



Planning and Strategy Committee of the Whole

11 September 2019

**UNDER SEPARATE COVER
ATTACHMENTS**

ITEM 7.1

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CANBERRA AIRPORT
MASTER PLAN

2020 – 2040

PRELIMINARY DRAFT



This Canberra Airport preliminary draft 2020 Master Plan and Environment Strategy has been prepared by Canberra Airport Pty Limited as part of the Airport's internal strategic planning processes and in accordance with the provisions of Part 5 of the *Airports Act 1996 (Airports Act)* and the Regulations made under that Act, and should be read in that context only.

The assumptions and forecasts in this 2020 Master Plan and Environment Strategy should not be used or relied upon by any person or entity for any other purpose.

The maps and plans within this 2020 preliminary draft Master Plan and Environment Strategy are indicative only. Actual developments and the timing and placement of those developments will be subject to demand, detailed planning and the obtaining of relevant approvals.

The words 'include', 'including', 'for example' or 'such as' and 'in particular' are not used as, nor are they to be interpreted as, words of limitation and when introducing an example, do not limit the meaning of the words to which the example relates to that example or examples of a similar kind.

Where the use of the word 'may' is used in this 2020 Master Plan and Environment Strategy, where associated with a right of Canberra Airport, it means to be allowed or permitted to rather than a measure of likelihood or possibility.

Note that unless indicated otherwise, 'short term' generally refers to within the next eight years, and 'long term' refers to 8-20 years.



Canberra Airport 2020 Master Plan

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Foreword

Over 21 years ago, we set out with a vision to create the best small airport in the world. Much of the ensuing time has been devoted to developing a new airport befitting of the National Capital. Our previous Master Plans in 1999, 2005, 2009 and 2014 outlined the approach needed to achieve that and accordingly we have invested heavily in delivering a national infrastructure asset of which the Canberra Region community can be justly proud.

In 2014, Canberra Airport was designated as a suburb within the ACT, recognising the site as an important part of the Territory, and as a formal destination within the City.

Your airport has unrivalled environmental credentials, iconic design features, world-class amenities, and passionate community support. This is what we said we would deliver and we have done it, notwithstanding the impacts of airline collapses, SARS, 9/11, the global financial crisis, volcanic ash plumes and a host of other potential deal-breakers along the way.

With the terminal finished, internationally capable and connecting the Canberra Region directly with the rest of the world with our original airline partner Singapore Airlines (September 2016) and followed by Qatar Airways (February 2018), our focus turns to delivering a landmark transport hub incorporating air, rail and road transport.

How this will benefit the population nearing 900,000 people living in the Canberra Region and beyond cannot be underestimated and is not yet widely comprehended. The international flights are introducing our region to the world and traction is beginning. The main thrust of our efforts is to drive aviation growth and optimise this important national asset.

It is in Australia's national interest that its National Capital city has become directly connected with Asia and beyond.

We believe that our future growth and investment is linked closely to the economic growth and prosperity of our community, and this 2020 Master Plan outlines our vision to help achieve that. Cutbacks in the public service over the past ten years [and significantly for us its travel budget] have shown that our Region can no longer only rely on the public sector as the driver of economic activity, but that our future lies in diversifying and attracting new businesses and industries, particularly those that reflect the strengths of our Region; smart offerings in education, tourism, IT and cyber security, defence and national security, transport, light manufacturing and niche agricultural export opportunities. Canberra Airport stands poised to play a key role in that future.

Our latest 2020 Master Plan has been prepared in accordance with the Airports Act, and in consultation with the community and key airport stakeholders. We commend it to you and welcome your feedback.

Terry Snow
Executive Chairman

Stephen Byron
Managing Director

Executive Summary

Over the next five to eight years the focus of Canberra Airport is to host more inbound passengers on more aircraft across a wider range of airlines. The 2020 Master Plan outlines expectations of both more international and low cost carriers commencing services within the next five years resulting in more than nine million passengers by 2040. We are passionate about connecting the Canberra Region to international ports and opening doors for business. There are opportunities in the areas of inbound tourism, education and investment and outbound business services and the airfreight of goods and produce. This objective continues to receive support from the community and government across the region.

The Canberra Airport ethos is to invest early to provide room for growth. Capacity available across the Airport site in aviation, retail and office facilities is an economic and social opportunity shared with the Canberra Region.

The award-winning terminal is the foundation for aviation growth at Canberra Airport. Opened in April 2014 by the Honourable Tony Abbott MP, then Prime Minister, the 'splendid' \$480 million terminal and accompanying apron and car parks have been designed and built to be capable of hosting over eight million domestic and international passengers a year, with a designed extension to 12 million passengers.

A number of Airport precincts have come of age as noticeable contributors to the Canberra economy. Most notably in 2018/19 Majura Park attracted over four million regional shoppers and the Brindabella Business Park now houses over 9,000 employees. Each element of the Airport site is poised with capacity to service the growing transport, office, and retail requirements of the 1.2 million people expected to be living in the region in 2040.

Airport management are committed to being in touch with our community, governments, and with business about the development of the site and ongoing integration into the social, economic growth and prosperity of the region. The Airport partakes in a number of established stakeholder forums focused on a vision where the growth of the region is enhanced by the growth of its airport.

The opening of IKEA in November 2015 on ACT land adjacent Majura Park is an example of new investment in our region by an international company, leveraging off the Airport's investment in retail and office facilities at Majura Park. IKEA now provides a unique service and international brand to the region.

More recently the Airport was pleased to work collaboratively with the ACT Government in securing international flights in 2016 and the significant growth in the start-up services in 2018. The NSW Government in 2017 acknowledged Canberra Airport as a key Global Gateway to NSW. The repositioning of our region as a Global Gateway is already providing real social and economic dividends.

Jobs across the Airport site are forecast to grow from 14,000 now (9,500 confirmed in Brindabella Business Park), to 16,000 by December 2020, 20,000 by 2025/28 and 36,000 by 2040 in response to growth in aviation as well as retail and office expansion and the region's economy.

The main runway 17/35 is international Boeing 747 long-range ready, with taxiway works planned over the next five years to provide greater efficiencies in ground movements. In consultation with airlines, the Civil Aviation Safety Authority and Airservices Australia, navigation aids will continue to be upgraded to enhance operability in low visual conditions. The runways and airfield will continue to operate without night time operation restrictions, representing a competitive advantage for the region particularly for international flights and movement of freight.

The 2020 Master Plan discusses aviation capacity for the Canberra Region in 50-60 years' time which is when the main runway is forecast to reach its practical limits. Airport management has included a parallel runway concept which requires the acquisition of land adjacent the Fairbairn precinct from the Australian Government.

Safeguarding airports and the communities around them is an Australian Government, State, Territory and Local Government challenge acknowledged in the Master Plan. The National Airports Safeguarding Framework finalised in 2012 (with updates since) aims to improve amenity for communities within the vicinity of Australian airports as well as safety outcomes for aircraft, airports and aviation users. Canberra Airport will continue to work co-operatively with relevant agencies as the Framework is implemented.

Canberra Airport continues discussion with the ACT Government about road infrastructure within the vicinity of the Airport and in particular connecting to the Majura Parkway, opened in 2016. Over the next five years, the growth of the region, in particular in Gungahlin and the Queanbeyan-Palerang region, will place pressure on the east-west network connecting the City, Parliamentary Triangle and Russell to the Parkway and beyond to the Airport and Queanbeyan. The Airport Interchange (Majura Parkway and Fairbairn Avenue) has been historically planned to become the primary north-south entrance to Canberra. Further, the demands arising from regional growth for Pialligo Avenue and the Barton Highway to be duplicated between Canberra Airport, Yass and Queanbeyan will fuel east-west traffic growth into the Airport interchange and Morshead Drive. The Airport is keen to see capacity is provided to meet the burgeoning traffic demands of a growing region.

The Canberra Airport Board and management celebrate 21 years of continuous environmental improvement across the Airport site. The Airport Environment Policy remains as current today as it was when first developed in 1998 because it provides for leadership in environmental management and continuous improvement. The Canberra Airport Environment Strategy focuses on continued protection of endangered flora and fauna known to be present on the Airport site, namely Natural Temperate Grassland, the Grassland Earless Dragon and the Golden Sun Moth, and recognising research commissioned by the Airport to improve Grassland establishment and Dragon management in the region.

The Airport remains committed to liaising with, and contributing to, the endangered species research community and environmental groups in the region to not only manage its impacts but add to the body of knowledge on protecting and enhancing endangered species populations.

The Environment Strategy sets out ongoing commitments to manage natural resources and heritage values across the Airport. In particular, over the next five to eight years the Airport will build upon existing connections with neighbours to appropriately manage stormwater flows around the Airport site, and also focus on improving the auditing framework for high risk tenants.

Comments received, particularly from State, Territory and Local Governments, affirm the continued growth of the Airport as an economic driver in the region while delivering social dividends. There are significant opportunities for business growth and community prosperity over the next five to eight years through the establishment of new international and domestic connections for passengers and freight, and we look forward to working alongside everyone to deliver this outcome.





"Having achieved direct flights into Asia and the Middle East, we are now focused on securing direct flights to China and New Zealand, as well as increasing domestic travel routes".

ACT CHIEF MINISTER ANDREW BARR
STATE OF THE TERRITORY BUSINESS ADDRESS SPEECH 2019



1 Introduction

Canberra Airport's vision for the future is clear and bold.

With community support, Canberra Airport has developed into an Airport that is truly worthy of Australia's National Capital city. This is delivering economic growth and jobs for the region. In recognition of this, Canberra Airport was awarded the Australian Capital City Airport of the Year Award in 2002, 2007 and 2013 and is acknowledged by the ACT and NSW Governments as a global gateway to Canberra and Southern NSW.

The additional aviation capabilities and built-in capacity developed through the extension and strengthening of the main runway (Runway 17/35) in 2006 and the redevelopment of the new terminal between 2009 and 2014 reinforces Canberra Airport's critically important role as the only curfew-free airport between Brisbane and Melbourne capable of handling B747 and A380 aircraft¹, its role as Australia's newest international gateway, its increasing role as an airfreight hub and as a back-up for Sydney's increasingly crowded skies.

To this end, to respond to the needs of the region's community and business, this 2020 Master Plan foreshadows a focus on harnessing the capacity of this new quality aviation infrastructure for growth in air services, both domestic and international. This focus will include further improvements to the Airport's aircraft navigation aids.

To support these aeronautical plans, and to respond to the increasing needs of business to seek to locate themselves at or near airports, Canberra Airport will continue to develop a range of commercial uses on Airport using attractive buildings and surrounding landscapes that are designed to create a 'sense of arrival' in the nation's capital. They also reflect the Airport's commitment to environmental sustainability and to provide a great place to work.

Canberra Airport is proud of its role as an economic engine for the region, not only as a transport gateway, but also through the delivery of new businesses and new jobs. Since 1998, the number of Airport businesses has grown from 70 to over 300 and the number of jobs has similarly increased significantly. This is in addition to both the ongoing employment of hundreds of construction workers and the engagement of some 950 businesses in the ongoing operation of the Airport. Canberra Airport's multi-billion-dollar investment is playing a major role in the economic growth of the region.

Canberra Airport is also committed to continuing to do everything practical to minimise the impact of aircraft noise on the community. Canberra Airport has and will continue to oppose plans that risk the introduction of noise sharing over Canberra and Queanbeyan and jeopardise its curfew-free operations.

¹ It is noted that regular operations by A380 aircraft are not expected at Canberra Airport during the life of this Master Plan, aside from VIP visits and ad-hoc diversions from other airports. It is also noted that A380 aircraft are capable of quieter operations than many other existing wide-body operations.

1.1 VISION

“Our vision is to develop Canberra Airport as a first-class facility to serve the Region’s evolving transportation, business and development needs and to maximise the growth of a wide range of aeronautical and other businesses”.

Key elements are:

- Development of an airport worthy of the nation’s capital - the development of first-class aeronautical and commercial facilities, customer services and amenities appropriate to the character of Australia’s capital;
- Development of Canberra Airport as a major international capital city and regional hub for passengers and freight - to facilitate Canberra’s direct links with major cities in Australia and the Asia-Pacific region and with smaller communities in the region, enhancing the attractiveness of Canberra and the local regional area as a location for business and tourism, and to make the Airport a base for a range of airlines and significant aircraft maintenance centres as well as a High Speed Rail (HSR), bus and coach hub;
- Development of a critical national aviation infrastructure asset — as the only 24-hour Boeing 747 and Airbus A380 capable airport between Melbourne and Brisbane, with a key role as a passenger and freight hub for traffic unable to access Sydney Airport, catering to overnight freight during the Sydney curfew and to overflow due to capacity constraints on Sydney Airport;
- Continue development of the new integrated Airport terminal facilities - to maximise the benefits to the region of airline, potential HSR, bus, light rail and regional coach services through the high quality award winning multi-modal terminal development which offers the highest level of service and convenience to the travelling public;
- Commitment to environmental sustainability - to develop the Airport sympathetically with Canberra’s community and environment;
- Creation of opportunities - to make Canberra Airport and its environs the centre of a business, retail, transport and freight hub to respond to the needs of users, providing economic impetus for office parks and other commercial developments;
- Create business opportunities - to maximise total on-airport employment and business growth in response to increasing business demands to be located on Airport, without compromising aviation operations;

- Commitment to respond to the needs of users - grow aviation and non-aviation development at Canberra Airport in response to the needs of aircraft operators, business and the general public; and
- Commitment to the community - to continue to work with and in the regional community to ensure Canberra Airport consults, operates and grows with its community, including minimising the adverse impacts of aircraft noise.

1.2 PURPOSE AND DEVELOPMENT OBJECTIVES

1.2.1 OVERALL PURPOSE OF THIS 2020 MASTER PLAN

In addition to meeting the requirements of the *Airports Act*, the purpose of this 2020 Master Plan is to:

- Establish the strategic direction for the efficient and economic development of the Airport over the next 20 years as well as to outline detailed development objectives for the next five years;
- Work with existing and future airline and airfreight partners to significantly grow inbound and outbound aviation operations so as to increase productivity and the economic and social dividend to our regional communities;
- Provide for the development of additional aviation and other uses of the Airport site;
- Communicate to the public the intended uses of the Airport site and growth of the airport;
- Reduce potential conflicts between uses and users of the Airport site, and to ensure that uses of the Airport site are compatible with the areas surrounding the Airport; and
- Grow the Airport in sympathy with the broader region by responding to the needs of the community, both in terms of delivering flights, jobs, business opportunities and prosperity as well as minimising the impact of noise on people's lives.

1.2.2 DETAILED DEVELOPMENT OBJECTIVES

As required under the *Airports Act*, Canberra Airport's development objectives are as set out below. These objectives are consistent with the vision of the Department of Infrastructure, Transport, Cities and Regional Development, "Great Cities - Strong Regions - Connecting Australians".

Objective 1 Ensure the Airport is operated and developed in a safe, comfortable, secure and environmentally sustainable manner

This objective involves:

- Ensuring that the maintenance of operational safety is paramount to the planning of all Airport development;
- Maintaining security standards in accordance with Australian Government regulations;
- Working with government, industry and the community to ensure appropriate land uses under flight paths;
- The continuing development of Canberra Airport as a leader in environmental sustainability, supported by the parameters outlined in this 2020 Master Plan; and
- Maintaining and improving the comfort of, and customer service delivered to, travellers and Airport visitors.

Objective 2 Develop Canberra Airport as a multi-modal transport hub for passenger and freight connections

The integration of a number of passenger and freight modes of transport into a single location in Canberra offers significant opportunities. The concentration of road, rail and air services in one location offers a unique ability to seamlessly transfer between transport modes.

The provision of the substantially large terminal with international capability and multi-modal linkages (including freight facilities) was a key outcome of previous Canberra Airport Master Plans as a logical and far-sighted strategy to further enhance the Airport's transport hub concept. The Airport terminal building has been designed and built to a high specification and quality to reflect Canberra Airport's role as a regional and national gateway.

Objective 3 Develop a culture of excellence based on customer service and quality

Development and management of the Airport demonstrates a commitment to excellence by:

- Providing high levels of customer service;
- Adopting airport management best practice; and

- Adding value to services for stakeholders, including the aviation industry, customers, lessees, the travelling public, Airport visitors and/or the region's community.

Objective 4 Ensure that the design of the Airport reflects its role as a gateway to the National Capital

The form and image of all airport buildings should reflect:

- The creation of an exciting 'sense of arrival' experience for passengers;
- The creation of a wide range of attractive, environmentally and user-friendly buildings, including but not limited to office and retail;
- An introduction to the unique aspects of the National Capital and the region; and
- High quality contemporary airport design.

The Airport terminal building has been built to reflect Canberra Airport's role as Australia's newest international gateway befitting the National Capital and the region.

Objective 5 Maximise the economic growth of the Airport and the surrounding region

The development of the Airport will continue to seek to maximise economic growth in the region through activities such as:

- Aeronautical growth;
- Proactively introducing initiatives to take full advantage of aeronautical and other opportunities; and
- Providing the range of aeronautical and commercial development options to the Airport, around the Airport and more broadly in the region.

Objective 6 Provide a business environment that allows the Airport and its associated businesses to reach their potential

A vibrant, flexible and supportive commercial and physical environment will continue to be created at the Airport to create substantial development opportunities and to allow businesses to respond to changing market needs, maintain viability and achieve growth in both aeronautical and other activities.

Objective 7 Being in a position to meet the needs of Sydney Airport users, including overflow of domestic and international passenger and freight services

Given the curfew imposed on Sydney Airport, its arbitrarily low 80 movements per hour cap, restrictions on aircraft parking, the regular weather delays and poor land transport access to Sydney Airport, Canberra Airport is expected to play an important role in meeting the overflow aviation needs of the Sydney region, even after the Western Sydney Airport is operating. By providing easy access, excellent infrastructure and competitive pricing, Canberra Airport expects to attract passenger and freight operations. This is likely to include a 24-hour domestic and international freight operations and overflow passenger services. Refer to Chapters 5 and 6.

Objective 8 Develop non-aeronautical land to support future aeronautical infrastructure development

Increasingly, businesses are recognising the role of airports as economic drivers for their region and are demanding a presence on or near major airports. These airports, now commonly known as 'Aerotropolis', are emerging worldwide. Cities with emerging 'Aerotropolis', similar to Canberra, are now being acknowledged to be the most competitive "Cities of the 21st Century". Further, commercial development in response to this demand and the alternative revenue streams (ie: independent of airlines) it delivers, has enabled Canberra Airport to fund major aviation infrastructure developments such as runway and terminal upgrades. Commercial land will continue to be put to productive use where commercially possible, considering surrounding land uses and transport linkages, by incorporating a wide range of activities, including office and retail.

Objective 9 Adopt best available technology to improve all-weather utilisation of the Airport

To make the most effective use of the Airport, aeronautical systems are expected to be progressively upgraded adopting new technologies so aircraft can operate efficiently and safely under a wide range of weather conditions and with a greater range of capabilities.

Objective 10 Respond to the needs of the community

The community has an ongoing expectation that Canberra Airport meets local demand for additional flights, as well as a reasonable expectation that Airport growth will not adversely impact on its residential amenity via increased levels of aircraft noise. Canberra Airport will grow the Airport in response to community and business needs (note details of ongoing consultation outlined in Chapter 3), whilst continuing to strongly oppose inappropriate residential development under flight paths. Canberra Airport also commits to investigating further noise respite measures for existing residents of the region. These are outlined in detail at Chapter 12.

Objective 11 Be open and accountable

Canberra Airport has always been open with its stakeholders, including the broader regional community, as to current and future planned developments at Canberra Airport. Canberra Airport commits to remaining open and accountable to the community and it is intended that this, and all future Master Plans, underpin this commitment.

1.3 LOCATION

Canberra Airport is located in the Majura Valley, eight kilometres east of Canberra's Central Business District and four kilometres north-west of Queanbeyan. It is located on the east-west transport corridor, which contains over 75 percent of Canberra's employment. It is also denoted as a Defined Activity Centre in the *National Capital Plan*.

Most of the land north and south of the Airport is used for broadacre purposes because it is overflowed by aircraft or because of its long association with Department of Defence activities. This land (including the Airport) was denoted as a new Employment Corridor in the *Canberra Spatial Plan*². The ACT Government's *Eastern Broadacre Study* has identified commercial and industrial land use opportunities adjoining the Airport, west of Majura Road opposite the Airport's Majura Park. The ACT Government has already rezoned a 7.8 hectare parcel for bulky good retail as the initial stage of an investigation area. Both the rezoned and planning investigation areas are designed to leverage off the planning, investment and risk undertaken by Canberra Airport in developing Majura Park over the past fourteen years. The outcome of this development will be increased revenue to the ACT from land sales, which commenced in 2014 with IKEA.

Civil aviation facilities have historically been confined largely to the south-west corner of the Airport (apart from some Airservices Australia facilities), with the Department of Defence occupying Fairbairn to the north-east of the Airport site.

The withdrawal of Department of Defence facilities from Fairbairn in May 2004 and the inclusion of these facilities as part of the Airport lease has presented opportunities for civil aviation and commercial expansion on the eastern side of the Airport, the uses for which are outlined in greater detail in Chapter 8.

The aviation impact of Canberra Airport extends well beyond the Airport itself. Aircraft noise exposure zones, prescribed airspace and other safety requirements affect much of the land to the north and south of the Airport. Planning for land use in the Majura and Jerrabomberra Valleys and in the vicinity of Canberra Airport is affected by aviation requirements and needs to recognise and preserve the 24-hour curfew-free and safe operation of the Airport.

² Canberra Spatial Plan 2004

1.4 HISTORY

Canberra Airport was established on the existing site in 1927 (refer Figure 1.1) and controlled by the civil authorities until 1940, when responsibility passed to the Department of Air. From 1940 it was used by civil aircraft under the terms of a Joint User Agreement between the Department of Civil Aviation (and its successors) and the Department of Defence. In 1989 the Federal Airports Corporation (FAC) assumed control of the civil (or western) side of the Airport under a Crown Lease arrangement with the Commonwealth.

Figure 1.1 – Canberra Airport circa 1927



The first structure on the Airport site, a hangar, was completed in 1936. Construction of RAAF facilities and accommodation began in 1940. Runways were initially hard surfaced in 1948.

Significant construction of the present civil aviation area began in the early 1960s. By the mid-1960s these facilities comprised the passenger terminal, airfreight sheds and the Department of Civil Aviation hangar and workshop. The civil aviation side of Canberra Airport around 1970 is shown in Figure 1.2.

Figure 1.2 - Canberra Airport circa 1970



Until 1972, the main access road (Fairbairn Avenue, later Pialligo Avenue) ran parallel to the cross Runway 12/30 and passed roughly in front of the old terminal building. A 650 metre extension of the main north-south runway at that time required the construction of the present Pialligo Avenue deviation to the south and the extension of the Fairbairn access road.

Passenger terminal extensions by the Australian Government, Ansett and Australian Airlines commenced in the mid-1980s but were in need of a major refurbishment by the mid-1990s. Due to a lack of investment in the 1980s and 1990s by the Australian Government, airport infrastructure had deteriorated by the time of sale and consequently significant investment was needed by the new owners in the runways, taxiways, apron, terminal and other infrastructure.

Figure 1.3 - Canberra Airport circa 1998



In recognition of the critical need for major capital investment, as well as the significant opportunities and developments that could be progressed at airports throughout Australia under private ownership, the Australian Government decided to divest itself of its airport assets in the early 1990s. In order to maximise sale values of the airports, as well as to ensure that airports had the ability to reach their maximum development potential in order to counter the natural cyclical nature of the aviation sector and in common with airports internationally, the Australian Government sold the airports with a comprehensive set of development rights.

In 1998 Canberra Airport Pty Limited, a Canberra-based family business, purchased the lease of the aviation facilities, land and infrastructure known as Canberra Airport, including development rights. In the same way as other bidders and stakeholders in the sale process, the company was highly conscious of the rights and obligations associated with ownership of the Airport and, accordingly, it has endeavoured to maximise both the aeronautical and commercial potential of the Airport in accordance with its lease with the Australian Government. This scope of development activity underpinned bids to the Australian Government and was confirmed with the approval of the 1999 Master Plan and the subsequent approval of the 2005, 2009 and 2014 Master Plans. These Master Plans also included the rights to 24-hour non-curfew capability. Canberra Airport will use these rights to expand aviation opportunities and to meet its obligation and desire to use the Airport site as an airport.

The privatisation of the Airport in 1998 heralded a significantly increased investment in aeronautical infrastructure. This investment has included, but is not limited to:

- The upgrade of the former common-user central terminal for the 2000 Olympics;
- Major terminal apron expansion;
- Expansion of the general aviation precinct;
- 6.5 kilometres of taxiway upgrades;
- Upgraded terminal facilities including cafés, new check-in desks, new security screening points, new baggage infrastructure and new car rental desks;
- Purchase and full redevelopment of the ex-Ansett terminal as a multi-user facility;
- A new Qantas maintenance hangar;
- New car rental maintenance and cleaning facilities;
- An expansion to the width and the sealing of the Runway 17/35 shoulders;

- A 600 metre extension to Runway 17/35;
- The strengthening of Runway 17/35 to cater for regular large heavy aircraft operations;
- The major upgrading of facilities at Fairbairn;
- Upgraded facilities for the Aero Club;
- New RAAF Special Purpose Aircraft (SPA) facilities and apron maintenance;
- A new fuel farm;
- Comprehensive security upgrades;
- A new hangar and headquarters facility for Brindabella Airlines, now Australian Federal Police;
- A new freight facility for Qantas Freight;
- An upgraded former hangar and adaption to a freight facility for Pak Fresh;
- A new Non-Directional Beacon (NDB);
- A new catering facility building for dnata; and
- The \$500 million development of the new terminal 2007-2014 (international fit-out 2016) together with new roads, grade separated intersection of Terminal Circuit with Pialligo Avenue, new in-ground services and infrastructure, new heavy aircraft apron and taxiways, award-winning new enlarged multi-user, multi-level terminal and car parking.

In addition to these aeronautical investments, the Airport has also made a major investment in commercial infrastructure including Brindabella Business Park, Majura Park (a mixed-use zone incorporating a range of uses such as retail and offices) and the Fairbairn precinct.

1.5 EXISTING AND FUTURE FACILITIES

The Airport has two runways; the main runway (Runway 17/35) is 3,283 metres long after its extension in 2006 and is aligned approximately north-south, while the intersecting (or cross) runway (Runway 12/30) is 1,679 metres long. The cross runway is generally only used by Dash 8, ATR operations and smaller airliners and general aviation aircraft.

The runways are supported by a taxiway system which provides access to each runway end and at intermediate points along the runways. The taxiway link to the northern end of the main runway (Taxiway Alpha) is on the eastern side of the runway and is less than the standard width for wide-bodied aircraft and has a history of failing. The taxiway link to the southern end of the main runway (Taxiway Bravo) is on the western side of the Airport and meets the standards for large aircraft operations and will be extended to the northern end of the runway in the short term. The currently limited number of wide-body aircraft operations at Canberra Airport make a turn on the northern end of the main runway using the turning node.

The taxiway system includes a number of lower strength taxiways currently suitable for use by lighter aircraft. These taxiways are predominantly in the vicinity of the general aviation apron area and Runway 12/30. These will be progressively upgraded for larger aircraft when required.

Taxiway Bravo will be extended in 2019 from Taxiway Delta to the threshold of Runway 17. Taxiway Bravo, on completion, will service most aircraft arriving at Canberra Airport up to Code E, similar to the current international Singapore Airlines and Qatar Airways daily B777-300ER services. Taxiway Alpha will be decommissioned once Taxiway Bravo is commissioned.

The regular public transport (RPT) apron is a common-user apron with all parking stands capable of being allocated to any airline by Canberra Airport. The apron currently accommodates up to 14 aircraft parked overnight, with an additional overnight parking bay provided west of the intersection of Taxiways Bravo, Delta and Juliet. The existing apron area has been extended and renewed to heavy aircraft capacity and includes provision for the parking of some wide-body aircraft.

The general aviation apron area currently provides parking and hangar access for light aircraft and smaller business jets. The Fairbairn apron area provides parking for military, freight, large commercial, general aviation and other operations, including some larger heavy aircraft. In the event of multiple aircraft diversions from Sydney or Melbourne, the Fairbairn apron is used for international flights as well as any domestic flights not able to be accommodated on the RPT apron.

The general aviation area accommodates a range of facilities and businesses, including the Airport fuel farm, a modern highly secure underground facility that replaced several above-ground facilities previously in use. The area is currently approaching capacity with terminal and other associated facilities encroaching into this area. It is planned that future general aviation expansion will be accommodated in other precincts.

The terminal building is common-user, owned by Canberra Airport. The terminal is a multi-level structure, with an elevated roadway arrangement and adjacent to the multi-level car parks. Refer to Chapter 5 for further details on the terminal development.

Airport access routes have been upgraded to duplicate the roads between the Airport and the City, and to improve the road conditions through the Majura Valley. Access to and from the terminal precinct onto Pialligo Avenue includes a grade-separated intersection completed in early 2009. Further upgrades to the road system, including connecting with Majura Parkway, is currently in planning by the ACT Government.

Whilst the 1998 Very High Speed Train proposal was eventually unsuccessful, it is expected that a HSR system linking Canberra Airport with Sydney and later Melbourne and Brisbane will eventually be constructed.

Using current technologies, HSR will take 57 minutes from Sydney Central Railway Station via Sydney Airport and then non-stop via a new rail corridor to Canberra Airport.

Should a rail proposal proceed, Canberra Airport has been identified as a location option for the Canberra rail terminus and has been confirmed as such in this 2020 Master Plan. It poses few construction problems for both the approach through the Majura Valley and for a station adjacent to the terminal building.

Figure 1.4 – Canberra Airport with Vibe 2019



1.6 2020 MASTER PLAN STATUTORY REQUIREMENTS

In accordance with the *Airports Act 1996*, Canberra Airport Pty Limited is required to submit a draft Master Plan for the approval of the Minister for a 20-year planning period. Historically the Master Plan has been reviewed every five years. However, the next Master Plan is due for review in eight years following amendments to the *Airports Act* in 2018.

Subsection 71(2) of the Airports Act 1996 requires a Master Plan to specify:

| AIRPORTS ACT 1996 | | REFERENCE |
|-------------------|---|------------------------|
| 71(2) | Contents of draft or final Master Plan | |
| (a) | the airport-lessee company's development objectives for the airport; and | Chapter 1 |
| (b) | the airport-lessee company's assessment of the future needs of civil aviation users of the airport, and other users of the airport, for services and facilities relating to the airport; and | Chapter 5 |
| (c) | the airport-lessee company's intentions for land use and related development of the airport site, where the uses and developments embrace airside, landside, surface access and land planning/zoning aspects; and | Chapters 5, 7, 8 and 9 |
| (d) | an Australian Noise Exposure Forecast (in accordance with regulations, if any, made for the purpose of this paragraph) for the areas surrounding the airport; and | Chapter 12 |
| (da) | flight paths (in accordance with regulations, if any, made for the purpose of this paragraph) at the airport; and | Chapter 12 |
| (e) | the airport-lessee company's plans, developed following consultations with the airlines that use the airport and local government bodies in the vicinity of the airport, for managing aircraft noise intrusion in areas forecast to be subject to exposure above the significant ANEF levels; and | Chapter 12 |
| (f) | the airport-lessee company's assessment of environmental issues that might reasonably be expected to be associated with the implementation of the plan; and | Appendix 1 |
| (g) | the airport-lessee company's plans for dealing with the environmental issues mentioned in paragraph (f) (including plans for ameliorating or preventing environmental impacts; and | Appendix 1 |
| (ga) | in relation to the first 8 years of the Master Plan – a plan for a ground transport system on the landside of the airport that details: | |
| | (i) a road network plan; | Chapter 9 |
| | (ii) the facilities for moving people (employees, passengers and other airport users) and freight at the airport; and | Chapters 6 and 9 |
| | (iii) the linkages between those facilities, the road network and public transport system at the airport and the road network and public transport system outside the airport; and | Chapter 9 |
| | (iv) the arrangements for working with the State or local authorities or other bodies responsible for the road network and the public transport system; and | Chapter 9 |
| | (v) the capacity of the ground transport system at the airport to support operations and other activities at the airport; and | Chapter 9 |
| | (vi) the likely effect of the proposed developments in the master plan on the ground transport system and traffic flows at, and surrounding, the airport; and | Chapter 9 |

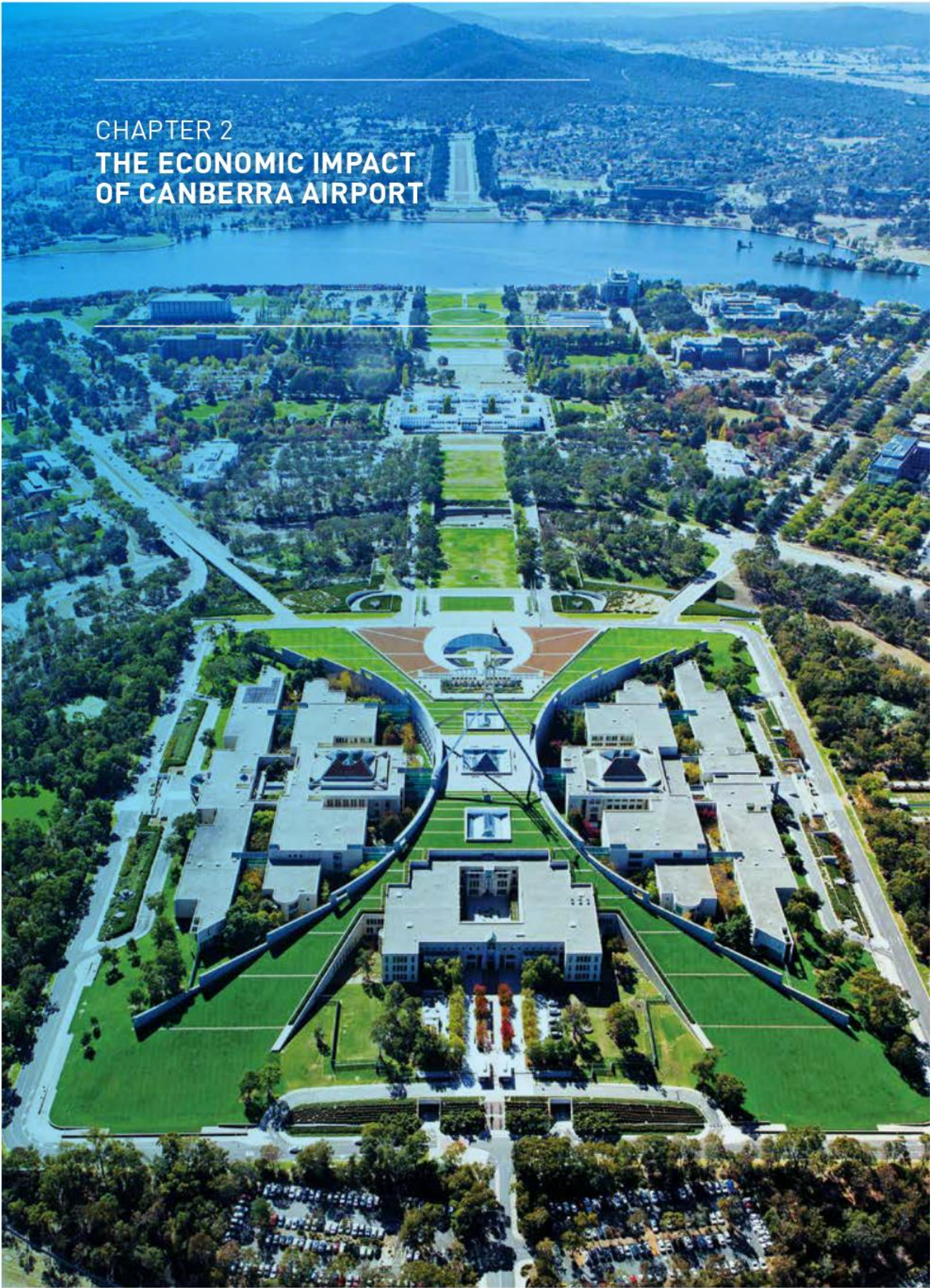
| AIRPORTS ACT 1996 | | REFERENCE |
|-------------------|--|--|
| (gb) | in relation to the first 8 years of the Master Plan – detailed information on the proposed developments in the master plan that are to be used for: | |
| | (i) commercial, community, office or retail purposes; or | Chapter 8 |
| | (ii) for any other purpose that is not related to airport services; and | Chapter 8 |
| (gc) | in relation to the first 8 years of the Master Plan – the likely effect of the proposed developments in the Master Plan on: | |
| | (i) employment levels at the airport; and | Chapters 2 and 4 |
| | (ii) the local and regional economy and community, including an analysis of how the proposed developments fit within the planning schemes for commercial and retail development in the area that is adjacent to the airport; and | Chapters 2 and 4 |
| (h) | in relation to the first 8 years of the Master Plan – an environment strategy that details: | |
| | (i) the airport-lessee company’s objectives for the environmental management of the airport; and | Appendix 1 |
| | (ii) the areas (if any) within the airport site which the airport-lessee company, in consultation with State and Federal conservation bodies, identifies as environmentally significant; and | Appendix 1 |
| | (iii) the sources of environmental impact associated with airport operations; and | Appendix 1 |
| | (iv) the studies, reviews and monitoring to be carried out by the airport-lessee company in connection with the environmental impact associated with airport operations; and | Appendix 1 |
| | (v) the time frames for completion of those studies and reviews and for reporting on that monitoring; and | Appendix 1 |
| | (vi) the specific measures to be carried out by the airport-lessee company for the purposes of preventing, controlling or reducing the environmental impact associated with airport operations; and | Appendix 1 |
| | (vii) the time frames for completion of those specific measures; and | Appendix 1 |
| | (viii) details of the consultations undertaken in preparing the strategy (including the outcome of the consultations); and | Appendix 1 |
| | (ix) any other matters that are prescribed in the regulations; and | Appendix 1 |
| (j) | such other matters (if any) as are specified in the regulations. | Refer <i>Airports Regulations 1997</i> Table below |

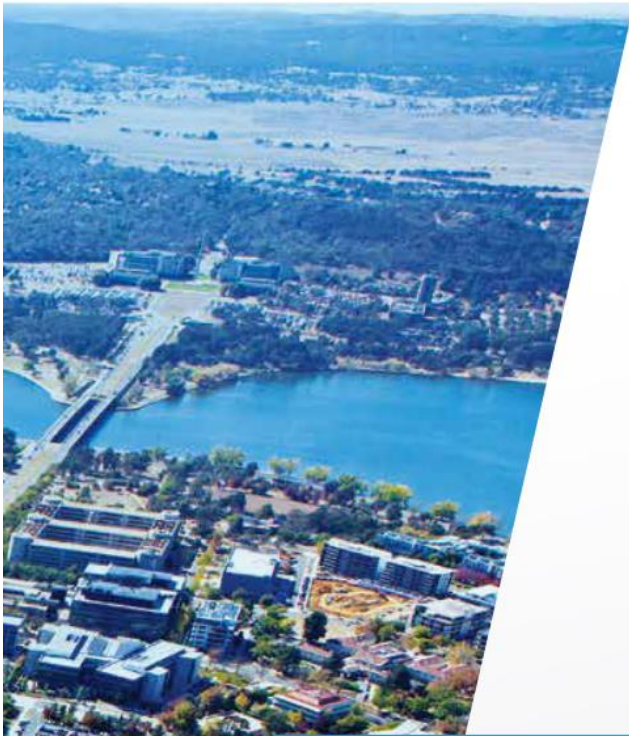
Part 5 of the Airports (Environment Protection) Regulations 1997 provides additional inclusions for Master Plans

| AIRPORTS REGULATIONS 1997 | | REFERENCE |
|---------------------------|--|------------|
| 5.02 | Contents of draft or final Master Plan - general | |
| (1) | For paragraphs 71(2)(j) and (3)(j) of the Act, the following matters are specified: | |
| | (a) any change to the OLS or PANS-OPS surfaces for the airport concerned that is likely to result if development proceeds in accordance with the Master Plan; | Chapter 11 |
| | (b) for an area of an airport of an airport where a change of use of a kind described in subregulation 6.07(2) of the <i>Airports (Environmental Protection) Regulations 1997</i> is proposed: | Appendix 1 |
| | (i) the contents of the report of any examination of the area carried out under regulation 6.09 of those Regulations; and | Appendix 1 |
| | (ii) the airport-lessee company's plans for dealing with any soil pollution referred to in the report. | Appendix 1 |
| (2) | For section 71 of the Act, an airport Master Plan must, in relation to the landside part of the airport, where possible, describe proposals for land use and related planning, zoning or development in an amount of detail equivalent to that required by, and using terminology (including definitions) consistent with that applying in land use planning, zoning and development legislation in force in the State or Territory in which the airport is located. | Chapter 8 |
| (3) | For subsection 71(5) of the Act, a draft or final Master Plan must: | |
| | (a) address any obligation that has passed to the relevant airport-lessee company under subsection 22(2) of the Act or subsection 26(2) of the Transitional Act; and | Chapter 1 |
| | (b) address any interest to which the relevant airport lease is subject under subsection 22(3) of the Act, or subsection 26(3) of the Transitional Act. | Chapter 1 |
| 5.02A | Contents of draft or final Master Plan - matters to be specified in environment strategy | Appendix 1 |
| 5.02b | Contents of draft or final Master Plan - matters to be specified in environment strategy | Appendix 1 |

Section 71A of the Act requires a master plan to identify proposed sensitive developments. A sensitive development is the development of, or a redevelopment that increases the capacity of a residential dwelling; a community care facility; a preschool; a primary, secondary, tertiary or other educational institution; a hospital. Consistent with existing workplace childcare facilities at Canberra Airport, additional childcare facilities, together with education and vocational training facilities are proposed in this Preliminary Draft Master Plan.

CHAPTER 2
**THE ECONOMIC IMPACT
OF CANBERRA AIRPORT**





“Airports are not just about the experience, they are vital to our Australian economy and to our wellbeing.”

HON MICHAEL MCCORMACK MP
MINISTER FOR INFRASTRUCTURE, TRANSPORT AND REGIONAL DEVELOPMENT



2 The economic impact of Canberra Airport

In just 21 years of private ownership, Canberra Airport has invested over \$2 billion in transforming the Airport from an aviation backwater into a modern and vibrant Aerotropolis. A worldwide paradigm shift in airport development, from the traditional transport only node to a diverse development and employment locality, has been embraced at Canberra Airport, leveraging off and financially supporting the aviation transport functions.

The Honourable Warren Truss, MP [second reading speech 19 October 2010, Airports Act amendments] stated:

“Airports are essential community infrastructure. They are a vital part of ensuring that our nation is able to be connected to the rest of the world and that we are able to trade and to operate in association with our partners around the world”.

Productivity has been identified as one of the key challenges facing the Australian economy. The Australian Government’s Major Cities Unit report on the State of Australian Cities 2013 noted:

“Major ports and airports are important to the productivity of major cities and they influence the urban structure of cities”.

Canberra Airport, the ACT Government and CRJO have a common objective to deliver more inbound tourism, investment and education, while providing more opportunities for export. The bottom line is to have more planes from more Australian and international cities boosting the export of regional business services and the freight of goods and produce.

2.1 INTERNATIONAL AGE

Canberra and the nearby region have never had a seaport and for decades have had a poor rail service therefore governments and the community rely heavily on Canberra Airport and the highways for the transfer of passengers and trade (Figure 2.1).

As well as being a key element of the Capital region’s transport infrastructure, Canberra Airport is important to a number of allied sectors; from regional transport services and the major tourism attractions to support services such as catering, travel consultants, and hotels. In addition, there have been significant positive economic impacts to the region from business, retail and commercial development especially at Canberra Airport, particularly in the aerospace and defence industry.

Canberra Airport, with the infrastructure capacity in place, has entered a new and challenging ‘international age’ in partnership with airline and freight operators to connect Canberra and the broader region of about 940,000 people to the world.

This new international age has been made possible by a multi-billion dollar investment in the wholesale redevelopment of the Airport since privatisation in 1998, comprising the terminal, runways, aircraft aprons, car parks, access roads, and commercial buildings and collaboration with the ACT Government led by Chief Minister Andrew Barr.

The lengthening and strengthening of the Airport's main runway during 2006 was the foundation achievement towards the transformation of Canberra Airport and together with the over \$500 million spent on the development of the new terminal [2008-2016] this total investment provides a lasting legacy to the community of aviation capability ready to enter the international age.

This massive investment in essential infrastructure represents the Airport's absolute and growing confidence in the robust future of Canberra and the region.

The investment in aviation also provides the region's community of over 900,000 with an Airport of true international passenger and freight capabilities for the very first time in addition to further domestic opportunities.

Accordingly, the best is yet to come in terms of greater future economic and social positive outcomes compared to the past. These future outcomes will be achieved by leveraging the aviation infrastructure capacity now available to create significant demand for jobs, trade and commerce within the region.

A significant outcome will be greater competition with other Australian and world cities in tourism, trade and commerce as the structural shift unfolds and matures. The direct international connection to Asia and the Middle East will drive investment from abroad and boost exports of both goods and services.

Mr Andrew Barr MLA, ACT Deputy Chief Minister, in his Foreword to the ACT 2020 Tourism Strategy [2013] stated:

"The Airport is now a fitting gateway for the National Capital that provides a solid platform for future economic growth - including the capacity to support direct international flight access."

The economic and social importance of airports to their community has been amplified through the public debate and expectations around the second Sydney airport.

As low cost carriers and international services develop at Canberra Airport, the Airport's catchment will extend to Western Riverina and the Orana Regions of NSW. This flow on will be in the interest of, and a benefit to, this region's community.

2.2 THE MULTI-BILLION-DOLLAR INVESTMENT FOR ECONOMIC GROWTH

Since its privatisation in 1998, Canberra Airport has undergone a massive transformation which has had a profound and positive structural impact on the ACT and regional economy.

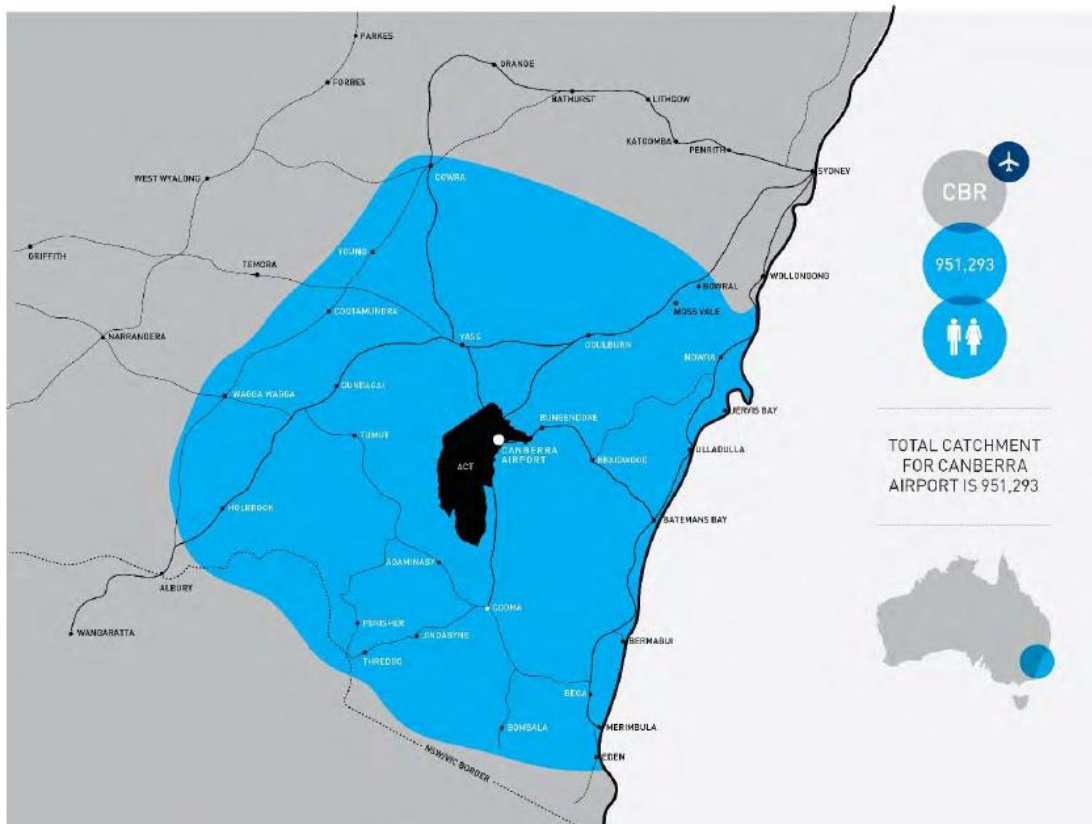
The new escalating international age of Canberra Airport will provide a boost to this economic and social impact and influence the ongoing transformation of the structure of the City and the region and importantly how it is perceived in national and international tourism, trade and commerce.

The \$500 million investment in the Canberra Airport terminal provides a foundation and unique opportunity to achieve the supply goal. In particular, the establishment of direct international flight services is already opening Canberra to the international marketplace and will secure the City's long term future as a key business and tourism hub.

The multi-billion-dollar investment program has transformed Canberra Airport into a true 'Global Gateway' for our National Capital and region. This investment represents a very significant financial commitment to the long term success of Canberra as a city and as the centre of a region comprising a population of about 940,000 (Figure 2.1).

The upgrading of Runway 17/35 in 2006, including a major extension, was at the time the largest major runway expansion in Australia since Sydney Airport's third runway was opened twenty years before. At a cost of more than \$60 million, it was critical infrastructure to allow longer range flights and unrestricted VIP operations, including visits for foreign heads of state.

Figure 2.1 - Canberra and surrounding regions



2.3 URBIS ECONOMIC ASSESSMENT

A study by economic consulting firm Urbis, commissioned in 2019 by Canberra Airport, more precisely determines the economic benefits of the Airport to the region.

Urbis' modelling found in 2018 Canberra Airport:

- Facilitated 29 percent of ACT tourism spending - \$735 million in direct expenditure and over \$565 million indirectly;
- As a tourist hub for the region, welcomed 43 percent of international visitors and nearly 25 percent of domestic visitors coming directly through the Airport;
- By 2028 total tourism output attributable to Canberra Airport passengers is forecast to be \$2.33 billion, a 73 percent increase on 2018 output;
- Generated 17,700 (FTE) jobs in 2018 as an industry and employment hub and indirectly supported another 14,500 (FTE) jobs in the region through supply chain and employee consumption expenditure;

- Had a \$5 billion per annum contribution to gross regional product, which is expected to grow to \$6.8 billion by 2028.

The study notes many of the benefits of the Airport are far too pervasive to quantify accurately and are referenced as 'catalytic benefits' - with the report concluding the impact of Canberra Airport on the wider region, while not precisely known, is much larger than first seems.

The study also forecast:

- In 2028, assuming a medium growth scenario, total activities associated with the Airport are expected to generate a total value added to the local economy estimated at \$6.8 billion per annum; and
- Canberra Airport is curfew-free and the Australian Government identified the importance of maintaining a network of curfew-free airports, including Canberra Airport, on north-south and east-west axes to allow for the ongoing successful operation of overnight airfreight and other overnight aircraft operations.

Canberra Airport welcomes the ACT and NSW Governments' long term support for "24-hour operations as an economic competitive advantage for the ACT and the broader region".

Urbis has provided the following 'Localised Trends and Influences' diagram:

Figure 2.2 –Canberra Airport - Localised Trends and Influences



2.4 COMMERCIAL INVESTMENT

The Airport has recently played a strong role in consolidating Canberra's position as a major retail centre attracting local and regional shoppers away from competition in Sydney and Melbourne.

The development and opening of Costco's third store in Australia in the Airport's Majura Park in July 2011, has been a boon for retail tourism for about 940,000 regional residents to the benefit of local jobs, together with social and economic growth.

Canberra Airport also assisted in securing IKEA to an ACT Government site on Majura Road opposite Majura Park. IKEA has built on the Costco legacy by diverting local and regional retail trade away from Sydney and Melbourne to Canberra.

The latter is an example of the economic 'catalytic benefits' of the Airport that are difficult to measure, however are real and will be more telling in the new international age of Canberra Airport.

Bureau of Infrastructure, Transport and Regional Economics [BITRE] researched the employment generation and economic activities around airports both within Australia and internationally and noted:

- Between 2006-2011 "airports have been amongst the most important job growth hubs in Australian cities; and
- In Europe, on site employment generally is in the ratio of 1,000 jobs per one million passengers".

In Australia at the ten major airports, including Canberra, there are on average around 580 jobs per one million passengers [2011]. At Canberra Airport the 2019 ratio is 4,600 jobs per one million passengers which reflects the diversity of employment development of the Canberra Airport Aerotropolis and the additional economic and social contribution by the Airport to the region.

More than 14,000 people currently work on the Airport in more than 300 businesses. These businesses largely fall into six main general activities:

- Infrastructure;
- The Airport [owner and manager], Airservices Australia [provider of air traffic control and fire-fighting services], Australian Federal Police, Australian Border Force, Department of Agriculture and Water Resources, private security, terminal maintenance, terminal cleaning, telecommunications and runway sweepers;
- Air transport;

- Qantas [including subsidiaries Qantaslink and Qantas Freight], Virgin Australia, Singapore Airlines, Qatar Airways, RAAF Special Purpose Air [SPA] Fleet, general aviation and charter operators as well as airfreight [such as Toll, Qantas and Pak Fresh/Menzies] and courier companies;
- Aviation support services;
- In-flight and terminal catering suppliers, aircraft maintenance, operators of aircraft hangars, fuel providers and rental cars;
- Retailing/wholesaling;
 - Shopping centre, cafes, Woolworths Supermarket, Costco, Bunnings bulky goods wholesale, convenience service stations and terminal franchises [and other major and minor retail operators];
- Office;
- A range of public sector and private sector office tenants; and
- Directly airport-related activities off Airport site.

Of the 14,000 plus jobs currently located on Airport, over 90 percent are employed in the 'innovative industries' of defence, aerospace, cyber security and information technology [IT] (Figure 2.3).

A freight hub at Canberra Airport would not only develop jobs at the Airport but would likely produce a new range of industries in Canberra and the region generating significant economic return and employing hundreds, if not thousands of people. Refer Chapter 6.

Increases in passenger services, including additional low cost carriers and direct international flights, will have significant benefits to Canberra's economy, bringing increased jobs and revenue streams. In particular, Canberra Airport's focus over the next 5-20 years, in collaboration with the ACT Government and with the support of the region's community, is to have more planes to more cities to provide a substantial stimulus to the tourism industry employing a range of staff, including accommodation and transport providers, restaurants, cafes, bars, and local tourism businesses.

By 2025/28, Canberra Airport expects to have over 20,000 jobs on Airport. This is based on aviation growth and the full occupancy of all existing and proposed buildings on Airport.

By 2039/40, it is expected that up to 36,000 people will be directly employed on Canberra Airport.

2.5 DIVERSIFYING REVENUE SOURCES

Over the next five to eight years Majura Park, Brindabella Business Park and Fairbairn will continue to be developed with non-aviation land uses consistent with their development to date in response to market trends as indicated in Chapter 8. These precincts provide diverse revenue streams as a 'means of managing risk against comparatively volatile airline and aviation market'. These diverse revenue streams also provide funding security and financial rating to support aviation development.

The ACT Government supports the continuing development of Canberra Airport as an important element of the ACT's economy. The aviation-related activities and non-aviation activities that take place at Canberra Airport's various precincts contribute significantly to the economy of the ACT and the surrounding region. Canberra Airport's economic contribution is destined to grow in the next few decades and the Airport, ACT Government and CRJO will continue to work together to foster that growth.

Figure 2.3 - Canberra Airport is home to Department of Defence, Department of Home Affairs, cyber security, aerospace and technology industries





2.6 CONCLUSION

While the future appears strong for Canberra Airport and the Canberra Region as a whole over the next 20 years, success depends on the support of the community, business and government, the competitiveness of the Canberra Region as a destination and importantly, support from the entire Canberra Region as Canberra Airport delivers the 'international age'.

Canberra Airport can deliver aviation growth and jobs to the community across a broad range of sectors. The challenge is to ensure these jobs are delivered with the ongoing support of the community.

The ongoing development of the Airport over the next five to eight years will see a focus of significant investment in positioning and marketing the benefits of the Airport's aviation infrastructure capacity to all airlines and freight operators that operate to and within Australia.

Canberra Airport's aspiration is to build on existing domestic city connections by the introduction of low cost carriers and international services to realise aviation passenger and freight growth during the new international age. Additional Australian and international city connections, as set out in Chapter 5, will accelerate the ability of the Canberra Region to be more competitive in tourism, trade and commerce as a 'Global Gateway' region.

Given the current economic conditions this aviation growth focus will be vital to the region's economy and social well-being.

This 2020 Master Plan serves as a framework for this aviation growth and other development of the Airport.

CHAPTER 3
CONSULTATION PROCESS





“From start to finish, it was evident you and your team were focused on maintaining the safety and continuity of airport operations, maintaining safety for the substantial number of visitors, and providing a first-class entertainment and educational experience.”

GREG HOOD, CHIEF COMMISSIONER
AUSTRALIAN TRANSPORT SAFETY BUREAU



3 Consultation process

Canberra Airport is a local family-owned business with a strong commitment to the people of Canberra and the region.

The Airport is a critical driver in the local and regional economy of about 940,000 people and local ownership provides a unique opportunity among major Australian airports to better integrate the Airport's development and operation with local and regional priorities and community aspirations.

The Airport will progress discussions with the ACT Government to refresh the 2015 Memorandum of Understanding (MoU) once this Master Plan is approved.

This 2020 Master Plan confirms the strategic direction for Canberra Airport for domestic and international aviation growth that is informed by, and consistent with, the needs of Airport users, governments, and regional priorities. This 2020 Master Plan reflects a comprehensive pre-consultation process which commenced in November 2018 with key stakeholder groups to gather local and regional views, including surrounding landowners and users. Further consultation to gauge reaction and opinion, specific to the Preliminary Draft 2020 Master Plan, will be undertaken during the required 60 business days consultation period.

The consultation process, although required under *the Airports Act*, is ultimately to ensure options for this 2020 Master Plan are fully explored, concerns and impacts identified, and alternatives considered before the final 2020 Master Plan is lodged with the Minister.

3.1 ONGOING CONSULTATION

Specific consultation with respect to this 2020 Master Plan is only a small component of Canberra Airport's consultation program. Canberra Airport has an extensive ongoing consultation program with major stakeholders, including governments, politicians, community groups and business groups, in order to communicate the Airport's plans and their progress to stakeholders and to gain a better understanding of stakeholders' viewpoints and perspectives. This consultation has been ongoing since 1998.

Targeted consultation is also undertaken for major development projects, including those required by the Airports Act, as well as key initiatives, such as the Airport's 2012-2018 contributions on HSR, light rail, the second Sydney airport public debates and the development of Canberra Airport's *Practical Ultimate Capacity Australian Noise Exposure Forecast (ANEF)*, endorsed in August 2019. The new ANEF for Canberra Airport is included in this Master Plan at Chapter 12: Aircraft Noise at Figure 12.10 in compliance with the regulatory amendments to the *Airports Act* passed in September 2018.

3.1.1 CONSULTATION WITH THE AUSTRALIAN GOVERNMENT

Canberra Airport consults regularly with various Australian Government departments and agencies with respect to ongoing and future development and operations at and in the vicinity of Canberra Airport.

Consultation comprises specific meetings between Canberra Airport, Australian, ACT and NSW Government politicians and departmental representatives on key issues as well as regular ongoing meetings. These include, but are not limited to:

- Planning Co-ordination Forum with representatives from the Department of Infrastructure, Transport, Cities and Regional Development, Department of Defence, National Capital Authority, ACT Government, NSW Government, Queanbeyan-Palerang Regional Council, Canberra Business Chamber and the Canberra Region Joint Organisation;
- Department of the Environment and Energy;
- Canberra Airport Safety Committee dealing with on airport safety issues, with representatives from Airservices Australia, Australian Federal Police, Australian Border Force, Department of Defence, Department of Agriculture and Water Resources, airlines and AIPs;
- Canberra Airport Bird and Wildlife Management Committee dealing with bird and wildlife management, on and in the vicinity of Canberra Airport, with representatives from Airservices Australia, CASA, airlines, AIPs and Department of Defence;
- Canberra Airport Emergency Committee dealing with planning for, and response to, all types of emergency situations on or in the vicinity of Canberra Airport, with representatives from Airservices Australia, Australian Federal Police, Australian Border Force, Australian Transport Safety Bureau, Department of Defence, Department of Agriculture and Water Resources, ACT Emergency Services Agency, airlines, Australian Red Cross, fuel suppliers and St John's Ambulance;
- Canberra Airport Security Consultative Group dealing with security issues, on and in the vicinity of the Airport, as well as in the community more generally, with representatives from Airservices Australia, Australian Federal Police, Australian Border Force, Department of Home Affairs, Department of Agriculture and Water Resources, Department of Defence, Attorney-General's Department, airlines and AIPs;

- Canberra Airport Community Aviation Consultation Group dealing with Airport aviation development, regional planning issues and aircraft noise impacts with representatives from the Department of Infrastructure, Transport, Regional Development and Cities, Airservices Australia, Department of Defence, ACT Government, NSW Department of Planning and Environment, Queanbeyan-Palerang Regional Council, airlines, AIPs, business and peak community groups;
- Canberra Airport Integration Committee with senior ACT Government representatives; and
- Canberra Airport is also represented on the Regional Airspace and Procedures Advisory Committee (RAPAC), dealing with airspace and aviation issues at and in the vicinity of Canberra Airport, chaired by CASA.

3.1.2 CONSULTATION WITH THE ACT GOVERNMENT

Canberra Airport recognises its key role to the ACT and region economy and the need to integrate into the local and regional development and infrastructure framework. The ACT and NSW Governments equally recognise the Airport's key role as an economic and transport hub for the region.

Canberra Airport and the ACT Government have a 2015 MoU which recognises the Airport's key role in the ACT and the need to safeguard the ongoing development and operation of the Airport.

As outlined in Chapter Four, Canberra Airport is recognised by, and operates within, the context of the Australian Government administered National Capital Plan and the ACT Territory Plan.

3.1.3 CONSULTATION WITH THE NSW GOVERNMENT

Whilst Canberra Airport is wholly located within the ACT, flight paths to and from Canberra Airport pass over NSW, including at low altitude. The issues of aircraft noise, airspace protection, and maintaining a residential-free corridor to and from Canberra Airport within NSW, are of critical importance to the ongoing unconstrained operations of Canberra Airport and its ability to fulfil its role in the national network of curfew-free airports. Furthermore, surrounding areas of NSW are also critical for the provision of regional infrastructure including roads and public transport.

Canberra Airport services over 520,000 NSW residents (55 percent of the Airport's catchment population) and is NSW's only curfew-free international gateway airport. Gold Coast, Newcastle and Sydney Airports have overnight curfews.

Consultation with the NSW Government includes regular meetings with the Department of Planning, Industry and Environment and the Premiers Office. Officials from the NSW Department of Planning, Industry and Environment also attend Canberra Airport Community Aviation Consultation Group meetings and the Planning Co-ordination Forum. NSW Police and Queanbeyan SES also attend the Airport Emergency Committee meetings.

3.1.4 CONSULTATION WITH THE QUEANBEYAN-PALERANG REGIONAL COUNCIL AND OTHER REGIONAL COUNCILS

Queanbeyan-Palerang and Yass Valley Councils (in NSW) are important Airport stakeholders, as is the Canberra Region Joint Organisation (CRJO) – the regional wide group of councils. Canberra Airport will continue to consult with the Councils and CRJO on a range of planning issues with particular emphasis on separating residential development from aircraft noise, in the context of protecting the Airport's regulated airspace and more broadly on economic development opportunities for the region that will arise from the future growth and diversity of aviation in terms of freight and international passenger airline operations at Canberra Airport.

Representatives from Queanbeyan-Palerang Regional Council regularly attend Canberra Airport Community Aviation Consultation Group meetings and the Planning Co-ordination Forum. Representatives from the Yass Valley Council are also invited to attend Community Aviation Consultation Group meetings and are included in all correspondence and meeting notes. Representatives of the CRJO attend the Planning Co-ordination Forum.

3.1.5 STAKEHOLDER CONSULTATION

Aside from consulting with the various levels of Government, Canberra Airport regularly meets with other key Airport stakeholders, including but not limited to, airlines and aircraft operators, tenants both on-Airport and in the surrounding area, and business, transport and tourism groups.

Regular consultative forums involving Airport stakeholders include, but are not limited to:

- Canberra Airport Safety Committee, dealing with on-airport safety issues;
- Canberra Airport Bird and Wildlife Management Committee, dealing with bird and wildlife management on and in the vicinity of Canberra Airport;
- Canberra Airport Emergency Committee, dealing with planning for and response to all types of emergency situations on or in the vicinity of Canberra Airport;

- Canberra Airport Security Consultative Group, dealing with security issues on and in the vicinity of the Airport, as well as in the community more generally; and
- Canberra Airport Community Aviation Consultation Group, dealing with Aircraft noise, aviation development and regional planning issues.

Canberra Airport regularly consults with, and presents to, key business and industry organisations such as the Canberra Business Chamber, CRJO, Australian Hotels Association (ACT) and the South Eastern Australian Transport Strategy Inc (SEATS).

3.1.6 COMMUNITY CONSULTATION

Aside from the formal master planning public consultation process, Canberra Airport is committed to regularly consulting with the ACT and region community. This is manifested through regular presentations by Airport management to meetings of peak community organisations (such as the North Canberra Community Council and Tuggeranong Community Council) and other community and professional groups such as local Rotary and Lions Clubs and the Institute of Engineers.

Major airport developments are also subject to a formal public consultation process under the *Airports Act* provisions, as well as any minor variations to this 2020 Master Plan or any major development plan.

Ongoing consultation with the community on all relevant Airport related issues (not simply aircraft noise) is conducted through the Canberra Community Aviation Consultation Group, with meetings held three times a year. All peak community groups are represented, as well as a residents' representative from neighbouring Pialligo. Community organisations invited to meetings include:

- Belconnen Community Council;
- Fernleigh Park Community Association;
- Gungahlin Community Council;
- Inner South Canberra Community Council;
- Jerrabomberra Residents Association;
- North Canberra Community Council;
- Pialligo Residents Association;
- Ridgeway Community Group;

- Tuggeranong Community Council;
- Weston Creek Community Council; and
- Woden Valley Community Council.

3.2 DRAFT MASTER PLAN CONSULTATION

3.2.1 2020 DRAFT MASTER PLAN PRE-CONSULTATION

Specific pre-consultation meetings were undertaken with the Australian, ACT and NSW Governments, the Queanbeyan-Palerang Regional Council and CRJO as well as key community and industry groups in the preparation of the Preliminary Draft 2020 Master Plan. The consultations covered the broad regional focus of Canberra Airport (a population of about 940,000).

Canberra Airport engaged with stakeholder groups and individuals between November 2018 and July 2019 within Canberra and the broader region, including consultations at Wagga Wagga. Stakeholders included:

- Airport tenants and the airlines;
- Australian Government aviation and environment agencies;
- Peak community groups;
- ACT and NSW Governments, including environmental agencies;
- Regional councils, including CRJO;
- Business groups;
- Local, Australian Government, NSW and ACT Members of Parliament;
- Queanbeyan developers of greenfield land; and
- Greening Australia, National Botanical Gardens and Friends of the Grasslands (ACT).

Major stakeholders and public meetings will be undertaken on the Preliminary Draft 2020 Master Plan during August to October 2019. Consultations will include, but will not be limited to:

- Community Aviation Consultation Group;
- Canberra Airport Integration Committee;

- Planning Co-ordination Forum;
- Australian Government, NSW and ACT politicians;
- Peak business and community organisations;
- NSW Local Government; and
- The public.

3.3 CIRCULATION OF THE APPROVED MASTER PLAN

The preferred method of circulation for the approved Canberra Airport 2020 Master Plan will be via electronic copies provided to Airport staff, tenants, relevant external stakeholders, including Planning Co-ordination Forum members, the Community Aviation Consultation Group and Government agencies.

Canberra Airport's website will provide for download in full and in part.

CHAPTER 4
**INTEGRATION WITH LOCAL
PLANNING AND ECONOMIC
DEVELOPMENT STRATEGIES**





“Canberra Airport has commenced international services and will play an increasing role in serving international visitors to the Canberra region.”

NSW GOVERNMENT'S SOUTH EAST AND TABLELANDS REGIONAL PLAN 2036



4. Integration with local planning and economic development strategies

This Chapter of the Draft Master Plan provides an overview of Canberra Airport's history and ongoing strategies to integrate with the land use planning and economic development of the City Region.

This 2020 Master Plan replaces the 2014 Master Plan.

Canberra Airport services over 940,000 residents of Canberra and the Southern NSW Region. Over 520,000 (55%) of these residents are located in NSW.

The Canberra/Queanbeyan population is expected to reach and exceed 500,000 in 2019/20.

During the 20-year span (to 2040) of this Draft Master Plan the Canberra Region population is expected to increase to over 1.2 million people (about a 28 percent increase).

4.1 CITY REGION PLANNING

Much has happened practically and strategically in the planning realm of Canberra and the Region since the approval in January 2015 of the 2014 Master Plan. The significant changes demonstrating the further integration of Canberra Airport into the City Region's key land use planning documents and economic development considerations are summarised below in this Chapter.

4.1.1 NATIONAL CAPITAL AUTHORITY (NCA) AND NATIONAL CAPITAL PLAN (NCP)

The NCA updated the NCP following review and consultation via Amendment 86. This was the first wholesale review since the inception of the National Capital Plan in 1990. The Minister approved Amendment 86 on 5 May 2016.

Canberra Airport has actively engaged with the NCA for over 21 years to integrate the Airport's Master Plan into the Australian Government's vision for the Capital.

The Airport's Master Plan/s continue to adopt the land use definitions of the NCP following ongoing consultation with the NCA, initially in 1998.

The April 2019 revised NCP includes the following relevant to Canberra Airport's integration within the planning framework:

- The Airport forms part of The Central National Area, Part 4.1.

- The Airport is listed with major employment generating land use locations, Part 3.5.3.a.
- The Airport is a Defined Activity Centre, NCP Fig 8. (Figure 4.1).
- The Airport is “subject to a Master Plan under other legislation.” This provision sets up the Master Plan as the Airport’s Precinct Code.
- Has some regard to the National Airports Safeguarding Framework.

4.1.2 THE NSW GOVERNMENT

- Finalised on 12 July 2017 the South East and Tablelands Regional Plan 2036 including statements, “Canberra Airport is the catalyst for diverse growth opportunities for farmers and agricultural producers, who supply markets across Asia” and describes Canberra Airport as one of NSW Global Gateways. Direction 1: “Leverage access to the global gateway of Canberra Airport. As there is no aircraft noise curfew, its international services are unconstrained. Canberra Airport’s ongoing ability to operate and expand its services cannot be jeopardised by residential development.”
- Finalised in 2018 the Future Transport Strategy 2056 which acknowledges Canberra, Newcastle and the Gold Coast as “global gateway cities – the key entry points to NSW” and notes these “global gateways serve extended catchments, supporting the surrounding regional cities, centres and villages.”
- Proclaimed in 2018 a number of local government regions as Joint Organisations, including the Canberra Region Joint Organisation (CRJO).
- NSW Transport, Freight and Ports Plan 2018-2023. This plan notes the lack of curfew restrictions at Canberra Airport and the increasing use of Canberra Airport by NSW businesses.
- NSW Premier and Cabinet’s Regional Economic Development Strategies (REDS). The *Southern Tablelands REDS 2018-2022* specifically discusses the relationship between the councils in this area, commuting and access to Canberra Airport.

4.1.3 THE ACT GOVERNMENT

- Refreshed with Canberra Airport on 8 April 2015 the 2010 Memorandum of Understanding (MOU). Both the 2010 and 2015 MOU's followed approval of the 2009 and 2014 Master Plans. It is likely that once this 2020 Master Plan is approved, a refreshed 2020 MOU will be agreed.
- Rezoned Broadacre land adjacent Majura Park to facilitate the IKEA development (opened 16 November 2015) leveraging off the Airport's investment at Majura Park.
- Taken leadership to position the Canberra Region as an international city region by developing and implementing an International Engagement Strategy in 2016 following the appointment of a Commissioner for International Engagement.
- Further developed Brand CBR, in response to the International Engagement Strategy as a badge for inbound tourism and outbound trade. The Airport is the key in the evolving international City Region.
- Finalised the ACT Planning Strategy 2018, a refresh of the previous 2012 Strategy which notes "Canberra Airport is an important infrastructure asset for the Canberra Region, as well as a hub for business and economic growth."
- Set out in the 2018 ACT Planning Strategy are engagement mechanisms with the region including the Canberra Region Joint Organisation (CRJO) and the ACT-NSW Memorandum of Understanding for Regional Collaboration (2016) and ongoing Annual Work Plan.
- Collaborated with Canberra Airport in actively engaging with Airlines, State, Federal and foreign governments to attract international Airline carriers to Canberra while remaining focused on growing domestic aviation with more city pairs and attracting more Low Cost Carrier airlines.

4.1.4 CANBERRA AIRPORT'S EVOLVING ROLE IN THE REGION

Canberra Airport works in close consultation with the ACT and NSW Governments and CRJO to ensure that the Airport plays a positive role in the overall growth, social and economic prosperity of Canberra and the broader communities of Southern NSW.

The 2018 ACT Planning Strategy notes "Canberra has become a globally connected city following the introduction of daily international flights from Canberra Airport. This direct global reach has the potential to significantly stimulate the economies of the

Canberra region, providing opportunities for current and prospective exporters in the city and region, and enhancing tourism opportunities. The airport, rail infrastructure from Canberra to Sydney and the national highways into and out of the ACT provide a good basis for the distribution of freight and are important considerations in shaping the city for a successful and globally connected economy.”

ACT Chief Minister Andrew Barr, in his submission to the Senate Rural and Regional Affairs and Transport References Committee Inquiry into the operation, regulation and funding of air route service delivery to rural, regional and remote communities (February 2018) noted the following:

“Improving and expanding on the air route services available in the ACT and surrounding regional areas will contribute positive benefits for the tourism industry, improve economic growth and employment, and facilitate the development of the ACT as a regional freight hub.

Additional air services to Canberra Airport, either stand-alone freight flights or freight carried on passenger services, has the potential to unlock major export markets for regional agricultural producers.”

4.1.5 ACT AND NSW COLLABORATION IN THE CONTEXT OF CANBERRA AIRPORT

In a joint media release on 12 November 2018, Andrew Barr, ACT Chief Minister, and John Barilaro, NSW Deputy Premier, stated:

“The ACT and NSW Governments have committed to improving freight and export opportunities at Canberra Airport as part of its regional agreement.”

ACT Chief Minister, Andrew Barr, and NSW Deputy Premier and Minister for Regional NSW, John Barilaro, marked it as a key priority in the 2018-19 ACT-NSW Work Plan.

Mr Barr and Mr Barilaro have both been strong supporters of the Airport’s potential as a regional airfreight hub, particularly for time-sensitive fresh meats, fruits and dairy products.

Mr Barr said progress under the MoU was also strengthening the ACT Government’s vision for a borderless region.

“The local visitor economy particularly benefits from a borderless region,” Mr Barr said.

“Tourism is one of the key drivers of our economy and given the ACT’s popularity with local and overseas visitors, it is only sensible to pursue a shared vision with NSW to further open up the opportunities for our regional experience seekers.”

“The joint collaboration between Destination Southern NSW and VisitCanberra under this MOU has enabled the development of regional tourism promotion, industry development and co-investment activities.”

“Under our Future Transport 2056 Strategy, Canberra is identified as a Global Gateway City, hosting an airport with both domestic and international freight capabilities and potential access for regional NSW businesses,” Mr Barilaro said.

“The collaboration between our state governments, as well as alignment with our local government strategies, is good news for our southern NSW and ACT producers seeking easy and fast access to markets, particularly in Asia, with additional flow-on benefits to cargo flights and passenger services,” he said.

4.2 THE CANBERRA AIRPORT AEROTROPOLIS AND THE FUTURE EASTERN BROADACRE

An Aerotropolis is a multi-faceted transport, business and retail aviation gateway.

Canberra Airport’s ongoing investment and development over the past 20 years in response to previous Master Plans provides a solid platform upon which the ACT Government will over time develop their adjacent Majura Estate proposal (Eastern Broadacre), consistent with the National Capital Plan (NCP) and stage one of the Estate, IKEA.

The NCP opens-up vast opportunities following rezoning from Broadacre to “Potential Future Urban areas” for the ACT’s Eastern Broadacre land to be developed as future employment and retail land within the Majura Valley subject to detailed investigations. This land is adjacent to, and nearby, IKEA and the Airport’s Majura Park.

Canberra Airport has engaged with the ACT Government and NCA for over 15 years in regard to the future Eastern Broadacre being a significant employment corridor resource for the ACT. The area was first informally identified in the ACT Government’s Canberra Spatial Plan 2004.

The Airport supported the early rezoning of ACT land to facilitate the ACT’s sale to IKEA for their development opposite the Airport’s Majura Park. Clearly the ACT leveraged the sale of the IKEA site off the Airport’s office and retail planning, investment, development and management of Majura Park. IKEA continues this leveraging by adopting its marketing address as Majura Park.

The 2018 ACT Planning Strategy notes in regard to this future employment corridor proposal:

“The east of the city, including parts of the Majura Valley and Jerrabomberra Valley and around Fyshwick and the airport, has been identified for the growth of employment-generating land uses such as industrial and related uses. This area, known as Eastern Broadacre, is unsuitable for housing because of aircraft noise and the presence of critically endangered flora and fauna. However, it is ideally suited to less sensitive uses such as light industrial and warehousing distribution stations and freight support facilities given its proximity to national freight routes, the airport and existing industrial areas at Fyshwick, Symonston and Hume.”

The 2018 Strategy also notes in regard to employment locations generally within Canberra:

“Several employment areas have emerged in locations outside the city and town centres, the traditional primary locations for employment; for example, Lonsdale Street, Braddon, the Equinox Business Park in Deakin and Canberra Airport.

Undertaking analysis to understand the structural elements and factors affecting employment location informs appropriate planning and infrastructure decisions, particularly around the integration of land use and transport. Key areas of focus for this analysis are the role of the airport as an employment node, the continued relevance of existing and proposed corridors (e.g. the East–West and North–South corridors under the National Capital Plan), out-of-centre employment locations, and existing, emerging and potential clusters.”

Canberra Airport will continue to engage in this ongoing work with the ACT Government in the context of the NCP. The NCP reinforces the ongoing development of the Airport, consistent with the Airport’s Master Plan, as a Defined Activity Centre and as an employment location.

The Airport Aerotropolis is already a major employment and competitive retail location in the City Region and beyond. The ACT Government has already identified two additional sites of similar size to IKEA for development. These two sites are located west of IKEA and east of the Majura Parkway. The future investment in these two sites and more sites yet to be identified of the ACT’s Majura Estate (Eastern Broadacre) over the next 10 years will connect with Defence and AFP Majura education and training facilities with the Aerotropolis. These future sites will in practical terms spread the Aerotropolis footprint forming a larger employment and retail destination. Refer Figure 4.2

4.3 CURFEW-FREE CANBERRA AIRPORT

Canberra Airport is the only curfew-free global gateway airport servicing NSW. Sydney, Gold Coast and Newcastle Airports all have curfew operation constraints overnight between 11pm and 6am.

The 2018 ACT Planning Strategy notes: "Unlike many Australian airports, Canberra Airport is curfew-free, providing significant capacity to facilitate growth in both international and domestic freight and passenger movements."

The NSW South East and Tablelands Regional Plan 2036 notes at Action 1.1 "Protect Canberra Airport's current and future operations by maintaining restrictions on the location of nearby residential development."

Canberra Airport welcomes the ACT and NSW Government's long-term future support for ongoing 24/7 operations as an economic competitive advantage for the ACT and the broader southern NSW region.

4.4 NATIONAL AIRPORTS SAFEGUARDING FRAMEWORK (NASF) – SAFEGUARDING AIRPORTS AND COMMUNITIES AROUND THEM

Canberra Airport plays a pivotal role in the current and future success of Canberra and the region as a major domestic and global trade gateway providing social and economic dividends to the communities of the city region.

Canberra Airport recognises the importance of managing on-airport development in unison with metropolitan and regional planning strategies, and seeking where possible, to have Canberra Airport recognised in these strategies as a critical economic and business gateway to be protected from inappropriate land uses that are in conflict with the aircraft flight paths in the vicinity of the Airport.

Canberra Airport, while located totally within the ACT, has low flying arriving and departing aircraft flight paths over part of both the ACT and NSW within 20km to the north, east, west and south of the Airport. The NSW Local Government areas of Queanbeyan-Palerang Regional and Yass Valley Councils are in part traversed by these low flying aircraft flight paths.

A National Airports Safeguarding Framework (NASF) has been developed since our 2009 Master Plan, by the Australian Government, in consultation with the State and Territory Governments to safeguard Australian airports and the communities around them.

The NASF is a national land use planning framework that aims to:

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

The NASF was developed in response to the Aviation Policy White Paper (2009). A National Airports Safeguarding Advisory Group was formed to manage, consult and develop the NASF. The National Airports Safeguarding Advisory Group comprises Australian, State and Territory Government planning and transport officials, the Australian Government Department of Defence, the Civil Aviation Safety Authority, Airservices Australia and the Australian Local Government Association.

While the NASF was initially formally endorsed by the Standing Committee on Transport and Infrastructure on 18 May 2012. Amendments and new guidelines have been added between 2012 and 2018. Little has yet been achieved however on a National or Canberra Airport level in regard to the implementation of improved land use planning law and policies crucial to the success of the total Safeguarding Framework. Canberra Airport notes the ACT's intention of future works in response to the 2018 Planning Strategy.

Canberra Airport with ongoing consultation has agreed arrangements with NCA, ACT, the Queanbeyan-Palerang Regional and Yass Valley Councils and NSW Planning in having developments referred to the Airport that may impact the declared airspace and the safety of aircraft movements.

It would be useful to have these loose arrangements incorporated into the NCP, the Territory Plan (TP) and each LEP for Queanbeyan-Palerang Regional and Yass Valley Councils. Canberra Airport will continue to work with all planning authorities within the ACT and NSW to achieve this in the context of the Safeguarding Framework.

Canberra Airport has adopted and considers all relevant Guidelines when assessing on-airport development, including Airport operations.

4.4.1 NASF PRINCIPLES

The following seven (7) principles were identified by the Standing Committee on Transport and Infrastructure as fundamental to an effective Safeguarding Framework:

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

Canberra Airport notes that these principles are consistent with Criteria 3, 4 and 9 of the nine criteria adopted by the Council of Australian Governments in December 2009 for the "Future Strategic Planning of Capital Cities" in Australia.

The Principles recognise that responsibility for land use planning rests primarily with State, Territory and Local governments, however that a national approach can assist in improving planning outcomes near airports and under flight paths. Responsibility for the regulation of flight safety, however, rests with the Australian Government (refer Chapter 11 of this Master Plan).

4.4.2 NASF GUIDELINES

In all nine (9) Guidelines have been developed and endorsed by the Standing Committee on Transport and Infrastructure as follows:

- A: Measures for Managing Impacts of Aircraft Noise
- B: Managing the Risk of Building Generated Windshear and Turbulence at Airports, updated through processes including public consultation 2015-2018
- C: Managing the Risk of Wildlife Strikes in the Vicinity of Airports
- D: Managing the Risk of Wind Turbine Farms as Physical Obstacles to Air Navigation
- E: Managing the Risk of Distractions to Pilots from Lighting in the Vicinity of Airports
- F: Managing the Risk of Intrusions into the Protected Airspace of Airports
- G: Protecting Aviation Facilities – Communication, Navigation and Surveillance (CNS)
- H: Protecting Strategically Important Helicopter Landing Sites
- I: Managing the Risk in Public Safety Areas at the Ends of Runways

Implementation of the NASF Guidelines

The NCP sets out the following in context of the Guidelines:

At 3.1.5:

- a, The Australian Noise Exposure Forecast (ANEF) system; and
- b, Guideline F: Protected airspace provisions in relation to Canberra Airport.

At 4.9.4

- Guideline F: Similar planning constraints are noted with aids provided at Figure 101 in regard to ADFA and RMC.

At 4.11.5

- Guideline C: The NCP sets out in regard to the Jerrabomberra Wetlands “Overall, emphasis will be placed on habitat diversity rather than significant increases in general waterbird populations in order to minimise the risk of birdstrike to aircraft using Canberra Airport.”

As a result, the NCA and ACT planners have regard to these provisions.

The 2018 ACT Planning Strategy Action 2.6.3 sets out the ACT's intention to:

"Incorporate appropriate provisions for the National Airports Safeguarding Framework in the review of the Territory Plan" the work to review the Territory Plan has commenced in response to the final 2018 ACT Planning Strategy. Further amendments to the NCP may also be required.

Canberra Airport welcomes this Action 2.6.3 proposal and will work with ACT and NCA on the outcome form.

Canberra Airport also looks forward to working with NSW Planning, Local Councils and the CRJO on similar actions and outcomes.

In regard to other advances, Guideline A is in a process towards implementation in part. Guidelines C, B and F are implemented as explained below. Guidelines D, E, G, H and I have not yet commenced implementation.

Guideline A: Measures for Managing Impacts of Aircraft Noise

Canberra Airport continues to work co-operatively with the ACT and Australian Governments, NSW Government and the relevant local government areas to achieve substantive compliance with this Guideline's objectives to protect residential suburbs from aircraft noise.

1. Following community outcry in the early 1990's the Australian Government enacted the Canberra and Queanbeyan Noise Abatement Areas in late 1995. Details of these and subsequent noise abatement procedures are set out fully in Chapter 12 of this Master Plan. The outcome is that over 99.7 percent of ACT and Queanbeyan residents experience nominal levels, if any aircraft noise, as a result of what are regarded as world best practice noise abatement procedures. This was a Commonwealth Government initiative.
2. The one area that has been unable to achieve similar protection, and would require implementation of Guideline A, is a strip of land within both NSW and ACT located south and north of the Airport, aligned with the Airport's main Runway 17/35 centre line. This strip of land is generally bounded by the Queanbeyan and Canberra Noise Abatement Areas. Low flying jet aircraft arrive or depart Canberra Airport over this strip of land.

3. Although not totally aligned with Guideline A, the NSW Government has decided to implement a planning policy limiting further rezoning from rural to residential to land only located outside the Canberra Airport 2008 20 ANEF contour. The policy will result in:
 - i. No future rezoning of land for residential purposes within Canberra Airport's ANEF 20. This is consistent with, and a key element of, the NSW Planning Minister's decision to rezone the western part of South Tralee (Queanbeyan Local Government area) in November 2012. This was confirmed in the South East and Tablelands Regional Plan 2036 at Action 1.1 "Protect Canberra Airport's current and future operations by maintaining restrictions on the location of nearby residential development." To date no town planning law has been enacted in NSW or the ACT in locking in this protection.
 - ii. Existing residential development within ANEF 20 (some 800 houses) are to be required to provide noise attenuation consistent with table 3.3, AS 2021-2015. No town planning law has been enacted in NSW or the ACT in locking in this protection.
 - iii. All new rezoning (rural to residential) will required to provide noise attenuation consistent with table 3.3, AS 2021-2015. The rezoning LEP of part of South Tralee to residential included this provision.

Separately Canberra Airport has negotiated with the developer of South Tralee, the Village Building Company, that the contracts for sale will include the following clause:

"This land is subjected to aircraft noise at any time by the 24 hour/7 day passenger, freight and defence aircraft flight operations arriving and departing Canberra Airport.

The frequency of aircraft movements and the size of the aircraft are forecast to increase indefinitely into the future.

It is the responsibility of landowners to noise attenuate their property to ensure their amenity as Canberra Airport will remain curfew free".

4. As yet the National Capital Plan and the Territory Plan are both silent in regard to protecting the community from aircraft noise. The Canberra Spatial Plan 2004 did have a protection zone. The 2018 Planning Strategy notes:

"The airport's capacity to operate effectively is reliant on the effective management of the land surrounding it. Buildings, structures and landscaping that intrude into flight paths can limit or prevent use of an airport. Residential development under flight paths can lead to complaints about noise and,

eventually, pressure for operational restrictions or curfews. Further within Direction 2.5; "This area, known as Eastern Broadacre, is unsuitable for housing because of aircraft noise and the presence of critically endangered flora and fauna."

The Eastern Broadacre Discussion Paper, July 2010, noted the following at "5.4 Noise: Canberra Airport is located in the centre of the Eastern Broadacre area and the north-south alignment of the main runway means that aircraft noise is an issue for much of the area. Aircraft noise is one of the key reasons why the area was identified for employment and related uses instead of more sensitive land use such as residential."

Canberra Airport will work with the NCA and ACT in regard to mechanisms to provide provisions in both the NCP and TP which are likely to follow the Eastern Broadacre planning outcomes.

Guideline B: Managing the Risk of Building Generated Windshear and Turbulence at Airports

Canberra Airport has implemented this amended updated Guideline in collaboration with the Civil Aviation Safety Authority (CASA) and Airservices Australia (ASA). Proposed new development is wind tunnel tested. Reports are shared with CASA, ASA, the Airlines, the Pilots unions and the Department of Infrastructure, Transport, Cities and Regional Development.

Canberra Airport has been advised by CASA correspondence to the Department of Infrastructure, Transport, Cities and Regional Development dated 26 April 2019 that "CASA's position is that NASF Guideline B provides clear guidance on options for Leased Federal Airport (LFA) operators to construct non-aviation developments in a manner that does not create safety concerns."

Guideline F: Managing the Risk of Intrusions into the Protected Airspace of Airports

Canberra Airport acknowledges that Guideline F has been implemented broadly in the region:

1. This function has been managed by the Australian Government Department of Infrastructure, Transport, Cities and Regional Development and the Airport for many years within the regulations. Refer Chapter 11 Airspace Protection.
2. The NSW Government has an ongoing planning policy by Section 9.1 Directions to councils. Direction 3.5(4) requires councils to have regard to Obstacle Limitation Surface for Licensed Aerodromes.

3. The National Capital Plan at 3.1.5 and 4.9.4 references protected airspace provisions in relation to Canberra Airport as set out earlier.
4. ACT Planning is required to be consistent with the National Capital Plan.
5. Canberra Airport also has regard to the requirements when considering on-airport development.

Guideline C: Managing the Risk of Wildlife Strikes in the Vicinity of Airports

Canberra Airport acknowledges that Guideline C has been implemented by both the NCA and the ACT Government in regard to the Jerrabomberra Wetlands.

Canberra Airport has internal and external Bird and Wildlife Committees that monitor both on and off-airport development and incidents.

Guideline E: Managing the Risks of Distractions to Pilots from Lighting in the Vicinity of Airports

Canberra Airport has ongoing consultations with CASA and the NCA. The Airport consulted and provided submissions to the NCA's development of its Outdoor Lighting Policy in August 2012 (which references CASA's requirements) and subsequently NCA's Development Control Plans (DCP), including Block 622 Majura 12/03 (May 2012) and Pialligo DCP 14/03 (October 2014).

Although primarily impacted, the airports and the airlines, including Canberra Airport have little authority or enforcement potential to ensure implementation of these off-airport Guidelines C, D, E, G, H and I.

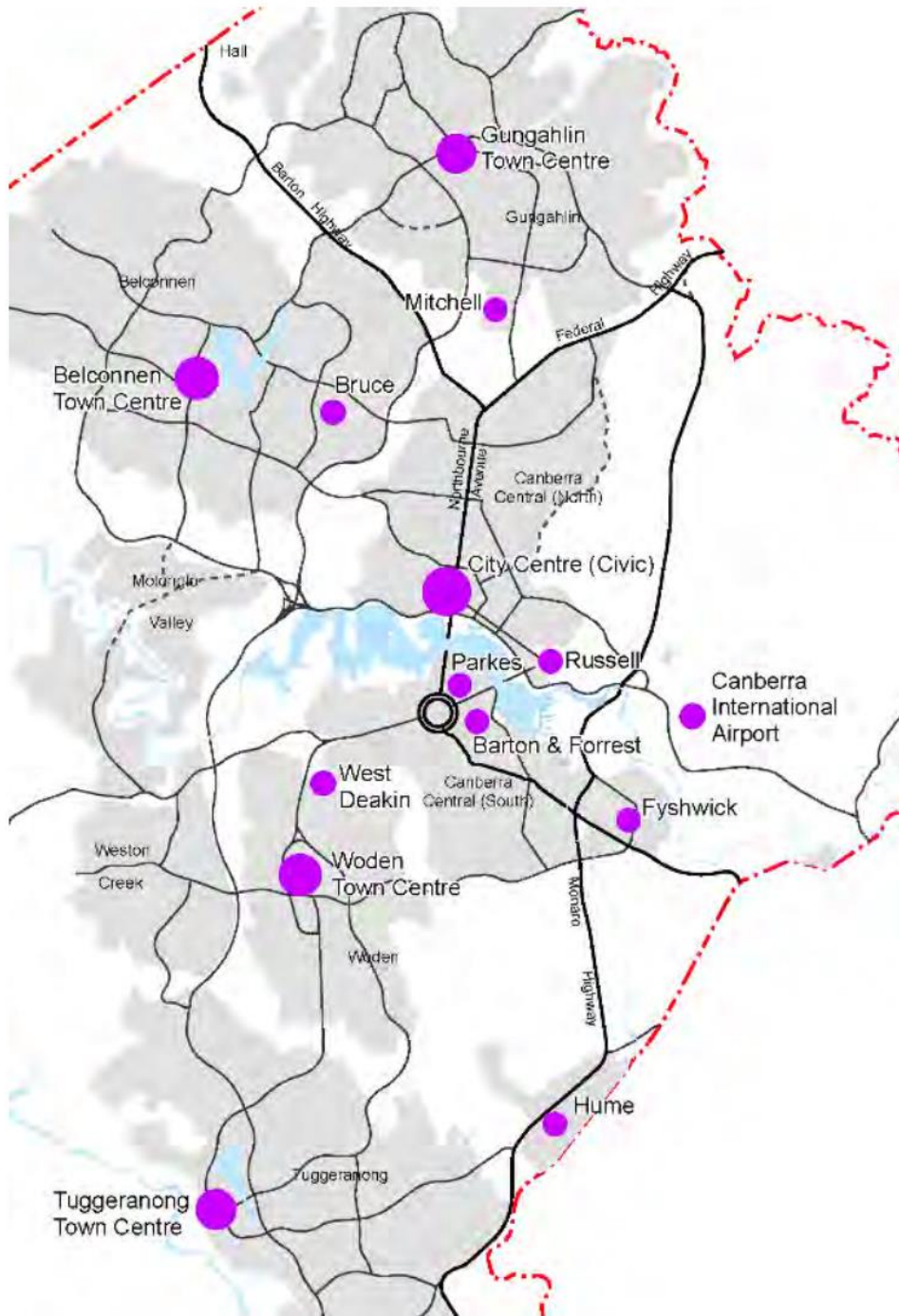
Canberra Airport has aviation safety concerns arising from:

1. A potential aircraft safety risk from the Majura Winery solar farm as existing and expansions proposed, due to the location under the arrival flight path to Runway 17, nearby the Airport in the Majura Valley. Canberra Airport will accept no liability for any adverse outcome. Further Canberra Airport will seek immediate remedy for any constraint imposed on aviation operations by this proposal.
2. The proposal by the ACT Government to further develop bird attraction of the Jerrabomberra Wetlands nearby to the south of the Airport. The NCP at 4.11.5 still permits further wetland development. Canberra Airport will continue to work co-operatively with the ACT Government and the National Capital Authority (the approval authority) to mitigate bird strike risk.

These proposals and others raise an urgent need to achieve rigour in the ACT and region planning process regarding safeguarding aircraft movements into and out of Canberra Airport in compliance with the Safeguarding Framework. Where to locate solar farms, or other incompatible land uses posing a potential hazard to aircraft safety, is a high priority in the interest of public safety. The outcome of such a process starts with the implementation of all of the Safeguarding Framework and this can bring certainty to the location of development proposals.

Canberra Airport, in co-operation with the ACT Government, will reactivate the Integration Committee with the ACT Government for the Master Plan process and is hopeful of a breakthrough to achieve implementation of the balance of the Safeguarding Framework.

Figure 4.1 – National Capital Plan – Defined Activity Centres (Fig 8)



4.5 INTEGRATION

Canberra Airport maintains a regular dialogue with the Queanbeyan-Palerang Regional and Yass Valley Councils, the NSW and ACT Governments and the CRJO through direct consultation, the Planning Co-ordination Forum and the Community Aviation Consultation Group.

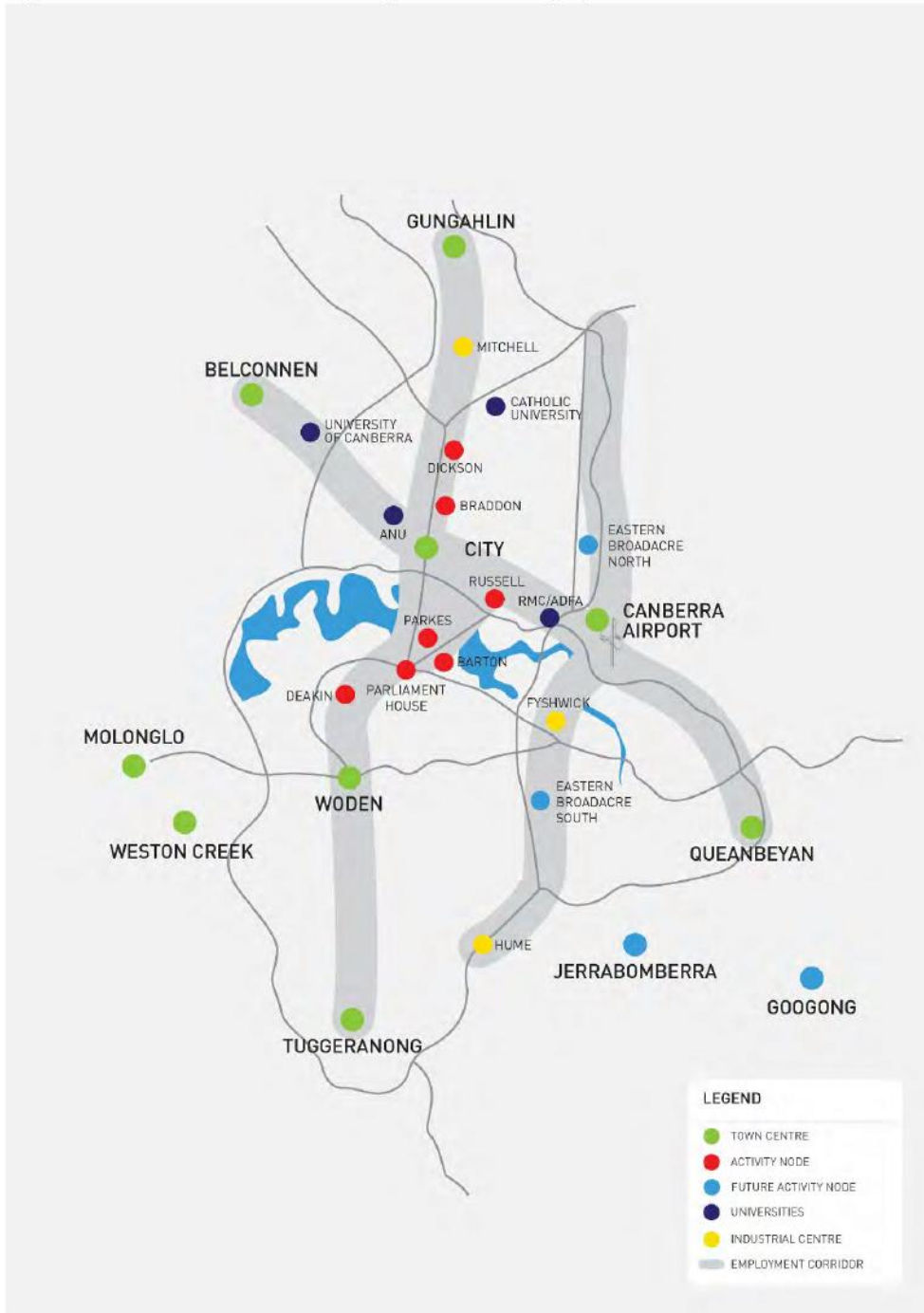
Since 1998, Canberra Airport has continued to engage in and contribute to all ACT and regional studies and has pre-consulted the relevant agencies and organisations on the proposals of this Draft Master Plan so as to ensure integration of the Airport within the regional context.

Although a construct of Canberra Airport, Figure 4.2 is a composite plan of existing and future employment locations mapped as corridors associated with major avenues and approach routes forming an 'H Plan'.

Canberra Airport is located at the intersection of the North-South future Eastern Broadacre employment land corridor and the East-West Belconnen to Queanbeyan corridor.

As set out above, land use planning in our region and more recently the international engagement strategy has better defined the Airport's active role in the City Region where now the Airport is integrated into all Commonwealth, ACT and NSW land use documentation and economic narrative.

Figure 4.2 Canberra 'H Plan' existing and future employment locations



Note: Canberra Airport at the intersection of two major employment corridors





"The state-of-the-art Canberra Airport terminal is certainly the best of its kind in the region, if not the world. Not only is it functional and efficient, it's a place of interest and calm, with world-class sculptures, landscaped gardens, stunning water features..."

VISITCANBERRA



5 Passenger terminal capacity and aviation growth

In its very first Master Plan in 1998 Canberra Airport recognised the need for a new passenger terminal and recorded its intention to develop one that reflected the Airport's role as the gateway to Australia's National Capital.

The terminal precinct at Canberra Airport is located to the south-west of the intersection of the Airport's two runways and bounded by Pialligo Avenue on its western boundary, Brindabella Business Park to the south, and the Airport's Pialligo precinct to the west. Presumably, for one or more of these reasons, the site was originally chosen for the passenger terminal at Canberra Airport.

It is for all the same reasons the site was retained by Canberra Airport for the new terminal precinct, notwithstanding the complexities it presented in building an entirely new terminal on top of the existing facilities.

Terminal precinct 2019



The terminal precinct has locational attributes that cannot be replicated elsewhere on the Airport site. It is the nearest point on the Airport to the Canberra Central Business District [and Parliament House]; it is well serviced by arterial roads linking the Airport to Canberra, Queanbeyan, and the broader region. It is similarly well serviced by high capacity utility infrastructure and is conveniently located from an airfield planning perspective. The location also affords a good orientation of the terminal within the precinct, thereby maximising solar gain, passenger views of the airfield, and the outlook to the mountain vista surrounding Canberra.

The one site has seen the evolution of the passenger terminal, from the earliest days of the Airport and the legacy infrastructure inherited upon privatisation, to the interim terminal which resulted from necessary but restricted investments in the years post-privatisation, to the wholly new terminal precinct and all it provides by way of capability well into the future.

Canberra Airport, its partner airlines and the passengers they share, now enjoy a terminal planned for the future, operationally efficient today, and designed to deliver the best possible passenger experience throughout the life of the facility.

The terminal has significant capability in terms of meeting current and future growth following investment of over \$500 million.

Canberra Airport elected to build into the new terminal additional capacity to service over 8 million passengers to meet expected demand in the short to medium term, including for the growth expected within the 20-year planning horizon of this 2020 Master Plan (Table 5.6). This additional capacity is beyond what is required by any contractual commitments to the airlines and, accordingly, the cost of this additional capacity is withheld by Canberra Airport until such time as it is required by airlines and/or passengers and/or other users of the terminal.

As also indicated, the integrity of the planning and design of the terminal provides for further additions of capacity without major rework of the existing building. Importantly, the process for delivering these additions is already agreed as part of long-term commercial contracts with airlines. This ensures there is opportunity for significant increases in terminal capacity [beyond the current capability] to meet expected, and potentially unforeseen, growth for the duration of this 2020 Master Plan.

The following Table 5.1 depicts the capacity built into the new terminal [now] as well as identifying the possible future capacity based on current design information and modest additional capital expenditure [future].

Table 5.1 - Terminal capacity

| Functional area | Measure | Now* | Future |
|--|---------------------------------------|-------------|-------------|
| Check-in | Number of check-in facilities | 20 | 44 |
| Baggage Handling System - inbound - outbound | Static bag capacity Bags per hour | 210 1200 | 480 1800 |
| Boarding Gates - aerobridge total | Number of gates | 10 12 | 18 20 |
| Aircraft parking bays | Number of concurrent Code C bays** | 14 | 20 |
| Security screening | Number of lanes | 5 | 10 |
| Departure lounge area | Square metres | 2934 | 5500 |
| Club lounge area | Square metres | 6825 | 10400 |
| Car spaces | Number of spaces | 3600 | 5100 |

* This figure includes latent capacity that has been built beyond current contractual commitments with airlines.

**The terminal has been built with capability for three international gates. Two of these gates can accommodate Code E Aircraft

The terminal is designed to accommodate more than eight million passengers per annum in its current footprint and with relatively modest additions will cater for over 12 million passengers per annum.

5.1 MEETING DEMAND

The key measures used to assess the demand placed on terminal infrastructure over the life of this 2020 Master Plan are:

- A busy hour passenger forecast; and
- A regular public transport [RPT] apron stand demand analysis.

Busy hour passenger forecast

Canberra Airport busy hours are 8-10am and 4-6pm Monday to Friday. In addition, the frequent Sydney and Melbourne shuttles and Tigerair off peak schedule mean that passengers arrive and depart the Airport consistently through the day from Monday to Friday and Sunday. The current pattern of domestic passenger movements during busy hours is expected to continue, subject to future operations of additional low cost carriers which may utilise off peak hours of operations, similar to the off peak operations now by Tigerair. In terms of international movements, the terminal and aprons have been designed to service all operations including those arriving and departing during busy hours as evidenced by the 2018/19 arrival of QR in the am peak.

Table 5.2 - Domestic busy hour passenger forecast

| Year | Arrivals | Departures |
|-----------|----------|------------|
| 2018/2019 | 1300 | 1268 |
| 2024/2025 | 1597 | 1558 |
| 2027/2028 | 1962 | 1914 |
| 2039/2040 | 2410 | 2351 |

The key functional areas of the terminal building are expected to have sufficient capacity, with minor additions to the current and any future capacity as required, to meet the domestic busy hour forecast in each year of this 2020 Master Plan to 2040.

5.2 RPT APRON STAND DEMAND ANALYSIS

Peak demand for aircraft parking on the RPT apron at Canberra Airport typically occurs at night as aircraft arrive to position for early morning departure. The 2019 highest demand is 11 aircraft accommodated on the apron by 11pm, including the late night 11pm-midnight departure of Singapore Airlines.

The current peak demand for aircraft parking can be readily accommodated within the current capacity of the RPT apron, which is 14 Code C aircraft parked concurrently. The terminal has been built with capability for three international gates. Two of these gates can accommodate Code E aircraft, the third a Code C aircraft.

It is noted there is additional apron parking available during peak periods on both the general aviation apron and the Fairbairn apron which, collectively, can accommodate aircraft of any size. Given the current surplus in apron capacity, and the planned additions to apron capacity in future, Canberra Airport is well positioned to meet increased demand in aircraft parking including scheduled international operations over the life of this 2020 Master Plan to 2040.

5.3 OVERVIEW

Globally, the aviation industry has experienced enormous change since the 1990's including deregulation of the airline sector, operational and structural changes in the post-September 11, 2001 environment, oil price shocks, the collapse of airlines as a result of the global financial crisis [GFC], and the rise of new global players in the Middle East, like Qatar Airways, the technology advancement of twin engine long haul hub busting aircraft, open sky policies of some governments, all combining at the expense of some international carriers and traditional markets.

Likewise, Australia has seen enormous change in its aviation sector - the demise of Ansett, the emergence of Virgin Australia, Jetstar, and Tiger Airways, the subsequent repositioning of these three new entrant airlines and, particularly in the Canberra context, the collapse of regional airlines and the startup of others, including FlyPelican, connecting Canberra to both Newcastle and Dubbo NSW with a 19 seat turbo prop airliner.

5.4 AIRLINE AND AIRCRAFT MOVEMENT GROWTH

Canberra Airport entered the international age in September 2016 when Singapore Airlines (SQ) commenced Singapore-Canberra-Wellington (NZ)-Canberra-Singapore services four (4 days) per week with a B777-200ER 266 seat two class airliner.

Qatar Airway (QR) commenced in February 2018 a Doha-Sydney-Canberra-Sydney-Doha daily service with a B777-300ER 358 seat two class airliner

Singapore Airlines stopped the Canberra-Wellington return service on 30 April 2018 and commenced on 1 May 2018 a daily service Singapore-Sydney-Canberra-Singapore non-stop with a B777-300ER 264 seat four class airliner.

Since May 2018, Canberra Airport has 14 international services per week. These flights are in the early stages of introducing Canberra as a tourism destination to the world and are having a ripple effect on people across Asia and Europe. This introduction is only just starting to gain traction.

Based on Tourism Research Australia data VisitCanberra reported in January 2019 the following;

“The ACT is attracting record visitor numbers, international and domestic with the latest combined total of 3,041,000 overnight visitors:

- 2,792,000 Australian
- 252,000 international (8.2% of total and 3% up on 2017)
- 1,006,000 visiting friends and relatives, including parents visiting foreign students
- 774,000 on holiday
- 863,000 on business.”

VisitCanberra also stated “the 14 arrivals per week by SQ and QR will continue bringing international visitors into the city, which has had a significant impact, as ease of accessibility to a destination internationally is key to visitation growth for any city or region. Tertiary institutions also played an important role in driving international visitation, with parents and friends of students regularly visiting the capital.”

Canberra is a university city with over 14,000 international students and a total student body of 64,000 students. The ACT Government reports one in six people in Canberra work or study in tertiary education.

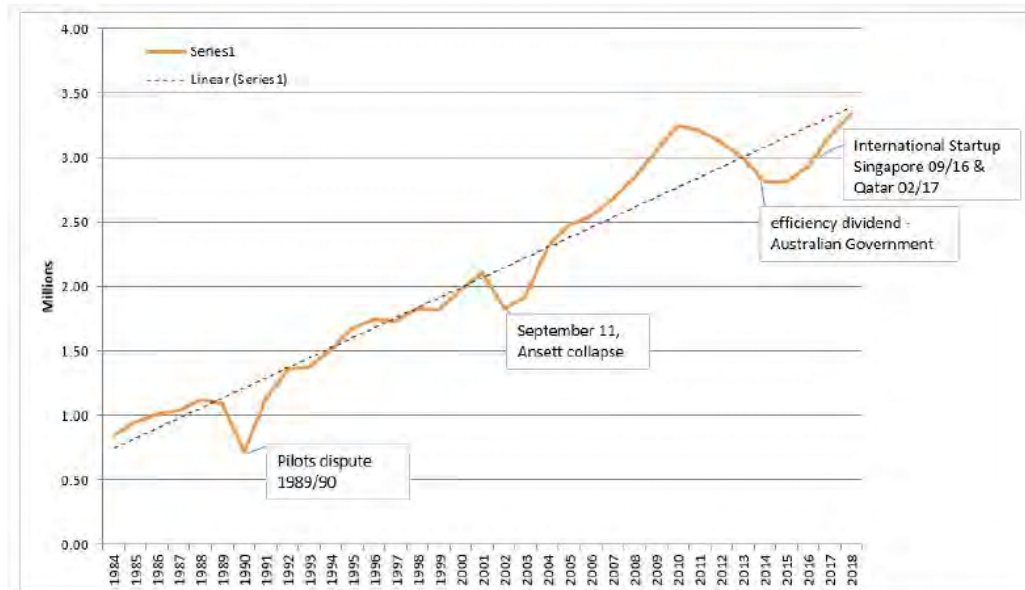
The ACT Government is working closely with Canberra Airport, SQ and QR to attract additional international passengers to Canberra. Further discussions with other international carriers and low cost airlines are ongoing. The opportunity during the next five to eight years is to build on the 2019 operations of SQ and QR international services and Tiger Airway low cost carrier domestic operations.

The volume of passenger and aircraft movements at Canberra Airport has grown over the past three years. In 2018/2019 Canberra Airport has handled about 3.3 million passengers across approximately 40,250 aircraft movements and seat supply of 4,890,000 seats (average about 121 seats per airliner and 71 percent average domestic load factor).

The prospects for a future growth are strong. Canberra Airport retains confidence in the future of the aviation market in Canberra, across Australia, and particularly the Asia Pacific region. Over the next 20 years passenger numbers at Canberra Airport are projected to reach at least 8.9 million passengers per annum, a seat supply of about 12.2 million provided by some 83,313 airliner movements in 2039/2040 (an average of about 145 seats per airliner and 73 percent average load factor).

Canberra Airport, due to its extensive infrastructure upgrades in recent years, is well positioned to meet forecast demand with only minor additional infrastructure and is ready to capitalise on growth opportunities in the regional, domestic and international aviation markets. Both the runway and the terminal are operating currently at about 30 percent of capacity and the terminal in its current form was designed to adequately manage over 8 million passengers per annum. As the passenger demand grows towards 8m during the 2030's the terminal is designed to be extended at both the southern and western ends to manage over 12million passengers.

Figure 5.1 - Historic growth at Canberra Airport



Source: Traffic-ICAO/IATA and GDP-IMF (PPP) GDP-IMF (PPP)

While Canberra experienced a downturn in passengers over seven years, as demonstrated in Figure 5.1 commencing in 2010-11 (down from 3.25 million in 2009-10), the energy has returned to passenger growth to again achieve 3.3 million passengers in 2018-19 off a low of 2.8 million in 2014-15.

Canberra Airport, in its own projections and infrastructure planning and delivery, has provided for growth across the regional, domestic and international markets to ensure it can accommodate what is expected to be the inevitable increase in demand for its infrastructure and services, including easily accommodating new services commencing at short notice.

Despite these seemingly constant shocks, often at the expense of industry profitability in the short term, there remains an underlying growth trend which can be seen in the historic growth recorded at Canberra Airport in Figure 5.1. This demonstrates that for each downturn there is a bounce back to above trendline growth.

5.5 REGIONAL MARKET

The regional market is often confused with what might be regional airlines operating commuter [turboprop] aircraft on trunk domestic routes. The operations of Qantaslink and Virgin Australia Regional Airlines operating commuter aircraft on services from Canberra to Sydney, Melbourne, Brisbane, and Adelaide are not regional services [notwithstanding the fact they are operated by 'regional' airlines].

In contrast, the services operated by regional airlines from Canberra to Newcastle and Albury would be appropriately considered true regional services.

As regional aviation in Australia faces its challenges, so too do Canberra Airport’s core regional markets. The demise of Brindabella Airlines saw an initial suspension of services on the Canberra-Newcastle route, which followed an earlier cessation of services on the Canberra-Albury route. FlyPelican resumed services to Newcastle and added Dubbo in 2018. The regional aviation sector in Australia generally remains uncertain, however Canberra Airport is confident of services being resumed to Albury and a start-up of services to Merimbula within the next five years.

Over the life of this Master Plan, Canberra Airport expects to see a restoration of flights on previously serviced regional routes as well as the commencement of services to new regional destinations. Table 5.3 identifies possible new regional destinations and provides an indicative timeframe for commencement of flights [noting this remains subject to the decisions of airlines].

Table 5.3 - Target regional destinations

| Indicative Timeframe | Regional Destinations |
|---------------------------------|--|
| Future services within 5 years | Albury Wodonga Merimbula |
| Future services within 10 years | Griffith / Wagga Wagga |
| Future services within 20 years | Armidale Ballina Byron Bankstown* Coffs Harbour Melbourne Avalon Moorabbin Moruya Tamworth Traralgon Wollongong |

*Note: Canberra-Bankstown is not a true regional market, the prospects of airline services on this route would be subject to the decision by airlines operating from the new Western Sydney due to the likely competition to Bankstown that would arise from airline services between Canberra and the proposed new western Sydney airport.

It is noted that increasing congestion at Sydney [Kingsford Smith Airport] and the Australian Government’s decision to progress a new Western Sydney Airport to commence operation by 2026 will serve to strengthen the viability of the national network, in the national interest.

Figure 5.2 - Regional air services



5.6 DOMESTIC MARKET

While arguably also a factor contributing to the collapse of Brindabella Airlines and the resulting impact on Canberra Airport's regional market, the domestic market has been beset by challenges resulting from airline capacity allocation and fares.

Passenger volumes have returned to growth across all domestic sectors, other than Sydney, and airlines have adjusted capacity [smaller turbo-prop aircraft of about 70 seats] and scheduled accordingly. These adjustments have not been as obvious on the denser routes whereas, in contrast, the impact of the downturn on the thinner routes has seen the withdrawal of services on the Canberra-Hobart, Canberra-Townsville and Canberra-Darwin routes.

With the return of passenger volumes on the back of Tiger (Domestic LCC) and daily international services by SQ and QR, and the economic outlook [both locally and nationally] being generally positive, the strong population growth of the region and Australia's east coast capitals (Brisbane/South East Queensland, Sydney and Melbourne), the continuation of the return to growth appears to be reasonably secure over the next five to eight years and the 20 year life of this Master Plan.

As passenger volume increases airline load factors [the percentage of seats filled] will increase. In response, airlines will up-gauge [increase size of] aircraft on existing routes and/or increase frequency through the introduction of additional services on existing routes. Ultimately, with continued growth, airlines will look to replace connecting services with new direct services, the opportunities for which in the domestic market are shown in Table 5.4.

Table 5.4 - Target domestic destinations

| Indicative Timeframe | Destinations |
|---------------------------------|--|
| Future services within 20 years | Avalon Cairns Darwin Hobart Launceston Sunshine Coast Townsville |

The domestic market population growth and economic strength is expected to drive the vast majority of both passenger numbers and aircraft movements over the life of this Master Plan to 2040. ABS forecast Australia’s current population of 25.3 million to grow to 30 million by 2029-31 and 35 million by 2043-44 with the eastern states and the ACT experiencing most of this growth, including growth across the region surrounding the ACT and southern NSW.

Also, international inbound business and tourist passengers are forecast by Tourism Research Australia (TRA), Australian Trade and Investment Commission (Austrade), to grow to 15 million by 2026-27 based on annual growth of 5.8 percent following 9.1m passengers 2017-18.

Further, although maturing in market terms, the existing route network will drive a substantial proportion of the domestic growth and in part supported by on-carriage demand from international passengers. Additional services on existing and former routes will therefore remain a priority for Canberra Airport as part of its overall growth strategy. The infrastructure and services are already in place at Canberra Airport to accommodate a substantial increase in traffic on the domestic route network. It is highly likely this will include Tiger building additional services onto the existing eight Melbourne and four Brisbane return services per week and create opportunities for Jetstar to commence operations at Canberra. This will correct a market anomaly which sees little low cost carrier operating into Canberra despite the greater Canberra regional population of over 900,000 [Figure 5.3] making the Canberra region the sixth largest population centre in Australia. Further this excludes any potential capture of south-west Sydney which has a population of over one million.

The Canberra and region market is particularly suited to extensive low cost carrier operations because:

- Canberra is home to Australia's highest average weekly earnings - Trending 12.8 percent above the national average;
- 50 percent of the local population have flexible work commitments making it easy to travel; and
- Canberra is Australia's highest yielding domestic travel market.

In simple terms, the high airfares of the two mainline business airlines provide a large gap as against low cost carriers airfare pricing, the result of which will be a significant market growth stimulus when those operations become available, especially given the high incomes of the population.

Similarly, this region and its tourism operators are the only tourism region in Australia [and regional population of over 100,000 people] not served by Jetstar. This is a significant market anomaly given Canberra's tourism market size [in terms of domestic and international visitors and the spend by those visitors]. Canberra Airport is the gateway to the Canberra Wine region, the Snowy Mountains and the NSW South Coast in addition to Canberra's National attractions.

As a tourism destination, significant investment in product over the last 10 years has seen the destination surge in terms of reputation:

- Ranked number three in the Lonely Planet's Best in Travel - Top Cities list for 2018. Canberra trumped Sydney, Melbourne and Brisbane to be ranked higher than any Australian city has ever been ranked before in the respected travel publisher's annual Top 10 Best in Travel lists;
- In 2019, the Canberra Region was selected in the Lonely Planet's publication 'Wine Trails: Australia and New Zealand';
- Australian Craft Beer Awards - 15 of Canberra's top craft beers have ranked in the top 100 of 2018. Crankshaft India Pale Ale, produced by the BentSpoke Brewing Company, was voted one of the top three Australian craft beers for the second year in succession;
- Canberra is known to have some of the best coffee in Australia and at the 2018 Australian Barista Championships - four out of the top six baristas were from Canberra;

- Little National Hotel, Barton, is the Australian Hotel Association's Best Environmental and Energy Efficiency Practice in Australia Hotel (2018) and TFE Hotels' Vibe Hotel Canberra Airport, won the 2017 Brain & Poulter Award for Best Tourism and Leisure Development at The Property Council of Australia Innovation & Excellence Awards.

The tourism product here is well suited to extensive low cost carrier operations in addition to full service passengers.

Figure 5.3 - Canberra and surrounding regions

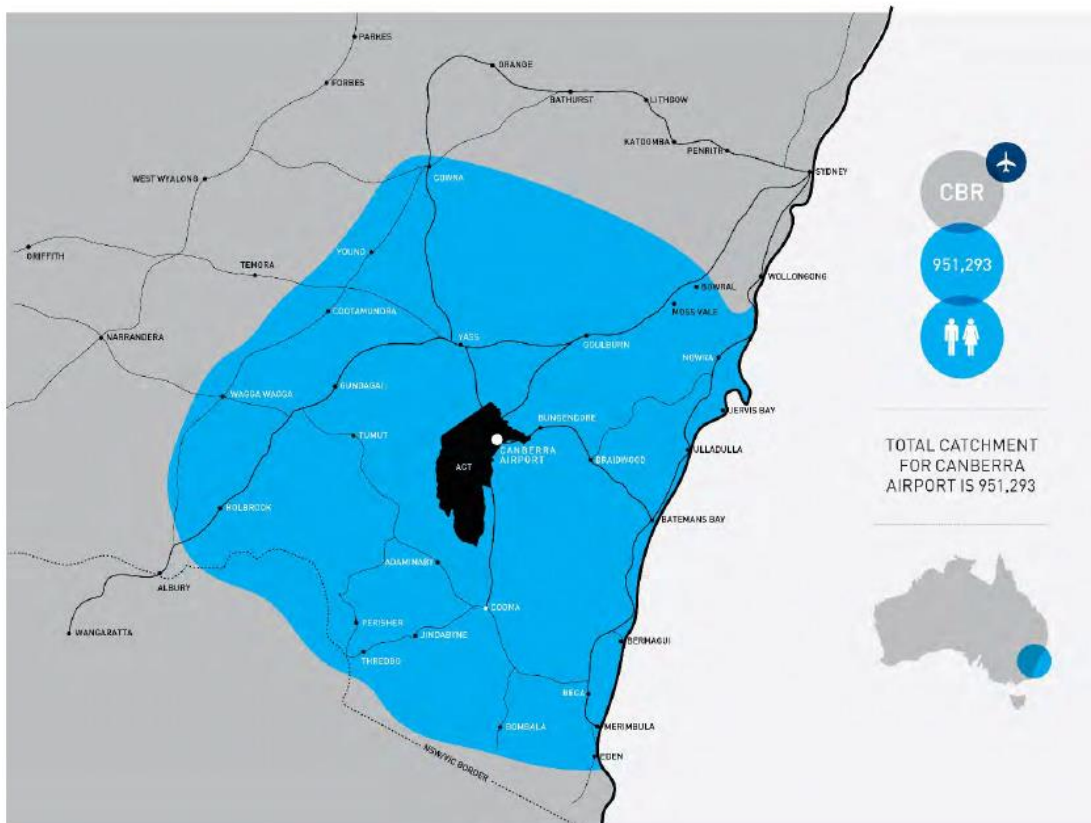


Figure 5.4 - Projected domestic air services from Canberra



5.7 INTERNATIONAL MARKET

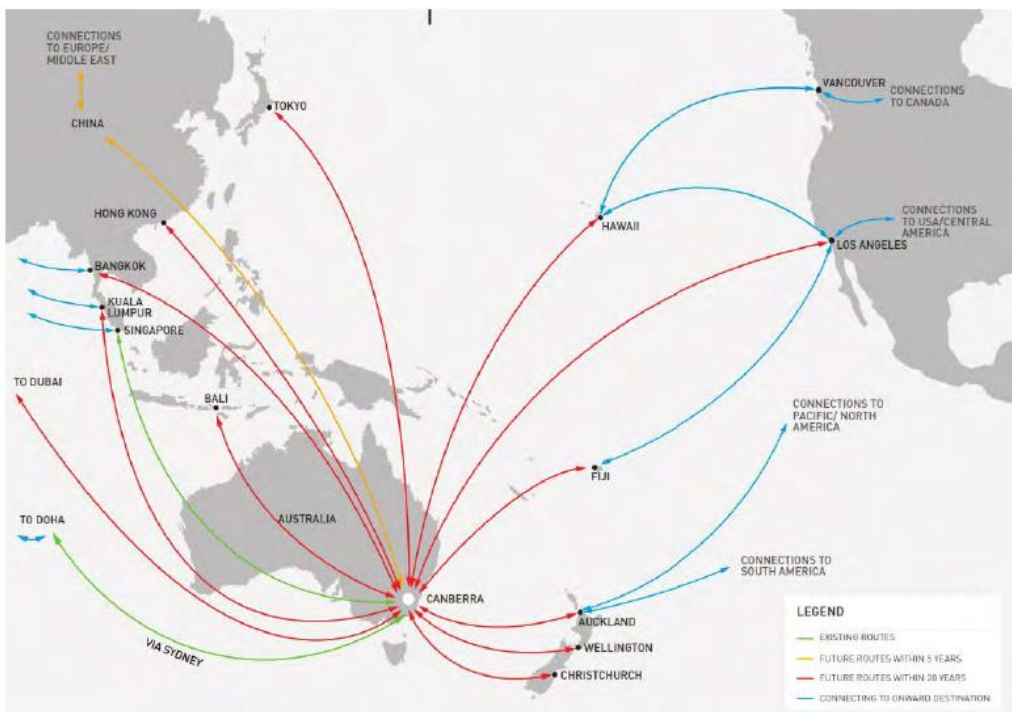
An analysis of origin and destination travel shows there are a significant number of international passenger trips each year to and from Canberra. Presently, these international passenger trips are facilitated SQ, QR and domestic airline services connecting to international services at Sydney and, to a lesser extent, Melbourne and evidence demonstrates there is sufficient demand today for direct international services between Canberra and New Zealand. Given the demographic of the outbound market and the destination development opportunities that exist, the Pacific Islands remain a target market for future international services from Canberra. In a longer-term sense, direct flights to the Americas are also a possibility.

Table 5.5 - Target international markets

| Indicative Timeframe | International Markets |
|---------------------------------|---|
| Future services within 5 years | China |
| Future services within 20 years | Auckland Bali Bangkok Christchurch Dubai Fiji Hawaii Hong Kong Kuala Lumpur Los Angeles Tokyo Wellington |

From the 2019, 14 services per week, on conservative estimates, Canberra Airport is forecast to handle approximately 4,380 international aircraft movements per annum by 2039/2040, an average of six return flights per day, carrying almost one million international passengers to and from Canberra Airport each year.

Figure 5.5 - Projected international air routes



The introduction of international services has placed welcomed new demands on existing airfield and terminal infrastructure at Canberra Airport, and similarly placed new demands on the airspace surrounding Canberra Airport. While the direct services to New Zealand are expected to be operated by narrow-bodied aircraft [B737/A320] in the short term, the majority of international services are forecast to be operated by wide-bodied aircraft [A330/B777/B787] similar to SQ and QR operating B777-300 ER aircraft in 2019.

Despite this demand being recent, with planning and development work previously completed, Canberra Airport's airfield and terminal infrastructure is capable of accommodating both the forecasted increase in number of aircraft movements from international operations as well as the resulting increase in size of such aircraft. The recent experience of when SQ initially commenced in September 2016 and then between February 2017 and May 2018 when both SQ and QR aircraft had similar arrival times at the terminal demonstrates the infrastructure capability. Since May 2017 the schedules divided where QR arrival is in the domestic am peak, departing early afternoon and SQ arrive after 10pm and depart by midnight. Similarly, airspace planning around the Airport easily provide for these international operations.

5.8 AIRFREIGHT AND OVERNIGHT AIRCRAFT MOVEMENTS

The demand for airfreight is generally rebounding around the world, driven by online sales growth and, in the Australian-international context, a favourable exchange rate. Airfreight at Canberra Airport is covered in Chapter 6 of this 2020 Master Plan.

Notwithstanding the announcement by the Australian Government in April 2014 to proceed with developing Badgerys Creek as Sydney's second airport, it is unlikely that this airport will be operational before 2026.

Late night operations at Canberra Airport presently comprise:

- Scheduled regular passenger transport [RPT] aircraft movements;
- Scheduled freight services;
- Off-schedule RPT aircraft movements;
- Diverted domestic and international RPT and freight aircraft;
- Ad-hoc military and VIP aircraft movements; and
- Ad-hoc medivac and emergency aircraft movements.

The introduction of international passenger services provides a new dimension to airfreight and late-night aircraft movements at Canberra Airport and provide an export portal for freight and business services to the region's government and business community.

Canberra Airport is uniquely positioned as the only 24-hour, curfew-free airport, between Melbourne and Brisbane with the capability to handle wide-bodied aircraft. In order to capitalise on this position Canberra Airport will develop infrastructure over the life of this 2020 Master Plan to continue to accommodate growth in airfreight activity and overnight aircraft movements, including but not limited to, additional aircraft parking apron[s], freight terminals and support facilities.

5.9 AIRLINE MAINTENANCE

Qantas operates a line and heavy maintenance facility for the Dash Q400 and B717 fleet in Brindabella Business Park.

Qantas engineering in 2019 provide on ramp maintenance services for the QF, SQ and QR fleet operations while Virgin Australia do similar on ramp maintenance for the VA and TT fleet operations at Canberra Airport.

5.10 FORECASTING METHODOLOGY

In preparing passenger movement forecasts for Canberra Airport, a number of considerations were taken into account. The World Bank gross domestic product forecasts and the forecasts for Australia prepared by the Reserve Bank of Australia were considered, along with the forecast cost of fuel which is assumed to be consistent without major structural shocks.

The fall and then recovery in passenger numbers in recent times, including start up international daily services has been analysed. Analysis also included a focus on ACT Gross State Product and NSW regional review of population growth rates and took into account the high average earnings of those living in the Territory, Queanbeyan and the region.

An important component of the analysis was looking at the growth rates of traffic at other major airports as reported in their master plans particularly those that represent major current and future routes.

It is noted the Sydney-Canberra route is highly competitive with major substitution capability by road which carries over nine million passengers per year in cars and buses. Accordingly, growth rates were analysed with the growth rates of road transport on this corridor and because this has seen significant modal shift in response to either air capacity surges or road infrastructure improvements, the NSW and Australian Government plans for major road improvements were also taken into account.

Congestion in the Sydney basin was taken into account in the high case rather than the base case.

5.11 MARKET SUMMARY

Regional, domestic and international volumes are set to increase over the term of this 2020 Master Plan. Passenger volume will increase from 3.3 million in 2018/2019 to about 9 million by 2039/2040, a compound annual average rate of growth of 4.3 percent.

If significant low cost carrier services develop before 2025, this growth will be higher.

Canberra Airport has consulted with our current airline partners and also had regard to BITRE forecast for domestic passengers out to 2031. The Base Case Domestic Passenger Forecast in Table 5.6 for 2024/5 and 2027/28 are conservatively below those forecast by BITRE.

The possibility of outperformance is reflected in the high range case which could see total passenger numbers reach 9.75 million by 2039/2040.

Table 5.6 - Forecast passenger movements

| Passengers | Actual 2018/2019 | Forecast 2024/2025 | Forecast 2027/2028 | Forecast 2039/2040 |
|---------------------|---------------------|-----------------------|-----------------------|-----------------------|
| Base Case | | | | |
| - Domestic/Regional | 3,131,000 | 4,078,000 | 4,653,000 | 7,906,400 |
| - International | 170,000 | 340,000 | 450,000 | 996,000 |
| TOTAL | 3,301,000 | 4,418,000 | 5,103,000 | 8,902,400 |
| High Range | | | | |
| - Domestic/Regional | | 4,244,400 | 4,857,700 | 8,511,000 |
| - International | | 400,000 | 500,000 | 1,242,000 |
| TOTAL | | 4,644,400 | 5,357,700 | 9,753,000 |

Meanwhile aircraft movements are expected to increase as set out in Table 5.7.

Table 5.7 - Forecast aircraft movements

| Aircraft | Actual 2018/2019 | Forecast 2024/2025 | Forecast 2027/28 | Forecast 2039/2040 |
|---------------------|------------------|--------------------|------------------|--------------------|
| Base Case | | | | |
| - Domestic/Regional | 38,783 | 47,077 | 51,867 | 78,933 |
| - International | 1,460 | 2,190 | 2,920 | 4,380 |
| - Other | 20,900 | 24,238 | 26,101 | 35,981 |
| TOTAL | 61,143 | 73,505 | 80,888 | 119,294 |
| High Range | | | | |
| - Domestic/Regional | | 50,611 | 57,259 | 95,881 |
| - International | | 2,190 | 2,920 | 4,380 |
| - Other | | 24,594 | 26,680 | 37,962 |
| TOTAL | | 77,395 | 86,859 | 138,223 |

The growth rates of airline passenger movements are consistent, however lower, with those forecast by Boeing. IATA and ICAO predicted passenger traffic [as measured by revenue passenger kilometres] in the Asia Pacific region to increase at a compound annual average rate of growth of 5.7 percent against a global rate of 4.7 percent. The rates of growth adopted by Canberra Airport sit conservatively below the range of forecast for the Asia Pacific region and the global average.

5.12 MARKET DEVELOPMENT

While the propensity for Canberra Airport to outperform its base volume forecast is largely in the hands of its airline partners (more planes from more locations), the opportunity exists for these airline decisions to be influenced by a number of factors. An increased understanding of tourism development initiatives, demographic insights, marketing partnerships and incentive frameworks all serve to foster growth in airline services and passenger volumes at an airport.

With this in mind, Canberra Airport and the ACT Government [through its Economic Development Directorate and VisitCanberra] have strengthened their partnership to drive aviation development opportunities. The ACT Government has implemented its plans for aviation development in its 2020 Tourism Strategy [2013] and international engagement strategies (2016).

This partnership approach extends further still to Tourism Australia, with the national tourism marketing body working with both Canberra Airport and VisitCanberra on development opportunities in international markets. The opportunity exists to extend this collaborative model to a partnership with Destination NSW, an initiative that will be pursued early in the life of this 2020 Master Plan.

In addition to tourism marketing, the medium and long term development of the tourism product and offering will be critical key considerations and opportunities include:

- Additional hotel developments within Canberra across the range of product offerings [ie, not just four to five stars] with the release of sites for these uses specifically;
- Continued investment in the National Attractions coupled with the entrepreneurial development of unique 'must do' experiences;
- Increasing the wine and food tourism offer through further investment, especially in terms of accommodation and transport links;
- Building on the world class investment in mountain bike facilities at Mt Stromlo and Majura Pines with further adventure and outdoor tourism products;
- Linking adventure tourism with the eco-tourism sector to leverage off the national park assets from the Brindabella's to the Snowy Mountains with Tasmanian and New Zealand style trekking and accommodation products;
- Realising the major new investment and change in ownership opportunities in the NSW ski fields to deliver world class ski holiday product and experiences, and at the same time, leveraging this infrastructure to deliver a year-round tourism product; and
- Facilitating development on the NSW South-Coast particularly through upgrading major road access routes.

Building the tourism product for this region over the next five to twenty years will require major investment by hundreds of small and large businesses who will take the commercial risks. Government and councils through the CRJO in the public interest and job generation, are positioning to foster these initiatives to facilitate this investment.

5.13 GENERAL AVIATION, DEPARTMENT OF DEFENCE AND VIP OPERATIONS

General aviation and Department of Defence Aviation are essential for the ongoing success of aviation in Australia and the protection of Australia as a nation.

As the Airport serving the Nation's Capital and Region, the general aviation and Defence Aviation sectors are important components of the aviation capability of Canberra Airport, and are expected to remain so for the life of this 2020 Master Plan.

The expansion of infrastructure catering to general aviation and Defence operations will be in response to demand. Throughout this 2020 Master Plan, Canberra Airport has identified a number of development opportunities to support and encourage future growth, including runway, taxiway, and apron upgrades and other aviation-related developments.

Table 5.7 above outlines the forecast growth in general aviation, Department of Defence and VIP movements at Canberra Airport to 2040. These are incorporated in the 'other' movements category [along with freight movements]. 'Other' aircraft movements in 2018 were around 34 percent of aircraft movements have been forecast to grow at 2.5 percent per annum [base case] for the term of this Master Plan with anticipated lower growth slowing in general aviation movements [although freight, Department of Defence and VIP movements are expected to continue to increase].

5.13.1 GENERAL AVIATION OPERATIONS

General aviation operations continue to constitute a proportion of the aircraft movements at Canberra Airport, more so than at other capital city airports in Australia. Canberra Airport is committed to maintaining a vibrant general aviation sector at Canberra Airport.

General aviation operations at Canberra Airport currently include:

- ACT Emergency Services [including bushfire-fighting capability in summer];
- Australian Federal Police;
- Aircraft maintenance facilities;
- Business jet operations;
- Significant air ambulance operation, with regular services from the Royal Flying Doctor Service and NSW Air Ambulance;
- Aircraft charter operators for passengers and freight; and
- Private recreation flying.

The general aviation sector, in particular freight, business jets, pilot training, and emergency services, is expected to return to growth over the next five to eight years.

Canberra Airport believes it is possible to secure a major flight training facility for pilots that would involve a significant increase in general aviation operations and requirements for aircraft parking aprons and hangars, as well as associated training facilities and dormitory accommodation. This facility would be located in the Glenora and/or Fairbairn precincts.

General aviation facilities are currently located in the Pialligo precinct of Canberra Airport to the west of the passenger terminal, although capacity constraints at the current facility mean larger general aviation aircraft operate from the Fairbairn apron. However, with growth in recreation general aviation potentially conflicting with growth in regular passenger and freight operations in the terminal and Pialligo precincts, and with the provision of, and expected growth in, terminal support services in these precincts, Canberra Airport will relocate this part of general aviation from the Pialligo precinct, east of the main runway, to Fairbairn or the Glenora precinct during the planning period of this 2020 Master Plan.

Relocation to an area not adjoining the RPT apron could result in a reduction in security requirements for recreation general aviation operations although ultimately this will be determined by Government.

Canberra Airport also notes the development of ACT ESA's separate Helicopter base at Hume within the ACT. Canberra Airport does not oppose the expansion of this development during the life of this Master Plan, provided its operations do not interfere in any way with the current and future operations of Canberra Airport and do not direct aircraft noise over residential areas of Canberra and the region other than in emergency operations.

As Canberra Airport's traffic grows general aviation and other smaller aircraft may be restricted during times of high demand as higher capacity aircraft are given priority. This is in line with practices at the majority of other major civil airports in Australia and overseas.

5.13.2 DEPARTMENT OF DEFENCE OPERATIONS

Department of Defence aviation has always had an important role at Canberra Airport, originally through the operation of RAAF Base Fairbairn on the north-eastern side of the Airport. Whilst the RAAF Base itself was closed in 2004, there continues to be a significant Department of Defence presence at the Airport.

The basing of the RAAF 34 Squadron aircraft fleet at Canberra Airport, providing VIP transport operations for Government, provides positive impetus for increased Department of Defence activity at Canberra Airport in the future. The current 34 Squadron fleet incorporates Boeing business jet [B737] aircraft recently announced Falcon 7X corporate jets. The Department of Defence has advised of current plans to upgrade the SPA fleet, including the opportunity for the use of a Code E heavy aircraft for long haul. This 2020 Master Plan allows for any future requirement to increase Government SPA or other Department of Defence operations at Canberra Airport, including any larger aircraft to transport Government officials to overseas destinations. Any such future increase in the SPA fleet may require additional apron, hangar, office space and other infrastructure to be constructed at the Airport.

Canberra Airport would actively support any increase in Department of Defence aviation at the Airport, including but not limited to flight training, helicopter operations or other aircraft operations.

Any of the larger facilities on the Airport, including the Fairbairn Hangars, could expect to be operated as a heavy maintenance facility for Department of Defence aircraft during the life of this 2020 Master Plan.

Ad-hoc RAAF and foreign military aircraft also visit Canberra Airport, either for transport, training, or display purposes, including the RAAF C-17 jet transport aircraft. Large United States Air Force transport aircraft such as C-17's and KC-10 and 30's are also regular visitors to Canberra Airport. Visiting military aircraft generally operate from the 34 Squadron facility, although on occasion additional parking space is required on the civil Fairbairn apron.

5.13.3 VIP OPERATIONS

Canberra Airport receives a significant number of visits per year by visiting foreign dignitaries, often using heavy wide-body aircraft. In 2006 the main Runway 17/35 was lengthened and strengthened to better cater for these aircraft movements.

Visiting VIP aircraft are generally handled from the 34 Squadron facility including the dedicated VIP passenger terminal located adjacent to the 34 Squadron headquarters building. However, at times aircraft must be located on the civil Fairbairn apron to accommodate other aircraft operations from the 34 Squadron facility. This 2020 Master Plan allows for the expansion of the 34 Squadron facility to accommodate further Australian and foreign VIP aircraft operations.

CHAPTER 6
FREIGHT OPERATIONS





“Working in partnership with land use and planning, transport can play an integral part in supporting the emergence of industrial areas and economic hubs, such as Canberra’s international airport and its future air freight potential for the Capital region and beyond.”

ACT GOVERNMENT – MOVING CANBERRA 2019–45



6 Freight Operations

Airfreight arriving and departing Canberra Airport has a long history over many decades. This movement of freight by air has been, and continues to be, carried by a mix of aircraft over a 24-hour cycle. Freight is carried by defence aircraft, domestic passenger aircraft and dedicated domestic aircraft and from time to time international freight aircraft. The opportunity arising from international passenger services at Canberra Airport will soon systematically broaden the airfreight capability for government and business operations within the region and provide a new driver for growth of freight hub operations through Canberra Airport. Over 95 percent of the international airfreight task into and out of Australia is carried by passenger aircraft.

Over the 21 years since privatisation, Canberra Airport has seen an ongoing range of overnight airfreight operations catering to the existing needs of Canberra and the region, as well as a range of other overnight aircraft movements including defence, ad-hoc VIP and domestic passenger aircraft. This is expected to continue and diversify with the opportunity of overnight international passenger services arriving and departing Canberra Airport. Singapore Airlines operates a daily passenger service Canberra non-stop to Singapore departing Canberra between 11pm and midnight each evening. Qatar also operate a daily passenger service departing Canberra to Doha, via Sydney, between 1pm and 2pm each afternoon. Each aircraft can carry up to twenty-five tonne of freight in addition to passengers.

Whilst Sydney is a key airfreight origin and destination city in Australia's overnight express airfreight market, ongoing curfew restrictions at Sydney Airport are expected to deliver substantial new opportunities for airfreight at Canberra Airport over the next ten years at least, until Western Sydney Airport is commissioned and is operating. Canberra Airport is well positioned to accept and distribute airfreight within Southern NSW, especially South East NSW. This critical role was emphasised in the 2012 Australian and NSW Government Joint Study on Aviation Capacity for the Sydney Region [Joint Study].

ACT Chief Minister Andrew Barr noted in his submission to the Senate Standing Committee on Rural and Regional Affairs and Transport, February 2018, "Freight networks are intricate and are presently clustered around Australia's major international gateways. However, as congestion at Sydney and Melbourne Airports increases, Canberra is well-positioned to absorb additional capacity and serve the agricultural and wholesale markets in the surrounding region."

The ACT Government's 2018 Planning Strategy states "Unlike many Australian airports, Canberra Airport is curfew-free, providing significant capacity to facilitate growth in both international and domestic freight and passenger movements."

This 2020 Master Plan again outlines the opportunity for the commencement of an overnight express freight hub at Canberra Airport in response to the needs of the overnight express freight industry and its development over the 20-year planning period of this 2020 Master Plan. It also foreshadows the commencement of dedicated international airfreight services to Canberra Airport by freight only aircraft.

The development of a vibrant and larger airfreight operation at Canberra Airport is expected to deliver significant economic benefits for the region, including jobs, and open the region up to a broad range of new industry sectors benefiting from being located adjacent to Australia key freight hub serviced by both freighters and passenger aircraft. "Mr Barr and Mr Barilaro have both been strong supporters of the Airport's potential as a regional airfreight hub, particularly for time-sensitive fresh meats, fruits and dairy products." (Joint media release ACT Chief Minister and NSW deputy Premier, 12 November 2018)

The start-up of Pak Fresh at Canberra Airport in June 2018 targeted initially domestic freight for Virgin Australia. The facility has been upgraded to international export standards commencing the export of goods and produce in July 2019.

This Chapter both informs and addresses feedback from the community over the past twenty years with respect to the impact on some of the community of additional overnight aircraft activity at Canberra Airport, including aircraft noise and the negligible road traffic impact.

By articulating the noise impact of overnight aircraft operations this 2020 and previous Master Plans makes the community aware of the impact and in so doing, alerts developers and residents who live or build new houses in such locations, to be responsible for ameliorating that noise through insulation.

Since May 1999 Canberra Airport management has openly disclosed to the community future aircraft noise impacts including the long-term unrestricted operation of the Airport. The community around Canberra Airport is aware of and anticipates a long-term future where the Airport does not operate with the constraint of a curfew. It is not helpful or realistic for members of the public to anticipate a curfew in years to come, or to expect it will solve their aircraft noise problem. As some communities near curfewed airports in Australia will tell you, short sighted planning results in a future of discontent. The mitigation of aircraft noise intrusion into our communities is best managed before this stage of discontent is ever reached. Early best practice planning by establishing residential suburbs away from inappropriate levels of aircraft noise is in the interest of both the local community and the productivity of the nation. Fortunately, Airport management continues to take action to protect this opportunity at Canberra Airport. For more information on aircraft noise management at Canberra Airport refer to Chapter 12.

This Chapter of the Draft Master Plan provides an overview of Canberra Airport's ongoing strategies and actions to integrate with the land use planning and economic development of the region.

6.1 EXISTING NATIONAL OVERNIGHT EXPRESS FREIGHT NETWORK

The current overnight airfreight system comprises a complex network of routes designed around meeting curfew requirements at Sydney Airport and to a lesser extent Adelaide Airport. The current trunk overnight airfreight network is operated by three major aircraft operators, Qantas, Virgin Australia and Toll.

Problems with the current network-based approach include:

- Sydney is Australia's largest origin and destination for express overnight freight, yet Sydney Airport is curfew constrained. Larger freight aircraft such as B737 are unable to operate during curfew hours, severely hampering the delivery of overnight freight into Sydney;
- The absence of daylight saving in Queensland means that for six months of the year the Sydney curfew severely impacts on cut-off times for freight destined for Sydney from Brisbane and elsewhere in Queensland;
- The network-based system requires more aircraft, including less efficient, smaller and older aircraft to operate more flights, increasing overall fuel burn and emissions, and raising the cost of airfreight; and
- The network-based system means a delay to one key flight can impact the entire system overnight, with significant cost implications to freight operators, who in such cases are often forced to charter alternative aircraft at short notice to meet contractual obligations.

It is noted express overnight freight is only carried by air where it is not able to be carried by passenger aircraft or road. Despite the current extensive overnight airfreight network, large numbers of trucks operate to and from capital cities, including Canberra and major regional centres across the Eastern Seaboard 24 hours a day and even to Perth over weekends.

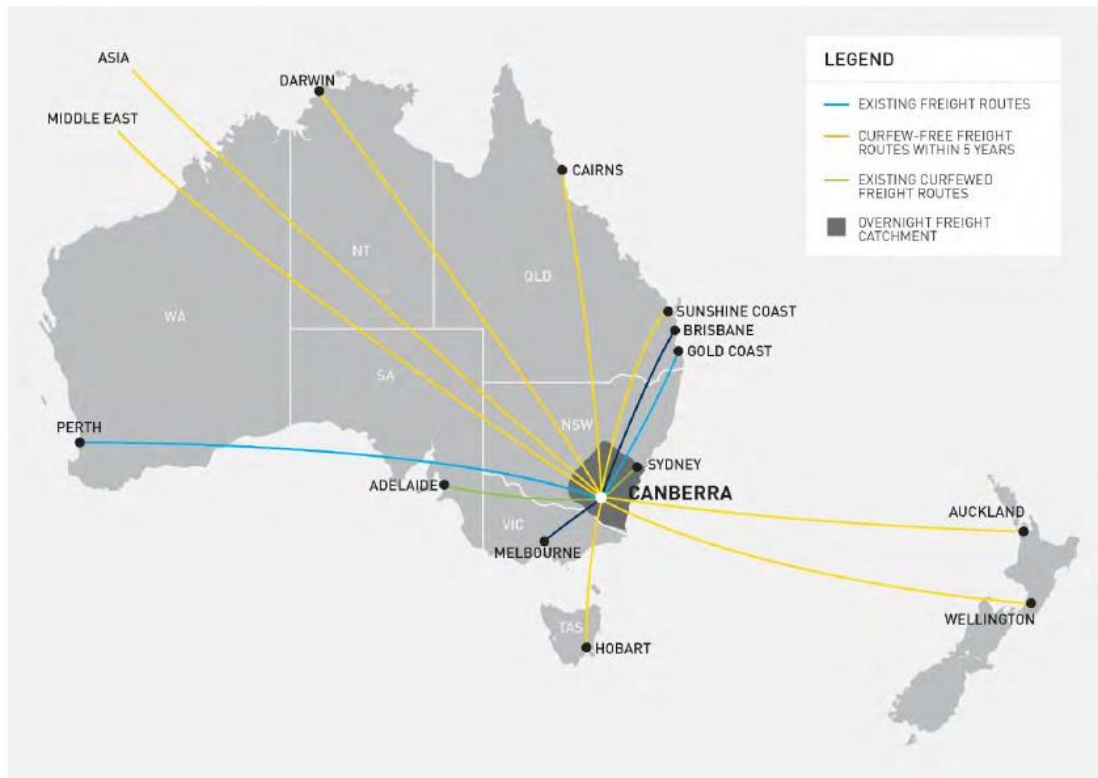
6.2 OPPORTUNITIES FOR FREIGHT GROWTH AT CANBERRA AIRPORT

Sydney Airport, Australia's largest airport and primary freight origin and destination, is constrained by an overnight curfew. Freight airlines have long used inefficient and expensive networks to transport time-sensitive freight around the country.

However, with an excellent road connection to Sydney and as NSW's only 24-hour curfew-free major Airport (Gold Coast, Newcastle and Sydney are curfewed), Canberra Airport is well placed to operate as an alternate freight airport in addition to the region's

soon to be realised opportunities to harness just- in-time domestic and international capability over a 24-hour cycle. The Western Sydney Airport (mooted to open in 2026) is currently planned as a curfew-free airport and as such could compete with Canberra in the delivery of domestic and international freight over a 24-hour cycle into Sydney.

Figure 6.1 - Current and future airfreight route opportunities by airlines and air freighters (indicative only)



Based on the experience of highly successful operations at airports in secondary cities in North America and Europe which in some cases see large numbers of nightly freight flights this 2020 Master Plan envisages international, trans-Tasman and domestic freight flights congregating at Canberra, exchanging freight, and departing again to their destination. This freight will be additional to domestic and international airline movements of freight. Freight destined for Sydney [and in some cases Melbourne and southern NSW] would be transferred to trucks enabling express delivery before the commencement of the business day.

Airfreight is becoming more important with the growth in trade, changes in manufacturing processes with time compression of the supply chain, widespread adoption of just-in-time working practices, web-based retail purchase trends and an increasing shift to high value, low weight goods as well as services.

A network of curfew free airports, including Canberra Airport, on north-south and east-west axes, is important to allow for the ongoing successful operation of overnight airfreight and other overnight aircraft operations, including domestic and international passenger airlines. The Australian, ACT and NSW Governments have also recognised the importance of appropriate land use planning, [ie, no noise-sensitive developments under flight paths], community consultation, and the optimal location of flight paths to ensure these airports remain curfew-free (refer Chapter 4). Canberra Airport welcomes this commitment to the maintenance of an effective overnight national aviation capability.

6.2.1 THE OVERNIGHT FREIGHT HUB CONCEPT

Only three hours by dual carriageway from Sydney, Canberra Airport offers an attractive and cost-efficient alternative; a curfew free and slot-free airport. It offers existing available apron and warehousing space as well as land area available for freight expansion. It is centrally located in south-eastern Australia at the meeting point of the east-west and north-south network of curfew-free airports to provide a hub for both road and airfreight connections to other major centres.

Figure 6.2 - Australian curfew-free major airports



The development of Canberra Airport as a freight hub in addition to freight carried by domestic and international airlines will free up valuable landing slots and land at Sydney Airport for the expansion of commercial passenger services.

Canberra Airport entered the international age in 2016 with services initially to Singapore and Wellington New Zealand. Singapore Airlines no longer fly Canberra – Wellington return. A number of these future services will be overnight to facilitate an arrival into international ports similar to Singapore Airlines Canberra – Singapore overnight current flight arriving into Singapore pre-dawn. It is a central component of this 2020 Master Plan [as with the four previously approved Canberra Airport Master Plans] that Canberra Airport remains curfew-free. The curfew-free status of Canberra Airport and the importance of maintaining this status has been previously outlined by the Australian, ACT and NSW Governments as set out in Chapter 4. Investment in infrastructure at Canberra Airport, including for freight, has already been and will continue to be made during the life of this 2020 Master Plan in reliance to these commitments.

Recognising these advantages, Canberra Airport continues to consult with the major domestic overnight airfreight companies and many international passenger airline operators regarding their opportunity to develop and grow a hub for domestic and international overnight airfreight. One of the operators of trans-Tasman overnight freight has advised they are also interested in operating their services to Canberra rather than Sydney, especially if a domestic freight network is established.

Whilst an exact timeframe is uncertain due to the economic downturn in airfreight since the global financial crisis in 2008 and only slow recovery, it is expected such a freight hub may commence within five to seven years leveraging off the base of Pak Fresh, Qantas Freight, Singapore Airlines and Qatar Airways emerging operations that will shape the future.

Consistent with Section 71 of the Airports Act, it is important to recognise this proposal will be driven by the users of the Airport - the airfreight and airline operators. It is these operators who will determine when and how a freight hub at Canberra Airport will escalate current operations. In transparently setting out the concept proposal in this 2020 Master Plan, as in previous Master Plans, so as to explain to Airport users and the community how a freight hub may work, it must be acknowledged this represents Canberra Airport's best assessment of the likely outcomes of a freight hub.

6.2.2 CANBERRA AIRPORT OVERNIGHT FREIGHT HUB - INITIAL STAGES

With the establishment of a freight hub, based on discussions with potential operators, it is expected the initial phase of the freight hub will commence with two to three jet freighter aircraft per night, such as Boeing 737-300, growing to five aircraft within three years of commencement. These aircraft will likely replace current operations of smaller aircraft. International freight operators and airlines will use larger aircraft compared to the Boeing 737-300.

Figure 6.5 depicts the Single Event Noise Contours of a B747-800 operating a freight service from Canberra to an international destination. Noise from this aircraft is generally confined to the area between the Canberra Noise Abatement Area and the Queanbeyan Noise Abatement Area, avoiding residential areas of the ACT and most of Queanbeyan. However, over 620 houses in Jerrabomberra and future houses in South Tralee and South Jerrabomberra are not within the Noise Abatement Areas. Canberra Airport accepts residential development outside the ANEF 20 in NSW, however, it is the responsibility of the land owners to noise attenuate their property as this land is subjected to aircraft noise at any time by the 24-hour, seven-day passenger, freight, and defence aircraft flight operations arriving and departing Canberra Airport. The frequency of aircraft movements and the size of the aircraft are forecast to increase indefinitely into the future.

Table 6.1 – Indicative schedule for initial stages of freight hub

| Aircraft schedules | | | | Stage 1 | Stage 2 | Stage 3 |
|--|-------|--------|-------|---------|---------|---------|
| Aircraft 1 | | | | | | |
| PER | 19:00 | CBR | 00:30 | ✓ | ✓ | ✓ |
| CBR | 02:00 | BNE | 03:35 | | | |
| Aircraft 2 | | | | | | |
| BNE | 22:00 | CBR | 00:35 | ✓ | ✓ | ✓ |
| CBR | 02:00 | PER | 04:10 | | | |
| Aircraft 3 | | | | | | |
| HBA | 21:45 | MEL | 22:45 | | | |
| MEL | 23:30 | CBR | 00:30 | | ✓ | ✓ |
| CBR | 02:00 | MEL | 03:00 | | | |
| MEL | 03:45 | HBA | 04:45 | | | |
| Aircraft 4 | | | | | | |
| ADL | 21:30 | CBR | 00:30 | | ✓ | ✓ |
| CBR | 02:00 | ADL | 04:00 | | | |
| Aircraft 5 | | | | | | |
| AKL | 22:00 | CBR | 23:30 | | | ✓ |
| CBR | 01:15 | AKL | 06:15 | | | |
| Truck connection (2x B-doubles) | | | | | | |
| Sydney | 21:00 | CBR | 00:30 | ✓ | ✓ | ✓ |
| CBR | 01:45 | Sydney | 05:15 | | | |

The initial stages of the domestic overnight freight hub as indicatively outlined in Table 6.1 within 10 years could be accommodated at Canberra Airport with little or no additional infrastructure or impact on existing Airport users. The current Fairbairn apron provides substantial aircraft parking capability and is directly fronted by hangar facilities.

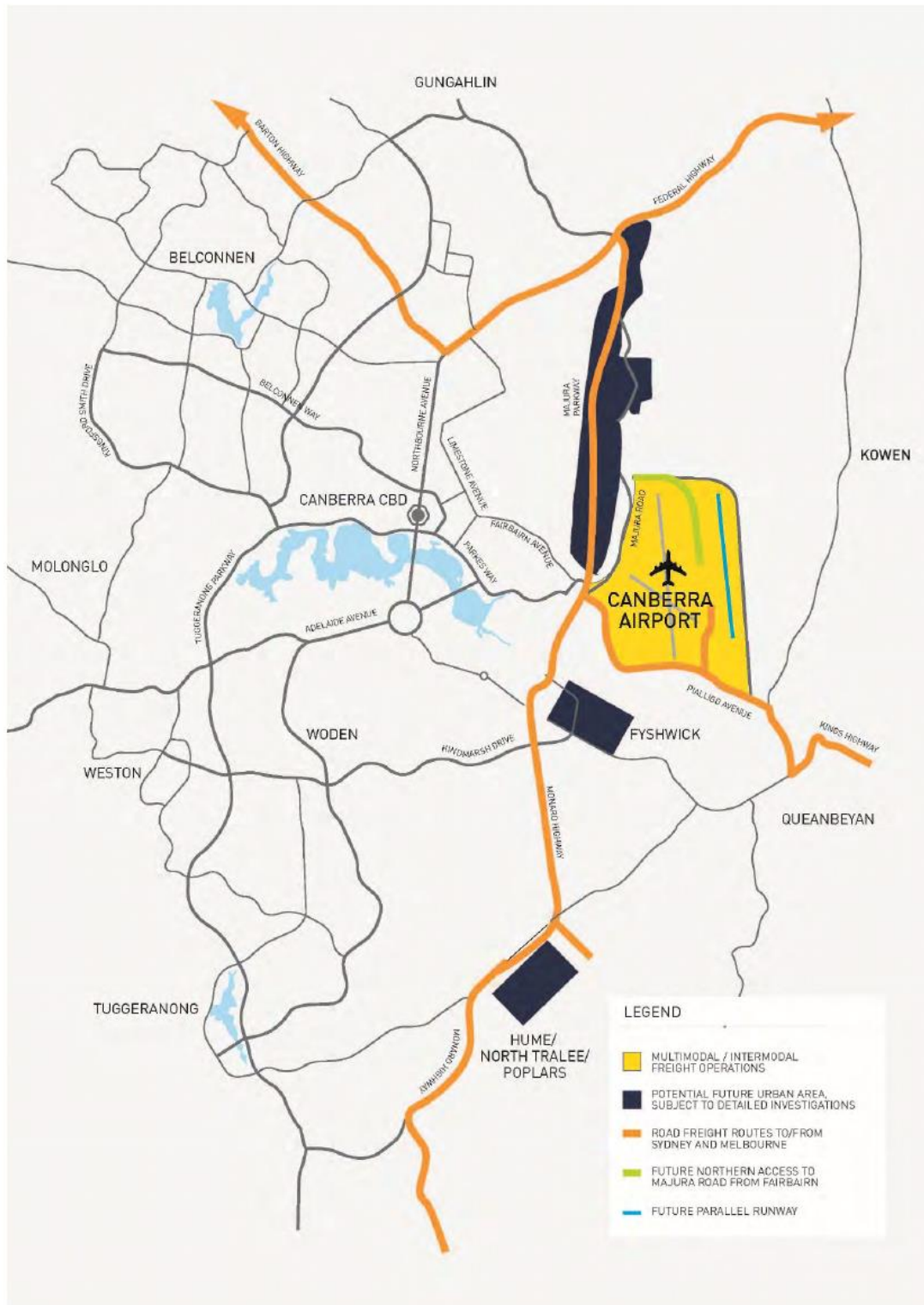
Much of the freight in the first stage of a freight hub will simply be exchanged between aircraft or trucks, therefore minimal warehouse or other storage requirements associated with the freight operation will be required. Relevant roads authorities will provide input as required about the increase of freight movements at and around the Airport by way of the Canberra Airport Planning Coordination Forum.

Given the average B-double truck payload is 37 tonnes compared with 14.5 tonnes for a B737-300 freighter aircraft, the number of trucks associated with the first stage of a freight hub is expected to be restricted to between one and three trucks per week night to Sydney. Often volume is more critical than payload for both air and road freight; however, the same ratios apply as noted above for freight volume as for payload.

Vehicle access to Fairbairn, including for trucks operating to Sydney [and in some cases Melbourne] as part of the first stage of a freight hub, will be via Scherger Drive and Pialligo Avenue. Vehicle access from the Pialligo Precinct will be via Pialligo or Fairbairn Avenues.

Trucks will then access the Federal Highway [with connection to the Barton Highway where applicable] via the Majura Parkway or Sutton Road, remaining away from residential areas at all times. Trucks transferring freight to and from the region will also use these roads together with the Monaro and Kings Highways. These roads are all designated as heavy vehicle routes and already accommodate large volumes of heavy vehicles on a daily 24-hour basis. All truck services associated with the initial stages of the freight hub are expected to operate at night outside peak periods. Refer to Figure 6.3 for the regional road freight network.

Figure 6.3 – Road freight network to support Canberra Airport airfreight



6.2.3 CANBERRA AIRPORT OVERNIGHT FREIGHT HUB - FUTURE GROWTH

Following the initial establishment of a freight hub at Canberra Airport, express overnight freight operations at the Airport would be expected to grow over the life of this 2020 Master Plan.

The growth of the overnight airfreight hub beyond the initial stages may occur in any or all of the following ways over the next 20 years:

- Addition of direct overnight trans-Tasman to Auckland flights, with possible future additional connection to Christchurch, involving one to two additional jet services per night;
- More direct services to domestic destinations, such as the de-linking of the Tasmania from Melbourne services and Alice Springs/Darwin and North Queensland services. This would be expected to add a further three nightly aircraft operations to the freight hub network, most likely with smaller jet or turboprop freight aircraft;
- Turboprop and piston-engine freighter services to regional NSW/Victorian destinations replacing services that currently operate directly into Sydney and/or Bankstown Airport. Based on the current regional network, operated by one express freight operator from Bankstown, this could involve up to three additional flights per night;
- The commencement of a freight hub by a second major national overnight freight operator. This would likely initially involve approximately three to five aircraft per night; and
- Additional direct international freight and passenger services to Canberra to link in with overnight express freight services. This is described in greater detail at Section 6.3.

Additional flights associated with the growth of the freight hub would be expected to follow a similar schedule to that outlined for the initial stages of the freight hub at Table 6.1.

Table 6.2 provides a summary of estimated growth in overnight airfreight movements along with additional B-double [or equivalent] truck movements, including one additional aviation fuel delivery vehicle. Note these figures are estimates based on number of return flights per week night and the 20-year scenario assumes all of the growth scenarios listed have occurred.

Table 6.2 - Projected growth in freight aircraft movements and associated truck movements

| Timeframe | Jet aircraft | Turboprop/piston aircraft | Additional Trucks (incl. aviation fuel) |
|-----------|--------------|---------------------------|---|
| 10 years | 18 | 9 | 7 |
| 20 years | 32 | 18 | 40 |

Note: Arrival and departure of an aircraft constitutes two movements

Over the 20-year planning period of this 2020 Master Plan additional freight capacity is likely to be achieved through the use of larger aircraft, such as B757F or B767F on key routes, and larger turboprop aircraft such as ATR42 on regional freight routes. Aircraft such as the B757F, whilst larger, have a similar noise profile or are quieter than existing B747-800F aircraft.

Over time, dedicated freight infrastructure is expected to be required to facilitate a growing freight demand, particularly aircraft parking aprons to accommodate the peak overnight hub period. Options for additional freight parking areas include west of the RPT apron, south of the existing Fairbairn apron, and east of Taxiway Alpha. It is expected the initial growth phase of freight operations will be west of the RPT apron to provide connectivity with RPT services, which will continue to carry the majority of domestic and international freight. The development of new infrastructure will be managed so as to minimise any impact on existing Airport users.

Additional warehousing and offices will also be required to cater for an increase in the size of a freight hub. Whilst some of this demand will be adjacent to the aircraft parking areas, significant warehouse and office support functions are able to be housed elsewhere on Airport or even on land surrounding the Airport.

Beyond the planning period of this 2020 Master Plan, the frequency and size of freight aircraft are expected to grow via increased frequency on existing routes as demand increases beyond aircraft capacity. It is also possible one or more additional freight operators will commence overnight airfreight operations in Australia.

Increases in road transport are also expected to match increases in airfreight services. Within the ultimate planning period of this 2020 Master Plan [ie 20 years], up to 10 trucks [B-double or equivalent] may operate to Sydney in association with increases in the overnight express freight system, along with two to three B-double truck services per night to Melbourne. Smaller vehicles may also commence regional truck services to complement regional airfreight operations, especially in South East NSW.

6.3 INTERNATIONAL AIRFREIGHT OPPORTUNITIES

Whilst the majority of international airfreight continues to be carried in the holds of passenger aircraft that will continue to use Sydney Airport and have commenced operations at Canberra, restrictions on the size of the Sydney Airport site and the Sydney Airport curfew means the growth of dedicated international freighter services will continue to be constrained at Sydney Airport during the life of this 2020 Master Plan.

Dedicated international freighter services benefit from 24-hour operations. This schedule flexibility is critical to attracting international freight operators to Canberra to accommodate the needs of clients. This nature of operation is not suited to airports constrained by curfews, slot restrictions, and limited parking space for freight aircraft.

Canberra Airport as a curfew-free, slot-free, international capable Airport is well placed as an alternative to Sydney Airport, given its close proximity. Canberra Airport has already been approached by international airlines operating dedicated freight services to Sydney in regard to the opportunity to use Canberra Airport.

International airfreight operations run 24 hours a day worldwide and the timing of services to Canberra would be dictated by the schedule of the airlines concerned. These aircraft could well land and take-off in the 11pm-6am period and will be able to do so.

It is expected international airfreight services to Canberra will grow gradually, commencing with one airline operating two to three weekly B747-800F [or equivalent] services to and from Canberra in the next five to eight years. This number would be expected to gradually increase through the remainder of the life of this 2020 Master Plan as other airlines commence services and the frequency of flights increase and subject to the new Western Sydney Airport remaining curfew-free as planned. Although it is not expected Canberra would attract the entirety of the current Sydney freighter capacity within the life of this 2020 Master Plan, Canberra Airport anticipates receiving approximately three widebody international freighter aircraft per 24-hour period in addition to international passenger airliners.

The maximum freight payload of a B747-800 is approximately 110 tonnes. As it is expected some freight will be directly transferred to other aircraft for transport around Australia, it is unlikely more than two B-double trucks or equivalent trucks would be required to transport freight from a B747-800 freighter to Sydney. The international airfreight services may include the export of livestock which would be transported in livestock B-double trucks, mainly from Southern NSW. Figure 6.3 confirms the route expected to be taken by truck services, with all trucks operating away from residential areas.

Figure 6.5 depicts a composite of the Single Event Noise Contours of a B747-800F operating a freight service from Canberra to North Asia [eg, Hong Kong, Shanghai]. Noise from this aircraft is generally outside of the eastern boundary of Canberra, the noise abatement area, and the Western boundary of the Queanbeyan Noise Abatement Area, avoiding residential areas of the ACT and Queanbeyan [apart from future homes in South Tralee and South Jerrabomberra and some existing homes in Jerrabomberra and Fernleigh Park].

The existing aircraft parking apron at Fairbairn is currently able to accommodate B747-800F and equivalent aircraft and it is expected this would be sufficient to accommodate aircraft parking requirements during the first five years of operation. The terminal apron is also heavy aircraft capable. The initial growth phase of freight operations will be west of the RPT apron to provide connectivity with RPT services.

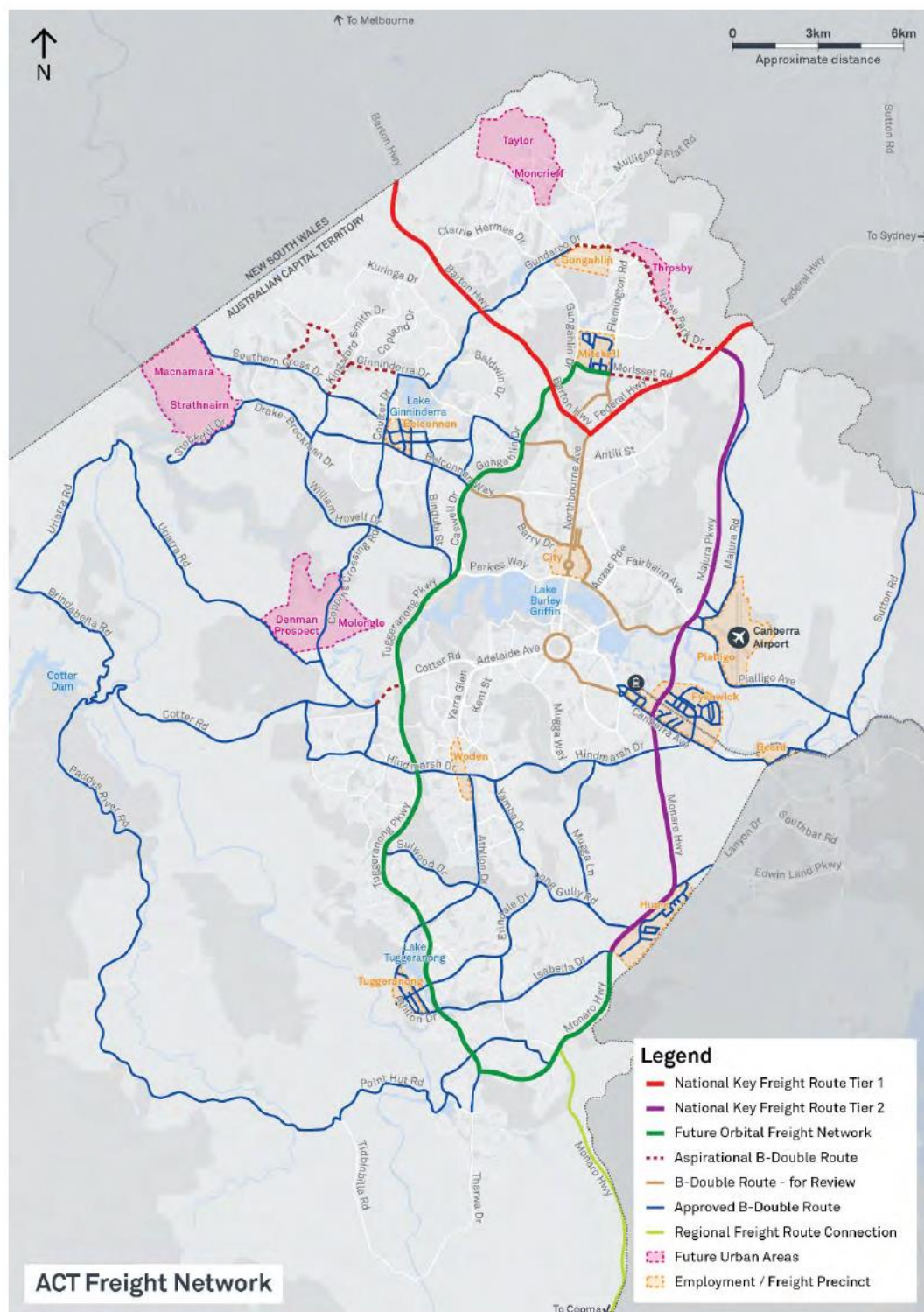
Warehouse and office infrastructure will be required in the short term to accommodate the commencement of international freight services, especially with respect to customs and quarantine requirements. This could initially be accommodated in existing facilities at Fairbairn but may require additional facilities to be constructed in the short to medium term. Some of these facilities may be co-located with facilities supporting the domestic overnight freight hub, although upgraded customs and quarantine facilities and facilities for the international transport of horses and livestock may also be required. Whilst some of this demand will be adjacent to the aircraft parking areas, significant warehouse and office support functions are able to be housed elsewhere on Airport or even on land surrounding the Airport.

6.4 REGIONAL INFRASTRUCTURE AND PLANNING IMPLICATIONS OF FREIGHT GROWTH

6.4.1 ROAD NETWORK AND ROAD FREIGHT

Ready car and heavy truck access to Canberra Airport has been provided with the completion of the Majura Parkway (14km of dual carriageway). The Parkway is designed to service high mass transport vehicles. The Parkway connects the Monaro Highway south of the Molonglo River to the Federal Highway at the north of the Majura Valley and is identified as a Tier 2 National Freight Route in ACT Government reports released in 2016 “Building an Integrated Transport Network – Freight” and 2018 “Moving Canberra 2019-2045 – Integrated Transport Strategy” and is an important link in Canberra’s future Orbital Freight Network (Moving Canberra, Figure 11: ACT future orbital freight network) (Figure 6.4).

Figure 6.4 – ACT future orbital freight network (2018 Moving Canberra 2019-2045 - Fig 11)



The Parkway links the Canberra Airport to the national key freight routes moving interstate freight coming from Melbourne via the Barton Highway, from Sydney via the Federal Highway and to the south-east NSW region via the Monaro Highway and provides a connection away from residential areas.

A further outcome of the Parkway design is the creation of the Airport interchange, with connections to Fairbairn Avenue, and then onto Majura Road and Pialligo Avenue. Pialligo Avenue connects to the Kings Highway via Yass Road Queanbeyan.

The existing Singapore Airlines and Qatar Airways daily international passengers B777-300ER services provide in total a freight capacity per day of up to 50 tonnes (2x25 tonnes).

The increases in road transport vehicles associated with increased freight activity at Canberra Airport are expected to be limited. In a five to eight year timeframe, it is estimated one to three additional B-double trucks or equivalent will operate from Canberra to Sydney and Southern NSW overnight as part of an overnight freight hub in addition to six weekly B-double trucks or equivalent based on a three-times weekly B747-8F international freighter service.

By the end of this 20-year 2020 Master Plan period, it is expected up to 20 B-double trucks or equivalent will operate to service the overnight freight hub, with an addition of approximately 40 B-double trucks or equivalent transporting freight, associated with a three times daily international wide-body freighter operation. These truck movements include the additional transport of aviation fuel to Canberra Airport to refuel these aircraft.

Trucks operating to Sydney [and in some cases Melbourne and Southern NSW] will use Pialligo and Fairbairn Avenues via the Majura Parkway or Sutton Road to access the Federal Highway [with connection to the Barton Highway where applicable], or Pialligo Avenue to the Monaro Highway, remaining away from residential areas at all times. These roads are all designated heavy vehicle transport routes and already accommodate large volumes of heavy vehicles on a daily basis.

From the Pialligo Precinct, vehicles will link directly onto Fairbairn Avenue to access the Majura Parkway, or alternatively onto Pialligo Avenue to link to the Monaro Highway or Sutton Road.

Truck services associated with the first stage of the freight hub are all expected to operate at night outside peak periods.

6.4.2 ECONOMIC AND LAND USE PLANNING IMPLICATIONS

“The growing importance of Canberra Airport to the regional economy stands out as a key economic driver. Canberra Airport is positioned to become a central freight hub for the region due to its lack of a curfew and road connections to Sydney.” (ACT Transport Corridors).

The start-up of Pak Fresh in June 2018 at Canberra Airport, initially moving domestic freight for Virgin Australia, is now internationally capable in 2019 and positioned to service Singapore Airlines’ and Qatar Airways’ daily international operations.

In addition to Qantas Freight, Pak Fresh will grow the freight business at Canberra Airport over the next five to eight years in the interest of regional producers, industry and the community exporting both domestically and internationally building on Canberra Airport as the global gateway for Canberra and southern NSW.

“There is enormous potential for freight in the Canberra region. Canberra Airport and the national highways into and out of the ACT provide a good basis for the distribution of freight to both national and international markets.” (ACT 2018 Planning Strategy). The creation of a true freight hub with nightly connections to all major Australian cities and international airports will also have a much greater long-term benefit by making it the single most attractive region in Australia for any time-sensitive manufacturing, logistics and distribution business to be located.

“A strategy is being developed by the ACT Government (Innovate Canberra) and key stakeholders, including the Canberra Airport, Austrade, the NSW Government and the business sector, to support the development of Canberra Airport and surrounding precinct as an international air freight hub.” (ACT 2018 Planning Strategy).

Should a freight hub be established at Canberra Airport within 20 years, it is expected around 1,000 people would be employed by the freight industry at and around Canberra Airport, with a further 5,000 to 7,000 people employed in associated businesses.

Whilst a freight hub has implications for land use on Airport, significant impacts are also expected off airport. Demand for warehousing, freight-forwarding and similar facilities in the vicinity of the Airport, especially in the Eastern Broadacre, will increase as airfreight operations increase. Existing facilities at Fyshwick and Hume are suitably located and well suited initially to this land use; however, it is likely additional land will be required. Significant new development opportunities for this land use exist in the Majura Valley and City of Queanbeyan area adjoining the ACT industrial suburb of Hume, especially given such land as the “Poplars and North Tralee” is impacted by high levels of aircraft noise.

6.5 COMMUNITY IMPACT OF FREIGHT GROWTH

There are significant economic and employment benefits of a freight hub for the Canberra and region community, as well as broader benefits for Australian industry and the broader economy. Nevertheless, the concept of a freight hub causes concern to some members of the Canberra and region community.

6.5.1 ROAD TRAFFIC IMPACT

Canberra Airport confirms the road traffic impact of trucks transporting freight associated with a freight hub and international freight operations is extremely low compared with existing levels of road freight. Furthermore, truck traffic associated with the freight hub will use existing designated heavy vehicle routes and will avoid residential areas. In the short-term, a total of one to three B-double trucks or equivalent per weeknight are expected to operate to Sydney as part of the overnight freight hub, in addition to two B-double trucks or equivalent per international freight aircraft. In the 20-year planning period of this 2020 Master Plan, there are not expected to be more than 20 B-double or equivalent trucks per day including trucks carrying aviation fuel to support the overnight freight hub, with an additional 40 trucks supporting a three times daily international wide-body freighter operation.

Additional commercial and industrial development is expected to be located in the vicinity of Canberra Airport on account of additional airfreight operations at the Airport. This will increase road traffic, both in terms of people travelling to and from work, as well as vehicle movements directly attributable to the industry or development involved.

The current and future proposed upgrades to the metropolitan and regional road network, consistent with the Joint Government (Commonwealth, NSW and ACT) 2018 "Road Infrastructure Investment Prioritisation" Final Report (2018 ACT Transport Corridors study) have been designed to meet demands of Airport and regional users for the planning period of this 2020 Master Plan and beyond. Recent discussions with the ACT Government have confirmed the current road systems have been designed for, and will accommodate, the growth and developments outlined in this 2020 Master Plan. Notwithstanding this, Canberra Airport will continue to consult with the ACT Government [TCCS], as well as the Queanbeyan-Palerang Regional Council and NSW Roads and Maritime Services to review any additional infrastructure requirements generated consistent with the 2018 ACT Transport Corridors study.

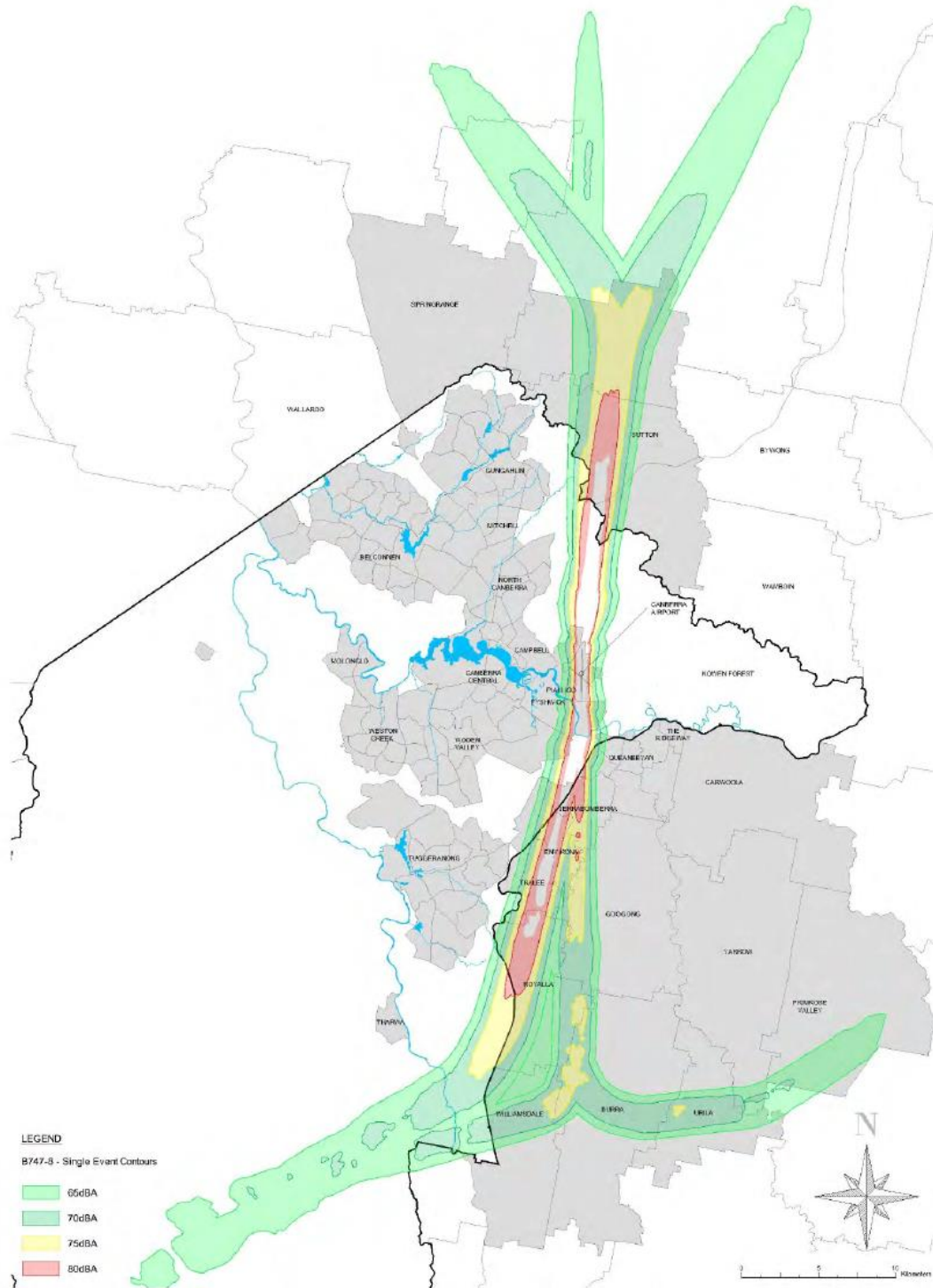
6.5.2 AIRCRAFT NOISE IMPACT

The impact of aircraft noise at night has the potential to cause greater impact than aircraft noise during the day.

The impact on the community from night freight flights is mitigated by the fact aircraft can arrive and depart into Canberra Airport without overflying residential areas and of the 190,000 houses located in Canberra and Queanbeyan only 750 are located within the 20 ANEF and outside the Canberra and Queanbeyan Noise Abatement Zones.

Refer to Figure 6.5 showing the single event LAMAX noise impact of a typical B747-800 aircraft operating an international freight service to North Asia. This Single Event Noise Contour is a composite of arrival and departure flight paths to both the south and north of the Airport. These figures demonstrate residents within the ACT will unlikely to be impacted, however some within Jerrabomberra and South Jerrabomberra will be exposed at any time of the day and the night to noise over 65dBA LAMAX [Single Event Contour] as part of a freight hub.

Figure 6.5 – Single event noise composite footprint Boeing 747-800



6.5.3 PROTECTING THE COMMUNITY FROM ADVERSE NOISE IMPACT

As outlined in detail in Chapter 12, the majority of the Canberra community is protected by the noise abatement areas, preventing low-level jet and large turboprop aircraft overflight. As also set out at Chapter 12 other noise abatement procedures have been implemented to provide noise respite to those residents not positioned within the noise abatement areas.

Canberra Airport supports a prohibition of aircraft overflight of the noise abatement areas at night, except in rare circumstances where operationally required. This extends to all operators, the terms already agreed to by existing night freight and other operators, to provide respite to residents of Canberra and Queanbeyan at night.

Canberra Airport will not allow significant night freight operations to commence from Canberra Airport without this protection, either in the form of a Night Noise Agreement [as exists currently] with the individual airfreight operator, or in the form of a broader restriction of overflight of the noise abatement areas.

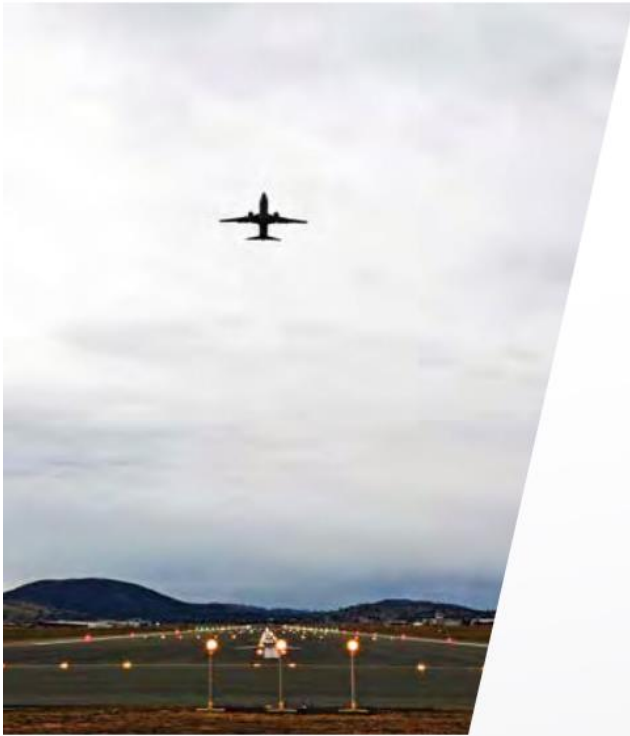
This 2020 Master Plan proposes such restrictions as follows:

- No aircraft operating to or from Canberra Airport is permitted to overfly the Canberra and Queanbeyan Noise Abatement Areas at any height except where operationally required between the hours of 11pm and 6am local; and
- Operational requirements include avoiding inclement weather [ie, storm cells], urgent medical transport, or in the event of an aircraft emergency.

Chapter 12 outlines further noise abatement measures in place to protect residents, especially in Jerrabomberra from aircraft overflight, including a night noise abatement procedure to avoid overflight of Jerrabomberra homes where weather conditions permit.

CHAPTER 7
**RUNWAY AND AIRFIELD
DEVELOPMENT**





"We believe every minute matters for passengers and this taxiway (Bravo) will save passengers time while creating more valuable national infrastructure for our capital city."

MICHAEL THOMSON, HEAD OF AVIATION, CANBERRA AIRPORT



7 Runway and airfield development

Airports provide access for the flow of passengers, trade, tourism, freight, Defence and community social engagement. Following the commencement of the Jet Age in the 1960s, which brought air travel to a new level globally, and more recently Low Cost Carriers, airports have developed into major transport hubs for people and freight.

The effective and timely delivery of aviation infrastructure at Canberra Airport is important for the ongoing vitality of the National Capital and the surrounding NSW region. Over the last 20 years the following infrastructure has been developed airside at Canberra Airport:

- Integrated international, domestic and regional Terminal;
- RPT apron;
- Runway 17/35 extension, strengthening, and blast shoulders;
- Runway 35 turning node;
- Runway 35 ILS upgrade including Glideslope to CAT II capability;
- Installation of Transmissometers Runway 17/35.
- Installation of CAT II Lighting to RWY 17/35
- Runway 12/30 re-surfacing
- Runway 12/30 reclassification Code 2B
- Engine run up bay;
- Blast fence;
- Taxiway Bravo lengthened and strengthened.

The steady implementation of these initiatives has amounted to Canberra Airport being the only 24-hour Boeing 747, B777-300 and Airbus A350-1000 capable Global Gateway airport for NSW and is poised for aviation growth.

Airlines dominate demand for airfield facilities at Canberra Airport. In addition, general aviation, VIP, military operations, freight, and emergency services play an important role at Canberra Airport, and are expected to grow throughout the 20-year life of this 2020 Master Plan. Overall aviation demand is also expected to grow steadily during the life of this 2020 Master Plan meaning the airfield will be operating with a high demand during peak periods, while remaining overall at less than 50% of capacity.

While runway capacity is adequate for the planning period of this 2020 Master Plan, further extension and taxiway upgrades for Runway 17/35 are expected both in the short term, 1 to 5 years and in the 8 to 12 year medium term. Canberra Airport has recently upgraded the airfield lighting to CAT II standards with new control technologies to improve arrivals and departures during times of low visibility.

The runways and associated airfield infrastructure allow the safe and efficient management of aviation and other traffic around Canberra Airport. This infrastructure is planned to be further developed to ensure the continued unconstrained operation of aviation at Canberra Airport over the 20-year life of this 2020 Master Plan.

7.1 RUNWAY AND TAXIWAY SYSTEM DEMAND

Canberra Airport is a 24-hour operating airport, with no artificial operating constraints. It is an integral part of this 2020 Master Plan, as with previous Master Plans, the Airport continues to operate free of any such constraints.

The current demand for airfield facilities is dominated by RPT, which accounted for 70 percent of total movements in the 2018 calendar year. The remainder of movements comprise general aviation, night freight, emergency services, VIP, and military operations. Priority of operation is granted to emergency services, VIP flights and airline operations. As set out in Table 5.7, there were 61,143 airline movements at Canberra in 2018/19. Airservices Australia statistics show 65,268, including 1,470 aircraft over 136 tonnes, total movements at Canberra Airport in the 2018/19 financial year.

The aircraft demand profile is predicted to grow by over 95 percent during the 20 years of this 2020 Master Plan (as set out in Chapter 5) in a similar pattern to what is seen today, with a series of peak movement periods in the morning and late afternoon. It is expected in the longer planning periods of this 2020 Master Plan these limitations to flight operations will extend as airline traffic grows and peak RPT demand periods become longer. This will continue until such time as additional runway capacity is introduced such as via the construction of a parallel runway.

There has been concern expressed from those living in Queanbeyan and Jerrabomberra about the noise impact of a proposed parallel runway for Canberra Airport. The parallel runway is at concept stage because it is intended for when the current runway infrastructure is likely to reach capacity in around 60 to 70 years. The parallel runway concept requires land that is not currently within the Airport boundary and so while it is inevitable that a parallel runway will be required during the life of the Airport lease (expiring 2097), the planning and detail of the infrastructure is still to be settled.

A parallel runway concept is included in this 2020 Master Plan [Figure 7.3], as it was in the 2009 and 2014 Preliminary Draft Master Plans, because it is appropriate to:

- Commence discussions with the Australian Government about land tenure;
- Plan the Airport with its long-term future in mind; and
- Disclose plans to the community for the long-term future of the Airport.

Figure 7.3 illustrates the likely operating mode of the future parallel runway at Canberra Airport. Arrivals and departures will be from and to the north, avoiding overflight of residential areas to the south, protected by noise abatement procedures other than in exceptional circumstances.

Future flight paths will be developed in consultation with Airservices Australia and CASA and will be subjected to environmental impact assessments prior to approvals being granted.

Current runway capacity is expected to accommodate the needs of Airport users throughout the 20-year planning period of this 2020 Master Plan however taxiway upgrades are required as shown in Figure 7.2. This infrastructure will be developed in consultation with Airservices and CASA utilising existing environmental approvals EPBC 2008/4170 and EPBC 2009/4748 and any Major Development Plans as required. This will initially involve the construction of a northerly extension of Taxiway Bravo, now in construction, and an upgrade and future realignment of Taxiway Alpha along the full length of Runway 17/35 in the long term as well as upgrades to the taxiways feeding Runway 12/30 and the RPT apron. There will also be a need to expand aircraft parking apron capacity as shown in Figure 7.1 to cater for the needs of aircraft operators. Replacement of the RPT apron for use by heavy aircraft was finalised in 2014 with future apron expansion expected for RPT, general aviation, freight, and Fairbairn aprons, throughout the planning period.

As indicated in Figure 7.2 (and previously in the 2009 and 2014 Master Plans), the Airport expects in the future to lengthen Runway 17/35 by up to 600 metres to the south. This will require relocation of Pialligo Avenue. Canberra Airport is in consultation with the ACT Government in regard to this relocation in response to a proposal to duplicate Pialligo Avenue between Brindabella Park and Queanbeyan.

7.2 PRACTICAL ULTIMATE CAPACITY AND RUNWAY REQUIREMENTS

The long-term practical capacity of Canberra Airport's existing runways has been assessed as 282,120 fixed wing aircraft movements per annum. This capacity assessment was compiled by SMEC Consulting in 2019 based on the methodology identified in the United States Federal Aviation Administration (FAA) Capacity and Delay Model detailed in the FAA Advisory Circular AC150/5060-5 Airfield Capacity and Delay (currently under review). This methodology, which considers runway configuration, aircraft mix and ATC rules, was used to establish the two runway capacity number of 282,120 movements used in the development of the Practical Ultimate Capacity ANEF provided in this 2020 Master Plan. There is no specific date by which the Airport will reach its Practical Ultimate Capacity. Indeed, it is likely capacity of the runway system at different times of day will be reached at different times. Notwithstanding the possible effect on the Airport in meeting the demand of users in the Sydney basin, it is projected this capacity will be reached by 2070 plus or minus 10 years subject to demand.

In the long term the practical ultimate capacity of the runway system including the taxiway network, the location of runway holding positions and Airservices' aircraft management systems will be such that the runway system will be able to handle all forecast aircraft types. For instance, future planning will seek to optimise rapid exit taxiway locations to suit runway end operations.

7.3 INTERNATIONAL AIR SERVICES

Permanent Border Force and Agriculture arrival and departure operation facilities are provided within the terminal. Wide-body Code E aircraft apron parking capability is available at the terminal at gates 4 and 5, with a Code C international aircraft capacity at gate 6.

The main runway was strengthened and extended by a further 600 metres in 2006 to accommodate regular wide-body aircraft movements as well as long haul international passenger and freight aircraft. The Airport has the capacity to accommodate fully laden wide-body aircraft operating departures to Asia Pacific destinations in addition to trans-Tasman traffic.

Canberra Airport is a popular 'alternate' airport to both Sydney and Melbourne in the event of weather or other disruptions at these airports. A number of international wide-body heavy aircraft, including Boeing 747, Boeing 777 and Airbus A350 aircraft, land at Canberra as part of these arrangements.

7.4 APRON CAPACITY

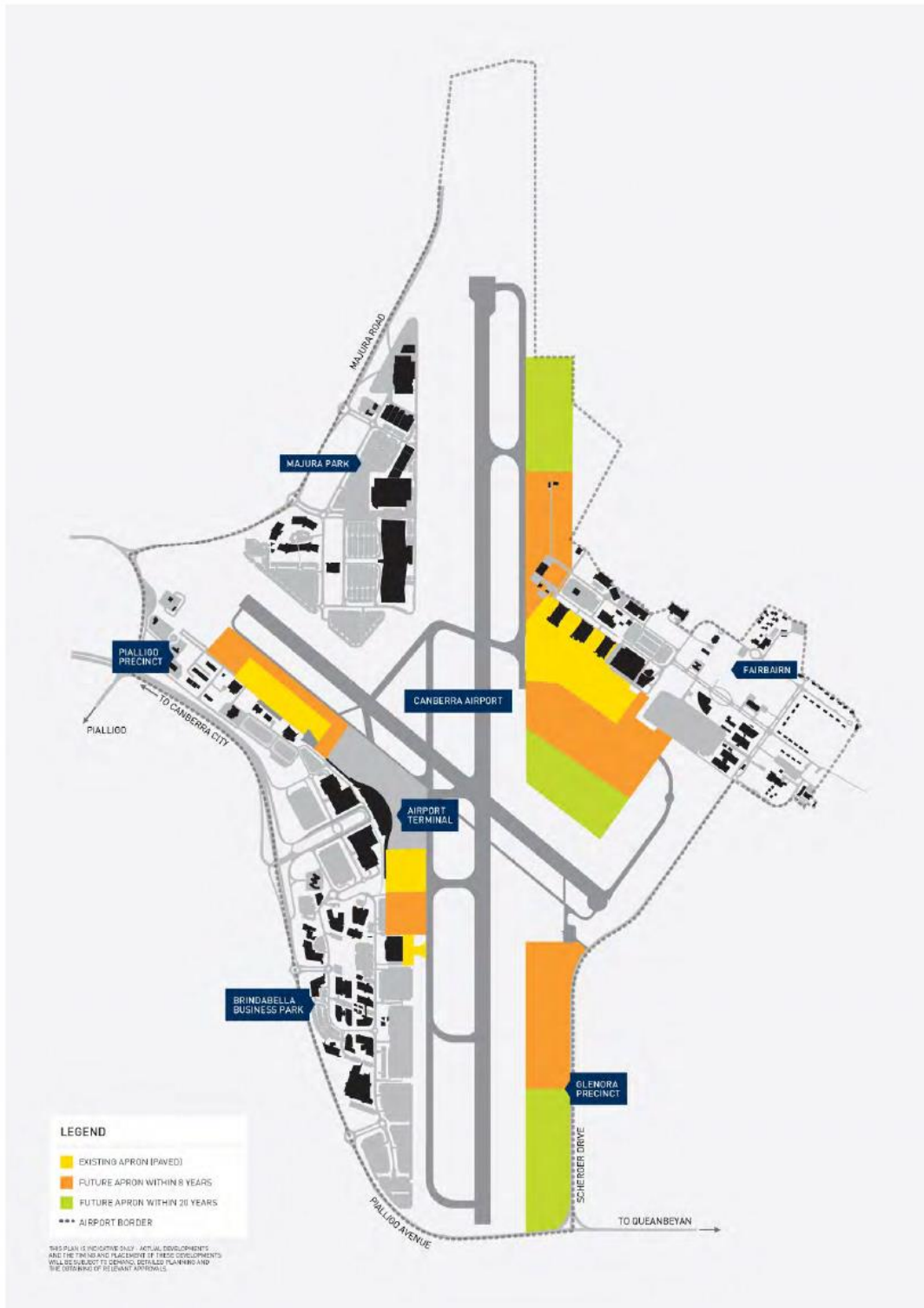
VIP flights, large business jets, ad-hoc international flights, and wide-body diversion aircraft are currently accommodated on the Fairbairn aprons. The Special Purpose Aircraft Apron also accommodates all military flights, including the RAAF 34 Squadron VIP fleet of aircraft based at Canberra Airport.

The Fairbairn apron is expected to be utilised for an expansion of domestic overnight and possible international airfreight services. To meet future demand for apron capacity in the Fairbairn precinct additional apron capacity is expected to be required. This apron capacity, as well as associated hangars and facilities, will be largely provided due south of the existing Fairbairn apron towards the Fire Station and east towards Scherger Drive [Figure 7.1], as well as separate facilities north of the current Belman Hangar [towards the engine run-up bay on Taxiway Alpha. Longer term aviation growth may also take place north of the existing run-up bay.

RPT parking areas can accommodate up to 14 Code C aircraft parked overnight or at peak or 4 Code E wide body aircraft and 9 Code C aircraft. Further apron areas will be constructed gradually as and when required, including the linking of the RPT and general aviation aprons, which will require strengthening of the general aviation apron. Any construction of a future low-cost carrier terminal at the Airport may also require the construction of associated apron facilities should the terminal be located away from existing parking aprons.

As additional non-RPT aviation demand arises over the planning period of this 2020 Master Plan such as airfreight, aviation maintenance, general aviation, military, and other ad-hoc aviation activities, there is expected to be additional demand for apron capacity. These users require flexibility as to their ultimate location, but likely locations will be in the Pialligo precinct, Fairbairn south of the current apron, and north along Taxiway Alpha. General aviation aircraft parking facilities may also take place in the Glenora precinct; refer to Figure 7.1 for current and indicative apron expansion.

7.1 Current and indicative apron expansion at Canberra Airport



7.5 AUGMENTATION OF RUNWAY AND TAXIWAY SYSTEM

Runway 17/35 was extended by 600 metres in 2006 to a length of 3,283 metres and 45 metres wide (plus 7.5 metre blast shoulders, a total width of 60m) contained within a 300 metre CAT II runway strip.

Subject to completion of studies and final approval it is expected the Runway 35 threshold will move south within the next 10-20 years within the current runway length to take advantage of this extra length for landing aircraft. Refer to Figure 7.2. The movement of the threshold, expected to be up to 600 metres, may be coordinated with an upgrade by Airservices Australia of the Runway 35 Instrument Landing System [ILS] or at the time of the introduction of a ground-based GPS landing system (GLS). This action will increase the frequency of arrivals in low visual conditions and is likely to require relocation of Pialligo Avenue.

Runway 17/35 was also strengthened in 2006 to accommodate unlimited heavy wide-body aircraft movements. Current infrastructure will permit the operation of current and future expected aircraft, including Airbus A380 restricted operations, though this aircraft is not expected to service Canberra on a regular basis during the life of this 2020 Master Plan.

A Major Development Plan for the runway extension and strengthening, approved in 2004 and as amended in 2006, also provided for the northerly expansion of Taxiway Bravo [to the northern threshold of Runway 17/35].

In the long-term, Runway 17/35 is likely to be extended to accommodate additional aviation growth and Runway 12/30 may be extended to provide additional take-off and landing length for regional aircraft in particular. These extensions will require the purchase of additional land from the Australian Government (Figure 7.2).

In previous Master Plans, and again in this 2020 Master Plan, Canberra Airport has foreshadowed the extension of the main runway to the south. This runway extension together with the installation of new navigation technologies will provide for greater operability in poor weather conditions (up to CAT III) and provide additional capacity for the departure of ultra-long-haul heavy aircraft.

Concern has been expressed from some in the Jerrabomberra area about the noise impact of relocating the threshold and extending the runway in the future, as this will cause some aircraft to be lower on arrival, the reasoning being aircraft lower to the ground will generate more noise than currently experienced when an aircraft passes by.

Indeed, analysis has shown aircraft will be about 31 metres lower than their current height (which is over 412 metres AGL if on the ILS glideslope at Cove Island Bridge) when passing by the Jerrabomberra Noise Monitoring Terminal if the threshold is moved 600 metres. Analysis has shown that shifting the runway landing point will increase the noise

readings at the Jerrabomberra Noise Monitoring Terminal by around 3 dB[A]. This noise increase is widely acknowledged as being indiscernible to the human ear.

Further, as more aircraft and crew become capable, most aircraft, other than heavy aircraft, will generally fly the Smart Track arrival onto Runway 35, other than in low visual conditions. Studies by Airservices Australia in 2007 indicated that the Smart Track arrival onto Runway 35, when by-passing Jerrabomberra and the western side of Fernleigh Park, provide a noise reduction of 9-10 dBA to residents under or nearby the straight-in arrival flight paths.

Important Note: The 2019 Practical Ultimate Capacity ANEF is modelled assuming the main runway strip is at capacity - including that the landing point is approximately 600 metres south of its current location. Therefore, shifting the landing point will not change the Practical Ultimate Capacity ANEF noise forecast of the Airport.

Further taxiway expansion will be necessary within the planning period, refer to Figure 7.2. This may include, but is not limited to:

- A possible turning node towards the southern end of Runway 17/35;
- The upgrade and realignment of Taxiway Alpha;
- A new Taxiway Bravo extension north of Delta to 17 threshold to connect also at Taxiway Foxtrot, now under construction;
- The upgrade of Taxiways Hotel, Juliet and Kilo;
- The progressive extension of Taxiway Alpha to the southern end of Runway 17/35;
- The upgrade and realignment of Taxiway Charlie adjacent the Terminal Apron, Taxiway Bravo and Runway 17/35; and
- The provision of High Speed Exit (HSE) taxiways will be scoped as demand requires.

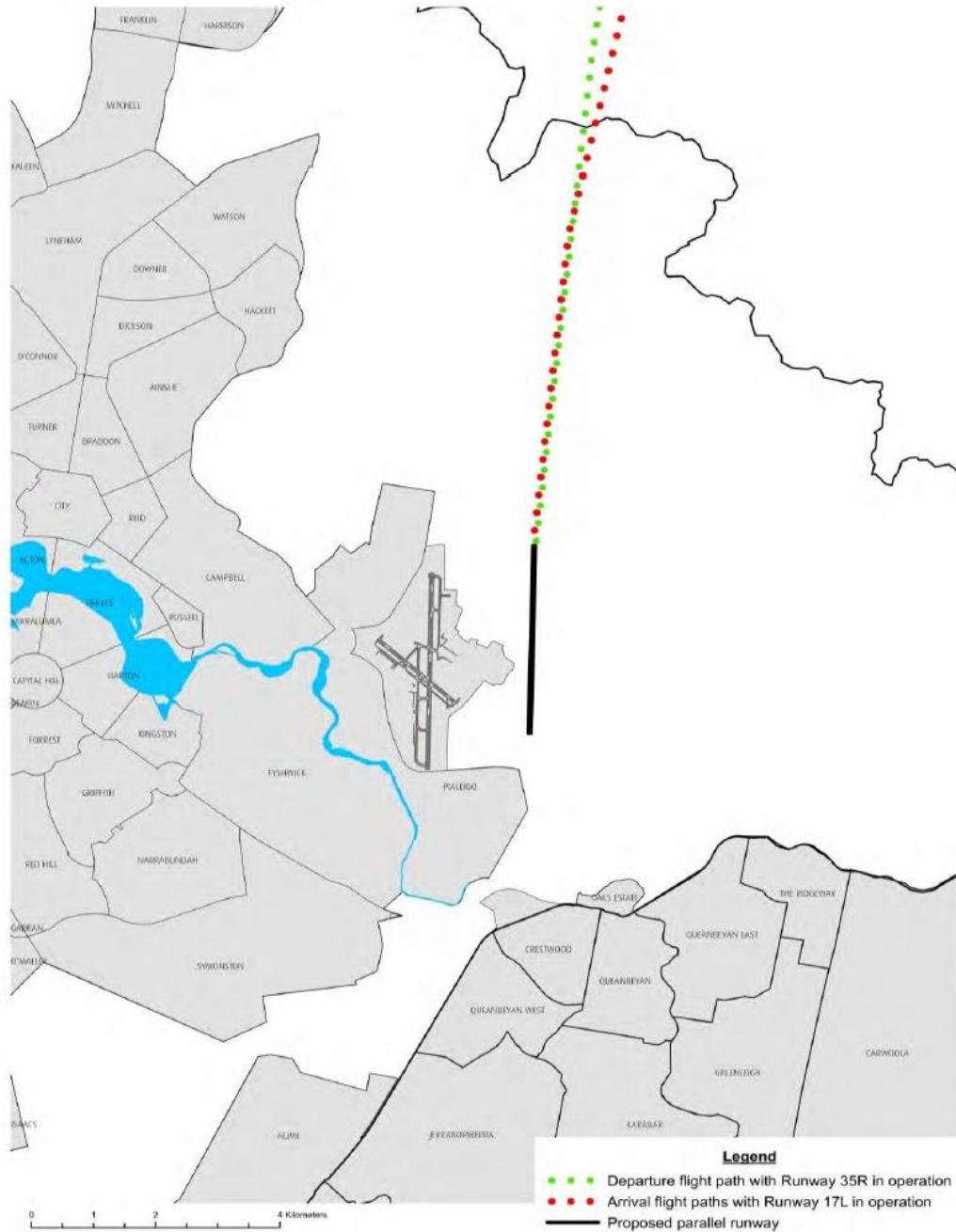
The use of general aviation mixed with RPT may necessitate additional run-up bays for general aviation use and the expansion or relocation of the current run-up bay.

Aircraft using Runway 12 arrival and Runway 30 departure are limited to light aircraft, less than 5.7 Tonne (MTOW), a result of the constraints of the nearby Canberra Noise Abatement Area. In the medium term 5-10 years, the use of Runway 12/30 may be restricted to Runway 30 arrival and Runway 12 departure on a shortened runway length.

In the short term, 1-3 years, and subject to further studies, the landing point for Runway 12 arrival will be moved by displacing the threshold up to 450m east of the existing threshold. This will mean aircraft on arrival to the displaced threshold will be higher over the new Majura Parkway and the now duplicated Majura Road. The current lower height street lighting under the Runway 12 arrival over the Majura Parkway compared to the balance of street lighting on the Parkway points to a need for a short-term safety improvement supplied by a displaced threshold.

Expanded operations may also require the installation of dedicated de-icing facilities. As also shown on Figure 7.2, High Intensity Arrival Lighting (HIAL) will be required for Runway 17 arrival, most likely when Airservices Australia upgrade the ILS to GLS, expected in less than 10 years.

Figure 7.3 - Parallel runway mode of operation



7.6 NAVIGATION AIDS AND FLIGHT PROCEDURES

Substantial upgrades have already been made to approach procedures at Canberra Airport to improve access to the Airport in low visibility conditions such as fog. Improvements in procedure design have allowed the 'decision height' for a capable aircraft landing on Runway 35 to be safely reduced to 100 feet above ground with the installation of transmissometer in 2016 and an upgrade of the Runway 17/35 lighting to CAT II in 2018/19. These works have further increased visibility and safety for pilots.

Future navigational equipment will increasingly be based on the use of airborne receivers interpreting signals from satellites and technologies such as Required Navigation Performance [RNP]. This trend will extend to precision approaches for runways with the use of a ground-based facility to augment the satellite signal.

Instrument Approaches with Vertical Guidance [APV], GPS augmentation devices, more runway being available, together with RNP procedures introduced in 2013 will permit lower decision heights allowing aircraft access to the Airport in lower visibility conditions. Using more of the runway strip and shifting the High Intensity Approach Lighting [HIAL] has enabled aircraft to operate under Special Category I, and full CAT II and in the future Category III precision approach procedures. The Airport continues to work closely with Airservices Australia, CASA, the airlines and Defence to introduce these procedures.

As part of enhancing low visibility operations at Canberra Airport, the current Runway 35 ILS and associated infrastructure such as approach lighting, would be moved further to the south. In addition, the establishment of an ILS or GLS precision arrival aid and HIAL on Runway 17 would allow landings from the north in low visibility weather conditions. The movement of the ILS or installation of GLS will also likely involve the simultaneous moving of the Runway 35 landing threshold as outlined above. Further navigation aids may also be established to allow for more flexible flight paths into and out of the Airport.

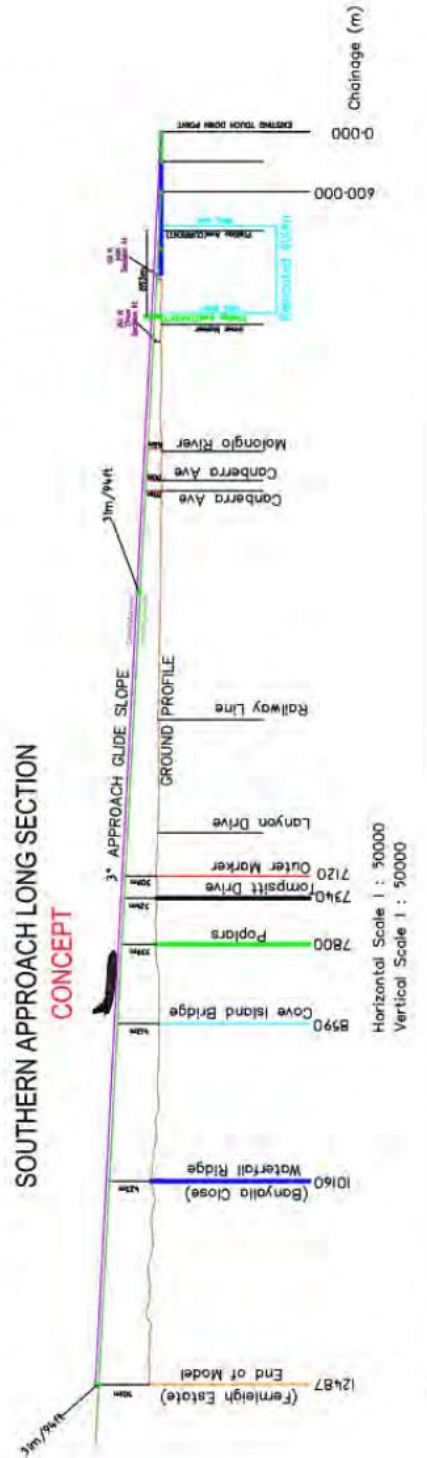
These additional navigation aids may include, but are not limited to:

- Additional runway and approach lighting on both runways and associated taxiway lighting [upgrading existing Category II to CATIII lighting];
- GPS/Ground-based Augmentation System [GBAS] ground stations;
- Precision approaches on Runway 30; and
- Any other equipment available overtime resulting in the increase in safety and reliability of arriving aircraft in low visual conditions.

Runway 17/35 may, should a business case warrant, be expanded up to a further 600 metres south which will require the relocation of Pialligo Avenue, either permanently or for use in low visibility conditions only. Similarly, as part of the implementation of precision approaches on Runway 30, the existing runway strip width of 90 metres may be expanded to 150 metres, either for the full length of the runway, or more likely for the eastern end of the runway only. In low visual conditions the preferred mode of operation will be Runway 17/35.

RNP (Smart Track) procedures have facilitated a curved approach for aircraft arriving Runway 35, thus routing some aircraft traffic formerly overflying Jerrabomberra to fly further to the west over rural lands including the rural properties such as Environa. Airservices research reveals this arrival procedure has a 9-10 dBA benefit to the Jerrabomberra community compared to the straight in ILS arrival.

Figure 7.4 – Instrument Landing System (ILS) glideslope altitude proposed 600 metre relocation of threshold – concept plan



7.7 AIR TRAFFIC CONTROL TOWER

A new digital ATC tower is planned by Airservices Australia for Canberra Airport following a media announcement in November 2018. The infrastructure is planned to be built and commissioned in the short term, in 2020. The new tower facilities will allow for greater flexibility in airspace management and have state-of-the-art technology. The new digital tower will be built, commissioned and operated by Airservices in compliance with ICAO and CASA standards. This new infrastructure will provide Canberra Airport with visual 24/7 air traffic control.

7.8 INFRASTRUCTURE DEVELOPMENT

Responding to the needs of the aviation users of the Airport for services and facilities, Canberra Airport has developed an implementation plan for the wide range of upgrades and improvements to aeronautical infrastructure to ensure the Airport caters for the future requirements of civil aviation and other uses of the Airport up to and beyond 2040.

Implementation will be in stages to meet expected demand and will be subject to separate financial, operational, and environmental assessment, as well as full compliance with all planning approvals required under the Airports Act. The timing of developments will be subject to demand and accordingly the timing below is indicative.

Short term aviation development (2020-2028) may include:

- Movement of Runway 35 threshold by up to 600 metres to the south including the movement of runway approach lighting and components of the CAT II ILS or future GLS, Glideslope and other navigational aids. This action will increase the frequency of arrivals in low visual conditions and is likely to require relocation of Pialligo Avenue;
- Displacement of Runway 12 arrival Threshold and landing point up to 450m east of existing;
- Construction of additional airline apron capacity to both the south and north-west of the terminal including the strengthening and upgrade of the general aviation apron;
- Extension of Taxiway Bravo to the northern Runway 17/35 threshold (works have commenced);
- Construction of one or more additional taxiway fillets linking the existing and extended Taxiway Bravo to Runway 17/35 and the RPT apron;
- Widening and strengthening of Taxiways Charlie, Hotel, Kilo, and Juliet;

- Construction of a turning node on Runway 17/35 to facilitate additional runway length for arrivals and departures on Runway 17;
- Construction of additional aprons at Fairbairn, including to the east and south of the existing apron and to the north along Taxiway Alpha, with additional access;
- Planning for the development of new general aviation facilities in Glenora or Fairbairn precincts;
- Introduction of freight hub facilities, including but not limited to, aircraft taxiways and parking apron warehousing facilities;
- Development of APV on Runways 17 and 35 to provide improved approach guidance;
- Installation of RVR measuring devices such as transmissometers on Runway 30;
- Provision of a GPS ground station;
- Upgrade GPS arrival procedures onto Runway 30;
- Construction of a new Digital ATC Tower System at the Airport and
- Upgrading airside roads.

Medium to longer term aviation development (2020 - 2040) may include:

- Development of aviation facilities along the east side of Taxiway Alpha with associated taxiway lanes and aprons;
- A correctly aligned and widened Taxiway Alpha along the full length of Runway 17/35;
- Extend runway 12/30 to the east and the associated realignment of Scherger Drive;
- Upgrade to Category III ILS/GPS on Runways 17 and 35;
- Further expand the passenger terminal;
- Further extend Runway 17/35 to the south including relocate or lower Pialligo Avenue;

- Refurbish and/or expand the airline terminal to connect with HSR and/or light rail;
- Additional aviation support facilities; and
- Upgrade of internal road system in the terminal precinct to accommodate HSR, light rail and other multi-modal facilities.





“Our key focus is to make sure that we have the right products and services to meet the growing demands and expectations of our retail customers, as well as more than 10,000 resident office workers across the Canberra Airport precinct”.

PUBLIC INFRASTRUCTURE, PRODUCTIVITY COMMISSION, MAY 2014



8 Development concept and options

High quality planning, stunning urban design, and world class architecture underpin development at Canberra Airport.

These design features create a sense of arrival and vibrancy to an airport that is recognised as the major gateway to the Nation's Capital.

It is this deliberate approach to planning that is enabling the Airport to fulfil its vision as a first-class facility serving the region's growing transport and business requirements.

This Chapter of the 2020 Master Plan examines the wide range of uses available to the Airport to maximise the growth of a range of aeronautical and commercial businesses. The development of the Airport's various precincts is also outlined. The growth of a lively, flexible and commercial environment is critical to the long-term growth of the Airport as a national and global gateway providing jobs to the region. This approach is in line with commercial developments at airports across Australia and the world, now known as the Aerotropolis.

The future growth of jobs in Canberra, the airport and the nearby region will be fueled by population growth, economic factors and industry trends.

The population of Canberra and adjacent Queanbeyan is currently about 490,000 and is forecasted (by the ACT and NSW) to top 500,000 by 2019/20 and 660,000 by 2040. Employment is currently about 245,000 jobs and this is expected to reach more than 330,000 jobs by 2040.

The location of where these additional 85,000 jobs will be located is a matter for further planning work following on from the ACT 2018 Planning Strategy and Queanbeyan-Palerang Regional Council planning.

One of the opportunities is the Eastern Broadacre which has been identified, since the 2004 Canberra Spatial Plan, as a significant future employment land corridor. The National Capital Plan (approved by the Commonwealth Minister in May 2016) acknowledged this opportunity for the Eastern Broadacre by providing a planning overlay of "Potential Future Urban", which is subject to further detailed assessment.

The Airport's precinct development over the past twenty-one years provides a solid platform for growth of the ACT's release of employment land in this new employment corridor, especially within the Majura Valley, in a similar way to the ACT Government's sale of land to IKEA, leveraging off the Airport's investment in the Majura Park retail precinct.

Brindabella Business Park was conceived as an aerospace, Department of Defence and IT hub. More recently the Park has become home to Australia's Cyber Security headquarters and offices for the Australian Border Force (Home Affairs).

With planning and focus by the Airport, Brindabella Park has become Australia's most sustainable business centre incorporating a number of landmark sustainable buildings and now has a workforce of about 9,500.

Canberra's major industry is government administration, Defence and private sector office users, mostly serving government. Canberra and the region comprise less than two percent of Australia's population, however, Canberra's office stock at 2.32 million square metres Net Lettable Area [NLA] is Australia's fourth largest and comprises 9.2 percent of Australia's 25.2 million square metres [Property Council of Australia, January 2019].

Canberra Airport is home to 8.8 percent of Canberra's office stock as at January 2019.

Canberra's early planners located the Airport close to the City Centre and the Parliamentary Zone and away from residential areas, giving the Airport a convenient location and scope for long term sustainability.

Roadworks around the Airport over the past 14 years, including the most recent significant Majura Parkway, has facilitated ready access for passengers, workers and shoppers.

The future development over the next 20 years of the Eastern Broadacre employment land by the ACT Government in the Majura Valley will reinforce existing land uses within the Majura Valley which now comprise Defence and AFP education, research and training, government and private sector IT, a range of employment vocations, retail and Aviation, while servicing jobs growth demand forecast to 2040.

8.1 OVERVIEW

Consistent with all previous Master Plans, the Airports Act and the representations made by the Australian Government during the airport sales process, a wide range of uses of the Airport site are permitted in order to achieve Canberra Airport's vision:

Our vision is to develop Canberra Airport as a first-class facility to serve the region's evolving transportation, business and development needs and to maximise the growth of a wide range of aeronautical and other businesses.

The importance of aviation and Canberra Airport's intent to promote the overall growth of aviation traffic and services should not be underestimated. In addition to these aviation uses, there is clearly a significant demand for additional uses on the Airport site, evidenced by the growth of Brindabella Business Park, Fairbairn and the

Majura Park precincts. Currently there are about 14,000 jobs on Canberra Airport. Canberra Airport intends to continue with such commercial developments, implicit in which is an extensive range of uses, to allow flexibility in planning to cater for changes in future demand.

It must also be recognised the extensive aviation infrastructure works completed over the last 21 years, and particularly the \$500 million terminal project (2013-14), have only been possible because of the revenue derived from Canberra Airport's non-aviation developments. In order to obtain finance, it has been and continues to be, critical to establish airport business which is not reliant upon only one revenue source - especially not one subject to the instability of aviation. In short, the non-aeronautical revenues effectively 'drought proof' the aviation business which gives banks and other financial institutions the ability to lend to finance aviation infrastructure development.

All uses outlined in this Chapter utilise definitions derived from the National Capital Plan (NCP). All development on Airport was subject to National Capital Authority Works Approval between 1998 and May 2007 and is consistent with the National Capital Plan (refer Chapter 4).

All aeronautical and other developments on Airport is also checked for compliance with all relevant Australian Government safety and security requirements.

8.2 INDICATIVE PRECINCT PLANNING VISION

Following the privatisation of Canberra Airport in 1998 the Airport obtained approval in the 1999 Master Plan, with the support of the ACT Government, for a wide range of land uses in a variety of different precincts to develop a diverse and vibrant airport. The National Capital Plan was amended a number of times between 1999 and 2004 to, amongst other things, facilitate the approved Master Plan including the identification of the Airport as an Office Employment Location in the metropolitan context, consistent with NCP. The indicative vision for each of these precincts is presented below to show the potential direction of development. While Canberra Airport may extend, vary or modify its existing buildings and/or carparking areas within each precinct [including changing the use of that building or carpark], it will only undertake such works in accordance with, and after obtaining, all relevant approvals.

Some tenants sometimes desire that other tenants not be located in proximity to their tenancy. If such a case arises, tenants may be able to negotiate an exclusivity agreement with Canberra Airport to restrict uses surrounding their site on commercial terms. This 2020 Master Plan in no way gives any tenants rights beyond those prescribed in their leases and as required by law.

Retail is permitted and is intended to take place in Brindabella Business Park, Majura Park, and Fairbairn precincts [unchanged from the 1999 and subsequent Master Plans]. Retail is defined in the NCP as 'the selling of goods and providing personal services in

any quantity and by any means other than by wholesale and includes retail shops, restaurants, drink establishments, drive-in facilities, bulky retailing, bulk landscape supplies, vehicle sales, service stations, retail plant nurseries, and produce markets.

This 2020 Master Plan confirms Majura Park will be the only Airport precinct, external to the passenger terminal retail area, with a shopping centre (incorporating a large number of small tenancies) over 5,000 square metres gross lettable area [GLA]. This 2020 Master Plan is due to be refreshed in 2028 consistent with the 2018 amendments of the Airports Act and the 2028 Master Plan will review this criteria.

Included in the list of 'Shared Understandings' in the December 2010 Memorandum of Understanding between the ACT Government and Canberra Airport, it is not expected that more than 60,000 square metres of Gross Floor Area [GFA] of retail (excluding bulky goods retail) will be available in Majura Park. In 2019 there is about 21,000 square metres of retail.

The ongoing development of Canberra Airport, which also comprises the commercial precincts has been agreed with the ACT Government in various ways, including Memoranda of Understanding (MOUs) signed in 2010 and 2015.

8.2.1 PERMITTED LAND USES IN THE AIRPORT PRECINCTS

The format of permitted land uses was created in response to the National Capital Authority comments to the 1999 Preliminary Draft Master Plan.

Whilst the National Capital Plan no longer applies to the Airport, the Airports Act requires land use definitions to adopt the language of the local statutory planning framework. The land use definitions are consistent with the National Capital Plan, the primary planning document for the ACT.

Specifically, in accordance with Section 10 of the Australian Capital Territory (Planning and Land Management) Act 1988m, the Plan sets out the broad planning principles and policies for Canberra and the Territory, and detailed conditions of planning, design and development for the 'Designated Areas' because of their particular importance to the special character of the national capital.

Notwithstanding the timing for development as indicated in Figures 8.2-8.6 inclusive, as either within eight years or 20 years, this 2020 Master Plan permits development within all areas within the next eight years.

Developments will be permitted if they conform to the land use tables set out for each precinct. Development uses which are not specified in a particular precinct and/or land use category may be permitted on a case-by-case basis, following consideration by Canberra Airport as to whether the proposed use is consistent with the general theme of the precinct and is in keeping with the types of activity listed in the land use category.

Any new development with airside access must factor security requirements into the design as appropriate. This 2020 Master Plan does not limit the land uses set out, or existing use permitted activities in the precincts, but rather provides an indicative precinct development vision.

If a major development plan is required, then the proposed development will also require the approval of the Minister for Infrastructure, Regional Development and Cities.

Canberra Airport has recently received approval for major development plans for the following:

- 9 Molonglo Drive, Brindabella Business Park, July 2018. A proposed 20,000 sqm NLA office building;
- 25 Catalina Drive, Majura Park, February 2019. A proposed 20,000 sqm NLA office building; and
- 6 Brindabella Circuit, Brindabella Business Park, July 2019. A proposed 20,000 sqm NLA office building.

Further, Canberra Airport is progressing an additional MDP:

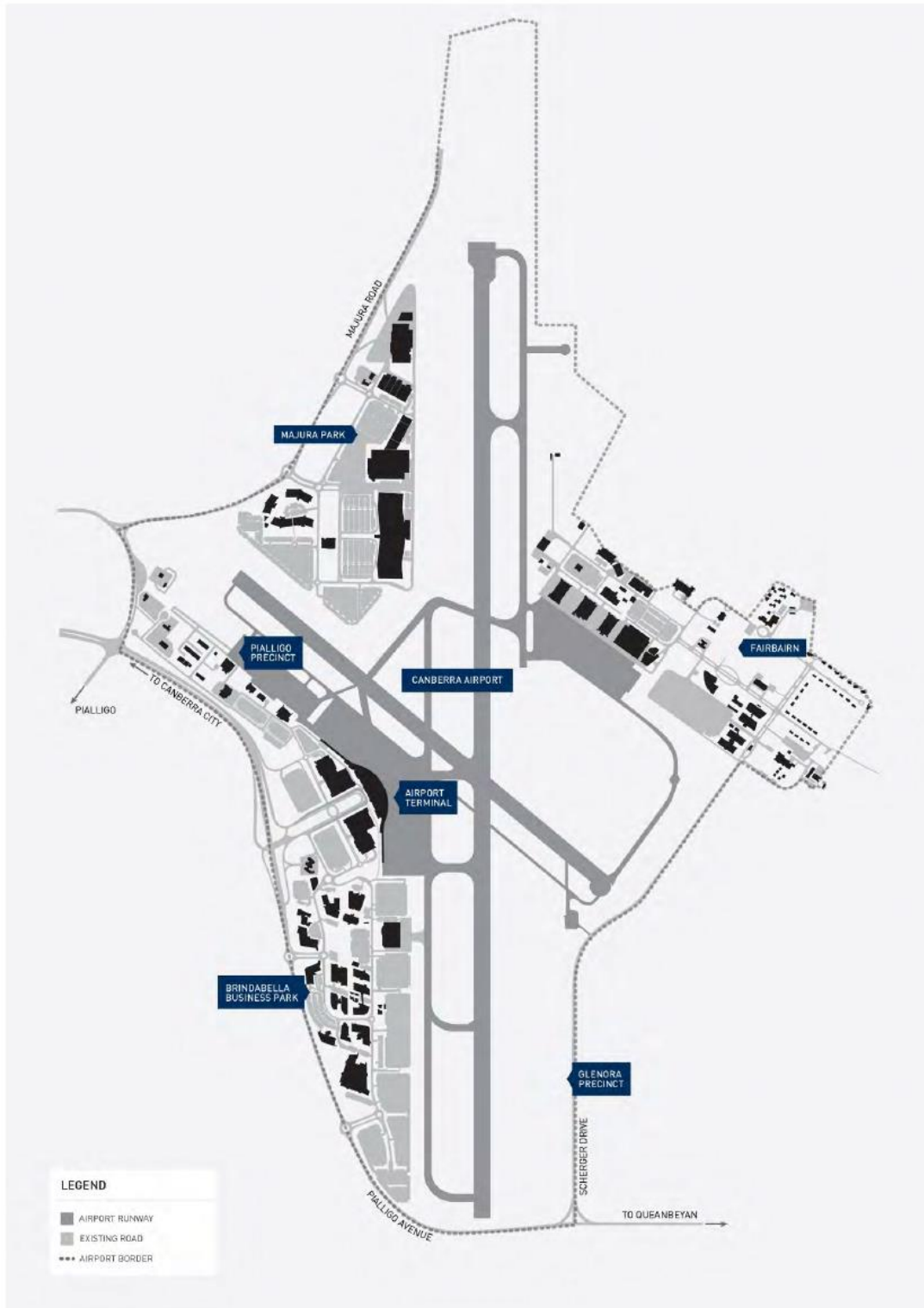
- 27 Brindabella Circuit, Brindabella Business Park. A proposed 20,000 sqm NLA office building.

Each of these building proposals will likely have active ground floor frontages for food and beverage and retail opportunities.

Earlier major development plan approvals include:

- Runway and Taxiway Upgrades – 2004 and 2006;
- Majura Park Shopping Centre - 2005;
- Southern Office Park – 2007;
- Majura Park and 15 Lancaster Place – 2008;
- The Terminal – 2003 and 2010; and
- The Vibe Hotel – 2014.

Figure: 8.1- Current infrastructure



8.3 AIRPORT TERMINAL AND PIALLIGO PRECINCT

8.3.1 AIRPORT TERMINAL

The terminal precinct is, and will remain, the main area for processing arriving and departing passenger movements. This precinct currently handles the vast majority of the passenger movements through Canberra Airport, with a small minority moving through the Pialligo precinct, and through Fairbairn.

The Terminal since September 2016 services both international and domestic airlines. Singapore Airlines and Qatar Airways both now provide daily services.

Like many modern terminals, the terminal has been, and will continue to be, complemented by a wide range of facilities in the area. These facilities may include services such as, but not limited to, on-grade and structured car parks, taxi, bus and hire car facilities, feeder ramps, offices, maintenance facilities, food outlets, retail, hotels, showrooms and conference facilities.

Over time, the terminal and airline apron will grow towards the Qantas maintenance hangar [9 Brindabella Circuit] in the south and the current general aviation apron to the west. Refer to Figures 8.2 and 8.3.

An area for the development of support activities is provided adjacent to the terminal area, predominantly within the terminal and Pialligo precincts. Such facilities are designed to cater for services needed by the users and customers of the terminal. Terminal support facilities include, but are not restricted to, airfreight services and support services, catering and food outlet services, general maintenance and special areas for RPT operations, retail facilities, rental car facilities and maintenance, parking and administration, fuel facilities and other support activities and services, necessary for the operation of the terminal and the provision of RPT services.

The Vibe Hotel, dnata airline kitchen and Pak Fresh Freight have been developed and commissioned since 2015.

This area is planned to provide a number of sites with direct airside road access, and sites without direct airside access as required. The progressive relocation of airfreight and catering buildings and services to this area will continue.

8.3.2 PIALLIGO PRECINCT

The Pialligo precinct, which currently incorporates much of the general aviation activity on the Airport, is undergoing a makeover with new infrastructure completed including roadways, Pak Fresh freight, dnata kitchen, and rental car facilities for Hertz expansion and Europcar. The precinct currently caters for a range of activities for a variety of aviation, office and other uses.

The terminal expansion outlined above has meant much of the land in this precinct is required for airline operations and associated support facilities. This requirement for land within the Pialligo precinct is likely to develop further as airline operations continue to expand and there is further need for increased terminal and apron expansion.

It should be noted land within the precinct is limited due to the proximity of Pialligo Avenue and the short distance between Runway 12/30 and Pialligo Avenue, and it is expected the future overall development plot ratio for the precinct as a whole will be in the order of 0.6:1 [building area NLA : land area]. Refer to Figures 8.1 and 8.2.

The objective is to create an attractive landscaped setting for the growth of a wide range of businesses in the precinct area. New buildings will be of a high-quality character similar to the existing higher quality buildings in the Pialligo precinct.

Landscaping in the Pialligo precinct largely requires upgrading to a higher character with the removal of existing trees and their replacement with younger, more durable, stock. This area will be developed further to open up a range of sites and to further expand activity. As part of this redevelopment, the main access route through the Pialligo precinct, will be realigned to run through the centre of the precinct [from the terminal precinct to connect with Fairbairn Avenue] and named George Tyson Drive. Landmark, larger scale commercial buildings will also be developed including at the current gateway to the Airport and at the corner of Pialligo and Fairbairn Avenues. As pressure develops on existing sites, further sites to allow for greater growth and the expansion of aviation operations [including general aviation] will also be opened up in other precincts.

As previously discussed, freight and other support services are likely to become an increasingly significant use for this area as the Airport develops as an important freight hub in the context of an evolving east coast airfreight network and as international services commence.

The southern part of this precinct presents opportunities to develop an 'airport park' commercial zone providing a new, attractive frontage to Pialligo Avenue between Fairbairn Avenue and the entrance to the Airport.

Possible development next five-eight years

- Airline maintenance facility;
- freight facilities;
- An airline apron;
- A freight apron;
- airline catering facilities; and
- George Tyson Drive extension.

The range of land use opportunities forecast for the Airport terminal and Pialligo precinct within the next 20 years are as set out in Table 8.2.

Figure 8.2 - Terminal and Pialligo precinct



Table 8.1- Airport Terminal and Pialligo precinct indicative land use table

| Category | Permitted and Intended Uses Include |
|--------------------------|---|
| Transport Facility | The use of land or a building for or associated with the movement of goods and people by road, rail, and air. |
| Industry | The use of land for the principal purpose of manufacturing, assembling altering, repairing, renovating, ornamenting, finishing, cleaning, washing, winning of minerals, dismantling, processing, or adapting of any goods or any articles. |
| Tourist Facility | The use of land for the purpose of providing entertainment, recreation, cultural or similar facilities for use mainly by the general touring or holidaying public. This may include a restaurant, café, bar, service station, tourist accommodation (including motel) and the retail, sale of crafts, souvenirs, antiques and the like. |
| Commercial Accommodation | A building or place used for the purpose of providing temporary accommodation and includes hotel, motel, guest house, caravan park/camping ground, serviced apartment, serviced house and the like. |
| Defence Installation | A building or place operated by the Department of Defence or the armed forces of Australia and includes Department of Defence offices, offices associated with national security and defence communication facilities, but does not include facilities associated with military aviation. |
| Broadacre | As set out in the National Capital Plan. Section 3.6.3. |

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| Office | Any premises used for the purpose of administration (including commercial or public administration) and clerical, technical, professional or like business activities. |
| Other Land Uses: Bank, Car Park, Childcare Centre, Communications Facility, Community Facility, Consulting Rooms, Educational Establishment, Indoor Recreation Facility | As set out in the National Capital Plan. Appendix A. |

8.4 BRINDABELLA BUSINESS PARK

Development of a vibrant, flexible and supportive commercial environment is essential to the long-term growth of Canberra Airport as a commercial entity.

Commercial development generally associated with airports throughout Australia and overseas and permitted at Canberra Airport includes but is not limited to hotels, conference centres, service stations, food and beverage outlets, retail, offices, reservation centres, and business park. These diverse airport developments are now known worldwide as Aerotropolis.

Brindabella Business Park has led a significant diversification of the uses across Canberra Airport. Brindabella Business Park was conceived as an aerospace, defence and IT hub and has developed into a multi-use zone, largely for a wide range of office accommodation but also for a range of uses such as small-scale retail, aircraft maintenance, and other professional services.

Brindabella Business Park has developed since its inception in 2000 into Australia's most sustainable business park and incorporates a number of landmark sustainable buildings. It is part of the Canberra Airport major Activity Node as initially acknowledged by the ACT Government in 2002-4 in the ACT Economic White Paper [2003] and The Canberra Spatial Plan.

Brindabella Business Park has opportunities now available for the development of up to three additional buildings. Currently there is 148,000 square metres NLA of buildings completed, and 20,000 square metres NLA approved (9 Molonglo Drive) and yet to be constructed. In addition, two major development plans (6 and 27 Brindabella Circuit) are being progressed for up to 40,000 square metres NLA. On completion of these three buildings, Brindabella Business Park will realise a plot ratio less than 0.8:1 (Figure 8.3).

Additional parking may be provided by way of structured car parks on existing car parks if required. Buildings are also permitted to be built on existing car parks or ovals during the life of this 2020 Master Plan.

Possible development next five-eight years

- One or more office buildings on sites bounded by Brindabella Circuit, Molonglo Drive and Pialligo Avenue and as set out on Figure 8.3; and
- Structure car parking over existing on-grade car parking areas with access from Brindabella Circuit and/or Molonglo Drive.

The range of land use opportunities forecast for Brindabella Business Park within the next 20 years is set out in Table 8.2.

Table 8.2 - Brindabella Business Park precinct indicative land use table

| Category | Permitted and Intended Uses Include |
|--------------------------|---|
| Transport Facility | The use of land or a building for or associated with the movement of goods and people by road, rail, and air. |
| Industry | The use of land for the principal purpose of manufacturing, assembling altering, repairing, renovating, ornamenting, finishing, cleaning, washing, winning of minerals, dismantling, processing, or adapting of any goods or any articles. |
| Tourist Facility | The use of land for the purpose of providing entertainment, recreation, cultural or similar facilities for use mainly by the general touring or holidaying public. This may include a restaurant, café, bar, service station, tourist accommodation (including motel) and the retail, sale of crafts, souvenirs, antiques and the like. |
| Commercial Accommodation | A building or place used for the purpose of providing temporary accommodation and includes hotel, motel, guest house, caravan park/camping ground, serviced apartment, serviced house and the like. |

| | |
|--|---|
| Defence Installation | A building or place operated by the Department of Defence or the armed forces of Australia and includes Department of Defence offices, offices associated with national security and defence communication facilities, but does not include facilities associated with military aviation. |
| Broadacre | As set out in the National Capital Plan. Section 3.6.3. |
| Office | Any premises used for the purpose of administration (including commercial or public administration) and clerical, technical, professional or like business activities. |
| Other Land Uses: Bank, Car Park, Childcare Centre, Communications Facility, Community Facility, Consulting Rooms, Educational Establishment, Indoor Recreation Facility, Outdoor Recreation and Retail Plant Nursery. | As set out in the National Capital Plan. Appendix A. |

Figure 8.3 - Brindabella Business Park precinct



8.5 MAJURA PARK PRECINCT

Majura Park has developed into one of Australia's best planned retail precincts and is currently home to:

- Woolworths supermarket;
- Costco's third Australian store;
- Aldi
- Bunnings;
- Big W;
- Majura Park Shopping Centre;
- Lollipops Playland; and
- Medical Centre.

Other significant retail tenants occupying dedicated tenancies include:

- King Swim and Eccentric Gym;
- Woolworths Service Station;
- Costco Service Station;
- McDonalds;
- Dan Murphy Airport Cellars;
- Pet Barn;
- Pillow Talk;
- Barbeque's Galore
- Trek Cycles; and
- Ray's Outdoors.

As such Majura Park has acted as a major attractor to the broader Capital and southern NSW region. The ACT Government has leveraged off the Majura Park infrastructure through the development of a bulky goods retail park [initially of 7.8 hectares] with IKEA.

As with previous Master Plans, this 2020 Master Plan confirms Majura Park will be the only Airport precinct external to the passenger terminal retail area, with a shopping centre [incorporating a large number of small tenancies] over 5,000 square metres GLA before 2029.

This precinct has formed a commercial hub for Canberra Airport. The vision for this precinct is for a mixed-use area, capitalising on the retail and office opportunities that exist for the precinct, and developing Majura Park as a vibrant, exciting business, office, industry, leisure, and retail zone. Currently there is 21,000 square metres Gross Leasable Area Retail [GLAR] of shopping centre use, 31,500 square metres of bulky goods retail, 7,000 square metres of other retail [plus the service station and McDonalds], 2,500 square metres of medical and sports centre uses and 38,000 square metres NLA of completed offices in Majura Office Park.

There is also 20,000 square metres NLA of offices at 25 Catalina Drive which has been approved and yet to be constructed at Majura Office Park.

Buildings can be built on the existing vacant land as shown in the indicative Figure 8.4 and also on existing car parks. Structured parking may also be built on existing car parks. Majura Park will likely have a similar plot ratio outcome to Brindabella Business Park and be in the order of 0.7:1 as agreed with the ACT Government, and over time, the office space will approach approximately half that in Brindabella Park. Access to the precinct is from Majura Road, now duplicated between Mustang and Fairbairn Avenues and the Majura Parkway via the south bound slip lane, Meddhung Road.

Majura Park may also be developed over time to include aviation and aviation support facilities to respond to the needs of aviation users.

Possible development next five-eight years

- Additional retail premises provided by either extension to existing retail and/or new building/s on future development sites proposed in Figure 10.4; and
- Office building/s shown as approved or on nearby site shown as proposed in Figure 8.4.

The indicative range of land use opportunities forecast for Majura Park within the next 20 years is as set out in Table 8.3.

Table 8.3 - Majura Park precinct indicative land use table

| Category | Permitted and Intended Uses Include |
|--------------------|--|
| Transport Facility | The use of land or a building for or associated with the movement of goods and people by road, rail, and air. |
| Industry | The use of land for the principal purpose of manufacturing, assembling altering, repairing, renovating, ornamenting, finishing, cleaning, washing, winning of minerals, dismantling, processing, or adapting of any goods or any articles. |

| | |
|--|---|
| Tourist Facility | The use of land for the purpose of providing entertainment, recreation, cultural or similar facilities for use mainly by the general touring or holidaying public. This may include a restaurant, café, bar, service station, tourist accommodation (including motel) and the retail, sale of crafts, souvenirs, antiques and the like. |
| Commercial Accommodation | A building or place used for the purpose of providing temporary accommodation and includes hotel, motel, guest house, caravan park/camping ground, serviced apartment, serviced house and the like. |
| Defence Installation | A building or place operated by the Department of Defence or the armed forces of Australia and includes Department of Defence offices, offices associated with national security and defence communication facilities, but does not include facilities associated with military aviation. |
| Broadacre | As set out in the National Capital Plan. Section 3.6.3. |
| Office | Any premises used for the purpose of administration (including commercial or public administration) and clerical, technical, professional or like business activities. |
| Other Land Uses: Bank, Car Park, Childcare Centre, Communications Facility, Community Facility, Consulting Rooms, Educational Establishment, Indoor Recreation Facility, Outdoor Recreation and Retail Plant Nursery. | As set out in the National Capital Plan. Appendix A. |

Figure 8.4 - Majura Park precinct



8.6 FAIRBAIRN PRECINCT

Fairbairn is comprised largely of the land occupied by the former RAAF Base in that precinct. The base was vacated by the Department of Defence in May 2004, with the exception of the 34 Squadron SPA Fleet. Since that date, the focus has been on the rejuvenation of the precinct, the refurbishment of the useable buildings in Fairbairn, and the development of additional major uses such as a number of office buildings.

Currently there is approximately 34,000 square metres NLA completed in six new office buildings [including the ACT Emergency Services Agency Headquarters and Communications Centre], approximately 50,000 square metres GFA of renovated hangars and adapted former RAAF buildings used for a variety of uses including offices. On completion, Fairbairn will likely have a similar plot ratio outcome to Brindabella Business Park and Majura to be in the order of 0.65:1. Development within the Fairbairn precinct will be consistent with the Canberra Airport Fairbairn Housing Strategy.

Fairbairn is currently accessed from Pialligo Avenue to the south via Scherger Drive. This 2020 Master Plan, in line with every Master Plan which has been approved since 1997, proposes a second access road from Majura Road to the north as indicated in Figure 8.7. The Airport is engaged in a process with the Australian (through the Departments of Defence and Infrastructure) and ACT Governments for the land to be transferred to the ACT Government and then leased to the Airport with the obligation to immediately construct the road. The alignment of the road is agreed with all parties and it is hoped that arrangements for the transfer can be concluded in the next twelve months with construction to commence early in the 2020/21 financial year.

8.6.1 FAIRBAIRN URBAN CHARACTER AND HISTORIC VALUE

With the upgrades to the landscaping and the rejuvenation of gardens and main avenues, Fairbairn now has an outstanding urban character and a unique manicured feel. Over time, the landscaping will develop a more urban feel as the number of people using Fairbairn increases.

Elements of the Fairbairn precinct were listed on the Register of the National Estate on 20 May 2003. However, this interim listing has now been superseded by the Fairbairn Heritage Management Plan (FHMP). As a consequence of this interim listing, and respective changes to the Environment Protection and Biodiversity Conservation Act 1999 [EPBC Act], Canberra Airport commissioned a heritage expert to produce the FHMP. The FHMP was approved by the then Department of Environment, Water, Heritage and the Arts in 2010 and has subsequently been reviewed without change in 2014 and 2019 in a manner co-ordinated with the review of the Master Plan and the Environment Strategy.

The intent at Fairbairn, like other Airport precincts, is to maintain the buildings and other infrastructure to a quality standard necessary to meet the demands of modern tenants. In some cases, this involves restoring older buildings where viable, while in other cases wholesale demolition and redevelopment of derelict building sites is required. Canberra Airport has already undertaken a major upgrade program to re-present Fairbairn since the Department of Defence vacated in May 2004.

These works include:

- The removal of all portable, demountable and temporary buildings [with over 50 such structures already removed from Fairbairn];
- The renovation and provision of new landscape within roadways, verges and around buildings [including the remedial works to trees that died or were severely impacted by the drought during 2002/03 and severe wind events since];
- The renewal of primary infrastructure services and the provision of new infrastructure as required;
- The refurbishment and/or adaption to new use of buildings [including adaptive reuse of six buildings of heritage interest]; and
- The construction of six new office buildings, including the ACT Emergency Services Agency Headquarters.

The FHMP contains elements that demonstrate direct contribution to Commonwealth heritage values and retain the ability to demonstrate significance. These elements include, but are not limited to, the roadway layout with axial alignment, the avenue of trees along the primary roadways [but not the individual trees], the campus style development character, and the relationship of development and aviation activities.

In previous Master Plans, the Airport identified some buildings of potential heritage interest, consistent with the FHMP, for demolition in the near to medium term. These buildings included:

- The former Sergeant's Mess, disused, run-down and demolished in 2010;
- The former Bellman Hanger, now warehouse - mooted for future removal when a new Taxiway Alpha is to be constructed;
- The former Transport Building demolished in 2009 due to asbestos;
- The former Gun Testing structure, now disused squash court and run-down - mooted for future removal when a new Taxiway Alpha is to be constructed;

- The former Staff College, disused, run-down and demolished in 2011;
- The former Photographic Store, now upgraded for alternate carpark office use; and
- The demolition of over 300 bedrooms of former residential accommodation for Airmen, Non-Commissioned Officers and Officers. This program was completed in 2013.

Some additional buildings will require demolition for road works and aviation infrastructure.

8.6.2 FAIRBAIRN AVIATION FACILITIES

Fairbairn has ample opportunities for the expansion of aviation operations. Already the SPA fleet and the ACT Emergency Services Headquarters have moved to the precinct. Fairbairn will continue to play a role in providing aviation services for the Airport in addition to visiting heads of state and VIPs. There is particular opportunity for non-regular public transport and airfreight facilities to be located in this precinct. Freight users will be targeted for this precinct as there are ample opportunities for this use. Major aviation services may be located largely immediately to the south of the existing apron towards Runway 12/30, with further expansion also to the north of the current aviation operations towards and beyond the run-up bay off Taxiway Alpha. Refer to Figure 8.5.

Fairbairn will also be an area for the development of further general aviation infrastructure and services. In this regard, Canberra Airport will continue to discuss services and facilities to be provided in that area with existing general aviation users at the Airport.

8.6.3 FAIRBAIRN COMMERCIAL DEVELOPMENT

Fairbairn will be developed as a vibrant and diverse mixed-use zone with a large variety of different uses. There is an increasing focus for tenants with high security requirements in the Majura Valley. Part of the vision for Fairbairn is to attract major security, Department of Defence, public and private sector and other tenants requiring such infrastructure, along with other office tenants who may be attracted to the precinct. An office and mixed-use zone will be developed without impact on aviation operations.

Canberra Airport from time to time continues to be approached by flight schools to establish a training college with on-airport accommodation. This may involve a range of education and training facilities in Fairbairn over time and may include a training school and aviation college.

Fairbairn will capitalise on the existing conference and training facilities by attracting tenants, operators and other users who may wish to use such facilities or be located in this area. This is likely to include tourism, retail, hotel, and other commercial accommodation. Finally, there is opportunity for a vibrant diversity of other uses such as light industrial, maintenance, data centre, and warehousing.

There are currently a number of accommodation buildings located in Fairbairn which were used to accommodate members of the RAAF. These buildings are currently used for accommodation. These buildings are located a substantial distance away from aviation activities. This use will continue through the medium to longer term. Significant accommodation has been demolished or relocated off Airport to make way for new higher order uses. There are restrictions on new residential development under the Airports Act.

Possible development next five-eight years

- Hangars within the area south-east and/or north-west of the existing and future expanded Fairbairn apron as set out on Figure 7.1;
- New apron as indicated on Figure 7.1;
- Freight and logistics facilities generally with frontage to the existing or future Fairbairn apron;
- Additional buildings and upgraded infrastructure for the SPA;
- New data centre sites including locations adjoining existing data centres on Scherger Drive and Amberley Avenue;
- Tertiary education and training facility nearby existing facilities on Laverton Avenue;
- Workplace childcare centre to be centrally located; and
- Office buildings, most likely on Richmond Avenue, Laverton Avenue and/or Scherger Drive.

The range of land use opportunities forecast for Fairbairn within the next 20 years are as set out in Table 8.4. Development at Fairbairn will be gradual and incremental in response to user demand. Buildings can be built on existing vacant land, existing car parks, and in place of buildings which have been or will be demolished. Development of the precinct is likely to take significantly longer than 20 years.

Table 8.4 - Fairbairn indicative land use table

| Category | Permitted and Intended Uses Include |
|--------------------------|---|
| Transport Facility | The use of land or a building for or associated with the movement of goods and people by road, rail, and air. |
| Industry | The use of land for the principal purpose of manufacturing, assembling altering, repairing, renovating, ornamenting, finishing, cleaning, washing, winning of minerals, dismantling, processing, or adapting of any goods or any articles. |
| Tourist Facility | The use of land for the purpose of providing entertainment, recreation, cultural or similar facilities for use mainly by the general touring or holidaying public. This may include a restaurant, café, bar, service station, tourist accommodation (including motel) and the retail, sale of crafts, souvenirs, antiques and the like. |
| Commercial Accommodation | A building or place used for the purpose of providing temporary accommodation and includes hotel, motel, guest house, caravan park/camping ground, serviced apartment, serviced house and the like. |
| Defence Installation | A building or place operated by the Department of Defence or the armed forces of Australia and includes Department of Defence offices, offices associated with national security and defence communication facilities, but does not include facilities associated with military aviation. |
| Broadacre | As set out in the National Capital Plan. Section 3.6.3. |

| | |
|--|--|
| Office | Any premises used for the purpose of administration (including commercial or public administration) and clerical, technical, professional or like business activities. |
| Other Land Uses: Bank, Car Park, Childcare Centre, Communications Facility, Community Facility, Consulting Rooms, Educational Establishment, Indoor Recreation Facility, Outdoor Recreation and Retail Plant Nursery. | As set out in the National Capital Plan. Appendix A. |

Figure 8.5 - Fairbairn precinct



8.7 GLENORA PRECINCT

This undeveloped area is adjacent Scherger Drive. Refer Figure 8.6. It plays an important role in terms of air navigation facilities and the Airservices Australia ARFF Fire Station.

It is likely the existing navigation facilities will be moved further south with the movement of the Runway 35 threshold within the next ten to twenty years.

There is significant opportunity to develop a mixed-use zone, which will incorporate a wide range of uses including a general aviation area, along with small scale retail and office uses, without impacting on aviation or ARFF operations.

Possible development next five-eight years

- A general aviation apron;
- Taxiways; and
- Hangars.

The range of land use opportunities forecast for Glenora precinct within the next 20 years is as set out in Table 8.5.

Table 8.5 - Glenora precinct indicative land use table

| Category | Permitted and Intended Uses Include |
|--------------------|--|
| Transport Facility | The use of land or a building for or associated with the movement of goods and people by road, rail, and air. |
| Industry | The use of land for the principal purpose of manufacturing, assembling altering, repairing, renovating, ornamenting, finishing, cleaning, washing, winning of minerals, dismantling, processing, or adapting of any goods or any articles. |

| | |
|--|---|
| Tourist Facility | The use of land for the purpose of providing entertainment, recreation, cultural or similar facilities for use mainly by the general touring or holidaying public. This may include a restaurant, café, bar, service station, tourist accommodation (including motel) and the retail, sale of crafts, souvenirs, antiques and the like. |
| Commercial Accommodation | A building or place used for the purpose of providing temporary accommodation and includes hotel, motel, guest house, caravan park/camping ground, serviced apartment, serviced house and the like. |
| Defence Installation | A building or place operated by the Department of Defence or the armed forces of Australia and includes Department of Defence offices, offices associated with national security and defence communication facilities, but does not include facilities associated with military aviation. |
| Broadacre | As set out in the National Capital Plan. Section 3.6.3. |
| Office | Any premises used for the purpose of administration (including commercial or public administration) and clerical, technical, professional or like business activities. |
| Other Land Uses: Bank, Car Park, Childcare Centre, Communications Facility, Community Facility, Consulting Rooms, Educational Establishment, Indoor Recreation Facility, Outdoor Recreation and Retail Plant Nursery. | As set out in the National Capital Plan. Appendix A. |

Figure 8.6 - Glenora precinct



8.8 SIGNAGE POLICY

Airports in Australia have developed with commercial signs [including billboards] inside and outside terminal buildings. In keeping with the objective of developing a commercial environment, this 2020 Master Plan, consistent with previous Master Plans proposes a commercial signage regime that would be controlled to optimise signage values, income and quality.

8.8.1 GENERAL AND TENANT SIGNS

Signs allowed [subject to Canberra Airport's written approval] will include:

- Business name and logo;
- Advertising;
- Ground transport and traffic signage;
- Precinct signage;
- Safety, security, and hazard signage as required; and
- Other signs deemed appropriate to the Airport's presentation.

Identification signs required by airfreight, air support facilities, rental car business, and general aviation services will be standardised by use and area.

Ground transport and traffic signage will be integrated with accepted standard design and colours as adopted in the ACT. All parking areas will be clearly signed as part of the ground transport signage system, including car rental parking areas. Signage and identification of specific car rental parking areas will be visible, while not dominating the land transport signage.

8.8.2 ADVERTISING SIGNS (BILLBOARDS AND OTHER ADVERTISING SIGNAGE AND CONCEPTS)

It is intended to develop commercial advertising and signage facing into and out of the Airport. Terminal advertising will be largely integrated into the interior and exterior design of the buildings, landscaping, car parking or roadways and be of a high graphic standard.

Subject to obtaining all relevant approvals, advertising billboards and other advertising signage and concepts visible from internal and external roadways and the Airport will incorporate a wide range of designs to maximise the visual impact of the billboards. These structures will be illuminated subject to aviation regulatory requirements. They may be built in all Airport precincts and will generally adjoin the Airport boundary to be visible from the regional roads.

8.9 EXTERNAL PLANNING CONTEXT AND POTENTIAL CONFLICTS

The design and planning of the National Capital located the Airport close to the City Centre and the Parliamentary Zone, while ensuring flight paths were well away from residential areas. This has resulted in a convenient and long-term sustainable airport.

The Airport surrounds generally comprise Broadacre use policy areas defined by Section 3.6.3 of the National Capital Plan.

The range of uses permitted in the Broadacre Areas is as follows:

- Administrative and utility services;
- Agriculture;
- Animal care facility;
- Airport [Canberra International Airport only];
- Caravan park/camping ground;
- Community facility;
- Education and office establishments used by the Department of Defence;
- Forestry [Majura and Kowen Pine plantations only];
- General farming;
- Intensive farming;
- Landscape buffer;
- Open space;
- Outdoor recreation facility;
- Park;
- Retail plant nursery;
- Scientific research establishment;
- Tourist facility;
- Transport facility, including road and rail;
- Mobile Home Park (Blocks 6 & 8 Section 97 and Block 17 Section 102 Symonston only) and may include
- Dwelling, if necessary, for the operation of any of these uses.

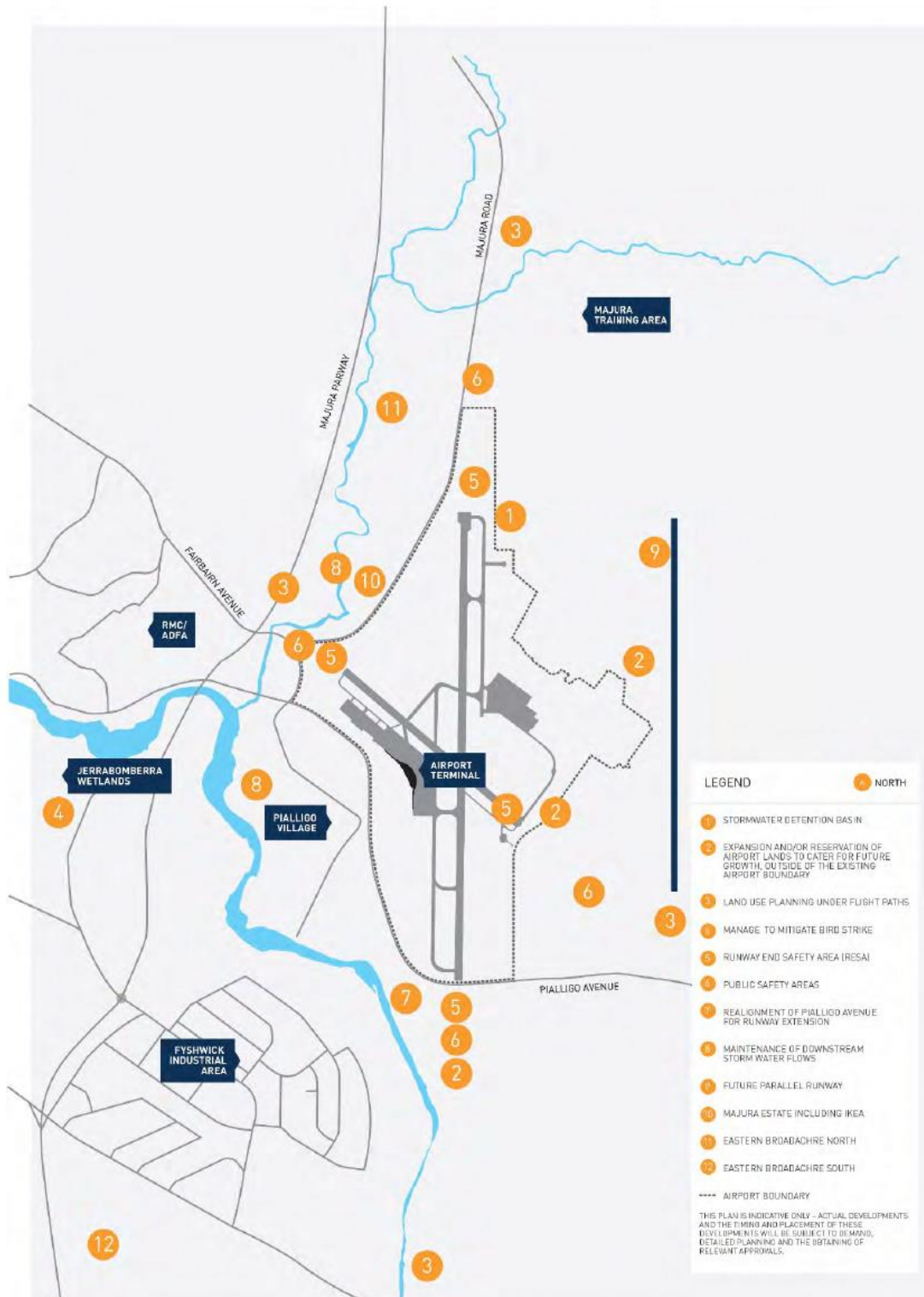
The definitions of uses permitted in Broadacre Areas are defined in Appendix A of the National Capital Plan.

From time to time, sections of land may be purchased adjoining or near the Airport site for future Airport growth or access. This land may be incorporated in the Airport lease subject to the approval of the Australian Government. Any land incorporated in the lease will be included in the most relevant precinct and land uses outlined in Tables 8.1 to 8.5 corresponding to that precinct will apply unless a minor variation to this 2020 Master Plan is undertaken. Development within these lands for aviation growth may require approvals under the EPBC Act and/or the Airports Act major development plans.

Issues external to the Airport site, but of importance to the Airport surrounds and to the Majura Valley area, as set out in Figure 8.7, are planning and infrastructure issues and include:

- Land use planning under and adjoining aircraft flight paths;
- Planning of Pialligo and the Beltana Road area adjoining Pialligo Avenue, including proper maintenance of creeks and stormwater channels to prevent build-up of stormwater flows and flooding recharge back into the Airport precinct;
- Environmental planning, including in relation to habitat protection areas and floodplain issues but especially the issue of bird strike of aircraft and the incompatibility of development of the artificial man-made Jerrabomberra Wetlands proposed expansion of the bird sanctuary;
- Stormwater detention to protect the runway from flooding and debris, which has the potential if not provided properly, to be a danger to aviation operations;
- Duplication of Fairbairn Avenue to the War Memorial and the City;
- Duplication and realignment of Pialligo Avenue for runway extension.
- Development of a light rail network connecting Canberra Airport with the City, Queanbeyan, and other areas of the ACT;
- Ongoing use of the MTA by Department of Defence to the east and north-east of the Airport, which must be carefully co-ordinated by ATC as exploding ordinances are not compatible with aircraft landing or departing overhead;
- Other land use planning of the Majura Valley area of the Eastern Broadacre are to be compatible with the Airport operations and development;
- Long term design, alignment and timing of the HSR link between Sydney and Canberra; and
- Runway End Safety Areas [RESA] and Public Safety Zones at each end of Runway 17/35 and 12/30. The Public Safety Areas (NASF Guideline I) extend into land currently not owned by Canberra Airport [refer Figure 8.7, Item 6 in the Plan].

Figure 8.7 – External planning context





CHAPTER 9
GROUND TRANSPORT PLAN



"For high-speed rail, the Eastern Broadacre Planning Study includes an indicative alignment for a future corridor through the Majura Valley and makes provision for an alternative alignment to the Canberra Airport."

PUBLIC INFRASTRUCTURE, PRODUCTIVITY
COMMISSION, MAY 2014



9 Ground Transport Plan

Canberra Airport has been a strong public supporter for more than 20 years of a fast, efficient, and comfortable transport system with easy access to air, rail, and coach services. Initially, in the first Master Plan approved in August 1999, and then the release in September 1999 of a plan outlining the ambition to be a 'World Class Travelport' - a major transport terminal where fast air, rail, light rail, and coach services will converge, to provide seamless travel for business and leisure passengers.

Figure 9.1 - Travelport 1999 concept plan



Indeed, the continued objective of Canberra Airport is to work with surrounding jurisdictions in fully integrating all ground transport services with the terminal and retail and business parks. A fully integrated ground transport network will:

- Service a growing population within Canberra to provide an opportunity to greatly increase Canberra's public ground transport commuter modal split; and
- Provide a seamless modern, efficient transit ground and air interchange of passengers to benefit tourism, trade and commerce within the region; and
- Drive the benefits of decentralisation opportunities to the Canberra region plus two hours.

The Majura Parkway has been completed since the last Canberra Airport 2014 Master Plan was approved, including a slip road from the Majura Parkway to Majura Road - Meddhung Road - as well as an off-road cycling connection to Majura Park.

On time arrival to the terminal is of great importance to arriving and departing passengers and freight companies. Providing for on time arrival to destinations within Canberra and the region is also important to fostering Canberra's international recognition of having a business-friendly environment and offering an enviable lifestyle.

Traffic demand on the Airport is also driven by the on airport workforce across business precincts and shoppers visiting Majura Park retail stores.

INFRASTRUCTURE AUSTRALIA

In 2017, Infrastructure Australia released *Corridor Protection: Planning and Investing for the Long Term* which adopts the timeframes in the Phase 2 HSR Report, as per Figure 9.2, including completion of an HSR link from Sydney to Canberra by 2032.

Figure 9.2 - Construction Start Dates for East Coast Australia High Speed Rail

3

Table 21: Assumed start date for construction of stages of the East Coast High Speed Rail

| Corridor/Stages | Assumed Start Date | Assumed Completion Date |
|--|--------------------|-------------------------|
| High Speed Rail –Brisbane to Sydney | | |
| Sydney – Newcastle | 1 July 2033 | 30 June 2042 |
| Newcastle to Gold Coast | 1 July 2046 | 30 June 2056 |
| Gold Coast to Brisbane | 1 July 2039 | 30 June 2049 |
| High Speed Rail – Sydney to Melbourne | | |
| Sydney to Canberra | 1 July 2024 | 30 June 2032 |
| Canberra to Melbourne | 1 July 2027 | 30 June 2037 |

Source: High Speed Rail Study Phase 2 Report (2013)

Note: Construction completion dates differ to operational dates in the High Speed Rail Phase 2 study due to testing and commissioning phases.

The Infrastructure Australia 2017 Corridor Report also makes the case that postponing the reservation and protection of a corridor alignment for HSR to Canberra Urban would increase the tunnelling requirement by 5.8 kilometres. The Infrastructure Priority List released by Infrastructure Australia in March 2019 lists nominating a corridor for east coast HSR a high priority.

NSW GOVERNMENT: FUTURE TRANSPORT STRATEGY 2056

In 2018, the NSW Government released *Future Transport Strategy 2056*, nominating Canberra as a "global gateway city" for NSW.

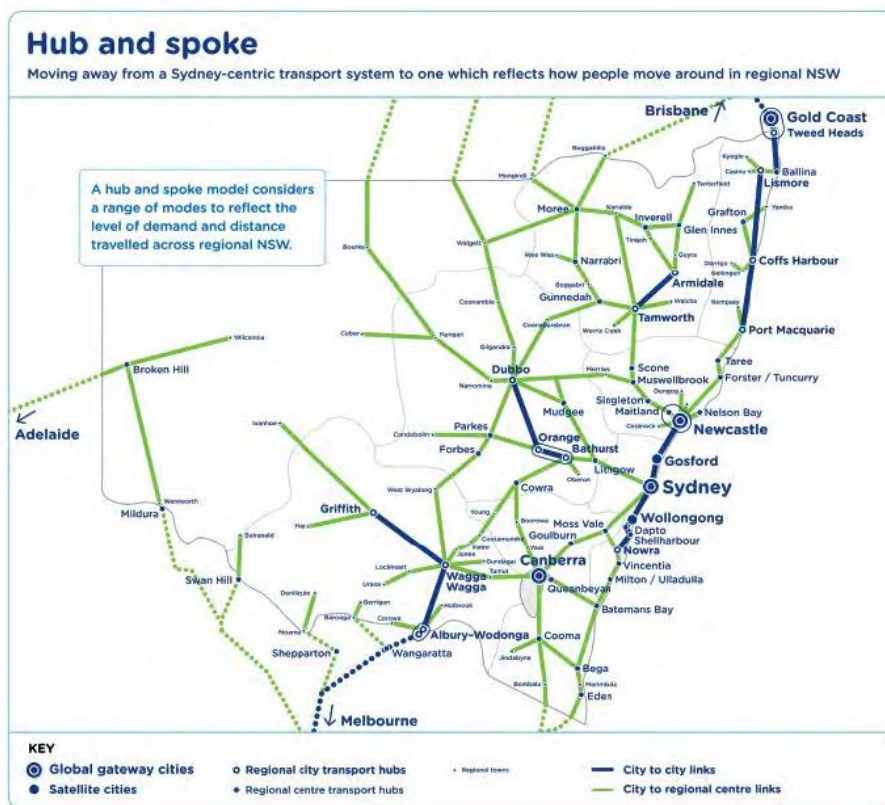
³ Infrastructure Australia [2017] *Corridor Protection: Planning and Investing for the Long Term, Detailed Appendices*, page 32.

“By 2056, economic and housing growth around Greater Sydney will ...establish ... Newcastle, Canberra and the Gold Coast as ‘global gateway cities’ – the key entry points to NSW. Population and economic growth in these areas will require fast transit connections to Greater Sydney.”⁴

The NSW Transport Strategy also outlines a shift to a “hub-and-spoke” approach to transport planning, identifying Canberra as a transport hub for NSW.

“Regional cities and centres will be connected to outlying towns and centres by a ‘hub and spoke’ network. They will be centres for health, education, and justice services as well as providing access to employment opportunities and air transport connections.”⁵

Figure 9.3 - Regional NSW ‘Hub and Spoke’ Network ⁶



The NSW Transport Strategy also provides for the development of east-coast high speed rail, including from Sydney to Canberra.

⁴ NSW Government [2018] *Future Transport Strategy 2056*, page 22.

⁵ Stet.

⁶ Stet, page 130.

Figure 9.4 - Regional NSW New Improved Regional Links ⁷



ACT GOVERNMENT: MOVING CANBERRA 2019-2045

In December 2018, the ACT Government released *Moving Canberra 2019-2045, Integrated Transport Strategy* for comment. Similar to the NSW Transport Strategy, the ACT Draft Transport Strategy outlines a shift away from point-to-point transport systems to hub-and-spoke systems across the City with rapid services. In particular, the Strategy’s short and medium-term infrastructure priorities within the vicinity of the Airport are listed as follows:

Short term (0-5 years)

- Pialligo Avenue duplication, Brindabella Circuit to NSW border; and
- Preliminary planning for east-west light rail connection.

⁷ Stet, page 132.

Medium term (5-10 years)

- Deliver east-west light rail to the Airport;
- Additional lane on Fairbairn Avenue between Majura Parkway and Majura Road; and
- Grade separation of the intersection of Fairbairn Avenue and Pialligo Avenue

ACT GOVERNMENT: ROAD INFRASTRUCTURE INVESTMENT PRIORITISATION

In late 2018 the ACT Government shared its Road Infrastructure Investment Prioritisation report (AECOM) with the Airport. The duplication of Pialligo Avenue from the ACT-NSW border to the intersection with Fairbairn Avenue was listed in the top five priority projects, including an examination of alternative options for connections to Pialligo, Fyshwick and Symonston. The report states "This project is important for increasing regional access and safety from Queanbeyan and Kings Highway."

The report further details options to provide an alternate access to Pialligo via a connection to Kallaroo Road at the Brindabella Circuit roundabout, and an overpass in both directions at the Fairbairn Avenue intersection, however these projects are not ranked highly.

9.1 TRANSPORT HUB

"In the past decade, the rate of average annual growth of public transport patronage (2.4 per cent) surpassed the rate of population growth in capital cities (1.8 per cent)."

State of Australian Cities 2014-2015

Public transport hubs through the Canberra Airport terminal currently include local and interstate buses, taxis, as well as ride share and hire car services. Approximately 24 percent of all arriving passengers at Canberra Airport choose to connect with a ranked taxi service, and in the order of 6 percent of arriving passengers use a ride-share or hire car service.

The ACT Government's Transport Canberra and the private Qcity Transit bus services mean the Airport business parks are well connected by public transport, with services linking with both the Canberra and Queanbeyan networks. The 2019 Transport Canberra bus timetable has further increased services to the Airport terminal and Brindabella Business Park (Figure 9.5).

Taxi ranks at the terminal are available to arriving passengers.

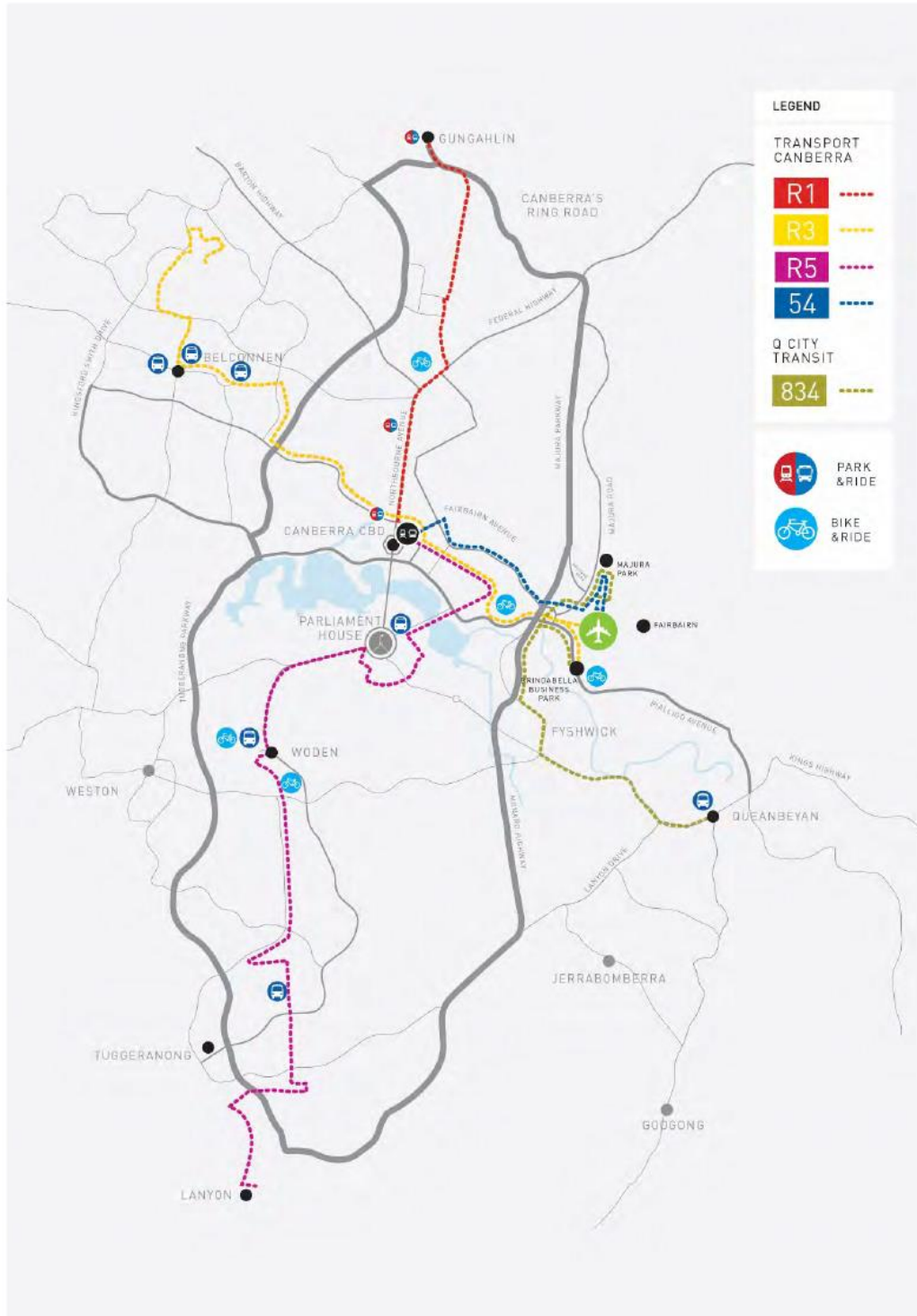
9.1.1 ACTIVE TRAVEL

Canberra Airport promotes active travel, mainly cycling. Projects completed over the past five years, in co-operation with the ACT Government, include on road cycle lanes to Fairbairn on Scherger Drive, off road shared pathways between the Terminal and the Pialligo Avenue/Beltana Road/Kallaroo Road intersection as well as between George Tyson Drive and the Majura Office Park.

Other initiatives include support for National Ride to Work Day and journey end facilities such as secure bike storage and shower/change facilities.

Regional bus services at the Airport terminal provide connectivity to the South Coast, Snowy Mountains, and Yass. Negotiations continue to connect to Wagga Wagga and the region north of Canberra [Goulburn and Southern Highlands], providing more regional communities with greater access to affordable air routes.

Figure 9.5 – Current local bus network



9.2 INTEGRATING HIGH SPEED RAIL (HSR) AT THE CANBERRA AIRPORT TERMINAL

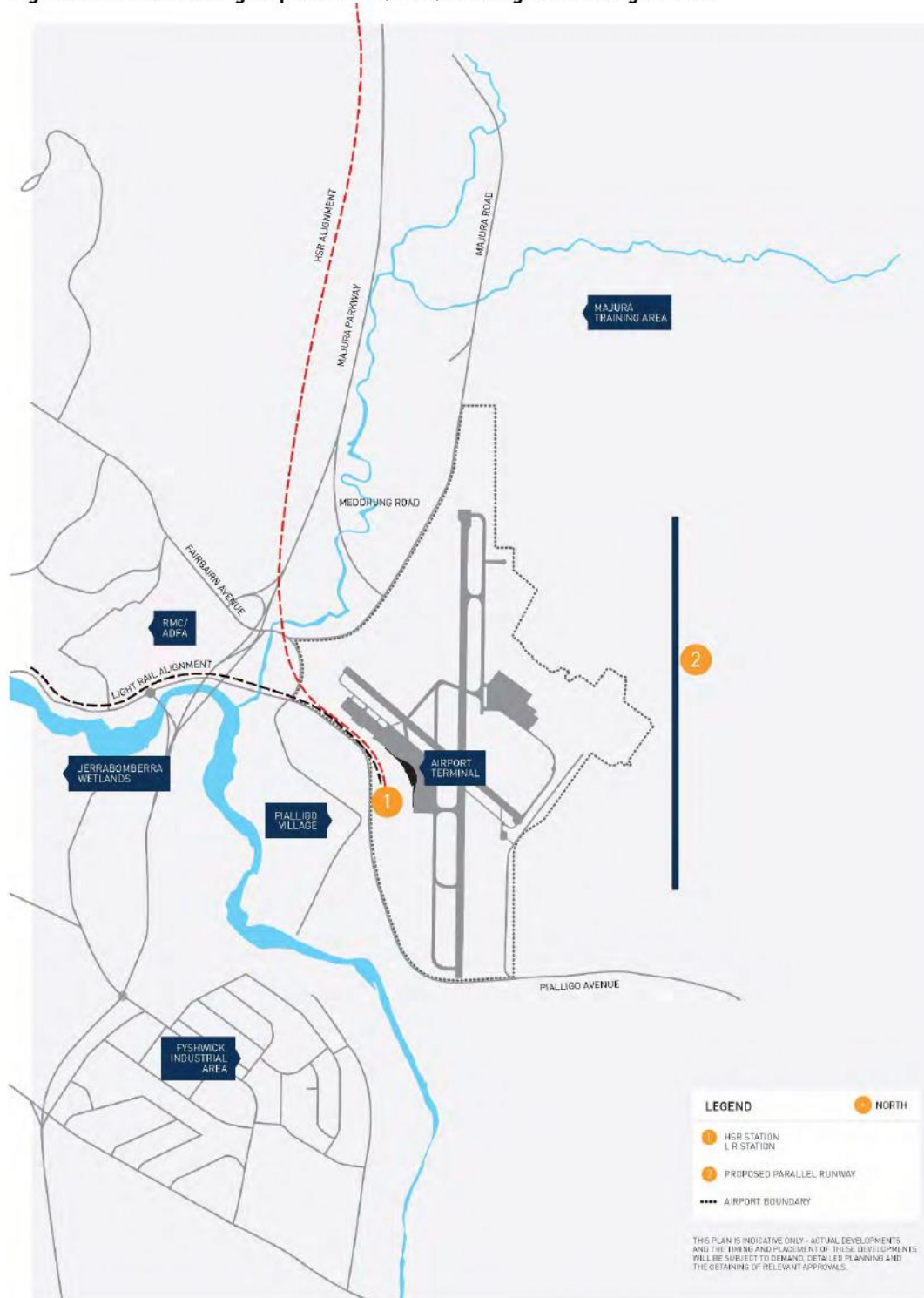
In June 2012, Canberra Airport unveiled plans for a \$140 million HSR station facility to be constructed adjacent to and within 215 metres of the Airport terminal. With HSR from Canberra Airport, passengers will reach the Sydney Central Business District in 57 minutes - faster than from Badgerys Creek and even KSA given the ground transport forecasts.

Canberra Airport remains committed to the development of this facility as required.

Figure 9.6 - Future High Speed Rail (HSR) Station Facility



Figure 9.7 - Future High Speed Rail (HSR) and Light Rail Alignments



The Australian Government's HSR Study forecasts passenger numbers for the HSR of more than seven million in the nominal first year of operation in 2036. The HSR Study Phase 1 did not take into account any impact on passenger demand as a result of Sydney Kingsford Smith Airport reaching capacity; or a second Sydney airport being built; or a second Sydney airport not being built, noting a second airport for Sydney and a high speed rail line are not mutually exclusive.

9.3 CAPITAL METRO - CANBERRA'S LIGHT RAIL

In 2013, Canberra Airport expressed its support for Light Rail to link the City and Airport, as the second stage, following the completion of the first phase Gungahlin to the City. Since this time the ACT Government has announced its intention to move forward with a link from the City to Woden as the second stage, followed by an east-west link from the City to the Airport due for completion by 2030.

9.4 OFF AIRPORT ROADS 2020

The road network within the vicinity of Canberra Airport is recognised as facilitating an array of local through traffic flows travelling north-south and east-west, using diverse modes ranging from cyclists to heavy freight vehicles.

The Majura Parkway and Monaro Highway are planned to carry metropolitan commuter through traffic as a rapid bypass of North and South Canberra, Woden, and Tuggeranong. Metropolitan heavy traffic also uses the Majura Parkway to connect with the industrial suburbs of Hume, Fyshwick and Mitchell. The Majura Parkway is also used by interstate heavy and light vehicles bypassing the urban areas of Canberra travelling between Sydney, the Snowy Mountains and the NSW far South Coast as well as Canberra, Yass and the Riverina.

Local east-west connections are made to the Majura Parkway at the Fairbairn Avenue and Morshead Drive intersections, known collectively as the "Airport Interchange", for travel to the Kings Highway. East-west traffic travelling from the City to Queanbeyan also passes through the Majura Interchange onto Pialligo Avenue around the south-western boundary of the airport site.

Canberra Airport and the ACT Government have worked co-operatively since 1998 on the delivery of ground transport solutions for the entire Majura Valley so metropolitan and regional through traffic can be better managed without constraining local traffic flows. In addition to regular consultation and partnering in updating traffic studies and work programs, the development of previous Airport Master Plans, and the ACT Government Roads Roundtables have provided an ongoing robust process for identifying traffic demand and solutions.

The Airport has paid in full, or significantly contributed to, new or upgraded intersections as follows:

| Intersection | Project | Funding |
|--|--|------------------------|
| Pialligo Avenue and Scherger Drive | Traffic signalled intersection with additional lane capacity | Joint venture with ACT |
| Molonglo Drive and Pialligo Avenue | Roundabout | Airport paid in full |
| Brindabella Circuit and Pialligo Avenue | Roundabout | Airport paid in full |
| Terminal Avenue (south bound slip lane) | Left in, left out | Airport paid in full |
| Pialligo Avenue from Beltana Road to Brindabella Circuit | Multi-lane realignment and upgrade | Joint venture with ACT |
| Fairbairn Avenue and Nomad Drive | Left in, left out | Airport paid in full |
| Fairbairn Avenue and the aviation fuel farm | Left in, left out | Airport paid in full |
| Majura Road and Spitfire Avenue | Roundabout | Airport paid in full |
| Majura Road and Mustang Avenue | Roundabout | Airport paid in full |
| Majura Road and NRMA | Left in, left out | Airport paid in full |

Table 9.1 represents the current linkages between the on and off airport road network.

Table 9.1 - On and off Airport linkages

| Precinct | Intersection(s) | Description |
|---------------------------|---|-------------------------------|
| Pialligo Precinct | George Tyson Drive and Fairbairn Avenue | Left in left out |
| Brindabella Business Park | Molonglo Drive, Brindabella Circuit and Pialligo Avenue | Dual lane roundabouts |
| Fairbairn | Scherger Drive and Pialligo Avenue | Traffic light T-intersection |
| Majura Park | Spitfire Avenue, Mustang Avenue and Majura Road | Dual lane roundabouts |
| Terminal Precinct | Pialligo Avenue, Terminal Avenue and McCann Way | Grade separated and slip lane |

Intersections at Terminal Avenue, Brindabella Circuit, Molonglo Drive and George Tyson Drive together provide four entrances and exits for the terminal precinct, Pialligo precinct and the Brindabella Business Park.

McCann Way provides a fifth entrance. These traffic arrangements and the overall road network layout provide for flexibility and choice of routes for commuters and visitors to the Brindabella Business Park; distribution of traffic throughout the network to assist in managing traffic volumes. Should one intersection be out of use the other intersections can be used by drivers.

Similarly, at Majura Park, Mustang Avenue and Spitfire Avenue provide two entrances and exits to the precinct, with an additional left-in at NRMA MotorServe in the north, and a left out to Majura Road from the car park at Bunnings.

Fairbairn is currently only able to be accessed and exited via one intersection where Scherger Drive meets Pialligo Avenue.

POSSIBLE OFF AIRPORT ROAD UPGRADES

A number of studies commissioned by the ACT Government of the Majura Interchange have identified network improvement priorities as metropolitan and regional demand grows:

1. Additional lanes on Fairbairn Avenue in both directions from Pialligo Avenue through to the Majura Parkway northbound on ramp;
2. Partial grade separation of the Pialligo Avenue/Fairbairn Avenue intersection; and
3. Staged duplication of Fairbairn Avenue to the War Memorial.

Of the above, Canberra Airport notes planned infrastructure investments as outlined in the ACT Government's Moving Canberra 2019-2045 list only an additional lane on Fairbairn Avenue from the Majura Parkway to Majura Road and the grade separation of the intersection at Pialligo Avenue and Fairbairn Avenue in the medium term.

Moving Canberra 2019-2045 lists the duplication of Pialligo Avenue from Brindabella Business Park to Yass Road as an infrastructure priority in the short term (0-5 years).

Long term mooted projects within the Airport's vicinity include:

- A link to Kowen between Majura Road and Fairbairn Avenue.
- An extension of Hindmarsh Drive to Pialligo Avenue at either the Scherger Drive or Molonglo Drive intersections. This concept would provide a northern by-pass of Queanbeyan with an opportunity to link to the future Kowen Parkway via Pialligo Avenue and Sutton Road.

9.5 ON AIRPORT ROADS 2020

Table 9.2 outlines the main roads currently on the site and includes information about the access each road provides.

Table 9.2 - 2020 road network on Canberra Airport

| Road Name | Orientation | Access | Current Lanes |
|-------------------------------|---|--|-----------------------|
| Beaufighter Street | North-south service road from McDonalds to ToysRus | Provides service and delivery access to the rear of stores in Majura Park | One lane each way |
| Brindabella Circuit | A ring road through the Brindabella Business Park | Access throughout the Brindabella Business Park from Pialligo Avenue | One lane each way |
| Catalina Drive | North-south road from NRMA in the north to office and recreational space in the south | Access through Majura Park in parallel to Majura Road | One lane each way |
| George Tyson Drive | North-south road from Fairbairn Avenue to Brindabella Circuit | Access to Pialligo precinct, the terminal precinct and Brindabella Business Park | One lane each way |
| McCann Way | East-west road linking Pialligo with George Tyson Drive | Access to Pialligo precinct and the terminal precinct | One lane into Airport |
| Molonglo Drive | East-west road linking Pialligo Avenue and Brindabella Circuit | Access to the southern end of the Brindabella Business Park | One lane each way |
| Mustang Avenue | East-west road linking to Majura Road | Access to Masters, NRMA, Dan Murphy, Caltex, and Costco from Majura Road | Duplicated |
| Richmond and Amberley Avenues | East-west roads connecting Scherger Drive to proposed second Fairbairn access | Access to emergency services and VIP hangar | One lane each way |
| Scherger Drive | North-south road linking Pialligo Avenue to Fairbairn | Access to Fairbairn from Pialligo Avenue | One lane each way |

| | | | |
|-----------------|--|---|------------|
| Spitfire Avenue | East-west road linking to Majura Road | Access to the Majura Park Shopping Centre and Costco from Majura Road | Duplicated |
| Terminal Avenue | East-west road and elevated road linking Pialligo Avenue to the terminal | Access to the terminal precinct from Pialligo Avenue | Duplicated |

With the exception of Terminal Avenue, all of these roads are designed as preferred routes for onsite freight movements and deliveries; in particular Beaufighter Street in Majura Park provides access to 11 loading docks at the rear of retail stores separating deliveries from customer parking and pedestrians.

Preferred routes for air freight traffic movements are designated on McCann Way, George Tyson Drive and Scherger Drive providing heavy vehicle access to both current and future air freight facilities from Pialligo Avenue to the Pialligo precinct and Fairbairn.

All Airport roads are currently performing well with significant capacity. Growth in passenger number and employment levels forecast in this Master Plan can be accommodated on the current road network with all on airport intersections as well as those intersections linking to the major regional roads handling this growth and maintaining high levels of service.

Each precinct across the site is serviced by multiple car parks with a range of car parking facilities available. Notwithstanding all car parking facilities are performing ahead of demand, Airport management has identified, designed and sited future car parking expansion opportunities, including at the terminal, beyond the next five to eight years.

The number of current car parking spaces across the site is indicated in Table 9.3.

Table 9.3 - 2020 car parking spaces on Canberra Airport

| Precinct | Current Availability |
|---------------------------|----------------------|
| Brindabella Business Park | 6,000 car spaces |
| Fairbairn | 1,800 car spaces |
| Majura Park | 3,000 car spaces |
| Terminal and Pialligo | 3,700 car spaces |

All car parking across the Airport is designed and sited off-street and every workplace and retail centre is serviced with short stay visitor parking in close proximity.

Disabled parking is widely provided across the Airport and pram parking is also available at the Majura Park Shopping Centre. The terminal precinct offers both short and long stay [overnight] parking options which are mostly undercover at various price points. Kerb-side drop-off is available at the terminal departure level, office buildings and the Majura Park Shopping Centre. Terminal pick-up zones are incorporated within nearby car parks a short distance from the arrivals hall.

POSSIBLE ROAD UPGRADES ON AIRPORT

Within the next eight years the existing ground transport infrastructure has generous capacity to accommodate peak demand without the need for major upgrades. There are however various opportunities to improve capacity across the site as outlined in initiatives listed below.

Terminal Precinct

The main access to the terminal building is from Pialligo Avenue, via Terminal Avenue. Access to the terminal is also available via McCann Way – a slip lane off Pialligo Avenue – and a left in left out intersection of Nomad Drive with Fairbairn Avenue.

It is anticipated the number of Airport passengers and associated demand for on-ground transport infrastructure will increase by up to 164 percent over the next 20 years. Airport landside road and parking facilities have built in capacity and flexibility to ensure safe and easy access to the terminal roads and car parks.

Current planning allows for an HSR station to be located south-west of, and directly adjacent to the Airport terminal. However, fine design planning will be undertaken when plans for any potential HSR are known in more detail in co-operation with the Australian and ACT Governments and other major stakeholders.

Planning also currently allows for light rail access and station adjoining the arrivals hall of the terminal. The final design will be in co-operation with the ACT Government and other major stakeholders.

Car parking is provided in structured and on-grade car parks to cater for peak demand periods during the next 20 years.

The terminal precinct road system, public transport network, and car parking supply has been designed to cater for and be flexible to service longer term demand past the 20-year horizon of this 2020 Master Plan.

Ground transport initiatives - next eight years:

- Expanding connectivity with regional bus network;
- Controls on kerb side drop-off zones car park pick-up facilities;
- Expanding on and off-road cycling connectivity; and
- Maintaining offer to develop an HSR terminal.

Brindabella Business Park

The long-term road layout within Brindabella Business Park and connections with Pialligo Avenue and the terminal precinct have now been constructed. These roads and the roundabout intersections on Pialligo Avenue have the capacity for the growth of the precinct over the next eight and 20 years as outlined in this Master Plan.

Ground transport initiative - next eight years:

- Develop a multi-storey car parking structure at Car Park 9.

Pialligo Precinct

Ground transport initiatives - next eight years:

- Consolidate rental car compounds; and
- Extend George Tyson Drive to connect directly with Fairbairn Avenue.

Majura Park

The long-term road layout within Majura Park and connections with Majura Road, have generally been constructed. These internal roads have the capacity to accommodate the growth forecast in this Master Plan. Some minor internal road links are likely to be designed and constructed in response to future development.

The Majura Road roundabouts have the capacity to accommodate the growth forecast in this Master Plan. Further, the opportunity for one or more future left out connections with Majura Road has been explored and approved by Roads ACT and would likely be developed within the next eight years in response to demand.

Ground transport initiative - next eight years:

- Left turn lane to Majura Road from the office car park at the rear of Lancaster Place. Currently accessed only from Catalina Drive.

Fairbairn

Any future road-widening and new roads developed in Fairbairn will respect the axial road alignment existing at Fairbairn. Scherger Drive, as the sole access to Fairbairn, can accommodate the growth forecast in this Master Plan, however for security and operational flexibility reasons, a second egress to Fairbairn is required. The Airport is expecting to develop a northern road connection between Fairbairn and Majura Road via the existing Malcolm Vale Road alignment.

Ground transport initiative - next eight years:

- Extend Ewart Street to connect with Majura Road including on-road cycling.





“The strength of the regional approach of the Canberra Airport and the CRJO are great building blocks for all our futures”.

ROWENA ABBEY, PRESIDENT, CRJO

10 Canberra Region Joint Organisation (CRJO)

Canberra Airport has welcomed the formal recognition by the NSW Government of the Canberra Region Joint Organisation (CRJO) following the NSW Parliament's passing of legislation to establish a network of Joint Organisations in November 2017 to help drive better planning, economic development and service delivery in regional NSW.

The CRJO has its foundations in the South East Regional Organisation of Councils (SEROC), which was established in 2009. In May 2012, the ACT Government joined SEROC, a landmark moment acknowledging the relationship between the ACT and the surrounding NSW region.

CRJO represents ten Councils in South-East NSW and includes the ACT Government. The NSW Member Councils include:

- Bega Valley Shire Council
- Eurobodalla Shire Council
- Goulburn Mulwaree Council
- Hilltops Council
- Queanbeyan-Palerang Regional Council
- Snowy-Monaro Regional Council
- Snowy Valleys Council
- Upper Lachlan Shire Council
- Wingecarribee Shire Council
- Yass Valley Council

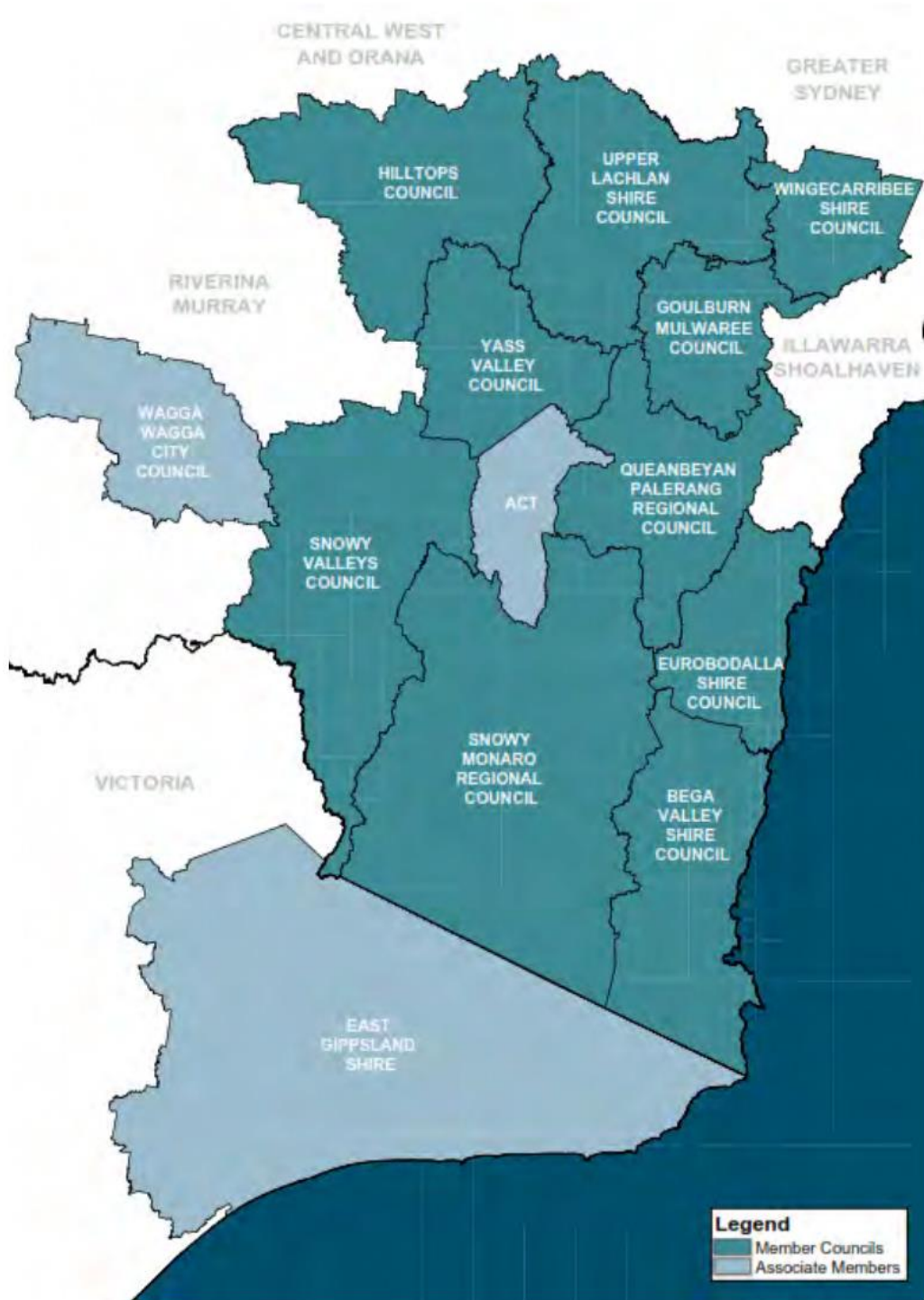
Associate and Affiliate Members include:

- ACT Government
- Canberra Airport
- Wagga Wagga City Council
- East Gippsland Shire Council

As an Affiliate Member of CRJO, Canberra Airport is actively engaged in the interest of a prosperous, sustainable and growing region.

In addition to the CRJO Councils, Canberra Airport has for more than ten years engaged with Shoalhaven Council, and more recently with other Local Government Areas (LGA) nearby the ACT, including Cootamundra-Gundagai and Cowra. The local region of engagement by Canberra Airport is flanked by the Pacific Ocean south of Nowra (Shoalhaven) to the Victorian border (Bega Valley), west over the Snowy Mountains and south-west slopes to Wagga Wagga, north via the Olympic Way to Cowra and east to Mittagong on the Southern Tablelands (Wingecarribee).

CRJO Membership Boundary Map



Canberra Airport has actively engaged with CRJO and previously SEROC for the purpose of consulting broadly on Airport matters and since 2013 to understand firsthand the aspirations and agendas of the communities of our region in the context of priority infrastructure programs, employment, investment, social and economic growth.

In March 2019, prior to impending State and Federal elections, the CRJO and ACT Government called on the next NSW and Federal Governments to support a three-point plan (Canberra Region Deal) to shape the future of the Canberra Region. The joint media release of Mayor Rowena Abbey, Chair of the CRJO, and ACT Chief Minister Andrew Barr, set-out the following:

“From the Snowy, through the Tablelands and down to the Coast, the Canberra Region is a vision for a borderless South East NSW with Canberra at its heart,” said Yass Valley Council Mayor Rowena Abbey, Chair of the CRJO.

“We have identified a clear set of priorities for the incoming Federal and NSW Governments to help realise that vision, taking a regional focus to deliver national impacts.

“With the right support the Canberra Region can relieve population pressures on large cities like Sydney and Melbourne and thrive as a region of choice for people to live, work and play,” Mayor Abbey said.





The CRJO has identified investment in east-west freight, tourism and commuter connections between the inland and coastal towns as a key priority, to better connect Inland Rail at Wagga Wagga to global connections at Canberra Airport and the coastal corridor from Nowra to Eden.

“Further investment which realises the opportunities that the Canberra Region’s access to air, rail, sea and road affords can alleviate congestion concerns at Australia’s second busiest port, Port Botany, while also opening up commuter, tourism and trade connections from the western inland regions to the east of NSW” Mayor Abbey said.

“The Canberra Region Deal is a summary of priorities that we have been pursuing for some time, from faster rail to more health infrastructure,” said ACT Chief Minister Andrew Barr.

“The ACT is uniquely important to the Commonwealth Government as the National Capital, and a critical partner of the NSW Government in providing and cross-border services to thousands of NSW residents in the regions surrounding Canberra.

“We want to ensure that both Governments realise the opportunities of the region by supporting infrastructure investments and increased service delivery.

“We’re excited to continue working with NSW and the Commonwealth, regardless of their election outcomes, as the Canberra Region grows in both population and economic significance,” Mr Barr said.

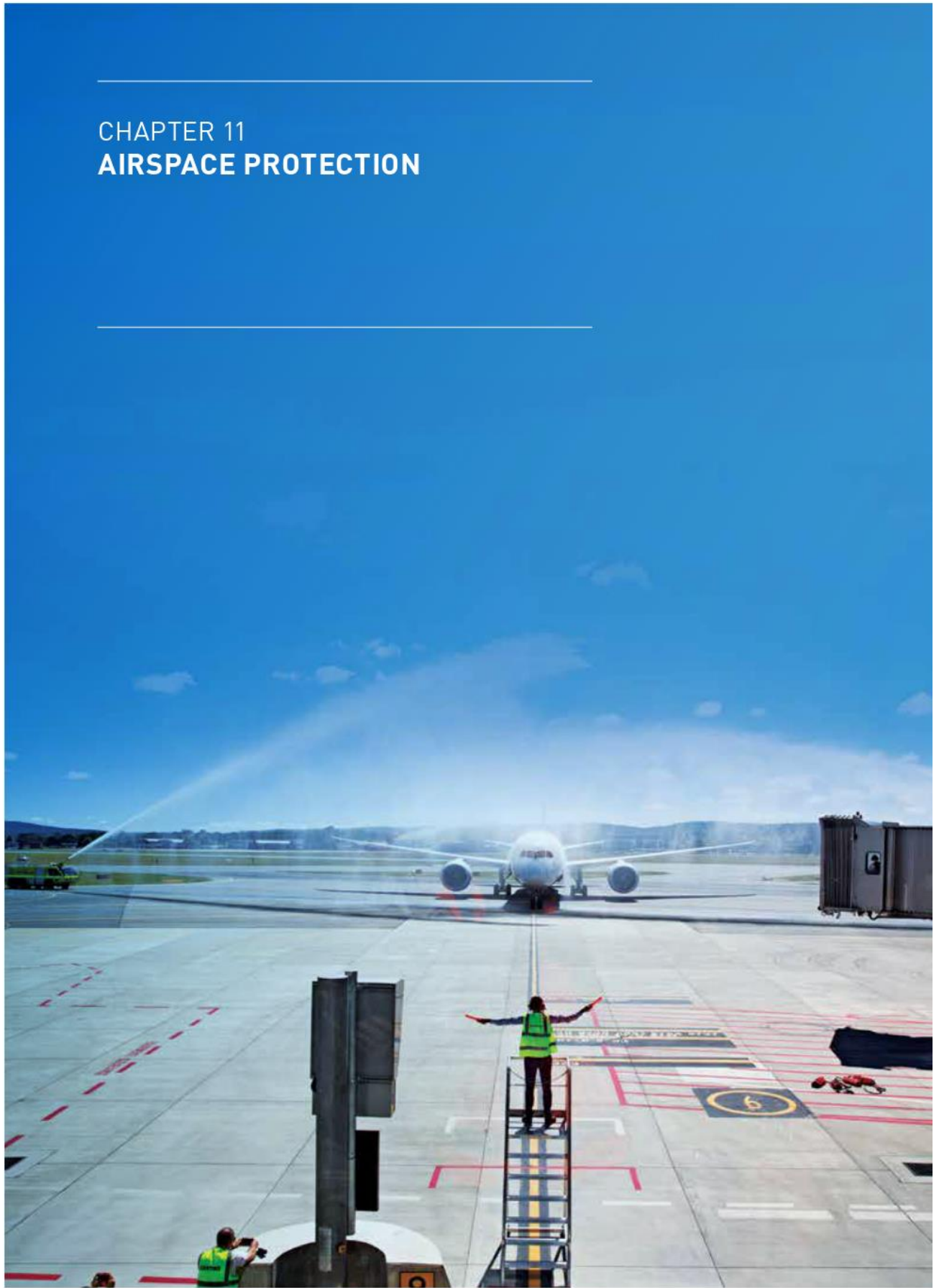
The proposed Canberra Region Deal would:

1. Enhance transport and connectivity for passengers and freight, opening up tourism and other economic opportunities.
2. Create borderless services for the ACT and South East NSW communities, to enhance delivery of healthcare, higher education, waste management and recycling.
3. Continue developing a National Capital befitting of modern Australia.

As an Affiliate Member of the CRJO, Canberra Airport has similar aspirations for our region. The Airport supports the vision set-out in the Canberra Region Deal application of “taking a regional focus to deliver national impacts”.



CHAPTER 11 AIRSPACE PROTECTION





UNDER THE PROVISIONS OF THE AIRPORTS ACT 1996 AND THE
AIRPORTS (PROTECTION OF AIRSPACE) REGULATIONS 1996...

“the airspace around specific airports may be declared as
Prescribed Airspace to protect it from physical and non-physical
intrusions for the safe arrival and departure of aircraft.”



11 Airspace protection

Airspace management and protection is an essential part of Canberra Airport's operations. So too is the safe movement of aircraft.

The Airports Act and the Airports [Protection of Airspace] Regulations 1996 establish a framework for the protection of airspace at and around Australian airports for the safety, efficiency, and regularity of aircraft operations. This Chapter outlines the prescribed airspace for Canberra Airport. Chapter 4 summaries ongoing consultation by Canberra Airport with local planning agencies in regard to NSAF Guideline F "Intrusion into Protected Airspace" of Canberra Airport

Part 12 of the Airports Act together with the Airports [Protection of Airspace] Regulations 1996 establish a framework for the protection of airspace at and around Canberra Airport via the production of current and future Obstacle Limitation Surface [OLS] and Procedures for Air Navigation Services - Aircraft Operations Surfaces [PANS-OPS].

The purpose of the OLS is to define the volume of airspace at and around the Airport which should be kept free of obstacles in order to minimise danger to aircraft arriving or departing the Airport. Infringements of the OLS may be approved by the Secretary of the Department of Infrastructure, Transport, Cities and Regional Development [the Secretary], following assessments on the potential safety, regularity, and efficiency impacts of the proposed obstacle.

The purpose of the PANS-OPS is to safeguard an aircraft from collision with obstacles when the pilot is flying on avionic instruments. The PANS-OPS establishes minimum clearances between approach and departure paths of aircraft and obstacles. A PANS-OPS surface cannot be infringed in any circumstances except for short term structures with the approval of the Secretary.

Canberra Airport is responsible for the assessment of temporary or permanent structures for infringements of the OLS or PANS-OPS. In the event an infringement into the OLS is detected, Canberra Airport is responsible for ensuring this information is communicated to CASA, Airservices Australia and aircraft operations.

CASA requires where facilities are constructed at or in the vicinity of the Airport that:

- Sensible cladding and roofing materials are used to minimise the possibility of glare effects;
- Solar Farms planned, designed and located in a manner so as not to cause reflection or glare to aircraft;

- Glass for buildings is used in a manner to minimise reflection and glare; and
- All external lighting will be lit downward from a horizontal level to minimise impact on aircraft operations at night.

National Airport Safeguarding Framework (NASF) Guidelines:

- A: Measures for Managing Impacts of Aircraft Noise
- B: Managing the Risk of Building Generated Windshear and Turbulence at Airports, updated through processes including public consultation 2015-2018
- C: Managing the Risk of Wildlife Strikes in the Vicinity of Airports
- D: Managing the Risk of Wind Turbine Farms as Physical Obstacles to Air Navigation
- E: Managing the Risk of Distractions to Pilots from Lighting in the Vicinity of Airports
- F: Managing the Risk of Intrusions into the Protected Airspace of Airports
- G: Protecting Aviation Facilities – Communication, Navigation and Surveillance (CNS)
- H: Protecting Strategically Important Helicopter Landing Sites
- I: Managing the Risk in Public Safety Areas at the Ends of Runways

Guideline F provides guidelines to State/Territory and local government decision makers to manage the risk of intrusions into the protected operational airspace of airports.

It is also noted Canberra Airport works with Airservices Australia to ensure other critical aviation requirements are met including, but not limited to, ATC Tower line of sight requirements, protection of ILS surfaces and radar and maintenance of appropriate radio frequency signals.

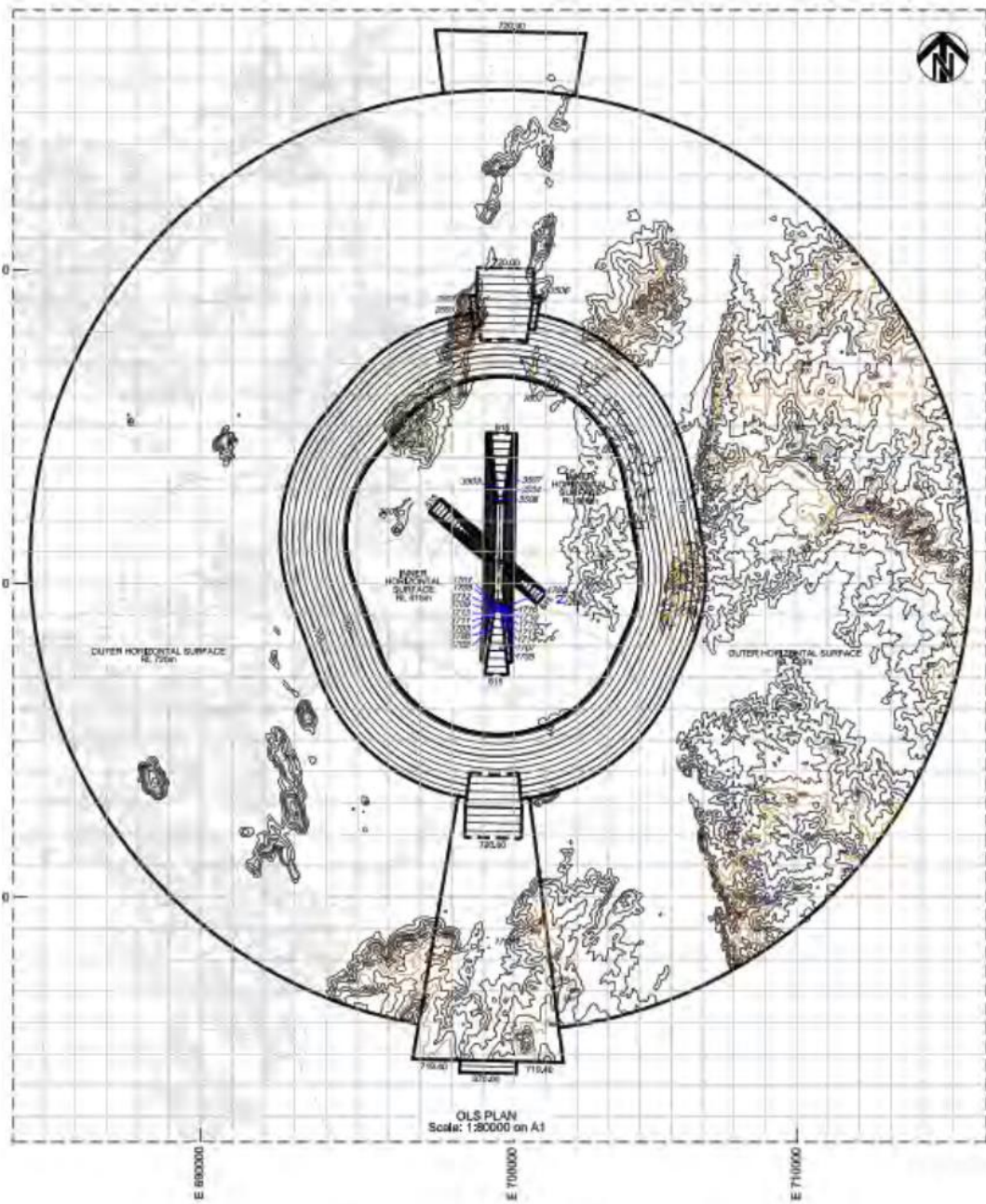
However, Regulation 5 of the Airports [Protection of Airspace] Regulations 1996 ultimately provides that the Secretary can declare specified airspace around Canberra Airport to be prescribed to safeguard future Airport operations. The future declared OLS and PANS-OPS surfaces are shown in Figure 11.1 and Figure 11.2.

The future declared OLS and PANS-OPS surfaces allow for some future growth of the Airport, including development considered under this 2020 Master Plan. These surfaces may be changed, if necessary, when operations, facilities, or plans change. Other operation, policy, planning, or regulatory changes may also necessitate amendment to these surfaces by Canberra Airport at any time including in relation to developments which may interfere with the safety, efficiency, or regularity of existing development services or future air transport operations.

Canberra Airport will continue to work with the Department of Infrastructure, Transport, Cities and Regional Development, CASA and Airservices Australia regarding the opportunity to upgrade Runway 35 ILS from Category II to a future Category III. As part of these discussions Canberra Airport will undertake a review of the prescribed airspace in the context of relocating the Runway 35 threshold when Airservices Australia implements GLS at Canberra Airport.

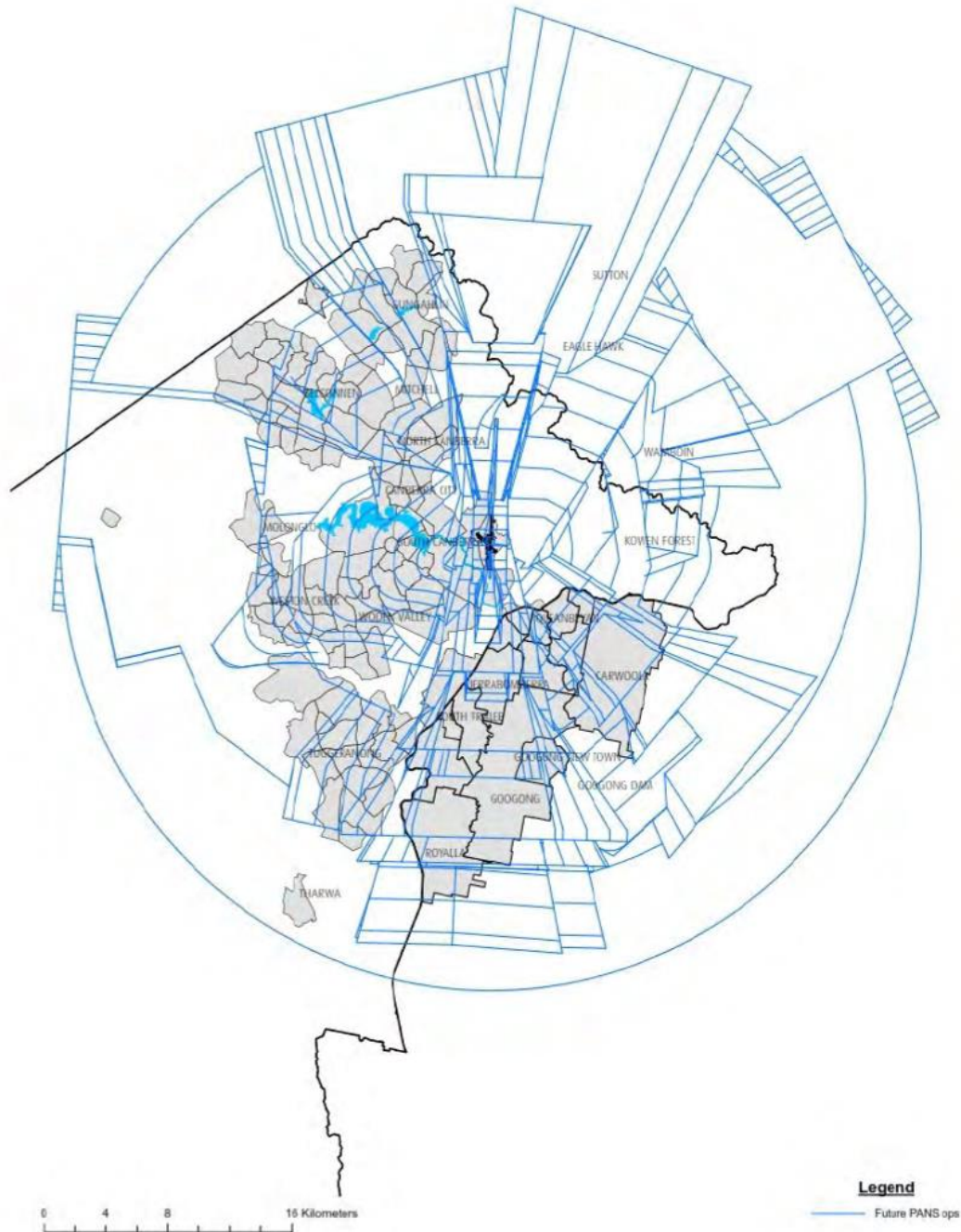
Any amendments to prescribed airspace declared under the Airports [Protection of Airspace] Regulations 1996 can be obtained by contacting Canberra Airport.

Figure 11.1 - Obstacle Limitation Surfaces (OLS) Obstacle Control Chart

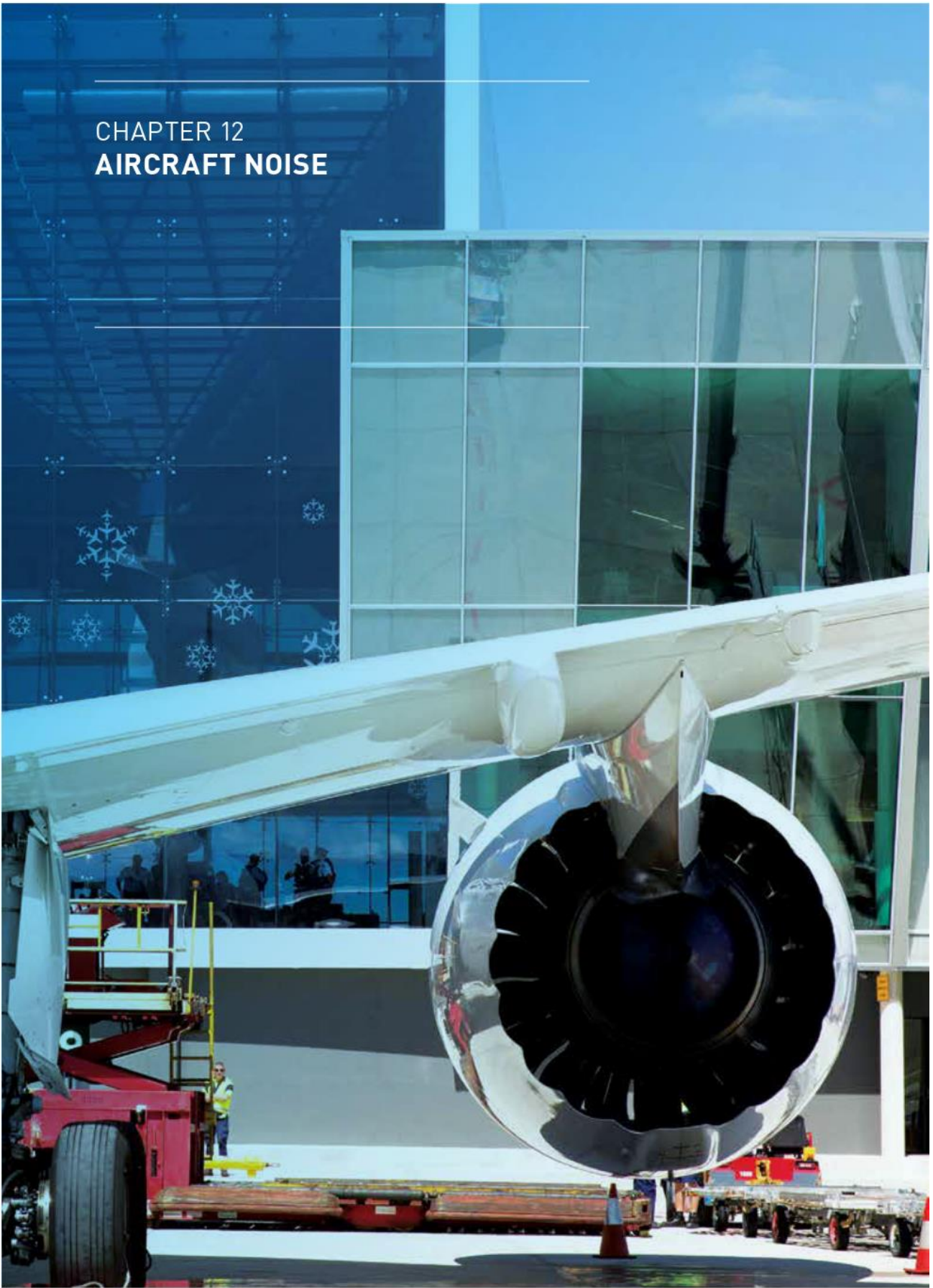


This plan should not be relied upon for planning purposes as it is subject to change. Contact Canberra Airport for the most recent plan or for more detailed plans.

Figure 11.2 - Procedures for Air Navigation Services - Aircraft Operations Surfaces



CHAPTER 12
AIRCRAFT NOISE





“Unlike many Australian airports, Canberra Airport is curfew-free, providing significant capacity to facilitate growth in both international and domestic freight and passenger movements.”

2018 ACT PLANNING STRATEGY

12 Aircraft noise

This Chapter discusses the impact of aircraft noise on the community. The noise abatement areas covering all Canberra suburbs (Figure 12.11) ensure the ACT community is not overflowed by jet aircraft lower than 7,000 feet above mean sea level. There are however areas of our community in NSW where an abatement area is not possible because of aircraft arriving and departing the Airport. These existing houses are in the majority located in Jerrabomberra.

Canberra Airport's Aircraft Noise Policy is outlined in Section 12.5, reiterating our commitment to working with our community, industry partners, and governments to limit the impact of aircraft noise.

Aircraft noise is described using a range of metrics with the known and expected impacts of aircraft noise arising from aviation growth outlined alongside long running issues raised by members of the community.

Over many years, a number of abatement procedures have been adopted by air operators to reduce the impact on those previously or currently affected by aircraft noise. Also outlined are future opportunities to work with the community, Airservices Australia, and air operators to further reduce the impact of aircraft noise on households remaining under flight paths.

12.1 COMMITMENT TO NOISE DISCLOSURE

"The aim of aircraft noise disclosure is to help noise sensitive persons avoid finding themselves in a situation where they are unknowingly exposed to aircraft noise".

Department of Infrastructure, Transport, Cities and Regional Development

Canberra Airport has been, and continues to be, committed to informing its community about current and expected levels of aircraft noise. This commitment is fueled with the knowledge that an informed community is able to make decisions about what suits their level of amenity and match their expectations with what they perceive as an 'acceptable level' of aircraft noise, now and in the future.

There is no simple definition of what is an 'acceptable level' of aircraft noise due to the subjective nature of aircraft noise impact. When considering purchasing a house in the region it is important that people understand they have a responsibility to be informed about aircraft noise, current and future, while making a decision about purchasing a property. There are a number of ways in which aircraft noise can be described and this is outlined in Section 12.4, Describing Aircraft Noise.

In addition to disclosing various metrics of aircraft noise in this 2020 Master Plan, and on various websites including the Canberra Airport website, the Aircraft Noise website, and the information available on the Airservices Australia website, Canberra Airport is consulting with the NSW Department of Planning, Industry and Environment to encourage the Department and local governments around Canberra Airport to issue aircraft noise notifications via a 10.7(5) Planning Certificate (*NSW Environmental Planning and Assessment Act 1979*) for any property transaction within, or nearby, the ANEF 20 (2019), similar to the Tralee rezoning approval.

TRALEE

In addition to notification of aircraft noise via a 10.7(5) Planning Certificate, (previously a 149(2) Certificate) prospective home buyers at Tralee will also be made aware through Section 88B8 Instruments on title that all homes must be built to comply with Table 3.3 of Australian Standard 2021:2015 - Indoor Design Sound Levels for Determination of Aircraft Noise Reduction.

Table 3.3 specifies the indoor design sound levels for houses and flats to be:

- Sleeping areas, dedicated lounges 50 dB[A];
- Other habitable spaces [ie, kitchens, rumpus rooms] 55 dB[A];
- Bathrooms, toilets, laundries 60 dB[A].

In order to comply with the above internal noise levels, it is necessary that external windows and doors are kept closed.

This 2020 Master Plan, the Canberra Airport website www.canberraairport.com.au, the Airservices Australia website www.airservicesaustralia.com, and the Aircraft Noise website www.aircraftnoise.com.au provide comprehensive information about the current and expected future aircraft noise levels for Canberra Airport. All buyers of houses should look at all this information in detail.

12.2 FROM THE GROUND UP

A new aerodrome site has been chosen for Canberra as a result of the recent visit of Colonel Brinsmead, Controller of Civil Aviation. With landing distances of not less than 1000 yards in all directions, the new aerodrome site is at the corner of the Majura Valley Road and the Queanbeyan-Duntroon Road.

The Canberra Times, November 1926

Canberra Airport was established on the existing site 93 years ago in 1927. The runways were initially hard surfaced in 1948. Construction of the present civil aviation area began in the early 1960s with the 'Jet Age', around the same time as the Instrument Landing System [ILS] was first installed as a precision guidance straight-in approach

to Runway 35 from the south. From this time Runway 17/35 became the primary arrival and departure runway for large civil and military aircraft.

As Canberra and the region grew rapidly in the 1960s and 1970s planners ensured a corridor was maintained free from residential development on the main north/south departure and approach flight paths to and from Canberra Airport. Notwithstanding the significant population growth in the region since this time (now over 190,000 dwellings), these planning outcomes ensure Canberra, Queanbeyan and the surrounding regional communities are largely protected from aircraft noise. Figure 12.2 presented in the State of Australian Cities 2012 report is illustrative of this planning outcome today.

In 1985, with Jerrabomberra under consideration, the then operator of Canberra Airport, the Australian Government, strongly urged Queanbeyan City Council to consider the impact of aircraft noise, and discouraged development to the south of the airfield. The correspondence reads:

"I have some comments on the proposal relating to aircraft noise. While it is true that the development area is located outside the 20 ANEF contour and is compatible with residential use, any residents in the area will be exposed to aircraft noise and some of them will be moderately or severely affected by the noise".

In response to aircraft noise complaints in 1995, Airservices Australia created two noise abatement areas, one over Queanbeyan and another over Canberra. For nearly two decades these areas in the sky have provided two very important outcomes for the Region:

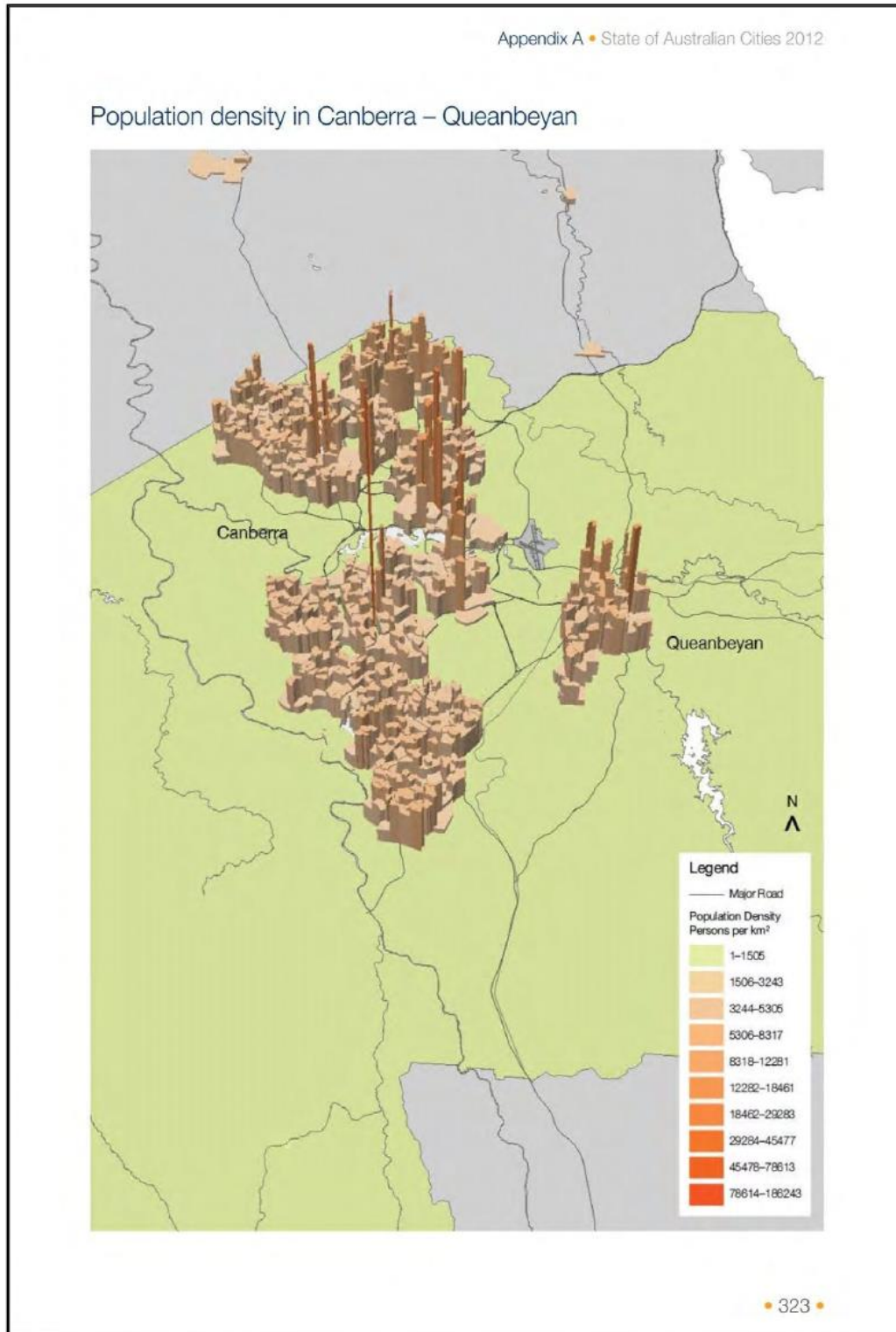
- The vast majority of Canberra and Queanbeyan residents are protected from aircraft noise; and
- Aviation operations at Canberra Airport remain unconstrained, servicing a region which is home to over 940,000 people.

Canberra Airport continues its commitment to the noise abatement areas in this 2020 Master Plan and anticipates they will remain the cornerstone of the noise management framework for aviation operations in the region.

Figure 12.1 - Mass fly-past of aircraft at the opening of Parliament, 9 May 1927



Figure 12.2 - Population density in Canberra and Queanbeyan



12.3 OPERATING RESTRICTIONS

"Canberra Airport is the only curfew free airport within reach of Sydney and provides the potential for night-time services which cannot be accommodated in Sydney, in particular international LCC services and overnight freight services. It is important that Canberra's 24-hour unrestricted curfew-free status be protected".

Joint Study on Aviation Capacity for the Sydney Region, March 2012

The forecast noise mapping presented in this Chapter is based on the practical ultimate capacity of the airfield including 24-hour unrestricted operations.

Practical ultimate capacity is a term used to describe the annual capacity of airfield infrastructure and associated airspace to facilitate anticipated aircraft. The practical ultimate capacity of the current Canberra Airport airfield has been assessed as 282,120 fixed wing movements a year and includes 24-hour a day operations.

At practical ultimate capacity the noise metrics show the majority of the 190,000 plus homes (over 99.5 percent) currently built in the ACT and Queanbeyan are not expected to be severely impacted by aircraft noise:

- Figure 12.3 illustrates the practical ultimate capacity N60 contours;
- Figure 12.4 illustrates the practical ultimate capacity contours N65 contours; and
- Figure 12.5 illustrates the practical ultimate capacity contours N70 contours.

It is important that as members of the community make their housing choices, they are aware of the extent of aircraft noise. Go to the Canberra Airport website at www.canberraairport.com.au/corporate/community/aircraft-noise-calculator/ to access the Canberra Airport Aircraft Noise Calculator and follow the steps to determine where a location falls within these N contours. A summary of your search can be emailed to your nominated email address.

Previous Master Plans have specifically excluded a curfew at Canberra Airport and similarly it is a central component of this Master Plan that Canberra Airport remains curfew-free. The long term curfew-free status of Canberra Airport is supported by the ACT and NSW planning documents as set out in Chapter 4 of this 2020 Master Plan.

Curfews signify an intolerable aircraft noise problem, which is partially resolved with restrictions, and indeed the reality for many is aircraft noise will continue to cause concern regardless of restrictions to aircraft operations. It is important to make clear experience has shown a curfew is not a panacea for noise concerns, but an indication of a lasting impact on residential amenity.

Governments support Canberra Airport operating 24 hours a day.

The Honourable Brad Hazzard MP, Minister for Planning and Infrastructure [NSW], in making his 2012 decision to rezone land to the south of the Airport for residential development, expressed the Airport should remain curfew-free.

"We have met the challenge of getting more housing into the Queanbeyan area and ensuring that Canberra Airport remains a 24-hour, curfew-free passenger and freight hub.

This approach will allow Canberra Airport to pursue ongoing development with capacity to expand up to five times its current size and have as many aircraft movements as Sydney Airport had in 2010".⁸

The former Australian Government in its National Aviation Policy White Paper confirmed:

"The Government is conscious of the value of a network of curfew-free airports and has no current intention to introduce additional airport curfews".⁹

The Australian and NSW Government Aviation Joint Study, commissioned by the Australian Government made clear Canberra Airport's role in the airport network:

"Canberra Airport is the only curfew-free airport within reach of Sydney and provides the potential for night-time services which cannot be accommodated in Sydney, in particular international LCC services and overnight freight services. It is important that Canberra's 24-hour unrestricted curfew-free status be protected".¹⁰

The ACT Planning Strategy [2018] also confirms support for the continued 24-hour operation of Canberra Airport.

"Unlike many Australian airports, Canberra Airport is curfew-free, providing significant capacity to facilitate growth in both international and domestic freight and passenger movements."

⁸ Hazzard, B. 2012. Tralee Rezoning will Deliver More Housing and Allow Canberra Airport to Grow [media release].

⁹ Australian Government. 2009. National Aviation Policy White Paper. Page 214.

¹⁰ Mrdak, M et al. 2012. Joint Study on Aviation Capacity in the Sydney Region. Page 23

“The airport’s capacity to operate effectively is reliant on the effective management of the land surrounding it. Buildings, structures and landscaping that intrude into flight paths can limit or prevent use of airport. Residential development under flight paths can lead to complaints about noise and, eventually, pressure for operational restrictions or curfews”.¹¹

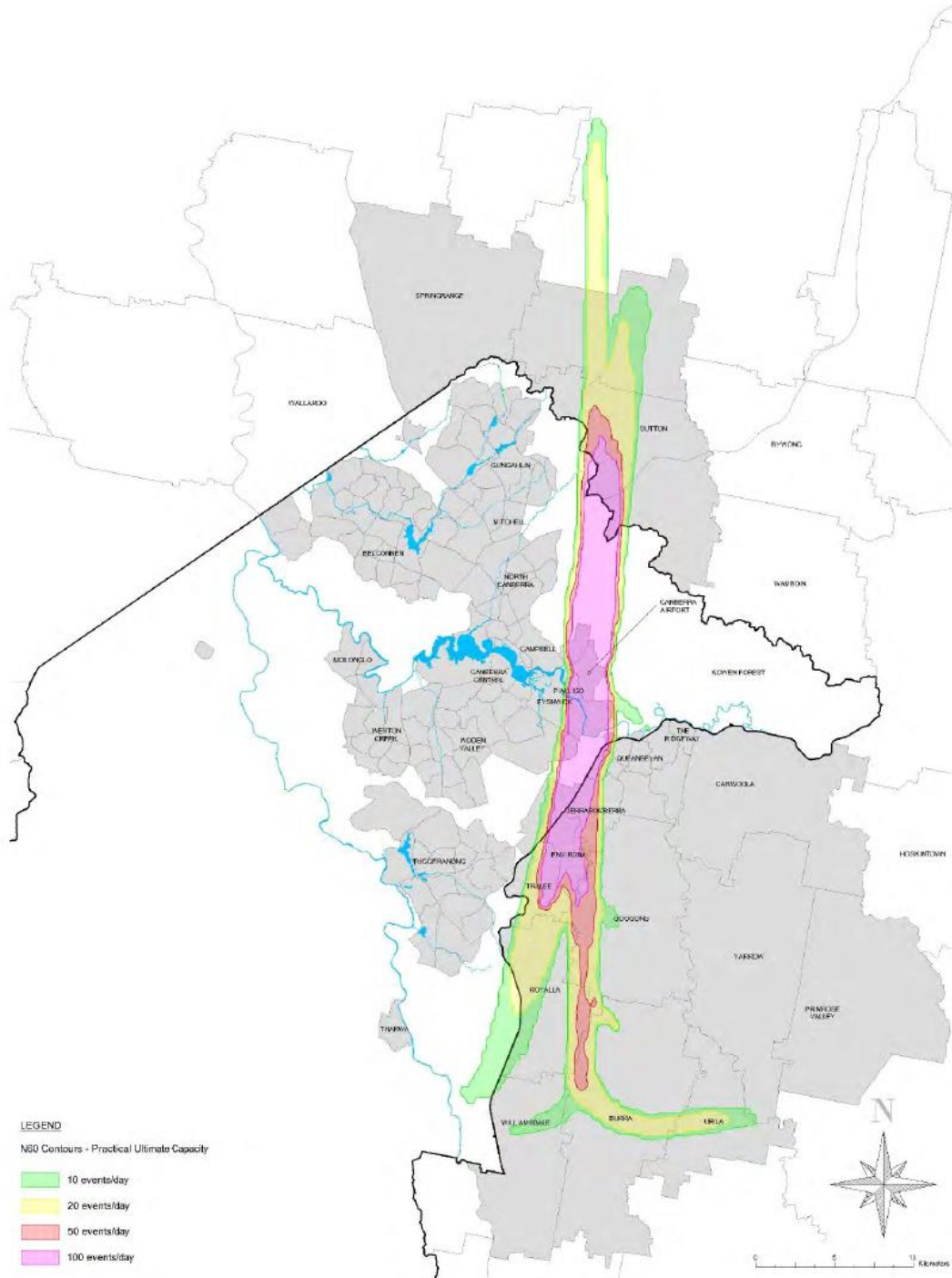
The South East and Tablelands Regional Plan 2036 released in 2017 outlines the opportunity to leverage off Canberra Airport for the economic growth of the Region, particularly in light of Canberra Airport’s curfew-free status.

“As there is no aircraft noise curfew, its international services are unconstrained. Its passenger terminal has capacity to offer more services, and the master planned freight precinct offers a realistic alternative to Sydney Airport.”

“Canberra Airport’s ongoing ability to operate and expand its services cannot be jeopardized by residential development.”

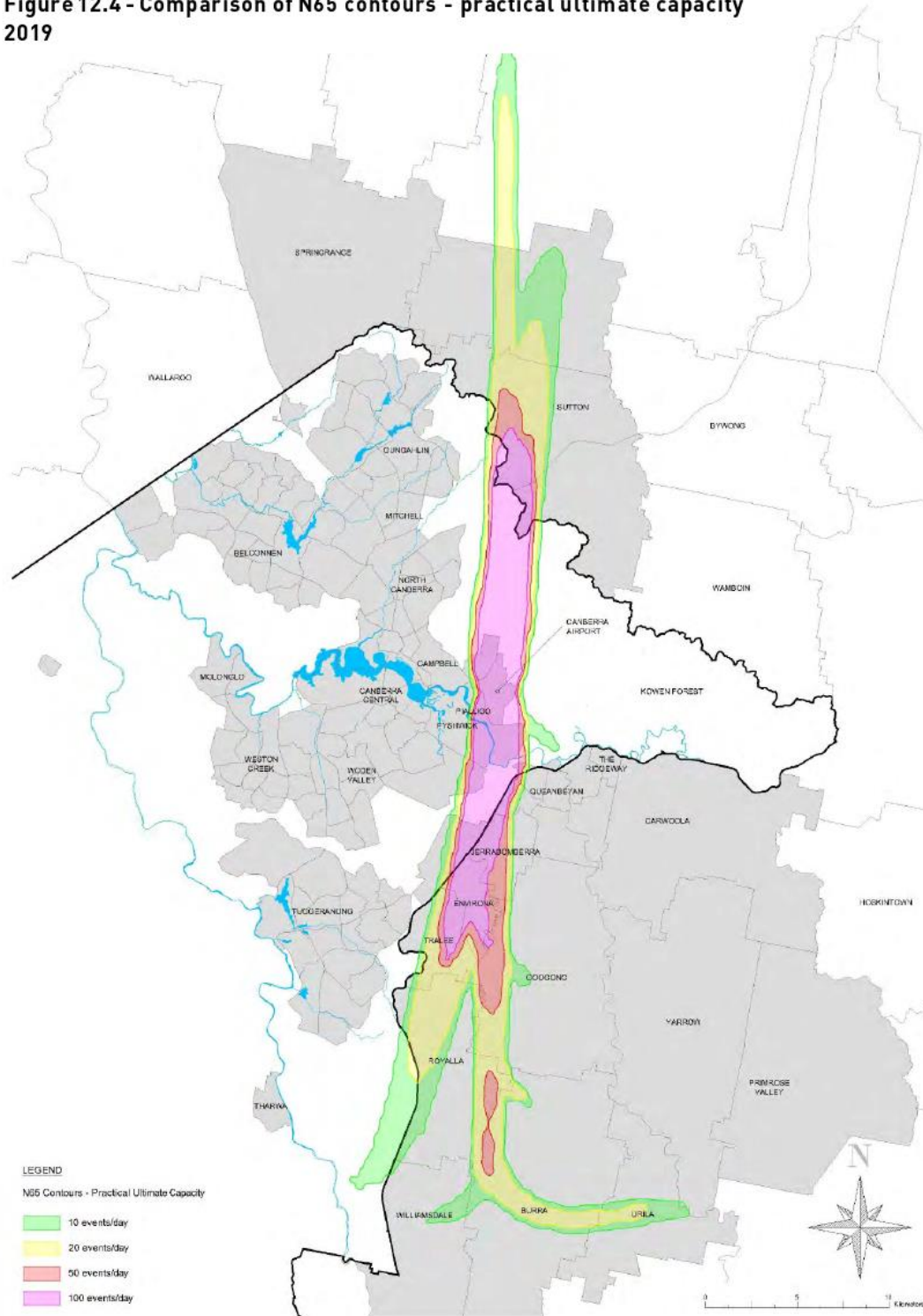
¹¹ ACT Government, ACT Planning Strategy [2018]. Page 63.

Figure 12.3 - Comparison of N60 contours - practical ultimate capacity 2019



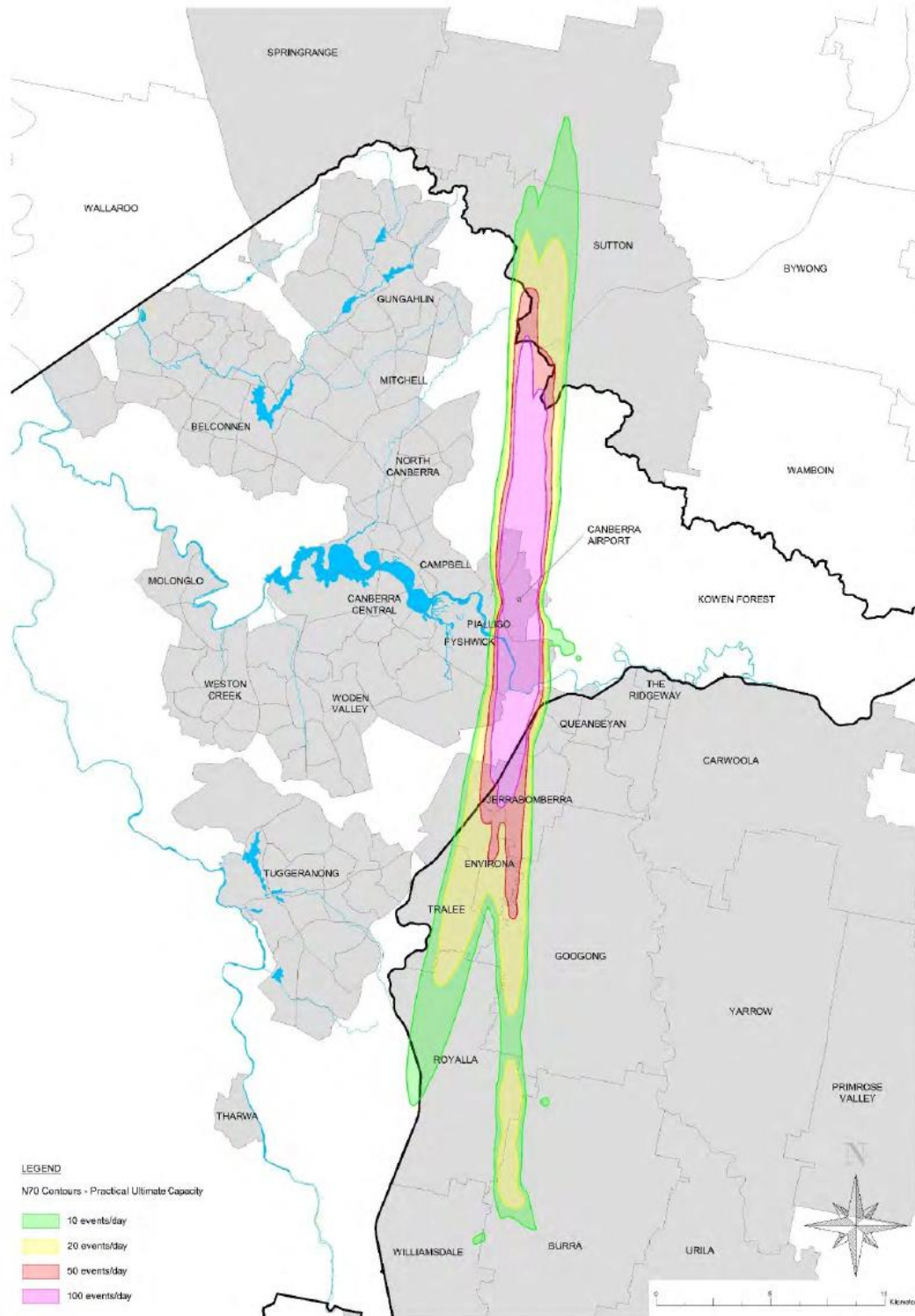
This is a plan of the areas receiving a sound level of 60dB(A) and above in 2019 compared to practical ultimate capacity. Each contour shows the average number of times 60dB(A) is/will be reached in 24 hours.

Figure 12.4 - Comparison of N65 contours - practical ultimate capacity 2019



This is a plan of the areas receiving a sound level of 65dB(A) and above in 2019 compared to practical ultimate capacity. Each contour shows the average number of times 65dB(A) is/will be reached in 24 hours.

Figure 12.5 - Comparison of N70 contours - practical ultimate capacity 2019



This is a plan of the areas receiving a sound level of 70dB[A] and above in 2019 compared to practical ultimate capacity. Each contour shows the average number of times 70dB[A] is/will be reached in 24 hours.

12.4 DESCRIBING AIRCRAFT NOISE

"It is important to look at aircraft noise in as many different presentations as possible".

Ron Brent, Aircraft Noise Ombudsman (2010-2017)

The ANEF, outlined later in this Chapter at Section 12.6.3, is not useful in describing the level or frequency of aircraft noise. As the former Aircraft Noise Ombudsman [ANO] pointed out:

"it is impossible to convert an ANEF rating into a description of what the noise will be like."¹²

Similarly, as set out in the Australian Government's policy on aircraft noise, Attachment 1 to Guideline A of the Safeguarding Framework, the ANEF is of little use in aircraft noise disclosure.

"Following the opening of the third runway at Sydney Airport in December 1994, it was recognised that the ANEF, while a useful tool for land use planning, was deficient as a useful tool for describing information about aircraft noise to residents".

The role of the Canberra Airport ANEF in land use planning is outlined in Section 12.6.1.

The former ANO stated:

"Unfortunately, while this tool [ANEF] can provide high level guidance to those considering the suitability of certain areas for residential or other noise sensitive development, it does little to help those trying to decide if they can live with the noise at a certain level. By way of contrast, there are alternative measures. One example is an 'N70 contour'."

These alternative measures include:

- N Contours [Section 12.4.2];
- Flight Paths [Section 12.4.3]; and
- Single Event Noise Footprints [Section 12.4.4].

¹² Brent, R. 2013 *The Truth About Aircraft Noise* page 2.

The area of land corridor north and south of Canberra Airport located between the Canberra and Queanbeyan Noise Abatement Areas is subject to significant aircraft noise exposure. Aircraft flight paths including RNP procedures, Standard Instrument Departures [SIDs] and Standard Terminal Arrival Routes [STARs] have all been designed to concentrate aircraft flight paths in this area to the benefit of the overwhelming majority of residents in the region.

The former ANO stated:

"If developments are to occur in these corridors, I would like to see the possible impact of the noise emphasised rather than downplayed so that potential buyers can make an informed decision".

Canberra Airport continues to be committed to being transparent with the community about the impacts of aircraft noise, and this is why the level and frequency of noise expected is described here, including the flight paths aircraft will fly, as in previous Master Plans.

This approach allows the retention of the two very important outcomes set out in the introduction to this Chapter, the provision of noise abatement areas and unconstrained aviation operations. Less noise is experienced outside this location as indicated by examining aircraft flight paths and single event aircraft noise contours. This is very important information to intending home buyers.

12.4.1 THE TRUTH ABOUT AIRCRAFT NOISE

In January 2013, Mr Ron Brent, the former Australian Government ANO, released his paper *The Truth about Aircraft Noise*. As Government recognised the growing task in managing aircraft noise appropriately Mr Brent was assigned as the first Aircraft Noise Ombudsman in 2010.

"In the end, the best approach would be to avoid building homes or other noise sensitive developments in high noise zones. On the other hand, it can be difficult to argue that people for whom the noise is not a problem should be denied access to homes in convenient locations that suit them.

If there are to be homes in these areas, I would want to see clear statements about the aircraft noise. It is not helpful to point out that the houses are not under a flight path or outside a particular noise level contour if the truth is that the houses are right on the edge of a noise contour, and that they are near enough to a flight path that planes will fly overhead. Even if the aircraft do not fly directly overhead the noise will be no less than when the planes fly over the parkland the other side of the back fence".

The above statements confirm people have a right to be informed about current and future aircraft noise impacts, and to use this information, to make the decision that suits them about buying and living in areas subject to aircraft noise.

Canberra Airport continues to commit to disclosing the impacts of aircraft noise and to notifying relevant areas within our community about expected noise levels and the frequency with which noise will be heard. The Airport expects current and prospective owners of property around the Airport to take warnings about aircraft noise seriously and be proactive about ensuring their own amenity as the impact of aircraft noise increases over time.

12.4.2 N CONTOURS

The Australian Government Discussion Paper, Expanding Ways to Describe and Assess Aircraft Noise describes N contours as "the total number of instances on the average day where a person is exposed to a noise event greater than [70 dB(A)]"¹².

Figures 12.3, 12.4 and 12.5 illustrate N60, N65 and N70 contours respectively at practical ultimate capacity of the Airport. These contours have been prepared using the same fleet mix at practical ultimate capacity as that used to prepare the 2019 ANEF. Guidance in interpreting noise impact can be found in Guideline A of the Safeguarding Framework, Managing the Impacts of Aircraft Noise.

Purchasers of homes should study these plans and this document carefully. The Figures represent events for an average 24-hour period and therefore are not a representation of the number of events during for example night time hours. Runway 12/30 is generally closed overnight between 11pm and 6am.

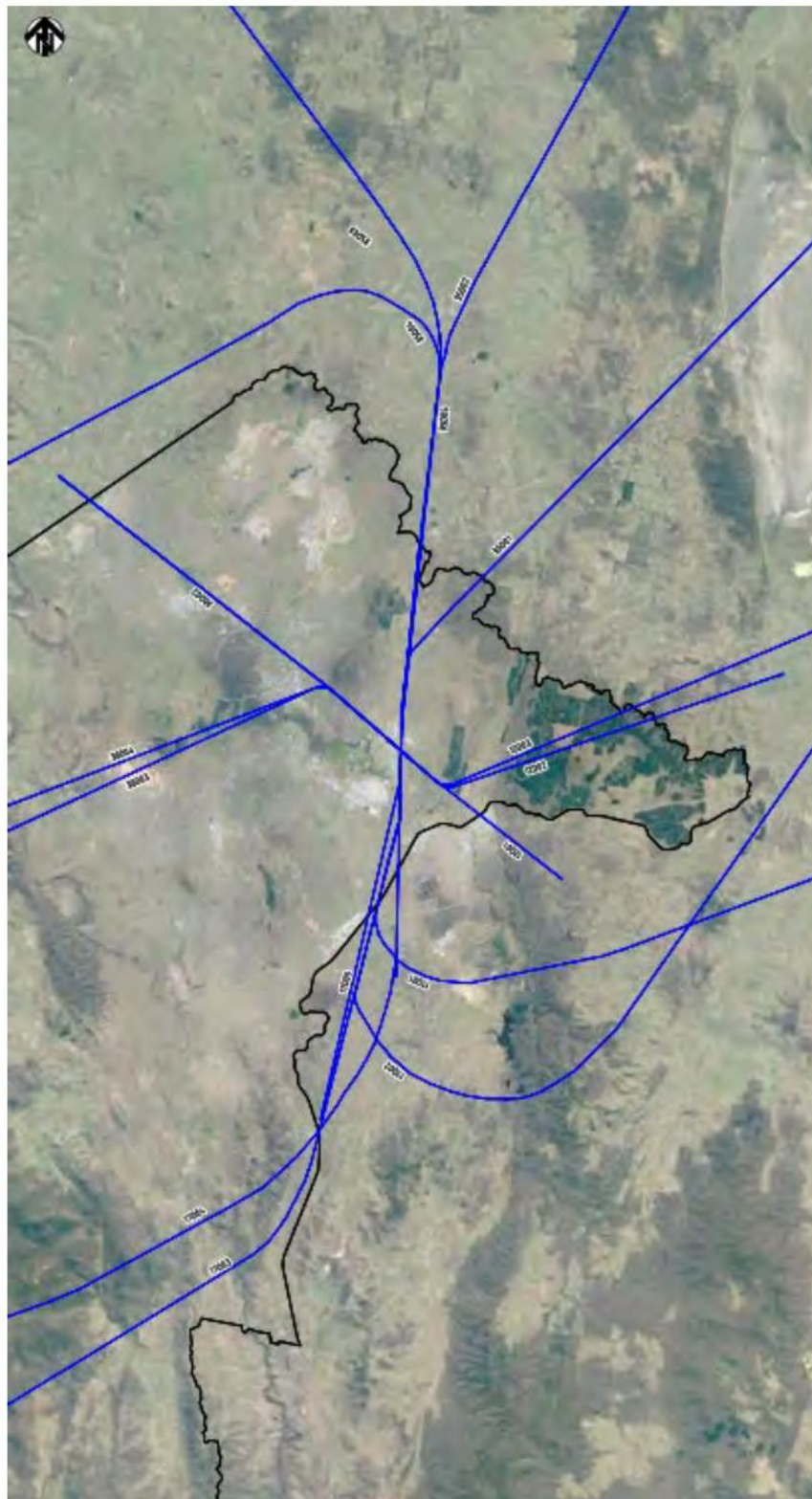
12.4.3 FLIGHT PATHS

The expected future flight paths are substantially similar to the existing flight paths into and out of Canberra Airport, with GPS and RNP approaches, in the endorsed Practical Ultimate Capacity ANEF.

The arrival and departure flight paths modelled in the 2019 Practical Ultimate Capacity ANEC are shown in Figures 12.6 and 12.7.

In December 2008, Airservices Australia introduced a public web-based aircraft noise and flight path monitoring service known as WebTrak, where actual aircraft events can be tracked and noise readings viewed on the Airservices Australia Website by members of the public.

Figure 12.7 – 2018 Departure flight paths



12.4.4 SINGLE EVENT NOISE CONTOURS

The Single Event Noise Contours of representative aircraft operating on existing Canberra Airport flight paths are depicted in Figures 12.8 and 12.9, showing the noise footprint at maximum load of a:

- Boeing 737MAX; and
- Dash 8-300 [cross runway].

These Figures illustrate the extent of aircraft noise 65 dB[A] and above.

The Boeing 737MAX footprint illustrates the offset RNP approaches as well as other existing arrival and departure paths. The single event contours are modelled to take terrain, temperature, and altitude into account and are based on a nil-wind scenario.

Noise footprints for the Boeing 747-800 freight aircraft are illustrated in Chapter 6 of this 2020 Master Plan.

These three aircraft types have been chosen for inclusion in this 2020 Master Plan because they are indicative of the largest noise footprint and loudest regular passenger or freight transport aircraft expected at Canberra Airport over the next five to 20 years.

Figure 12.8 - Single event noise contour - Boeing 737MAX

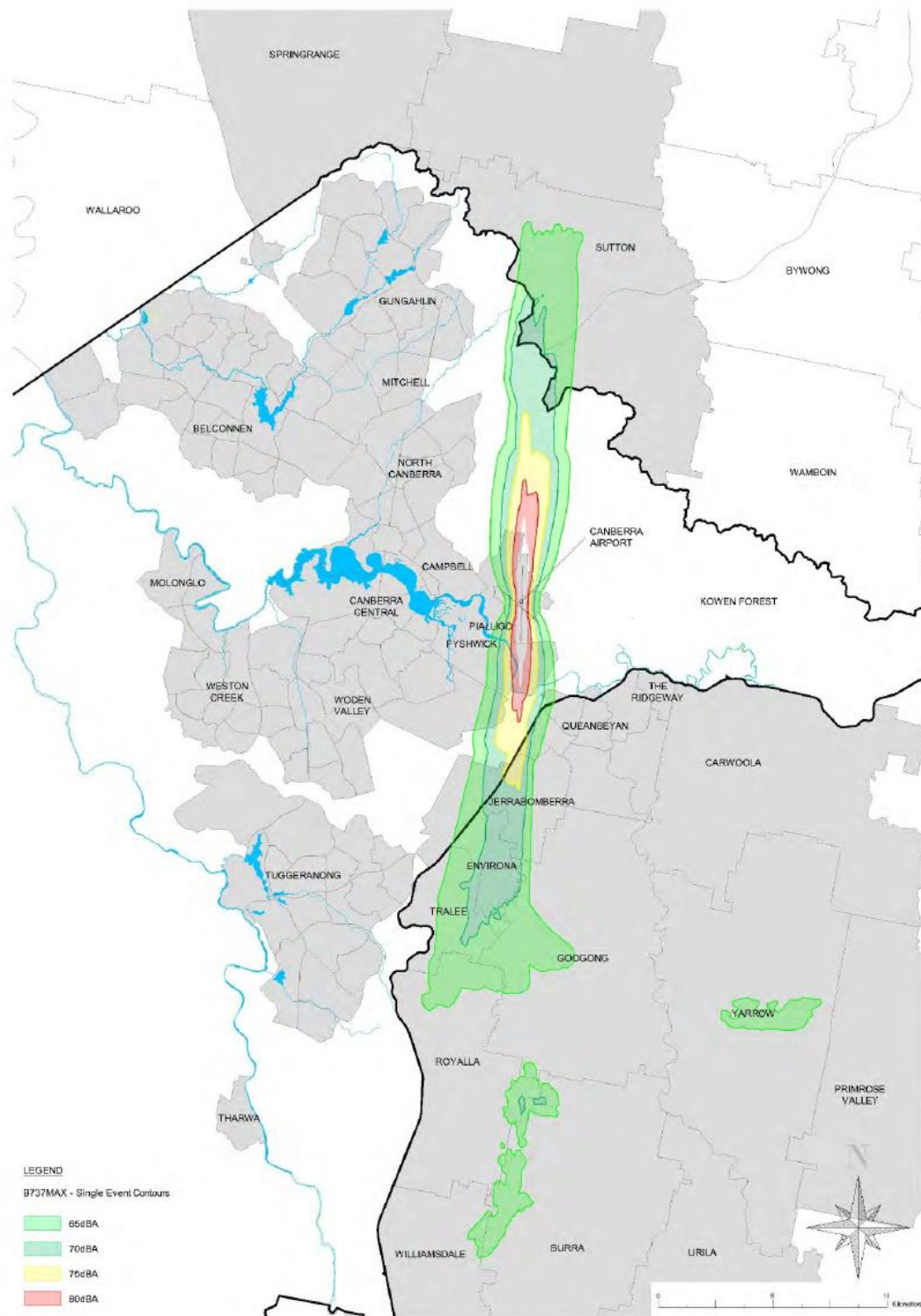


Figure 12.9 - Single event noise contour - Dash 8-300 (cross runway)



12.5 NOISE POLICY

Canberra Airport is committed to the principles of the ICAO Balanced Approach to aircraft noise management and continues to enact the first three initiatives in conjunction with industry partners and governments, and continuing to inform the community:

1. Reduction of noise at source;
2. Land use planning and management; and
3. Noise abatement operational procedures.

Operating restrictions are to be used only when the above noise management practices have been exhausted.

12.6 REDUCTION OF NOISE AT SOURCE

In March 2018, the Australian Government brought into force the Air Navigation (Aircraft Noise) Regulations 2018, superseding the Aircraft Noise Regulations 1984. "The Air Navigation (Aircraft Noise) Regulations require all aircraft operating in Australian airspace to comply with noise standards and recommended practices set out in the International Civil Aviation Organization's (ICAO) document Annex 16, Environment Protection – Volume 1. Under the Regulations aircraft without a noise certificate and those that have been noise certificated at Annex 16 Chapter 2 noise standards, are not permitted to operate in Australia."¹³

The manufacture and purchase of new aircraft is largely an issue for air operators. Most jet operations in Australia are by new generation aircraft, fully compliant with either ICAO Chapter 3 or 4. In the medium term it is expected newer generation fixed wing aircraft, like the Boeing 787 Dreamliner, will use Canberra Airport.

The very significant reduction in noise emitted by modern aircraft over the last 30 years is not an opportunity to build houses nearer to airports. This is largely a one-off structural step down in the noise of individual aircraft over time while the predominant future impact of Canberra Airport operations will be from more flights creating noise more often and by larger aircraft.

¹³ Department of Infrastructure and Regional Development, *Aircraft Noise Regulations – Overview*. Accessed 5 April 2019, infrastructure.gov.au/aviation/environmental/files/DoIRD_AIRCRAFT_NOISE_FACTSHEET

12.6.1 LAND USE PLANNING

National Airports Safeguarding Framework: Over the long-term inappropriate development around airports can result in unnecessary constraints on airport operations and negative impacts on community amenity. These impacts need to be managed in a balanced and transparent way.

Some development outside of the ANEF20 contour will be subject to aircraft noise and Canberra Airport urges, as outlined elsewhere in this Chapter, the community to be aware of aircraft noise where aircraft fly and how noise may affect them.

12.6.2 NSW GOVERNMENT SECTION 9 DIRECTION (FORMERLY 117 DIRECTION)

In 2013 the NSW Government released a draft planning direction under Section 117 of the *Environmental Planning and Assessment Act 1979* [NSW]. The proposal provided that no new residential development will be approved within the ANEF20 contour for Canberra Airport. Canberra Airport now accepts current and future residential development will occur outside the ANEF20 contour in NSW.

There are approximately 750 homes within the ANEF20 contour for Canberra Airport.

The Honourable Pru Goward MP, then Minister for Planning and the Environment, advised in June 2014 "I have determined not to proceed with its [draft planning direction under Section 117] finalisation ... I am confident that planning pathways currently available will deliver an equivalent outcome without the need to introduce a new regulatory imposition via a minister direction. To this end I have instructed the Department of Planning and Environment, when considering any future proposals for residential or other noise sensitive uses in this area, to ensure that the strategic economic importance of Canberra Airport and its 24 hour curfew-free status are given full weight in the decision making process."

Further, Mr Richard Pearson, then Deputy Secretary Department of Planning and Environment NSW, advised in July 2014 "Consistent with the Minister's instructions ... the Department's policy position remains that rezonings for large scale urban release within the Australian Noise Exposure Forecast 20 for Canberra Airport are not supported ... future development at South Jerrabomberra will be required to meet those internal noise levels set out in Table 3.3 of the AS2021-2000 Australian Standard, similar to the requirements introduced for South Tralee."

Canberra Airport is concerned however that the views of previous Minister Goward about the need to restrict noise sensitive zoning near Canberra Airport may be disregarded by future governments, and a Ministerial Direction issued under Section 9 of the *Environmental Planning and Assessment Act 1979* about noise sensitive land uses around Canberra Airport will provide clarity to relevant councils when revising their Local Environment Plans.

Canberra Airport hopes to work with NSW Planning, Industry and Environment in the preparation of a Ministerial Direction to ensure “rezonings for large scale urban release within the Australian Noise Exposure Forecast 20 for Canberra Airport” do not occur into the future.

12.6.3 AUSTRALIAN NOISE EXPOSURE FORECAST

The ANEF is designed to create a land use planning tool to manage noise sensitive land uses around the Airport, providing guidance to the National Capital Authority, ACT and NSW Governments and councils to make informed planning and development decisions. The system is underpinned by Australian Standard AS2021-2015. The Standard defines areas where construction of certain building types is 'acceptable', 'conditionally acceptable' and 'unacceptable'.

While the ANEF is a requirement of the Airports Act, it is essentially a land use planning tool of most relevance and importance to state, territory and local governments who are making planning decisions for future decades. Because of its aggregate nature and lack of meaningful information about decibel levels, flight paths, aircraft height or movement frequency, an ANEF provides little assistance to individuals in the community seeking to understand specific future noise impacts.

Important Note: Aircraft noise does not stop at a line on a map. Those currently living in or considering purchasing a property within the vicinity of Canberra Airport flight paths, aircraft noise footprints, or noise contours, are right to seek information about aircraft noise because they have a responsibility to ensure their amenity.

An ANEF is an aggregate calculation of noise modelling, combining current and future aviation operations. It shows the cumulative noise effect of a full year of operations so that seasonal changes in weather patterns and airline schedules are taken into account. The resulting contours are a measure of the total noise exposure over a 12-month period divided by 365 to show an average annual day. It does not represent the maximum exposure on any day or the maximum exposure caused by a single aircraft.

The 2019 ANEF was developed by independent expert consultants in consultation with Canberra Airport with the assistance of two reports; one determining the practical capacity of the runway system using the Federal Aviation Administration demand and capacity methodology (currently under review), and the other a detailed meteorological analysis to model actual and theoretical runway capacity. The ANEF takes into account terrain, altitude, and temperature.

The Practical Ultimate Capacity Australian Noise Exposure Forecast (ANEF) prepared in 2019 for Canberra Airport is provided at Figure 12.10. This ANEF was prepared in consultation with Airservices during 2019 and formally lodged with Airservices in April 2019 for technical endorsement ahead of its inclusion in the preliminary draft Canberra Airport 2020 Master Plan in August 2019.

The 2019 ANEF has been prepared to take into account operations from the end of the existing main Runway 17/35 and is a representation of the Airport's Practical Ultimate Capacity with the threshold relocated as proposed in Chapter 7.

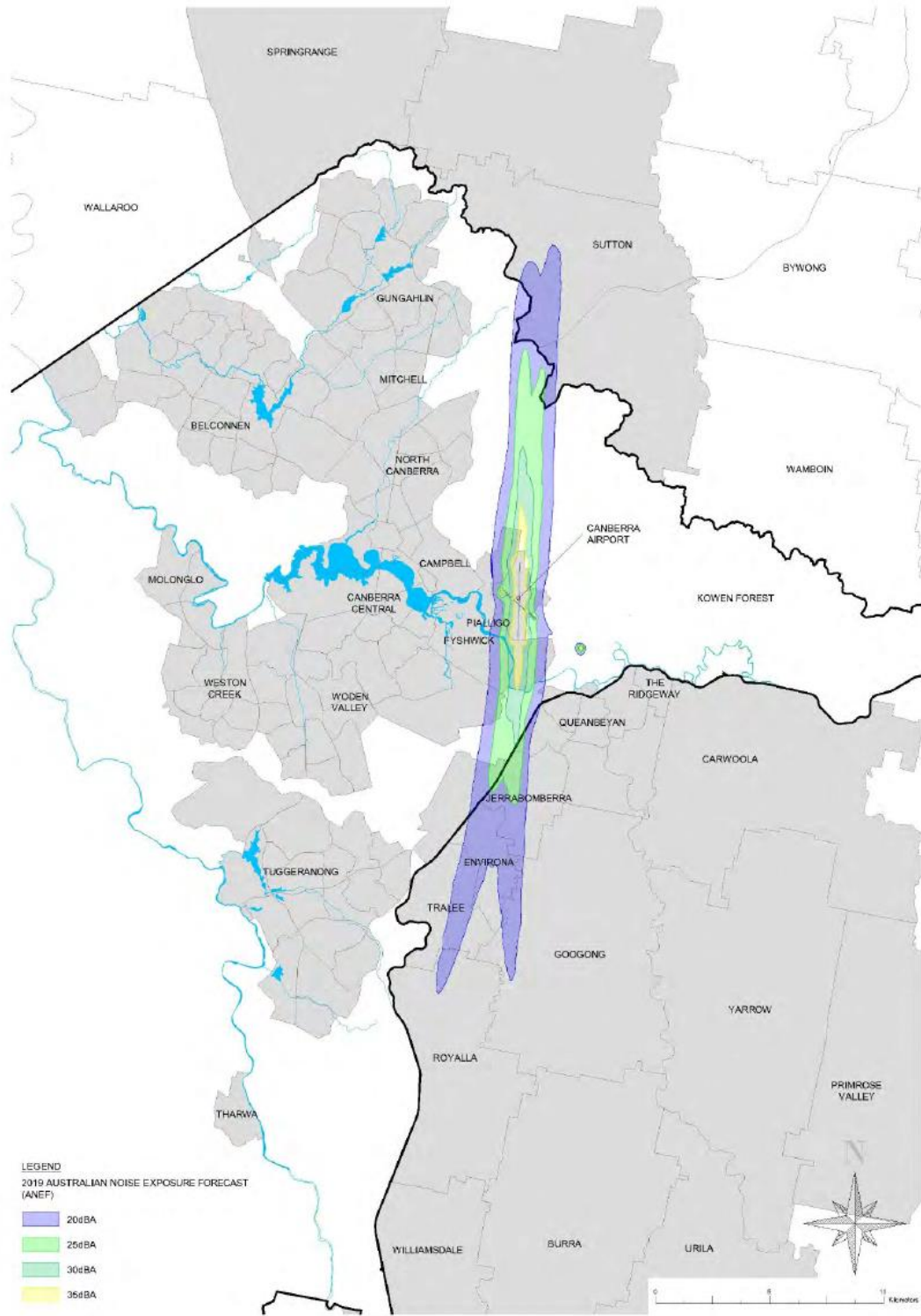
The ANEF is utilised for land use planning purposes and should not be solely relied upon by communities or prospective purchasers of property for information about the impact of aircraft noise.

The ANO describes the ANEF:

"The ANEF level comes from a complex formula and is not easy to understand or explain. It includes factors such as; how loud the noise is, how frequent it is and the distribution of the noise across the day and the night. It is based on a forecast of aircraft activity (which may or may not bear out) and uses standard noise estimates for known aircraft types. It assumes consistent flight routes (which do not necessarily correspond to how planes fly in reality). The final averaged level will not tell you if you will get occasional loud noises, frequent quieter noises, lots of night noise, or most of the noise between 6am and 7am when you hope to sleep in".¹⁴

¹⁴ Brent, R. *The Truth About Aircraft Noise*. 2013

Figure 12.10 – Practical Ultimate Capacity Australian Noise Exposure Forecast (ANEF)



12.6.5 ACT PLANNING

The Territory Plan Map shows non-urban broadacre space to the north and south of the Airport. This zoning is commensurate with protecting the 24-hour operation of the Airport because noise sensitive developments will not be permitted within the future noise footprint of the Airport.

The ACT Government online portal ACTMapi includes the ANEF for Canberra Airport at app.actmapi.act.gov.au/actmapi/.

12.6.6 NATIONAL AIRPORTS SAFEGUARDING FRAMEWORK (NASF) GUIDELINE A: MEASURES FOR MANAGING IMPACTS OF AIRCRAFT NOISE

NASF Guideline A sets out at paragraph 17 the proposal for “noise-sensitive development” as follows:

It is important that consideration be given to the application of the following approach to land use planning:

- i) No new designations or zoning changes that would provide for noise-sensitive developments within a 20 ANEF where that land was previously rural or for non urban purposes (in keeping with AS2021).
- ii) Zoning for noise-sensitive development be avoided where ultimate capacity or long range noise modelling for the airport indicates either:
 - 20 or more daily events greater than 790 dB(A);
 - 50 or more daily events of greater than 65 dB(A); or
 - 100 events or more daily events of greater than 60 dB(A).
- iii) Zoning for noise-sensitive development should take into account likely night time movements and their impact on residents’ sleeping patterns. For example, where there are more than 6 events predicted between the hours of 11pm and 6am which create a 60 dB(A) or greater noise impact, measures for aircraft noise amelioration and restriction on noise-sensitive development may be appropriate.

12.7 NOISE ABATEMENT

The Review of Canberra Airport Noise Abatement Procedures [2011] by Airservices Australia found that the communities around Canberra Airport are well served by a range of noise abatement procedure components that are effective and have high levels of compliance.

On the basis of the findings in this report, Airservices Australia does not see any need to change any of the existing NAs within the short term (next five years), but can explore the use of RNP technology as it enables routes that have less environmental impact to be flown. This can be achieved at Canberra Airport through the development of multi-variant design RNP procedures, enabling suitably equipped aircraft to use RNP flight paths. Work on the feasibility of this option is underway.

Canberra Airport is committed to working with Airservices Australia, aircraft operators, and the community to ensure the ongoing investigation of further measures to provide noise relief to the community impacted under flight paths.

12.7.1 NOISE ABATEMENT AREAS (1995)

The noise abatement areas are the most important measure in keeping Canberra and Queanbeyan largely free from aircraft noise. The noise abatement areas implemented 24 years ago are shown in Figure 12.11. Aircraft now largely avoid residential areas for a distance of up to 15 kilometres north and south of the Airport.

Introduced in their current form in 1995, the noise abatement areas reduce the overflight of residential areas by arriving and departing aircraft. Within the noise abatement areas, jets may not fly below 5,000 feet [1,500 metres] above ground level, [7,000 feet above mean sea level] and large propeller aircraft may not fly below 3,000 feet [915m] [5,000 feet above mean sea level], except in special circumstances [such as aircraft emergencies, inclement weather, or when undertaking training/maintenance circuits]. The noise abatement areas are published procedures that are complied with by pilots and ATC when directing aircraft.

Canberra Airport supports the extension of the noise abatement areas to cover residential development in north and eastern Gungahlin and residential development at Googong New Town.

12.7.2 RUNWAY 17 DEPARTURE OFFSET

Following complaints from residents of Jerrabomberra about departing aircraft tracking directly overhead western Jerrabomberra [reciprocating, in reverse, the straight-in ILS arrival flight path], a 12-degree offset departure flight path was established in 1996, ensuring aircraft taking off to the south on Runway 17 fly away from and west of Jerrabomberra near Tralee and Hume.

12.7.3 RUNWAY 17 PREFERRED ARRIVAL AND RUNWAY 35 PREFERRED DEPARTURE AT NIGHT

The predominant landing runway at Canberra Airport is Runway 35 from the south, which is serviced by an instrument landing system. However, in May 1998, following requests from the Jerrabomberra community, Runway 17 became the preferred runway for arrivals overnight between 8pm and 7am when weather permits. Similarly, departures are preferred on Runway 35.

In its 2011 review of abatement procedures at Canberra Airport, Airservices Australia determined:

The optimal runway modes to minimise overflight of residential areas are arrivals on Runway 17 and departures on Runway 35. This is reflected in the preferred runways at night, but not practical during the day as traffic levels are too high for opposite direction operations. However, the weather, traffic levels between 8pm and 11pm when there is an ATC service, and the absence of an ATC service between 11pm and 6am combine to result in a very low level of compliance with this mode.

It is useful for the community to know that as overnight aircraft traffic increases, Runway 17 arrivals will for practical reasons, depart on Runway 17.

12.7.4 RUNWAY 17/35 PREFERRED AT NIGHT

Agreements have been signed with the principal night freight operators at Canberra Airport to ensure night freight aircraft use the main runway [Runway 17/35], rather than the cross runway between 11pm and 6am, and fly clear of the Canberra and Queanbeyan Noise Abatement Areas except where operationally required. A similar agreement was reached with the Royal Flying Doctor Service/NSW Air Ambulance and another major Canberra General Aviation organisation. This ensures that residents of Canberra and Queanbeyan, and particularly residents of North Canberra, are subject to reduced overflight at night.

Canberra Airport is committed to ensuring similar agreements are signed with any future night freight operator that seeks to operate services to and from Canberra Airport, unless a broader restriction on the overflight of the noise abatement areas at night is achieved.

Canberra Airport continues to support Runway 17 as the preferred night-time arrival runway, subject to weather and technology.

12.7.5 RUNWAY 30 DEPARTURE PROCEDURES

Revised departure procedures for Runway 30 usually require light aircraft to track straight over Fairbairn Avenue to the War Memorial before turning off the original departure heading, thereby avoiding unnecessary noise disturbance to residents of North Canberra, in particular the suburbs of Campbell, Ainslie, and Reid.

12.7.6 RUNWAY 12 ARRIVAL PROCEDURES

Similar to the departure procedures for Runway 30 implemented in 2001, arriving aircraft on Runway 12 are requested to join their final inbound track no later than the Australian War Memorial to reduce noise over North Canberra.

12.7.7 RUNWAY 30 ARRIVAL PROCEDURES

Amended arrival procedures to Runway 30 from the east were put into place in 2002 to provide noise respite to the rural residential areas of Carwoola, Captains Flat Road, and the Ridgeway [all in NSW], involving directing aircraft over currently unpopulated western areas of Kowen Forest. When the ACT Government develops Kowen as a residential settlement, this measure may need to be further refined.

12.7.8 HIGHER OVERFLIGHT OF RURAL RESIDENTIAL AREAS

For light aircraft travelling to the training area near Bungendore, a noise respite procedure was implemented ensuring light aircraft, once on track, travel at an altitude 500 feet [150 metres] higher than was previously the norm. This reduces noise exposure for rural acreage residents living below this flight track, mainly in Wamboin [NSW].

12.7.9 CIRCUIT TRAFFIC

New circuit procedures on the cross runway [Runway 12/30] were implemented to ensure minimum possible aircraft noise impact to residents in Pialligo and North Canberra.

12.7.10 NEW DEPARTURE AND ARRIVAL PROCEDURES RUNWAY 17/35

In response to the noise abatement areas, Airservices Australia developed new Standard Instrument Departures [SIDs] in 2002, followed by new Standard Terminal Arrival Routes [STARs] in 2005 for Canberra Airport. These procedures have been varied since to achieve more noise abatement and are able to be entered into aircraft flight management systems and, taking into account wind conditions, allow for highly accurate tracking to and from Canberra Airport. This has ensured reduced high level aircraft overflight of residents in Tuggeranong and Gungahlin and moved the lower level arrival flight paths away from residents of the rapidly expanding Googong New Town.

12.7.11 SMART TRACKS

Notwithstanding the 1996 movement of the Runway 17 departure flight paths further to the west, Jerrabomberra residents have continued to complain about aircraft noise generated by arriving aircraft on the straight-in Runway 35 flight path.

In response to these ongoing complaints, in 2005 Qantas Boeing 737-800 aircraft commenced using the new GPS based technology known as Required Navigation Performance [RNP] to operate a curved noise abatement approach to Runway 35. Canberra was the first airport in Australia to be selected for this technology. This means that aircraft using this RNP approach can now safely bypass Jerrabomberra on arrival.

Airservices Australia data shows that the new RNP approach to Runway 35 delivers a highly significant 9-10dB[A] reduction at the Jerrabomberra noise monitoring terminal during a single noise event from a Boeing 737-800 arrival¹⁵. This equates to an almost halving of the perceived loudness of noise for residents adjacent the noise monitoring terminal compared to the instrument land system [ILS] arrival flight path. Further, the RNP approaches allow for more direct tracking, which in turn minimises the lateral spread of aircraft noise.

Other RNP arrival procedures to Runway 35 and departures have been implemented by ASA and together with a precision-like RNP approach to Runway 17 are also now utilised by appropriately equipped aircraft, providing very substantial noise, safety, and fuel savings.

Currently the technology is utilised wherever possible by Qantas, Virgin Australia and Defence Boeing 737 fleets.

¹⁵ July 2007 report on RNP procedures at Canberra Airport, available on the Canberra Airport Website

The existing RNP procedures have been incorporated into the Canberra Airport Practical Ultimate Capacity ANEF.

12.7.12 RUNWAY 35 WEST ARRIVAL

In February 2013 an offset RNP approach procedure from the south to the main runway was implemented. This directs aircraft arriving from the south or south-west further to the west, moving the flight paths further west and away from residences in Jerrabomberra and rural-residential areas of Fernleigh Park, Googong, and Little Burra.

12.8 FUTURE OPPORTUNITIES FOR NOISE ABATEMENT

In order to ascertain aircraft noise disturbance, and to best tailor future noise respite measures to reduce aircraft noise over residential communities, Canberra Airport conducts extensive and ongoing consultation with Airservices Australia, governments, industry, and the community. This consultation occurs in various forms; meetings, written communication, publications and information on the Airport's Website.

12.8.1 CANBERRA AND QUEANBEYAN NOISE ABATEMENT AREA EXPANSION

Since 1999/2000, Canberra Airport has acknowledged that planned future regional residential development outside the current noise abatement areas but away from low-level aircraft flight paths may lead to a future need to expand the current noise abatement areas.

Following formal requests in 2008 from the Gungahlin community and the ACT Chief Minister, Canberra Airport wrote to Airservices Australia requesting an investigation of the eastward expansion of the Canberra Noise Abatement Area to incorporate new Gungahlin suburbs. Canberra Airport supports the extension of these noise abatement areas [and has done so since 1999].

In support of a reduction in aircraft noise over new Gungahlin suburbs, Airservices Australia in late 2014, amended the Runway 35 Standard Instrument Departure so jet aircraft reach a waypoint north of Gungahlin before turning to destination, resulting in aircraft generally flying over non-residential land. Canberra Airport will again liaise with Airservices Australia to determine if an expansion in the relevant noise abatement area is feasible.

An opportunity also exists for the future expansion of the Queanbeyan Noise Abatement Area to the south to incorporate a new residential development at Googong New Town. Canberra Airport has supported this proposed extension of the Queanbeyan Noise Abatement Area since 2002 (Figure 12.11).

12.8.2 NOISE ABATEMENT AREAS AT NIGHT

Canberra Airport continues to work with Airservices Australia to review the rules applying to the noise abatement areas overnight [11pm-6am] to restrict aircraft operating to and from Canberra Airport at night from overflying the noise abatement areas at any height, except where operational requirements require it.

12.8.3 NIGHT PROCEDURES

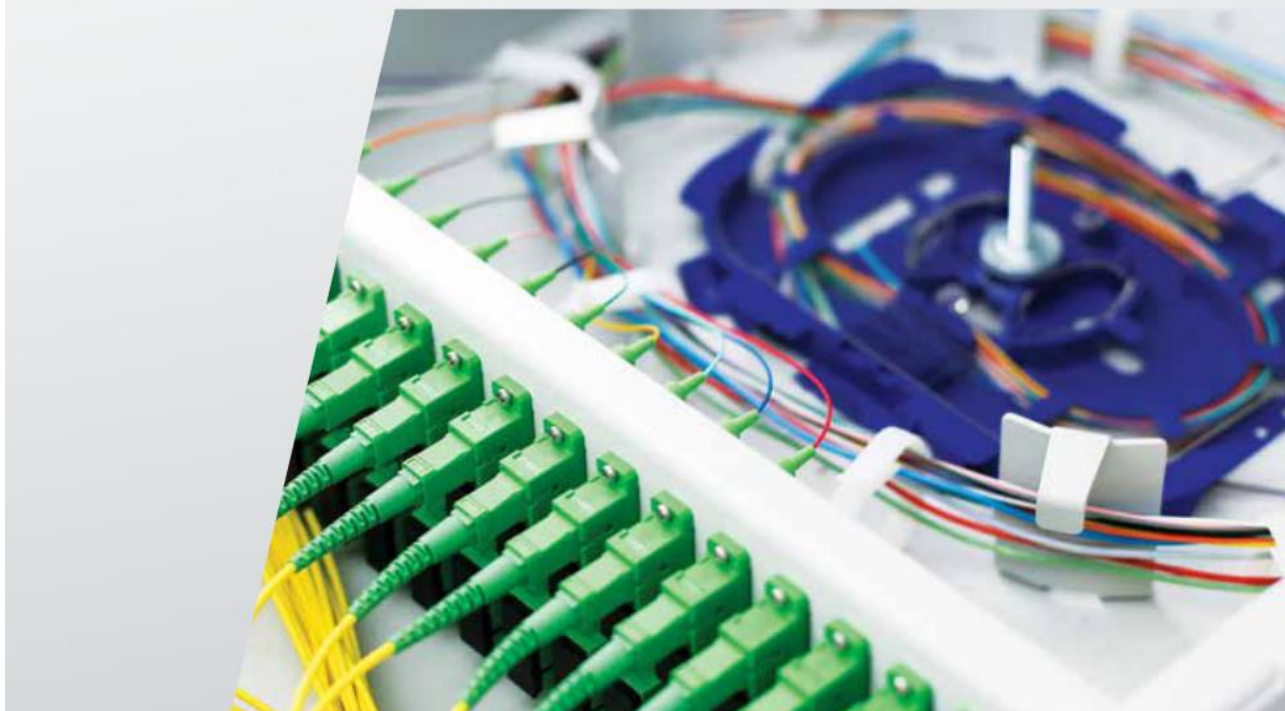
As aircraft traffic increases the night procedure should specify preferred use of Runway 17 for departures between 8pm and 7am. Arrivals are quieter than departures for residents of North Canberra, whereas the reverse is true for those living near Jerrabomberra where the Runway 17 offset departure means departures generate less noise than arrivals.



CHAPTER 13
ENGINEERING SERVICES



The engineering services around the Airport have been progressively upgraded with new developments to meet future demand.



13 Engineering services

The engineering services around the Airport have been progressively upgraded with new developments to meet future demand across the Airport. The engineering infrastructure on the Airport is in a significantly better state today than at the time of the privatisation of the Airport in 1998.

Canberra Airport has paid for all upgrades to engineering services and utilities including the provision of major off-site works. The land uses on the Airport [especially the airline terminal and commercial land uses] have only been possible due to the Airport's provision of on-and-off Airport utilities, including Grade 1 water supply, electricity supply, services and reticulation, co-generated electricity, stormwater and sewer, and substantial contributions to the road system around the Airport.

13.1 GAS

EXISTING SYSTEM

The ActewAGL natural gas main services the Airport providing multiple connections.

Gas powered trigeneration plants are now in place at the Majura Park offices as well as the terminal to provide environmentally friendly energy generation, with excess heat [created in the generation of electricity] used to heat and cool the buildings. The use of these plants increases the demand for natural gas supplies, which will continue to rise as the plants use increase with additional office occupation and passenger growth at the terminal.

2020 MASTER PLAN IMPLICATIONS

Additional gas supply may be required during the 20-year life of this 2020 Master Plan as on Airport development continues. Canberra Airport will work with Evoenergy and all other relevant parties to ensure the ongoing supply of adequate gas supplies to the Airport site.

13.2 SEWERAGE

EXISTING SYSTEM

Most areas served by sewerage infrastructure are currently reticulated with gravity collection systems, although some have sewerage pumping stations. The system effectively has four main ties from the Airport into the sewer mains provided by Icon Water.

2020 MASTER PLAN IMPLICATIONS

There is existing infrastructure in all parts of the Airport. In some cases, proposed developments are below the existing infrastructure, so the collection system needs to gravitate to a central pumping station with sewage pumped to the existing gravity collection system and connected to town infrastructure.

The existing sewer connections into the Icon Water sewer mains are operating with significant capacity available therefore it will be possible to connect additional facilities without downstream augmentation works.

Current Icon Water requirements do not allow for blocks to be served through adjoining sites. The Defence golf course sewer currently joins into the sewer mains on the Airport site. This is against Icon Water requirements and may need to be corrected in the future.

13.3 STORMWATER

EXISTING SYSTEM

Stormwater catchments incorporating the Airport site extend well beyond the Airport toward the pine plantations to the east of the Airport. All areas of the Airport are currently supported by gravity stormwater collection systems comprising underground pipes and open drains.

Stormwater drainage is directed from catchment areas into the adjoining Woolshed Creek [a tributary of the Molonglo River] and Molonglo River systems. Canberra Airport continues to partner with the ACT Government in the cost of maintenance of downstream connections between the Airport and the Molonglo River and Woolshed Creek to ensure satisfactory drainage capacity.

The catchment area of the Airport site is about 441 hectares and the catchment areas upstream of the Airport are about 1,145 hectares, giving a total catchment area of 1,586 hectares.

Significant changes to stormwater flows were made in 2006 with the extension of Runway 17/35 to the south. This involved the provision of significant stormwater detention basin infrastructure as well as a major drainage diversion to the south. Further detention structures have been constructed upstream of Fairbairn and on airport upstream of the aviation fuel farm. All detention structures are designed to reduce peak stormwater and to provide sediment control of stormwater into and within the airport.

2020 MASTER PLAN IMPLICATIONS

The Canberra Airport Water Management Plan outlines Canberra Airport's actions to manage stormwater flows on the Airport in a sustainable manner. The Water Management Plan is updated from time to time and will guide the further development of stormwater infrastructure on the Airport.

Further information on the Canberra Airport Water Management Plan and management of stormwater more generally is included in the Environment Strategy.

In the short term, it will be necessary to manage run-off from the upstream stormwater catchments [most of which are located on Department of Defence land] before it enters the Airport north of Fairbairn and Runway 17/35. The management of this run-off is critical to aviation safety and will involve the construction of the remaining catchment drains, detention basin, and the maintenance of the diversion banks originally identified in the approved 1999 Master Plan.

WATER QUALITY CONTROL

Pollution control is an integral part of any drainage system and all developments at the Airport will meet the standards set out in the approved Environment Strategy. Developments are also subject to a CEMP and have in place sediment and erosion control plans.

13.4 POTABLE WATER SUPPLY

EXISTING SYSTEM

Potable water supply to the Airport is supplied by Icon Water at a single meter point.

The existing Airport potable water supply is divided into four zones corresponding with the four precincts and has adequate capacity to handle significant growth. All onsite water pipes from the single supply point have been paid for and maintained by the Airport. In addition, the Airport has built a multi-million-dollar onsite pumping station at the main supply point to maintain pressure across the network.

2020 MASTER PLAN IMPLICATIONS

Water reticulation to most precincts on the Airport can be provided from the existing system. Significant upgrades to the water system, both on and off Airport, have been completed at the Airport's cost to ensure a high-quality Grade 1 water supply.

A water ring main has been developed around the whole Airport to increase the reliability of water supply. It may be necessary for Icon Water to provide additional points of supply to the Airport's ring main in the future to maintain the quality and reliability of supply.

13.5 ELECTRICAL

EXISTING SYSTEM

Three high voltage Evoenergy feeders supply power to the Airport. A primary feeder has been upgraded to meet capacity growth associated with development on Airport. With the ongoing growth in development across various precincts other feeders will need further upgrades to maintain the electrical supply over the long term and to provide for adequate capacity and reliability. The Evoenergy electricity network is supplemented by trigenerated and Solar power at a number of on Airport points.

2020 MASTER PLAN IMPLICATIONS

Further development will require the provision of new and upgraded external networks by Evoenergy. Additional trigenerated power, Solar or alternative power sources will be considered on a case-by-case basis.

13.6 TELECOMMUNICATIONS

EXISTING SYSTEM

Telstra provides landline [copper and fibre optic] telecommunications services to all precincts of the Airport. TransACT provides an optical fibre service to Brindabella Park, Majura Park, and Fairbairn precincts and are considering providing fibre services to other precincts. Underground communication ducts in all precincts owned by the Airport permit a number of carriers. The majority of carriers provide mobile telephony services across the Airport.

Recognising that the Telecommunications Act 1997 does not apply at airports, Canberra Airport will work with telecommunications providers to augment the Airport's conduit network for use by such providers on reasonable commercial terms.

2020 MASTER PLAN IMPLICATIONS

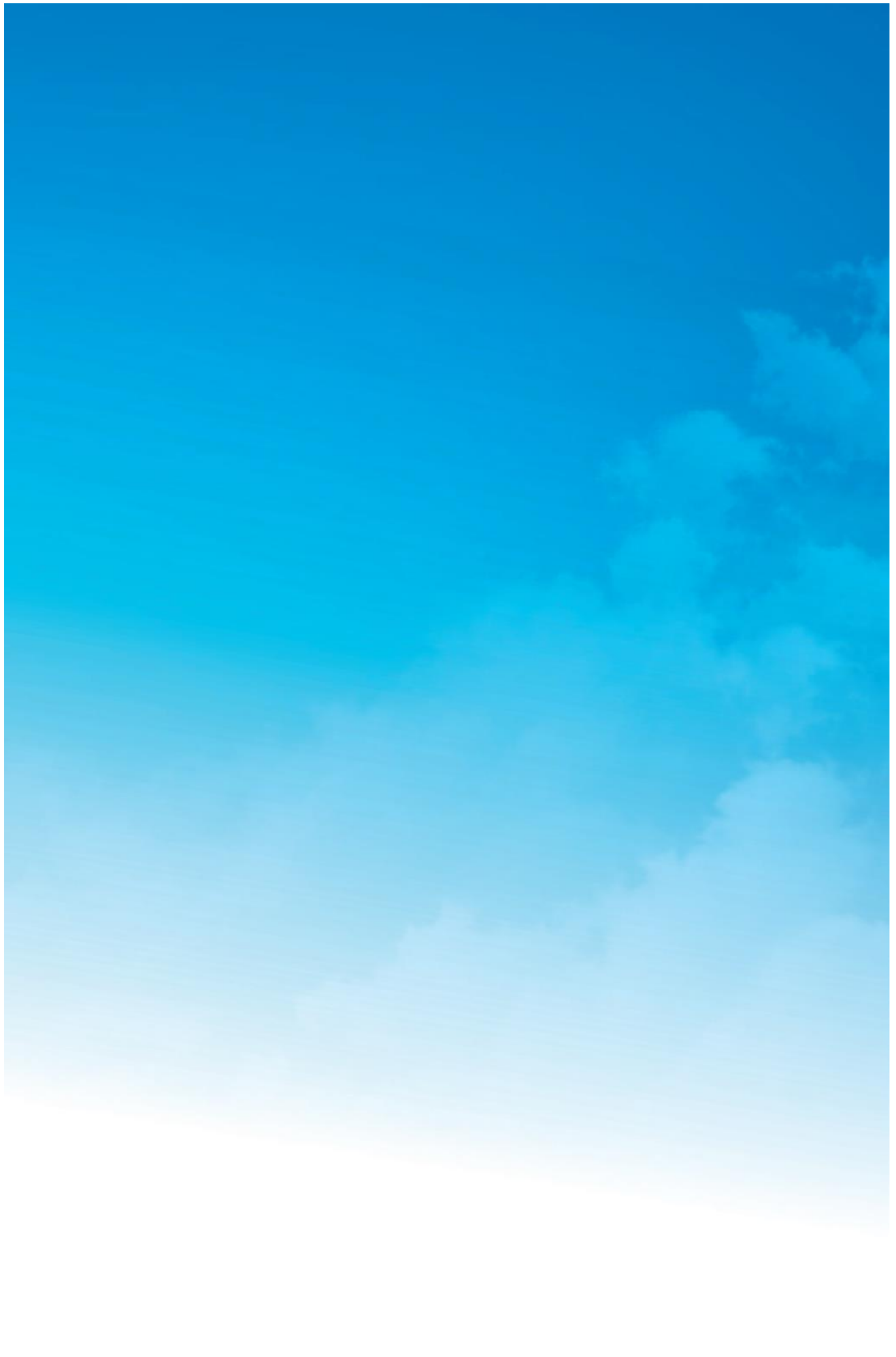
Upgrades to existing telecommunications infrastructure by the various carriers will be required over time to handle the anticipated growth and development at the Airport.

13.7 AIRPORT ACCESS

Subject to law, all infrastructure and utility providers must apply for access from Canberra Airport prior to undertaking any works on Airport land.

No works may commence until such time as the relevant access licence has been executed by the provider. Any proposed works must comply with the Master Plan for that area or precinct of the Airport. Works may not commence until approval has been given by both Canberra Airport and the Airport Building Controller.

All works are to be undertaken in accordance with the Canberra Airport Safety, Security and Environment Procedures.



APPENDIX 1

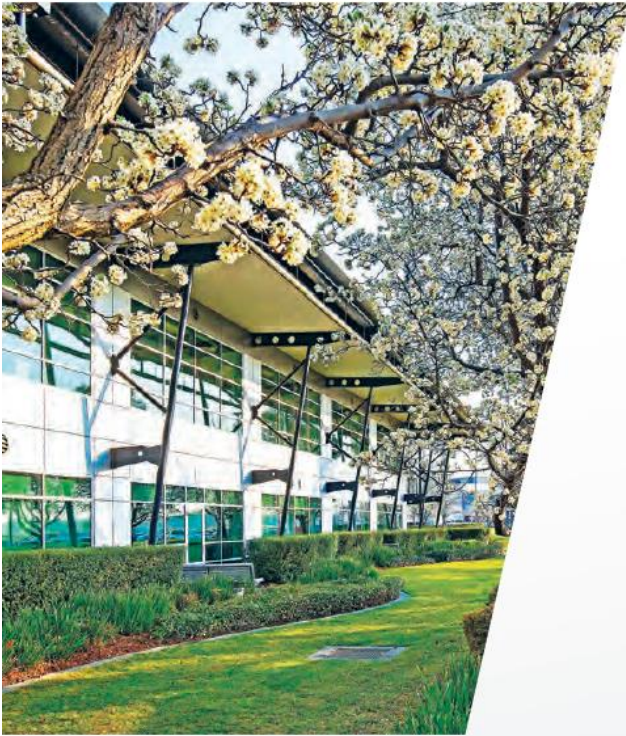
AIRPORT ENVIRONMENT
STRATEGY
MASTER PLAN 2020



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“Aviation plays a vital role in facilitating global economic and social prosperity by fostering sustainable development and economic growth. Airports are working with the wider aviation community and governments to address, minimize and mitigate the environmental impacts of aviation growth,”

ANGELA GITTENS, ACI WORLD DIRECTOR GENERAL



1 Overview

This Environment Strategy strengthens Canberra Airport's ongoing commitment to manage and develop the Airport in a safe and environmentally sustainable way. This is the fifth Environment Strategy for Canberra Airport since privatisation in 1998 and complements and builds upon Canberra Airport's previous Environment Strategies (1999, 2005, 2010, 2014) and facilitates the ongoing development of Canberra Airport as a contemporary airport.

This Environment Strategy supports this 2020 Master Plan's proposal for future aviation growth to generate economic and employment growth and to meet the travel and social needs of the community and cater to an increase of visiting passengers in an environmentally sensitive manner.

Canberra Airport is at the forefront of innovation in the built environment and has generally applied the Green Building Council's Green Star principles and the NABERS to developments across the Airport for over 15 years. Trigeneration and solar technology (significantly reducing greenhouse gas emissions) and water recycling systems (reducing the Airport's reliance on potable water supply) further demonstrate the Airport's commitment to innovation in environmental sustainability.

The upgrade and development of aviation infrastructure is ongoing and is required to meet aviation demand and ensure the safety, efficiency, and regularity of Airport operations. The award-winning terminal is a focal global entry point to the Nation's Capital and Southern NSW ensuring the travel and social needs of visitors and the community.

This Environment Strategy outlines Canberra Airport's methods to minimise environmental impacts during growth in operations in response to the 2020 Master Plan and details the ongoing high-quality environmental management of the Airport. Recognising the importance of maintaining the environment at the highest possible level, the Airport has put in place responsible and achievable measures to minimise the environmental impact of its operations. The specific objectives outlined in this Environment Strategy will provide a framework to ensure social, economic, and environmental goals are reflected in the development and every day running of the Airport.

1.1 ACHIEVEMENTS

Canberra Airport is a recognised national leader in the area of environmental management. It has an environmental management regime, significantly more advanced than most businesses and landowners, and has developed some of Australia's most sustainable buildings.

These measures include the construction of Australia's first 5 Star Green Star rated building [8 Brindabella Circuit] and the planting of more than 5,000 trees and 12,000 shrubs within the Airport precinct.

Canberra Airport is an active participant on numerous industry and professional associations and has proved itself to be a leader in the implementation of environmental and community initiatives such as:

- Supporting existing noise abatement areas ensuring aircraft noise protection for the majority of the region's residents;
- Airport open days, showcasing the Airport to 30,000 people;
- The publication of 'The Hub' and 'Airport Talk' informing tenants and the community of news and developments on Airport; and
- The Snow Foundation provides significant funding for local disadvantaged individuals, groups, and families.

The Snow Foundation was established in 1991 to assist those in need in the Canberra regional community - needs not covered by government sources. In the 28 years since being established, The Snow Foundation has reached out to help more than 600 different Canberra organisations and individuals, providing more than \$26 million in funding, including \$3.5 million in 2018.

A wide variety of applications have been approved for funding since the establishment of the Foundation, with the main emphasis on providing specifically targeted grants in the fields of social welfare, health and disabilities, education, and recreation.

1.2 FUTURE DIRECTION

This Environment Strategy builds upon previous environment strategies. Additional issues raised in this 2020 Environment Strategy include:

- The ongoing review of the Canberra Airport Environment Management System;
- The review of existing practices and the development and implementation of a Waste Management Strategy for the Airport site;
- The review of current technology and practices and the development and implementation of a formal Energy Strategy for the Airport site; and
- The review of the Canberra Airport Water Management Plan.

1.3 LEGISLATIVE OBLIGATIONS

The key pieces of legislation controlling the environmental operations of the Airport are the *Airports Act 1996*, *Airports (Environment Protection) Regulations 1997* and the *Environment Protection and Biodiversity Conservation Act (EPBC)*.

| AIRPORTS ACT 1996 | | REFERENCE |
|-------------------|---|--|
| 71(2) | Contents of draft or final master plan | |
| (h) | in relation to the first 8 years of the master plan – an environment strategy that details: | |
| | (i) the airport-lessee company’s objectives for the environmental management of the airport; and | AES Appendix 1 |
| | (ii) the areas (if any) within the airport site which the airport-lessee company, in consultation with State and Federal conservation bodies, identifies as environmentally significant; and | AES 1.7 |
| | (iii) the sources of environmental impact associated with airport operations; and | AES Chapter 3 |
| | (iv) the studies, reviews and monitoring to be carried out by the airport-lessee company in connection with the environmental impact associated with airport operations; and | AES Chapter 3 |
| | (v) the time frames for completion of those studies and reviews and for reporting on that monitoring; and | AES Chapter 3 |
| | (vi) the specific measures to be carried out by the airport-lessee company for the purposes of preventing, controlling or reducing the environmental impact associated with airport operations; and | AES Chapter 3 |
| | (vii) the time frames for completion of those specific measures; and | AES Chapter 3 |
| | (viii) details of the consultations undertaken in preparing the strategy (including the outcome of the consultations); and | 2020 Master Plan Chapter 3 |
| | (ix) any other matters that are prescribed in the regulations; and | Refer <i>Airports Regulations 1997</i> Table below |

In addition to the *Airports Act*, the *Airports Regulations 1997* state additional matters are required to be specified in an environment strategy, which include:

| AIRPORTS REGULATIONS 1997 | | REFERENCE |
|---------------------------|---|------------------|
| 5.02A | Contents of draft or final master plan – matters to be specified in environment strategy | |
| (1) | For subparagraph 71(2)(h)(ix) and (3)(h)(ix) of the Act, the matters in this regulation must be addressed in the environment strategy. | |
| (2) | The environment strategy must specify any areas within the airport site to which the strategy applies that the airport-lessee company for the airport has identified as being a site of indigenous significance, following consultation with: | |
| | (a) any relevant indigenous communities and organisations; and | AES 3.4 |
| | (b) any relevant Commonwealth or State body. | |
| (3) | The environment strategy must specify the airport-lessee company's strategy for environmental management of areas of the airport site that are, or could be, used for a purpose that is not connected with airport operations. | AES 3 |
| (4) | The environment strategy must specify: | |
| | (a) the training necessary for appropriate environment management by persons, or classes of persons, employed on the airport site by the airport-lessee company or by other major employers; and | AES 2.7 and 2.12 |
| | (b) the training programs, of which the airport-lessee company is aware, that it considers would meet the training needs of a person mentioned in paragraph (a). | AES 2.7 and 2.12 |
| 5.02B | Contents of draft or final master plan – things to be addressed in environment strategy. | |
| (1) | For subsection 71(5) of the Act, a draft or final master plan must address the things in the regulations. | |
| (2) | In specifying its objectives for the airport under subparagraph 71(2)(h)(i) or (3)(h)(i) of the Act, an airport-lessee company must address its policies and targets for: | |
| | (a) continuous improvement in the environmental consequences of activities at the airport; and | AES 3 |
| | (b) progressive reduction in extant pollution at the airport; and | AES 3 |
| | (c) development and adoption of a comprehensive environmental management system for the airport that maintains consistency with relevant Australian and international standards; and | AES 2.2 |
| | (d) identification, and conservation, by the airport-lessee company and other operators of undertakings at the airport, of objects and matters at the airport that have natural, indigenous or heritage values; and | AES 3 |

| AIRPORTS REGULATIONS 1997 | | REFERENCE |
|---------------------------|--|---|
| | (e) involvement of the local community and airport users in development of any future strategy; and | AES 2.12 and Chapter 3 2020 Master Plan |
| | (f) dissemination of the strategy to sub-lessees, licensees, other airport users and the local community. | AES 2.12 and Chapter 3 2020 Master Plan |
| (3) | In specifying under subparagraph 71(2)(h)(iii) or (3)(h)(iii) of the Act, the areas within the airport site it identifies as environmentally significant, an airport-lessee company must address: | |
| | a) any relevant recommendation of the Australian Heritage Council; and | N/A |
| | b) any relevant recommendation of the Department of Environment regarding biota, habitat, heritage or similar matters; and | AES 1.6 |
| | c) any relevant recommendation of a body established in the State in which the airport is located, having responsibilities in relation to conservation of biota, habitat, heritage or similar matters. | N/A |
| (4) | In specifying the sources of environmental impact under subparagraph 71(2)(h)(iii) or (3)(h)(iii) of the Act, an airport-lessee company must address: | |
| | (a) the quality of air at the airport site, and in so much of the regional airshed as is reasonably likely to be affected by airport activities; and | AES 3.3 |
| | (b) water quality, including potentially affected groundwater, estuarine waters and marine waters; and | AES 3.1 |
| | (c) soil quality, including that of land known to be already contaminated; and | AES 3.7 |
| | (d) release, into the air, of substances that deplete stratospheric ozone; and | AES 3.3 |
| | (e) generation and handling of hazardous waste and any other kind of waste; and | AES 3.8 |
| | (f) usage of natural resources (whether renewable or non-renewable); and | 3.10 |
| | (g) usage of energy the production of which generates emissions of gases known as 'greenhouse gases'; and | 3.10 |
| | (h) generation of noise. | |
| (5) | In specifying under subparagraph 71(2)(h)(iv) or (3)(h)(iv) of the Act, the studies, reviews and monitoring that it plans to carry out, an airport-lessee company must address: | |
| | (a) the matters mentioned in subregulation 5.02A(2) and subregulations 5.02B(3) and (4); and | 3 |
| | (b) the scope, identified by the airport-lessee company, for conservation of objects and matters at the airport that have natural, indigenous or heritage value; and | 3.4, 3.5, 3.10 |

| AIRPORTS REGULATIONS 1997 | | REFERENCE |
|---------------------------|---|-----------------|
| | (c) the approaches and measures identified by the airport-lessee company as its preferred conservation approaches and measures; and | 3 |
| | (d) the professional qualifications that must be held by a person carrying out the monitoring; and | 2.11 |
| | (e) the proposed systems of testing, measuring and sampling to be carried out for possible, or suspected, pollution or excessive noise; and | 3 |
| | (f) the proposed frequency of routine reporting of monitoring results to the airport environment officer (if any) for the airport, or to the Secretary; | 3 |
| (6) | In specifying under subparagraph 71(2)(h)(vi) or (3)(h)(vi) of the Act, the measures that it plans to carry out for the purposes of preventing, controlling or reducing environmental impact, an airport-lessee company must address: | |
| | (a) the matters mentioned in subregulations (2) to (4); and | 3 |
| | (b) the means by which it proposes to achieve the cooperation of other operators of undertakings at the airport in carrying out those plans. | 2.9, 2.10, 2.12 |

1.4 AIRPORT ENVIRONMENT OFFICER

The Department of Infrastructure, Transport, Cities and Regional Development has appointed an AEO who manages the administration of environmental legislation at the Airport.

The Airport has monthly progress meetings and works closely with the AEO to ensure environmental objectives and compliance with statutory obligations are achieved.

1.5 ANNUAL ENVIRONMENT REPORT

The Airport is required to submit an AER to the Department of Infrastructure, Transport, Cities and Regional Development detailing the Airport's performance against the policies, targets and statutory obligations as set out in the Environment Strategy.

The AER also includes the Environment Site Register which is a table of all reports, monitoring results, remedial plans, and any occurrences of environmental significance at the Airport.

1.6 ENVIRONMENTAL APPROVALS

This 2020 Master Plan has identified a wide range of new developments, upgrades and improvements to aeronautical infrastructure to ensure Canberra Airport is ready to cater for the future requirements of civil aviation and other users of the Airport. There are two environment referrals for Canberra Airport; Referral 2008/4170 and 2009/4748 (as shown in Table 1.1), both of which relate to the aeronautical development of the site. The conditions of approval include the development, approval, and implementation of the Threatened Species Management Plan, offset strategies and standard CEMP.

Aside from development which may occur outside of the current Airport boundary, there are no pending or anticipated environmental referrals associated with the development outlined in this Master Plan.

Table 1.1 - Environment referrals

| REFERRAL APPROVAL | DOCUMENT | CONDITION APPROVED |
|-------------------------|---|--------------------------|
| 2009/4748 | Threatened Species Management Plan | March 2010 |
| 2009/4748 | Master Plan Offset Strategy | February 2010 |
| 2008/4170 | Taxiway Bravo Biodiversity Offset Strategy | February 2010 |
| 2009/4748 | Conservation Agreement | Subject to land transfer |
| 2009/4748 | Northern Road Strategy (Construction and Operation) | Subject to land transfer |
| 2008/4170 and 2009/4748 | Standard CEMP | February 2010 |

A Northern Road Strategy will be submitted for approval when the land for the Northern Road is transferred to Canberra Airport. The referral areas are shown in Figure 1.1.

EPBC 2008/4170 and 2009/4748 were revised by the Department of Environment in June 2019 to facilitate the construction of Taxiway Bravo north of Taxiway Delta.

Figure 1.1 - Areas subject to EPBC approved referrals and Natural Temperate Grassland



1.7 ENVIRONMENTALLY SIGNIFICANT AREA

Canberra Airport has identified an environmentally significant area (refer Figure 1.2), which is set out in the Threatened Species Management Plan (as a condition of the EPBC Act referral 2009/4748) and was subsequently approved by the Australian Government Department of Environment. This identified area complies with the Airports Act and the Airports (Environment Protection) Regulations 1997 and includes an area north of the Runway 17/35 undershoot road containing NTG and listed threatened species, such as the GED and GSM as shown in green in Figure 1.1.

A further condition of EPBC Act Referral 2009/4748 approval was the requirement for the Airport to purchase a compensatory property. The Airport purchased the property known as Parlour Grasslands in 2010 which itself is subject to a conservation agreement with the NSW Nature Conservation Trust. The Australian Government Department of Environment approved the Parlour Grasslands as the compensatory property for EPBC Act Referral 2009/4748.

Referral approval 2008/4170 refers to the extension of Taxiway Bravo to the north. The Department of the Environment approved the removal of NTG required for this development so long as additional NTG is developed on Airport within five years of the project commencing or protected elsewhere. Taxiway Bravo is to be built in 2019 and early 2020. Canberra Airport has been in consultation with the Department of the Environment and Energy since 2016 on this proposal.

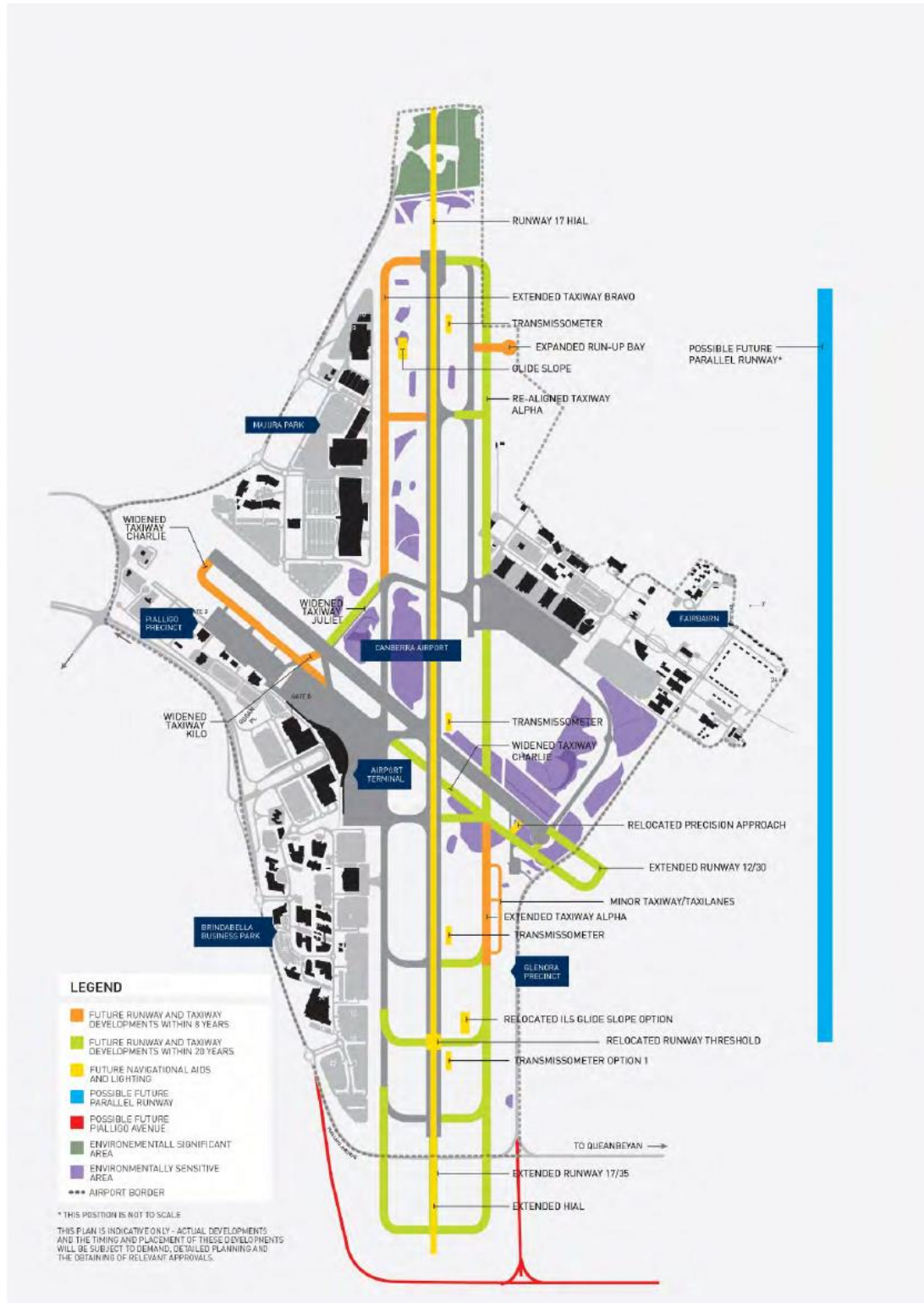
1.8 ENVIRONMENTALLY SENSITIVE AREAS

Canberra Airport has identified environmental sensitive areas on Airport (refer Figure 1.2). This includes a potential Indigenous heritage site in the south-east corner of the Glenora Precinct of the Airport (as discussed in Section 3.4). The potential Indigenous heritage site is unlikely to be affected by development during the next eight years. Procedures are in place (if required) with the ACT Heritage Unit for the assessment, relocation and recording of Indigenous artefacts if found.

The second area is the balance of the NTG and potential habitat for listed threatened species on Airport (not affected by approved development). These grasslands and potential habitat are managed in accordance with the Threatened Species Management Plan.

The third area relates to the European heritage areas of Fairbairn as outlined in Section 3.5. These heritage values are managed in response to the FHMP.

Figure 1.2 – Environmentally significant area and environmentally sensitive areas





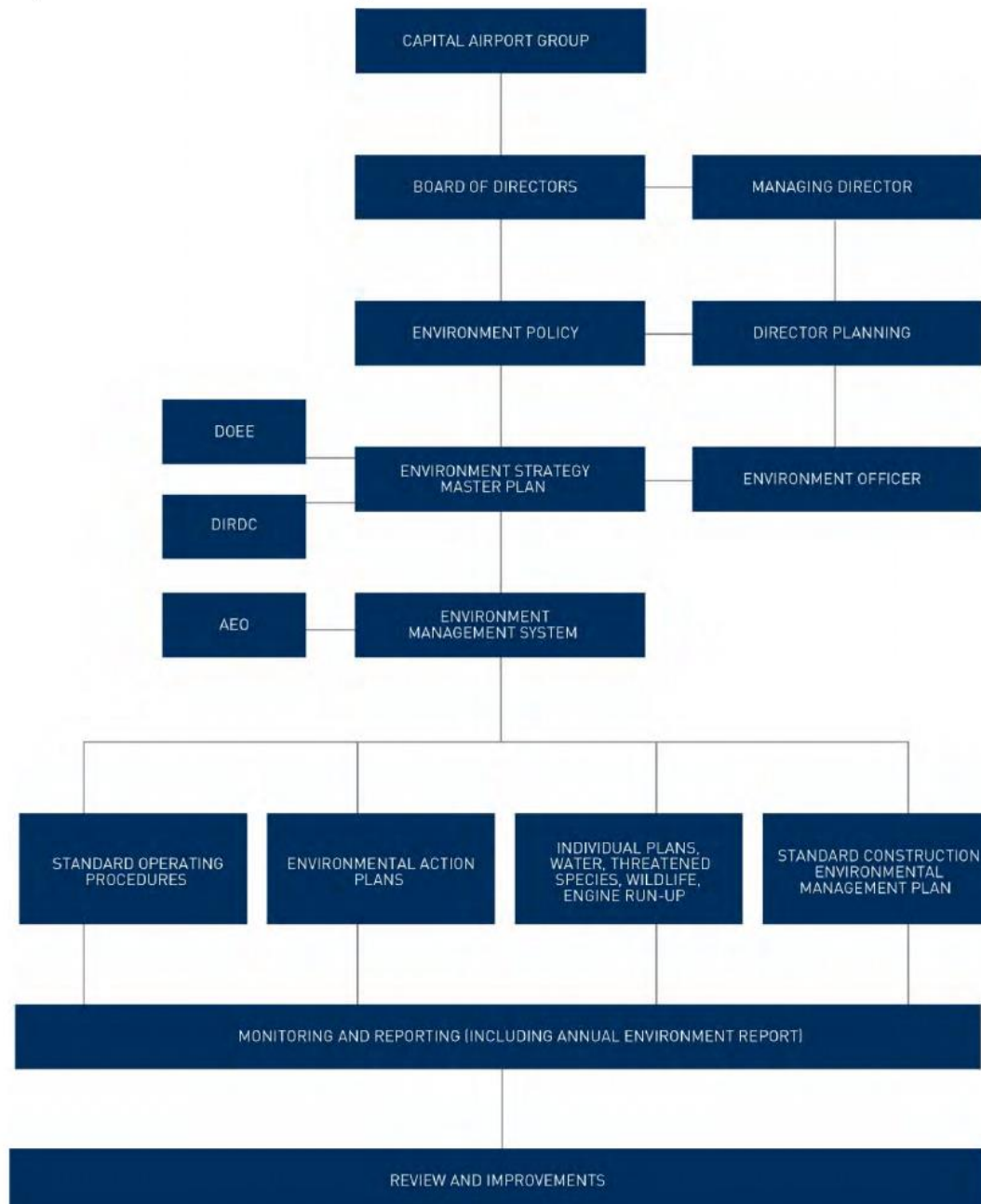


The Environment Management System is the basis for a culture of ecologically sustainable working practices amongst Canberra Airport staff, tenants and contractors.

2 Environment management framework

The environmental management framework at Canberra Airport is based on a system of continuous learning and improvement. Individual components of the environmental management framework are updated as required to ensure consistency with Regulations and evolving best practice standards.

Figure 2.1 - Environment management framework



2.1 AIRPORT ENVIRONMENT POLICY

The Canberra Airport Board of Directors has established and continues to endorse the following Airport Environmental Policy:

- Leadership and promotion of the commitment to sustainable environmental management to all stakeholders including employees, tenants, adjacent landholders, and the community at large;
- Compliance with relevant environmental legislation;
- Continual improvement of environmental management, consequences, and activities;
- Identification, prevention, control, and minimisation of environmental performance impacts associated with Airport operations;
- Integration of environmental issues with Airport operating procedures;
- Measurement, monitoring, reporting, and improvement of environmental issues arising from Airport operations;
- Sustainable management of resources;
- Appropriate management of matters of natural, Indigenous, and heritage values;
- Contribution to research on NTG and associated endangered species;
- Broad consultation with the community, government agencies, and other major stakeholders; and
- If pollution is discovered in soil or water across the Airport site the Airport will aim to remediate the pollution to acceptable regulatory limits.

2.2 ENVIRONMENT MANAGEMENT SYSTEM

The Environmental Management System (EMS), which was established in accordance with Australian/New Zealand Standard AS/NZS ISO14001:2004 Environmental Management Systems - Requirements With Guidance For Use, is the Airport's means to ensuring all future development and operations are carried out according to industry best practice through a system of continual improvement.

It provides staff and external contractors with detailed guidance in relation to environmental systems and procedures at Canberra Airport. A comprehensive review of the Canberra Airport EMS is underway at the time of writing in line with the requirements of the revised AS/NZ ISO 14001:2016.

The EMS is more than a single document; it provides an overarching framework for managing environmental impacts at the Airport, environmental procedures, risk assessment, incident and hazard reporting, staff and contractor training, and general day-to-day responsibilities of staff. The EMS is the basis for a culture of ecologically sustainable working practices amongst Canberra Airport staff, tenants, and contractors.

Figure 2.2 shows the cycle of continual improvement embodied in the EMS. This continuous cycle of planning, implementation, checking, and review allows the EMS to respond to the changing situation at Canberra Airport and ensures the policies and procedures outlined in the EMS remain as effective and efficient as possible.

Figure 2.2 - Environment continuous improvement



Canberra Airport has a number of environment management plans including the FHMP, the Water Management Plan, the Threatened Species Management Plan and the Re-New Management Plan and each of these are discussed in Chapter 3 of the Environment Strategy.

2.3 ENVIRONMENTAL OBJECTIVES

The Airport's environmental objectives derive from its Airport Environment Policy and provide the basis for its environmental management. The objectives are to:

- Maintain a systematic approach to environmental management, consistent with evolving best practice and international standards, and promoting continuous improvement.

Manage environmental impacts associated with:

- Natural or heritage values;
- Biota or habitat (particularly for threatened listed species and ecological communities);
- Air quality, including emission of ozone depleting substances and greenhouse gases;
- Surface and groundwater quality;
- Soil quality;
- Sites of significance to Indigenous people;
- Natural resources;
- Noise;
- Manage solid, liquid, and gaseous wastes;
- Encourage and address local community and Airport user contributions; and

Review and continuously improve environmental management by:

- Adopting environmental best practice;
- Sustainable resource use including waste minimisation and emission reduction;

- Monitoring and responding to changing Australian legislation and practices;
- Conforming with relevant Australian and international standards;
- Conservation of natural, Indigenous, or heritage values; and
- Dissemination of strategy information to sub-lessees, Airport users, major stakeholders, and the local community.

Progress towards achieving the above objectives is constantly under review and reported annually to the Department of Infrastructure, Transport, Cities and Regional Development.

2.4 BOARD OF DIRECTORS

The Canberra Airport Board of Directors are responsible for:

- Providing the personnel, financial and technological resources to successfully implement the Environment Strategy; and
- Providing leadership on future environmental sustainability initiatives.

2.5 DIRECTOR OF PLANNING

The Director of Planning is responsible for:

- Monitoring the performance of Canberra Airport with respect to the Airport Environment Policy and the objectives and performance of the Environment Strategy and advising the Board of trends and performance;
- Facilitating the Board's commitment to sustainable development;
- Ensuring Airport employees including managers, are aware of their responsibilities under the Airport Environment Policy and strategies;
- Ensuring the Airport's Environment Strategy is implemented;
- Providing strategic advice to the Board on environmental performance and continual improvement; and
- Co-management of consultation meeting with ACT Government agencies, other major stakeholders and the public with the Environment Officer.

2.6 ENVIRONMENT OFFICER

The Environment Officer is responsible for:

- Providing support to the Director of Planning and Airport staff;
- Ensuring the environmental requirements of the Department of Infrastructure, Transport, Cities and Regional Development and the Department of the Environment are met;
- Ensuring the Airport's actions are consistent with the Environment Strategy;
- Developing, implementing, and monitoring compliance with the EMS;
- Preparation of reports detailing the Airport's environmental performance;
- Co-management of consultation meeting with ACT Government agencies, other major stakeholders and the public with the Director of Planning; and
- Investigate new environmental practices and principles.

2.7 ENVIRONMENTAL TRAINING AND DEVELOPMENT

All Airport employees are required to understand the Airport Environment Policy as part of operational and environmental awareness training. The Airport Environment Policy and Environment Strategy are discussed during the workplace induction process and employees are required to report environmental matters to the Airport's Environment Officer.

Performance reviews are used to determine the necessary training for all staff. Environmental training includes induction training for employees and contractors as well as other job specific environmental training as required.

Operational staff undergo training in their specific areas of duty, including the use of equipment, and emergency procedures. Canberra Airport aims to encourage all staff, tenants, and contractors to participate in environmental training so there is grass roots awareness and commitment to the implementation of the Environment Strategy through the EMS.

2.8 AIRPORT TENANTS AND CONTRACTORS

Tenants and contractors are responsible for the environmental management of their own activities and are encouraged to develop and maintain their own EMS in accordance with Australian/New Zealand Standard AS/NZS ISO14001:2016 Environmental Management Systems - Requirements with Guidance for Use.

Canberra Airport works with tenants and contractors at the Airport to ensure environmental management procedures are in place to meet the requirements of the *Airports (Environment Protection) Regulations 1997* and to ensure best practice procedures and timely outcomes.

2.9 INCIDENTS AND CLEAN-UP

SOPs are in place for hazardous material incidents and handling of unknown substances. The Canberra Airport Safety, Security and Environment Procedures (which incorporates the standard CEMP) are also in place to mitigate environmental impacts during construction including procedures for clean-up and incident reporting.

Canberra Airport encourages staff and contractors to maintain ongoing vigilance of aircraft and ground service equipment. Airport staff are required to report any environmental issues including hazards and/or incidents to the Airport's Environment Officer.

All airside vehicles are required to provide proof of annual maintenance checks to Canberra Airport. This continues to have a positive impact on reducing oil, fuel and hydraulic fuel spills from ground-based equipment and vehicles.

Environmental incident report forms are completed in the event of any environmental incident and hazard identification on Airport. These are received by the Environment Officer, who manages the investigation and appropriate response, as well as entering the incident into the Airport's incident reporting database. All spills over five litres are reported to the AEO.

2.10 CONSTRUCTION ENVIRONMENT MANAGEMENT PLAN

Canberra Airport's standard CEMP fulfils the requirements of the *Airports (Environment Protection) Regulations 1997* and is consistent with the aims and practices required under the Green Star Certification scheme.

The CEMP, in conjunction with the project specific Erosion and Sediment Control Plan provided by the contractor and approved by the AEO, forms the basis of environmental management during the planning and construction of a project.

2.11 ENVIRONMENT MONITORING

All studies and monitoring are designed and undertaken by persons with qualifications and experience relevant to the subject of the particular study or monitoring being conducted.

Studies and monitoring are conducted in accordance with the relevant Australian Standards and applicable legislation. Where standards and legislation do not exist the professional judgement of the appropriately qualified and experienced person will form the basis of testing, measuring and sampling programs.

2.12 ENVIRONMENT AUDITING

Internal audits of the EMS are conducted annually as part of the review necessary for the preparation of the AER. The purpose of the audits is to verify that:

- Environment management procedures are being developed and implemented;
- Procedures have been established to monitor and control environmental issues;
- Documentation and records are maintained to demonstrate implementation of EMS; and
- Environmental issues are being effectively managed through the application of the EMS.

The Airport also undertakes a less regular 'gap analysis' of the EMS in consultation with the AEO, to ensure the EMS meets Australian/New Zealand Standard AS/NZS ISO14001:2016 *Environmental Management Systems - Requirements With Guidance For Use*, and appropriately addresses environmental risks.

Tenant audits are conducted to ensure tenants:

- Understand the Airport Environment Policy and this Environment Strategy;
- Understand their responsibilities in response the *Airports (Environment Protection) Regulations 1997*;
- Environmental management procedures are in place and implemented; and
- Environmental training procedures are in place and implemented.

The latest tenant audits were conducted in 2018/19.

Canberra Airport staff have a co-operative relationship with tenants and conduct regular inspections, ensuring environmental measures are implemented, and environmental incidents are promptly reported and urgent corrective actions are undertaken when required.

CHAPTER 3
ENVIRONMENTAL ACTION PLANS





“Almost 10 tonnes of organic waste has been diverted from landfill and into the on-site worm farms at the Canberra Airport”

GLOBAL WORMING



3 Environmental action plans

The plans for passenger growth outlined in this 2020 Master Plan will result in the achievement of maximising the Airport's contribution to the region's economy and level of service to our community. This will result in more people using the facility, more aviation traffic, and more use of natural resources. Canberra Airport's aim is to mitigate the environmental impact of achieving this growth using the governance structure outlined in the Environment Strategy.

Canberra Airport's AER prepared for and reviewed by the Department of Infrastructure, Transport, Cities and Regional Development outlines the ongoing implementation of the Environment Strategy and the impact of development and operations on the environment at the Airport. The quality of the state of the environment at Canberra Airport is high, due to the effective environmental management of the Airport, in partnership with airlines and tenants.

Environmental issues that might reasonably be expected to be associated with the implementation of this 2020 Master Plan include:

- Impacts of aircraft noise and external land use planning, and the impact of other noise sources;
- Effects on flora, fauna, and land management;
- Stormwater management;
- Air, soil, and water quality;
- Handling and storage of hazardous products;
- Indigenous and European heritage; and
- Construction impacts.

The following sections assess these issues and outline plans for dealing with these environmental impacts in the context of continuous improvement.

Environmental action plans have been developed by the Airport to:

- Provide an overview of current ongoing management practices;
- Review and amend the objectives of the Environment Strategy;
- Review and establish an action plan for each issue; and
- Identify monitoring and measurement programs.

Priority for completion of each objective has been categorised in each action plan as follows:

- O-Ongoing - through implementation of Environment Strategy Initial Period;
- S-Short term - within the Initial Period of the Environment Strategy (within 8 years);
- L-Long term - beyond the Initial Period of the Environment Strategy (beyond 8 years).

3.1 WATER MANAGEMENT

There is the potential Airport operations may impact water quality, especially at sites such as service stations. Service stations are required to have groundwater monitoring bores from which baseline data is initially collected prior to the commencement of operation. All groundwater bore monitoring will be in accordance with the Environment.

Canberra Airport's Contaminated Site Register lists decommissioned and other sites polluted prior to private ownership of the Airport.

Water pollution on the Airport site is treated consistently with the following approach:

1. Consistent with the Canberra Airport Environment Policy, if pollution is discovered in soil or water across the Airport site the Airport will aim to remediate the pollution to acceptable regulatory limits;
2. Appropriate environmental investigations will be commissioned of qualified environmental experts; and
3. Advice will be sought from qualified environmental experts about how to reduce pollution to acceptable regulatory limits.

Stormwater flows will be managed in accordance with the Canberra Airport Water Management Plan. Canberra Airport has regularly monitored stormwater flows into and out of the Airport since privatisation in 1998, with the exception of when flow rates have been too low to monitor stormwater. The monitoring will continue in accordance with Water Management Plan.

3.1.1 OBJECTIVE

To continue to undertake all reasonable and practicable measures to manage the quality of water on Airport in accordance with the Canberra Airport Water Management Plan.

3.1.2 OVERVIEW

Canberra Airport's 2016 Water Management Plan outlines actions by Canberra Airport to demonstrate it will continue to undertake all reasonable and practicable measures to manage the quality of stormwater, groundwater, and recycled water on Airport compliant with regulation 4.01 of the *Airports (Environment Protection) Regulations 1997*. Factors that may affect the quality of water on Airport include:

- Superphosphate and lime application in the upper catchment (off Airport land) and subsequent release of metals in the catchment soil;
- Sediment, thatch, and nutrients from native and exotic grassland;
- Sediment from construction activities;
- Animal and bird faeces and organic matter from the upper catchment (off Airport) and on Airport;
- Wear of tyres and brake pads and possible combustion of lubricating oils;
- Life cycle corrosion of roofs, roadside fittings, pipes and other metal objects;
- Fuel storage and transfer facilities; and
- Maintenance facilities.

Canberra Airport has applied a number of structural and natural treatments to ensure there is no negative impact on stormwater quality entering or exiting the Airport and on groundwater quality.

In liaison with the AEO, Canberra Airport will review the Water Management Plan. The Water Management Plan is available on the Canberra Airport Website.

3.1.3 STORMWATER

The Airport is located in a catchment, which has been modified over time through the installation of contour banks, to divert water around the main Airport runway and through the development of sediment control structures in the 1950s to minimise sediment reaching Lake Burley Griffin.

The majority of stormwater at the Airport is collected in a network of open and closed drains before being discharged to Woolshed Creek, Pialligo Brook, and via off-site drains to the Molonglo River. All flows ultimately drain to Lake Burley Griffin. Construction projects might reasonably be expected to have short term impacts on stormwater flows. Such impacts will be dealt with and managed through project environment management plans.

Stormwater flows may also change due to increased areas of impervious surfaces and due to the diversion of stormwater around and through developments. All developments, where such changes are regarded as likely, will be designed in accordance with the relevant Australian Standards.

The objective of the Canberra Airport Water Management Plan is to outline ongoing and new actions by Canberra Airport and to demonstrate the Airport will continue to undertake all reasonable and practical measures to manage the quality and harness the reuse of stormwater, groundwater, and recycled water on Airport. The Water Management Plan also outlines Canberra Airport's commitment to mitigate the use of potable water on Airport.

Quality control measures for stormwater in place at Canberra Airport include designs to reduce the velocity of stormwater flow, allowing for the natural filtration of sediments, catchment released metals, and nutrients. Reducing the flow rate also controls erosion and promotes infiltration and groundwater recharge, which is beneficial for the overall catchment. Furthermore, Standard Operating Procedures [SOPs] and comprehensive incident reporting procedures are also in place to mitigate any fuel or hazardous substances loss and outline subsequent clean-up procedures.

Canberra Airport will continue to work closely with the ACT Government and other neighbours to appropriately manage stormwater flows upstream and downstream of the Airport site.

The Canberra Airport site lies within three major catchments, including two catchments with upstream flows. These upstream catchment areas have been extensively modified since the 1930's to reduce the impact of direct overland flows onto the Airport and to reduce the amount of runoff and sediment reaching Lake Burley Griffin.

Historically, the upper catchment land-uses have been for agriculture and horticulture. The application of superphosphate and overgrazing in the upper catchment has washed sediment, excess nutrients, and animal and plant debris into the Airport swale system. The natural elements in the catchment soils, and the natural biological breakdown of thatch and bird and animal faecal matter, also contributes to nutrient and micro-organism levels in stormwater samples.

Water quality has been monitored at stormwater points entering and exiting the Airport since privatisation in 1998. Historical and current monitoring results show naturally high levels of analytes in the catchment soil and in the stormwater entering the Airport, and also show the condition of stormwater leaving the Airport site is no worse than that upgradient of the Airport. Canberra Airport itself does not contribute to elevated analyte levels in the lower catchment.

Water quality control measures have been incorporated in the design of new buildings, infrastructure, and landscaping. These measures are designed to reduce the velocity of stormwater flow, allowing for the natural filtration of sediment, catchment metals, and nutrients. The reduced flow also controls erosion and is designed to facilitate infiltration and groundwater recharge.

3.1.4 GROUNDWATER

Canberra Airport requires fuel and maintenance facilities to have appropriate bunded areas, separator systems and/or pollutant traps to minimise fuel or hazardous substance loss to stormwater. Tenants are required to service separator systems and pollutant traps on a regular basis and notify the Airport of any incidents that arise.

Groundwater monitoring wells are tested in accordance with the Canberra Airport Water Management Plan to measure contamination levels or to provide indicators of contamination.

Refer to the soil pollution section for information regarding contaminated sites.

Figure 3.1 - Non-potable water flowchart



3.1.5 RECYCLED WATER

Two state-of-the-art water recycling systems are installed at Canberra Airport to recycle waste water and are yet to be commissioned. Local standards and approvals from the then ActewAGL (now ICON Water) and ACT Health and Environment Protection Unit (EPU) have been received.

Subterranean water released by excavations of building sites will be treated and recycled for landscape and toilet flushing use.

3.1.6 TRADE WASTE AGREEMENT

In the absence of an Australian Government standard, Canberra Airport has adopted the then ActewAGL (now ICON Water) local standard for trade waste. Individual agreements are obtained for each tenant including details on the installation and maintenance of waste disposal systems.

Table 3.1 - Water management action plan

| OBJECTIVES | PRIORITY | INITIATIVES | MONITORING & REPORTING |
|--|----------|--|------------------------|
| Water quality monitoring to be undertaken in accordance with the Canberra Airport <i>Water Management Plan</i> | O | Stormwater monitoring to be undertaken four times per year (once every season) subject to suitable rain events occurring | Report in AER |
| | O | Groundwater monitoring of baseline monitoring wells to be undertaken in accordance with the <i>Water Management Plan</i> | Report in AER |
| | L | Water Recycling monitoring to be undertaken in accordance with ACT Health, ACT EPU and ICON Water agreements | Report in AER |

| OBJECTIVES | PRIORITY | INITIATIVES | MONITORING & REPORTING |
|---|----------|---|---|
| Implementation and ongoing review of the <i>Water Management Plan</i> | S | Review the Water Management Plan | Reviewed Water Management Plan |
| | O | Maintain existing or increase the quality of stormwater flows out of the Airport in partnership with land managers of upstream inflows | Report in AER |
| | S | Agreement with the ACT Government for storm-water management downstream of the Airport site | Report in AER |
| | S | Formalise a local water quality standard for the Airport site from the Department of Infrastructure, Transport, Cities and Regional Development | Ongoing monitoring and trend analysis |
| | O | Provide detention mechanisms to manage up catchment inflows and to mitigate rain event peak flows arising from new Airport development | Provide details on detention mechanisms in AER as appropriate |
| Ongoing adoption of ACTEW local standard trade waste agreements | O | Individual ICON Water trade waste agreements to be adopted as required | Report changes to standard in AER |

3.2 SOCIAL AND COMMUNITY ENGAGEMENT

Canberra Airport's objectives for social and community engagement are outlined in Table 3.2.

Table 3.2 -Social and community engagement action plan

| OBJECTIVES | PRIORITY | INITIATIVES | MONITORING & REPORTING |
|---|----------|---|--|
| Airport Environment Strategy advertised and made available to public | 0 | Airport Environment Strategy available free of charge on Airport Website. Hardcopy and thumb drive/CD available for purchase at Airport reception | Report upload of Airport Environment Strategy in Annual Environment Report [AER] |
| Update Airport Website | 0 | Airport Website updated to include overview of environment and sustainable initiatives on Airport | Report changes in AER |
| Formal and informal liaison with Government departments, airlines, aviation operators, tenants, and local community | 0 | Tenant audits and ongoing consultation | Report in AER and tenant audit report |
| | 0 | Community Aviation Consultation Group meetings | Report in AER |
| | 0 | Public consultations | Report in AER |
| Provide opportunities for the community to learn about the Airport | 0 | Opens days and tours to increase the awareness of Airport operations and environmental initiatives on Airport | Report in AER |

3.3 AIR QUALITY AND OZONE DEPLETING SUBSTANCES

Air monitoring was conducted in 2018 and included monitoring for Benzene, Toluene, Ethylbenzene and Xylene [BTEX], Carbon Monoxide [CO], Ozone [O3], Nitrogen Dioxide [NO2] and Respirable Particulates [PM10 and PM2.5]. All results were below or within the data provided in the *Airports [Environment Protection] Regulations 1997*.

Furthermore, all results during the period showed levels well below required standards and complied with the National Environment Protection [Ambient Air Quality] Measures [NEPM] Guidelines.

These results are consistent with previous air monitoring on - and off- Airport. No significant adverse impacts are expected from future Airport operations, including the growth outlined in this 2020 Master Plan. Further monitoring will be undertaken in accordance with the Environment Strategy.

3.3.1 OBJECTIVE

To maintain an overview of air quality at Canberra Airport and in the context of the ACT and to minimise Airport operation impact on air emissions.

3.3.2 OVERVIEW

The maintenance of good air quality at Canberra Airport is important for the wellbeing of Airport users and workers as well as the surrounding community. Air quality monitoring at Canberra Airport shows results well below the National Environmental Protection Measures (NEPMs) and National Environment Protection (Ambient Air Quality) Measure.

The sources of air emissions at the Airport can be generally categorised as follows:

- Emissions from auxiliary power units and ground power units;
- Airport industry and any other on Airport industrial activities;

- Dark smoke emissions from Airservices Australia fire training activities;

- Ozone depleting substances;

- Dust from construction activities; and

- Emissions from the production of electricity.

Constant Descent Approach (CDA), Standard Instrument Departures (SIDS) and Standard Terminal Arrival Routes (STARs), Required Navigation Performance (RNP) approaches and departures are some of the environmental initiatives that have been introduced by Airservices Australia over the past 10 years which have resulted in lower noise and emissions.

The Airservices Australia ARFF service are required to conduct “hot fire training” to ensure ARFF staff are trained to respond to Airport emergencies. A Dark Smoke Agreement has been signed between Airservices Australia and the Department of Infrastructure, Transport, Cities and Regional Development.

The CEMP addresses air quality issues including excessive exhaust emissions from construction machinery and airborne dust.

Table 3.3 - Air quality action plan

| OBJECTIVES | PRIORITY | INITIATIVES | MONITORING & REPORTING |
|---|----------|---|---|
| Maintain an overview of air quality at Canberra Airport and in the ACT | M | Air quality monitored every eight years and outcomes compared to relevant regulations and ACT results | Report in the AER |
| Continue to reduce emissions from airside vehicles and equipment | 0 | Upgrade vehicles and equipment when required to meet contemporary emission standards | Report upgrades in AER |
| | 0 | Regular servicing and maintenance of airside vehicle and equipment | Evidence required prior to annual airside licence and registration renewals |
| Continue to upgrade equipment to meet contemporary standards (including ozone and greenhouse gas emissions) | 0 | Continued investigation in new technologies to meet contemporary standards | Report new technologies in AER |
| | 0 | Maintain the refrigerant (including ozone depleting substance) database. | Database reviewed and updated annually |
| Implementation of the CEMP | 0 | Dust suppression to be implemented throughout the CEMP process | To be monitored through the CEMP process |
| | 0 | Air emissions mitigation to be implemented throughout the CEMP process | To be monitored through the CEMP process |

| OBJECTIVES | PRIORITY | INITIATIVES | MONITORING & REPORTING |
|---|----------|---|-----------------------------------|
| Continue to promote sustainable transport options for Airport users and tenants | 0 | Continue to encourage public transport (including interstate services) through advertising and promotions | Report new services in AER |
| | 0 | Continue to provide bicycle spaces and locker facilities | Report new facilities in AER |
| Continue to assist Airlines to reduce fuel burn and greenhouse gas emissions | 0 | Ensure infrastructure is in place, as far as practicable and commercially feasible, to reduce taxiing times for aircraft | Report new infrastructure in AER |
| | 0 | Support the airlines renewing their aircraft fleet over time with new generation aircraft | Report additional support in AER |
| | 0 | Work with Airservices Australia to implement Australian AATM Procedures | Report new AATM procedures in AER |
| Dark Smoke Agreement for ARFF | S | Ensure Deed of Agreement is in place for Dark Smoke Agreement between the ARFFS and the Department of Infrastructure, Transport, Cities and Regional Development and Cities | Report in AER |

3.4 INDIGENOUS HERITAGE

A cultural heritage assessment of Canberra Airport was undertaken in 2001. This included a desktop assessment, a surface field assessment and salvage, and a sub-surface test. These assessments concluded the vast majority of the Airport was of low archaeological sensitivity. A small strip of land at the very southern tip of the Airport was identified as having moderate sensitivity. Land development in this small strip required the site to be monitored during initial excavations and items of cultural significance provided to the appropriate ACT Heritage Unit, in accordance with procedures outlined in the approved Environment Strategy.

When the site was developed no items of cultural significance were found. This strip has since been developed as a car park. A small remaining strip exists in the very south east corner of the Airport for which the archaeological sensitivity is unknown but is believed to be of either low or medium sensitivity. Similar procedures will be followed for this area when it is developed.

3.4.1 OBJECTIVE

To continue to manage Indigenous heritage sites in a culturally sensitive manner and in accordance with the *EPBC Act*.

3.4.2 OVERVIEW

In accordance with the previous Environment Strategies, cultural heritage assessments have been undertaken in potentially low archaeological sensitive areas affected by development, as identified in the 2001 Archaeological Assessment of the Airport.

Two sites, located in the southern end of Brindabella Business Park, were assessed in 2007 by the four Registered Aboriginal Organisations (RAO's) and qualified archaeological consultants. The surveys, which included scraping, did not find any significant items and there were no archaeological constraints or requirements identified. All reports were supplied to the AEO and the ACT Heritage Unit. The only remaining potential archaeological site is located in the south east corner of the Airport which is listed on the ACT Interim Heritage Places Register. The potential archaeological site in the south east corner of the Airport is not likely to be affected by development during the life of this Environment Strategy.

Table 3.4 - Indigenous heritage action plan

| OBJECTIVES | PRIORITY | INITIATIVES | MONITORING & REPORTING |
|---|----------|--|--|
| Record and relocate archaeological artefacts found in south east corner of Airport prior to development | L | Consult with the ACT Heritage Unit and RAO's regarding protocol for recording and relocation of artefacts | Report in AER and copy of reports forwarded to ACT Heritage Unit and AEO |
| Report, record, and relocate any archaeological artefacts found during construction | O | Contractors are required to report any artefacts unearthed during construction works to Canberra Airport and the AEO | Report in AER and copy of reports forwarded to ACT Heritage Unit and AEO |
| | O | Consult with the ACT Heritage Unit and RAO's regarding protocol for recording and relocation of artefacts | Report in AER and copy of reports forwarded to ACT Heritage Unit and AEO |

3.5 EUROPEAN HERITAGE

In 2010 the Department of the Environment approved the FHMP. All maintenance and development activity in Fairbairn has, and will continue to be, undertaken in accordance with the FHMP. Development plans for Fairbairn are outlined in Section 8.5 of the Canberra Airport Preliminary Draft 2020 Master Plan. Developments that may impact on significant heritage values will continue to be in consultation with and following the approval by the Australian Government Department of the Environment.

3.5.1 OBJECTIVE

To manage the heritage values of the Fairbairn precinct in a culturally sensitive manner in compliance with the FHMP as endorsed by the Australian Government Department of Environment.

3.5.2 OVERVIEW

The Fairbairn precinct is one of a number of permanent RAAF bases that were developed in World War II and continuously altered from the 1950s through to the 1990s. The former RAAF Base was sold as part of the Canberra Airport lease in May 1998. The Commonwealth Government retained a six year lease of Fairbairn as a condition of that sale.

Vacant possession of Fairbairn was handed over to Canberra Airport by the Commonwealth Government in June 2004 and the Airport has developed and revitalised Fairbairn since vacant possession in June 2004.

Demountable buildings have been removed, new buildings have been developed, the tree and townscape enhanced, and existing buildings have been modernised with upgraded services and a contemporary veneer for adaptive reuse.

This revitalisation program has provided Fairbairn with a new beginning.

A FHMP was approved by the Department of the Environment in March 2010. The FHMP guides the management of the heritage values at Fairbairn and is considered in all development concepts. The FHMP is available on the Canberra Airport Website.

The heritage values for Fairbairn can be summarised as follows:

- The precinct has significant historic heritage value as a former operational RAAF airbase established during World War II;
- The former RAAF Base Fairbairn precinct, originally RAAF Station Canberra, has significant representative heritage value for its remnant ability to demonstrate the primary orthogonal, operational, and hierarchical planning characteristics of early to mid-20th century RAAF air bases in Australia; and
- The former RAAF Base Fairbairn precinct has significant heritage value for its direct association with the RAAF, primarily during World War II and to a lesser extent subsequently as a continuing operational facility until 2002.

The FHMP contains future development management policies for Fairbairn which may include, but not be limited to, the management of:

- The landscape character;
- Individual buildings (including demolition, reuse, or revitalisation);
- New building guidelines; and
- The ongoing management of the site.

Table 3.5 - European heritage action plan

| OBJECTIVES | PRIORITY | INITIATIVES | MONITORING & REPORTING |
|--|----------|---|------------------------|
| Implement FHMP and continue liaison with the Department of the Environment | 0 | Manage and develop Fairbairn in accordance with the FHMP | Report changes in AER |
| | 0 | Consult with Department of Environment, prior to those works or development likely to impact heritage values within Fairbairn | Report in AER |
| | 0 | If required, obtained approvals under the <i>EPBC Act</i> | Report in AER |
| | 0 | Continued liaison with Department of Environment and Department of Infrastructure, Transport, Cities and Regional Development | Report in AER |

3.6 ON-AIRPORT NOISE

No complaints about on-airport noise have been received in the past five years, confirming the management of on-airport noise is effective. This is partly because Canberra Airport has a minimal number of residents living near the Airport and partly because of improved procedures for aircraft ground running.

Canberra Airport has used a variety of techniques to mitigate on-airport noise in the past, most successfully through the Canberra Airport Engine Ground Running Guidelines. These guidelines were put into place in February 2004 to ensure the noise caused by engine ground running for maintenance is conducted at an isolated area of the Airport. It also restricts the time of day ground running can occur. It is a requirement of operators that they operate in accordance with these guidelines.

3.6.1 OBJECTIVE

To minimise noise generation on Airport and to comply with the noise standards as stated in the *Airports (Environment Protection) Regulations 1997*.

3.6.2 OVERVIEW

The main contributors to on Airport noise are from:

- Ground running of aircraft;
- Construction activities; and
- Ground support operations.

Ground running of engines is generally required after aircraft maintenance. These engine run-ups are undertaken in accordance with the Canberra Airport Engine Ground Running Guidelines and in the isolated north-eastern corner of the Airport.

All airside ground service vehicles and equipment require evidence of regular servicing and maintenance prior to annual registration for airside use. This includes meeting noise emissions standards.

CEMPs also address and manage noise issues associated with construction.

Earth mounds, blast fencing, positioning of some buildings and landscaping on Airport have been incorporated successfully into building and landscaping design to minimise on-and-off Airport noise.

Table 3.6 – On Airport noise action plan

| OBJECTIVES | PRIORITY | INITIATIVES | MONITORING & REPORTING |
|---|----------|--|---|
| Ongoing implementation of the Canberra Airport <i>Engine Ground Running Guidelines</i> and CEMP | 0 | Ongoing implementation of the Canberra Airport <i>Engine Ground Running Guidelines</i> | Report in AER |
| | 0 | Noise mitigation to be implemented through the CEMP process | To be monitored through the CEMP process |
| Continue to reduce noise from airside vehicles and equipment | 0 | Regular servicing and maintenance of airside vehicle and equipment | Evidence required prior to annual airside licence and registration renewals |

| OBJECTIVES | PRIORITY | INITIATIVES | MONITORING & REPORTING |
|--|----------|--|------------------------|
| Continued implementation of initiatives (eg, mounding and landscaping to reduce noise impacts) | 0 | Noise mitigation initiatives incorporated in design principles for new buildings | Report in AER |
| Monitoring of noise complaints and conduct noise monitoring if significant increase in on Airport noise complaints | 0 | Noise complaint register updated and reviewed as required | Report in AER |

3.7 SOIL POLLUTION

There is the potential Airport operations may impact soil quality, especially at sensitive sites where substances are located. Canberra Airport's Contaminated Site Register lists decommissioned sites polluted prior to private ownership of the Airport. Soil testing is conducted in areas that have proposed land use changes and/or if the area is likely to have experienced some contamination. Canberra Airport assesses potentially contaminated sites in accordance with the National Environment Protection (Assessment of Site Contamination) Measure 1999 (ASC NEMP) as well as the PFAS National Environment Management Plan.

Soil pollution on the Airport site is treated consistently with the following approach:

1. Consistent with the Canberra Airport Environment Policy, if pollution is discovered in soil or water across the Airport site the Airport will aim to remediate the pollution to acceptable regulatory limits;
2. Appropriate environmental investigations will be commissioned of qualified environmental experts; and
3. Advice will be sought from qualified environmental experts about how to reduce pollution to acceptable regulatory limits.

3.7.1 OBJECTIVE

To ensure all occurrences of soil contamination at the Airport are recorded and procedures are in place to minimise risk on the surrounding environment. Remediation and ongoing monitoring of existing contamination is the responsibility of the tenant.

3.7.2 OVERVIEW

Sources that may cause soil pollution include:

- Fuel storage and transfer facilities;
- Aircraft maintenance facilities;
- Chemical and other Hazmat storage;
- Underground storage tanks;
- Vehicle maintenance and washing;
- Spills from aircraft and vehicles; and
- Landscaping.

The potential for soil contamination is mitigated at Canberra Airport by applying appropriate management measures such as:

- Installing and maintaining separator system and pollutant traps;
- Ensuring up to date Safety Data Sheets (SDS);
- Appropriate hazardous waste storage facilities;
- Standard incident reporting and clean-up procedures;
- Staff and tenant education;
- Documentation of vehicle maintenance checks;
- Removing contamination sources and remediating sites; and
- Maintaining the Canberra Airport Contaminated Site Register.

In addition to mechanical systems, sites that have the potential to cause contamination have groundwater monitoring wells installed as early detection mechanisms for groundwater contamination.

The Airport has developed the Contaminated Site Register to list the location, type of contamination, test results, and any remediation activities that have been undertaken or are still required. The sites listed on the Canberra Airport Contaminated Site Register have had pollution caused by others, prior to the privatisation of the Airport. The sites listed on the Canberra Airport Contaminated Site Register include:

- The former fuel farm near the Qantas terminal (now fully remediated);
- The former (Shell, Mobil and Caltex) fuel farms on Nomad Drive;
- Groundwater irregularity northern triangle area of Majura Park;
- A former underground storage facility at Fairbairn (now fully remediated);
- The former Fairbairn fuel facility;
- The ARFFS training area; and
- The ARFFS Station.

When underground storage tanks, underground pipes or drums are found, the contamination source and material will be removed as far as reasonably possible and replaced with clean fill.

The contaminated fill is disposed of in accordance with relevant ACT and NSW guidelines. The soil is tested and results compared to the *Airports (Environment Protection) Regulations 1997* to demonstrate compliance.

If required, further testing and remediation is conducted subject to expert advice and in consultation with the AEO. The site will then be listed on the Contaminated Site Register and will include further remediation actions (as required) and ongoing monitoring regimes.

Table 3.7 - Soil pollution action plan

| OBJECTIVES | PRIORITY | INITIATIVES | MONITORING & REPORTING |
|--|----------|---|------------------------|
| Maintain the Canberra Airport Contaminated Site Register | 0 | Continue to develop and maintain the Contaminated Site Register | Report in AER |
| | 0 | Remediation of contaminated sites (as required) | Report in AER |
| Soil testing after lease expiry | 0 | On potentially contaminated sites, soil testing will be undertaken in accordance with the <i>Airports (Environment Protection) Regulations 1997</i> | Report in AER |

| OBJECTIVES | PRIORITY | INITIATIVES | MONITORING & REPORTING |
|---|----------|--|---------------------------------------|
| | 0 | All risk sites will be assessed prior to sublease expiry or termination for soil pollution and remediation, if required in accordance with the <i>Airports (Environment Protection) Regulations 1997</i> | Report in AER |
| Education and review of mitigation measures | 0 | Continue education of staff and tenants on the management of fuel and Hazmat products | Report in AER |
| | 0 | Review tenant mitigation measures as part of tenant audits | Report in AER and Tenant Audit Report |

3.8 HAZARDOUS PRODUCTS

As the Airport grows in accordance with this 2020 Master Plan, it is expected more hazardous goods will be handled and stored at the Airport by a variety of users.

Hazardous products on Airport generally consist of fuels, oils and chemicals. The management and storage of these products are undertaken in accordance with ACT Legislation. SOPs have been developed to respond to spills and to manage any emergency response required and the Canberra Airport Construction Environment Management Plan addresses the management of hazardous products during the construction of on-airport developments.

3.8.1 OBJECTIVE

To minimise the use of hazardous products thereby reducing any potential impacts on the surrounding environment.

3.8.2 OVERVIEW

The management of dangerous goods and hazardous substances and their disposal is governed by ACT legislation as human health and safety is the primary issue. The sources of hazardous goods and substances on Airport that may have the potential to cause significant environmental damage or risk to human health (if not handled, stored, or removed correctly) includes fuels, oils, asbestos, and chemicals.

Tenants are responsible for the disposal and storage of hazardous substances and are required to update their Workplace Health and Safety (WHS) manuals, staff training, and SDS. Dangerous goods and hazardous substances must be stored in secure bunded areas and, if required, have regularly maintained separator systems and/or interceptor traps to minimise any substance loss to stormwater as a result of an incident or spill. Tenants with bulk quantities of hazardous products (i.e. service stations) on the Airport site are audited annually by Canberra Airport.

Efficient and prompt emergency response procedures are essential for good management of hazardous products. Emergency response procedures are contained in the Airport's SOPs developed in consultation with industry, government agencies, and emergency organisations. These SOPs are incorporated in the Airport's EMS.

Spills and incidents have the potential to enter the stormwater system and enter waterways, pollute nearby soils and possibly impact on groundwater. Incident reporting procedures are in place and all relevant tenants and Canberra Airport have spill procedures and equipment available for the prompt and efficient clean-up of spills.

Emergency response exercises are carried out with either a desktop or field exercise carried out as per CASA requirements and may incorporate environmental elements.

Hazardous product substitution is ongoing and a number of products have been substituted where practical with non-hazardous and biodegradable products. These include office and vehicle cleaning products, fertilisers, and aerobic bacteria to degrade oil instead of using harsh detergents.

The Airport will, in consultation with the AEO, remain informed about and adhere to local and national guidance with regard to the safe handling of asbestos, together with guidelines about asbestos soil contamination.

Table 3.8 - Hazardous products action plan

| OBJECTIVES | PRIORITY | INITIATIVES | MONITORING & REPORTING |
|--|----------|--|---------------------------------------|
| Review and update hazardous waste disposal information | 0 | Update SDS and hazardous waste as required in accordance with relevant ACT regulations | Report updates in AER |
| | 0 | Review SDS and hazardous waste disposal information as part of | Report in AER and Tenant Audit Report |
| Remove asbestos as required | 0 | Asbestos removal ongoing | Report removal in AER |

| OBJECTIVES | PRIORITY | INITIATIVES | MONITORING & REPORTING |
|---|----------|--|---------------------------------------|
| Monitor, clean-up, and report environmental incidents and educate staff and tenants | 0 | Continued implementation of incident and clean-up procedures and reporting | Report in AER |
| | 0 | Continue education of staff and tenants on leading best practice risk minimisation, including spill response and chemical handling | Report in AER |
| | 0 | Review procedures in response to outcomes from exercises and incidents | Report in AER and Tenant Audit Report |
| | 0 | Provide tenants with assistance to clean-up | Report in AER |
| Substitute hazardous products with non-hazardous alternatives | 0 | Seek opportunity to replace hazardous products. | Report in AER |

3.9 LAND MANAGEMENT

Construction at Canberra Airport may have a number of impacts, including soil erosion, generation and use of fill, generation of dust, and noise from equipment. To deal with the environmental impacts of construction, all major projects undertaken at Canberra Airport is subject to a CEMP including consideration of environmental factors including waste, air quality, soil erosion, construction noise, and potential siltation of stormwater.

The standard CEMP, in conjunction with project specific Erosion and Sediment Control Plans forms the basis of environmental management during the planning and construction of a project. The standard CEMP comprises the following:

- Measures to incorporate environmental considerations into the construction of the proposed developments;
- Environmental management measures to be implemented during construction; and
- Indicative environmental management checklists to assist with monitoring the implementation of environmental management obligations during construction.

3.9.1 OBJECTIVE

To ensure land management practices at the Airport are consistent with the safe operations of the Airport and the protection of natural values at the site.

3.9.2 OVERVIEW

Canberra Airport is located at the edge of the south west corner of the Majura Valley NTG community which supports listed threatened species such as the GED and GSM.

3.9.3 NATURAL TEMPERATE GRASSLAND

NTG of the Southern Tablelands and ACT is a listed threatened ecological community under the *EPBC Act* and supports vulnerable and endangered fauna such as the GED, GSM and the Perunga Grasshopper.

The NTG areas of the Airport are joined by other areas of NTG including the Majura Training Area adjacent. Canberra Airport has management plans in place to manage the NTG flora and fauna and has sponsored research on and off Airport dealing with both fauna and flora. This research has been contributed to the body of knowledge on NTG in the region.

The first detailed survey and mapping of the Airport vegetation was conducted in 2003/2004. NTG surveys on Airport were scheduled and postponed twice as the prolonged drought hindered the flowering and identification of sensitive species. The Airport was surveyed and mapped again in 2008/2009 and 2013/14 bringing the Airport mapping into line with current standards used in the ACT and NSW, and the National Recovery Plan for Natural Temperate Grassland of the Southern Tablelands (NSW and ACT): An Endangered Ecological Community, January 2006. Canberra Airport, at Table 3.9 - Land Management Action Plan, commits to undertake a survey of the NTG every five years. Figure 1.1 represents the latest survey.

The Threatened Species Management Plan updates and builds upon the 2004 Grassland Management Plan and includes the outcomes of the EPBC Act referrals and conditions. This Plan was approved by the Australian Government Department of Environment in satisfaction of one of the conditions of EPBC 2009/4748. The Threatened Species Management Plan was also developed to provide employees of Canberra Airport, and the wider community, with a better understanding of NTG and listed threatened species on Airport and how they are managed in response to contemporary research and practices.

The Airport has recently completed a three-year trial with Greening Australia and the National Botanical Gardens on methods to cultivate NTG including broadacre approaches. The outcomes of this research have been shared with the broader Grassland community including Friends of the Grasslands. The Canberra Airport Threatened Species Management Plan is available on the Canberra Airport Website.

3.9.4 GRASSLAND EARLESS DRAGON

GED (*Tympanocryptis Pinguicolla*) are listed as endangered under the *EPBC Act*. GED were first recorded at the Airport in 1996 and comprehensive GED surveys have been conducted in 1999, 2001, 2004, 2007, 2008, 2009, 2010, 2013, 2015, 2017 and 2019. The last sighting of GED on Airport was in 2017. Historic surveys show GED have predominately been sighted in the northern section of the Airport.

A protocol was developed in 2001 for the identification of GED during construction works. This protocol has been successful in finding eight GED in 2001 during runway widening works. The protocol has been used since and no GED have been found. In 2013 the University of Canberra finalised a report outlining recommendations about GED on Airport, namely the ongoing surveying of the site for GED.

3.9.5 GOLDEN SUN MOTH

The GSM (*Synemon Plana*) is listed as critically endangered under the *EPBC Act*. GSM were first observed on Airport in November 1993. Surveys have been undertaken on Airport in 2000, 2003, 2006, 2007 and 2009, 2011, 2013/14 and 2017/18.

3.9.6 PERUNGA GRASSHOPPER

The Perunga Grasshopper (*Perunga Ochracea*) is listed as vulnerable under the ACT Nature Conservation Act 2014. The Perunga Grasshopper has been observed during grassland surveys.

3.9.7 BIRD AND ANIMAL HAZARD MANAGEMENT

Canberra Airport's Bird and Wildlife Management Program is supported by the Bird and Wildlife Management Plan, incorporated within the Canberra Airport, Airport Operations Manual.

Birds in general are a threat to air safety, particularly if they are present on the Airport and in the vicinity of runways. Precautions are also taken to prevent access by animals onto the movement area where they would pose a serious hazard for aircraft operations.

The Airport's consultant biologist and bird management expert conducts regular audits of bird activity on the Airport and the surrounding areas, as well as providing ongoing training of Airport operations staff in bird identification and harassment.

A re-seeding protocol has been developed and implemented and has successfully reduced the level of bird attractiveness of seed being sown for the purposes of soil stabilisation following works.

All development on Airport is conducted in such a way as to minimise the risk of bird and animal attraction. Measures to reduce bird attraction include, but are not limited to:

- The briefing of Airport operations staff and contractors on measures to avoid bird attraction (eg waste minimisation, avoidance of water ponding etc);
- The installation of appropriate waste facilities during construction and around public areas, including secured bin lids;
- The use of non-bird attractant species of plants for landscaping;
- The use of wires, nets or spikes on exposed surfaces to minimise bird roosting opportunities;
- The minimisation of water ponding to reduce attraction to waterbirds;
- Mowing protocol with the objective to minimise the opportunity for grasses to set seed thereby deterring birds; and
- Ongoing involvement in the Australasian Aviation Wildlife Hazard Group.

3.9.8 LANDSCAPING PLAN

Landscaping plans for the Airport has been developed under the guiding principle the Airport is the focal entry point into the Nation's Capital and compliments and reinforces Burley Griffin's vision of Canberra as the Garden City.

Table 3.9 - Land management action plan

| OBJECTIVES | PRIORITY | INITIATIVES | MONITORING & REPORTING |
|--|----------|--|------------------------|
| Manage NTG and listed threatened species on Airport | 0 | Manage the natural values on Airport in accordance with the Threatened Species Management Plan | Report changes in AER |
| | 0 | Comply with approval and conditions under the <i>EPBC Act</i> | Report in AER |
| NTG and listed threatened species monitoring | L | Grassland surveys to be undertaken every eight years | Report in AER |
| | S | GED surveys to be undertaken every two years | Report in AER |
| | S | GSM surveys to be undertaken every two years | Report in AER |
| Weed management | 0 | Annual weed spraying in areas of high quality grassland (weather dependent) | Report in AER |
| | 0 | Weed spraying along runway, taxiway and airside edges | Report in AER |
| | 0 | Cables placed in conduits to minimise soil disturbance | Report in AER |
| | 0 | Mowing machinery cleaned to minimise weed transfer | Report in AER |
| | 0 | Mowing of grassland from highest to lowest quality | Report in AER |
| Review and update Bird and Animal Hazards and Wildlife Hazards Management Plan | 0 | Management Plans reviewed annually | Report in AER |
| | 0 | Ongoing monitoring of bird and animal activity | Report in AER |

| OBJECTIVES | PRIORITY | INITIATIVES | MONITORING & REPORTING |
|--|----------|--|------------------------|
| Landscape Master Plan | 0 | Enhancement of the parkland design | Report in AER |
| Retention of high quality grassland, enhancement and revegetation of lower quality areas | 0 | Promote the diversity of the grassland maintained | Report in AER |
| Implementation of GED Protocol | 0 | Implementation of GED Protocol during construction works | Report in AER |

3.10 NATURAL RESOURCES

Activities on the Airport site are users of natural resources such as electricity, water, and fossil fuels. As visitation to the site grows the use of such resources will continue to grow.

To deal with this issue, Canberra Airport aims to improve resource use efficiency through the adoption of more efficient design and commercially sustainable technologies. These may include:

- Further improvements in water and energy efficiency at the Airport through the adoption of passive design, new technologies, recycling and reuse;
- The continued application of sustainability principles to development of the Airport; and
- The monitoring of ground transport use and identification of efficiencies in both time and resource use.

Canberra Airport is a member of the Green Building Council of Australia. The Airport is committed to maximising the environmental sustainability of building development and operations on the Airport through the application of principles promoted by the Green Building Council.

Landscaping design at Canberra Airport includes the contouring of concrete paths and patios towards garden beds, which have a finished level below the footpath and stormwater inlets. Gravel is also placed at the edge of paved paths to allow infiltration of excess runoff and large grassed areas are contoured for optimal stormwater infiltration. The building at 3 Molonglo Drive in the Brindabella Business Park is a good example of water sensitive urban design in practice at Canberra Airport, as pictured in Figure 3.2. It includes a large landscaped swale beneath the entrance to the building.

Water sensitive urban design is utilised throughout the Airport site, as part of new developments and ongoing environmental management and maintenance of the Airport.

Figure 3.2- Landscaped swale, 3 Molonglo Drive, Brindabella Business Park



Water conservation

Canberra Airport's water conservation initiatives include:

- Garden beds re-mulched on a regular basis;
- Wetting agents used to aid with water penetration and to minimise water loss;
- Use of water storage crystals in garden beds to better utilise rainwater and runoff;
- Garden beds weeded regularly to reduce competition with landscape plants for water;
- Lawns regularly aerated to improve water absorption;
- Rubber stabilisers used on high traffic lawns to reduce the need for lawn re- establishment;
- Drip watering systems used in garden beds;

- Sub-surface irrigation in lawn areas introduced outside some newer buildings eliminating evaporation in the watering process;
- Rain water harvesting;
- Water efficient cooling towers;
- Reduced flow shower heads;
- Waterless urinals;
- Building management system designed to detect active water leaks; and
- The employment of licensed plumbers on staff.

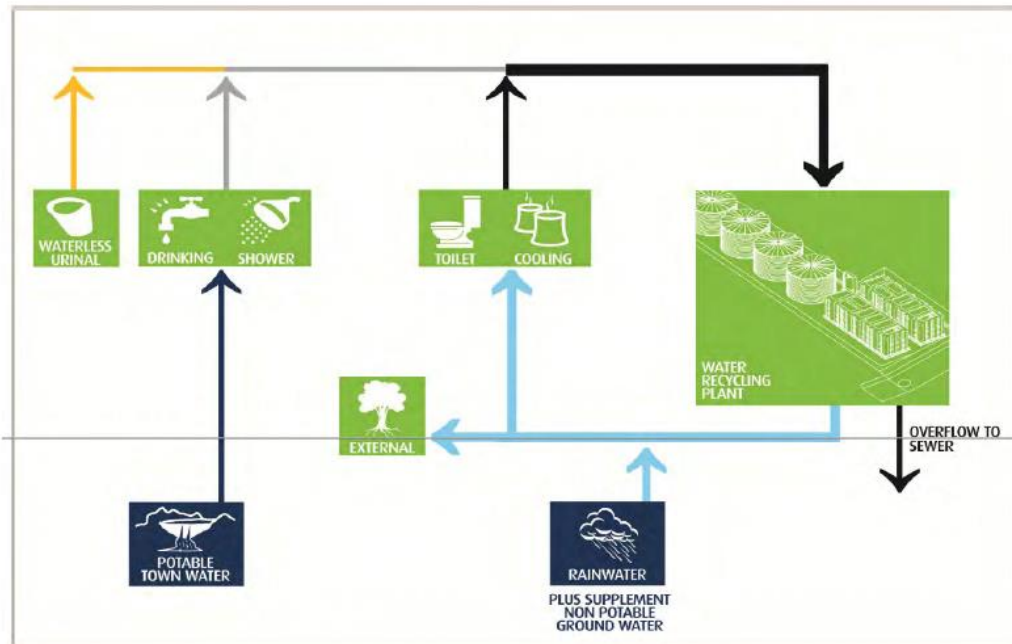
Water recycling

Two state-of-the-art Aquacell water recycling systems have been installed at Canberra Airport to recycle waste water. Whilst the treated water is assessed as drinking quality the recycled water will initially be used in toilet flushing and for irrigation. The Aquacell water recycling system uses a three-phase filtration method to recycle waste water as shown in Figure 3.3. The stages are as follows:

1. Aerobic biological treatment to aerate effluent and break down impurities;
2. Ultra-filtration to block particles, bacteria, and viruses bypassing the water through a special self-cleaning membrane with microscopic pores; and
3. Ultra violet light to provide protection against possible bacteria re-growth and to produce chemical free sterile water.

The water recycling system has the potential to treat approximately 100,000 litres of waste water every day. The Aquacell water recycling system is designed to reduce daily potable water consumption on Airport from 15-20 litres per person per day to about five litres per person per day.

Figure 3.3 - Water recycling



Greenhouse gas emissions

Canberra Airport emits greenhouse gas emissions in its operations, largely through the heating, cooling, and operation of buildings. In addition, Airport ground operations emit small amounts of greenhouse gas, almost entirely from the burning of petrol or diesel in the Airport's vehicles and ground service equipment. As ground service activities grow, as a consequence of growth in aviation operations and more organisations take up office space, greenhouse gasses are expected to increase.

The Airport has massively reduced the greenhouse gas output of its buildings by progressively designing and constructing buildings that far exceed the Commonwealth's building energy requirements. Some of the newest buildings on the Airport utilise a technology called trigeneration, which means that along with the other sustainability initiatives incorporated in the buildings, these buildings reduce carbon emissions by some 75 percent when compared with conventional buildings.

Greenhouse gas emissions by airlines

Airlines and other aviation operators emit greenhouse gasses in their operations. While aircraft efficiency has, and will continue to improve over time, greenhouse gas emissions by airlines are expected to grow as the number of passengers and volume of airfreight grows over time.

Air travel on many routes can be a more carbon dioxide efficient form of transport than car travel, due largely to the fact that Airlines have higher load factors than compared to other modes of transport and shorter distances between cities. Air travel is the desired mode of travel by the public for distances between 400 kilometres and 800 kilometres and the preferred choice for distances over 800 kilometres. Thus, the growth in air travel must be considered in light of the greenhouse emissions compared with other forms of transport, most notably car transport.

Canberra Airport has very little impact on the efficiency of individual aircraft as this is the responsibility of the aircraft manufacturers and airlines. The airlines have initiatives in place to reduce fuel burn, hence a reduction in greenhouse gas emissions, such as optimising aircraft take-off weight and by implementing Airservices Australia Air Traffic Management [AATM] Procedures.

Airservices Australia, as the manager of aircraft flight paths in Australia continues to work with the airlines, airports, and the Australian community to achieve greater efficiencies. Constant Descent Approach [CDA], Standard Instrument Departures [SIDs], Standard Terminal Arrival Routes [STARs] and Required Navigation Performance [RNP] approaches and departures are some of the environmental initiatives that have been introduced by Airservices Australia at Canberra Airport which have resulted in lower noise and emissions.

Canberra Airport actively supports the above procedures and is urging all operators with capable aircraft to expeditiously commence using these procedures.

Canberra Airport is also playing a major role in reducing the airlines greenhouse gas emissions by ensuring, as far as practicable and commercially feasible, Airport infrastructure is designed to minimise the delays to aircraft whilst taxiing or at the terminal. For this reason, the Airport plans to continue to work with airlines, government agencies, Airservices Australia, and the community to provide sufficient runway, taxiway, navigation aids, aprons, terminal and other aviation infrastructure capacity to ensure aircraft can operate without delays inflight or whilst taxiing. Air monitoring in and around Canberra Airport has shown no adverse impact from aviation activities and results are well within required standards.

Energy targets

All buildings are encouraged to minimise energy usage and operating costs without a reduction in accommodation standards. Buildings at Canberra Airport are designed to achieve a minimum of 4.5 stars for the base building, in response to the NABERS simulation and design review guidelines. Buildings are also designed to achieve a minimum 4 Stars under the Green Star Office Design rating scheme, with an aim for each new project to also achieve 5 Stars under Green Star where possible. Most recently 3 Molonglo Drive located in the Brindabella Business Park, has been awarded 5 Star Green Star status.

Design principles

Canberra Airport's design principles include the requirement that the development must provide 'A' grade commercial office space as well as the intention to aim for the following:

- To provide a pleasant work environment that enables and encourages staff interaction and productivity;
- Allow for the maximum flexibility of internal spaces;
- Maximise the use of natural light into the workspace;
- Minimise energy consumption;
- Conform to all Australian Standards, building codes and standards;
- The base building design should enable the retrofit of new technologies during the life of the building;
- Incorporate a high level of building safety;
- Install energy and water meters to monitor and improve efficiency and compliance with design;
- Maximum use of thermal mass in buildings;
- External shades and/or double-glazing for insulation;
- Insulation to roof and walls; and
- Solar initiatives, including solar hot water.

3.10.1 OBJECTIVE

To continue to minimise the use of natural resources by applying best practice conservation standards, Green Building Council's general principles, and investigating new technologies.

3.10.2 OVERVIEW

The Airport is a leader in implementing ways to minimise consumption during construction and life cycle management of infrastructure by adopting more efficient technologies, reuse of product, procurement of long-life cycle quality product, and adaptive reuse of existing buildings.

Canberra Airport's green initiatives, including actions taken to manage the Airport's carbon footprint are available in the Airport's website. Further work will occur in this area, commencing with the development of an Energy Strategy for the Airport site over the short term.

3.10.3 CARBON REDUCTION STRATEGY

The main areas in which energy is used, producing greenhouse gas emissions on Airport, include:

- Aircraft operations (stationary aircraft and ground-based aircraft movement);
- Heating and cooling buildings;
- Lighting of runways, aircraft apron, approach lighting, roads, car parks, and buildings;
- Motor vehicles and plants (both airside and landside);
- Equipment including office and aviation;
- Public amenity services; and
- Maintenance activities.

Energy consumption is reduced by applying energy conservation initiatives such as those shown in Figure 3.4. Canberra Airport's policy is to adopt Green Building Council's Green Star principles and to design new buildings to minimum 4 Star Green Star and 5 Star NABERS.

Trigeneration plants are available for use in the new office precincts and in the new terminal, which will dramatically reduce energy use, carbon dioxide and greenhouse gas emissions. The plants are powered by natural gas and excess heat is captured to heat the buildings in winter and cool them in summer. The trigeneration plants have the potential to produce a power surplus which can be sold back to the grid as green electricity. Canberra Airport hopes to provide trigeneration power for recharging and aircraft energy needs at the terminal thereby significantly reducing greenhouse gas emissions.

Figure 3.4 - Sustainability management flowchart



3.10.4 SUSTAINABLE WATER STRATEGY

The main areas of potable and non-potable water usage on Airport include:

- Fire fighting purposes (including training);
- Car wash facilities;
- Cooling towers;
- Amenities in buildings; and

Rainwater is treated and used in the new terminal to reduce reliance on potable water. Airport grounds are irrigated using recycled rainwater and groundwater.

3.10.5 MATERIALS AND WASTE REDUCTION STRATEGY

Canberra Airport has adopted the Green Building Council policy to reuse, reduce, and recycle waste from Airport operations. Some of the initiatives used on Airport include:

- Adaptive reuse of existing buildings and materials;
- Buildings at Fairbairn have been renovated and adapted for reuse where possible;
- Materials from an old blast fence reused in a new blast fence;
- Disused taxiway and apron base materials recovered and used to form new or to consolidate existing airside roads;
- Fuel and water tanks relocated to other sites off and on Airport;
- Steel, concrete and other building products from demolished buildings re-used or recycled;
- An old hanger relocated off Airport to be used as a shed.

3.10.6 USE OF RECYCLED MATERIALS

Buildings are constructed with a high percentage of recycled materials, including post-consumer concrete, fly ash, steel, and timber.

3.10.7 WASTE GENERATION

Waste streams at Canberra Airport include construction, demolition, industrial, office, and maintenance. Waste management and minimisation issues relating to construction and demolition are covered in the standard Construction Environmental Management Plan [CEMP]. Construction waste is recycled in accordance with Green Star principles.

The Airport's CEMP requires all construction contractors to have construction waste sorted and recycled where possible. Approximately 80 percent of construction waste is reused or recycled. Canberra Airport will investigate other avenues for waste minimization, commencing with the development of a Waste Strategy for the Airport site over the short term.

3.10.8 GREEN WASTE

Leaves, grass clippings, and dirt swept from Airport roads and aerodrome are composted on site. Felled trees are mulched and used on gardens on and off Airport. Pruned materials are taken to green waste sites for mulching and reuse.

Table 3.10 - Natural resource management action plan

| OBJECTIVES | PRIORITY | INITIATIVES | MONITORING & REPORTING |
|---|----------|---|------------------------|
| Develop new initiatives for alternative energy use across the Airport | S | Canberra Airport Energy Strategy | |
| Apply Green Building Council Green Star Principles | 0 | Base building modelled to minimum 4 Star Green Star | |
| | 0 | Base building modelled to minimum 5 Star NABERS | |
| Monitoring of energy and water efficiency in all new buildings | 0 | Active water leak detection through building management system | |
| | 0 | Buildings sub-metered for electricity and water use, quarterly review of energy and water usage | |

| OBJECTIVES | PRIORITY | INITIATIVES | MONITORING & REPORTING |
|---|----------|--|--------------------------------------|
| Improve water efficiency | 0 | Reduce the Airport demand on potable water supply | Monitor water usage |
| | 0 | The reuse of subterranean water from building basements | Metered |
| Develop new initiatives for waste management across the Airport site | S | Canberra Airport Waste Strategy | Report in AER |
| Reduce, reuse, and recycle | 0 | Continue implementation and management of twin bin system in office park | Report changes in AER |
| | 0 | Investigate recycled products used in new buildings (subject to building regulations) | Report additional initiatives in AER |
| | 0 | Continued adaptive reuse of buildings at Fairbairn (subject to building regulations and asbestos) | Report in AER |
| Record construction waste | 0 | Contractors to report on waste generated and recycled | Monitor through CEMP process |
| Continue to promote sustainable transport options for Airport users and tenants | 0 | Continue to encourage public transport through advertising and promotions | Report new services in AER |
| | S | Providing facilities for regional bus services | Report new services in AER |
| Continue to assist Airlines to reduce fuel burn and greenhouse gas emissions | 0 | Ensure infrastructure is in place, as far as practicable and commercially feasible, to reduce taxiing times for aircraft | Report new infrastructure in AER |
| | 0 | Supports the airlines renewing their aircraft fleet over time with new | Report additional support in AER |

| OBJECTIVES | PRIORITY | INITIATIVES | MONITORING & REPORTING |
|------------|----------|--|-----------------------------------|
| | 0 | Work with Airservices Australia, airlines, CASA and the community to implement environmentally efficient Australian Air Traffic (AATM) Management Procedures | Report new AATM procedures in AER |

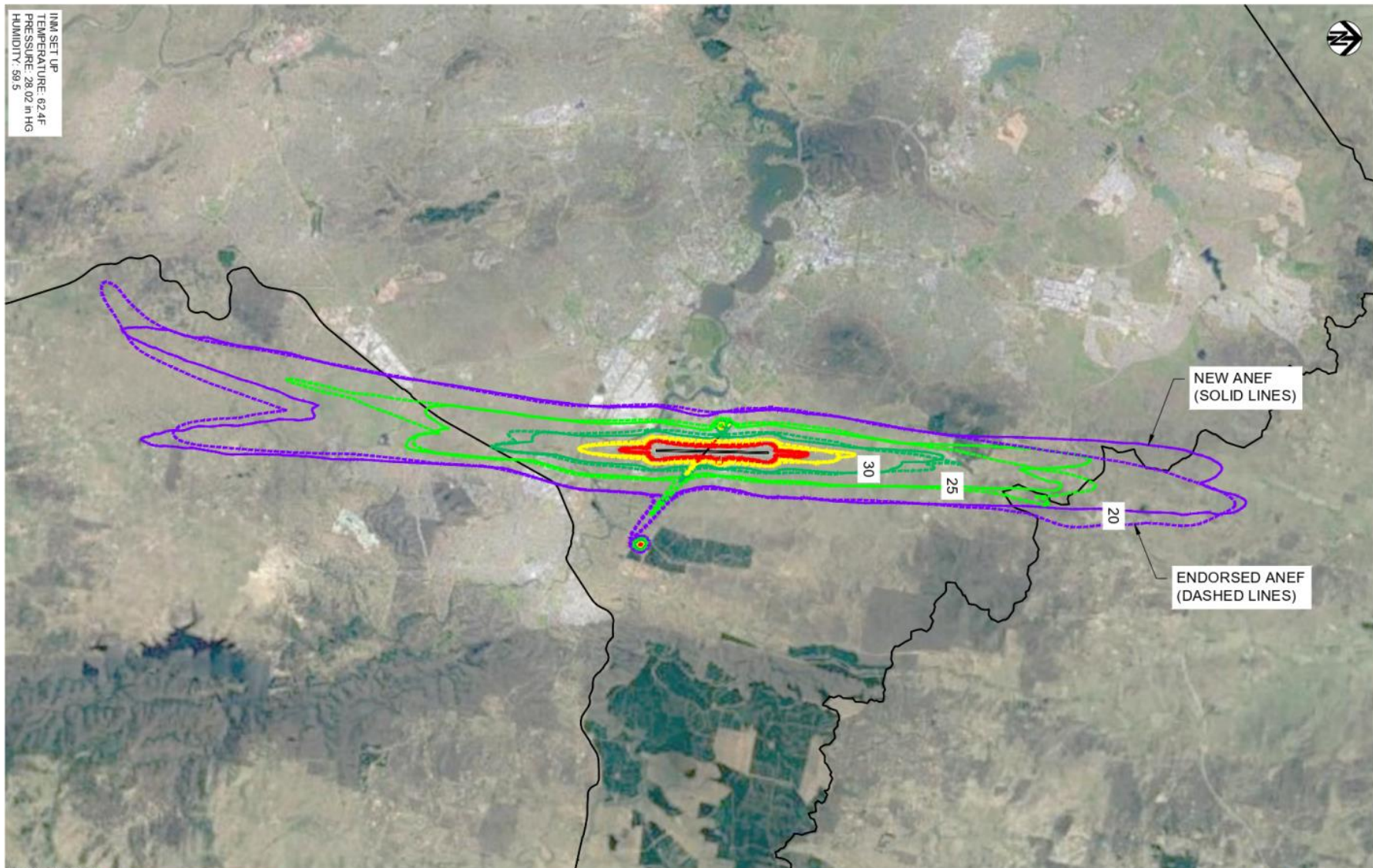


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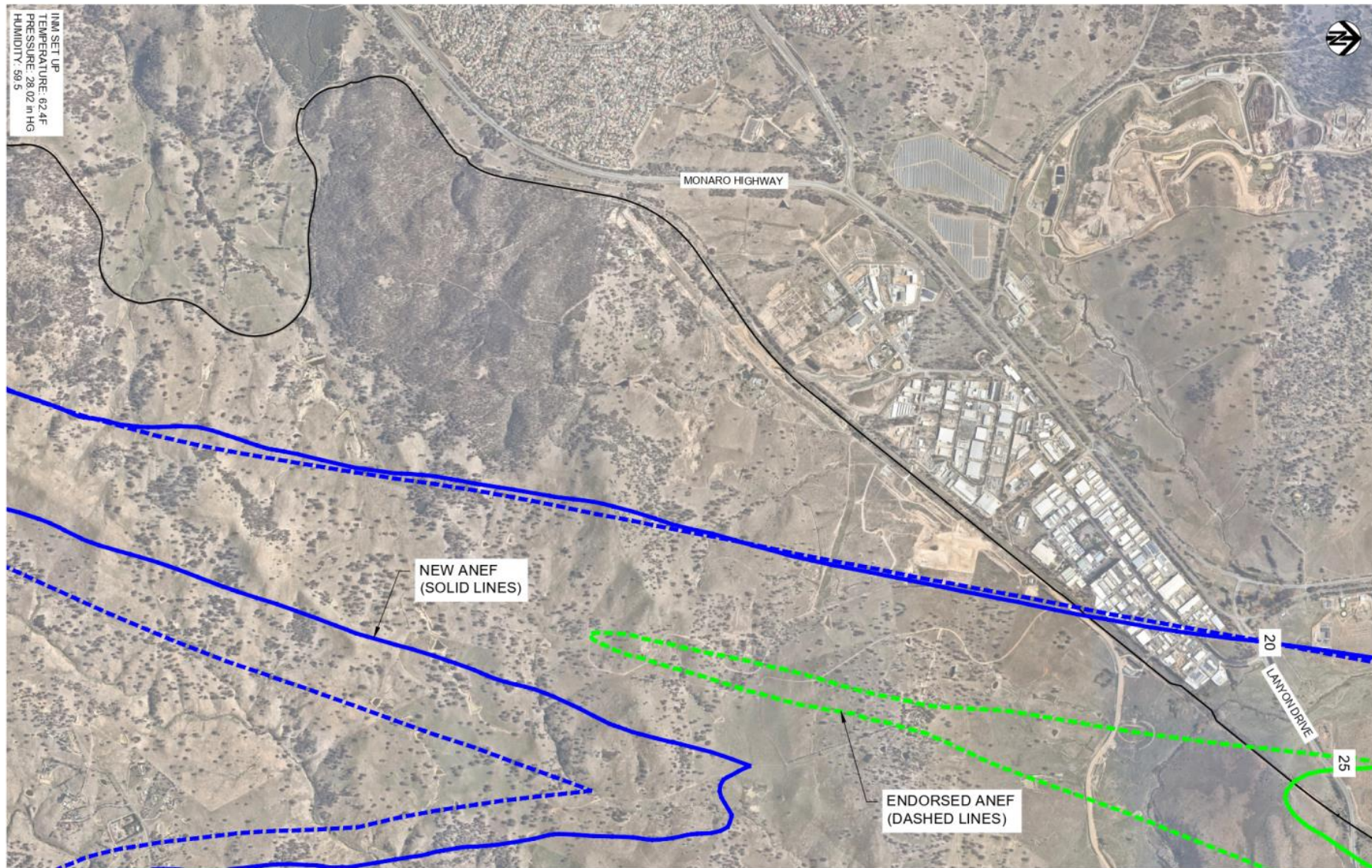
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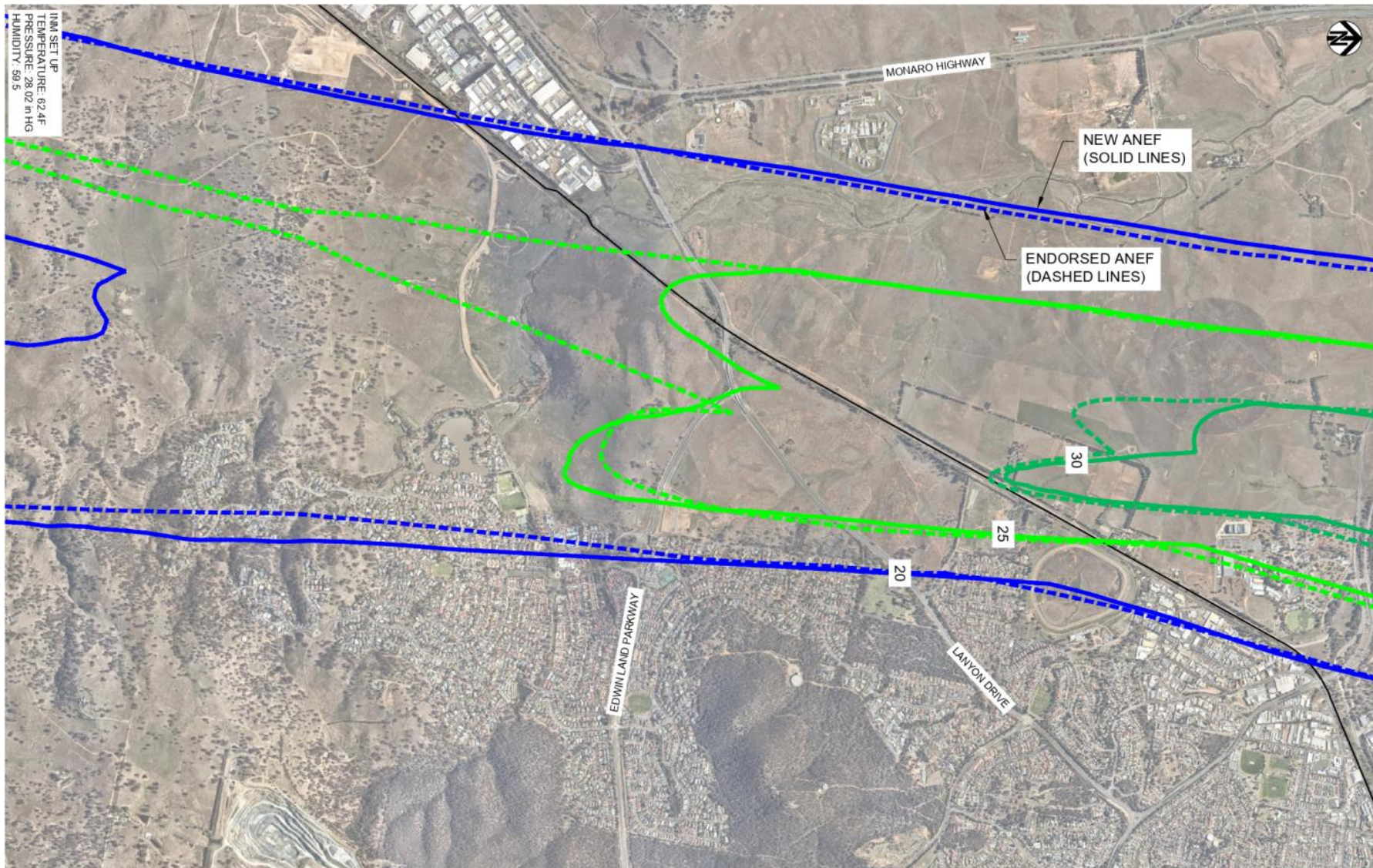
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 PRESSURE: 28.02 mHg
 HUMIDITY: 59.5

NEW ANEF
 (SOLID LINES)

ENDORSED ANEF
 (DASHED LINES)

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25

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PRELIMINARY

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**CANBERRA AIRPORT ANEF MODELLING
 CANBERRA AIRPORT ULTIMATE CAPACITY COMPOSITE ANEC
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QUEANBEYAN-PALERANG REGIONAL COUNCIL

Planning and Strategy Committee of the Whole Meeting
Attachment

11 SEPTEMBER 2019

ITEM 7.1 CANBERRA AIRPORT PRELIMINARY DRAFT MASTERPLAN
 2020-2040

ATTACHMENT 5 QPRC SUBMISSION - 1 AUGUST 2019 (DOC ID 332302)



Ref: Set ID 332302

Mr Noel McCann
Director of Planning & Government Relations
Canberra Airport
Level 4, 21 Terminal Avenue
Plaza Offices - West
Canberra Airport ACT 2609

Attention: Susan Mulligan

Dear Mr McCann

Draft Australian Noise Exposure Forecasts (ANEFs) 2019

Thank you for Canberra Airport's correspondence of 5 July 2019 providing draft ANEFs for the Airport as they potentially apply to the Queanbeyan-Palerang Local Government Area. I note Council staff also attended a briefing with the Airport on 18 July 2019 where further details were provided in respect of the draft ANEFs and the preparation of the draft *Canberra Airport Master Plan 2020*.

As discussed at the meeting, the key impacts on properties within Queanbeyan-Palerang LGA arising from changes to the location of ANEF contours are:

1. changes to details contained within planning certificates in respect of whether properties are subject to ANEF contours from Canberra Airport (or not), and
2. changes to the construction requirements for dwellings located within the ANEF 20 contour in respect of incorporating noise attenuation into new dwellings or additions to existing dwellings.

The maps provided by the Airport indicate there will be some widening of the ANEF 20 contour that will include additional land at South Jerrabomberra, existing areas of Jerrabomberra and rural areas to the north and south of the Airport. As discussed at the briefing on 18 July 2019 Council can potentially assist in identifying the numbers and addresses of additional properties affected if the Airport can provide the relevant GIS data underpinning the draft ANEFs.

Council is of the view that where changes are proposed to planning controls affecting individual properties, it is highly desirable that the Airport directly consults with those property owners. Council would strongly encourage the Airport to undertake direct consultation with all newly impacted property owners prior to adopting any new ANEFs that may impact on the value of their property, or, require additional construction techniques in respect of noise attenuation as required by Australian Standard AS2021-2015 *Acoustics- Aircraft noise intrusion- Building siting and construction (AS2021)*.

In order to progress the new Master Plan and to minimise impacts on existing property owners arising from changes to ANEFs, Council would initially request that consideration be given to considering if any refinements can be made to the model in order to all the Airport to continue with the existing location of the ANEF 20. Where that can be done, it is likely to result in lesser impact to the community and should facilitate a less contentious pathway for the subsequent draft Master Plan.

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Where refinements cannot be made to the model, property owners in newly affected areas should be directly consulted by the Airport. Council is particularly concerned about the potential impacts on these property owners in respect of those two main impacts outlined earlier in the correspondence.

As the Airport is aware, the developers of South Jerrabomberra are required to provide a new high school site as part of the approval for the development in that area. This school site is likely to be located on South Poplars near the end of the newly proposed ANEF 25 contour. Council and the community would be concerned if the changes to the ANEFs have any impact on the permissibility of school site in this area. Again, Council can potentially confirm this if the Airport can provide the GIS data underpinning the draft ANEFs.

I understand Council staff have also provided comments in respect of a number of drafting matters in the Master Plan that should be taken into consideration.

Whilst not directly relevant to the draft ANEFs in this instance, Council is keen to continue to examine what opportunities can be pursued in the new Master Plan to not require minor and ordinary development applications be referred for Controlled Activity Approvals under the *Airports Act 1996* in respect of development that penetrates the Obstacle Limitation Surface (OLS). Council does acknowledge the input and assistance of the Airport in trying to resolve these issues with the Commonwealth Government.

If you have any further enquiries please contact Martin Brown in Council's Land Use Planning team on 6285 6277.

Yours sincerely



David Carswell
Service Manager – Land Use Planning
Queanbeyan-Palerang Regional Council

1. August 2019.