



**Parafield
Airport**

**Master Plan
2024
Preliminary
Draft**

This document is the Parafield Airport Preliminary Draft Master Plan 2024.

In accordance with the requirements of the *Airports Act 1996*, the Preliminary Draft is available for public review and comment for a period of 60 business days.

Public comment submissions are to be made in writing and sent to Parafield Airport before close of business on 4 April 2024.

**Master Plan 2024 Submission
Parafield Airport Limited
Building 18 Tigermoth Lane
Parafield Airport SA 5108**

Email: palmasterplan2024@aal.com.au

Disclaimer

This Master Plan has been prepared by Parafield Airport Limited (PAL) ACN 075 176 608 for the purpose of satisfying the statutory requirements of the *Airports Act 1996*.

Whilst every care has been taken in preparing this document, PAL makes no representation or warranty as to the accuracy or completeness of this document. No person should act in reliance on any information provided in, or omitted from, this document or any other written or oral information or opinions provided in connection with this document. PAL accepts no liability whatsoever to any person who relies in any way on information contained in this Master Plan.

Foreword

I am pleased to present Parafield Airport's Master Plan 2024 (Master Plan 2024), being the airport's primary planning document for the next 8 years with a planning horizon for the next 20 years.

Parafield Airport is the major general aviation and pilot training airport in South Australia and is home to one of the largest pilot training schools in the Southern Hemisphere. The aerodrome was first used in 1927 and was Adelaide's main airport until the opening of Adelaide Airport in 1955. It has always been a flying training airport and also includes recreational flying and aircraft maintenance.

Three main aviation training companies operate out of Parafield Airport - Flight Training Adelaide, Hartwig Air and Aerostar Aviation.

Flight Training Adelaide partners with the University of South Australia to carry out flight training for students as part of the Graduate Diploma in Aviation, as well as international airlines including Cathay Pacific, IndiGo (India), China Airlines, Starlux (Taiwan), Sky Airline and J-Air (Japan). Flight Training Adelaide also provides training for Leidos (formally Cobham) special mission services (border surveillance and search and rescue operations), as well as helicopter pilot training. The college has been operating at Parafield Airport for over 40 years with nearly 300 students accommodated on site.

Hartwig Air has been training pilots for over 50 years and partners with RMIT University to train commercial pilots under an Associate Degree of Aviation (Professional Pilots). Aerostar Aviation partners with TAFE Queensland to offer a Diploma of Aviation (Commercial Pilot Licence – Aeroplane) and with the Central Queensland University to offer a Graduate Diploma of Aviation.

The 2022 Boeing Pilot and Technician Outlook forecasts that between 2022 and 2041, the aviation industry will need to supply 602,000 commercial airline pilots with 41% of these required for countries in Asia and Oceania. Flight training organisations located at Parafield will continue to contribute to the future success of global aviation.

The Parafield Airport Master Plan 2024 covers airport planning and operations – from forecast aeronautical growth and associated development through to ground transport, airport safeguarding, land uses, environment strategies, aircraft noise exposure and commercial development.

PALs philosophy is to operate and develop Parafield Airport in accordance with the principles of sustainable development, recognising that the success of the airport can be enhanced by conducting business in a way that is efficient and environmentally, socially and economically responsible. However, in all decisions, safe and secure airport operations are paramount.

Parafield Airport's proximity to the surrounding suburbs means that careful planning and consultation is required to ensure that the aviation considerations of the airport are protected, while also ensuring that operational requirements are balanced with the community's needs.

PAL is proud to take a strong leadership role in the community. As operator of one of the most significant business, training and employment precincts in the northern suburbs, PAL provides support where it will generate a lasting benefit. PAL assists the northern region through partnerships relating to the environment, community, business and tourism. PAL is proud to support sporting clubs, educational institutions, local council festivals, cultural programs and other local initiatives. It is a major economic generator, contributing \$354.8 million – or 0.3% per cent towards Gross State Product. In 2022, the airport directly employed 1,249 people, both on and off the airport.



Foreword

PAL encourages its aircraft operators to adopt the 'Fly Friendly' program, which seeks to manage the impact of aircraft operations on the surrounding community. Parafield Airport continues to invest in airport infrastructure that supports quieter aircraft and operating methods. Aircraft operators at Parafield Airport have also expressed a strong intention to take up electric or hybrid aircraft types when they become commercially available due to the potential to reduce carbon-related emissions, aircraft noise and operating costs, however, there are still many challenges to overcome in the transition to electric aircraft.

Since the Parafield Airport Master Plan 2017, we have seen progress in terms of aeronautical and non-aeronautical infrastructure development. This Master Plan 2024 builds on this progress, with no significant deviations from previous plans. Our property business has continued to work through the COVID challenges faced by existing tenants, while managing the reactivation of enquiries for commercial and industrial uses.

PAL is committed to engaging with the community and our key stakeholders throughout the Master Plan 2024 process, inviting feedback about the challenges and opportunities that the community and stakeholders believed to be important to the future planning of Parafield Airport. We invite you to participate in the consultation process by providing your feedback on the Preliminary Draft version of the Master Plan 2024, during the formal process of public consultation, commencing in January 2024 for 60 business days.

This Master Plan 2024 will continue to be the primary guide to the future planning and development of Parafield Airport and its environs, addressing our statutory obligations pursuant to the *Airports Act 1996*.

Brenton Cox

Managing Director
Parafield Airport Limited

Parafield Airport Limited acknowledges the Kaurna People as the traditional owners and custodians of the land. We respect the spiritual relationship with Country that has developed over thousands of years, and the cultural heritage and beliefs that remain important to the Kaurna People today.

Table of Contents

Foreword	i
Executive Summary	ix
Abbreviations	xviii
Glossary	xix

Section A About Parafield Airport

Section 1

Introducing the Parafield Airport Master Plan

1.1	Welcome to the Master Plan	4
1.2	Purpose of the Master Plan	5
1.3	Contents of the Master Plan	5

Section 2

Parafield Airport Today

2.1	Background	10
2.2	Airport Site	12
2.3	Airport History	16
2.4	Achievements Since Master Plan 2017	18
2.5	Airport Ownership	19
2.6	Facilities	19
2.7	Airport Operations	21
2.8	Relationship to Other Airports	22

Section 3

Significance of the Airport

3.1	Introduction	26
3.2	Economic Contribution	26
3.3	Social and Community	30

Section B How Parafield Airport is Planned

Section 4

Planning Framework

4.1	Introduction	34
4.2	Commonwealth Policy and Legislative Framework	34
4.3	State and Greater Adelaide Context	38
4.4	Local Government Context	41

Section 5

Planning and Development Approach

5.1	Airport Vision	44
5.2	Development Approach	44
5.3	Development Objectives	46
5.4	Consultation and Engagement	47

Section 6

Aviation Forecasts

6.1	Introduction	52
6.2	Overview	52
6.3	Forecasting Approach	53
6.4	Recent Performance	55
6.5	Parafield Airport Activity Forecasts	56

Section C

The Plan for Parafield Airport

Section 7

Land Use Plan

7.1	Introduction	64
7.2	Planning Framework	64
7.3	Runways Precinct	67
7.4	Airport Business Precinct	70
7.5	Commercial Precinct	75
7.6	Bennett Precinct	77
7.7	Enterprise Precinct	79
7.8	Alignment with Surrounding Land Uses	82
7.9	Consistency with State and Local Planning Framework	82
7.10	Sensitive Development	84
7.11	Changes from the Master Plan 2017	85
7.12	Pre-Existing Interests	85
7.13	Development Assessment Process	86
7.14	Building Assessment Process	88

Section 8

Aviation Development

8.1	Introduction	90
8.2	Overview	90
8.3	Airfield Planning	91
8.4	Recent Developments	91
8.5	Airfield Development Plan	93
8.6	Airfield Support Infrastructure	98

Section 9

Commercial Development

9.1	Introduction	100
9.2	Overview	100
9.3	Recent Developments	101
9.4	Commercial Property Strategy	103
9.5	8-Year Commercial Development Plan	105
9.6	20-Year Commercial Development Plan	106

Section 10

Ground Transport Plan

10.1	Introduction	108
10.2	Overview	108
10.3	Responsibilities	111
10.4	<i>Airports Act 1996</i> Requirements	112
10.5	State Planning	112
10.6	Airport Transport Planning	113
10.7	Recent Developments	114
10.8	Forecasting	114
10.9	Precinct Planning	116
10.10	Freight Rail	121
10.11	Public Transport	121
10.12	Active Travel	123
10.13	Car Parks	123
10.14	Development Plan	125

Section 11

Services Infrastructure

11.1	Introduction	128
11.2	Overview	128
11.3	Recent Developments	129
11.4	Electrical Network	129
11.5	Water	131
11.6	Gas	131
11.7	Stormwater Drainage	133
11.8	Telecommunications	136
11.9	Easements	136

Section 12

Safeguarding the Airport

12.1	Introduction	140
12.2	National Airports Safeguarding Framework	140
12.3	South Australian Government Planning Policy	141
12.4	Aircraft Noise	142
12.5	Windshear and Turbulence	143
12.6	Wildlife Strike	145
12.7	Wind Turbines	147
12.8	Lighting at the Airport and Surrounding Areas	147
12.9	Protected Airspace	149
12.10	Protecting Communications, Navigation and Surveillance Facilities	155
12.11	Strategic Helicopter Facilities	155
12.12	Public Safety Areas	156

Section 13

Aircraft Noise

13.1	Introduction	158
13.2	Overview	158
13.3	Aircraft Noise Management	159
13.4	Understanding Aircraft Noise	162
13.5	The Australian Noise Exposure Forecast (ANEF) System	163
13.6	Noise Modelling	165
13.7	Noise Modelling Outputs	183

Section 14

Environment Strategy

14.1	Introduction	192
14.2	Overview	192
14.3	Key Achievements	193
14.4	Sustainability	193
14.5	Environment Strategy Requirements	194
14.6	Environment Management Framework	195
14.7	Environmental Action Plans	202
14.8	Energy and Climate Change	203
14.9	Water Resources	205
14.10	Stormwater and Aquatic Ecology	206
14.11	Soil and Groundwater	208
14.12	Ground-based Noise	212
14.13	Local Air Quality	214
14.14	Waste Management	216
14.15	Land and Heritage Management	218

Part D

Implementing the Plan

Section 15

Development Program

15.1	Introduction	224
15.2	8-Year Development Concept Plan	224
15.3	20-Year Development Concept Plan	226

Part E

Supporting Material

Appendix A:		
Compliance with the <i>Airports Act 1996</i>		229
Appendix B:		
ANEF Data Table		237

Figures

Figure 2.1:	Snapshot of Parafield Airport today.....	11
Figure 2.2:	Location of Parafield Airport.....	13
Figure 2.3:	Local government areas around Parafield Airport	14
Figure 2.4:	Parafield Airport precincts	15
Figure 2.5:	Current shareholder equity of Adelaide and Parafield Airports	19
Figure 2.6:	Layout of existing facilities at Parafield Airport.....	20
Figure 2.7:	Airports located close to Parafield Airport.....	23
Figure 3.1:	Snapshot of Parafield Airport's economic contribution	26
Figure 3.2:	Actual and expected case forecast total employment 2008 – 2043.....	28
Figure 3.3:	Parafield Airport's contribution to Gross State Product 2016 – 2043	28
Figure 4.1:	The master planning process.....	35
Figure 4.2:	Comparison of the Parafield Airport and South Australian planning systems.....	39
Figure 5.1	Development objectives	46
Figure 6.1:	Snapshot of Parafield Airport movement forecasts 2019 to 2043.....	52
Figure 6.2:	Annual aircraft movements at Parafield Airport, 2000 to 2022	55
Figure 6.3:	Parafield Airport aircraft movement forecast scenarios.....	57
Figure 7.1:	Parafield Airport precincts	66
Figure 7.2:	Runways Precinct.....	68
Figure 7.3:	Airport Business Precinct.....	71
Figure 7.4:	Commercial Precinct	75
Figure 7.5:	Bennett Precinct.....	77
Figure 7.6:	Enterprise Precinct.....	80
Figure 7.7:	Land uses surrounding Parafield Airport.....	83
Figure 7.8:	Parafield Airport development assessment matrix.....	87
Figure 7.9:	Development and building approvals process.....	88
Figure 8.1:	Existing airfield layout	92
Figure 8.2:	Planned airfield layout to 2043.....	97
Figure 9.1:	Recent commercial developments at Parafield Airport	102
Figure 10.1:	Existing external road and rail network surrounding Parafield Airport	109
Figure 10.2:	Wider metropolitan Adelaide road context.....	110
Figure 10.3:	Existing and forecast daily vehicle traffic volumes at Parafield Airport	115
Figure 10.4:	Parafield Airport's existing internal road network.....	117
Figure 10.5:	Parafield Airport 8-year Ground Transport Plan	119
Figure 10.6:	Parafield Airport 20-year Ground Transport Plan	120
Figure 10.7:	Bus and rail routes and stops within and surrounding Parafield Airport.....	122
Figure 10.8:	Existing and potential future cycleways and shared paths.....	124
Figure 11.1:	Existing electrical network	130
Figure 11.2:	Existing water and gas networks at Parafield Airport.....	132
Figure 11.3:	Major Adelaide stormwater catchments in the vicinity of Parafield Airport.....	134
Figure 11.4:	Major drainage systems at Parafield Airport.....	135
Figure 11.5:	Existing easements and licence agreements at Parafield Airport	137
Figure 12.1:	Windshear and turbulence assessment envelopes for Parafield Airport	144
Figure 12.2:	Wildlife buffer zones for Parafield Airport.....	146

Figure 12.3:	Lighting control zones for Parafield Airport.....	148
Figure 12.4:	Obstacle Limitation Surfaces (OLS) plan for Parafield Airport	152
Figure 12.5:	Procedures for Air Navigation Services Aircraft Operations (PANS-OPS) surfaces.....	153
Figure 12.6:	Procedures for Air Navigation Services Aircraft Operations (PANS-OPS) surfaces inset	154
Figure 13.1:	Arrival flight paths for Parafield Airport – runway direction 03.....	170
Figure 13.2:	Arrival flight paths for Parafield Airport – runway direction 21	171
Figure 13.3:	Arrival flight paths for Parafield Airport – runway direction 08.....	172
Figure 13.4:	Arrival flight paths for Parafield Airport – runway direction 26.....	173
Figure 13.5:	Departure flight paths for Parafield Airport – runway direction 03	174
Figure 13.6:	Departure flight paths for Parafield Airport – runway direction 21.....	175
Figure 13.7:	Departure flight paths for Parafield Airport – runway direction 08	176
Figure 13.8:	Departure flight paths for Parafield Airport – runway direction 26	177
Figure 13.9:	Helicopter flight paths and circuit paths for Parafield Airport	178
Figure 13.10:	Circuit flight paths for Parafield Airport – runway direction 03.....	179
Figure 13.11:	Circuit flight paths for Parafield Airport – runway direction 21.....	180
Figure 13.12:	Circuit flight paths for Parafield Airport – runway direction 08.....	181
Figure 13.13:	Circuit flight paths for Parafield Airport – runway direction 26.....	182
Figure 13.14:	Example noise levels (in decibels)	184
Figure 13.15:	Australian Noise Exposure Index 2022.....	186
Figure 13.16:	Australian Noise Exposure Forecast 2043.....	187
Figure 13.17:	Parafield Airport Number-Above contours - 2022	188
Figure 13.18:	Parafield Airport Number-Above contours – 2043 Forecast.....	189
Figure 14.1:	Parafield Airport Environmental Management Framework	195
Figure 14.2:	Parafield Airport’s contamination and spill management process.....	209
Figure 14.3:	Environmental Management System process for contaminated sites	211
Figure 14.4:	Waste management hierarchy (Environment Protection Act 1993 for South Australia).....	216

Tables

Table 3-1:	<i>Economic contribution of Parafield Airport – 2022</i>	26
Table 3-2:	<i>Forecast employment growth</i>	27
Table 3-3:	<i>Parafield Airport current and forecast total employment 2022 to 2043 per precinct</i>	29
Table 6-1:	<i>Parafield Airport forecasting approach</i>	54
Table 6-2:	<i>Data sources to predict forecast movements</i>	54
Table 6-3:	<i>Movement forecasts for Parafield Airport 2022 to 2043</i>	57
Table 6-4:	<i>Potential use of electric aircraft for Parafield Airport</i>	59
Table 7-1:	<i>Parafield Airport estate precincts</i>	65
Table 7-2:	<i>Runways Precinct categories of development</i>	69
Table 7-3:	<i>Airport Business Precinct categories of development</i>	72
Table 7-4:	<i>Commercial Precinct categories of development</i>	76
Table 7-5:	<i>Bennett Precinct categories of development</i>	78
Table 7-6:	<i>Enterprise Precinct categories of development</i>	80
Table 7-7:	<i>Pre-existing interests</i>	84
Table 8-1:	<i>8-Year Airfield Development Plan</i>	96
Table 8-2:	<i>20-Year Airfield Development Plan</i>	96
Table 9-1:	<i>Recent commercial developments at Parafield Airport</i>	101
Table 9-2:	<i>Potential 8-year commercial development plan</i>	105
Table 9-3:	<i>Potential 20-year commercial development plan</i>	106
Table 10-1:	<i>8-Year ground transport development Plan</i>	125
Table 10-2:	<i>20-Year ground transport development Plan</i>	126
Table 12-1:	<i>National airports safeguarding framework guidelines</i>	140
Table 13-1:	<i>Responsibilities for aircraft noise management</i>	159
Table 13-2:	<i>Permitted circuit operations hours (January 2023)</i>	160
Table 13-3:	<i>AS2021 table of building site acceptability based on ANEF zones</i>	164
Table 13-4:	<i>Parafield Airport runway use comparison</i>	166
Table 13-5:	<i>2043 forecast movements by aircraft type</i>	167
Table 14-1:	<i>Environmental management responsibilities</i>	196
Table 14-2:	<i>Activities with potential for environmental impact at Parafield Airport</i>	197
Table 14-3:	<i>Environmental management documentation</i>	200
Table 14-4:	<i>Summary of key environmental monitoring activities</i>	201
Table 14-5:	<i>Environmental action plan framework</i>	202
Table 14-6:	<i>Timeframes for management actions</i>	202
Table 14-7:	<i>Energy and climate change 8-Year Action Plan</i>	204
Table 14-8:	<i>Water resources 8-Year Action Plan</i>	205
Table 14-9:	<i>Stormwater and aquatic ecology 8-Year Action Plan</i>	207
Table 14-10:	<i>Soil and groundwater 8-Year Action Plan</i>	211
Table 14-11:	<i>Ground-based noise 8-Year Action Plan</i>	213
Table 14-12:	<i>Local air quality 8-Year Action Plan</i>	215
Table 14-13:	<i>Waste management 8-Year Action Plan</i>	217
Table 14-14:	<i>Land and heritage 8-Year Action Plan</i>	220
Table 15-1:	<i>8-Year development concept plan</i>	225
Table 15-2:	<i>20-Year development concept plan</i>	226



Executive Summary

Introduction

Parafield Airport Limited (PAL) is pleased to share with you its plans for the next 20 years. The Parafield Airport Master Plan 2024 (Master Plan 2024) outlines the vision for the development of Parafield Airport to support aviation activities, commercial development, environmental management and infrastructure delivery.

The Master Plan 2024 includes a Development Program, Environment Strategy and Ground Transport Plan. It also provides an update of aviation forecasts and aircraft noise exposure.

By continuing to focus on sustainable outcomes, finding innovative solutions, short and longer-term planning and delivery of facilities, infrastructure, ground transport and utilities, Parafield Airport will continue to support and meet the needs of the general aviation industry and pilot training organisations.

The Master Plan 2024 forms a comprehensive overview of the ongoing regulation of activities on the airport through consultation with key stakeholders, Commonwealth, state and local government, the aviation industry and local communities.

During 2022, Parafield Airport had approximately 4,200 aircraft movements every week, with the majority being pilot training flights.

Over 103 businesses operate from Parafield Airport, comprising pilot training and aviation support operations, as well as commercial businesses and retail hubs located within the commercial estate.

PAL is proud to present its Master Plan 2024 as the blueprint to continue developing and operating Parafield Airport as the major general aviation and pilot training airport in South Australia. The Master Plan 2024 builds on the Parafield Airport Master Plan 2017 which was approved by the Commonwealth Minister for Infrastructure and Transport on 19 January 2018. The Master Plan 2024 is developed through extensive stakeholder and community consultation, including a 60-business day public comment period.

About the Master Plan

The purpose of the Parafield Airport Master Plan 2024 is to summarise the planning framework for Parafield Airport over a planning horizon of 20 years, within the context of the airport's ultimate development potential. The Airports Act 1996 is the guiding legislation in the preparation of the Master Plan 2024.

After this public comment period and relevant amendment of the document, a Draft Master Plan will be submitted for the consideration of the Federal Minister for Infrastructure, Transport Regional Development and Local Government. Once approved, the Parafield Airport Master Plan 2024 will remain in force for a period of 8 years from the date of approval or until it is replaced by a new or revised plan.

Have Your Say

Public comment submissions are to be made in writing and sent to Parafield Airport before close of business on 4 April 2024.

Master Plan Submission

Parafield Airport Limited
Building 18 Tigermoth Lane
Parafield Airport SA 5108

Email: palmasterplan2024@aal.com.au

In accordance with the Airports Act, PAL must consider submissions received during the public comment period. Where possible, the concerns and issues raised will be incorporated into the Draft Master Plan which will be presented to the Commonwealth Minister for consideration.

Supporting a Sustainable Aviation Industry

The focus areas for the development and execution of this Master Plan 2024 include:

- Supporting the aviation industry
- Striving for innovative solutions
- Achieving sustainable outcomes.

These underpin the day-to-day operations of the airport and what PAL strives towards:

- Maintaining the airport as South Australia's principal general aviation and pilot training airport
- Enhancing the airport as a key element of transport infrastructure
- Facilitating flight training activities and the movement of general aviation by infrastructure improvements
- Contributing to the viability of the airport as a business enterprise through the provision of commercial, retail and industrial activities
- Providing an economic core and employment center for the northern suburbs of Adelaide and beyond.

The following development objectives guide future investments in facilities and infrastructure for the airport.



Contribute to the economic growth of the Northern Adelaide region



Work with pilot training schools, general aviation industry, government, and the community



Embed sustainability in all that we do



Protect the safety and security of assets and people



Deliver innovative solutions for all airport users



Deliver infrastructure to support operations and the commercial viability of the airport

Driving Northern Adelaide and South Australia's Economy

Parafield Airport makes a significant contribution to both Northern Adelaide and the South Australian economy associated with the Airport's overall business activities.

Parafield Airport contributed an estimated \$354.8 million to the South Australian economy in 2022, equivalent to 0.276 per cent of Gross State Product (GSP).

It is estimated that in 2022 the Parafield Airport estate directly employed 1,249 people both on and off airport. This employment level supports a gross operating surplus of \$41.8 million, giving a total contribution to Gross State Product directly of \$150 million.

Parafield Airport continues to be one of the most significant business, training and employment precincts in the northern suburbs of Adelaide and supports the surrounding northern suburbs through partnerships across environment, community, business and tourism.

Snapshot of Parafield Airport in 2022



103 individual businesses



433 hectare site



Employment:

- Direct jobs - 1,249 FTEs.
- Induced jobs - 1,321



Added to SA state economy in 2022

- Airport Economic Activity – \$354.8 million
- Gross State Product – 0.3%



219,000 aircraft movements in 2022



4 runways



40% carbon emission reduction* in 2022

* Airports Carbon Accreditation for airport operations

Aviation Growth

Parafield Airport is one of the busiest general aviation airports in Australia, with over 90 per cent of movements related to pilot training activity. There is a range of other general aviation activities that occur, such as aerial agriculture, aerial photography, and charter services.

There continues to be a high demand for flight training in Australia with recent forecasts suggesting that the aviation industry will need to supply 602,000 commercial airline pilots between 2033 and 2041, with 41 per cent of these required for countries in Asia and Oceania. Parafield Airport is well positioned to support some of this training requirements.

In 2022 there were 219,000 movements, down from almost 270,000 movements in 2019. Aircraft movements are forecast to increase to 342,000 by 2043. This is consistent with previous forecasts for aircraft movement growth at Parafield Airport.

Emerging Electric Aircraft

The aviation industry has made exciting advancements in electric/hybrid aircraft technology in recent years, but it does come with challenges that must be overcome for electric aircraft to become a viable option for the general aviation industry.

Aircraft operators at Parafield Airport have expressed a strong intention to take up electric or hybrid aircraft types when they become available due to the potential to reduce carbon-related emissions, aircraft noise and operating costs (relative to the current avgas fueled aircraft).

The limitations that will need to be overcome for electric aircraft to become viable include the current battery technology which limits the distance and duration of flights, the requirement for large, specialised charging facilities at airports, aviation regulations and standards that do not take into account the specific characteristics of electric aircraft, and the higher costs associated with manufacturing and therefore purchasing electric aircraft.

Electric aircraft are already being trialled at a number of airports around Australia. In June 2021, the flying school Eyre to There Aviation achieved a world endurance record for electric aircraft when it completed a 1,350km, 18-stop, flight that departed from Parafield Airport.

It is assumed that the take-up of electric aircraft will be at a faster rate for the pilot training sector, relative to the other general aviation sectors. Based on these assumptions, the proportion of total movements by electric/hybrid aircraft types is forecast to increase from an estimated 17 per cent in 2031 to 69 per cent in 2043. However, there are still many challenges to overcome in the transition to electric aircraft.

PAL will continue to monitor emerging technologies. Adaptable staging and timing of infrastructure investment allows PAL to consider and respond to opportunities for incorporating innovative and sustainable options.

Aviation Development

Fundamental to the successful operation of Parafield Airport is the ongoing development of the airfield to meet the forecast demand in the future. The airfield is the area of the airport used for aircraft operations. It includes the runways, taxiways, aprons and parking stands.

The existing runway system provides sufficient capacity to handle the forecast volumes of air traffic up to and beyond the 20-year planning horizon of this Master Plan 2024.

The first eight years of the Master Plan, to 2031, will focus on expansion of airfield infrastructure to improve efficiency, working to a staged program of development.

Areas to the west of the existing apron area will be retained for further aircraft parking and provision of additional aviation related support industries, such as hangars.

The current operations of helicopters at Parafield Airport are largely associated with pilot training and account for five per cent of total aircraft movements. The existing helicopter facilities have sufficient theoretical capacity to meet future demand. However, the preference for operations from Helipad West, limitations for operations from Helipad East and constraints with runway operations have led to consideration of alternative locations for helicopter facilities which allow for more efficient operations and to optimise existing infrastructure. The relocation of helicopter facilities will require consideration of airfield design standards, the impacts on other aircraft operations and potential aircraft noise exposure.

Previous Parafield Airport master plans, including Master Plan 2017, identified that long-term future demand may require Code 3C aircraft to be accommodated through the extension and widening of the existing main runway 03L/21R. Following updates to the Part 139 (Aerodromes) Manual of Standards in 2020, upgrades to cater for Code 3C aircraft would impact Taxiway B and the secondary runway system. Whilst PAL continues to plan for the ability to adapt the airfield infrastructure to Code 3C aircraft, this is anticipated to be outside of the 20-year planning period of this Master Plan.

Complementary Commercial Developments

Parafield Airport is one of the largest private commercial land holdings within the northern Adelaide metropolitan area. PAL continues to identify and leverage opportunities that add value to the airport's traditional aviation focused business activities by maximising the development of airport land not required for aeronautical purposes. Such developments complement and enhance future airport operations, support the delivery of a wide range of services and facilities needed by airport users, and create employment opportunities, which will contribute to the local economy as well as the gross state product.

Parafield Airport is situated on 433 hectares and divided into five distinct precincts. Throughout the five precincts (and mainly within the Commercial and Business Precincts) there are currently 103 individual businesses operating at the airport.

The availability of large vacant landbanks at Parafield Airport, as well as the airport's geographical location and connectivity to major infrastructure, provide an opportunity to meet growing demand for industrial and commercial land in a manner that is aligned with both Adelaide and national trends. This includes demand for buildings with larger footprints and commercial offerings catering for specialised markets, such as defence and technology.

The Commercial Property Strategy presented in the Master Plan 2024 reflects the current planning for potential future commercial developments and economic predictions. The timing and scope of any future commercial developments at Parafield Airport are subject to a range of factors which are usually driven by market forces, including airport requirements, business viability, market demand and economic conditions. It is often challenging to predict the uptake and rollout of commercial developments as the different commercial segments often go in cycles which change rapidly depending on regional economic conditions.

Over the next eight years, it is anticipated that:

- Commercial development will continue within the Airport Business Precinct, including a childcare centre, the redevelopment of existing sites, and new developments occurring within the land adjacent to the railway line
- Industrial and commercial development will commence within the Enterprise Precinct
- Retail and commercial development will occur on the remainder of the developable land within the Commercial Precinct.

Getting to and from Parafield Airport

Ground transport planning is critical to the efficient operation and development of Parafield Airport to ensure effective, safe and efficient access and connectivity for all users of the airport.

Parafield Airport is located approximately 18 kilometres north of Adelaide Adelaide Central Business District (CBD) and is well connected to the metropolitan road and rail networks, with three major arterial roads bordering the airport and providing transport links to metropolitan and regional areas and an adjoining rail corridor.

Each day there are approximately 29,000 vehicle movements in and out of the airport, and by 2043 this is expected to reach approximately 66,000 daily vehicle movements. As Parafield Airport grows, it is critical that adequate consideration is given to future ground transport demands within, and adjacent to, the airport.

Parafield Airport works closely with the South Australian Government and surrounding local government authorities to make sure that the airport's current and future operations are reflected in strategic network planning.

The Commonwealth and South Australian governments are continuing to invest in improvements to external infrastructure, including the construction of the River Torrens to Darlington portion of the North-South Corridor which will complete the corridor and provide efficient access for both visitors and freight.

Parafield Airport will continue to invest in new and improved ground transport facilities on airport to support growth in traffic demand as development continues.

Public transport to the airport is primarily provided by passenger rail services along the Gawler rail line which is located adjacent to the western airport boundary and various bus services passing the airport along their routes. Both are operated by Adelaide Metro.

PAL supports improved bus connectivity to the airport to provide greater opportunities for the public to use public transport, including but not limited to:

- Inclusion of Route 228 bus stops within Commercial Precinct
- Inclusion of Route 225 bus stops within the Enterprise Precinct as it is developed
- Bus connectivity along Kings Road providing for access to Airport Business Precinct.

There are a series of cycling and shared paths (bicycle and pedestrian) within, around and connecting to the Parafield Airport site. Cycleways consist of off-road shared paths and on-road bicycle paths. There are on-road bicycle lanes, in both directions, along Main North Road and Elder Smith Road and an off-road shared path along the western boundary of the airport site and a portion of the northern boundary to Dakota Drive.

There is opportunity to extend the off-road shared path along the northern boundary of the airport site, both within the airport boundary and adjacent to it within the Kings Road verge. Similarly, there may be opportunity to further extend the path adjacent to Main North Road which would provide a safe, well-lit environment for pedestrians and cyclists while providing access to food and retail in the vicinity.

To the south of the airport, an off-road shared path within the Bennett Precinct would allow for connection to the existing path to the west and The Paddocks (community area currently being redeveloped by the City of Salisbury) to the south of the airport.

PAL will continue to consult and work with relevant authorities to further explore and develop a suitable shared path network, with consideration of opportunities both within the airport and within State and local government road reserves which not only improves and promotes active travel to and from the airport but contributes to the broader network and community.

Parafield Airport is situated on 433 hectares and divided into five distinct precincts, including:

- **Runways Precinct - 222 hectares**
- **Airport Business Precinct - 68 hectares**
- **Commercial Precinct - 48 hectares**
- **Bennett Precinct - 13 hectares**
- **Enterprise Precinct - 82 hectares.**

Safeguarding the Airport

The safety of aircraft operations to and from and at Parafield Airport, and the capacity of the airport to operate and respond to growing demand, can be directly impacted by inappropriate land use and activities that occur on the land surrounding the airport.

Long-term and effective protection and safeguarding of Parafield Airport is critical to ensuring ongoing aviation operations and safety. The safeguarding of the airport, which refers to measures taken to minimise inappropriate land uses and activities, is the shared responsibility of Parafield Airport and all levels of government.

This Master Plan 2024 has been prepared taking into consideration the National Airports Safeguarding Framework guidelines which seek to enhance the current and future safety, viability and long-term growth of aviation operations at Australian airports.

Protection of the airspace around Parafield Airport is critical to ensure safe and ongoing operations of the airport. This means that in certain areas around an airport there are restrictions on the height of buildings or structures, including cranes. There may also be restrictions on other activities that could pose a hazard to air navigation, such as those causing light reflection that could blind or confuse pilots, air turbulence, emissions (steam, gas, smoke, dust or other particular matter), or that could attract wildlife.

Managing Aircraft Noise

Parafield Airport operates 24 hours a day, 7 days a week, and is regarded as South Australia's premier general aviation airport and a world standard international pilot training airport. Noise is an unavoidable by-product of aircraft operations.

The Master Plan 2024 outlines current and future aircraft noise exposure of areas surrounding Parafield Airport and details the airport's approach to aircraft noise management.

Parafield Airport has a broad range of programs in place to manage aircraft noise around the airport, including working with aircraft operators to observe the Fly Friendly arrangements, engaging with the local community, working with all levels of government, consulting with pilot training schools and Airservices Australia, and investing in airport infrastructure that supports quieter aircraft and operating methods.

The most effective means for reducing the impact of aircraft noise is through effective planning of land use for areas adjacent to the airport. Other means include alternative runway allocations, adopted flight path procedures, restrictions of aircraft movements by aircraft type and aircraft operational procedures. The Australian Noise Exposure Forecast (ANEF) system is the aircraft noise exposure forecasting system currently adopted in Australia for land use planning. The ANEF provides a scientific measure of noise exposure from aircraft operations around an airport and is used to provide guidance on the siting and construction of various types of development around the airport.

A revised ANEF that considers the operations of Parafield Airport to 2043 has been prepared for Master Plan 2024.

Additionally, to inform the community of current and future noise exposure, Number-Above contours are prepared to identify the frequency of aircraft noise events above a specified decibel threshold. N60 contours are included in this Master Plan to show the number of average daily noise events above 60 decibels (dBA) caused by over-flying aircraft.

Looking After the Environment

Parafield Airport's philosophy is to operate and develop Parafield Airport in accordance with the principles of sustainable development, recognising that the success of the airport can be enhanced by conducting business in a way that is environmentally, socially and economically responsible.

Parafield Airport has developed the Environment Strategy in accordance with the *Airports Act 1996* (Airports Act) and the Airports (Environmental Protection) Regulations 1997 (AEPR). The Airports Act establishes an environmental management regime that focuses on a cooperative approach, supporting and ensuring compliance with environmental standards at federally-leased airports.

This Environment Strategy builds on Parafield Airport's recent environmental commitments and achievements as well as the previous Environmental Strategy that was approved in 2017. It covers ground-based environmental aspects associated with the operation of Parafield Airport for the next eight years, including:

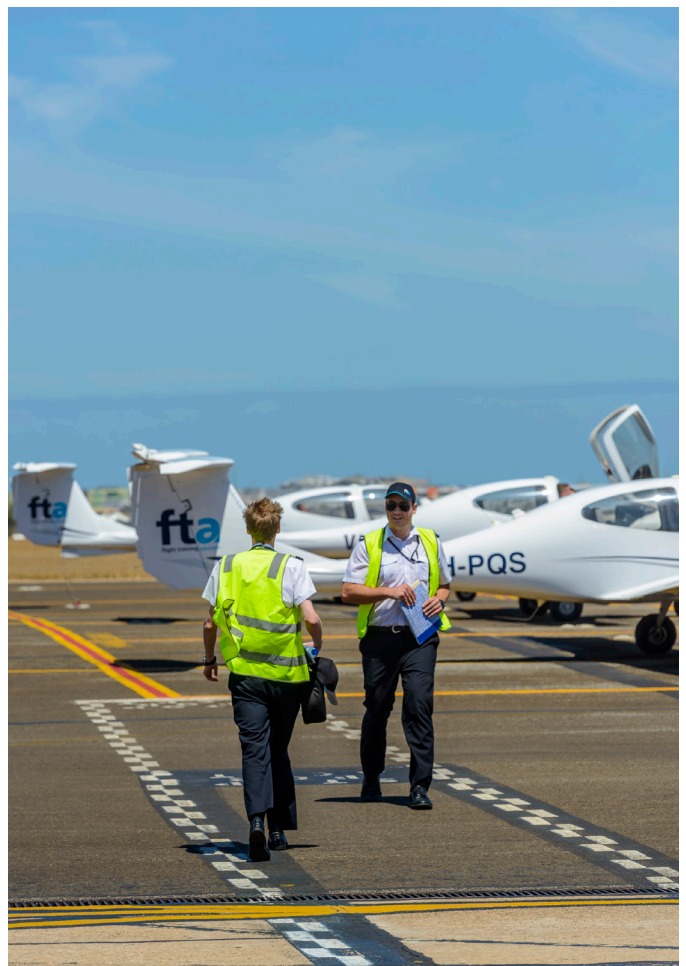
- Energy,
- Water resources,
- Stormwater and aquatic ecology,
- Soil and groundwater,
- Ground based noise,
- Local air quality,
- Waste, and
- Land and heritage management.

Parafield Airport is committed to the effective management of environmental impacts across the airport site. Central to Parafield Airport's environmental management is an Environmental Management System that conforms to the requirements of ISO 14001:2015 and provides a structure for planning, implementing, monitoring, reporting and reviewing environmental management at the airport.

Working Closely with the Community

Parafield Airport's approach to consultation is focused on creating robust, transparent and collaborative communications, using creative, innovative and engaging techniques to interact with the community.

This Master Plan 2024 has been developed in consultation with a wide range of stakeholders. Parafield Airport continues to engage with Commonwealth, State and local governments, aviation operators, airport tenants and the community through a range of techniques and forums.



Abbreviations

ABBREVIATIONS	
AAA	Australian Airports Association
ABC	Airport Building Controller
AEO	Airport Environment Officer
AER	Airport Environment Report
AHD	Australian Height Datum
ARP	Aerodrome Reference Point
ANEC	Australian Noise Exposure Concept
ANEF	Australian Noise Exposure Forecast
ANEI	Australian Noise Exposure Index
CASA	Civil Aviation Safety Authority
CEMP	Construction Environmental Management Plan
DCCEEW	Department of Climate Change, Energy, the Environment and Water (Cth)
DITRDCA	Department of Infrastructure, Transport, Regional Development, Communications and the Arts (Cth)
DIT	Department for Infrastructure and Transport (SA)
DTI	Department for Trade and Investment (SA)
EMP	Environmental Management Plan
EMS	Environmental Management System
EPA	Environment Protection Authority (SA)
EVTOL	Electric Vertical Take-off and Landing
GIS	Geographic Information System
GSP	Global Positioning System
ICAO	International Civil Aviation Organization

ABBREVIATIONS	
ILS	Instrument Landing System
ISO 14000	A series of international, voluntary environmental management standards, guides and technical reports developed by the International Organization for Standardization (ISO)
MDP	Major Development Plan
MOS	Manual of Standards
MTOW	Maximum Take Off Weight
NASAG	National Airports Safeguarding Advisory Group
NPI	National Pollution Inventory
OLS	Obstacle Limitation Surface
PACC	Parafield Airport Consultative Committee
PAL	Parafield Airport Limited
PANS-OPS	Procedures for Air Navigation Services – Aircraft Operations
PSA	Public Safety Area
PATWG	Parafield Airport Technical Working Group
SA	South Australia
SID	Standard Instrument Departure
SOP	Standard Operating Procedure
TFI	Tourism Futures International
VFR	Visual Flight Rules
VHF	Very High Frequency
VMC	Visual Meteorological Conditions
VOR	VHF Omnidirectional Range

Glossary

GLOSSARY	
Aerodrome/Airport	A defined area on land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft.
Aircraft Landing Area	A place which may be suitable for the landing and take-off of an aeroplane of appropriate certification and performance but which may not fully meet formal standards of construction, marking, maintenance or reporting.
Air Traffic Control	Air traffic control service provided by Airservices Australia.
Airport Emergency Plan	A plan developed by the Airport Operator to coordinate all agencies and their individual Airport Emergency Procedures, State or supporting area plans for dealing with an airport emergency.
Airport Operator	The airport operator is the person(s) or organisation whose name appears on the licence document and/or in Aeronautical Information Package En Route Supplement Australia. (For the purposes of this Master Plan, Parafield Airport Limited, ACN-075176608 is the airport operator at Parafield Airport.)
Aviation-Related Support Industry	Includes aircraft hangars, catering services, freight terminals, car rental and valet facilities, car parking, vehicle storage, fuel depots and hydrants, storage facilities warehousing, offices, engineering support and maintenance activities and passenger terminals.
Airside	The movement area of an airport, adjacent terrain and buildings or portions thereof, access to which is controlled.
Apron	The part of an airport used for the purpose of enabling passengers to board, or disembark from aircraft; for loading cargo onto, or unloading cargo from, aircraft; and or for refuelling, parking or carrying out maintenance on aircraft.
Aviation Attraction	A place or event of interest for airport visitors, typically covering themes of inherent or exhibited cultural aviation value, historical aviation significance, or amusement opportunities related to aviation activities. Aviation attractions include but are not limited to air shows, aviation museums, public flight simulation facilities and aviation-themed amusement centres.
Aviation Security	A combination of measures and human and material resources intended to safeguard civil aviation against acts of unlawful interference.
Brand Outlet Centre	A shopping centre in which is located one or more discounted outlets used by retailers to centralize the distribution and sale of excess or damaged stock, test limited amounts of new products and provide inventory control; together with associated support retail activities such as fast food, restaurants and ancillary retailing and services, either as independent shops or as alternate activities within the Brand Outlet shops themselves. Normally this would involve a shop, or group of shops, with a floor area exceeding 500 m ² , that offers retail clothing, sporting goods, and personal effects goods.
Commercial	Commercial includes activities associated with the storage, sale, manufacturing and distribution of goods and services. Such activities include, but are not limited to: hotels, light industry, motor vehicle business (other than a wrecking yard), offices, petrol filling station, retail showrooms, service trade premises, service industries, shops, storage and warehouse facilities.

GLOSSARY

Community	For the purpose of the Parafield Airport Master Plan, 'Community' is defined as the group of people or businesses who own and/or occupy land within the northern suburbs or anyone interested in the development or operation of the airport.
Control Tower	A unit established to provide air traffic control services to airport traffic.
Emergency Services Facility	Includes such services as ambulance station, fire station, police station, emergency rescue facilities, and other similar emergency services facilities.
Fixed Base Operation	A commercial business use providing aeronautical services such as fuelling, hangaring, tie-down and parking, aircraft rental, aircraft maintenance, flight instruction, passenger facilitation and passenger accommodation areas for general aviation operators and business charter operators. A fixed base operation is a primary provider of support services for general aviation operators at a public-use airport.
General Aviation	Means all civil aviation operations other than regular public transport operations. This includes aerial work (such as agriculture, photography, surveying, search and rescue), instructional flying and recreational flying.
Home Display Centre	A group of houses or transportable houses for display and purchase.
In Flight	In flight commences when the last external door of the aircraft is closed in preparation for the first movement of the aircraft for the purpose of taking off; or if the aircraft moves before all doors are closed for the purpose of taking off, when it first so moves, until the first external door of the aircraft is opened after the aircraft comes to rest.
Landside	That area of an airport and buildings to which the public normally has free access.
Manoeuvring Area	Those parts of an airport used for the take-off, landing and taxiing of aircraft, excluding aprons.
Movement Area	That part of an airport used for the surface movement of aircraft, including manoeuvring areas and aprons.
Obstacle Limitation Surface	Conceptual (imaginary) surfaces associated with a runway, which identify the lower limits of the aerodrome airspace above which objects become obstacles to aircraft operations.
Renewable Energy Generation Facility	Includes wind turbines, field solar arrays, roof mounted solar panels and other renewable energy generation and storage facilities.
Remotely Piloted Aircraft Services	Facilities for the take-off, landing, storage and maintenance of unmanned aerial vehicles, commonly known as drones.
Research and Development	A building or facility used primarily for research, innovation and business development in science, technology and education.
Residential Accommodation	Premises or buildings associated with aviation education/training either as independent units or with shared common amenities and facilities.

GLOSSARY

Runway-related Activities/ Facilities	Includes runways, taxiways, aprons, clearways, compass swing and engine run-up areas, glide path facilities, helicopter landing parking and servicing, landing equipment, radar and all aircraft navigational aids.
Special Industry	<p>Means an industry where the processes carried on, the methods of manufacture adopted or the particular materials or goods used, produced or stored, are likely to:</p> <ul style="list-style-type: none"> • cause or create dust, fumes, vapours, smells or gases; or • discharge foul liquid or blood or other substance or impurities liable to become foul, <p>and thereby:</p> <ul style="list-style-type: none"> • endanger, injure or detrimentally affect the life, health or property of any person (other than any person employed or engaged in the industry); or • produce conditions which are, or may become, offensive or repugnant to the occupiers or users of land in the locality of or within the vicinity of the locality of the land on which (whether wholly or partly) the industry is conducted.
Sterile Area	In relation to an aerodrome, means an area in the aerodrome to which persons, vehicles and goods are not permitted access until given clearance, in relation to aviation security, under Section 12 of the Aviation Transport Security Act 2004.

