



Delivering innovative solutions to complex aviation problems

Master Plan 2019

## ST GEORGE AIRPORT

*Prepared for: Balonne Shire Council*



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## TABLE OF CONTENTS

Document Control	i
Copyright and Disclaimer Notice	i
Table of Contents	ii
List of Tables	iv
List of Figures	iv
<b>1. PLANNING CONTEXT</b>	<b>1</b>
1.1. Background	1
1.2. Site description	2
1.3. Regional characteristics	2
1.4. Role and history	3
1.5. Current operations	3
1.6. Strategic intent	3
1.7. Purpose of master planning study	3
1.8. Master planning outcomes	4
1.9. Strategic Alignment	4
1.10. Planning horizons	4
1.11. Previous planning studies	4
1.12. Scope and Limitations	5
1.13. Methodology	5
<b>2. STAKEHOLDER CONSULTATION</b>	<b>6</b>
2.1. Stakeholder engagement program	6
2.2. Face to face meetings and telephone interviews	6
2.3. Results of personal interviews	7
2.4. Online and printed survey responses	7
<b>3. SWOT ANALYSIS</b>	<b>13</b>
<b>4. EXISTING AERODROME FACILITIES</b>	<b>14</b>
4.1. Aeronautical infrastructure	14
4.2. Support facilities	14
4.3. Landside development	14
4.4. Ground transport	15

<b>5. DEMAND</b>	<b>16</b>
5.1. Regional population growth	16
5.2. Historical passenger demand	16
5.3. Historical aircraft movement demand	16
5.4. Historical freight demand	16
5.5. Forecast passenger demand	16
5.6. Future RPT/charter routes	17
5.7. Aircraft parking capacity	17
5.8. Passenger terminal capacity	17
5.9. Freight operations capacity	17
<b>6. DEVELOPMENT CONSTRAINTS</b>	<b>18</b>
6.1. Planning	18
6.2. Regulatory context	19
6.3. Design Standards	20
6.4. Environmental	20
6.5. Heritage	20
<b>7. AIRCRAFT MOVEMENT AREAS</b>	<b>21</b>
7.1. Runway	21
7.2. Runway pavements	21
7.3. Wind roses	21
7.4. Taxiways	22
7.5. Parking aprons	22
7.6. Hangar facilities	22
7.7. Helicopter facilities	22
7.8. Aerodrome lighting	22
<b>8. AVIATION SUPPORT FACILITIES</b>	<b>23</b>
8.1. Fuel	23
8.2. Ground support equipment	23
8.3. Navigation and approach aids	23
8.4. Weather information service	23
8.5. Aerodrome rescue and firefighting services	23
8.6. Air traffic control and airspace	23

8.7. Transport security _____	23
<b>9. PASSENGER FACILITIES _____</b>	<b>25</b>
9.1. Passenger terminal _____	25
9.2. Aeromedical facilities _____	25
<b>10. COMMERCIAL LAND USE AND DEVELOPMENT _____</b>	<b>26</b>
10.1. Current leasing and charging regime _____	26
10.2. Future commercial and business prospects _____	26
<b>11. GROUND TRANSPORT SYSTEMS _____</b>	<b>27</b>
11.1. External network _____	27
11.2. Internal network _____	27
11.3. Airside access _____	27
11.4. Public car parking _____	27
11.5. Rental car parking demand _____	27
11.6. Buses _____	27
11.7. Taxis _____	27
11.8. Aviation fuel _____	27
<b>12. UTILITIES AND CIVIL INFRASTRUCTURE _____</b>	<b>28</b>
12.1. Water _____	28
12.2. Electricity _____	28
12.3. Sewer/septic _____	28
12.4. Communications _____	28
12.5. Stormwater _____	28
12.6. Perimeter fencing _____	28
<b>13. AERODROME SAFEGUARDING _____</b>	<b>29</b>
13.1. Operational airspace _____	29
13.2. Lighting restriction zone _____	29
13.3. Wildlife hazard buffer zone _____	29
13.4. Building restricted areas for aviation facilities _____	29
13.5. Public safety areas _____	30
13.6. Aircraft noise _____	30
<b>14. MASTER PLAN _____</b>	<b>31</b>
14.1. Short term - stage one _____	31

14.2. Longer term development _____	32
<b>15. REVENUES AND COSTS _____</b>	<b>33</b>
15.1. Revenues _____	33
15.2. Costs _____	33
<b>16. GLOSSARY _____</b>	<b>34</b>
<b>17. REFERENCES _____</b>	<b>35</b>
<b>ANNEXURES _____</b>	<b>36</b>
<b>SHORT TERM - 2-3 YEARS _____</b>	<b>1</b>
<b>LONG TERM _____</b>	<b>1</b>
<b>AERODROME SAFEGUARDING _____</b>	<b>1</b>

## LIST OF TABLES

Table 1 Respondents suggestions on airport facilities	10
Table 2 St George Airport long term strategic vision	11
Table 3 St George Airport SWOT analysis	13
Table 4 Runway declared distances	14
Table 5 Project population Balonne Shire Council 2016 - 2041	16
Table 6 MOS 139 Table 2.2-1 Aerodrome Reference Code	20
Table 7 St George Airport (YSGE) aerodrome and procedure charts	23

## LIST OF FIGURES

Figure 1 Location map	1
Figure 2 St George Airport location	1
Figure 3 Site overview	2
Figure 4 Long Distance Aviation Services	3
Figure 5 Expected Level of Service	8
Figure 6 Current Level of Service	8
Figure 7 Airport facilities desired by respondents	9
Figure 8 Flight destinations desired by respondents	10
Figure 9 St George Airport commercial development	11
Figure 10 St George Airport runway	14
Figure 11 Scheduled destinations	17
Figure 12 Planning Scheme Map P2 St George	18
Figure 13 QLD Globe Land Use overlay	19
Figure 14 9 am wind rose	21
Figure 15 3 pm wind rose	22

## 1. PLANNING CONTEXT

### 1.1. Background

St George Airport is a community asset owned and operated by Balonne Shire Council (BSC), located 2 km south east of St George town centre. The airport has been operating as a Certified aerodrome since 2008. As a Certified aerodrome, St George is obligated to maintain compliance with CASA Manual of Standards Part 139 (MOS 139).

St George is a small rural community of 3,048 people within the Balonne Shire Council region, located 512 km west of Brisbane (see Figure 1), in south western Queensland. St George has links with Roma as the region’s major regional activity centre, as well as strong ties with both Goondiwindi, particularly in relation to agriculture, and Toowoomba, for administrative, health and financial services. The nearest substantial population centre is located approximately 386 km to the east at Toowoomba, and Roma approximately 196 km to the north. Its remoteness and isolation underpin the importance played by key community infrastructure assets like the St George Airport. The airport is located just 2 km from the St George town centre and provides critical connectivity to both regional communities and accessibility to capital city facilities. The airport also plays a key role in enabling local and regional economic development opportunities to the agri-business and aviation sectors. The opening of available land at St George Airport for hangar development will enable these business opportunities to turn into reality.

There are a small number of existing hangars and other minor facilities at the airport and Balonne Shire has demonstrated demand for a range of new businesses and private users wishing to invest in private hangar facilities. There are no sites prepared for the development of any new hangars which have direct taxiway and / or apron access.

The location of St George is shown in the map at Figure 1, with a closer view of St George Airport shown in Figure 2 (source: Google Earth 2019).

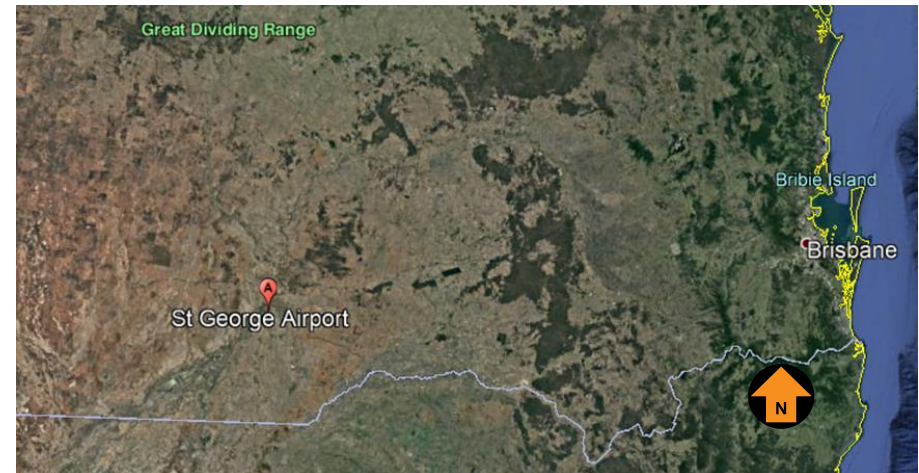


Figure 1 Location map



Figure 2 St George Airport location

## 1.2. Site description

St George is a Code 3 aerodrome with a single sealed 1,520 m x 30 m runway and a published Pavement Classification Number (PCN) of 15, meaning aircraft with an Aircraft Classification Number (ACN) of up to 15 can operate. Currently Regional Express Airlines (Rex) operates twice weekly services to Cunnamulla, Thargomindah and Brisbane via Toowoomba, using a SAAB 340, 33 seat aircraft with an ACN of 7.

A satellite image of the site is provided at Figure 3 (source: Google Earth)



Figure 3 Site overview

## 1.3. Regional characteristics

### 1.3.1. Population

St George has population of approximately 3,048 people, a median age of 38, and median household income of \$1,288 per week (all figures per 2016 Census). The population has been relatively steady for the past 10 years.

### 1.3.2. Economy

Agriculture including grazing of sheep, cattle and goats, with significant cotton crops contribute to the local economy. In recent years, growth has been shown in tourism, horticultural crops such as grapes, onion and garlic. There are numerous attractions to the area, including wineries, fishing and historical tours.

### 1.3.3. Climate and meteorology

St George experiences warm summers and dry winters. Mean annual rainfall is 516 mm, with 44 days of greater than 1 mm rainfall, 73 cloudy days and greater than 174 clear days per annum (Australian Bureau of Meteorology).

### 1.3.4. Regional aviation

Regular Public Transport (RPT) services are offered by Regional Express (REX), on a Wednesday and Sunday. Operated as a regulated air service (Western 1), this service is contracted through to 30 December 2020. Figure 4 shows the Western 1 route operated by REX and regulated by the Queensland Government (source: Queensland Government Department of Transport and Main Roads).

## Long Distance Aviation Services

Effective 1 January 2015



Figure 4 Long Distance Aviation Services

### 1.4. Role and history

St George Airport is a main transit point for Balonne Shire residents. The airport also helps serve the Royal Flying Doctor Service (RFDS), for medical transport. Light aircraft charters and agricultural industries also use the St George Airport.

### 1.5. Current operations

Current aircraft operations include:

- Saab 340B aircraft operated by Regional Express to Cunnamulla, Thargomindah and Brisbane via Toowoomba (Wellcamp); and
- Light general aviation and agribusiness aircraft operate private and charter flights to various destinations.

There is a helicopter landing point, however it is used infrequently.

### 1.6. Strategic intent

Balonne Shire Council intends to ensure that St George Airport is appropriately positioned to deliver the positive social and economic benefits associated with the shire.

This will be achieved by operating the airport as a commercial entity striving for cost neutrality, that has fully adopted a user pays methodology. Council will ensure operational expenses can be met as and when they fall due, that safety is not compromised, and that capital works are appropriately planned and budgeted for in response to demonstrated demand.

### 1.7. Purpose of master planning study

The purpose of the Master Plan is to establish a framework for the future planning and development for an industrial and airport precinct at St George Airport to ensure Balonne Shire Council achieves its strategic objectives and capitalises on the aeronautical and commercial opportunities provided by the airport.



The Master Plan is intended to establish the basis for more detailed studies of design, infrastructure planning, and land use planning required to achieve the strategic direction.

### **1.8. Master planning outcomes**

The Master Plan will provide a direction for the airport in terms of future infrastructure development and cost recovery, balanced against the economic and social requirements and aspirations of the local community

### **1.9. Strategic Alignment**

Balonne Shire Council in association with the Economic Development Advisory Committee facilitated the development of the Balonne Shire Economic Development Plan 2018 - 2022.

The following specific actions included in the *Balonne Shire Economic Development Plan 2018 - 2022* are relevant to the development of this Master Plan:

- Theme 3 - *Enabling economic prosperity: strategic planning and infrastructure provision* – Catalyst project of planning and development, which would identify opportunities to expand the St George Airport; and
- Theme 3 - *Enabling economic prosperity: strategic planning and infrastructure provision* - Performance Measures which includes development of a Master Plan for St George Airport.

### **1.10. Planning horizons**

The Master Plan nominally considers a planning horizon of 20 years, comprised of short term and longer-term timeframes:

- Short term – two-three years; and
- Longer term Master Plan horizon – beyond the short term to 20 years.

### **1.11. Previous planning studies**

There were no previous planning studies which were required to be considered for the development of this master plan.

### **1.12. Scope and Limitations**

The scope of work for the master planning study was specified as follows:

- assessment of the airport's current facilities and operations;
- analysis of trends in the number and types of aircraft using the airport, passenger numbers and the implication of those trends to facilities and operations now and into the future;
- assessment of regulatory requirements, the points at which those requirements may be triggered at St George Airport, and the implication of those requirements on facilities and operations;
- identification of opportunities to improve the financial viability of the airport;
- consultation with key stakeholders, including Councillors, Balonne Shire Council residents, and local businesses to identify their expectations and requirements of the airport now and into the future;
- gap analysis of the airport's current and projected facilities and operations;
- recommendation of actions for Council (and other stakeholders, where appropriate) to close those gaps; and
- development of an indicative scope, cost and timing of each recommended action.

### **1.13. Methodology**

The master planning study was conducted generally in accordance the Australian Airports Association Airport Practice Note 4 - Regional Airport Master Planning Guideline Planning and modified according to the Scope of Work.

The following key activities were conducted during the course of the study:

- Inception meeting and site orientation;
- Stakeholder consultation activities including site visit;
- Consolidation of stakeholder feedback;
- Preparation of concept plans for client endorsement;
- Preparation of draft Master Plan including drawings, plans and cost estimates;
- Final stakeholder consultation including review of draft Master Plan; and
- Preparation of final Master Plan for client acceptance.

## 2. STAKEHOLDER CONSULTATION

A comprehensive stakeholder consultation plan was designed to maximise the opportunity for the local community and aviation stakeholders to provide input to the development of the Master Plan.

### 2.1. Stakeholder engagement program

Engagement activities conducted during the consultation period 29 May – 28 June 2019 included:

- Telephone and/or face to face consultation with Councillors;
- A media release to advise residents of the St George Airport Master Plan its purpose, timeframe and feedback options (for BSC confirmation);
- A teleconference with the Deputy Mayor;
- A link on the Council website and Facebook profile to an online survey; and
- A set of Frequently Asked Questions published on the Council website to promote the program to the wider community.

### 2.2. Face to face meetings and telephone interviews

A representative of Aviation Projects personally spoke with the following people, either face to face or via telephone:

- All Councillors who made their contact details available;
- The president of the Chamber of Commerce;
- Mr Jason O'Toole (BalonneAirwork); and
- Mr Peter Lindsay (Vanderfield /pilot).

### 2.3. Results of personal interviews

The results of the face to face and telephone interviews reflect the wide and varied interests of those consulted. A summary of responses for each interest group is provided below.

#### 2.3.1. Councillors

The Mayor, Deputy Mayor and other Councillors expressed varied opinions regarding the future of the airport.

#### 2.3.2. Commercial aircraft operators

A lack of refuelling at the airport can limit operations, refuelling station at the airport would be ideal (either JetA1 and Avgas).

#### 2.3.3. Local aircraft operators

Local aircraft operators were generally satisfied with the facilities but would like improvements made to basic amenities.

Operators would like more hangars onsite, with the ability to lease or purchase.

#### 2.3.4. General themes

The following themes emerged from the personal interviews:

- Council would like the airport to be agile and be given the opportunity to adapt long term;
- Councillors like the proximity to town;
- Some councillors feel the airport meets current town needs;
- There is a consensus that an increase in passenger services will be better for the town and its people;
- The passenger terminal could be improved.

### 2.4. Online and printed survey responses

A short online survey, provided via the Council website through the website Survey Monkey asked the following questions:

1. What do you like about St George Airport?
  - a. Excellent (no delays, excellent level of comfort)
  - b. High (very few delays, high level of comfort)
  - c. Good (acceptable delays, good level of comfort)
  - d. Adequate (acceptable delays for short periods, adequate level of comfort)
3. How would you rate the current St George Airport?
  - a. Excellent (no delays, excellent level of comfort)
  - b. High (very few delays, high level of comfort)
  - c. Good (acceptable delays, good level of comfort)
  - d. Adequate (acceptable delays for short periods, adequate level of comfort)
  - e. Inadequate (unacceptable delays, inadequate level of comfort)
  - f. Unacceptable (unacceptable delays, unacceptable levels of comfort)
4. If your expectations of St George Airport are not being met, what improvements do you think are needed for them to be met?
5. What services or facilities would you like to see at St George Airport in the future?
  - a. Bigger passenger terminal
  - b. Taxis on standby

- c. Local area information
  - d. Conference or meeting facilities
  - e. Retail outlets
  - f. Other (please specify below)
6. What other destinations would you like to be able to fly to or from St George?
  7. What commercial development opportunities would you like to see at St George Airport?
  8. What do you see as the long-term strategic vision for St George Airport?
  9. What social and economic benefits do you associate with St George Airport?
  10. If you have any other comments or input, please provide that here.

### 2.4.1. Survey results

The online survey attracted 39 participants.

There were several common themes to the responses:

- Respondents generally like how well the airport is maintained, the proximity to town and ease of service.
- The customer experience generally did not meet expectations on:
  - provided seating;
  - lack of shaded or undercover areas outside;
  - lack of air-conditioning in terminal;
  - outdated terminal facility; and
  - infrequency of services to and from St George.

The difference between expected and current level of service is illustrated in Figure 5 and Figure 6.

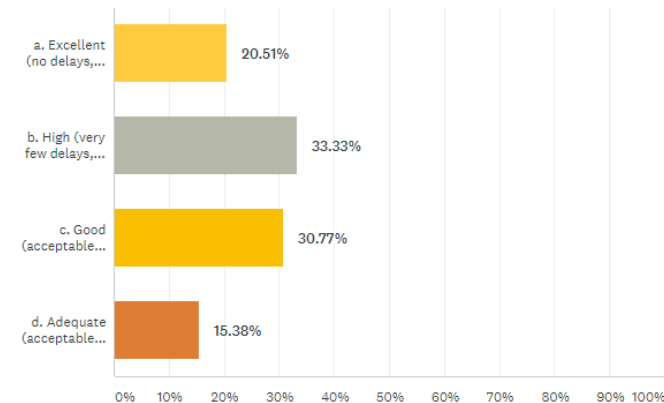


Figure 5 Expected Level of Service

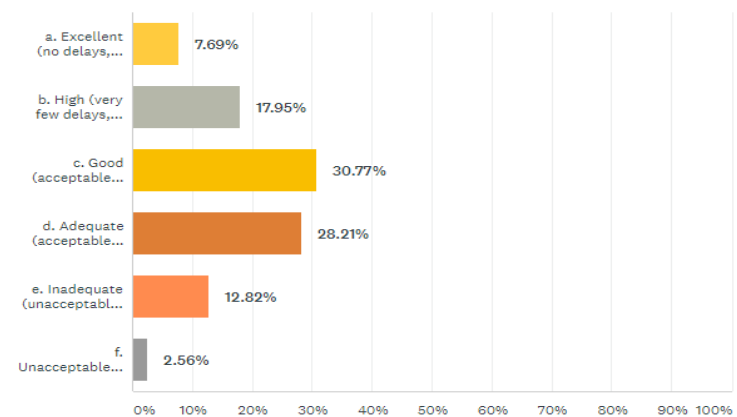


Figure 6 Current Level of Service

Survey respondents highlighted a number of improvements they believe need to be introduced at St George Airport. These improvements included:

- **terminal facilities:**
  - improve seating inside and outside terminal (6);
  - more toilets (1);
  - transfers into town (1);
  - security check (1);
  - secure parking (1);
  - improvements to Avgas supply (1);
  - free Wifi (1); and
  - reconfigured access to baggage drop-off and pickup (1).
- **terminal building:**
  - shaded areas (4);
  - update terminal building (4); and
  - covered walkway to aircraft (2).
- **customer service:**
  - increase in frequency of services (5);
  - improvements to aircon in terminal (1); and
  - staff manners (1).

## 2.4.2. Requested airport facilities

Airport facilities are desired by respondents are shown in Figure 7.

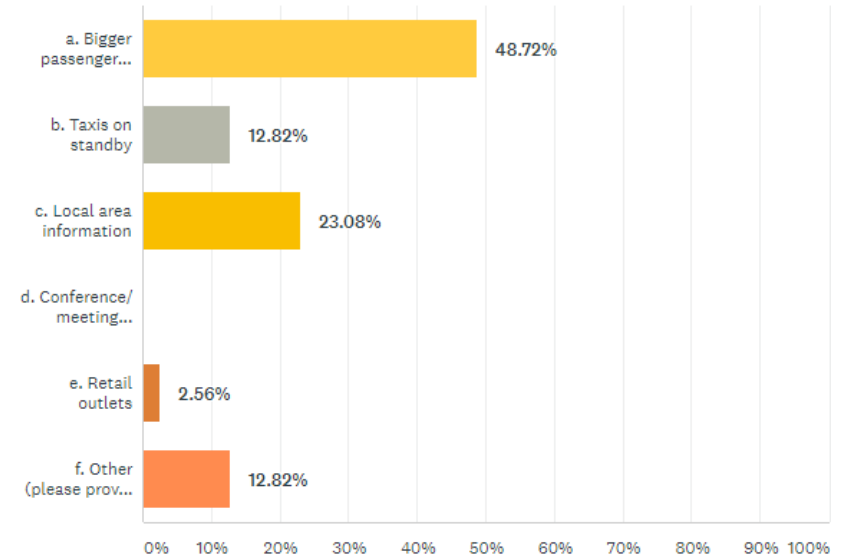


Figure 7 Airport facilities desired by respondents

**Other (specify):** respondents were given an opportunity to provide comments on airport facilities they would like to see at St George Airport in the future. A summary of respondents' suggestions is shown in Table 1.

Table 1 Respondents suggestions on airport facilities

<i>Survey respondents</i>	<i>Category</i>	<i>No. of respondents</i>
<b>Improved terminal building</b>	Terminal building	4
<b>Lease or purchase of hangars</b>	Airport services	2
<b>Improved terminal lighting</b>	Terminal precinct area	1
<b>Improved parking</b>	Airport services	1
<b>Car hire</b>	Airport services	1
<b>Improved seating for terminal</b>	Terminal facilities	1
<b>Vending machines</b>	Terminal facilities	1

### 2.4.3. Flight destinations

Flight destinations desired by respondents are shown in Figure 8.

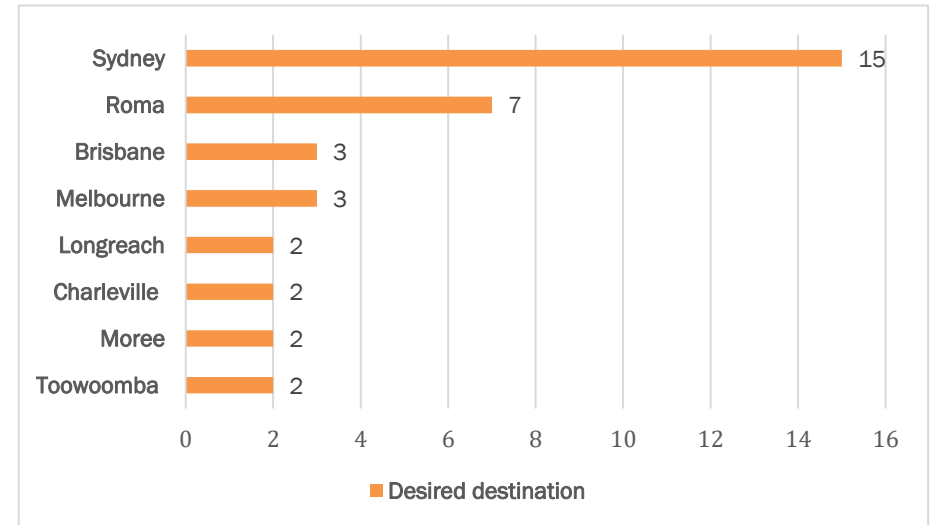


Figure 8 Flight destinations desired by respondents

Other destinations mentioned by respondents included:

- Darwin (1);
- Cairns (1);
- Townsville (1);
- Barcaldine (1);
- Northern Queensland (1); and
- Gold Coast (1).

## 2.4.4. Commercial developments

Examples of potential commercial developments identified by respondents are illustrated in Figure 9. The results are shown in a total number of respondents per each commercial development category.

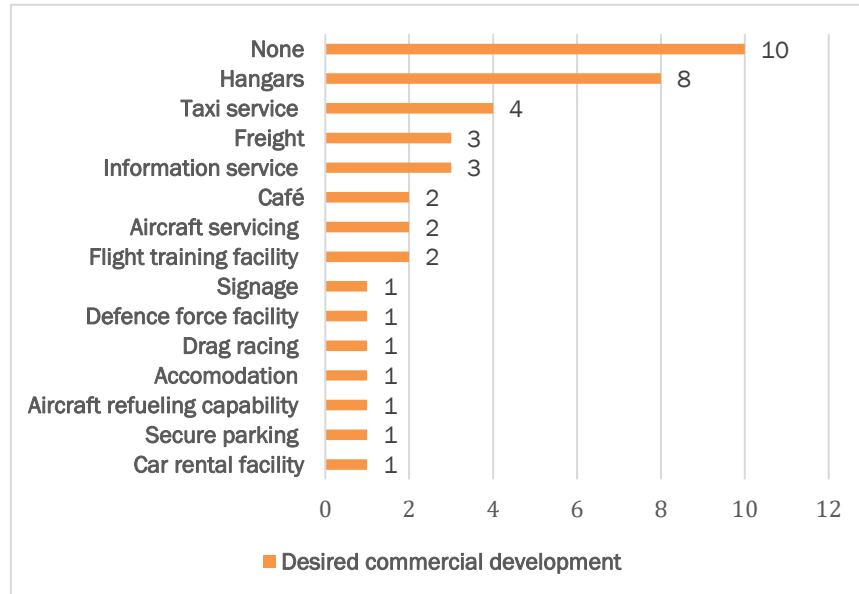


Figure 9 St George Airport commercial development

It is assumed that 10 respondents who voted that there is no need for introducing additional commercial developments are satisfied with current services.

## 2.4.5. Strategic vision

Key aspects of St George Airport strategic vision identified by survey respondents are illustrated in Table 2. The results are shown in a total number of respondents per each strategic vision type.

Table 2 St George Airport long term strategic vision

Strategic vision	No. of respondents
Increase in flights to and from region	10
Improved airport and terminal facilities	6
Align as outback transportation hub	5
Increase in ability for medical operations	2
Freight operations	1
None	7

## 2.4.6. Key social and economic benefits

Key social and economic benefits associated with the airport by respondents were generally as follows:

- The airport contributes to the growth of region;
- The airport contributes to tourism;
- The airport contributes to the growth of local economy;
- The airport allows medical access to the town;
- The airport contributes to the employment growth; and
- The airport provides an opportunity for population growth resulting from the growth of businesses and employment.



#### 2.4.7. Comments on St George Airport development

Key comments on St George Airport development were generally as follows:

- The council would like the airport to remain adaptable and agile for the future;
- The councillors and respondents are happy with the airport's proximity to town;
- The terminal and facilities are generally outdated, and need renovating;
- The airport is generally clean and tidy;
- The taxiways are an issue with limited space, to and from aprons;
- The respondents were interested in increasing the airports potential for freight and tourism;
- The lack of shade and outside seating in the terminal facilities is a common complaint;
- The RFDS shed is not in an ideal location, and is not used to its full potential;
- Security could be improved at the airport;
- Infrequency of flight service is a common theme, with respondents generally wanting more services to/from current destinations;
- Respondents would like the opportunity to lease or purchase hangars;
- The terminal and facilities are not very suitable for those with disabilities; and
- The airport should provide better aircraft refuelling service.

#### 2.4.8. Survey respondent location

The pool of survey respondents was formed online with links to the survey given on the Balonne Shire Council website through SurveyMonkey. It is assumed that the respondents of the survey are Balonne Shire Council residents, or those who have regular interactions with the St George Airport.

### 3. SWOT ANALYSIS

A Strength Weaknesses Opportunities and Threats (SWOT) analysis has been used to identify significant areas within the St George Airport, and surrounding vicinities, as detailed in Table 3.

Table 3 St George Airport SWOT analysis

<i>Strengths</i>	<i>Weakness</i>	<i>Opportunities</i>	<i>Threats</i>
<ul style="list-style-type: none"> <li>Residents generally happy with facilities</li> <li>Available land for development – both commercial park, and airside facilities</li> <li>Location of airport in great proximity to town</li> <li>Ease of service</li> <li>Airport contributes to local economy</li> <li>Provides medical access for town through services such as RFDS</li> <li>Runway will likely serve airports needs into the long-term future – i.e. up to Code requirements regarding length of runway</li> <li>St George could support growth in region with existing infrastructure, business and facilities being adequate</li> <li>Likely that no changes will be required to air traffic and airspace if redevelopments of the airport and precinct occur</li> <li>Existing operators at St George Airport – charters, and agribusiness</li> <li>Annual events bringing tourism (who use the airport) to the area</li> </ul>	<ul style="list-style-type: none"> <li>Inefficient taxiway network</li> <li>Older terminal with inadequate shade or seating</li> <li>Twice weekly RPT services, no room for increase in REX services at current time</li> <li>No refuelling capability at the airport</li> <li>Potential lack of demand for existing services</li> </ul>	<ul style="list-style-type: none"> <li>Potential for growth within airport operations</li> <li>Commercial/industrial development</li> <li>Increase in land use</li> <li>Refuelling capability for Avgas or JetA1 brings longer stays</li> <li>Potential opportunity to market airport as gateway to the outback, to neighbouring towns and communities</li> <li>Potential for flight school, or increase in private charters, tourism flights from St George Airport</li> </ul>	<ul style="list-style-type: none"> <li>Downturn in economy reduces demand for travel, investment</li> <li>Commercial/industrial development is not developed, or no tenants/owners for the lots</li> <li>Decrease in RPT services when REX contract ends</li> <li>Neighbouring airports offering more frequent and direct RPT services – residents drive there instead (eg Roma)</li> <li>Residents move away from St George and neighbouring towns, decrease in passengers at airport</li> <li>Climate change</li> </ul>

## 4. EXISTING AERODROME FACILITIES

### 4.1. Aeronautical infrastructure

St George Airport is equipped with the aeronautical infrastructure described in this section.

Runway 11/29 1520 m x 30 m (150 m runway strip), sealed PCN 15/F/A/860 (125PSI)/U.

Figure 10 shows St George runway 11/29 (source: Airservices Australia, July 2019).

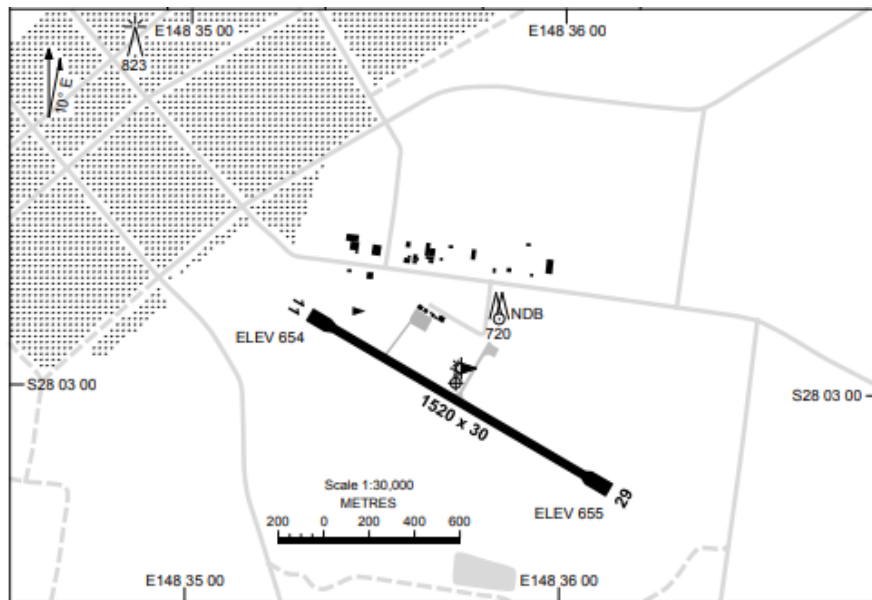


Figure 10 St George Airport runway

Declared distances are provided in Table 4 (source: Airservices Australia).

Table 4 Runway declared distances

Runway	TORA	TODA	ASDA	LDA
11	1520	1580 (4.35%)	1520	1520
29	1520	1580 (3.2%)	1520	1520

### 4.2. Support facilities

The airport is equipped with a non-directional beacon (NDB).

An automatic weather station is accessible by telephone or VHF broadcast.

The airport is located outside controlled airspace and has a common traffic advisory frequency (CTAF).

There is no air traffic control tower service.

There is no fuel supply service available at St George Airport

### 4.3. Landside development

Landside facilities include the following buildings:

- Passenger terminal;
- Royal Flying Doctor Service shade facility (landside);
- A number of private hangars; and
- Vacant small building;

#### **4.4. Ground transport**

Access to the airport is via sealed single-lane Cliff Parsons Drive, off the Carnarvon Highway, which terminates in a cul-de-sac west of the passenger terminal.

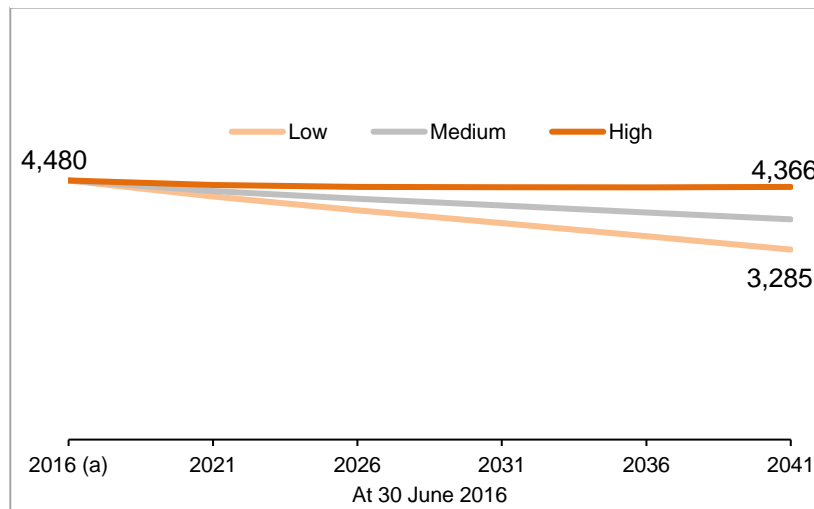
A small number of sealed unmarked car parks are provided in front of the passenger terminal. The remainder of car parking positions are unsealed.

## 5. DEMAND

### 5.1. Regional population growth

The Balonne Shire Council has a current population of 4480 (per 2016 Census, ABS). As predicted by the Queensland Government the population is projected to have a slight decrease in population for the period of 2016-2041. Table 5 gives an indicative approach to the projected population of the Balonne Shire Council for 2016 – 2041, forecasted between 3,285 and 4,366 residents.

Table 5 Project population Balonne Shire Council 2016 - 2041



### 5.2. Historical passenger demand

Passenger demand is affected by local economic conditions, population, levels of tourism and other aviation related factors (number of seats, level of competition etc). Passenger demand has not previously been published by the RPT provider. However, at the time of writing this Master Plan it was advised by REX that passenger numbers were estimated as being approximately 650 arriving, and 700 departing passengers per year, for a total of 1350 in the 2018/19 financial year.

### 5.3. Historical aircraft movement demand

At the time of writing this Master Plan there was no historical aircraft movement data available. Historical aircraft movement data had not been monitored prior to the commencement of this Master Plan. AvData, a service that manages airport billing, and identifies aircraft movements is in the process of being activated. Once in use the data will be able to provide an accurate account of aircraft movements at St George Airport.

### 5.4. Historical freight demand

As there was no historical data available, freight demand has not been considered at the time of this Master Plan. The Balonne Shire Council has sufficient road freight service in place, which currently meets the shire’s supply and demand.

### 5.5. Forecast passenger demand

It is currently not viable to forecast passenger demand as there is no existing published historical data. Should this be considered by the RPT provider, the forecasted passenger demand may then be applicable for analysis.

## 5.6. Future RPT/charter routes

According to the survey results, there is a desire for additional services to Brisbane, as well as new routes to Sydney, Roma and Melbourne. A map showing current scheduled destinations, including Cunnamulla, Thargomindah, and Brisbane via Toowoomba (Wellcamp), is provided at Figure 11 (source: Great Circle Mapper).

Identified in Figure 4, the Western 1 route is regulated by the Queensland Government until 30 December 2020. After this time potential remodelling of the route could be presented to the RPT operator, to provide additional services to and from St George Airport.



Figure 11 Scheduled destinations

## 5.7. Aircraft parking capacity

Presently the airport suffers from constraints in aircraft parking due to limited apron space during high traffic periods.

## 5.8. Passenger terminal capacity

The passenger terminal does not meet community expectations, in that it is not large enough to accommodate all passengers and is not easily accessible for people with disabilities. Upgrading the terminal could prove beneficial for operations and passenger comfort.

## 5.9. Freight operations capacity

At the time of preparing the Master Plan there were no routine freight operations at the airport.

## 6. DEVELOPMENT CONSTRAINTS

### 6.1. Planning

The State Planning Policy 2017 (SPP) outlines the states interests and land use development areas, which are identified within five broad themes. The fifth theme – *infrastructure*, outlines strategic airports and air facilities. Under the SPP St George Airport is not listed as a strategic airport, however the SPP contains guidelines for planning and development purposes which inform this Master Plan.

The current SPP legislation and framework is made under the Planning Act 2016 and will apply across the whole State. It replaces the current planning schemes that operate in each Council area under the Sustainable Planning Act 2009. The Planning Act 2016 is designed to provide an efficient, and effective system of land use planning and development assessment, to facilitate the achievement of ecological sustainability.

Under the Balonne Shire Council Planning Scheme, the airport is defined as an Industrial Precinct Zone. Refer to Figure 12 (source: Balonne Shire Council Planning Scheme 2006 As amended July 2014), which shows the airport site within the area shaded purple.

An extract from QLD Globe at Figure 13 shows the airport site within the context of the Land Use Overlay.

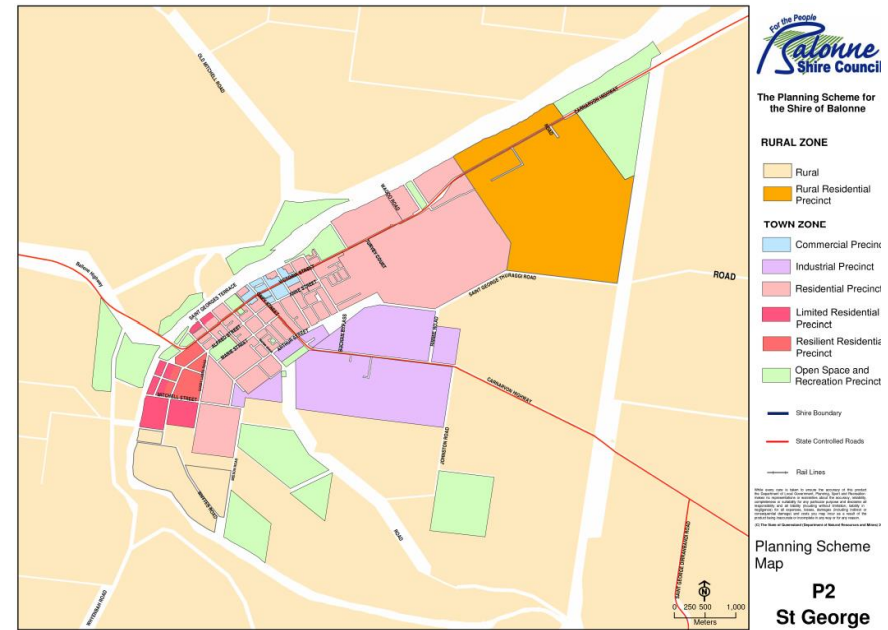


Figure 12 Planning Scheme Map P2 St George



Figure 13 QLD Globe Land Use overlay

## 6.2. Regulatory context

Current and future operations at St George Airport are regulated according to the requirements set out in the section below.

### 6.2.1. Civil Aviation Safety Regulations 1998

Civil Aviation Safety Regulation 1998 (CASR) Part 139—*Aerodromes* describes the requirements for aerodromes used in air transport operations.

### 6.2.2. Manual of Standards Part 139—Aerodromes

Manual of Standards Part 139—*Aerodromes* (MOS 139) sets out the standards and operating procedures for certified, registered and certain other aerodromes used in air transport operations.

The current MOS 139, published in 2017, is subject to significant revision, with the revised version due to be published shortly, and apply from 22 August 2020.

### 6.2.3. Aerodrome reference code

Australia has adopted the International Civil Aviation Organisation (ICAO) methodology of using a code system, known as the Aerodrome Reference Code, to specify the standards for individual aerodrome facilities which are suitable for use by aeroplanes within a range of performances and sizes. The Code is composed of two elements: element 1 is a number related to the aeroplane reference field length; and element 2 is a letter related to the aeroplane wingspan and outer main gear wheel span. Table 6 is a copy of MOS 139 Table 2.1-1: Aerodrome Reference Code.



Table 6 MOS 139 Table 2.2-1 Aerodrome Reference Code

<i>Code Element 1</i>		<i>Code Element 2</i>	
<i>Code number</i>	<i>Aeroplane reference field length</i>	<i>Code letter</i>	<i>Wing span</i>
1	Less than 800 m	A	Up to but not including 15 m
2	800 m up to but not including 1200 m	B	15 m up to but not including 24 m
3	1200 m up to but not including 1800 m	C	24 m up to but not including 36 m
4	1800 m and over	D	36 m up to but not including 52 m
		E	52 m up to but not including 65 m
		F	65 m up to but not including 80 m

### 6.3. Design Standards

BSC desires an aerodrome that will ultimately conform to standards applicable to code 3C instrument non-precision requirements as specified in MOS 139.

The Master Plan contemplates proposed changes to the requirements specified in MOS 139 to the extent they have been explained, but do not necessarily reflect the final version as it is still pending publication.

### 6.4. Environmental

No significant environmental issues were identified during the study.

### 6.5. Heritage

No significant heritage issues were identified during the study.

## 7. AIRCRAFT MOVEMENT AREAS

### 7.1. Runway

Runway 11/29 is satisfactory for the current and expected scope of aircraft operations in terms of length and width.

### 7.2. Runway pavements

Little is known about the pavement structure or actual bearing strength of the runways other than the data that is published in ERSA.

Pavement bearing strength testing will help to validate the current published data and inform decisions about agreeing to pavement concessions for heavier aircraft.

The existing runway pavement may require strengthening in order to accommodate larger and heavier aircraft in the future. Further detailed pavement design and management work, based on geotechnical investigation results, will inform the scope and cost of this future requirement.

### 7.3. Wind roses

Wind roses showing historical average wind direction and speed for the period 24 May 1997 to 10 August 2018, at 9 am and 3 pm, are provided at Figure 14 and Figure 15 (source: Bureau of Meteorology).

#### Rose of Wind direction versus Wind speed in km/h (24 May 1997 to 10 Aug 2018)

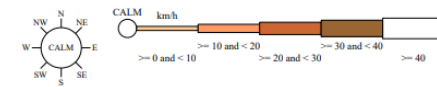
Custom times selected, refer to attached note for details

##### ST GEORGE AIRPORT

Site No: 043109 • Opened May 1997 • Still Open • Latitude: -28.0489° • Longitude: 148.5942° • Elevation 198 m

An asterisk (\*) indicates that calm is less than 0.5%.

Other important info about this analysis is available in the accompanying notes.



9 am  
7660 Total Observations

Calm 2%

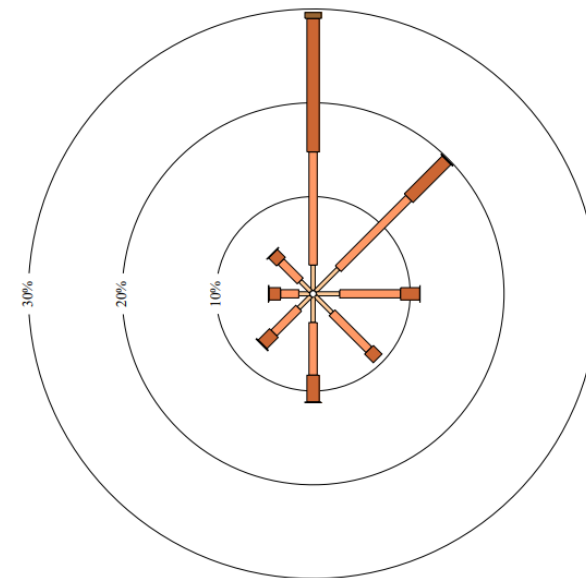


Figure 14 9 am wind rose

**Rose of Wind direction versus Wind speed in km/h (24 May 1997 to 10 Aug 2018)**

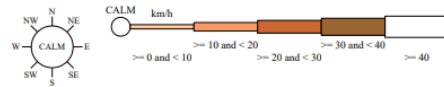
Custom times selected, refer to attached note for details

**ST GEORGE AIRPORT**

Site No: 043109 • Opened May 1997 • Still Open • Latitude: -28.0489° • Longitude: 148.5942° • Elevation 198.m

An asterisk (\*) indicates that calm is less than 0.5%.

Other important info about this analysis is available in the accompanying notes.



3 pm  
7658 Total Observations

Calm \*

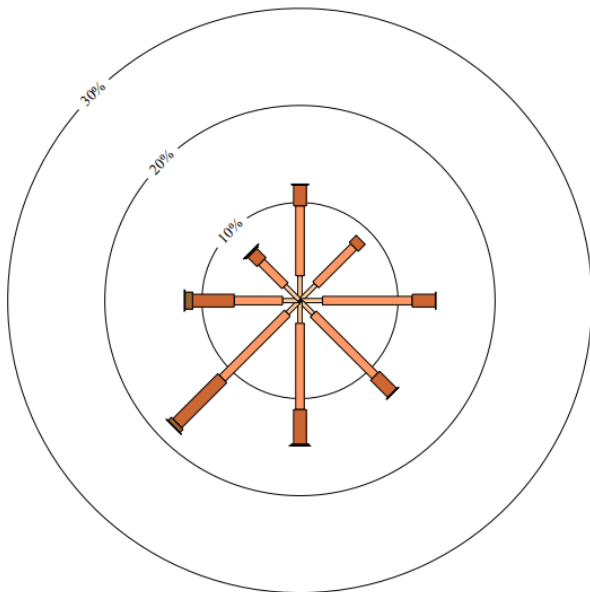


Figure 15 3 pm wind rose

**7.4. Taxiways**

St George Airport has two stub taxiways. The main taxiway adequately services the main parking apron.

The secondary stub taxiway serves the current hangar precinct but does not meet minimum width standards for the types of aircraft using it.

**7.5. Parking aprons**

St George Airport has two aprons. The main apron is located east of the terminal, and services the RPT flights. The second apron which is primarily used by private charters and agribusinesses is located to the west of the terminal building. There is currently no direct access between the two aprons, with aircraft having to taxi via the runway for access between the two aprons.

**7.6. Hangar facilities**

The only hangar facilities currently at the St George Airport are on land leased from Council. Interest has been expressed by survey respondents for further opportunities to lease or purchase a hangar.

**7.7. Helicopter facilities**

There is a dedicated helicopter landing pad at St George Airport.

**7.8. Aerodrome lighting**

The St George Airport lighting facilities include:

- RWY 11/29 low intensity runway lights (LIRL);
- RWY 11/29 portable lights (PTBL); and
- TWY LGT blue edge lights.

## 8. AVIATION SUPPORT FACILITIES

### 8.1. Fuel

Fuel is not available for sale at the airport.

### 8.2. Ground support equipment

Ground support equipment is provided by airlines or their ground handling agents.

### 8.3. Navigation and approach aids

St George Airport is equipped with a non-directional (radio) beacon (NDB).

A check of the AIP via the Airservices Australia website showed that St George Airport is served by non-precision terminal instrument flight procedures as per Table 7 (source: Airservices Australia, 2018).

Table 7 St George Airport (YSGE) aerodrome and procedure charts

<i>Chart name (Procedure Designer)</i>	<i>Effective date</i>
AERODROME CHART (AsA)	16 AUG 2018
NDB RWY 11 (AsA)	14 NOV 2013
RNAV-Z (GNSS) RWY 11 (AsA)	28 MAY 2015
RNAV-Z (GNSS) RWY 29 (AsA)	28 MAY 2015

### 8.4. Weather information service

The St George Airport weather information services include:

- terminal area forecast (TAF) CAT D;
- meteorological terminal aviation routine weather report (METAR);
- aviation special weather report (SPECI); and
- aerodrome weather information service (AWIS)

### 8.5. Aerodrome rescue and firefighting services

There is no aerodrome rescue and firefighting service, and one is not expected to be required within the master planning period.

### 8.6. Air traffic control and airspace

The airspace around St George Airport is Class G (i.e. non-controlled airspace) from the surface to F180.

Air traffic control communication is available through Brisbane Centre (FIA).

No change is required to air traffic control or airspace arrangements.

### 8.7. Transport security

St George Airport is classified as a security-controlled airport under the Aviation Transport Security Act 2004 and the Aviation Transport Security Regulations 2005.

A perimeter fence encloses the airside area of St George Airport and the boundary is clearly marked with signage.

Airside access for St George Airport is via gates off the current parking bay. Access through these gates is via a lock and key which is issued and controlled by Balonne Shire Council.

No change is anticipated to aviation security arrangements in the short term.

In the longer term, security screening may be required, for example, if an aircraft with a seating capacity of more than 40 regularly operates to the airport.

It is not expected that security screening will be required within the master planning horizon.

## 9. PASSENGER FACILITIES

### 9.1. Passenger terminal

The passenger terminal serves the airport well, but as indicated via survey responses, the terminal could be improved by:

- Facilitating better access by people with disabilities;
- Improvements to seating both inside and outside of the general terminal;
- Shaded or undercover waiting areas; and
- Updated terminal facility, with improved air conditioning.

### 9.2. Aeromedical facilities

The RFDS transfer building, located to the south of the passenger terminal in the car park on landside, is not often used. The building could be re-purposed into a multi-use shed to better suit the needs of both the RFDS and St George Airport

## 10. COMMERCIAL LAND USE AND DEVELOPMENT

### 10.1. Current leasing and charging regime

Aeronautical fees/charges are not levied on users of St George Airport.

Leases on the airport include:

- Hangars; and
- An area airside for the Bureau of Meteorology weather station.

### 10.2. Future commercial and business prospects

Future opportunities exist to provide hangar lots with airside access and industrial lots on the landside fronting the Carnarvon Highway.

BSC has grant funding to construct a small hangar precinct.

## **11. GROUND TRANSPORT SYSTEMS**

### **11.1. External network**

The external road network is considered adequate for the master planning horizon.

### **11.2. Internal network**

The internal road network will need to be upgraded to provide access to future development sites.

### **11.3. Airside access**

Airside access is considered adequate.

### **11.4. Public car parking**

At the time of preparing this Master Plan, the parking at St George Airport, was considered adequate for the current needs. Future considerations could be made to future proof the facilities to allow for more secure long-term parking. However, the main carpark is thought to be adequate for current demand.

### **11.5. Rental car parking demand**

There is no rental car service located at St George Airport.

### **11.6. Buses**

There is no direct bus service access to St George Airport.

### **11.7. Taxis**

There is no taxi service at St George Airport, although taxis are available on request.

### **11.8. Aviation fuel**

There is no on-site aviation fuel storage or station.

Preliminary negotiations have been conducted for the provision of Avgas.



## 12. UTILITIES AND CIVIL INFRASTRUCTURE

### 12.1. Water

Water to the site is supplied from town water through the Balonne Shire Council water supply network.

### 12.2. Electricity

A reticulated electricity service is provided on site.

A back-up diesel generator is available for the aerodrome lighting system.

There is capacity to install some solar panels on the roof of the terminal building.

### 12.3. Sewer/septic

Waste treatment is via individual septic systems.

A significant increase in development on the airport may initiate a requirement for BSC to provide a connection to the town sewerage system.

### 12.4. Communications

Telephone service is provided via landline and is considered acceptable.

ADSL internet is provided via landline.

### 12.5. Stormwater

Generally, stormwater run-off is managed effectively onsite. Rainwater is collected from the passenger terminal through a small rainwater tank. To improve stormwater management and collection onsite, a stormwater run-off plan could be considered in the long term

### 12.6. Perimeter fencing

The perimeter fencing is considered adequate for its purpose.

## 13. AERODROME SAFEGUARDING

The Commonwealth Government has an interest in better planning and integrated development on and around airports and to lessen the adverse effects of aviation activity on the environment and communities. While not a planning authority, it provides guidance on broader issues such as noise around airports that can be used by statutory authorities to achieve the stated objectives. The National Airports Safeguarding Advisory Group (NASAG) has produced the National Airport Safeguarding Framework to advance this agenda. The Framework should also be taken into consideration when designing development on and in the vicinity of the airport.

### 13.1. Operational airspace

#### 13.1.1. Obstacle limitation surfaces

An airport's obstacle limitation surfaces (OLS) define the operational airspace that should be kept free of obstacles for aircraft operations being conducted under the visual flight rules. Both current and future (ultimate) OLS should be considered in the design of developments on and within the vicinity of the airport.

Manual of Standards Part 139 Chapter 7 provides relevant parameters for the design of the OLS.

Details of the OLS are provided in plans TBA

#### 13.1.2. PANS-OPS surfaces

PANS-OPS surfaces define the operational airspace a pilot is required to use when flying an aircraft under the instrument flight rules—that is, when relying on instruments for navigation. Development should seek to avoid any permanent encroachments into current and future PANS-OPS airspace.

Detailed information about the PANS-OPS surfaces is provided by Airservices Australia in documentation held by the Airport Manager.

Further information can be found in NASF Guideline F: Managing the Risk of Intrusions into the Protected Airspace of Airports.

### 13.2. Lighting restriction zone

Manual of Standards Part 139 - Aerodromes establishes a restriction to lighting within the vicinity of an airport which, by reason of its intensity, configuration or colour, might endanger the safety of an aircraft. The vicinity of the airport can be taken to be within a 6km radius of the airport.

Details of lighting restriction zones are provided in plan TBA

Further information can be found in NASF Guideline E: Managing the Risk of Distractions to Pilots from Lighting in the Vicinity of Airports.

### 13.3. Wildlife hazard buffer zone

All wildlife on or around an airport should be regarded as a potential hazard to aircraft safety. Most wildlife strikes occur on and in the vicinity of airports, where aircraft fly at lower elevations. Flying vertebrates (e.g. birds or bats) mainly use airspace within 300 metres of the ground so are likely to conflict with aircraft when they are at their most vulnerable, i.e. immediately after take-off and during landing approaches or other low flying manoeuvres. Development should seek to avoid creating wildlife attracting land uses both on and within the vicinity of the airport.

Details of wildlife hazard buffer zones are provided in plan TBA

Further information can be found in NASF Guideline C: Managing the Risk of Wildlife Strikes in the Vicinity of Airports.

### 13.4. Building restricted areas for aviation facilities

The Building Restricted Area (BRA) is defined as a volume where buildings and other objects have the potential to cause unacceptable interference to the signal-in-space transmitted by the radio navigation facility. All radio navigation facilities have a BRA

defined which may extend to a significant distance from the facility. The purpose of the Building Restricted Area is not intended to prohibit development but rather to trigger an assessment of a proposed building or development for its impact on the radio navigation facility. The BRA is primarily intended to be used by Aerodrome Operators and Local Planning Authorities but is also required to be used by the systems engineer when selecting a new site for a radio navigation facility. All development applications near a radio navigation facility shall be assessed to determine if the facility BRA is infringed. If there is no infringement the assessment process may be terminated, and the application approved.

#### 13.4.1. NDB

All development proposals within 60 m of the NDB antenna, and development proposals between 60 m and 300 m from the centre of the NDB antenna that exceed an angle of elevation of 5° from ground level at the centre of the NDB antenna, shall be assessed by an NDB Technical Authority (i.e. Airservices Australia).

The NDB BRA is represented in in Plans TBA.

Further information can be found in NASF Guideline G: Protecting Aviation Facilities – Communications, Navigation and Surveillance (CNS).

### 13.5. Public safety areas

NASAG has drafted a new Guideline for Public Safety Zones (PSZs) to mitigate the risk to people on the ground near airports by informing a consistent approach to land use at the end of Australian airport runways. PSZs seek to limit land uses that would increase the number of people in the zone or result in the storage of hazardous materials in the zone.

The Guideline is intended to assist land-use planners at all levels to better consider public safety when assessing development proposals and rezoning requests and when developing strategic land use plans.

Since there is no formal requirement to implement public safety zones, and because of the uncertainty about specific design parameters, this concept has not been incorporated in the Master Plan.

Further information can be found in NASF Guideline I (Managing the Risk in Public Safety Zones at the Ends of Runways) (draft under development).

### 13.6. Aircraft noise

Aircraft noise can affect the allocation of appropriate uses on and external to the airport site.

Australian Noise Exposure Forecast (ANEF) contours provide a scientific measure of the aircraft noise exposure levels around airports taking into account the frequency, intensity, time and duration of aircraft operations. Standard methodology for evaluating the noise climate around airports is defined in AS 2021-2015 Acoustics – Aircraft Noise Intrusion – Building Siting and Construction, which recognises the ANEF contour charts as the primary method for long-term noise impact assessment.

Australian Noise Exposure Concept (ANEC) is a map, based on a hypothetical set of conditions of runways, aircraft types and so on, that may be produced during consideration of options for aerodrome development.

There is no ANEF for St George Airport.

Whilst no specific investigation has been conducted, it is assumed that noise levels created by proposed operations on the aerodrome will be acceptable.

In lieu of an ANEF, BSC could contemplate the preparation of a Fly Neighbourly Advice.

Further information can be found in NASF Guideline A: Measures for Managing Impacts of Aircraft Noise.

## 14. MASTER PLAN

Staging of infrastructure development for the Master Plan aligns with anticipated changes in demand and user requirements within the two nominal time frames – short term (1-3 years) and longer term.

The actual order and timing of nominated changes will, in part, depend upon realised demand and available funding.

### 14.1. Short term - stage one

The following works are recommended for the short-term period.

<i>No</i>	<i>Aspect</i>	<i>Description</i>	<i>Timeframe</i>	<i>Desired outcome</i>
1	Hangar lots	Provision of sites for hangars 1 – 4 for private or commercial use	Within the next 2 years	Attract general aviation users to the airport
2	Apron	Additional apron space required for GA and hangar users	Within the next 2 years	Improved operational and safety proficiency
3	Taxiway	Required for access from runway to hangar precinct	Within the next 2 years	Improved operational and safety proficiency
4	Fencing	Additional fencing in accordance with security requirements as part of new hangar precinct	Within the next 2 years	Maintain a safe and secure airside boundary
5	Roads	Provision of cul-de-sac will allow road access to new hangars	Within the next 2 years	Provide road access to new hangar sites

## 14.2. Longer term development

The following developments are allowed for by the end of the 20-year master planning period.

<i>No</i>	<i>Aspect</i>	<i>Description</i>	<i>Trigger for requirement</i>	<i>Timeframe</i>	<i>Desired outcome</i>
1	Additional hangar lots	Provision of sites for additional hangars 5 - 9 for commercial or private use	Demonstrated demand or additional funding	5-10 years	Attract an increase in general aviation users to the airport
2	Commercial/industrial sites	Provide space on airport precinct site for commercial or industrial land use	Demonstrated demand	5-10 years	Increase in economic development opportunities
3	Terminal building	Relocate terminal building to improve available facilities and provide for future growth	Demonstrated demand or additional funding	10-20 years	Improved operational efficiency and passenger experience
4	Parking	Establish defined parking which caters for growth and demand	Demonstrated demand, or as required	10-20 years	Improved operational efficiency and passenger experience
5	Taxiways	Improve existing and construct new taxiway as demand requires, will need to conform with MOS 139	Plan for future growth and demand	10-20 years	Increase in operational capacity
6	Apron expansion	As taxiways are upgraded, apron will need to be expanded to allow access and conformity with MOS 139	As necessary with potential taxiway upgrades - in accordance with MOS 139 and funding availability	10-20 years	Increase in operational capacity
7	Utilities	Upgrade utilities and civil infrastructure as required in relation to additional services, and changes made to site capacity and demand	As necessary with relation to capacity of current utilities being exhausted	10-20 years	Provide utilities and civil infrastructure which support operations and demand
8	Aeronautical infrastructure	Upgrade infrastructure in line with operational requirements, and safety regulations as capacity is increased at the airport	When required, to cater to increased capacity and operations	10-20 years	Support aeronautical operations through required infrastructure

Master Plan drawings are provided in the **Annexures**.

## 15. REVENUES AND COSTS

A detailed analysis of revenues and costs has not been performed as part of the master planning activity. Notable issues that arose during the study are documented for further consideration.

### 15.1. Revenues

A detailed analysis of revenues associated with the staged upgrade of St George Airport and Industrial precinct has not been prepared as part of the master planning activity.

### 15.2. Costs

A high-level estimate of costs for the proposed works in Stage 1 Hangar development has been prepared.

Further preliminary design work is required in order to adequately scope and specify the work required to deliver the various aspects of the overall plan before a final cost estimate can be prepared.

## 16. GLOSSARY

AAGR	average annual growth rate	HLS	helicopter landing site
AIP	Aeronautical Information Package	ICAO	International Civil Aviation Organization
AMSL	above mean sea level	INP	instrument non-precision
ANEC	Australian Noise Exposure Concept	IWDI	illuminated wind direction indicator
ANEF	Australian Noise Exposure Forecast	LGA	local government authority
ARFFS	aerodrome rescue and fire fighting service	LIRL	low intensity runway lights
AsA	Airservices Australia	MOS	Manual of Standards
ATC	air traffic control	MTOW	maximum take-off weight
BRA	building restricted area	NASF	National Airports Safeguarding Framework
BSC	Balonne Shire Council	NBN	National Broadband Network
CAAP	Civil Aviation Advisory Publication	NDB	Non-Directional Beacon
CAR	Civil Aviation Regulation 1988	OLS	obstacle limitation surfaces
CASA	Civil Aviation Safety Authority	PANS-OPS	Procedures for Air Navigation Services – Aircraft Operations
CASR	Civil Aviation Safety Regulation 1998	PAPI	Precision Approach Path Indicator
CTAF	Common Traffic Advisory Frequency	PSZ	public safety zone
ERSA	En Route Supplement Australia	RFDS	Royal Flying Doctor Service
GA	general aviation	RNAV-GNSS	Area Navigation – Global Navigation Satellite System
GNSS	Global Navigation Satellite System	RPT	regular public transport
GPS	Global Positioning System	RTIL	runway end identifier lights
GSE	ground support equipment	SGS	satellite ground station
		SPP	State Planning Policy

## 17. REFERENCES

- Airservices Australia, Aeronautical Information Package; including En Route Supplement Australia (ERSA, RDS, DAP) effective 24 May 2018;
- Balonne Shire Economic Development Plan 2018 – 2022;
- Civil Aviation Safety Authority, Civil Aviation Safety Regulations 1998;
- Civil Aviation Safety Authority, Manual of Standards Part 139 – Aerodromes version 1.14: dated January 2017;
- Department of Infrastructure and Regional Development (C'th), *Airport Traffic Data 1985-86 to 2016-17 (xls format)*;
- International Civil Aviation Organization, International Standards and Recommended Practices (SARPS) Annex 14 Aerodromes, Volume 1 *Aerodrome Design and Operations* and Volume II *Heliports*; and
- Queensland Government, Department of State Development, Manufacturing, Infrastructure and Planning, *State Planning Policy 2017*.



## ANNEXURES

### Short term

- Site Plan – Stage 1 Hangars

### Long term

- Site Plan – Airport
- Site Plan - Ultimate

### Aerodrome Safeguarding

- OLS Overall
- OLS
- Airport Planning, Light and Building Restriction Zones
- Airport Planning, Wildlife Hazard Buffer Plan

**SHORT TERM – 2-3 YEARS**

**LONG TERM**

**AERODROME SAFEGUARDING**

# AVIATION PROJECTS

Aviation. From the ground up.



AIRPORT PLANNING AND DESIGN




AVIATION SAFETY




OPERATIONS



DRONES



EXPERT WITNESS



WIND FARMS

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