways |

This land is zoned SP2 Infrastructure (Airport) under the Temora Local Environmental Plan 2010. The objectives of this zone are:

Zone SP2 Infrastructure

Objectives of zone:

- To provide for infrastructure and related uses.
- To prevent development that is not compatible with or that may detract from the provision of infrastructure.

The zone permits, with consent, development for the purposes of an airport including any development that is ordinarily incidental or ancillary to development for that purpose.

Land adjoining the Council owned land, also zoned SP2 Infrastructure, is privately owned and is used for agricultural purposes.

Temora Airpark Estate is zoned SP1 Special Activities – Business premises, Residential, Tourist and Visitor Accommodation, incidental with aviation. The objectives of this zone are:

Zone SP1 Special Activities

Objectives of zone:

- To provide for special land uses that are not provided for in other zones.
- To provide for sites with special natural characteristics that are not provided for in other zones.
- To facilitate development that is in keeping with the special characteristics of the site or its existing or intended special use, and that minimises any adverse impacts on surrounding land.
- To encourage the protection and careful management of roadside native vegetation and native habitats.

- To encourage a variety of business, residential and tourist accommodation land uses within the vicinity of the airport that are incidental to aviation.

The land zoned SP1 and SP2 covers approximately 400 hectares, in a mixture of Council and private ownership. Adjoining land is zoned for Primary Production, Enterprise Corridor and Large Lot Residential purposes.

The Temora LEP 2010 also includes the following clause to manage the interaction between proposed new development and the airport:

6.7 Development in areas subject to airport noise

(1) The objectives of this clause are as follows:

- (a) to prevent certain noise sensitive developments from being located near the Temora Airport and its flight paths,
- (b) to assist in minimising the impact of aircraft noise from that airport and its flight paths by requiring appropriate noise attenuation measures in noise sensitive buildings,
- (c) to ensure that land use and development in the vicinity of that airport do not hinder or have any other adverse impact on the ongoing, safe and efficient operation of that airport.

(2) Before issuing development consent to development on land in the vicinity of that airport, the consent authority:

- (a) must consider whether the development will result in an increase in the number of dwellings or people affected by aircraft noise, and
- (b) must consider the location of the development in relation to the criteria set out in Table 2.1 (Building Site Acceptability Based on ANEF Zones) in AS 2021—2000, *Acoustics—Aircraft noise intrusion—Building siting and construction*, and
- (c) must be satisfied that the development will meet AS 2021—2000, *Acoustics—Aircraft noise intrusion—Building siting and construction* with respect to interior noise levels for the purposes of:
 - (i) if the development will be in ANEC contour 20 to 25—educational establishments, hospitals and residential accommodation, and

(ii) if the development will be in ANEC contour 20 to 30—public administration buildings, and

(iii) if the development will be in ANEC contour 25 to 30—hostels and hotel or motel accommodation, and

(iv) if the development will be in ANEC contour 25 to 35—business premises, office premises and retail premises, and

(v) if the development will be in ANEC contour 30 to 40—light industry.

(3) For the purposes of this clause, a reference to ANEF in AS 2021—2000, *Acoustics—Aircraft noise intrusion—Building siting and construction*, is taken to be a reference to ANEC.

(4) In this clause:

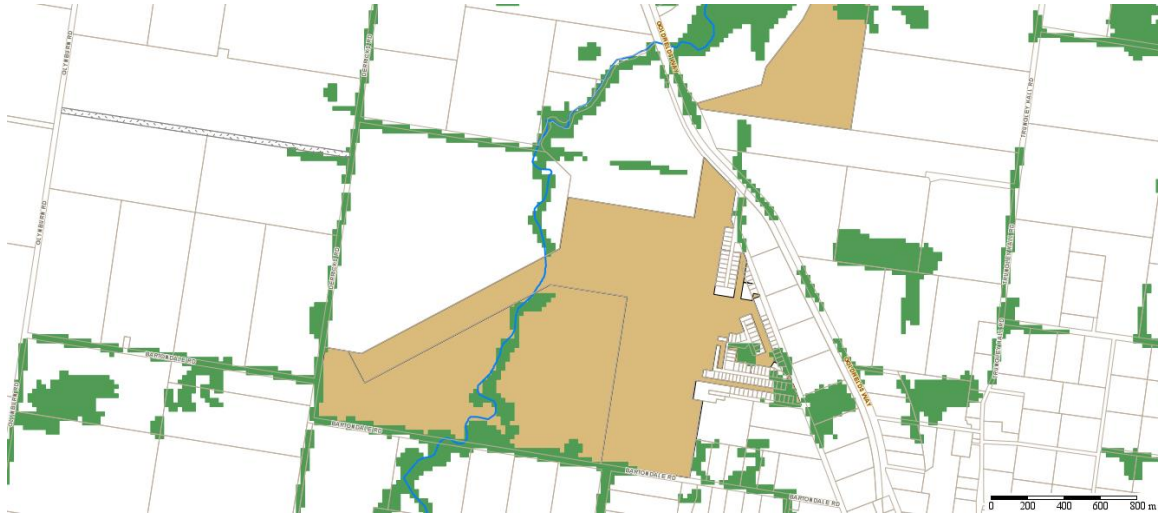
ANEC contour means a contour on the Australian Noise Exposure Concept 3 Map for Temora Airport, a copy of which is available for inspection by the public during office hours in the office of the Council.

Development in the airport precinct is also controlled by the **Temora Shire Development Control Plan 2012**, which includes a chapter titled “Temora Airpark Estate”. This chapter has the objectives of:

to:

- ensure that the Temora airport’s operation is enhanced and not compromised by any development within the subdivision
- provide guidelines/standards to existing owners and prospective purchasers of land, to ensure a satisfactory standard of development is maintained
- assist applicants in the compilation and submission of development applications
- establish overall guidance for environmentally sensitive and sustainable development in this area
- achieve an overall high level of amenity through building design, landscaping and fencing that are compatible with these principles as set out in this Plan

Appendix Map 4 shows the land constraints that apply to the Temora Airport precinct.



Appendix Map 4: Temora Airport Constraints Map

Appendix Map 4 indicates the location of heritage items (shown beige), sensitive biodiversity (shown green) and sensitive waterways (blue line).

9. AIRPORT FACILITIES

Current aviation facilities provided at Temora Airport are:

- Automated Weather Station
- Avgas and Avtur Refuelling Facilities
- Bellman Hangar with Aero Club Annex
- Former Terminal Building
- Private Hangars
- Airport lighting

- Emergency and firefighting facilities
- Aerial application aircraft loading facility
- Access roads and car parks
- Accommodation

In addition, there are two weather cameras located at the Temora Aviation Museum.

Automatic Weather Station(AWS) – Bureau of Meteorology

The Bureau of Meteorology has established an automated weather station to the west of Runway 18/36. This is an Aerodrome Weather Information Service (AWIS), currently broadcast on VHF. This AWS has the capability of providing continuous wind and weather information for pilots and is also accessible by telephone.

The AMS provides real time information such as temperature, humidity, wind speed and direction, pressure and rainfall. However, it does not provide information such as cloud cover or visibility.

There is no Aerodrome Forecast (TAF) for Temora Airport. This is a significant hindrance as this prohibits Temora's use as a landing area for passenger aircraft, which would otherwise be able to land using Temora's substantial runway. The lack of TAF also reduces the reliability of Temora Airport as a landing destination for both visiting aircraft and those planning flights that pass over Temora.

Council and other stakeholders will press for the reinstatement of Aerodrome Forecasting from Temora Airport for these reasons.

Fuel supply

Temora Airport is currently equipped with a 28 000 litre avgas storage and fuel dispenser adjacent to the general aviation apron. This fuel facility is operated by Aero Refuellers. Fuel is available 24/7 via swipe card. The facility has an above ground storage tank.

A second supplier has commissioning facilities to sell Avgas and Avtur fuels. These facilities are also available 24/7 by electronic swipe card.

Temora is used as a stopping point for refuelling by local and visiting pilots, as well as jet fuel used by the Rural Fire Service and the South Care Helicopter.

The Temora Aviation Museum has its own avgas and JET A1 storage adjacent to the avgas storage area, however, except in emergencies these fuels are not available to the public. The Temora Aviation Museum dispenses both avgas and JET A1 with two mobile refuelling tankers. A bunded area is required for the parking of fuel tankers.

Any intended development within 200 metres of the fuel storage areas will need to consider exclusion zones around flammable liquids. Specialist dangerous goods advice is required prior to consent.

Bellman Hangar with Aero Club Annexe

The Temora Aero Club currently operates from premises located in a two storey annex on the western side of the Council owned Bellman hangar. Whilst this location is convenient and operationally efficient, it does require all visitors to traverse the aircraft apron for access. A risk assessment of this access is necessary to manage continued use of this access into the future.

Former Terminal Building

The former terminal building is located on the northern end of Harding Street, with access via Tenefts Street. It is a rectangular building, approximately 25m x 7m, and features a polished timber floor, toilets and showers, with a corrugated iron roof and clad walls.

The Temora Flyers Inc currently leases the former Temora Airport Terminal for the purpose of club meetings and events. The building also serves as an outing destination for Pinnacle Services, the community organisation of Council that provides services for people with a disability.

Council intends to maintaining its links with Temora Flyers Inc in their work to promote additional aviation events and visitation to Temora

Private Hangars

Private hangars are provided as part of the Airpark Estate. The earliest stage of the estate provides hangar development only. The following stages provide house and hangar development.

Airport lighting

Lighting at the airport includes pilot activated runway light, lighting of existing buildings at the airport and street lighting within the caravan park and residential estate.

Emergency and firefighting facilities

Facilities for helicopter landing, tank water supply and communications are available onsite.

Aerial application aircraft loading facility

A separate loading area has been developed by Council for the purpose of safely and efficiently loading aircraft used for aerial agricultural purposes, including spraying and fertiliser spreading.

Access roads and car parks

Access to Temora Airport is through Tenefts Street. Airport parking is available in Harding Street, adjacent to the Temora Aero Club and former Terminal building. Tourist visitors can access cabins, caravan and tent sites using Tigermoth Avenue.

Parking is available for 100 vehicles at the Temora Aviation Museum, including six disabled parking spaces, using Tom Moon Avenue.

Accommodation

There is a range of onsite accommodation at the Temora Airport.

- **Caravan Park**

A high quality caravan and camping park has been developed at the Airport to cater for visitors to Temora. The camping area has modern amenities and a fully fitted shelter/kitchen with electric BBQ, hot water and refrigerator.

The land available at Temora Airport for caravans and camping, with associated amenities and open space is shown by Appendix Map 5 below:



- - - Main caravan park - - - Overflow caravan park

Appendix Map 5: Airpark Caravan Park site

- **Airpark Cabins**

The Airpark Cabins are a staged development being undertaken by Council, designed to provide accommodation for visitors to Temora. The site is shown by Appendix Map 6. Council has completed Stage One, which consists of four cabins. Two cabins (Cabins 2 and 3) are self-contained with two bedrooms, bathroom, kitchenette, air conditioners and lounge area. Cabin 2 has a disabled access bathroom. Cabins 1 and 4 are known as bunkrooms, interconnecting with cabins 2 and 3 respectively, containing bunk beds to sleep up to 7 people, bar fridge, air conditioner and sink. No bathroom or cooking facilities are included in Cabins 1 and 4.



Appendix Map 6: Airpark Cabins site

The plans include approval for the construction of additional self-contained cabins, consisting of Stage 2, comprising two x two bedroom cabins and a three bedroom cabin. Stage 3 would consist of 4 cabins, identical to Stage 1. The final construction layout would be in a “U” shape, with a grassed area facing Tenefts Street.

In addition, the Temora Aviation Museum has its own onsite cabins, known as Sky Lodge, available for use by visitors to Temora.

10. CURRENT OPERATION LEVELS

It is estimated that there are around 15,000 take offs and landings per year at Temora Airport. Predominantly these are local, with both take-off and landing in Temora.

Recent data collected provides the following picture of operation levels at Temora Airport, as shown in Appendix Table 1.

- *Aircraft movement data*

Month	Aircraft movements (incl. Landings, Touch and Go, Stop and Go and Practise Approaches)	Aircraft landings only	No. MTOW Category 1000kg or more
September 2015	298	208	66
October 2015	843	670	155
November 2015	870	702	296
December 2015	693	467	139
January 2016	729	624	192
February 2016	408	330	91
March 2016	653	481	171
April 2016	552	401	106
May 2016	470	377	111
June 2016	521	372	107
July 2016	820	586	351
Total	6857	5218	1785
Average/month	623	474	162

Appendix Table 1: Aircraft Movement Data from Temora Airport (Avdata, 2015/6)

- *Timing of peak operations*

The vast majority of aircraft movements at Temora Airport occur during daylight hours. Only a few aircraft movements each month occur at night.

- *Seasonality of operations*

Table 1 indicates that during the year, the highest level of aircraft movements occur in Summer, which relates to peak gliding season and Winter, which relates to demands for agricultural use.

- *Aircraft types using airport*

As shown by Table 1, the majority of aircraft using Temora Airport are lighter aircraft, weighing less than 1000kg. Mostly between 20 – 30% of aircraft movements will be aircraft weighing more than 1000kg each month. The exception is in the peak agricultural season in July where 43% of aircraft movements are aircraft weighing more than 1000kg.

- *Origin and destination data*

Flights originating from other airports are generally registered with Airservices Australia. Over the past 12 months, the number of landings per month from outside airports has varied from as low as 3 to as high as 78 flights, but is generally around 20 landings.

- *Approach procedures (non-instrument, non-precision, precision)*

Temora Airport offers the options of non-instrument (visual), non-precision (horizontal guidance) and precision (horizontal and vertical guidance). As the non-directional beacon has been removed, pilots can use Global Positioning Systems (GPS) to guide their approaches to Temora Airport.

- *Gliding*

Gliding has long been associated with Temora and there is a high representation of gliding enthusiasts amongst Airpark Estate residents. Gliding activity brings many benefits to Temora and the local economy, with a high number of visitors attending summer camps and competitions.

- The main gliding times are November to March.
- During 2015-16, there were approximately 1290 Gliding movements during the November - March period
- During the main gliding period there are approximately 50 regular visitors who visit and fly in Temora each year
- During the peak gliding time from end of December until the end of January there is a Christmas Camp each year, with often up to 35 or more visitors at any one time, with an average stay of 10—14 days

- Visitors advise that they spend \$110-\$200 per day each, depending on which type of accommodation they have
- Several small groups come at other times and may stay for several days

Every third year Temora Gliding Club also hosts the NSW State Gliding Championships. This usually attracts 40—50 entrants and about 60-70 people and the lasts for 7—10 days. This is in addition to the Christmas Camp activity

Temora has the reputation as one of the very best gliding sites in this country, if not the best. As a result of so many people visiting Temora to fly gliders, about 14 gliding enthusiasts have now purchased blocks in the Aviation Estate.

11. AIRPARK ESTATE AND AIRPORT TOURISM

Airpark estate

In the mid 1990's, Temora Shire Council began development of Stage 1 of the airpark estate offering house and hangar and commercial lots with taxiway to the runways. Since the completion of Stage 1, Stages 2 and 3 have commenced and construction of for Stage 4 is complete, with lots offered for sale.

The major challenge in the development of the airpark estate has been the costs associated with the provision of water, sewerage, electricity and telecommunications. Major upgrades have been required to extend these services to the site. Together with the construction of roads and drainage, the total development cost for Stages 2, 3 and 4 is of the order of \$3 million.

These costs are being met through sales and a net surplus should result at the successful completion of the project. It should be noted however that the sale of allotments will be spread over a number of years and that the momentum established in the initial phase of development must be maintained.

The development and sale of the airpark estate will add to the current Shire rate base and introduce a number of new businesses into the region.

Airport Tourism

In November 2004, Temora Shire Council, in partnership with the Temora Aviation Museum and the Federal Government, completed a \$3.8 million upgrade to the airport, opening a 2,040 m (6,690 ft) runway 05/23. The runway allows the airport to handle larger and heavier aircraft, up to regional airline aircraft size, which is of major

significance to the Temora Aviation Museum, and provides more flexibility for aircraft operations at night and in variable wind conditions. The development of this runway has, over time, significantly changed the regional aviation context and presents opportunities for economic development in an area where the weather is conducive to flying all year around.

The role of domestic and international tourism in the economy of regional areas should not be underestimated.

For Temora Airport, this tourism includes:

- Light aircraft pilots wishing to visit Temora and stay overnight
- Recreational Vehicles (RVs) and caravanners who include visiting the Temora Aviation Museum and rural NSW within their round trip.
- Other recreational activities and events associated with Temora Airport

Existing tourist attractions at the Temora Airport are:

Temora Aviation Museum

The most recent **Warbirds Downunder** event at the **Temora Aviation Museum** in 2018 attracted around 20,000 visitors to Temora, providing both a local and regional tourism boost. The next Warbirds Downunder will be held in 2020.

In 2016, Temora Aviation Museum (TAM), which is open to the public 361 days per year, was rated by online tourism site TripAdvisor as one of the top 25 museums to visit in the Pacific.

Visitation to the Museum includes those wishing to view the static displays or attend one of the flying events such as Aircraft Showcase. Other events hosted by TAM attract groups of visitors that would not otherwise visit the region. On average TAM hosts 40,000 visitors per annum on a year when the biennial Warbirds Downunder is held and 20,000 per annum during other years. This is a mixture of day trippers, overnight and weekend visitors.

The attendance figures from Warbirds Downunder 2015 when used in conjunction with statistical data identified in Tourism Research Australia's – National Visitor Survey (YE Sep 2015) determine that the economic benefit of Warbirds Downunder to the local and regional economy was \$6.375m.

The research shows that:

- Overnight visitors spend \$162 per person per night and stay an average of 2.3 nights in Temora equating to \$373.
- Day-trippers spend \$164 per person per day

The Temora Aviation Museum provides an interesting local attraction for locals to show visiting friends and relatives, which is one of the largest markets for Riverina tourism. In addition, the museum supports many local community organisations through donations in return for the supply of volunteer cooking and serving staff at the Mess Hall canteen, which is open on showcase days.

The Temora Aviation Museum has also hosts a unique warbird photography workshop known as Shoot! several times a year, with an internationally acclaimed photographer. Around 15 participants attend three day workshops, tailored to beginner, intermediate or post-production photography of aircraft. Attendees enjoy local accommodation and meals as part of their workshop.

The Temora Aviation Museum employs 12 fulltime staff, 2 part time staff and 2 casual employees. Roles include Chief Executive Officer, General Manager, Aircraft Engineers, Administration, Reception and Maintenance. Outside of this, the museum regularly has contractors and consultants on site to assist in many different areas of the Museum's operation including, aircraft engineering specialists, accounting, facility maintenance (including electricians, plumbers) and facility construction projects (fabricators). The large majority of contractors employed by the museum are not local residents with many of them travelling from Sydney or Melbourne. Therefore, this generates demand for overnight accommodation in Temora. More than 40 Volunteers are employed by the Temora Aviation Museum.

Temora 1000

The Temora 1000 (T1000) is promoted as Australia fastest runway race.

The event is a motor vehicle sprint from a standing start for 1000 metres, with time and speed recorded. It is organised and run by New South Wales Commodore Club

(NSWCC). This is a not for profit organisation made up of a group of friends with a love of motorsport.

It took two years to stage the first T1000. Confederation of Australian Motor Sport (CAMS) required the event to adhere to stringent guidelines to meet their approval. Temora was chosen, as the runway is of suitable length and in excellent condition. In addition, the TAM venue, with the ability to cater for events, creates an ideal location.

The T1000 was the first event of its' type since the laws changed in 2001 and since, a few other 1000m sprint events have emerged. However, none of these events are CAMS sanctioned, making the T1000 an event of even greater prestige.

Entrants come from all over Australia, but largely from NSW and Victoria.

There are usually around 100 entrants, and each entrant usually will have at least one person with them.

Most participants stay in the local motels, and the Terminus Hotel is used as a hub, with a meet and greet on the Friday night, and a presentation dinner on Saturday after the event.

This event, for a minimum of two nights, brings at least 200 people to Temora for meals, fuel, accommodation and other local spending.

Marketing of the event is through the event website and social media. There are plans to include a second event in town, in consultation with Council.

Other uses

Temora Airport has also hosted other uses of its runway, including motorsport vehicle testing and commercial filming, which also generates local tourism income.

12. DETAILED BUDGET

Council's function budget specifies **an income estimate of \$7,000**, to be received from in rental fees. This income is expected to continue into the foreseeable future, at a similar level each year, indexed to inflation.

Council charges a fee of \$396 (including GST) per day for access to the airport for agricultural purposes. The fee is charged to the business operating the aircraft. For each access day, a representative of the business operating the aircraft is required to sign their agreement to operate their aircraft in accordance with Councils' procedures

governing loading location and ensure that all ground crew and truck drivers understand and comply with Council procedures. Due to demands for agricultural use of the airport being predominantly limited to when Temora and surrounding areas experience a wet winter, preventing weed spraying and fertiliser spreading by ground application, this income is variable.

The airport has a **maintenance budget of \$278,270 for the 2018-19 financial year**. Budget estimates for the next eight years estimate an increase in budget allowance up to \$309,335 in 2024-25. This maintenance budget includes operational costs, such as lighting for night landings. The maintenance funding allocated by Council is considered in the Asset Management Plan to be sufficient to maintain the current overall condition of the airport over the next 10 years.

The budget of the Airpark Tourist Park is included with the Temora Caravan Park on Junee Road. The 2018-19 budget estimates an income of \$178,825, with operating expenses of \$198,330, which is an overall shortfall of \$19,505.

The fundamental purpose of the Aerodrome Asset Management Plan (AAMP) is to improve Council's long-term strategic management of its aerodrome assets in order to cater for the community's desired levels of service in the future. This will be undertaken in accordance with Council's key strategic documents and demonstrates reasonable management in the context of Council's available financial and human resources.

The AAMP achieves this by setting standards, service levels and programmes that Council will develop and deliver. The standards and service levels have been set in accordance with user needs, regulations, industry practice and legislative codes of practice. Appendix Table 2 details the value of airport assets.

Asset category	Replacement Value	Written Down Value
Aerodrome land	1,408,908	1,408,908
Buildings (7)	2,267,420	1,782,165
Runways, Taxiways & Hardstand	1,528,764	1,043,096
Electrical, Lighting, other equipment/facilities	188,736	140,486

TOTAL	5,393,828	4,374,655
--------------	------------------	------------------

Appendix Table 2: Temora Airport Assets Value

This income and expenses is summarised in Appendix Table 3 below:

Year	Income (\$)	Expenses (\$)
2015-16	9,737	240,935
2016-17	9,981	247,692
2017-18	10,230	254,658
2018-19	10,485	261,814
2019-20	10,748	269,179
2020-21	11,016	276,757
2021-22	11,292	284,559
2022-23	11,574	292,580
2023-24	11,864	300,839
2024-25	12,160	309,335

Appendix Table 3: Airport Resourcing Strategy summary

In addition to the maintenance expenses, the budget allocates funds for non-operating income and expenses, in the form of specific projects. The sale of lots in the Airpark Estate is the source of income. Expenses associated with developing the estate are estimated. This income and expenses and their estimated timeframes are summarised below in Appendix Table 4.

Year	Income (\$)	Expenses (\$)
2015-16	320,000	Airport Master Plan: 20,000 Seal around fuel facility cover: 33,000

		Cost of Airpark Estate Assets sold: 139,037
2016-17	320,000	Seal car park eastern side of Aero Club: 5,612 Development of Airpark Estate: 250,000 Cost of Airpark Estate Assets sold: 139,037
2017-18	320,000	Cost of Airpark Estate Assets sold: 139,037
2018-19	320,000	Cost of Airpark Estate Assets sold: 139,037
2019-20	320,000	Reseal taxiways: 41,801 Cost of Airpark Estate Assets sold: 139,037
2020-21	320,000	Reseal taxiways: 56,109 Development of Airpark Estate: 250,000 Cost of Airpark Estate Assets sold: 139,037
2021-22	320,000	Reseal taxiways: 36,619 Cost of Airpark Estate Assets sold: 139,037
2022-23	160,000	Cost of Airpark Estate Assets sold: 34,759
2023-24	0	Strengthen apron and level depressions: 181,273
2024-25	0	Strengthen apron and level depressions: 185,130

Appendix Table 4: Airport Non-Operating Income and Expenses